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Gains in prosperity are not related to population growth

Migration and Economic Well-Being

Changes in measures of economic well-being, such as per capita personal income and average wage, are unrelated to the rate of overall population growth or to growth resulting from net in-migration. Thus, states like Arizona with rapid population growth perform no better or worse on average than other states in improving their economic standard of living.

Gains in per capita personal income and average wage were compared to three measures of population growth: total population and total net migration calculated from the decennial censuses and net interstate migration from the Internal Revenue Service (IRS). In the August issue of *AZB/Arizona Business*, migration data compiled by the IRS were reviewed with a focus on Arizona. In this article, national patterns of migration from the IRS data are summarized. These interstate migration figures are compared to the estimates of total migration by state derived from decennial census counts and birth and death data. Income data on migrants and non-migrants provided by the IRS also are reviewed.

TOTAL MIGRATION BY STATE

The numeric change in population between 1990 and 2000, calculated from the decennial censuses, was greatest in California (4.1 million), followed by Texas, Florida, Georgia and Arizona (1.5 million). Other states with increases in population of 1 million or more included North Carolina, Washington, Illinois and New York. The distribution of the population increase between net natural increase (births less deaths) and total net migration (net interstate migration plus international immigration, legal and undocumented) varied among these states. While most of the states with a large population increase experienced significant net in-migration, New York had net out-migration and net in-migration accounted for a small share of the total population change in Illinois and California. Arizona's net in-migration of 1.1 million ranked fourth behind Florida (2.6 million), Texas (1.9 million) and Georgia (just over 1.1 million).

Most of the states with a large population increase also ranked high on net migration rate (net migration as a percentage of the 1990 population). Nevada was first by far on net migration rate (56 percent), followed by Arizona (30 percent), Colorado, Florida and Idaho.

Only seven states, scattered across the country, experienced net out-migration during the 1990s. Across the North Central and Northeast sections of the country, the net migration rate in every state was less than 6 percent and the net rate of natural increase also was average to low at less than 7.5 percent. In contrast, in five Western states (Idaho, Nevada, Utah, Colorado, and Arizona) the net migration rate was in excess of 12 percent and the net rate of natural increase exceeded 9.5 percent. The migration rate also was high in Oregon and Washington while the rate of net natural increase also was high in California, New Mexico and Texas. Net migration rates varied across the South, exceeding 12 percent in Florida, Georgia and North Carolina. Except in Georgia, net natural increase was average to below average in the South.

With the exception of most of the New England states, California, Alaska and Hawaii, the total population increase between the 1990 and 2000 censuses was greater than that between the 1980 and 1990 censuses, with the gains in many states being substantially higher. In most states, net natural increase was less during the 1990s than the 1980s. Arizona and some of the other fast-growing states were among the exceptions, but even among these states the greater population gain in the 1990s was overwhelmingly due to higher net migration.

IRS INTERSTATE MIGRATION

Interstate net migration counted by the IRS was higher in the 1990s than 1980s in much of the country; the main exceptions were California and the Northeast. In most states, however, migration not counted by the IRS was the major source of the greater population gains during the 1990s. Arizona fit this pattern, with a very large increase in net migration not counted by the

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IRS and only a small increase in IRS net migration. These net migrants not counted by the IRS consist of legal immigrants, undocumented immigrants, residents of the U.S. counted in the 2000 census but not in the 1990 census, and others which the IRS could not match from year to year.

1990 to 2000

During the 1990s, two regions of the country received most of the nation's net interstate migrants (unless otherwise noted, all subsequent references to migration are to IRS interstate migration). The South Atlantic Coast states from Virginia to Florida were the prime region, which extended inland to include Tennessee. The second region included the Western states of Colorado, Arizona, Nevada, Idaho, Oregon and Washington.

Florida had by far the greatest net migration during the 1990s, but the total was almost 50 percent less than that of the 1980s. Georgia ranked second, as in the 1980s, closely followed by North Carolina and Arizona. Other states with substantial net migration during the 1990s are shown in Table 1. The net inflows in the 1990s were substantially higher than in the 1980s in several states, including North Carolina, Tennessee, Nevada, Colorado and Oregon. Wisconsin and Indiana swung from substantial net outflows in the 1980s to net in-migration in the 1990s. Net outflows were much less in the 1990s in Iowa, Ohio, Michigan and Illinois. The most important change from the 1980s to the 1990s, however, was California's shift from the third highest net inflow to the largest net outflow, discussed at the end of this subsection.

