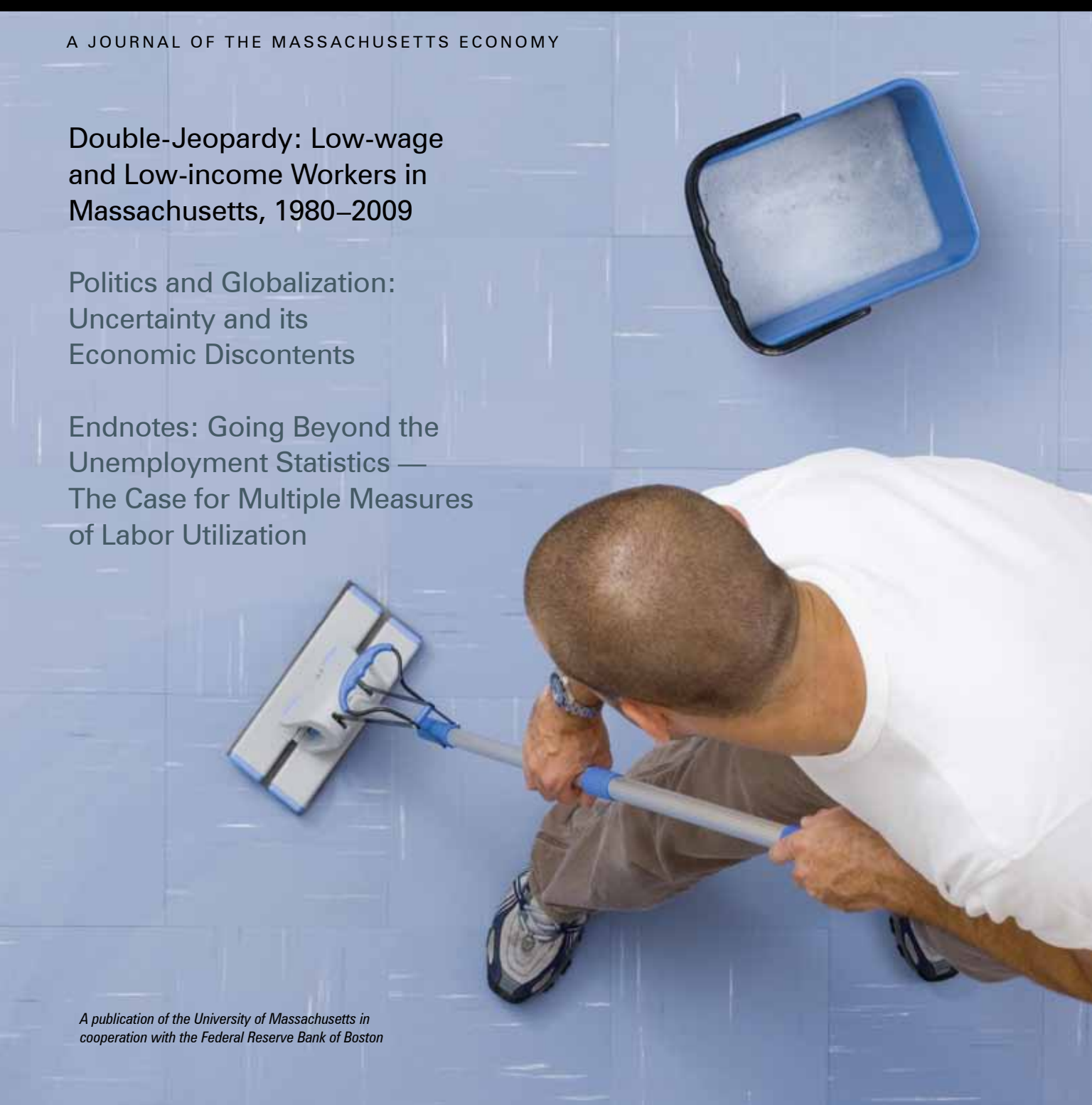
2012 | volume 14 issue 2

Mass Benchmarks

A JOURNAL OF THE MASSACHUSETTS ECONOMY



Double-Jeopardy: Low-wage and Low-income Workers in Massachusetts, 1980–2009

Politics and Globalization: Uncertainty and its Economic Discontents

Endnotes: Going Beyond the Unemployment Statistics — The Case for Multiple Measures of Labor Utilization

A publication of the University of Massachusetts in cooperation with the Federal Reserve Bank of Boston

*Mass*Benchmarks

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*Mass*Benchmarks, published by the University of Massachusetts in cooperation with the Federal Reserve Bank of Boston, provides timely information about the Massachusetts economy, including reports, commentary, and key data about the state's regions and industry sectors that comprise them.

The editors invite queries and articles on current topics involving the Massachusetts economy, regional economic development, and key growth industries from researchers, academic or professional economists, and others. A topical outline and brief biography of the author should be sent to info@donahue.umassp.edu.

A complete list of past issues, latest news, updates, and additional research on the Massachusetts economy can be found at www.massbenchmarks.org.

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FROM THE PRESIDENT

We are living in highly uncertain times and many of our most vulnerable friends and neighbors are bearing the brunt of this uncertainty on a daily basis here in Massachusetts and across the nation. That troubling reality is highlighted in the thought-provoking articles contained in this issue of *Mass*Benchmarks.

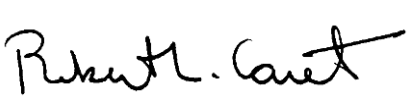
In their latest assessment of the state of the Massachusetts economy, UMass Dartmouth Professor Michael D. Goodman and UMass Amherst Professor Robert Nakosteen identify a series of domestic and international economic headwinds that are conspiring to slow the rate of growth of the Massachusetts economy.

So far, this slower growth appears to be due primarily to the ongoing sovereign debt crisis in Europe, a key trading partner for Massachusetts. Now with the national elections behind us, Professors Goodman and Nakosteen properly focus our attention on the potentially disastrous impact of policy inaction here at home in the form of the so-called fiscal cliff. Absent swift and sure federal action, according to the respected and non-partisan Congressional Budget Office, going over this cliff will plunge the nation into recession in 2013.

In this issue's feature article, UMass Boston Professors Randy Albelda and Michael Carr remind us of the stakes of these debates for our most vulnerable neighbors and document some major holes in our social and economic support programs which are designed to provide much-needed income support to those in need but have been leaving far too many of our working families behind. Albelda and Carr document a rising portion of low-wage and low-income households in all family types that fall prey to what they refer to as double-jeopardy, workers who do not receive benefits from their employers but earn too much to qualify for state and federal support programs designed to protect them.

Finally, in this issue's Endnotes, Northeastern University's Andrew Sum and Ishwar Khatiwada make a compelling case for a multi-dimensional approach to our understanding of the labor market. As they persuasively argue, simply relying on the headline unemployment rate makes it far too easy to ignore the plight of the thousands of Massachusetts workers who are employed but unable to work as many hours as they would like, and those working in occupations that do not take full advantage of all their skills, education, and training.

Taken together, the information contained in this issue of *Mass*Benchmarks paints a sobering picture of economic conditions in Massachusetts as 2012 comes to a close. Our state and national leaders should take heed of these insights as they work together to help us navigate through this uncertain period and redouble their efforts to restore economic opportunity across the Commonwealth and the nation.



Robert L. Caret, President

EXCERPTS FROM THE BOARD

After an extended period of faster-than-national growth, the Massachusetts economy appears to have dropped into a lower gear. Growth is slowing and is projected by the *Mass*Benchmarks Leading Economic Index to continue doing so. Deteriorating global economic conditions finally appear to be taking their toll on the state's innovation sector, which has been a growth driver for the Commonwealth in recent years. A series of economic headwinds pose serious risks to the sustainability of the state and national recoveries, and there is considerable economic uncertainty both across the Commonwealth and the nation.

Sales of silicon computer chips, a good proxy for the information technology sector, are down worldwide. U.S. firms' investment in information and processing equipment and software has been essentially stagnant in the first two quarters of this year. Massachusetts merchandise exports, which include the state's IT products, are down from last year. To date, the softening in worldwide demand for IT products and services appears not to have made a dent in Massachusetts jobs. Instead, employment losses in the past few months have been concentrated in construction, retail trade, non-technical business services, leisure and hospitality, and private education — reflective of weak demand from both households and businesses. Apart from IT, other segments of the state's innovation economy appear to remain strong, especially in the life sciences.

The national slowdown is due to at least three economic headwinds: a wealth effect, whereby contracting household balance sheets and the diminished value of financial and real estate assets have discouraged consumer spending; a housing sector that until very recently has stubbornly resisted recovery; and ongoing fiscal drag, mainly from continuing layoffs in the state and local government sector. Among these factors, only housing seems to be beginning to rise, both nationally and in Massachusetts, as both prices and sales seem to be firming and even turning around. It is hard to envision a genuine economic expansion without a recovery in this vital sector, so this is a beneficial change.

Looking ahead, the potential for simultaneous and precipitous federal tax increases and expenditure cuts, popularly known as the fiscal cliff, loom at the end of this year. While there is wide agreement that the impact of the nation jumping off this cliff would have serious negative economic consequences — the non-partisan Congressional Budget Office has estimated a national recession would result — there is little indication that our political institutions are capable of doing what is necessary to avoid this outcome. As one Board member commented, "When you begin an economic discussion and end up with a political discussion you have a problem."

The impact of slowing growth in China and outright recession in key parts of Europe can be seen in the slowing of trade between Massachusetts and these regions, which represent important export markets for the Commonwealth and whose demand for the Bay State's medical and technology products and professional and business services has played a big part in the state's economic success in recent years.

As the third quarter of 2012 comes to a close, the slowdown in national and global growth is clearly taking its toll on the state economy. Going forward, the near-term risks to the state economy appear mostly skewed to the downside. The Federal Reserve Open Market Committee mitigated one source of uncertainty by explicitly stating that it expects to remain committed to a highly accommodative monetary policy at least through mid-2015. This announcement notwithstanding, our economic fate depends also on the actions of other key policy makers, and the stakes of the decisions they make in coming months are high indeed. While we do not anticipate a return to economic recession in Massachusetts in coming months, our urgent hope is that our national political institutions can muster the will to address the serious fiscal and economic issues that threaten the state and national economies and successfully navigate the treacherous path that lies ahead.

WITH THIS ISSUE OF *MASS*BENCHMARKS, *Professor James Stock is stepping down from the Editorial Board and has accepted an appointment to the President's Council of Economic Advisors. Professor Stock has been on the Board since the inception of* Mass*Benchmarks and will be sorely missed. We appreciate his service and congratulate him on his prestigious appointment.*

Politics and Globalization: Uncertainty and its Economic Discontents

ALTHOUGH THE BAY STATE'S KNOWLEDGE-BASED ECONOMY IS POISED FOR CONTINUED MODERATE EXPANSION, IT FACES SERIOUS HEADWINDS BEYOND ITS CONTROL. THESE INCLUDE THE STUBBORNLY SLOW RECOVERIES IN THE NATIONAL AND GLOBAL ECONOMIES, THE PROSPECT OF SEQUESTERED BUDGET CUTS AND MAJOR TAX INCREASES AT THE YEAR'S END, AND THE CONTINUING SOVEREIGN DEBT CRISIS IN THE 17 EURO ZONE NATIONS.

