

Regional Trends in Metro Phoenix

Final Report

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Prepared by:

Maricopa Association of Governments

302 N. 1st Ave., Ste. 300

Phoenix AZ 85003

(602) 254-6300

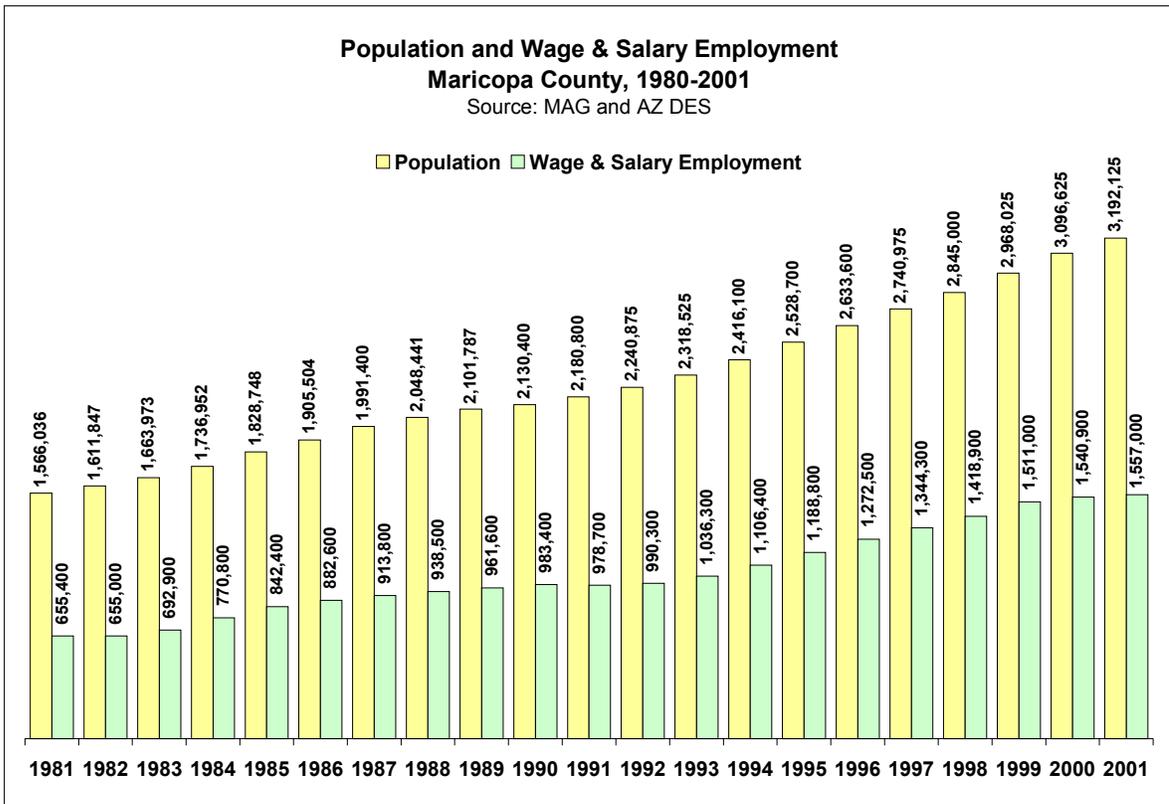
Purpose

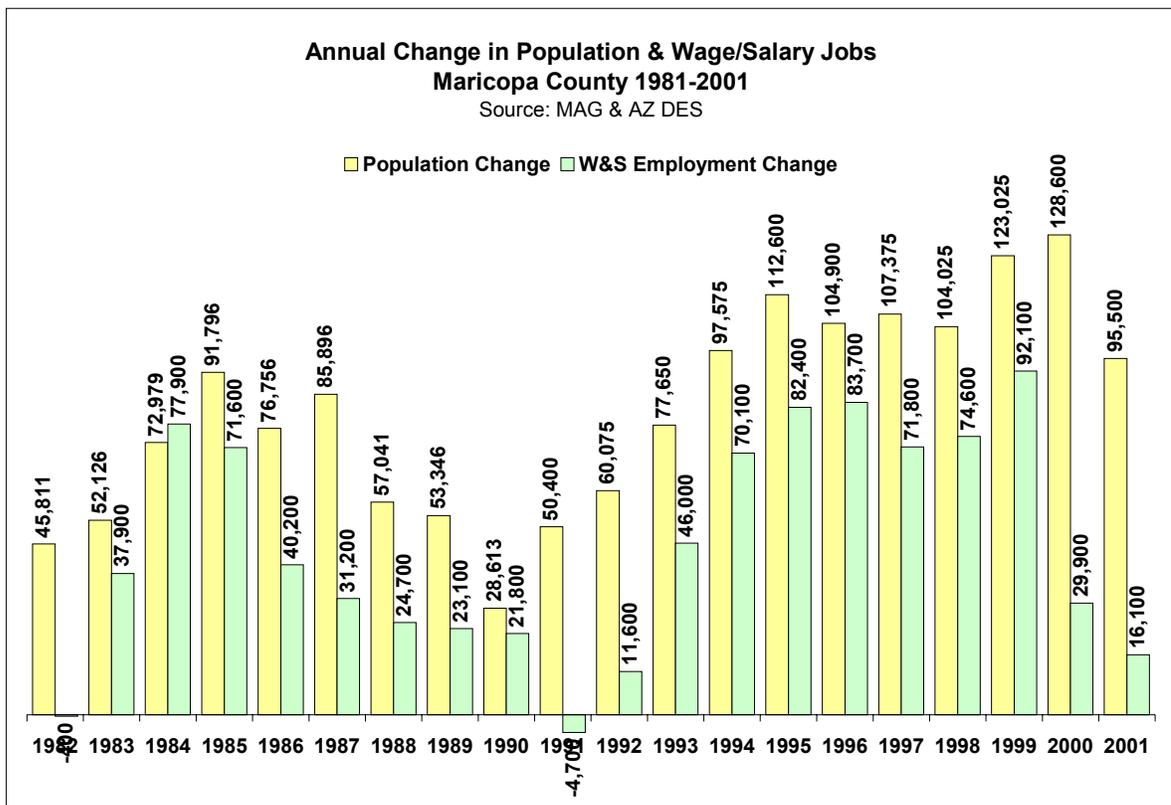
The purpose of this report is to generate discussion about the Greater Phoenix Region by regional and community economic developers. The report presents major regional economic trends in metro Phoenix.