Only seven states have received a net inflow in every year of the past two decades. Two of these — South Carolina and Virginia — are not among the top 10 in number for the decade. Thus, only the top five states in Table 1 have been consistent recipients of significant net inflows.

Arizona's net inflows have been less than those of top-ranked Florida in every year that the IRS has reported data (each of the 20 years from 1980-81 through 1999-2000 plus a few years in the 1970s). After the early 1990s, however, the differential was much less than in the 1980s, when Florida's net inflows dwarfed those of any other state. Compared to second-ranked Georgia, Arizona's net in-migration was higher in the 1970s and early 1980s, then close to the same except for being lower during Arizona's economic slump in the late 1980s and early 1990s. Third-ranked North Carolina's net inflows were about the same as Arizona's during most of the 1990s after being higher during Arizona's slump. Prior to 1987-88, however, net in-migration to Arizona always was higher than that to North Carolina.

Except for three years during Arizona's economic slump (1988-89 through 1990-91), neighboring Nevada's net in-migration has been less than that to Arizona. The timing of Nevada's economic cycle has been different from that of Arizona since the early 1980s, so that annual differences in net inflows of the two states have ranged from slight to significant.

The list of net migration leaders based on number is not substantially different from the list based on net migration rate, which is calculated as net migration over the decade divided by the 1990 population. The main difference is that Idaho jumps into the top 10 states based on rate, replacing Texas.

California experienced net out-migration in every year of the 1990s. This was a sharp change from the 1981-82 through 1987-88 period when California was among the nation's top five in each year in net in-migration, ranking second to Florida in the last four of these years. Prior to the 1980s, California had been a major destination for migrants during the 1950s and 1960s, but net migration during the 1970s was weak.

Between 1991-92 and 1995-96, California experienced the greatest net out-migration in the nation with the net outflow in the middle three of those years far in excess of any other state. In each of the other years since 1989-90, California's net outflow was exceeded only by New York. From its largest net outflow in 1993-94, California's net out-migration lessened through 1997-98 and then stabilized at a figure about one-fourth as large as the three worst years.

In California's worst year, 1993-94, the state suffered net out-migration to every other state. Even in the late 1990s, California experienced a net outflow to more than two-thirds of the other states. States from which California received a net inflow were mostly in the Northeast and Great Lakes regions, particularly New York, Illinois, New Jersey and Massachusetts.

Over the 11-year period in which California experienced net out-migration, nearly two-thirds of the net out-migrants went to only six states, including the three states with which California shares a border. Neighboring Nevada ranked first, followed by Washington, Arizona, Oregon, Texas and Colorado. Considering the population of the other states, the rate of net out-migration was by far the greatest to Nevada, followed by Oregon, Idaho, Arizona, Washington, Colorado and Utah.

The late 1990s may prove to be a typical period for California net migration following high years during most of the 1980s and low years during the early-to-mid-1990s. Arizona ranked second to Nevada in the number of net migrants received from California during the late 1990s.

Latest Year

Migration flows in 1999-2000 are shown in Table 2; migration rates were calculated from 2000 census counts. The top 10 based on the number of net migrants was not much different from the list for the entire decade; due to a slump at the end of the decade, Oregon and Washington dropped out of the top 10, with Virginia and South Carolina moving up slightly in the ranking. The list of states with the highest net migration rates based on the 2000 population, however, is much different from the list based on number and much different from the top 10 states based on rate (calculated using the 1990 population) over the entire decade. Some of the variation resulted from cyclical changes in net migration. For example, net migration in New Hampshire and Maine in 1999-2000 was the greatest of the decade.

Nevada's net migration rate in 1999-2000 was nearly double that of second-place Arizona. The states with the highest rates included four Rocky Mountain states, three Southeastern states and three Northeastern states.

In-migration rates were highest primarily in Rocky Mountain states. Arizona ranked fifth. Seven of the top 10 states rated by

TABLE 1
NET INTERSTATE MIGRATION
Top 10 States, 1990-91 Through 1999-2000

	Number	*Rate**
1.	Florida	Nevada
2.	Georgia	Arizona
3.	North Carolina	Idaho
4.	Arizona	Colorado
5.	Nevada	Georgia
6.	Texas	Florida
7.	Colorado	North Carolina
8.	Tennessee	Oregon
9.	Washington	Tennessee
10.	Oregon	Washington

* 10-year net migration divided by 1990 population

in-migration — all in the West — also had out-migration rates among the top 10, but Arizona ranked only 17th on out-migration rate. Combining the in- and out-migration rates provides a measure of residential instability caused by long-distance moves. Arizona ranked 10th on this measure of gross migration rate. The only non-Western states among the top 10 were North Dakota and New Hampshire.