MICHAEL GOODMAN AND ROBERT NAKOSTEEN

INTRODUCTION

As the Massachusetts economy concludes the third quarter of 2012, it faces a number of significant headwinds that have begun to have an impact on its current performance and can be expected to weigh heavily on its near-term economic outlook. For the most part these headwinds are beyond the control of the Commonwealth's elected officials and business and labor leaders. This leaves the Bay State in the unenviable position of having to rely on decisions in coming months by national political leaders on both sides of the Atlantic.

Given the recent track record of national political institutions here in the U.S. and in Europe, it is difficult to predict exactly how major economic policy issues will be resolved. Consequently, there is considerable policy uncertainty weighing on the state and national economic outlook, and to date at least precious little evidence to

suggest that our political institutions are capable of doing what is needed to both relieve the uncertainty that is weighing on the decisions of some of the Commonwealth's leading employers and financial institutions, and help to sustain and enhance the nation's fragile economic recovery.

The competitiveness and growth of the Massachusetts economy is dependent in very important ways on its links to the national and global economies. Despite some recent positive signs, the national economic recovery has been slowing in recent quarters, providing yet another reminder that economic recoveries from balance sheet recessions brought upon by financial crises can be frustratingly slow.[1]

As if the stubbornly slow pace of the national and global recovery was not enough, the U.S. government faces a fiscal cliff at the end the year which if unaddressed could push the nation into recession, according to the non-partisan Congressional Budget Office.[2] As things currently stand, the Bush-era tax cuts are scheduled to end on January 1, 2013, while draconian sequestered budget cuts agreed to when the Super Committee of the U.S. Senate failed to reach a budget agreement are scheduled to begin, both at the end of the calendar year. While there remains a clear need for action to put the nation's fiscal house in order over the long term, there should be little doubt that should these cuts and tax increases take effect, the short-term impact on the U.S. economy will be strongly negative.

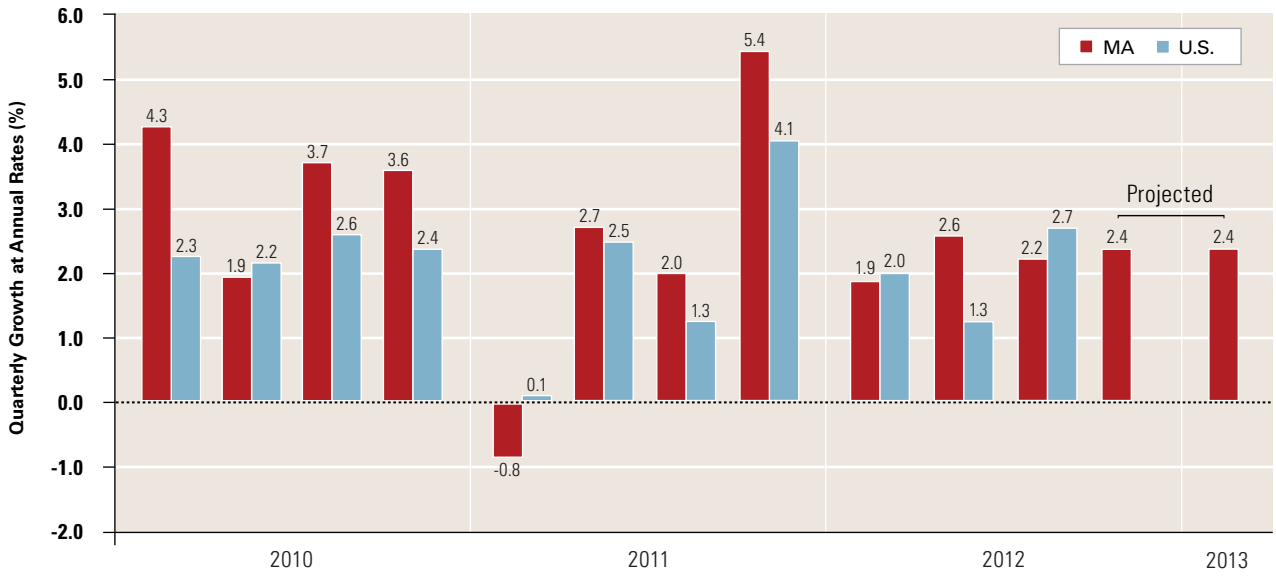
The fate of the U.S. and Bay State economies is also dependent on developments in Europe. The European Union and especially the 17 Euro Zone countries appear to be entering a new recessionary cycle even as they continue to struggle to resolve their sovereign debt crisis. If this were not enough, China, whose growth depends heavily on European consumer markets for its exports, is slowing. Deteriorating conditions in both Europe and Asia are beginning to slow the Massachusetts economy, which relies more heavily than the nation on both regions as major destinations for our exported high technology and medical products.

SLOWING GROWTH IN EMPLOYMENT AND OUTPUT

In the period since the formal end of what is now widely known as the Great Recession, the Massachusetts economy has consistently grown more rapidly than the national economy as measured by the *Mass*Benchmarks Current Economic Index, a proxy for the growth in real state product. As can be seen in Figure 1, based on the latest revisions to the Current Index, it appears that state economic growth has been expanding more slowly throughout 2012 and is expected to continue to do so for the remainder of the year (according to the *Mass*Benchmarks Leading Economic Index).

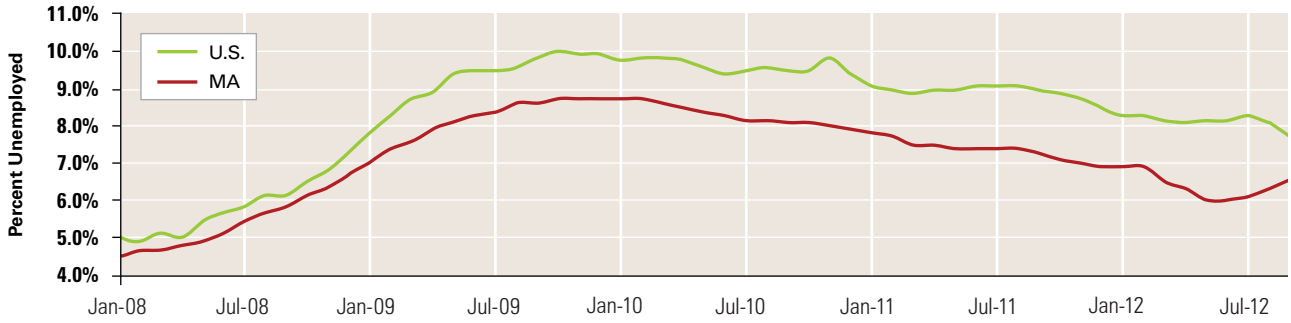
Recent revisions to the Current Economic Index significantly alter our understanding of the recent growth trajectory of the Massachusetts economy, particularly in 2012, and suggest strongly that the slowing that the national and global economies have experienced this year has had a demonstrable, if unsurprising, impact on the state economy.

Figure 1. Growth in Real Product, Massachusetts vs. U.S, 2010–2013



Source: U.S.: Bureau of Economic Analysis; Massachusetts: *Mass*Benchmarks, MA real product estimated by the Current Index.

Figure 2. Monthly Unemployment Rate, Massachusetts and U.S. January 2008–September 2012
(seasonally adjusted)



Source: MA Department of Labor and Workforce Development

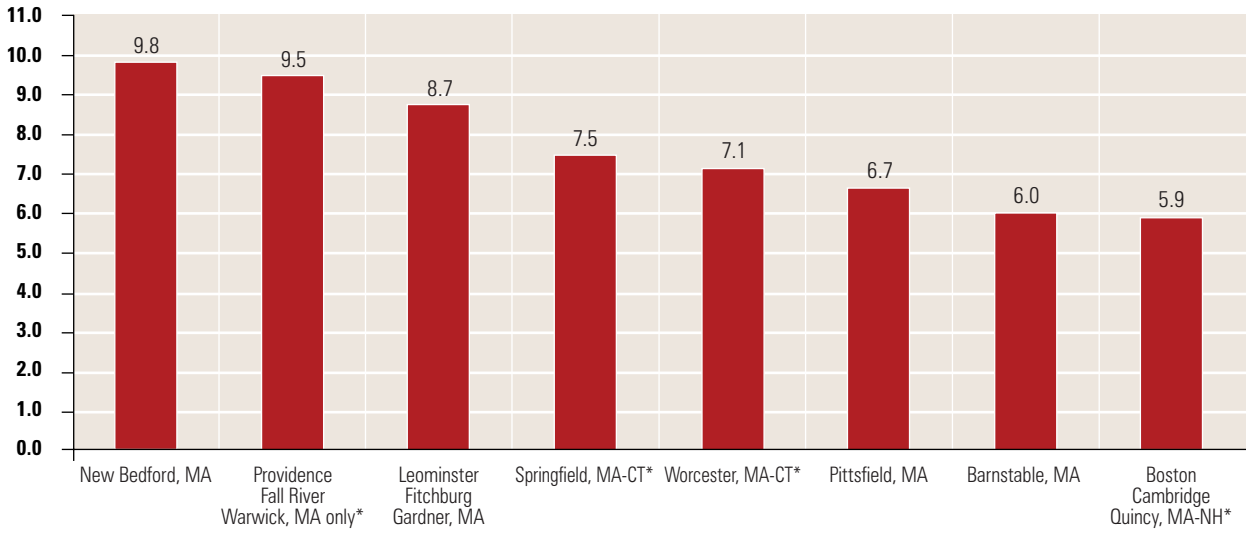
This pattern can also be seen in the unemployment rate, which has remained consistently lower in Massachusetts both during and since the Great Recession. As has been discussed at some length previously,[3] the Commonwealth's industrial composition and highly skilled workforce help to explain why Massachusetts has fared relatively better during one of the most difficult economic periods in over a generation. But evidence is accumulating that strongly suggests that the problems plaguing the national and global economies are finally beginning to have a visible impact on economic activity in the Bay State.

With clear evidence of slowing, both in the larger state economy and its labor market, Massachusetts continues to face significant challenges in creating enough jobs to provide economic opportunities for the Commonwealth's working families.

But, as Andy Sum points out later in this issue,[4] the aggregate unemployment rate does not tell the entire story. The state labor market remains sluggish and many people who want work cannot find it. Many others have left the labor force altogether, discouraged by their dim prospects for finding work. Far too frequently those with jobs are working part time and desire full-time work, or are working in jobs that do not take full advantage of their education and qualifications.

Another perspective on the Commonwealth's labor market challenges emerges from looking at unemployment rates across metropolitan areas. While strictly speaking these local and regional unemployment rates are not directly comparable to the state's unemployment rate, stark differences between economic conditions in the various regions of the state can be seen by comparing the

Figure 3. Metropolitan Area Unemployment Rates, September 2012
(not seasonally adjusted)



Source: MA Department of Labor and Workforce Development

*Note: These metropolitan statistical areas contain Massachusetts locations only.

experiences of the state's older industrial cities (Gateway Cities) to communities that have direct access to the economic opportunities presented by the state's world-class innovation economy.

As can be seen in Figure 3, the state's overall unemployment rate masks significant differences across the Commonwealth, continuing the previously documented pattern of a widening divergence of the economic destinies of the state's regions and communities.