Long Term Population & Job Growth

This graph is a history of population and wage & salary employment in Maricopa County over the past twenty years.

Growth in size is the theme of this graph.

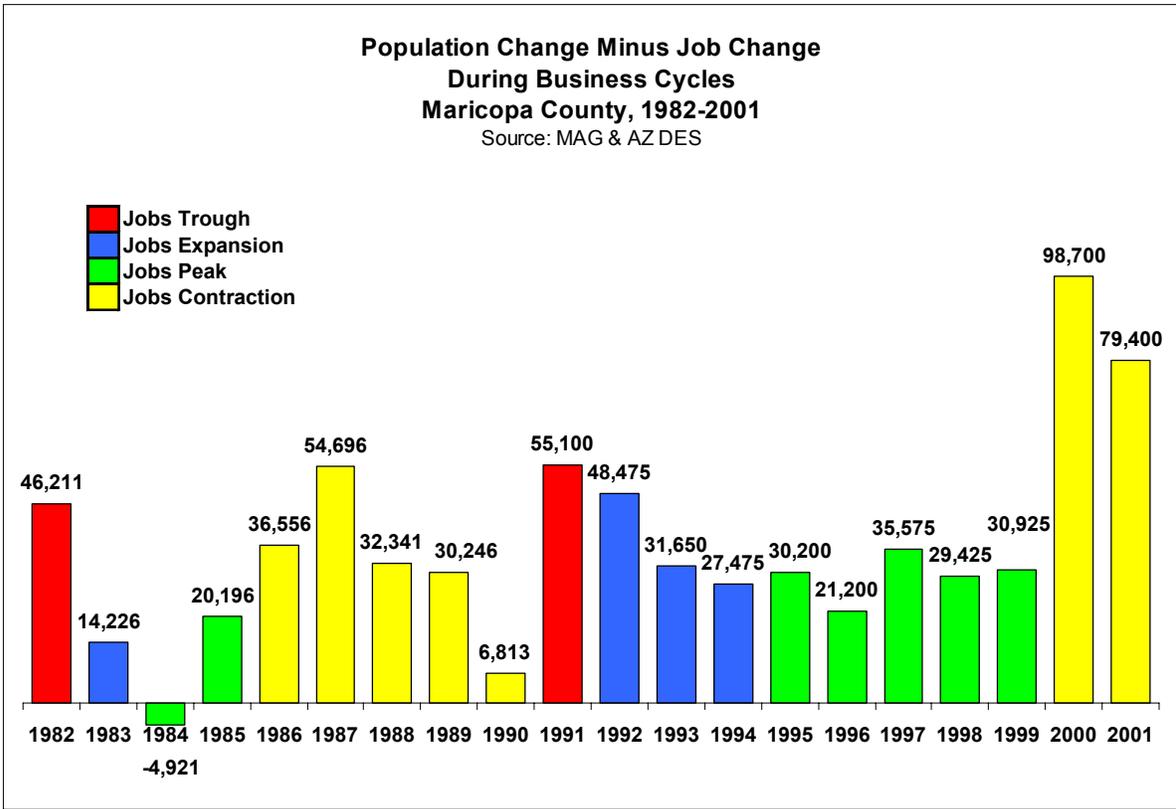




This graph shows the annual change in both population and jobs over the same period.

Though the time period includes parts of three recessions, at no time was population change negative, even in two years of negative job growth.

This indicates that migrants come to Phoenix on the promise of economic growth, not necessarily with jobs in hand.

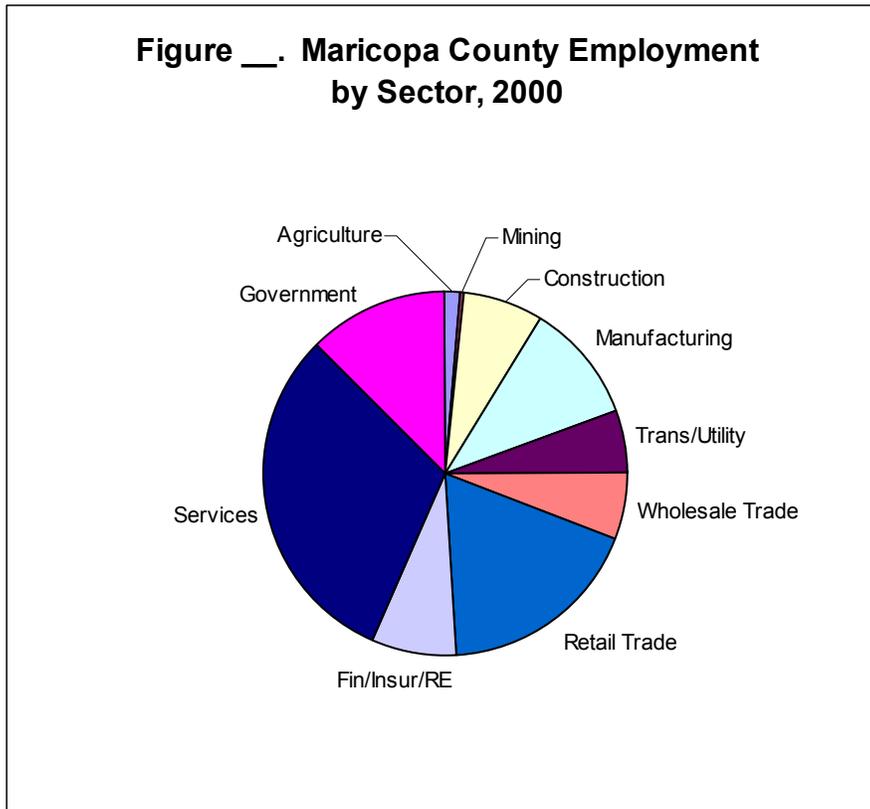


This chart shows population change minus job change, and color codes the results by stage of the national economic cycle.

This underscores that population growth occurs nearly independently of job growth in the region. In general, the pattern is that population change exceeds job change during a contraction, with the reverse during an expansion.

What is truly notable about this graph is that population change was so much greater than job change during the current recession, with figures that are anomalous compared to the past. This is not sustainable growth.