Migration efficiency is defined as the ratio of in-migration to out-migration. In 1999-2000, the list of states with the highest efficiency was similar to the list based on net migration rate. States with the lowest efficiencies were New York, North Dakota, Illinois, Hawaii and Louisiana.

INCOMES

The IRS reports the median adjusted gross income (from the federal income tax form: adjusted gross income is taxable income less certain adjustments) of migrants and non-movers. In all states, the median income of non-migrants is greater than that of either in- or out-migrants. In large part, the low incomes of migrants likely reflect the young age of many migrants and the disproportionate share of migrants who are single.

The median adjusted gross income of Arizona non-migrants was $29,200 in 1999-2000, which ranked 20th among the 50 states and seventh among 10 Western states. Most of the states with the highest incomes were in the Northeast, though Washington and Colorado were among the nation's top 10. Most of the lowest incomes were in the South or in the Northern Plains, though New Mexico also was among the bottom 10.

The median income of in-migrants to Arizona was $22,900, or 78 percent of the median of non-migrants. This proportion was typical of all states, but relatively high among Western states. In the Pacific Coast and some of the Rocky Mountain states, the proportion was less than 70 percent. A few Northern states had similarly low figures. Ten states, including New Mexico and Texas, had proportions of at least 82 percent. Out-migrants from Arizona had a median income of $21,600, or 74 percent of the non-migrant median, also a typical proportion nationally as well as among Western states.

The ratio of the median income of Arizona's in-migrants to out-migrants was 1.06, eighth highest in the nation and second highest (to Idaho) among 10 Western states. States with high ratios were scattered across the country, as were those with low ratios.

PROSPERITY AND MIGRATION

Little correlation exists between increases in prosperity and overall population growth or the rate of net migration. At the state level, increases in per capita personal income (PCPI) between 1990 and 2000 had almost no relationship to the total net migration rate calculated from the 1990 and 2000 censuses (a correlation of less than 0.1, where a figure of 1 indicates perfect correlation and zero indicates no correlation). The correlation between changes in the average wage from 1989 to 1999 and the total net migration rate was only slightly higher at 0.2. Using the net interstate migration rate from the IRS or total population growth instead of the total net migration rate had little effect on the correlations with the measures of economic well-being.

A similar lack of overall correlation was found during the 1980s. The states that had the greatest gains in measures of prosperity during the 1980s tended to be those with moderate population growth. States with very fast or very slow population growth did not perform as well. This pattern was not seen in the 1990s.

Arizona, with the second greatest total net migration rate between 1990 and 2000, had an average gain in the average wage and a below average increase in PCPI. Nevada, with a greater total net migration rate, had a similar performance on the prosperity measures. Among other states with a high rate of total net migration, Idaho did a little better than Arizona and Nevada on PCPI but a little worse on average wage. Colorado and Georgia performed well on the prosperity measures, but Florida had considerably below average gains on each measure.

Thus, states with the fastest population growth had mixed performances on improvements in economic well-being. The states with the least population growth (mostly net out-migration) had a mixed performance on PCPI but a generally poor performance on average wage (though two of eight of these states ranked among the top 10).

Since changes in such measures as PCPI and average wage typically reflect in part changes in the cost of living, which can vary across the country, an alternative is to compare population growth to cost-of-living-adjusted prosperity measures. The problem is that comprehensive cost-of-living estimates at the state level are not available. Since most variations in living costs are caused by differences in housing costs, the rate of housing appreciation by state was used as a proxy for changes in overall cost of living. The housing appreciation rates come from the Office of Federal Housing Enterprise Oversight, reviewed in the March 2001 issue of *AZB/Arizona Business*. Gains in measures of prosperity adjusted by the appreciation rates were negatively correlated to the various measures of population growth, though the correlations were weak at about -0.2.

— Tom R. Rex
Research Manager

TABLE 2
INTERSTATE MIGRATION
Top 10 States, 1999-2000

	Rate*			Number	
	In	*Out*	*Net*	*Net*	*Efficiency***
1.	Nevada	Alaska	Nevada	Florida	Nevada
2.	Wyoming	Wyoming	Arizona	Georgia	Arizona
3.	Alaska	Hawaii	New Hampshire	Arizona	Florida
4.	Colorado	New Mexico	Colorado	North Carolina	Georgia
5.	Arizona	Nevada	Georgia	Nevada	New Hampshire
6.	New Hampshire	North Dakota	Florida	Colorado	Maine
7.	Idaho	Montana	Idaho	Texas	Colorado
8.	Delaware	Idaho	North Carolina	Virginia	North Carolina
9.	New Mexico	Colorado	Delaware	South Carolina	South Carolina
10.	Montana	Kansas	Maine	Tennessee	Delaware

* Migration divided by population of state
** In-migration divided by out-migration

Source (Tables 1 and 2): Center for Business Research, L. William Seidman Research Institute, College of Business, Arizona State University from Internal Revenue Service data and U.S. Bureau of the Census decennial census counts.

