

Berkshire Region: Technology Sector Update

Despite a statewide tech turnaround, the region's high-tech enterprises lag behind the recovery.

In March of 2002, researchers at the University of Massachusetts Donahue Institute reported on Berkshire county's small but thriving technology enterprise sector, which comprises components of two major NAICS industry classifications, information and professional and technical services. (A detailed sector definition can be seen in the accompanying table¹.) That study found that the technology enterprise sector had grown faster than the Berkshire economy as a whole since 1993 and faster than the comparably defined sector in the state.

Since that study, however, the technology enterprise sector in the Berkshires has fallen on hard times. In 2001, the sector contained 139 employer firms, responsible for 2,015 jobs. Despite its small size, the technology enterprise sector seemed to hold much promise for the Berkshires. Not only had it been fast-growing, but the sector had a set of enviable characteristics; its workforce was professional, well-educated and well-paid. The Donahue Institute study reported that more than 90 percent of workers surveyed in the sector had college degrees, and 69 percent were between 25 and 45, an age group critical to future economic success, and one that has been steadily declining in the Berkshires in recent years. Forty-eight percent of the workforce had migrated to Berkshire County within the previous ten years, the reverse of recent migration outflows in the Berkshires. All in all, the technology enterprise sector was, and is, the economic development professional's dream: clean, high-technology, high-wage, young, and growing.

But by 2005, the number of firms had dropped to 133, with an associated drop in employment to 1,440. The decrease in the number of firms represents a 4 percent decline since 2001, and the drop in employment was a more dramatic 29 percent. The hardest-hit components

of the technology enterprise sector, in percentage terms, have been in Internet and computer-related areas as well as scientific R & D consulting. Only one part of the sector, information services, was spared employment declines, and growth was modest. Percentage declines in employment, for the remaining sub-sectors, ranged from nine percent to as high as 75 percent. Though the high percentages should be taken in the context of this being a small sector, the declines are nonetheless noteworthy and distressing.

The proximate reason for the decline in the Berkshire technology enterprise sector is the parallel decline and slow recovery of the technology sector in the state, the nation, and indeed in the global economy². After the "dot.com" bubble burst in 2001, the technology sector declined precipitously. That the Berkshires would be affected by this downturn is not surprising.

According to Michael Mah³, an executive at QSM Associates, Inc., and a professional software consultant who has lived in the Berkshires for 18 years, there are more fundamental reasons than the "dot.com" downturn for the decline and lack of recovery of the technology enterprise sector in the Berkshires. The Berkshires' economic base in leisure, the arts, and tourism cannot support the sector, so firms must "export" virtually all of their services to the nation and even into the global economy. With slow-growing demand for high-technology services, due in part to the well-publicized increased outsourcing of these services to such places as India, there is no economic basis for a turnaround of the technology enterprise sector in the Berkshires.


According to Mah, much of the activity in this sector in the Berkshires was driven by venture capital in the early part of the decade. As this venture money dried up and has not returned, much of the activity it supported

Selected Technology Sectors, Berkshire County, 2001 – 2005

	Number of Establishments			Average Monthly Employment		
	2001	2005	Percent Change 2001–2005	2001	2005	Percent Change 2001–2005
All Industries, Berkshire County	4,562	4,720	3%	61,192	62,275	0%
All Industries, Massachusetts	193,547	207,788	7%	3,276,103	3,161,766	-4%
Information (NAICS 51)						
Publishing Industries (511)	28	32	14%	538	487	-9%
Motion Picture & Sound Recording Industry (512)	15	13	-13%	90	75	-17%
Internet Publishing and Broadcasting (516)*	3	3	0%	129	59	54%
Telecommunications (517)	13	11	-15%	333	246	-26%
ISPs, Search Portals, & Data Processing (518)	7	3	-57%	65	16	-75%
Other Information Services (519)	16	14	-13%	146	151	-3%
Professional and Technical Services (NAICS 54)						
Computer Systems Design & Related Services (5415)	40	47	18%	556	337	-39%
Scientific Research & Development Services (5417)	17	10	-41%	158	69	-56%
Totals, selected sectors	167	133	-4%	2,015	1,440	-29%
	Average Annual Wages					
	2001	2005	Percent Change 2001–2005			
All Industries, Berkshire County	\$31,564	\$35,805	13%			
All Industries, Massachusetts	\$44,980	\$50,097	11%			
Information (NAICS 51)						
Publishing Industries (511)	\$36,296	\$36,867	2%			
Motion Picture & Sound Recording Industry (512)	\$20,592	\$15,714	-24%			
Internet Publishing & Broadcasting (516)*	\$69,992	\$56,836	19%			
Telecommunications (517)	\$41,860	\$53,278	27%			
ISPs, Search Portals, & Data Processing (518)	\$54,132	\$41,265	-24%			
Other Information Services (519)	\$15,496	\$16,320	5%			
Professional and Technical Services (NAICS 54)						
Computer Systems designs & Related Services (5415)	\$73,320	\$45,490	-38%			
Scientific Research & Development Services (5417)	\$44,252	\$54,837	24%			
Totals, selected sectors	\$48,575	\$40,161	-17%			

Source: Massachusetts Division of Unemployment Assistance, Employment and Wage Data (ES-202 series) * Note — 2004 data used for Sector 516; 2005 data not available

disappeared. At the same time, rising local housing prices have put a financial squeeze on the individuals working in this sector, forcing many of them to leave the region. The departure from the Berkshires of these technology workers, measured only anecdotally for now, is disturbing as much for symbolic as for economic reasons.