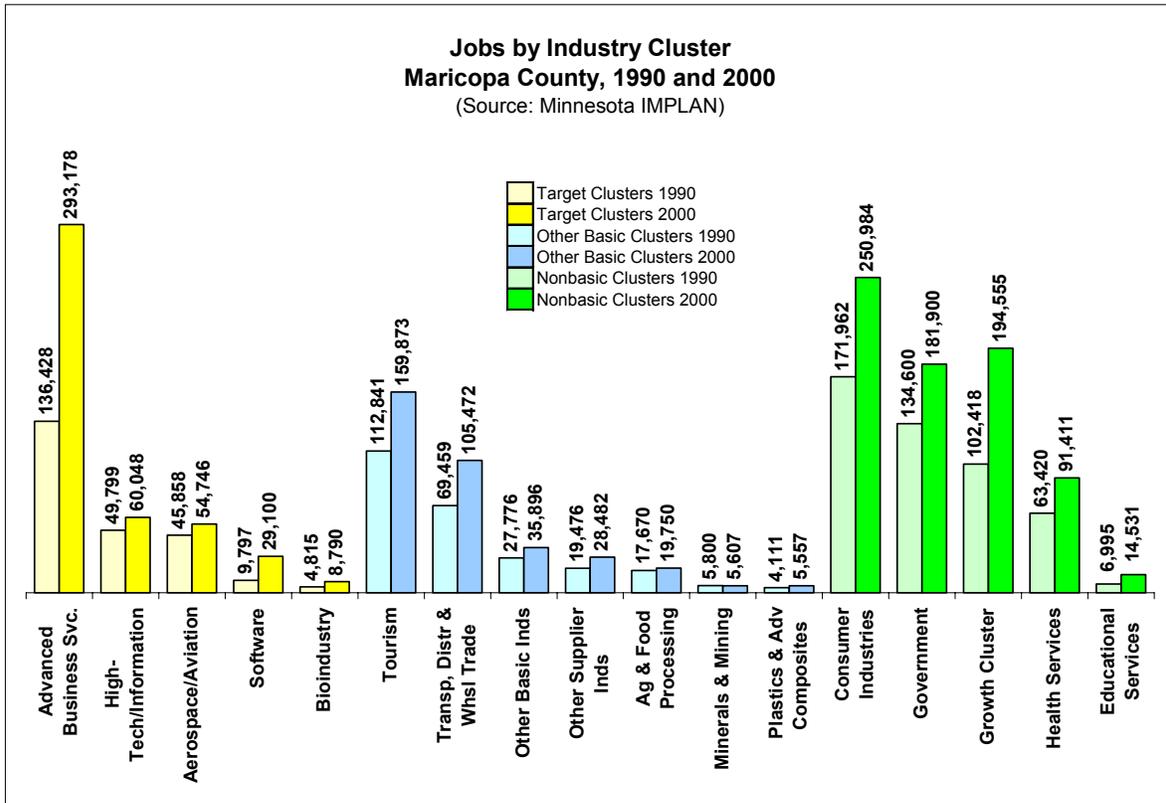
Economic base¹



The region's economic base, in terms of employment by sector, is shown in this graph.

Services, the dominant sector, makes up over $\frac{1}{4}$ of the employment base, and wholesale and retail trade combined constitute another quarter.

¹ Source: Arizona Department of Economic Security, 2000.



Industry Clusters

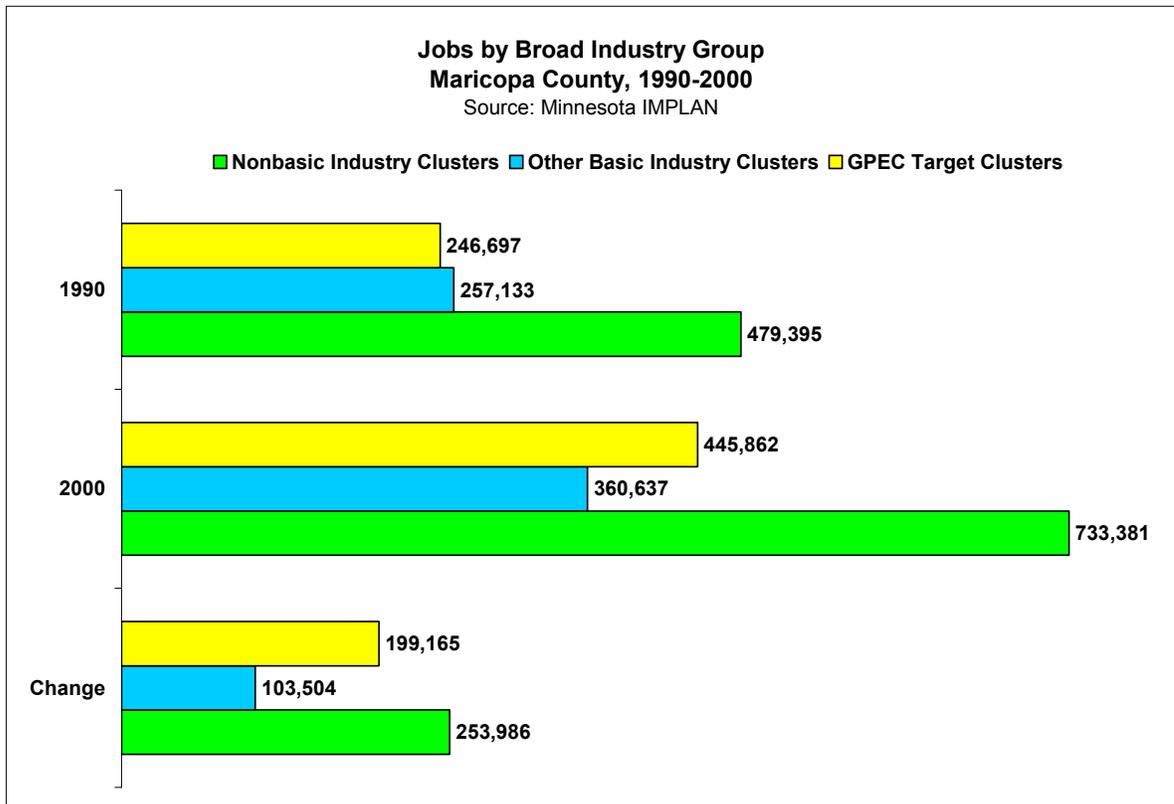
Another way of looking at the region's economic base is by industry cluster, which is the concept being used by the Greater Phoenix Economic Council (GPEC) and the Arizona Department of Commerce (ADOC).