Phoenix housing market surges ahead in second quarter

While 2001 has brought its share of economic gloom, the one bright light has been the Greater Phoenix housing market. Recorded sales in the second quarter totaled 28,450, surpassing the previous quarterly record of 27,075 homes in 1999. The unprecedented pace of activity in spite of the economic downturn may be attributed to factors as diverse as purchases made for financial investments; low interest rates; the time lag between the home buyer's decision to buy and the recording of the sale — or the possibility that the slowing economy is not directly affecting large numbers of people.

AFFORDABILITY

While the Federal Reserve Board has been aggressively lowering interest rates since the start of the year, the average 30-year mortgage interest rate actually increased from 6.7 percent in January to 6.8 percent for much of second quarter 2001. While these rates have been fairly stable, they are well below last year's 7.9 percent and comparable to rates of the record year 1999.

In the resale home market, the median home price has increased from $130,000 last year to $136,000, breaking the previous record of $132,500 set in first quarter 2001. For new homes, the median price fell from the record $158,030 to $157,615 — still well above last year's $150,335. One reason for this pattern is the growing role of the West Valley in the new home market. In second quarter 1999, East Valley communities accounted for 44 percent of new home sales while West Valley communities stood at 19 percent. Currently, the respective shares stand at 35 percent for the East Valley and 27 percent for the West Valley. In the East Valley, the median new home price as exemplified by Chandler increased from $166,035 to $187,250, while in the West Valley community of Surprise it rose from $122,395 to $130,470.

Based on a slight increase in the effective interest rate and strong increase in the median home price, the resale affordability index dropped from 117 to 113, but was still well above last year's 103. Based on the current median resale price and household income, the average home buyer would need a 8.3 percent effective interest rate for an index value of 100. Because the median new home price actually declined, the new home affordability index value remained at 98. Still, this represents an improvement a year ago when the index stood at 89. Since home prices and incomes vary throughout the Valley, so does the affordability index. For example, in the resale sector, the second quarter 2001 index ranged from 78 in Scottsdale to 126 in Glendale and 132 in Chandler.

RESALE SINGLE-FAMILY HOMES

With 17,500 recorded sales, the resale market set a new quarterly record, exceeding the 16,040 sales recorded in second quarter 1999. This activity brings the 2001 year-to-date total to 30,775 sales, well ahead of 28,075 sales for the first half of record year 1999. Monthly activity was fairly stable throughout the quarter, moving from 6,025 sales in April to 5,595 sales in May to 5,935 sales in June.

As the housing cycle ages, more expensive homes typically sell in greater proportion as move-up buyers become more numerous. In first quarter 1998 (when the median home price was $110,000), 15 percent of resale homes sold for less than $70,000 and only 13 percent for more than $200,000. In second quarter 2001, only 4 percent of the recorded sales were for homes under $70,000, while 22 percent were for homes over $200,000.

The median resale home price varied greatly throughout the Valley, from a high of $770,000 (125 sales) in Paradise Valley to $79,650 (160 sales) in Central West Phoenix. Active areas were Mesa with 2,190 sales ($126,000 median price), Glendale with 1,670 sales ($128,000), Deer Valley with 1,415 sales ($145,000), North Scottsdale with 1,150 sales ($305,000), Maryvale with 700 sales ($90,000) and Mountain Park with 625 sales ($184,900).

NEW SINGLE-FAMILY HOMES

Unlike the resale home market, the new home market is not breaking records, but it did improve from 5,120 sales in first quarter 2001 to 6,945 sales. The year-to-date total of 12,065 homes sold is well below the record pace of 2000 (13,450 sales). It was consistent throughout the quarter with 2,495 sales in April to 2,355 sales in June. Among the more active new home markets, the leader again was North Scottsdale with 280 homes sold at a median price of $380,000. The lowest median sales price was $100,860 in El Mirage (320 sales). Other active markets were: Deer Valley with 1,075 sales ($180,040), Superstition Springs with 910 sales ($152,685), Gilbert with 610 sales ($177,070), and Avondale with 380 sales ($134,240).