What does the future hold for this sector? According to Mah, “The first chapter for technology enterprise in the Berkshires is now complete, but the second chapter has not yet been started.” The Berkshires will always be able to attract a “creative class” to the region, which is the most important ingredient for driving the technology enterprise sector. Will future national and global economic developments trigger a turnaround in the fortunes of the sector? Mah says he is neither optimistic nor pessimistic. Time will tell. 

ENDNOTES

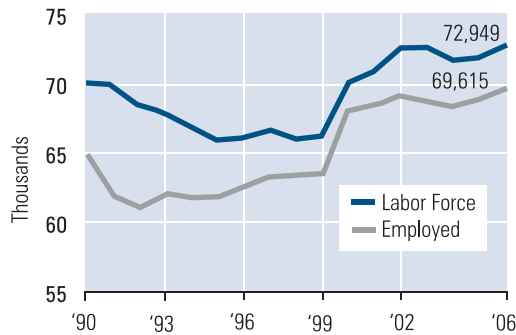
1. This update uses the ES-202 data series from the Massachusetts Division of Unemployment Assistance. The original study utilized data from the Dun and Bradstreet MarketPlace.
2. As this article goes to press, there are indications that the technology sector is showing more robust growth. Time will tell if this renewed growth reaches the Berkshires.
3. Michael Mah is a managing partner at QSM Associates, Inc. based in Pittsfield, Massachusetts and a senior consultant with Cutter Consortium.

ROBERT NAKOSTEEN, a professor on the faculty of the Isenberg School of Management at the University of Massachusetts Amherst, is executive editor of this journal.

Berkshire Region Data

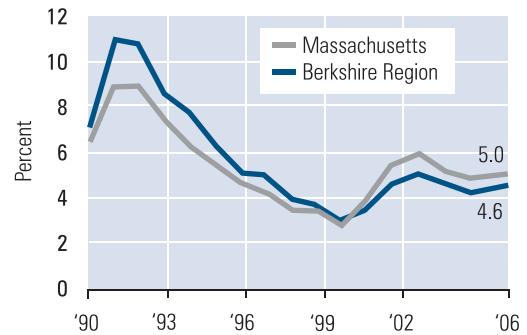


Labor Force & Employment, Berkshire County



Source: DUA, LAUS

Unemployment Rate



Source: DUA, LAUS

Employment, Berkshire County, 2001 – 2005

Industry	2001*	2005*	2005 Total	PERCENT CHANGE 2001 – 2005	
				Berkshire	MA
Education & Health Services	16,471	17,072	27.4%	3.6%	5.3
Trade, Transportation & Utilities	11,280	11,227	18.0%	-0.5%	-4.2
Arts, Leisure & Hospitality	8,667	8,870	14.2%	2.3%	4.7
Manufacturing	8,410	6,373	10.2%	-24.2%	-21.5
Professional & Business Services	4,703	5,616	9.0%	19.4%	-4.7
Construction	3,152	3,524	5.7%	11.8%	0.1
Other Services	2,898	3,154	5.1%	8.8%	6.2
Financial & Real Estate	2,575	2,786	4.5%	8.2%	-2.9
Public Administration	2,350	2,216	3.6%	-5.7%	-6.8
Information	1,421	1,136	1.8%	-20.1%	-20.8
Natural Resources & Mining	264	302	0.5%	14.4%	0.1
Total, All Industries	62,190	62,276	100.0%	0.1%	-3.5%

Source: DUA, ES-202 *Average annual employment

Cumulative Estimates of the Components of Population Change: April 1, 2000 to July 1, 2005

	Total Population Change*	Percent Change	Total	NATURAL INCREASE			NET MIGRATION	
				Births	Deaths	Total	Net International Migration	Net Internal Migration
Massachusetts	49,638	0.8%	131,329	425,232	294,903	-73,741	162,674	-236,415
Berkshire County	-3,085	-2.3%	-1,803	6,471	8,274	-1,150	866	-2,016

Source: Population Division, U.S. Census Bureau *Total population change includes residual Note: 2006 numbers unavailable at press time

Annual Estimates of the Population : April 1, 2000 to July 1, 2005

	July 1, 2001	July 1, 2005	Percent Change
Berkshire County	134,812	131,868	-2.2%
Central Berkshire	74,843	73,038	-2.4%
North Berkshire	38,570	37,362	-3.1%
South Berkshire	21,399	21,468	0.3%

Source: Population Division, U.S. Census Bureau Note: 2006 numbers unavailable at press time