This graph shows the jobs in Maricopa County in 1990 and 2000 for each of the 17 industry clusters.

The five GPEC target clusters (advanced business services, high tech electronics, aerospace & aviation, software and bioindustry) are colored yellow.

The seven "other basic clusters" (tourism, transportation & distribution, other basic industries, other supplier industries, agriculture & food processing, mining & primary metals, and plastics) are colored blue.

The five "nonbasic clusters" (consumer industries, government, growth cluster, health services, and educational services) are colored green.

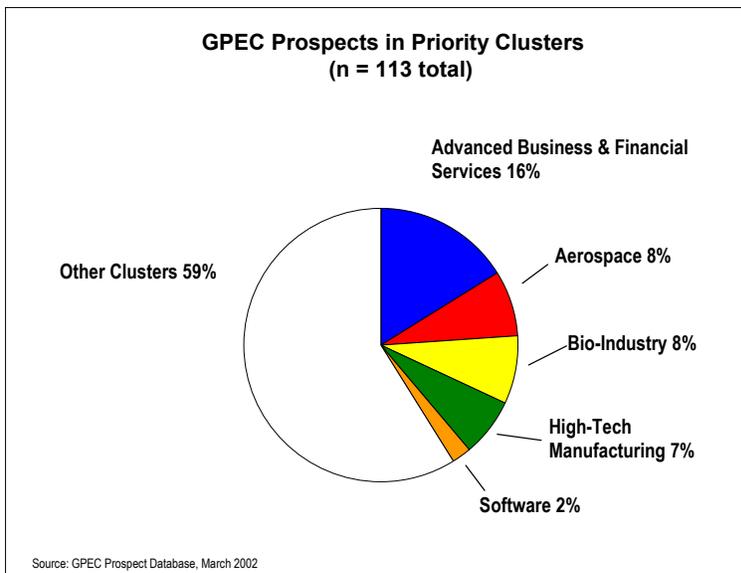


This graph shows jobs by broad export base group.

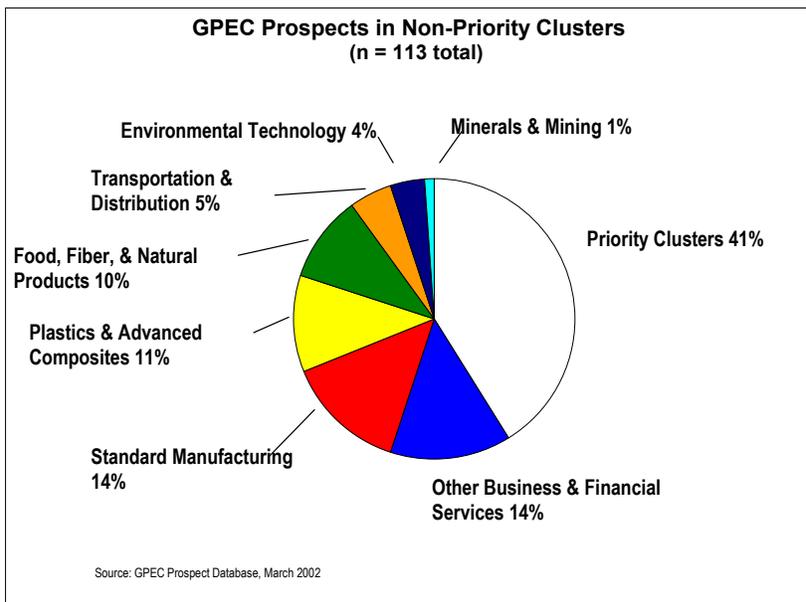
During the 1990's, "nonbasic clusters" had the largest change, over 250,000 jobs. "GPEC target clusters," with a change of nearly 200,000 jobs, followed this. "Other basic industry clusters" had a job change of just over 100,0000 jobs.

Prospect Activity

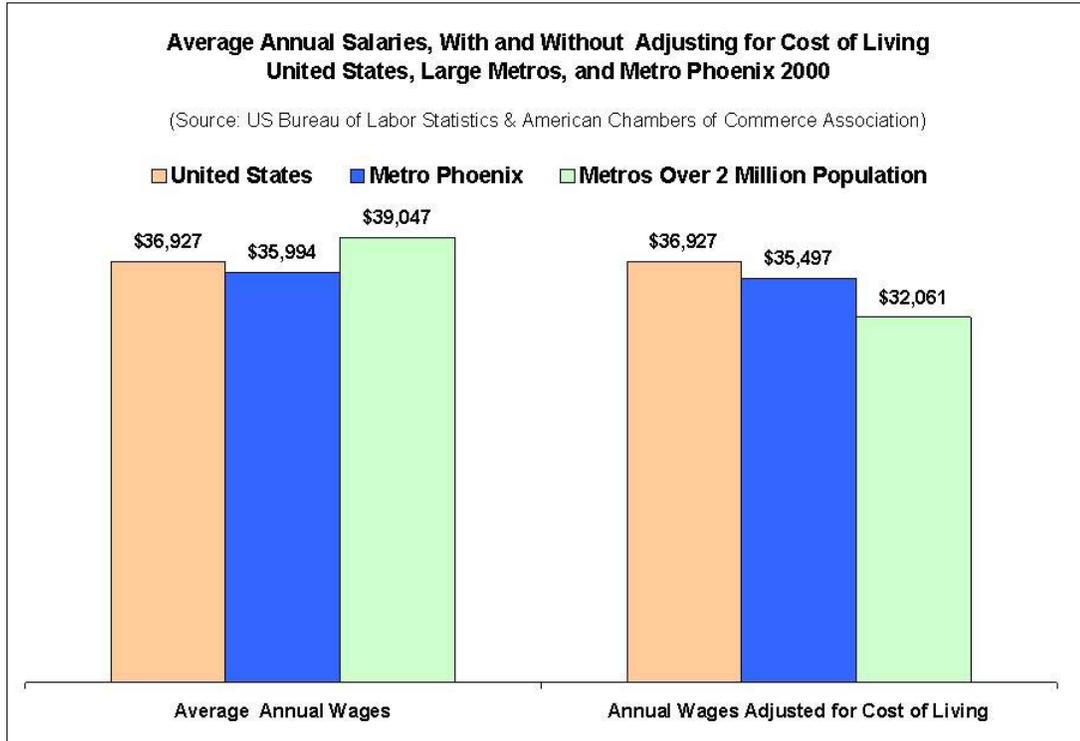
Another measure of cluster performance for the Phoenix area is GPEC’s record of prospect activity – what types of firms are expressing interest in the region – and assisted locates – the types of firms GPEC assists in actually relocating. For the last 3 fiscal years Business Services was by far the most prevalent cluster type among the **assisted locates**, with Software and High-Tech/Information the second and third most prevalent type. Bioindustry and Standard Manufacturing each had more than 5 assisted locates over the 3-year period, and the remaining clusters had five or fewer. In FY 2002 there were more locates in Standard Manufacturing, compared to FY 2000, and fewer in High-Tech and other “new economy” clusters. Similarly, prospect activity in 2001 indicated higher percentages in the broad categories of Manufacturing and Distribution (54% of total activity) than in 2000 (46% of total activity).