SLOWING EXPORT GROWTH

The state cannot maintain steady economic growth in the face of slowing national and international growth. As noted previously, a major reason that the state economy has been able to grow faster than the nation for some time has been its industrial composition. The state's leading export sectors include medical equipment and technology products, information technology hardware and software, and a wide array of other innovative and technology-intensive products and services that, until recently, have been in high demand globally in spite of relatively slow overall national and international growth.

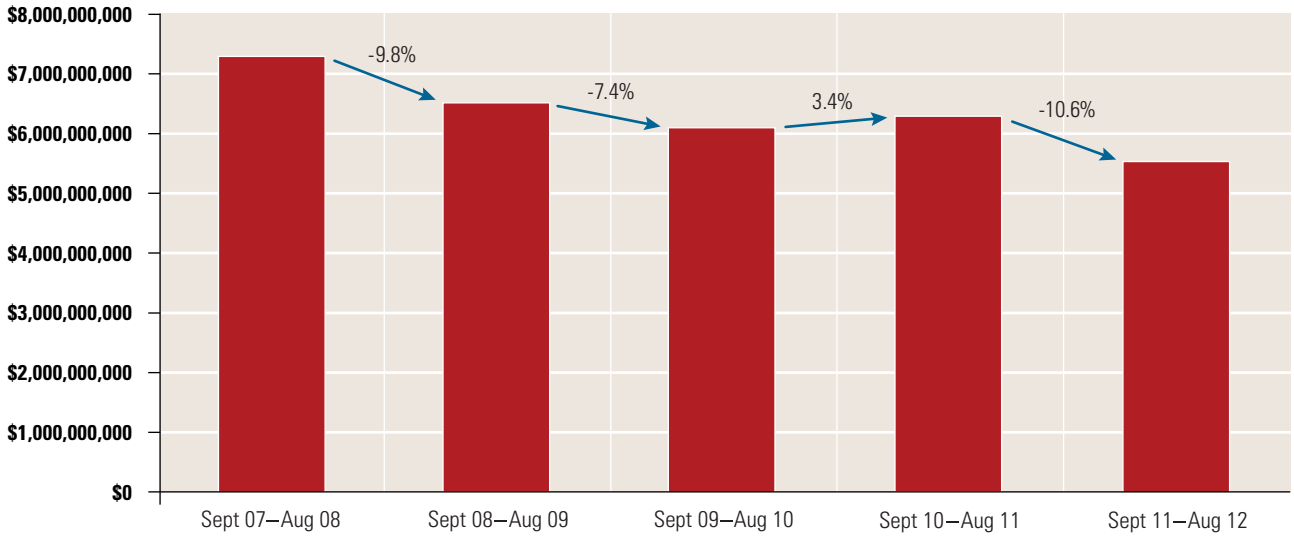
The impact of the evolving Euro Zone crisis on the Massachusetts economy can be seen in Figure 4. But this pattern appears to have changed in recent quarters. In addition to having the potential of sparking another global financial crisis, the continuing inability of European leaders to resolve their sovereign debt and currency problems, along with fiscal austerity policies, have conspired to push many of the Euro Zone economies into outright recession and have weakened many of the nations that have been important destinations for Massachusetts exports.

The impact of conditions in Europe on the Massachusetts economy is currently most visible in the state's export data. The Euro Zone receives nearly 40% of all Massachusetts exports. Exports, in turn, conservatively represent approximately 8 percent of all economic activities in Massachusetts.[5]

Our international comparative advantage in these sectors is crucial in our continued success as a technology leader. As can be seen in Figure 4, exports to the Euro Zone are cyclical — declining outright during recessions and gaining during recoveries. Based on the most recent export data available, it appears that our exports to our most important trading partner are currently declining significantly on a year-over-year basis. Apart from some resolution of the multitude of challenges facing Europe, this does not bode well for the near-term economic outlook for the Commonwealth's export economy.

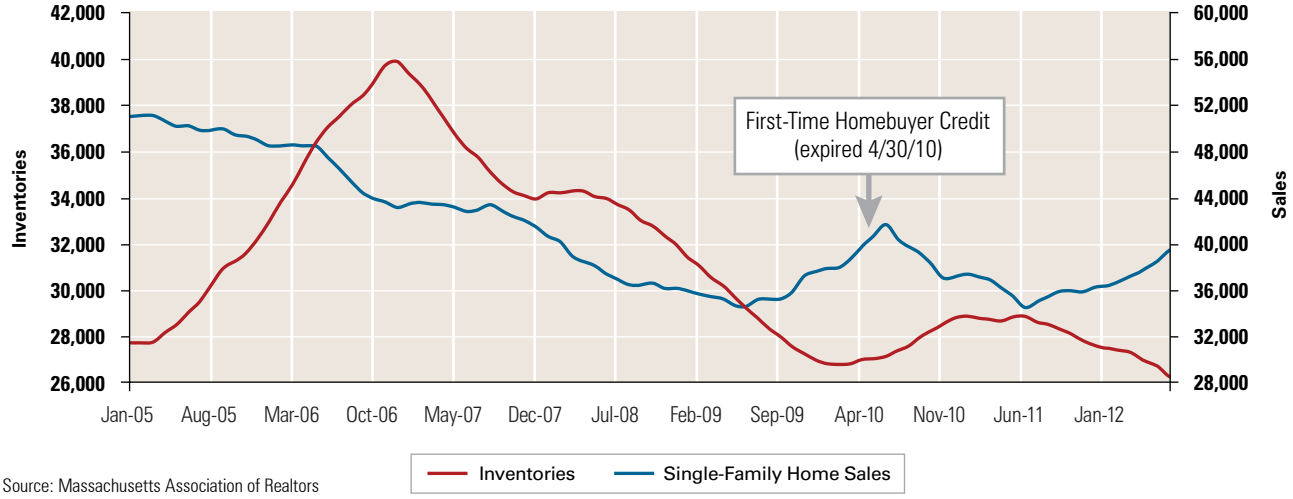
Growth also appears to be slowing in China, which also relies heavily on Europe as an export market and key trading partner. China and Asia have become increasingly important economic markets for the Bay State, further increasing the Commonwealth's dependence on the global economy and heightening the risk that Massachusetts faces in a slowing and increasingly interdependent world.

Figure 4. Total Exports to the Euro Zone (12-month period)



Source: WISERTrade Foreign Trade Database

Figure 5. 12-Month Cumulative Single-Family Home Sales and Inventories (through June 2012)



Source: Massachusetts Association of Realtors

REAL ESTATE MARKET CONDITIONS[6]

Housing

After nearly seven years of consistent decline, the Massachusetts housing market is finally showing signs that it may have reached the bottom of what has been its most extended slump in generations. Outside of the luxury condominium market in the immediate Greater Boston area, clear evidence of price appreciation is lacking. However, as can be seen in Figure 5, single-family home sales have increased notably of late.

Unlike their national counterparts, the Massachusetts Association of Realtors does not report the share of single-family home sales that result from foreclosure-related short-sales. This makes it difficult to assess the extent to which recent trends are being affected by the disposition of distressed properties rather than positive market developments. In June, the National Association of Realtors (NAR) reported that 25 percent of single-family home sales in the U.S. were distressed properties. According to the NAR: "Foreclosures sold for an average discount of 18 percent below market value in June, while short sales were discounted 15 percent."[7]

While Massachusetts has not had to contend with as difficult a housing downturn as many other states, the sheer scale of this potential impact suggests that any optimism about a housing market recovery in the Bay State should be guarded.[8]

While new foreclosures are continuing to enter the pipeline, conditions are clearly improving, particularly in communities that have been home to a disproportionate share of these distressed properties. According to the Massachusetts Housing Partnership's Foreclosure Monitor, between April 2011 and April 2012 the share of distressed units per thousand declined by 8.6 percent statewide. In Brockton and Worcester, the decline during the same period was 17.3 percent and 22.5 percent, respectively.

Rising sales and falling inventories (see Figure 5) are clearly helping to stabilize home prices — the average monthly change in median home price during the second quarter of 2012 in Massachusetts was flat (+0.17 percent) — and even if a significant portion of sales activity is being driven by distressed properties, their disposition is a necessary precondition for a more sustainable recovery in home prices. Ironically, falling inventories may be an expectations response to improving conditions. Homeowners who contemplate putting their house on the market may now delay in anticipation of future improving conditions, including selling prices.

Commercial Real Estate

The Greater Boston area remains the growth engine of the state's economy and is home to the majority of the Commonwealth's commercial and industrial real estate activity. While Grubb and Ellis's most recent market analysis[9] indicates that vacancy rates are continuing to fall in the Greater Boston region, putting some upward pressure on rents, they also document a flight to quality, with much of the activity being driven by rising demand for Class A office space in Boston's central business district.

While aggregate statistics also suggest solid growth in rentable office space under construction, the recovery appears to be concentrated in Boston's Seaport District, where Vertex Pharmaceuticals is currently building a new 1.1 million square foot corporate headquarters.

Although few data are available that describe conditions in commercial real estate markets outside of Greater Boston, the farther one travels from Boston the higher the vacancy rates get, consistently exceeding 20 percent in suburban Boston areas outside of Route 128.[10] This suggests that CRE market challenges in the rest of the state are far from over.

CONCLUDING THOUGHTS

As 2012 comes to a close, the economic fate of both the nation and the state remain firmly in the hands of national political institutions that state leaders do not control and whose decisions will play a critical role in determining what the future holds for the Massachusetts economy and the people of the Commonwealth.

While in many respects Massachusetts is as well-positioned as any state in the nation to ride out whatever comes next, the precarious and uncertain status of the global economy is clearly having a negative effect on the Bay State's economic conditions, including our world-class innovation economy, which has been responsible for much of the state's growth premium in recent years.

Perhaps ironically, and in purely economic terms, Massachusetts and the nation appear to be through the worst of the financial crisis and the extended housing downturn. As the New England Economic Partnership (NEEP) noted in its most recent economic forecast for Massachusetts:

> *The Massachusetts economy is expected to continue to expand at a moderate pace. This assumes that the effects of the economic crisis in Europe and the slowing Chinese economy will be more than offset by growing demand within the U.S., and that the looming fiscal austerity scheduled to begin in 2013 will be softened by post-election compromises in Washington.*

Should these assumptions hold and national political leaders here and abroad manage to find the will to address the significant challenges facing the global economy, we share NEEP's optimism that the Commonwealth can be expected to continue its moderate expansion.

If not, and national and international leaders once again shirk their responsibility to directly address both their long- and short-term fiscal and economic challenges, the outlook for the national, global, and Massachusetts economies is far murkier.

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Robert Nakosteen is a professor of Economics at the Isenberg School of Management at UMass Amherst and Executive Editor of this journal.

ENDNOTES

1.) Reinhart, Carmen M. and Kenneth S. Rogoff (2009). *This Time Is Different: Eight Centuries of Financial Folly* (Princeton, NJ: Princeton University Press).

2.) See http://www.cbo.gov/publication/43262, accessed on October 8, 2012.