TOWNHOUSE/CONDOMINIUMS

With lower affordability in the single-family sector, the townhouse/condominium sector has received greater attention from owners and investors alike. The

TABLE 1
HOUSING AFFORDABILITY INDEXES
Metropolitan Phoenix, Single-family Only

Quarter	Median Gross Monthly Income	Effective Interest Rate	Resale Homes: Median Sales Price	Resale Homes: Monthly Housing Payment	Resale Homes: Affordability Index	New Homes: Median Sales Price	New Homes: Housing Payment	New Homes: Monthly Affordability Index
Second Quarter 2000	$3,580	8.2%	$130,000	$970	103	$150,335	$1,125	89
Third Quarter 2000	3,600	7.8	130,000	940	108	151,525	1,090	92
Fourth Quarter 2000	3,625	7.4	129,000	890	114	152,925	1,060	96
First Quarter 2001	3,625	6.9	132,500	870	117	158,030	1,040	98
Second Quarter 2001	3,660	7.0	136,000	905	113	157,615	1,050	98

Source: Arizona Real Estate Center, L. William Seidman Research Institute, College of Business, Arizona State University.

potential buyer also appreciates the low maintenance, recreational facilities and security offered by this housing style. Although this sector frequently is perceived as the source of low-priced housing, many of the recent new project announcements are in the high end of the market. For example, the median price of $155,000 for new units is very comparable to the $157,615 for new single-family homes. The primary reason for this is that more than 45 percent of the 370 recorded sales occurred in North Scottsdale, with a median sales price of $208,055.

Other active areas were East Mesa (40 sales, $135,490), Superstition Springs (20 sales, $138,280), and North Mesa (35 sales, $125,110).

The resale townhouse sector continues to improve from 3,040 sales in first quarter 2001 to 3,580 recorded sales, but is below last year's 3,615 sales. The median sales price for resale units increased from $91,000 in first quarter 2001 to $92,500 — well above last year's $87,500 The median resale price continues to be near 68 percent of the median price for single-family homes. In the resale market, the median square footage was 1,175 ($81 per square foot), compared to 1,630 ($88 per square foot) in the single-family market.

The most active resale areas were North Scottsdale with 445 sales ($140,000), South Scottsdale with 350 sales ($113,150), Sun City/Peoria with 290 sales ($72,000) and South Mesa with 260 sales ($80,000).

NATIONAL HOUSING MARKET

The housing market is strong not only in the Greater Phoenix area, but throughout the country. Although both the new and resale home markets slowed in the latter part of the quarter, 2001 has the potential of being the second best year on record. As with the local housing market, there is no definitive explanation — beyond low interest rates — for why the housing market is performing so well in a slowing economy. However, with the economy continuing to weaken, the expected trend is for the national housing market to slow for the remainder of the year.

The national resale median home price posted a strong increase in first quarter 2001, from $139,880 to $147,100 — well above last year's $142,775. The higher median price forced the resale affordability index down from 115 to 109, but lower interest rates helped to keep the index above last year's 101. In the new home market, the median price increased from $168,900 to $170,270 in first quarter 2001, and was above the $162,470 of a year ago. Thus, the national affordability index remained fairly stable, moving from 94 to 95, compared to last year's 84.

LOOKING AHEAD

The Greater Phoenix housing market continues at a record pace in an economic vortex of increasing layoffs, lower consumer confidence, a volatile stock market and conflicting forecasts. Several factors may be contributing to this apparent paradox.

While the national economy may be slowing, the local economy remains relatively healthy. Although the Greater Phoenix unemployment rate has increased from 2.7 percent in January, the June rate of 3.7 percent continues to show a strong labor market. Consumer confidence has declined from record highs, but people obviously are willing to take advantage of the low interest rates.

An important result of the booming stock market is that people became much more involved with making investments to increase wealth — for retirement, education, or other needs. With the declining stock market, many people have turned to their homes as an important element of their investment portfolios. While their stock investments may have been declining in value, their home value was increasing. This has allowed people to make use of the increased equity to buy more goods, pay debts, or make other investments.

Further, consumers seem to be pursuing the home investment strategy by trading up and/or buying investment properties. In the current economic climate, the housing market with its steady and reliable rate of growth could well become the favored investment vehicle of the early 21st century.

Even while the housing market continues to hold promise, the future is not without potential troubles. The economy could worsen; cost and availability of water and energy could become issues of much deeper concern; interest rates could increase to further jeopardize affordability. But for now, home buyers apparently are more confident about the future than are the economic mavens.