Recent **prospect** activity is reflected in these two figures. They illustrate that prospect types represent a range of industry clusters, and that for the most recent period, prospects in non-priority clusters are more prevalent than those in priority clusters. Business Services is the dominant industry type among the prospects, as with locates.



Income and Wages



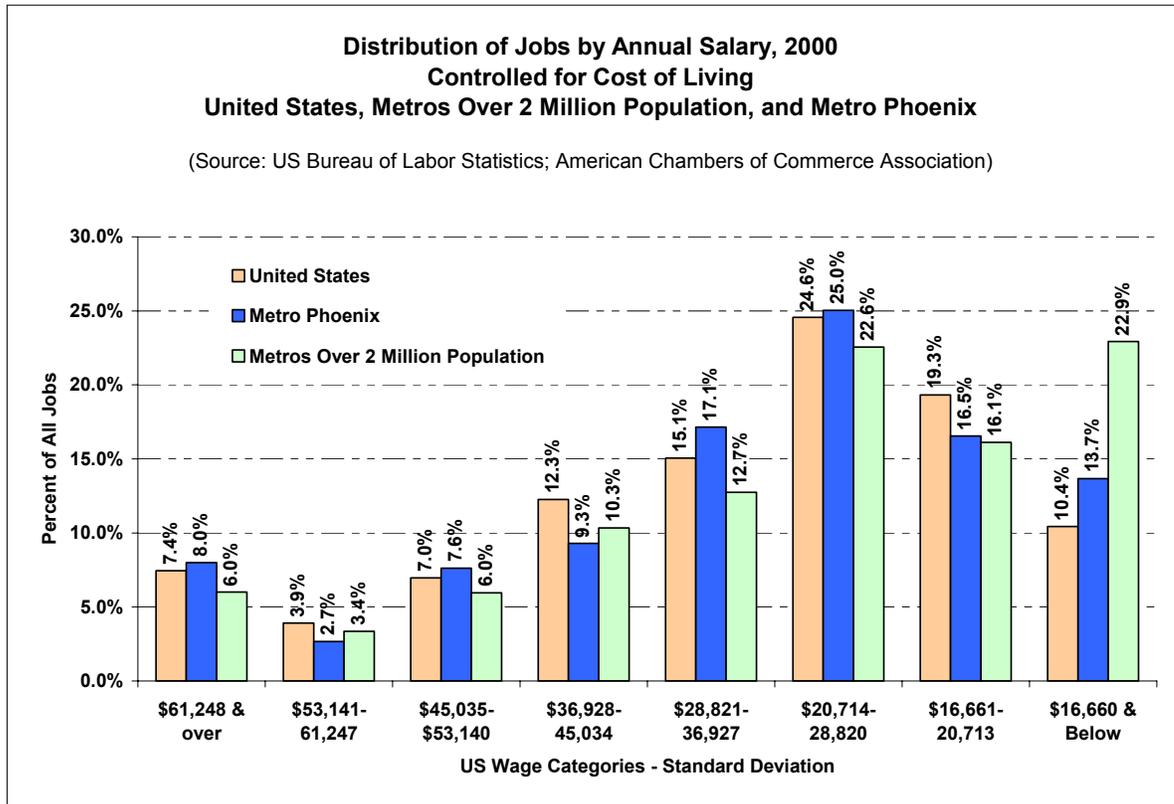
This graph shows average annual wages for 452 occupational categories in metro Phoenix, compared to the same set of occupational categories for the nation and for all metropolitan areas with more than 2 million people. It is perfectly comparable.

There are two sets of bars – first, raw wages; and second, average wages adjusted for cost of living as reported in the Spring, 2000 report by the American Chambers of Commerce Association².

Without adjusting for cost of living, metro Phoenix has average wages just below the national average, and about \$3,000 below other large metro areas.

However, after adjusting for cost of living (primarily for-sale housing), metro Phoenix appears to provide higher “real” wages than other large metros.

² The City of Phoenix figures were used for the entire region.