3.) See Goodman, M. and Nakosteen, R. (2011). "Diverging Destinies: The Commonwealth's Relatively Robust but Imbalanced Economic Recovery," *MassBenchmarks*, Volume 13, issue 2

4.) See in this issue, Sum, A. and Khatiawada, I. (2012). "Going Beyond the Unemployment Statistics—The Case for Multiple Measures of Labor Utilization," *MassBenchmarks*, Volume 14, Issue 2.

5.) This figure excludes the exports of professional and business services, which are difficult to quantify, but, given the state's strength in legal, consulting, and R&D services, are likely very significant contributors to the Commonwealth's international trade.

6.) This section is adapted from Goodman, M. (2012) "The Massachusetts Credit Union in 2012: In the Eye of the Storm." A report prepared for the Massachusetts Credit Union Share Insurance Corporation (MSIC). Special thanks to the FDIC's Frederick Breimyer for his insights into the changes in the Massachusetts housing market.

7.) See http://www.realtor.org/news-releases/2012/07/june-existing-home-prices-rise-again-sales-down-with-constrained-supply, accessed on July 30, 2012.

8.) See http://www.mhp.net/vision/resources.php?page_function=detail&resource_id=483, accessed on July 30, 2012. On July 26th, Realty Trac identified Boston, Worcester, and Springfield as three of the top ten Metro Areas in which to purchase or invest in foreclosed properties. For more information, see http://www.realtytrac.com/content/foreclosure-market-report/midyear-2012-metro-foreclosure-market-report-7305, accessed on July 30, 2012.

9.) Grubb and Ellis, *Boston Area Office Trends Report*—First Quarter 2012.

10.) Op. cit.

Double Jeopardy: Low-wage and Low-income Workers in Massachusetts, 1980–2009

Randy Albelda and Michael Carr, University of Massachusetts Boston

DATA REVEAL A GROWING NUMBER OF WORKERS WHO BOTH EARN LOW WAGES AND LIVE IN LOW-INCOME FAMILIES. THEY FACE "DOUBLE JEOPARDY": AS LOW-WAGE EARNERS, THEY ARE LEAST LIKELY TO RECEIVE EMPLOYER-SPONSORED BENEFITS, YET THEY ARE OFTEN INELIGIBLE FOR MEANS-TESTED GOVERNMENT ANTI-POVERTY PROGRAMS.

Being a low-wage worker in a low-income family creates a particularly vulnerable economic situation. This is because low-wage and low-income workers are at the highest risk of slipping through the cracks of U.S. social and economic protections. In particular, low-wage workers are least likely to receive employer-sponsored benefits and, despite their low income, many are not eligible for means-tested government anti-poverty support programs.

Two key changes over the last thirty years suggest that the number of workers who earn low wages and also live in a low-income family is growing. The first is the increase in earnings inequality since the late 1970s. While inflation-adjusted earnings of top earners have steadily increased, earnings have been stagnant for the bottom portion of the earnings scale.[1] The second is the dramatic change in anti-poverty policies since the late 1980s, directed in particular toward single-mother families, which strongly promote employment as a means of alleviating poverty in place of government assistance. The growth in the number and share of low-wage and low-income workers both in general and across various types of workers suggests a need to re-examine both employment-based policies and anti-poverty programs (for definitions of low wages and low income see box 1).

In this exploration of the trends among and between low-wage and low-income adult workers, we pay particular attention to gender and family status, including if a worker is a male or female primary adult (family head or spouse of head), has one's own children under age 18, if there are other non-primary related adults in the family, and a worker's marital status. Dividing the sample in this way is useful for several reasons. First, the evolution of wages has been quite different for men and women over the last 30 years. Women's inflation-adjusted median earnings are lower than men's, but have been rising faster than men's over this period. Second, the presence of children impacts the earning capacity of parents, with single-parent family income affected quite differently than that of two-parent families. Third, the number of adults in a family affects the family's earnings capacity. Fourth, and most important for policy reasons, is that family status has played a key role in the development of job structures, wages, and social protection policies (i.e., the sets of income-replacement programs that protect families when a breadwinner cannot earn much or no income at all).

AT THE NEXUS OF BEING LOW-WAGE AND LOW-INCOME

The connection between being a low-wage earner and also being in a low-income family is strongest for single or primary wage earners. Simply put, when a breadwinner is a low-wage earner, his or her family will likely also be low income. There is also a strong connection between

Box 1. What's a Low Wage? What's Low-income?

There is no universally accepted definition of either a low wage or low income.[2] We use the relative measure commonly employed by those with a labor market focus and consider a worker low wage if she or he has non-zero hourly earnings less than or equal to two-thirds of the state median hourly earnings for all workers with positive wage, salary, and/or self-employment earnings. In 2009, median hourly earnings in Massachusetts were $20, so the low-wage cut-off was $13.38 an hour. This is higher than the inflation-adjusted median earnings of $14.25 and low-wage cut-off of $9.57 in 1982.

For low income, we adopt the definition that many poverty policy researchers use: family income that is less than 200% of the federal poverty line. Federal poverty income thresholds vary by family size. In 2009, the federal poverty line for a family of three was $16,781, resulting in a low-income threshold of $33,562.[3] In a high cost-of-living state like Massachusetts, this designation of low income may still be too low. The Crittenton Women's Union's Economic Independence Calculator estimates that it costs over $52,000 for a family of three (two adults and a school-aged child) to meet a bare-bones budget in Massachusetts.[4]

Family income differs from wages in two ways. First, income includes other forms of money besides earnings (e.g., rent, government cash transfers, or education funding). Second, it is the sum of all cash income from all family members, while wages refer to what an individual earns. We use U.S. Census Bureau data and with it their definition of income that includes all forms of pre-tax cash income. But, we add to it the Earned Income Tax Credit. While technically a refundable tax credit, it is currently the largest cash transfer program for low-income workers. Each family's value of EITC is estimated using the National Bureau of Economic Research TAXSIM program.

being a breadwinner and the development of U.S. social protection programs, including those that are employment-based, like social security and unemployment insurance, but also for anti-poverty programs such as cash assistance (commonly called "welfare").

There is considerable historical evidence that black and female workers were largely excluded from higher-paying jobs as well as jobs covered by employment-based government and employer-sponsored programs. This resulted from occupational sorting in which some jobs pay well, have well-defined job ladders and stronger social protections. The mechanisms by which women and people of color were initially excluded from these "good" jobs varied, but included employer and employee discrimination and precluded particular occupations from coverage in government-mandated employment-based supports.[5]

Even today, government-mandated employment protections do not cover many low-wage workers. Old-age, survivors, and disability insurance (commonly referred to as Social Security) and unemployment insurance (UI), cover most workers when employment is not possible due to injury at work, death or disability, or seasonal or cyclical unemployment. But eligibility is related to length of employment, and in the case of UI also on earnings levels. As a result, these programs can fail to cover some intermittent workers and with UI, also low-wage workers. Minimum wage laws are the most obvious protection for low-wage workers, as they place a wage floor on most jobs, but the floor is low. The minimum wage in Massachusetts is currently $8 per hour, which amounts to an annual income of $16,640 working year-round and full-time, just below the 2010 Federal Poverty Guidelines for a family of three. Employers voluntarily provide job and income protections. However, workers in low-wage jobs are much less likely than other workers to receive employer-sponsored benefits such as health insurance, paid family or medical leave, and retirement plans.[6]

Anti-poverty policies are another form of social protection. Historically these have focused on job creation for breadwinners (e.g., married men and non-elder, single workers) and cash and other in-kind assistance for families without traditional breadwinners (e.g., elders, disabled and single mothers). Key anti-poverty income and in-kind supplement programs like Medicaid (health care coverage), SNAP (Supplemental Nutritional Assistance Program, formerly Food Stamps), housing assistance, and Temporary

Assistance for Needy Families (TANF, the predecessor to the cash assistance program Aid to Families with Dependent Children) were developed to support people with very little or no income. Income eligibility levels for these programs are typically low (close to the federal poverty line) and the benefits received tend to phase out quickly, around the federal poverty level. The one major exception is the Earned Income Tax Credit, which phases in and out differently and covers parents at higher levels of income than other anti-poverty programs.

Over the last three decades, with the growth of mothers' labor force participation, cash and in-kind assistance anti-poverty programs have been reformed to encourage or demand employment as a pathway out of poverty for all but the elderly and disabled. However, while employment-promotion policies have worked to boost employment, especially in low-wage employment, they have not necessarily improved the resource base of many families as income eligibility rules and benefit levels have not changed to supplement earnings. Even at low levels of earnings, someone can lose all or portions of their cash assistance, government-sponsored health care coverage, and food assistance. If the worker is receiving more than one program, the total loss could be equal to or even more than the gain in earnings.[7] Single childless workers with low levels of earnings have lower eligibility levels than workers with children for Medicaid, SNAP and EITC in Massachusetts, making it even less likely for them to receive assistance when employed, despite need. The upshot is that many low-income adults in low-wage jobs are likely to find themselves betwixt and between, lacking both employer-based and government anti-poverty protections.

LOW-WAGE AND LOW-INCOME WORKERS OVER TIME

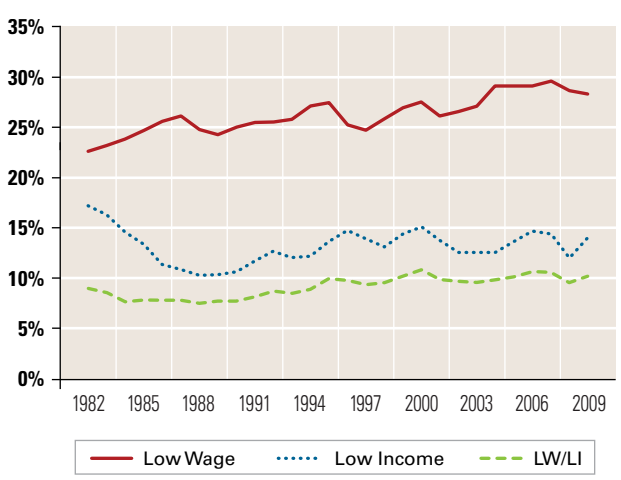
Using ⅔ of the state median wage as a cut-off for a low wage, and 200 percent of the federal poverty level as the cut-off for being low income, we estimate the share of workers who are both low-income and low-wage by family status over a thirty-year period. We rely on the Census Bureau's definition of family (two or more persons related by blood, marriage, or adoption living in the housing unit) and add to it "families of one" (a single individual residing in a household who is unrelated to anyone in that household). We assume that family members share resources only with other family members living in their household. While this may not be a good assumption in households with complicated living arrangements, any alternative assumptions create more problems.

The following analysis relies on data from the Annual Social and Economic (ASEC) Supplement of the Current Population Survey for the years 1981 to 2010 (corresponding to employment and income statistics for 1980–2009). The final sample has 66,113 observations. Because the sample size for each year is too small to provide reliable estimates, we combine years into three- and sometimes four-year groups.

Figure 1 depicts the percentage of all workers 18 years and older in Massachusetts who earned low wages, had low family income, and were both low-wage and low-income (LW/LI).