— Jay Q. Butler
Director, Arizona Real Estate Center

TABLE 2
METROPOLITAN PHOENIX HOME SALES

	Single-family			Townhouse/Condominium			
Median Sales Price	*Resale*	*New*	*Total*	*Resale*	*New*	*Total*	*Grand Total*
Second Quarter 2000	$130,000	$150,335	$136,700	$87,500	$151,435	$91,000	$131,000
Third Quarter 2000	130,000	151,525	138,875	85,875	156,505	90,000	133,000
Fourth Quarter 2000	129,000	152,925	138,500	86,000	156,850	90,500	133,000
First Quarter 2001	132,500	158,030	139,990	91,000	165,930	94,000	134,000
Second Quarter 2001	136,000	157,615	142,145	92,500	155,000	95,950	136,900
Number of Sales							
Second Quarter 2000	15,795	6,760	22,555	3,615	370	3,985	26,540
Third Quarter 2000	14,075	7,230	21,305	2,940	390	3,330	24,635
Fourth Quarter 2000	13,130	7,555	20,685	2,890	440	3,330	24,015
First Quarter 2001	13,275	5,120	18,395	3,040	165	3,205	21,600
Second Quarter 2001	17,555	6,945	24,500	3,580	370	3,950	28,450

Source: Arizona Real Estate Center, L. William Seidman Research Institute, College of Business, Arizona State University.

Economic weakness in Arizona is evident in 2001

The Arizona and national economies experienced little growth during the first half of 2001. Limited, preliminary data for the second quarter suggest that overall economic growth was near zero.

Personal income and earnings by industry estimates — the broadest economic measures available on a reasonably timely basis — recently were released for first quarter 2001. These estimates show that the national economic expansion lost speed during fourth quarter 2000 and continued at a slow pace in first quarter 2001. Gains during these two quarters were the least since 1995. Inflation-adjusted personal income rose an average of 0.6 percent per quarter during these two quarters, compared to quarterly increases of 1 percent or more from the second half of 1997 through the first three quarters of 2000. Even at this reduced pace, real per capita personal income continued to rise, albeit slightly.

In Arizona, real personal income gains averaged only 0.7 percent per quarter over the last two quarters, the least since the end of the last recession in 1991. Quarterly advances generally were 1.5 percent or higher from late 1993 through the first half of 2000. Real per capita personal income hardly changed in the last two quarters.

The economic weakness in Arizona in the last two quarters was most apparent in the non-durable goods portion of manufacturing. Earnings also fell in finance, insurance and real estate. In contrast, gains in TCPU (transportation, communications and public utilities) and construction were strong. In the past, construction activity usually declined before most of the rest of the economy.

Employment estimates, available through June, indicate that economic growth decelerated further in the second quarter. Nationally, from a monthly pace of about 250,000 that had held from 1996 into 2000, employment increases moderated considerably during the second half of 2000 but remained at monthly gains of about 100,000 through first quarter 2001. Preliminary figures for the second quarter show a net loss of jobs of nearly 100,000 per month.

In Arizona, employment growth remained rapid during the first eight months of 2000, averaging about 8,000 per month, similar to the pace of the prior several years. Gains during the latter part of the year were weaker at about 3,000 per month. In the first half of 2001, however, a net loss of about 1,000 jobs per month was estimated. (These employment estimates are subject to potentially large revisions.)

Retail sales growth also has dropped considerably. After increases of 7 percent in 1997 and 1998, the annual rate had climbed to 10 percent in 1999. Increases still were around 8 percent during the summer-to-fall period of 2000. In November 2000, however, the annual rise suddenly dropped below 4 percent. This slower pace continued through the first half of 2001. On a real per capita basis, retail sales have declined since November 2000.

— Tom R. Rex
Research Manager

Purchasing Managers Index may signal recovery

The seasonally adjusted Arizona Purchasing Managers Index rose to 45.2 in July from 41.3 the previous month, showing the first signs of recovery since February. An index reading of over 50 indicates that the local economy is growing, while a reading below 50 suggests a slowdown in the overall level of economic activity in the near term.

ANALYSIS

The manufacturing sector appears to have begun a trend of recovery, something that will be confirmed if the overall index continues to rise over the next few months.

Driving the improvement in business conditions is a marked recovery in the subindexes of New Orders, Production, and Employment. New Orders rose from 38.3 last month to 46.0 in July, a 7.7 point increase. This was followed by a 4.8 point increase in Production and a 3.0 point increase in Employment.