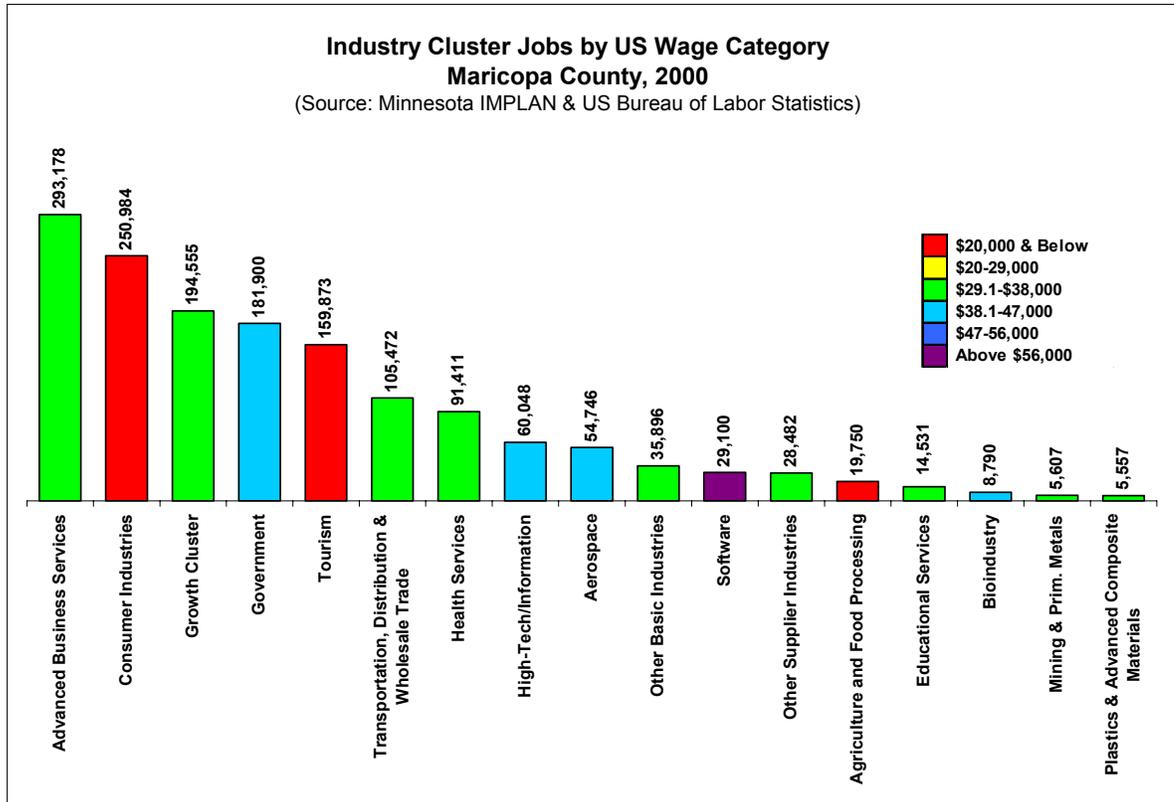
This chart contains the same three geographies, but shows the statistical distribution of number of employed persons by 452 occupational categories in salary ranges. The ranges measure national annual averages, and all are adjusted for cost of living.

The chart is divided into eight categories of $\frac{1}{2}$ standard deviations. Thus, the far right side contains the percentage of jobs that are 2 or more standard deviations lower than the mean.

Conclusion: Metro Phoenix is somewhat different than both the nation and other large metros.

72.3% of wage and salary jobs were below the mean for metro Phoenix in 2000, slightly below the 74.3% for other large metros. However, metro Phoenix, like the nation, had a much smaller share in the lowest wage range, with an effective wage rate of just over \$8 per hour.

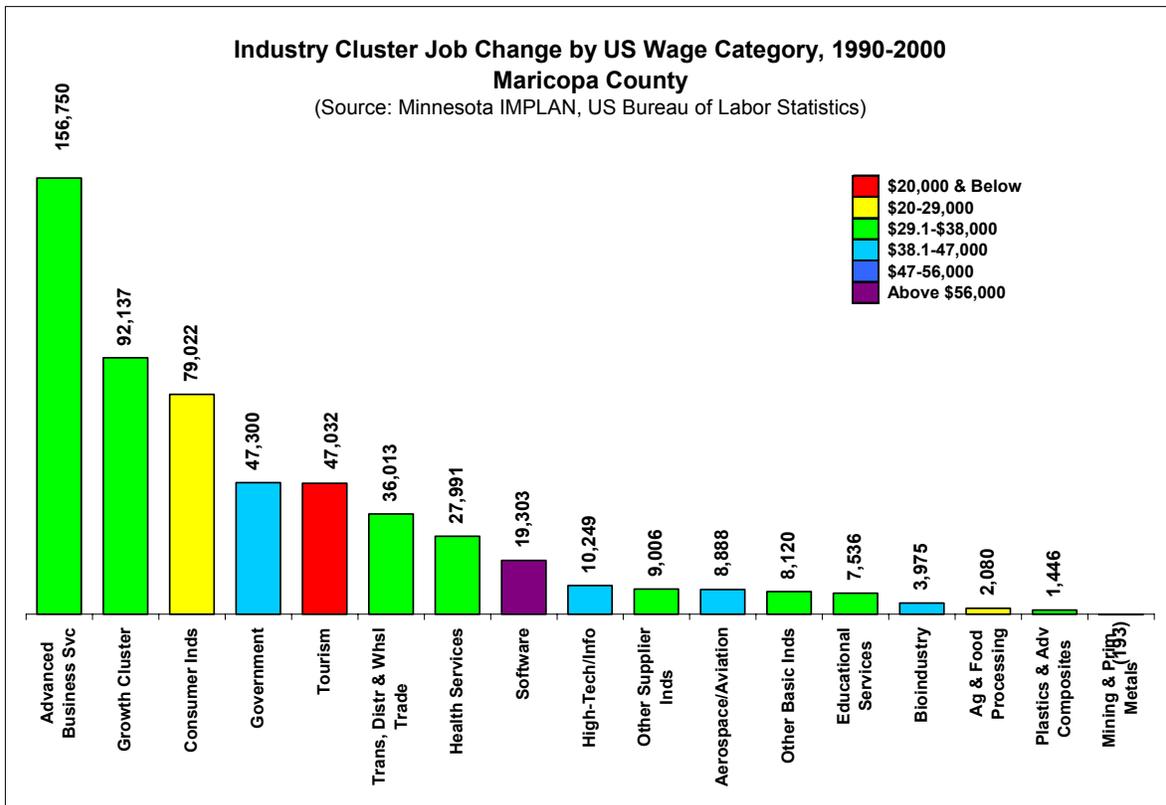
Nevertheless, a very large majority of the occupations in metro Phoenix pay below average. This, of course, has major societal implications.



This graph shows the 17 industry clusters for metro Phoenix, ranked by number of jobs in 2000 and color-coded by average wages & salaries from the same database as the previous charts. Green, yellow, and red colors indicate ½ standard deviations below the mean, and light blue, dark blue and purple indicate ½ standard deviations above the mean.

In terms of absolute number of jobs, only five of 17 clusters have annual wages above the mean. The largest of these is government, with about 190,000 jobs, followed by high tech/electronics at 60,000 jobs, and aerospace/aviation with 55,5000 jobs. Software is the highest wage cluster, and had 29,000 jobs. Bioindustry contained less than 10,000 jobs.