There has been a rise in the percentage of workers who earn less than ⅔ s of the median wage over the last 30 years from 23 percent in the early 1980s to 28 percent in the later part of the 2000s. However, the percentage of workers who are low-income fell during the 1980s, the Massachusetts Miracle years, increased in the 1990s, and has fluctuated between 12 and 15 percent since. The percentage of all workers who earn low wages and reside in a low-income family rose from the early 1980s to the mid 1990s and has since fluctuated closely around 10 percent. The percentage of all low-income workers who are also low-wage, however, has increased steadily from just under 50 percent in the early 1980s to around 75 percent in the late 2000s. In the 1980s and early 1990s, about 30 percent of low-wage adult workers were also in a low-income family. Since the mid-1990s, that has risen to about 40 percent.

Figure 1. Share of Low-wage, Low-income, and Low-wage/Low-income (LW/LI) Workers, 1982–2009



Source: Authors' calculation using the Annual Social and Economic (ASEC) Supplement of the Current Population Survey. Each year depicted is the average of the current year and the two preceding it. For example, data listed for 1982 is the three year average of income/wages from years 1980, 1981, and 1982 while data for 2009 are the three-year averages for 2007, 2008 and 2009.

To get a better sense of the characteristics of those who are low-wage and low-income, Table 1 provides descriptive statistics for the entire group of workers and the low-wage, low-income (LW/LI) sub-group for all 30 years (1980-2009). The patterns in the data reflect what one might expect—younger, female, less educated, and part-time/part-year workers are more likely to be LW/LI than other workers. While women comprise 47.3 percent of workers, they are 55.9 percent of LW/LI workers. Similar disparities exist for African American and Hispanic workers who represent, respectively, 4.1 and 3.9 percent of the sample but 8.6 percent and 13.7 percent of LW/LI workers in Massachusetts. For white workers, the opposite pattern holds. They comprise 89 percent of the sample, but only 73.4 percent of LW/LI workers. Still, LW/LI workers include people with characteristics that one would not expect: 40.4 percent of those who are LW/LI worked full-time and year-round while 13.1 percent had a college degree or more.

We define family status by gender, each earner's relationship to other family members in the household, and the presence of their own children under age 18. We are able to identify six mutually exclusive family relationships for all positive earners age 18 and older for each gender, creating 12 possible family statuses. See Table 2 for the complete taxonomy.[8]

Table 2 depicts the distribution of people across family statuses in March 1981 and March 2010 as well as the change over this period.[9] Seven family statuses saw an increase in their respective shares, while five saw a decrease. The largest increase was among single males with no children, who experienced a 3.05 percent increase, followed by single females without children and married women without children. The largest decreases were among married males with children and related males at 4.07 and 2.8 percent, respectively.

Table 3 depicts the distribution of all earners across family statuses (column 1), the distribution of LW/LI earners across family status (column 2), and the percentage of earners who are LW/LI within each family status (column 3) for all years. Single mothers (SF, C) are the most overrepresented group

Table 1. Characteristics of Workers by LW/LI Status: 1979–2009

Percent of all workers who are:	Not LW/LI	LW/LI	Total
Female	46.4%	55.9%	47.3%
Worked Full-time/Full-year	66.1%	40.4%	63.8%
Average Age	39.9	36.0	39.5
Race:			
White	90.5%	73.4%	89.0%
Black	3.7%	8.6%	4.1%
Hispanic	2.9%	13.7%	3.9%
Other	2.9%	4.4%	3.0%
Highest Education Level			
Less than high school	8.0%	23.9%	9.4%
High school	30.6%	39.8%	31.4%
Some college	24.8%	22.3%	24.5%
College	22.9%	9.9%	21.8%
Advanced degree	13.7%	4.2%	12.9%
Total	60,242	5,871	66,113

Source: Authors' calculation using the Annual Social and Economic (ASEC) Supplement of the Current Population Survey

Table 2. Percent Distribution of Earners by Family Status, March 1980–1982 and March 2008–2010

Family Status	1980 - 1982	2008 - 2010	Change
Single Female with Children	3.13	3.89	0.76
Single Male with Children	0.58	0.89	0.31
Married Female with Children	12.47	13.39	0.93
Married Male with Children	19.18	15.11	-4.07
Single Female with no Children	8.25	10.48	2.23
Single Male with no Children	9.28	12.32	3.05
Married Female with no Children	10.09	12.11	2.02
Married Male with no Children	13.64	12.2	-1.43
Single Female with Related Adult	1.88	1.84	-0.04
Single Male with Related Adult	0.78	1.11	0.33
Related Female	8.77	7.49	-1.29
Related Male	11.97	9.17	-2.80
Total	100.0	100.0	

Source: Authors' calculation using the Annual Social and Economic (ASEC) Supplement of the Current Population Survey

Note: The sample is one of individuals broken down by family status, but not by how many earners are in the family.

in the LW/LI subsample, comprising 3.69 percent of all employment but 14.12 percent of LW/LI workers. Single fathers, single males without children, and single females without children are also highly overrepresented. While single women not living with any other adult family members (SF, C and SF, no C) together comprise just over 13 percent of workers, they are 45 percent of LW/LI workers. Single males living with other related adults are slightly less represented among LW/LI earners than they are among all earners as are related males and females (RM and RF). Married males and females without children (MM, no C and MF, no C) are the most underrepresented among LW/LI earners.

Of course, the family statuses that are overrepresented in LW/LI have the highest overall rates of LW/LI. By far the highest rate is among single mothers at 34.53 percent, followed by single females without children (18.94 percent) and single fathers (18.67 percent). The family statuses with the lowest rates of LW/LI are married males without children (2.66 percent) and married females without children (2.97 percent). The substantially higher rate of LW/LI among married females with children versus married females without children, and single females with children versus single females without children, is further evidence of the effect of children and family status more generally on labor market outcomes.

Table 3. Distribution of All Earners, of LW/LI Earners and Percent Who Are LW/LI Earners by Family Status, March 1980–2010

Family Status	Distribution of All Earners	Distribution of LW/LI Earners	Percent Who Are LW/LI Earners
Single Female with Children	3.69	14.12	34.53
Single Male with Children	0.70	1.44	18.67
Married Female with Children	12.90	9.71	6.79
Married Male with Children	16.35	9.36	5.17
Single Female with no Children	9.64	20.22	18.64
Single Male with no Children	11.09	20.90	17.03
Married Female with no Children	11.28	3.70	2.97
Married Male with no Children	12.86	3.78	2.66
Single Female with Related Adult	1.90	1.80	8.57
Single Male with Related Adult	1.04	1.14	9.86
Related Female	7.87	6.35	7.29
Related Male	10.69	7.50	6.34
Total	100.0	100.0	9.03

Source: Authors' calculation using the Annual Social and Economic (ASEC) Supplement of the Current Population Survey

CHANGES ACROSS TIME

To get a better handle on changes over time, we look at the share of earners who are LW/LI using 3- and 4-year averages. We have pooled years in this way to best compare over business cycles, to assure 3-year pooled samples that span recession years. Even after pooling for three years, the sample sizes for three family statuses — single fathers (SM, C), single males living with other related adults (SM, RA), and single females living with other related adults (SF, RA) — are too small to provide reliable estimates, so we exclude them here. Figures 2 and 3 depict the percentage of earners who are LW/LI by family status and gender from 1980–2009. The levels are considerably higher for single adults than for other family statuses, but patterns over time differ considerably by family status. Single males without children and single mothers follow a similar pattern over time: the percentage of LW/LI earners decreases in the early 1980s, then increases in the 1990s, dips in the early 2000s and then increases. Married fathers show a slight increase, while married mothers see their share of LW/LI earners fall over the period.

As can be seen in Table 1, there are important demographic and human capital differences between LW/LI and non-LW/LI individuals. Further, the distribution of these characteristics changes through time. Therefore, studying average time trends of LW/LI by family status could lead to misleading results. We address this issue with regression analysis, which estimates the probability that an individual in a given family status and year will be LW/LI, controlling for race/ethnicity, education level, age, job class of worker, and full-time and full-year employment.[10] We use this set of controls because they have been shown to be important in both determining wage levels and describing changes in the wage distribution over the last 30 years.[11] From these regressions, we can test whether changes through time in the likelihood of being LW/LI are statistically significant.

Over the entire period, all family statuses show an upward trend in the share of earners who are LW/LI. Further, for four of the nine groups — single mothers, married fathers, single men without children, and related females — the increase is substantial at about 5 percentage points or more.

Figure 2. Share of Female LW/LI Earners by Family Status, 1980–2009

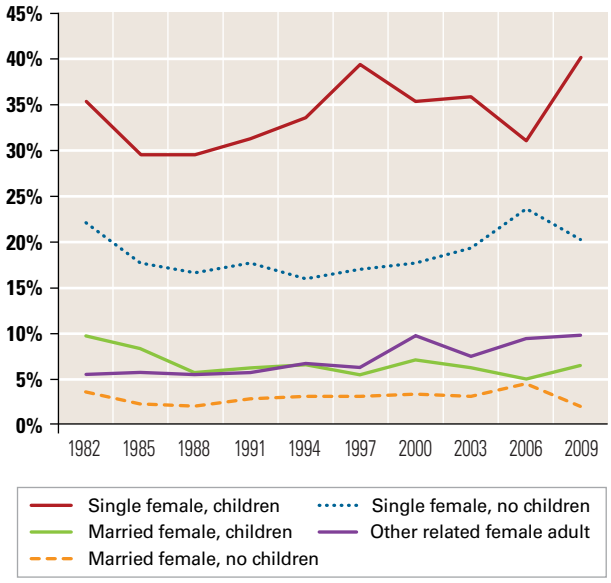
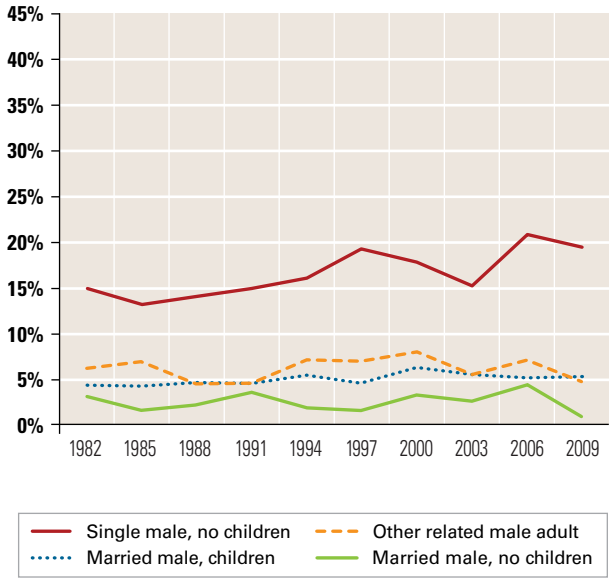


Figure 3. Share of Male LW/LI Earners by Family Status, 1980–2009



Source: Based on authors' calculations using CPS data for all earners over 18, pooled in groups of three and four years, and labeled with the last year of the group (i.e., 1982 is the average of 1980, 1981 and 1982; 1986 is average for 1983, 1984, 1985 and 1986)

Note: We did not include single men with children in Figure 3 because the sample size was too small for reliable results.

In summary, the observed changes in the incidence of LW/LI for the different family statuses appear to be quite varied, with some increasing and some decreasing. The changes, however, are confounded by changes in demographics, job characteristics, and human capital. Once these factors are controlled for, there is still variation in the magnitude of the increase in LW/LI status, but every family status experiences an increase in percent LW/LI between 1982 and 2009 and for some workers the increase is substantial. In short, the number and percentages of workers who are LW/LI, including those who are breadwinning adults, has grown.