The Price Index continued a downward trend begun last year, falling from 53.3 in June to 44.9 in July. This indicates there is no longer any upward pressure on prices, probably due to the softness in the economy.

— Dawn McLaren
Research Economist
Bank One Economic Outlook Center

TABLE 1
ARIZONA PURCHASING MANAGERS INDEX AND PRICE INDEX

	Feb.	*Mar.*	*Apr.*	*May*	*June*	*July*
Overall Index	48.8	43.2	41.2	41.7	41.3	45.2
Delivery Times	48.5	56.1	52.1	48.4	50.4	46.6
Purchased Materials						
Inventory Level	43.8	49.3	44.2	43.4	33.2	37.2
Purchases	52.3	38.7	35.5	43.2	41.0	43.4
New Orders	48.2	37.9	39.3	40.0	38.3	46.0
Production	55.6	41.7	43.2	43.0	43.9	48.7
Employment	44.1	40.4	31.7	36.9	39.6	42.6
Price Index	59.8	53.8	53.8	54.5	53.3	44.9

FIGURE I
ARIZONA PURCHASING MANAGERS INDEX*

*Excludes Price Index
Source (Table 1 and Figure I): Bank One Economic Outlook Center, L. William Seidman Research Institute, College of Business, Arizona State University.

Arizona Leading Index posts second month of gains

The Bank One Arizona Index of Leading Economic Indicators rose in June to 111.0. The index was 0.2 percent above the revised 110.8 number for May 2001 and 1.9 percent above the June 2000 number of 109.7 (1987 = 100).

Gains were recorded in these subindexes: The inflation-adjusted value of the money supply M2, hours worked in manufacturing, employment from the Purchasing Managers Survey, sensitive materials prices, delivery times and production. On the negative side were inventories, the inflation-adjusted value of Maricopa County residential building permits and new orders.

ANALYSIS

The index has strung together two months of gains, which is encouraging. There is not likely to be significant improvement in the state economy until the end of 2001 or the beginning of 2002. Perhaps the most positive indicator is the two-month upturn in the employment indicator from the Purchasing Managers Survey. The last time the purchasing managers indicated a positive for employment in two consecutive months was April 2000.

Employment growth has slowed significantly during 2001. The U.S. Bureau of Labor Statistics tracks mass layoffs, defined as 50 or more initial claims for unemployment insurance from the same company in a five-week period where the layoff lasts more than 30 days. During the second quarter of this year, 371,708 employees lost their jobs as a result of mass layoffs (compared to 258,608 in second quarter 2000). Twenty-seven percent of these jobs were seasonal, and 16 percent were eliminated because of a permanent facility closure. Seventy-two percent of those who lost jobs filed for unemployment insurance.

The drumbeat of layoff announcements from large companies leaves the public with the impression that the last three months has seen mass layoffs in even greater numbers. While it can be difficult to define trends during the volatile summer months, the four-week moving average of both initial and continuing unemployment insurance claims has been falling recently — which may indicate that mass layoffs may be on the decline.

In Arizona employment, problems in the semiconductor subsector and high-tech in general certainly have affected manufacturing, but they have hit the business services subsector even harder. Business services, which include temporary workers and computer services, has shed enough jobs to reduce overall services growth to near zero. Services employment growth typically slows during the summer because of seasonal losses in tourism. Aside from tourism-related and business services, the services employment picture looks good.

The sum of employment figures reported state-by-state currently shows about a million more jobs than the total from the national survey. Employment estimates in many states may be overestimated, and the impact of the economic slowdown is not being accurately reflected in each state's current jobs estimates. For example, the national employment survey shows a decline in business services employment. Some states, including Arizona, are reporting numbers that reflect this, while others — including several states with employment mixes similar to Arizona's — are not. The national survey tends to be subject to less revision than the individual state series, suggesting that business services are not being measured accurately in some states.

— Tracy Clark
Senior Economist
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TABLE 1