With the exception of advanced business services, the five GPEC target clusters have average wages above the mean. Clearly, for the region, these clusters are appropriate in terms of raising the region’s wage level.



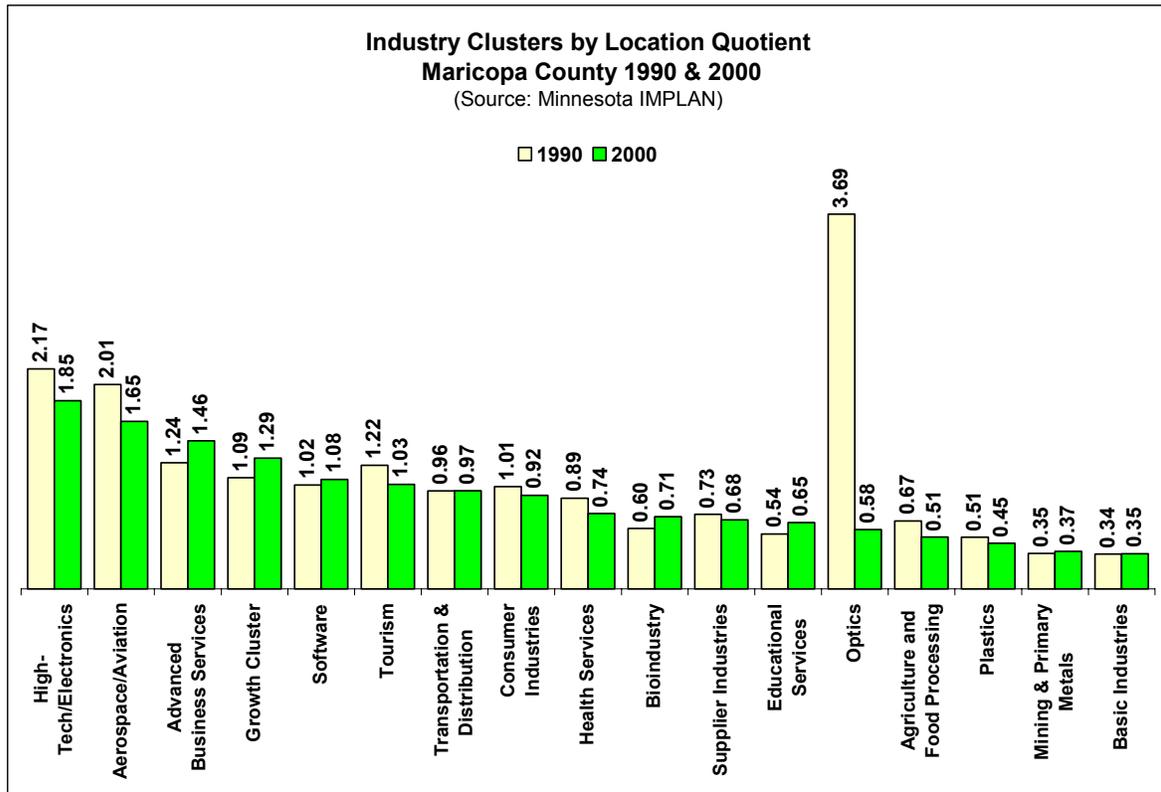
This graph shows job change by cluster during the 1990's, color-coding average salary ranges with absolute job growth.

In terms of wages, the 1990's were not good. Not till government, fourth in absolute growth, is there a cluster with an above-average wage range.

The largest job change during the 1990's was in advanced business services (156,000). This was followed by growth in three non-basic clusters – the growth cluster, consumer industries, and government. Tourism, the lowest wage cluster in the region, was fourth. Other significant additions were in transportation & distribution, health services, and software. These eight clusters accounted for 90.8% of the job change in the 1990's.

Of these eight top clusters, only two had annual wages above average – government and software.

Industry Concentration in Greater Phoenix



This chart shows location quotients for the 16 private sector industry clusters in 1990 and 2000. The clusters are ranked by location quotient in 2000.

As location quotient measures industry specialization, this chart shows the concentration of clusters in the regional economy.

There are six of sixteen private sector clusters that had a location quotient greater than one (signifying industry specialization). In rank order:

- High Tech/Electronics
- Aerospace/Aviation
- Growth Cluster
- Software
- Tourism

Of these top clusters, only two – advanced business services and software – increased in terms of location quotient during the decade.

Other clusters that had higher location quotients in 2000 compared to 1990 are bioindustry, educational services, mining & primary metals, and other basic industries.

**Shift-Share in Metro Phoenix by Industry Cluster,
1990 to 2000**

	National Growth	Industry Mix	Competitive Share	% of Comp. Share
ALL INDUSTRIES	154,609	13,633	334,170	100%
% of Change	30.8%	2.7%	66.5%	NA
Adv.Bsn Svcs.	25,074	23,261	108,415	32.4%
Growth	18,824	969	72,345	21.6%
Consumer Inds.	31,605	-1,469	48,885	14.6%
Trans & Dist.	12,766	-5,204	28,451	8.5%
Tourism	20,739	5,313	20,980	6.3%
Health Services	11,656	6,050	10,285	3.1%
Other Basic	5,105	-6,552	9,567	2.9%
Software	1,801	8,644	8,858	2.7%
High Tech/Info.	9,153	-7,070	8,167	2.4%
Aerospace/Aviation	8,428	-5,798	6,258	1.9%
Other Supplier	3,580	-484	5,910	1.8%
Bioindustry	885	-438	3,528	1.1%
Mining & Prim. Mtls.	864	-1,642	1,682	0.5%
Plastics	756	-207	897	0.3%
Ag & Food	3,248	-1,758	591	0.2%
Education	0.56	0.69	0.13	0.0%
Optics	125	18	-649	-0.2%

Source: Minnesota IMPLAN

This table shows the breakdown of growth using shift-share analysis. This is a statistical technique that segments growth into three components: (1) national growth, which is from the general growth of the national economy, (2) industry mix, which is from the national growth of the industry, and (3) competitive share, which is from the competitive advantage of the region.

Overall, just under 31% of the job change in metro Phoenix during the 1990's was due to the general growth of the national economy. Only 2.7% was due to industry mix, and 66.5% was due to the competitive advantage of metro Phoenix.