GOVERNMENT AND EMPLOYER SUPPORTS FOR LOW-WAGE AND LOW-INCOME WORKERS

There is also evidence that low-wage workers are particularly likely to slip through the cracks of employer-based economic and social protections. At the same time there is evidence that some low-income workers may be earning too much to be eligible for many government support programs. Here we examine if low-wage workers who are also low-income are in fact more likely to be in this vulnerable situation. We expect to see that LW/LI earners are less likely than other workers to get employer benefits, and are also less likely than other low-income families (including those with zero earnings) to receive government anti-poverty benefits.

In addition, as we argued earlier, because both government anti-poverty and employer benefit policies are shaped by family status, we expect to see variation across family statuses in the receipt of benefits. First, traditional breadwinners (married men and through them their wives) should be more likely to be eligible for and receive employer benefits, even after controlling for LW/LI status. Second, wage-earning single mothers — traditional recipients of income-based anti-poverty programs — should be more likely to receive anti-poverty government benefits than other family statuses that are also low-income. Once again, we test these two hypotheses using regression analysis in which we control for age, education level, race/ethnicity, job class of worker, year, and family status in all of the regressions.

Employer supports

First we test for whether LW/LI earners are less likely to receive two employer-sponsored benefits — health insurance and a retirement plan. We estimate the probability of being covered by any health insurance (including government-provided), the probability of being covered by employer-provided health insurance, and the probability of being eligible to participate in an employer-provided pension plan.

Compared with all non-LW/LI workers, LW/LI workers are 15 percentage points less likely to be covered by any health insurance plan (including a government-sponsored plan), 30 percentage points less likely to be covered by an employer-provided health insurance plan, and 18 percentage points less likely to be eligible

to participate in an employer-provided pension plan. These results are statistically significant, so we can reliably claim that LW/LI workers are much less likely to get employer-based supports.

We also find support for the claim that employment-based social protections are more likely to go to traditional breadwinners. Compared with single mothers, the base group in our regressions, only married mothers and fathers were more likely to receive any type of insurance. However, considering only employer-provided insurance, the traditional breadwinner model becomes more sharply focused. All four married family statuses (married men and women with and without children) are at least 20 percentage points more likely to get employer-provided health insurance compared with single mothers. The other seven family statuses are also more likely to get employer-sponsored health insurance than single mothers, though the magnitudes are much smaller (ranging from 11 percent for single females without children to 6 percent for related males). These relative magnitudes indicate that coverage rates among married individuals are considerably higher than they are among unmarried individuals. In all cases the differences in likelihood are statistically significant.

The relative rates of eligibility for retirement plans are much closer than they are for employer-provided health insurance plans. Both married men with children and those without are 9 percentage points more likely to be eligible for an employer-sponsored retirement plan than single mothers. All other workers with the exception of single men living with related adults (at 5 percent) are at most 2 percentage points more likely to be eligible. These findings are consistent with the argument that family status shapes the types of jobs individuals wind up in, which in turn shapes the types of employer benefits they receive.

Government supports

Low-wage workers in low-income families, especially those whose income is between 100 and 200 percent of the federal poverty line, often make too much to be eligible for government supports in Massachusetts. Just under 69 percent of all LW/LI workers from 1980–2009 fall within this income range. We look at the likelihood of using two government supports.[12] One of the most widely used benefits, and one that has uniform eligibility income thresholds for families with children at 200 percent of the federal poverty line in Massachusetts, is Food Stamps.[13] The other government support that we explore is receipt of government-sponsored health insurance, which includes Medicare, Medicaid, and CHAMPUS (the program directed towards veterans).

The relevant sample for these comparisons is all low-income adults, with and without earnings. We have 20,821 adults in our sample who have family income below 200 percent of the poverty line. As predicted, LW/LI earners are 10 percentage points less likely to be in a household with Food Stamps and 20 percent less likely to be covered by public health insurance than those with low income only but not low wages (either because they have higher earnings or no earnings at all).

Among the low-income population, the likelihood of single mothers being in a household with Food Stamps is 19 percent higher than it is for single fathers, and 33 percent higher than for married mothers and fathers. The same holds true for health insurance, with single mothers being 28 percent more likely than single fathers, 33 percent more likely than married mothers, and 36 percent more likely than married fathers to be covered by government-sponsored health insurance.

Put simply, LW/LI workers do face a form of double jeopardy; they are employed in jobs that are considerably less likely to provide health insurance and pensions, but earn too much to be eligible for government-provided supports aimed at low-income individuals. Further, family status plays a role in determining which type of social protection an earner is likely to receive. Employer-based benefits are more likely to go to traditional breadwinners, while anti-poverty programs are still more likely to aid single mothers. This is occurring as we witness the breakdown of the traditional breadwinner model with the rise of single-adult families, the decline in male earnings, and the rise of wives' earning contributions to families. Similarly, being poor and employed is a problem many single mothers face, but as we have shown, it is a growing problem for many other adults.

CONCLUSION

Our findings that the share of LW/LI earners has increased among earners in all family statuses, but especially among breadwinners, are consistent with earnings inequality trends, particularly among male earners. They also reflect one likely outcome of employment-promotion policies directed toward single mothers who often lack the set of work supports needed to accompany work while taking care of young children. This growth in economically vulnerable workers should be a policy concern generally, but especially because it suggests that employment may not be a path out of poverty for many. Even though the data offer limited ways to measure the availability and use of employer-based and government-provided benefits, we find unequivocally that low-wage and low-income workers do in fact face this double jeopardy — caught without either form of protections. This calls into question larger issues about fairness when a prosperous society has a

growing portion of the employed population, including main breadwinners, that struggle to earn adequate levels of income and are largely unprotected by policies intended for people in their situation. It calls for a modernization of both types of social protection policies to recognize that not all breadwinners have breadwinning jobs with employer-based benefits, and that anti-poverty programs should better cover all low-income earners, including those without children.

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ENDNOTES

1.) In Massachusetts, the real wage rate for those at the 20th percentile has hovered around $10 per hour from 1981 to 2010, but the gap between the 20th and 80th percentile has grown from $13.84 in 1981 to $23.80 in 2010 (Sarah Nolan and Kurt Wise, "The State of Working Massachusetts" *Massachusetts Budget and Policy Priority*, January 2012; p, 15 http://www.massbudget.org/reports/pdf/state_of_working_mass_2011.pdf).

2.) Some researchers use ⅔ of median wage as the definition of low wage (see Jérôme Gautié, and John Schmitt eds., *Low-wage Work in the Wealthy World*, New York: Russell Sage Foundation, 2010). Others define low-wage relative to the poverty income threshold (see Gregory Acs, Pamela Loprest, and Caroline Ratcliffe, *Progress toward Self-sufficiency for Low-wage Workers*, Washington, DC: The Urban Institute, 2010). Low-income is often defined as a percent of the federal poverty level, although that level is not uniform. For example, the poverty-focused research think tanks, Urban Institute and the National Center for Children in Poverty use 200 percent of the federal poverty line, while the U.S. Department of Education uses 150 percent. Other researchers use family income that falls below the amount necessary to buy a subsistence level of necessities in the city or region in which they live. For example, Wider Opportunities for Women has developed a Family Economic Security Measure for many states (including Massachusetts working with the Crittenton's Women's Union), while the Economic Policy Institute has constructed a Basic Family Budget.

3.) Income thresholds also vary by age of householder, with families with a householder who is age 65 and older having lower income thresholds than other families. Poverty thresholds for all years used can be found at http://www.census.gov/hhes/www/poverty/data/threshld/.

4.) Economic Independence Calculator at http://www.livework-thrive.org/research_and_tools/economic_independence_calculator).

5.) For how this happened historically, see for example, Michael Brown, *Race, Money and the American Welfare State*. Ithaca, NY: Cornell University Press, 1999; Suzanne Mettler, *Dividing Citizens: Gender and Federalism in New Deal Public Policy*, Ithaca, NY: Cornell University Press, 1998; and Deborah Figart, Ellen Mutari and Marilyn Power, *Living Wages, Equal Wages: Gender and Labour Market Policies in the United States*, London: Routledge, 2002.

6.) Table 2 of Families and Work Institute. "What Do We Know About Entry-Level Hourly Employees?" Research Brief No. 1, November, 2006 (http://familiesandwork.org/site/research/reports/brief1.pdf). Data from a representative sample of employees in 2002 indicate that compared to other workers, low-wage workers were much less likely to have employer-sponsored health insurance, paid sick days, paid vacation, and any retirement plan to which an employer contributes.

7.) For how this works in Massachusetts, see Rebecca Loya, Ruth Liberman, Randy Albelda and Beth Babcock, Fits and Starts: The Difficult Path for Working Single Mothers, Boston, MA: Crittenton Women's Union and Center for Social Policy, 2008 (http://scholarworks.umb.edu/cgi/viewcontent.cgi?article=1009&context=csp_pubs).

8.) In these family statuses, children refer to persons younger than 18 years. To be designated as a single parent (male or female), there must be no other related adults living in the family, except for one's own children 18 and older. Further, we include single grandparents when no adult parent is present as single parents. Similarly, single males and females without children live with no other related adults (although they may live with other unrelated adults). Those designated as married male and female may have other related adults living in the family. Single male and female living with related adults may also have children under 18 in the family. So for example, a woman head of household who also lives with her daughter who has a child under 18, would be classified as a single female with related adults. The daughter in this family, even though she is a single mother, would be classified as a related female.

9.) As mentioned, the income and employment questions in the CPS are retrospective, while the demographic questions are not. Thus, income and employment data range from 1979 to 2009, while demographic data range from 1980 to 2010.

10.) We use a cross-section regression with a large set of dummies and interactions to approximate a time trend for each family status. The regression we use is: $pr(LW/LI)ift = \alpha + \delta f + \tau t + \omega ft + \gamma Xift + uift$, where i indexes individuals, f indexes family status, t indexes time, δf is a family status fixed effect, τt is a year fixed effect, ωft is an interaction between δf and τt, X are the regression controls (race/ethnicity, education level, age, age squared, job class of worker, full-time and full-year employment) and u represents the error term. Details on this regression analysis are available from the authors.

11.) For example, David H. Autor, Lawrence F. Katz, and Melissa S. Kearney, "Trends in U.S. Wage Inequality: Revising the Revisionists," *Review of Economics and Statistics* 90(2): 300-323, 2008.

12.) See Randy Albelda and Jennifer Shea, "Bridging the Gaps between Earnings and Basic Needs in Massachusetts," *Mass*Benchmarks, 2008 (volume 10, Issue 2), pp. 13-19.

13.) In all other states the gross income eligibility is 130 percent of the federal poverty line (FPL). There are also net income eligibility requirements which may result in not all families with children whose income is below 200 percent FPL being eligible.