NET CONTRIBUTION OF INDIVIDUAL COMPONENTS TO THE ARIZONA INDEX OF LEADING ECONOMIC INDICATORS

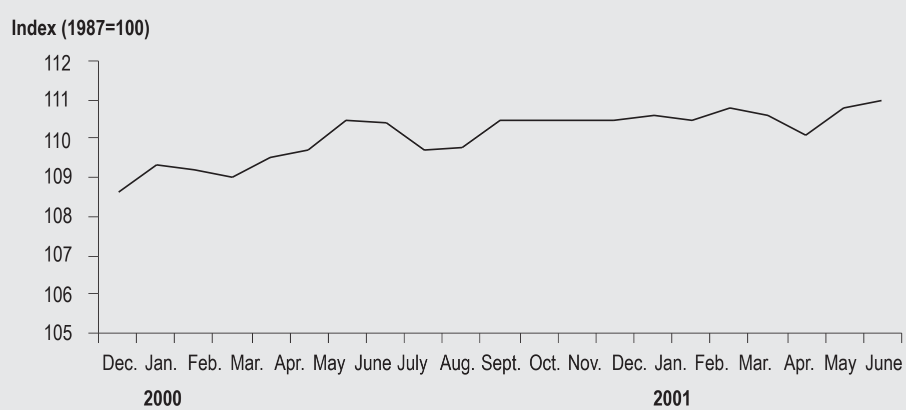
	Net Contribution+			
	Mar.	*Apr.*	*May*	*Jun.*
Delivery Time*	0.16	-0.11	-0.09	0.05
Inventory Levels*	0.10	-0.12	-0.01	-0.24
New Orders*	-0.25	0.04	0.03	-0.04
Production*	-0.31	0.04	0.00	0.01
Employment*	-0.17	-0.37	0.22	0.10
Residential Building Permits	-0.15	-0.02	0.27	-0.22
Average Workweek,Manufacturing	-0.11	-0.25	0.25	0.11
Money Supply	0.59	0.31	0.15	0.31
Change in Sensitive Materials Prices	0.00	-0.02	-0.04	0.07

+ The net contribution of each component is calculated by multiplying the monthly percent change in its index by its relative importance.

* Based on indicators from the Purchasing Management Association of Arizona, Purchasing Management Association of Southern Arizona and the Northern Arizona Group.

FIGURE I

ARIZONA INDEX OF LEADING ECONOMIC INDICATORS



Source: Bank One Economic Outlook Center, L. William Seidman Research Institute, College of Business, Arizona State University.

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ARIZONA ECONOMIC INDICATORS

	Month or Quarter	*Current Value*	*Previous Value*	*Percent Change Previous Period*	*Percent Change from Year Ago*	Year-to-Date *Value*	Year-to-Date *Percent Change from Year Ago*
LEADING ECONOMIC INDEX (1987 = 100)							
Arizona	June	111.0	110.8 r	0.2	1.2	NA	NA
PURCHASING MANAGERS INDEX							
Arizona	July	45.2	41.3	9.5	-23.6	NA	NA
BUILDING PERMITS (Thousands of $)							
Maricopa County	June	1,027,447	891,793 r	15	45	5,274,334	15
Pima County	June	96,776	129,020	-25	-12	668,437	0
Balance of State	June	162,958	173,797	-6	-6	922,993	3
Arizona	June	1,287,181	1,194,610 r	8	30	6,865,764	12
TOTAL HOUSING UNITS AUTHORIZED							
Maricopa County	June	4,144	4,045 r	2	21	25,025	3
Pima County	June	709	736 r	-4	6	4,288	-4
Balance of State	June	1,430	1,464	-2	16	7,914	1
Arizona	June	6,283	6,245 r	1	18	37,227	1
HOME SALES							
Maricopa County - Number	June	9,540	8,890	7.3	14.9	50,060	2.2
Maricopa County - Median Price($)	June	139,000	135,700	2.4	4.6	135,300	4.2
HOUSING AFFORDABILITY INDEXES							
Metropolitan Phoenix - New Homes	2nd Quarter	98	98	0	10.1	NA	NA
Metropolitan Phoenix - Resale Homes	2nd Quarter	113	117	-3.4	9.7	NA	NA
MORTGAGE RATES (30-year Fixed)							
Maricopa County	July	6.8	6.8	0	-13.9	NA	NA
POPULATION ESTIMATES (Thousands)							
Maricopa County	3rd Quarter	2,978	2,960	0.6	2.6	NA	NA
Arizona	3rd Quarter	4,986	4,957	0.6	2.4	NA	NA
RETAIL SALES (Millions of $)							
Maricopa County	June	2,604	2,647	-1.6	0.1	15,377	2.7
Arizona	June	3,777	3,856	-2.1	0	22,388	2.9

Note: The above figures reflect the latest data available as of date of publication and are subject to revision. Population figures do not reflect 2000 census data.

NA = Not Applicable   r = Revised

Source: Center for Business Research, Arizona Real Estate Center, and Bank One Economic Outlook Center, affiliates of the L. William Seidman Research Institute, College of Business, Arizona State University. Retail sales data are from the Arizona Department of Revenue.