The industry clusters are ranked according to each their competitive share divided by the total competitive share of all clusters. Thus, the rank order shows the clusters in terms of metro Phoenix's competitive advantage for them.

Only two clusters – advanced businesses and the growth cluster – account for the 54% of the region's competitive share. Adding consumer industries accounts for more than two-thirds of the region's competitive share. Adding transportation & distribution and tourism accounts for 83%.

Top Competitive Share Industries in Metro Phoenix, 1900-2000						
SIC	Industry	National Growth	Industrial Mix	Competitive Share	Industry % Region CS	Cumul. % Region
ALL INDUSTRIES		154,450	34,703	319,375	NA	NA
Positive Competitive Share		NA	NA	379,832	100.0%	100.0%
7363	Help supply services	3,557	25,093	41,160	10.8%	10.8%
5810	Eating & drinking places	12,471	2,028	16,971	4.5%	15.3%
5311	Department stores	3,260	-420	8,655	2.3%	17.6%
8011	Offices & clinics of medical doctors	2,340	2,614	8,229	2.2%	19.7%
7389	Business services, nec	1,636	3,269	8,057	2.1%	21.9%
5065	Electronic parts and equipment	531	101	7,872	2.1%	23.9%
6153	Short-term business credit	328	1,284	7,574	2.0%	25.9%
6099	Functions related to deposit banking	627	1,466	7,402	1.9%	27.9%
6141	Personal credit institutions	184	347	6,876	1.8%	29.7%
1520	Residential construction	646	56	5,699	1.5%	31.2%
1742	Plastering, drywall, and insulation	928	-124	5,554	1.5%	32.7%
6021	National commercial banks	1,210	-1,345	5,450	1.4%	34.1%
1711	Plumbing, heating, air-conditioning	1,098	1,030	5,373	1.4%	35.5%
5511	New and used car dealers	1,780	-187	5,212	1.4%	36.9%
1731	Electrical work	1,083	1,655	5,182	1.4%	38.2%
1751	Carpentry work	535	976	4,928	1.3%	39.5%
6211	Security brokers and dealers	401	836	4,243	1.1%	40.7%
5411	Grocery stores	5,412	-3,372	4,081	1.1%	41.7%
4512	Air transportation, scheduled	2,135	-1,316	3,941	1.0%	42.8%
5211	Lumber and other building materials	471	568	3,680	1.0%	43.7%
8742	Management consulting services	423	1,725	3,650	1.0%	44.7%
0780	Landscaping	947	1,815	3,569	0.9%	45.6%
1771	Concrete work	670	997	3,542	0.9%	46.6%
8711	Engineering services	1,122	-75	3,407	0.9%	47.5%
8082	Home health care services	113	649	3,123	0.8%	48.3%
7349	Building maintenance services, nec	1,341	56	3,077	0.8%	49.1%
8721	Accounting, Auditing, & Bookkeepin	1,042	173	3,055	0.8%	49.9%
7374	Data processing and preparation	261	248	2,924	0.8%	50.7%

Source: Minnesota IMPLAN

This table shows the same information, but at a 4-digit SIC industry basis. It includes the specific industries that, cumulatively, account for more than 50% of metro Phoenix's total job change attributed to competitive share.

Note that the top two industries (help supply services and eating and drinking places) are low-wage industries.

Wprst Competitive Share Industries in Metro Phoenix, 1900-2000

SIC	Industry	National Growth	Industrial Mix	Competitive Share	Ind CS % Region CS	Cumul. % Region
	ALL INDUSTRIES	154,450	34,703	319,375	NA	NA
	Negative Competitive Share	NA	NA	(60,457)	100.0%	100.0%
8051	Skilled nursing care facilities	1,517	1,714	(5,014)	8.3%	8.3%
6022	State commercial banks	1,544	-2,568	(4,831)	8.0%	16.3%
6091	Nondeposit trust facilities	627	753	(4,734)	7.8%	24.1%
7379	Computer related services, nec	338	6,011	(4,066)	6.7%	30.8%
7011	Hotels and motels	4,618	-1,867	(2,024)	3.3%	34.2%
3599	Industrial machinery, nec	624	72	(1,960)	3.2%	37.4%
6510	Real estate development	1,352	-1,023	(1,328)	2.2%	39.6%
3575	Computer terminals	178	-33	(1,116)	1.8%	41.5%
3571	Electronic computers	542	-1,461	(1,059)	1.8%	43.2%
5912	Drug stores and proprietary stores	1,134	-822	(1,046)	1.7%	45.0%
6324	Hospital and medical service plans	344	805	(1,033)	1.7%	46.7%
2844	Toilet preparations	408	-261	(930)	1.5%	48.2%
8744	Facilities support services	166	379	(892)	1.5%	49.7%
4119	Local passenger transportation, nec	157	478	(869)	1.4%	51.1%
6036	Savings institutions, except federal	387	-1,415	(747)	1.2%	52.3%
6035	Federal savings institutions	221	-689	(701)	1.2%	53.5%
8111	Legal services	1,831	-1,016	(688)	1.1%	54.6%
8351	Child day care services	887	2,464	(682)	1.1%	55.8%
5013	Motor vehicle supplies and new parts	590	-375	(666)	1.1%	56.9%
3827	Optical instruments and lenses	125	19	(649)	1.1%	57.9%
3949	Sporting and athletic goods, nec	298	-16	(641)	1.1%	59.0%
3643	Current-carrying wiring devices	215	-403	(601)	1.0%	60.0%
7549	Automotive services, nec	184	778	(596)	1.0%	61.0%
5699	Misc. Apparel & accessory stores	259	-227	(571)	0.9%	61.9%
1622	Bridge, tunnel, & elevated highway	181	-126	(526)	0.9%	62.8%
5963	Direct selling establishments	282	-199	(502)	0.8%	63.6%
3087	Custom compound purchased resins	110	-41	(496)	0.8%	64.5%
7331	Direct mail advertising services	166	-15	(496)	0.8%	65.3%
8031	Offices of osteopathic physicians	235	231	(490)	0.8%	66.1%

Source: Minnesota IMPLAN

This table shows the 4-digit SIC industries that had nearly two-thirds of the region's competitive share job loss in the 1990's.