Going Beyond the Unemployment Statistics: The Case for Multiple Measures of Labor Underutilization

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A MORE NUANCED PICTURE OF LABOR UNDERUTILIZATION EMERGES BY INCLUDING RELATED CATEGORIES ALONGSIDE TRADITIONAL UNEMPLOYMENT. THE UNDEREMPLOYED ARE PART-TIME WORKERS WHO DESIRE FULL-TIME EMPLOYMENT. THE "HIDDEN" UNEMPLOYED DESIRE WORK BUT HAVE NOT ATTEMPTED TO GET IT. THE MAL-EMPLOYED HAVE EDUCATION LEVELS THAT SIGNIFICANTLY EXCEED THE SKILL LEVELS OF THEIR CURRENT JOBS.

Introduction

In assessing the conditions of U.S. and state labor markets and identifying the need for new macroeconomic and workforce development strategies to boost labor market performance, many economic and labor market analysts and national, local media rely heavily on the findings of the monthly Current Population Surveys of households and the monthly U.S. Bureau of Labor Statistics payroll surveys of wage and salary employment.[1] There are state-based estimates of monthly unemployment and payroll employment available from these same two surveys.[2]

The labor market problems of U.S. and Massachusetts workers, however, go well beyond these official unemployment measures.[3] Unemployment itself is radically different today than it was a decade or even a few short years ago. A rapidly growing number of workers saw their hours of work reduced in the Great Recession of 2007–2009 and its early aftermath, and many more have entered the ranks of the *underemployed*; i.e., persons working part-time but desiring full-time work.[4] A growing number of working-age adults, including many teens and young adults (under age 35), have not entered the labor force in search of work even though they desire jobs, thereby remaining as members of the *hidden unemployed*. A rising number of young college graduates have faced difficulties in finding jobs related to their college education, thereby becoming *mal-employed*.

This brief research report goes well beyond the official aggregate unemployment statistics by providing a more detailed assessment of the changed character of unemployment and a comprehensive set of labor underutilization measures for Massachusetts workers in the past few years. Our labor underutilization measures include official unemployment, underemployment, and forms of hidden unemployment (workers who want jobs now but are not actively looking) And we conclude with a brief review of mal-employment problems.

The Changing Nature of Unemployment Problems in Massachusetts: The Steep Increase in the Durations of Unemployment Spells

Unemployment is *not* a homogeneous problem despite the commonality of the definition used to identify a given person's unemployment status. The unemployed enter that status for different reasons (permanent job loser, temporary layoff, quit, new entrant or re-entrant) and often experience quite different difficulties in finding new employment, thereby affecting the duration of their unemployment spells. Over the past decade (2000–2011) as unemployment rates dramatically changed in Massachusetts, the nature of unemployment problems also shifted in substantially different directions. In 2000, the Commonwealth's unemployment rate stood at only 2.7%, the lowest in the state's post-World War II history, and ranked fourth lowest in the nation among the 50 states. During the national recession of 2001 and the largely jobless recovery of 2002–2003, the state's unemployment rate more than doubled to 5.8% in 2003 before declining to 4.7% in 2007. Over the next few years, it would rise sharply to 8.4% in 2009 and then to 8.5% in 2010 before declining to 7.2% in 2011 and falling to the low 6% range in 2012.

The nature of unemployment problems in the state changed dramatically over the past decade. The fraction of the unemployed who were *permanent job losers* (their former jobs were abolished) rose sharply over the decade and the total number (170,000) of unemployed permanent job losers in 2010 was nearly *5 times* as high as it had been in 2000.[5] The durations of unemployment also changed substantially over the decade, with both the median and mean durations rising steeply over the decade (Table 1). The mean durations (arithmetic averages) are much larger than the medians (the value right in the middle of the distribution of unemployment spells). The longer you are unemployed, the lower the chances of finding a new job and the greater the likelihood of withdrawing from the labor force.[6]

In calendar year 2000, the median duration of unemployment was only 6 weeks. It rose to 12 weeks in 2003, fell back to 9 weeks in 2007, then rose steadily to 22 weeks in 2011. The mean durations of unemployment rose very substantially from 11 weeks in 2000 to 21 weeks in 2003 before falling back to 18 weeks in 2007 and then rising steadily to 37 weeks in 2011, the highest mean duration in the state's history over the past 44 years for which such data are available. The mean durations of unemployment in 2011 varied widely by age group, ranging from 23 weeks for those 16-24 to a high of 54 weeks for those 55-64. Long durations of unemployment not only lead to steep declines in earnings and living standards, but also to growing social and psychological problems, including increased stress in family relationships, growing social isolation, loss of self-confidence and self-esteem, and a higher incidence of mental depression and physical health problems.[7]

Table 1. Trends in the Median and Mean Durations of Unemployment in Massachusetts, Selected Years, 2000–2011 (in weeks)

Year	Median	Mean
2000	6	11
2003	12	21
2007	9	18
2009	14	24
2010	19	32
2011	22	37

Source: CPS monthly surveys, public use files, tabulations by authors

The Underemployed in Massachusetts

A second group of workers facing labor market problems in the state is the *underemployed*. These individuals are employed part-time (under 35 hours per week) but desire full-time work and are available to take a full-time job. Their numbers in both the nation and the state exploded during and after the Great Recession of 2007–2009.[8] Here in Massachusetts, the number of underemployed rose only modestly between 2000 and 2007, increasing from 56,000 to 66,000 (Chart 2). By 2010, however, their numbers had risen by another 105,000 to 171,000 and would increase to 200,000 in 2011. This number was about 3.6 times as great as its level back in 2000. The incidence of underemployment problems in our state in 2011 was the highest ever recorded in our state since the late 1960s when state CPS data became available.

The incidence of underemployment problems tends to be highest among young adults (20-24), out-of-school teens, the less educated, blue-collar and service workers, and low-income workers. The average underemployed person tends to work only about half as many hours per

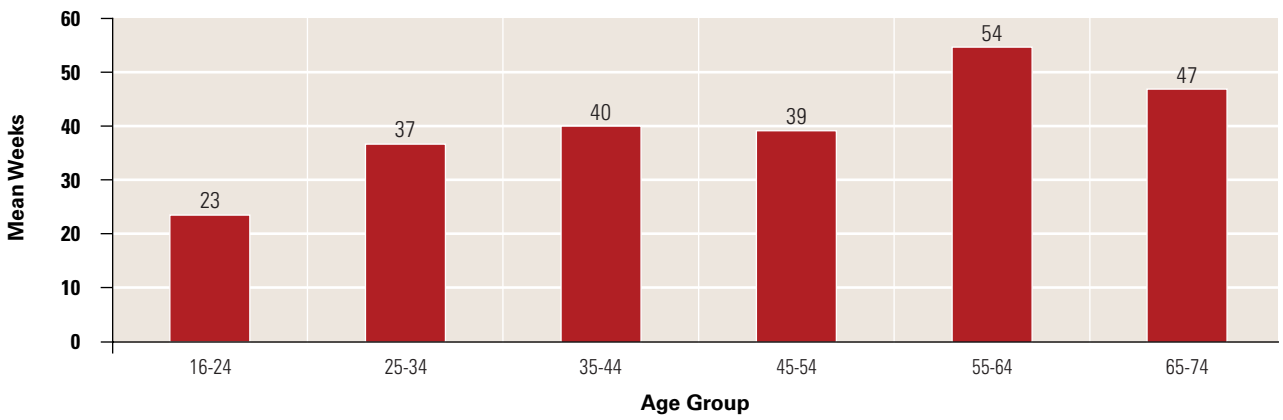
week as their full-time peers, and they make less per hour. Their average weekly wage is under half that of their full-time counterparts, and they are less likely to receive key employee benefits and training from their employers. Their lower weekly hours of work and productivity reduce their contribution to the real output of society, and their substantially lower earnings reduce their payments of federal, state, and some local taxes. Their reduced hours of work lower their cumulative work experience, and recent longitudinal research by Marta Tienda and others has shown that part-time work has a much lower (if not zero) return to future wages for young adult women.[9] There are, thus, future as well as current earnings losses from underemployment.

The Hidden Unemployed and the Missing Labor Force

The decision of some individuals to actively seek work is dependent in part upon state or local labor market conditions. During downturns in the labor market, some potential workers will not enter the job market, and some unemployed workers may withdraw from active job search. During the Great Recession of 2007–2009 and its aftermath, the U.S. civilian labor force actually declined by about 1 million between 2008 and 2011 despite earlier projections by the Bureau of Labor Statistics of a gain in the civilian labor force of about 4.5 million over this time period. The state's civilian labor force declined by about 12,000 between 2009 and 2011.[10]

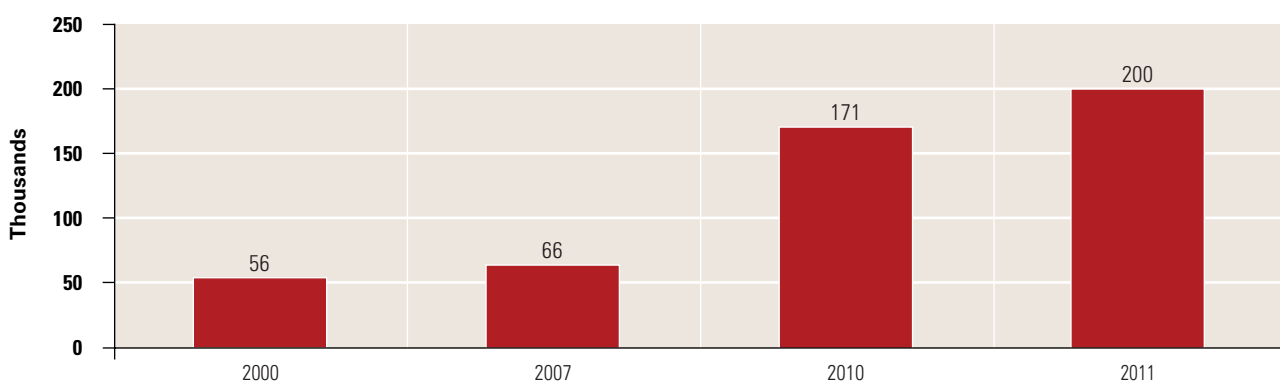
A third group of underutilized workers are members of the hidden unemployed or the labor force overhang. These are individuals in the CPS survey who were not actively looking for work but who expressed a desire for immediate employment. Nationally, their ranks experienced very high rates of growth between 2007 and 2011, rising from 4.7 million to just under 6.5 million. Here in Massachusetts, the labor force reserve expanded from 88,000 in 2007 to 118,000 in 2011, a rise of 30,000 or

Chart 1. Mean Durations of Unemployment of Massachusetts Workers by Age Group, 2011



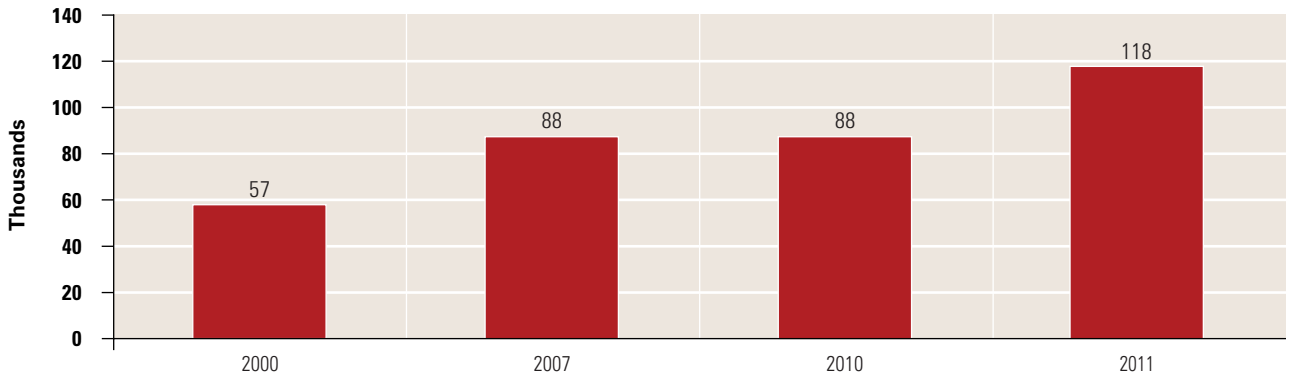
Source: CPS monthly surveys, public use files, tabulations by authors

Chart 2. Trends in the Number of Underemployed Persons in Massachusetts, Selected Years, 2000–2011 (in thousands)



Source: CPS monthly surveys, public use files, tabulations by authors

Chart 3. Trends in the Labor Force Reserve in Massachusetts, Selected Years, 2000–2011 (in thousands)



Source: CPS monthly surveys, public use files, tabulations by authors

34% (Chart 3). A high share of this growth in the labor force reserve (70%) was attributable to men. The civilian labor force participation rate of men in Massachusetts declined from 74.5% in 2007 to only 70.5% in 2011. All of these declines were due to the behavior of men under 65 years old, with men under 30 experiencing the steepest declines in participation. If these men had maintained their 2007 participation rates, there would have been 59,000 more males 16-65 years old in the labor force in 2011. Their absence from the official labor force holds down the rate of official unemployment but lowers the work experience and career readiness of young (and older) adults, which will have negative ramifications for their future employability and earnings.

Estimating the Pool of Underutilized Labor in the State in 2011

The preceding estimates of the unemployed, underemployed, and hidden unemployed workers in 2011 can be combined to form a pool of underutilized workers. The combined pool was equal to 570,000 current or potential workers, which was 2.26 times as high as the number of official unemployed. The overall labor underutilization rate for the state was 15.7%, several percentage points below the national average of 17.7% for that year. Underutilization rates in Massachusetts and the U.S. tend to vary quite widely by age, educational attainment, and household income.[11] Young workers (under 25) and less-educated workers, and low-income workers experienced the highest rates of underutilization. These underutilization rates tended to fall with age through the early to mid-40s and then reversed course and increased for the older age groups.

Labor underutilization rates varied quite widely in Massachusetts over the past decade. In 2000, at the near height of the state's labor market boom, the underutilization rate was only 6%. It rose in the early years of the decade and remained at 9.0% in 2007 before the effects of the Great Recession took hold in our state. By 2010, it had risen to 15.4% and would increase further in 2011 to 15.7% despite declining unemployment. The number of underemployed and hidden unemployed remained quite high in 2011, and males especially had experienced an above average increase in their underutilization problems due in part to the steep decline in blue-collar employment.

The Mal-employed in Massachusetts

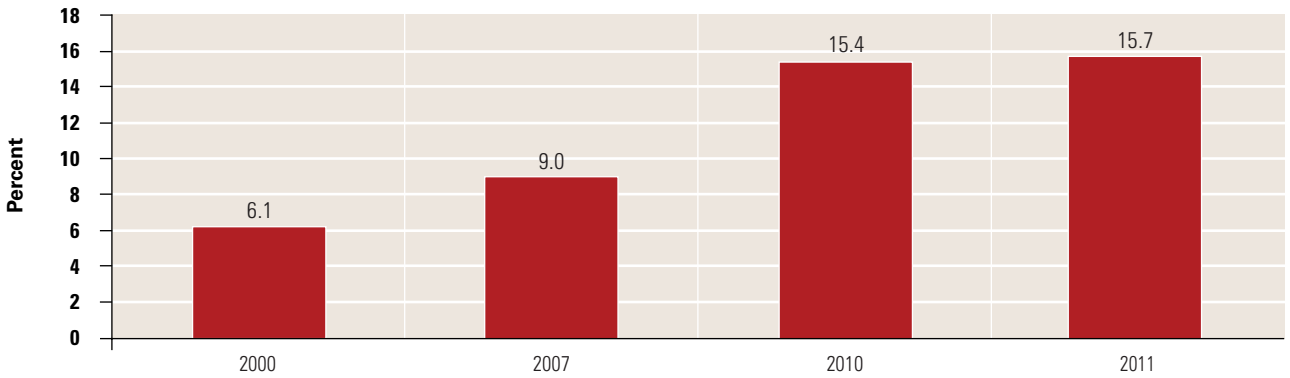
Our above count of the pool of underutilized workers in Massachusetts in 2011 did not include the *mal-employed or the overeducated*.[12] These so-called mal-employed consist of individuals with college degrees (associate's, bachelor's or higher) who were working in jobs that did not typically require the degree they held to become employed.[13] Our earlier estimate of the number of mal-employed persons in 2010 in Massachusetts was just under 375,000 of whom 92,000 held an associate's degree, 228,000 a bachelor's degree, and 54,000 a master's degree or higher.

Table 2. Size of the Underutilized Pool of Workers in Massachusetts in 2011 (annual averages)

Group	Number
Unemployed	252,100
Underemployed	200,200
Hidden unemployed	118,000
Total underutilized	570,300
Underutilization Rate	15.7%

Source: CPS monthly surveys, public use files, tabulations by authors

Chart 4. Labor Underutilization Rates in Massachusetts, Selected Years, 2000–2011 (in %)



Source: CPS monthly surveys, public use files, tabulations by authors

Mal-employment rates tended to decline with the level of schooling and among the young (those under 30) to vary sharply by college major. Adding these mal-employed individuals to the pool of underutilized labor would increase their ranks to 920,000.[14]

Mal-employment problems pose costs on both individuals and society at large. Mal-employed workers, especially those with a bachelor's degree or higher, earn much less per week than their peers holding college labor market jobs. For example, the mean weekly earnings of bachelor's degree holders employed in college labor market jobs in 2009–2010 were 56% higher than those of their counterparts who were mal-employed. Mal-employment lowers the productivity and often the weekly hours of workers, thereby reducing the real output of society. Their lower earnings result in lower federal, state, and local taxes, adding to the fiscal burdens of the national and state government.

Conclusion

Mal-employment and the three categories of underemployment surveyed in this paper point to more pervasive labor market challenges for Massachusetts and the nation than indicated by headline unemployment data alone. For policy makers, failing to account for underemployment reflects a fixation on data that are most conventionally or readily measurable. Informed policy making, then, should better capture economic reality by treating underemployment not as an afterthought but as integral to the employment-unemployment picture.

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ENDNOTES

1.) For a review of civilian unemployment and payroll employment developments in the U.S. in recent months based on these two surveys, see U.S. Department of Labor, Bureau of Labor Statistics, *The Employment Situation: April 2012*, Washington, D.C., May 2012.

2.) The state monthly unemployment estimates from the Local Area Unemployment Statistics program (LAUS) rely on the monthly CPS unemployment estimates.

3.) For an earlier set of arguments that go beyond the official unemployment statistics at the national level, see Andrew Sum, Ishwar Khatiwada, et al., *Beyond Official Unemployment: Measuring the Size and Incidence of Labor Underutilization Problems among U.S. Workers in 2008*, Report Presented to U.S. Congress, House of Representatives, Committee on Education and Labor, Washington, D.C., August 2008.

4.) For an overview of the rising incidence of underemployment problems in the U.S. during the Great Recession, see Andrew Sum and Ishwar Khatiwada, "The Nation's Underemployed in the Great Recession of 2007–09," *Monthly Labor Review*, November 2010, pp. 3-13.

5.) For a more detailed analysis of the changing nature and size of unemployment problems in Massachusetts over the decade of 2000–2010, see Andrew Sum, Ishwar Khatiwada, et al., *Recapturing the American Dream in Massachusetts*, Massachusetts Institute for A New Commonwealth, Boston, 2011.

6.) See (i) Stuart H. Garfinkle, "The Outcome of a Spell of Unemployment," *Monthly Labor Review*, January 1977, pp. 54-57; (ii) Rand Ghayad, "Tracking the Re-employment Rates and Labor Force Attachment of the Unemployed by Duration of Unemployment in the U.S.," Unpublished working paper, Department of Economics.

7.) The social and psychological costs of unemployment, especially among the long-term unemployed and unemployment insurance exhaustees are reviewed in the following publications: (i) Jessica Godofsky, Carl Van Horn, and Cliff Zukin, *The Shattered American Dream: Unemployed Workers Lose Ground, Hope, and Faith in Their Futures*, John J. Heldrich Center for Workforce Development, Rutgers University, December 2010; (ii) Rica Morin and Rakeb Kuchhar, *The Impact of Long-Term Unemployment: Lost Income, Lost Friends and Loss of Self Respect*, Pew Research Center, Washington, D.C., July 2010: (iii) Carl Van Horn and Cliff Zukin, *The Long-Term Unemployed and Unemployment Insurance*, John J.

Heldrich Center for Workforce Development, Rutgers University, November 2011.

8.) For an overview of the rising incidence of underemployment problems in the U.S. during the Great Recession, see Andrew Sum and Ishwar Khatiwada, "The Nation's Underemployed in the Great Recession of 2007–09," *Monthly Labor Review*, November 2010, pp. 3-13.

9.) See Marta Tienda, V. Joseph Hotz, et al., "Employment and Wage Prospects of Black, White, and Hispanic Women," in *Human Resource Economics and Public Policy*, W.E. Upjohn Institute for Employment Research, 2010, pp. 129-160.

10.) See Andrew Sum, Mykhaylo Trubskyy, with Sheila Palma, *The Great Recession of 2007–2009, the Lagging Jobs Recovery and the Missing 5-6 Million National Labor Force Participants in 2011: Why We Should Care*, Center for Labor Market Studies, Northeastern University, 2012.

11.) For an assessment of the numbers and changing incidence of labor underutilization problems among U.S. workers by household income group, see Andrew Sum and Ishwar Khatiwada, "Ignoring those Left Behind," *Challenge*, March - April 2012, pp. 5-20.

12.) A review of these alternative concepts of mal-employment, surplus schooling, and overeducation can be found in i) Frederick Harbison, *Human Resources as the Wealth of Nations*, Oxford University Press, New York, 1973; (ii) Russell Rumberger, "The Impact of Surplus Schooling on Productivity and Earnings," *The Journal of Human Resources*, Vol. 22, Issue 1, 1987; pp. 24-50; (iii) Stephen Rubb, "Post-College Schooling, Overeducation, and Hourly Earnings in the United States," *Economics of Education*, Volume 11, No. 1, 2007.

13.) For a review of the methodology for measuring mal-employment and estimates for 2010 in Massachusetts, see Andrew Sum, Ishwar Khatiwada, Joseph McLaughlin, et al., *Recapturing the American Dream…*, Chapter 5.

14.) Some of the mal-employed (about 7%) were also underemployed in 2010. Eliminating the overlap between these two groups would result in an unduplicated count of about 350,000 additional underutilized workers.


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