VOLUME 49 • NUMBER 2

FEBRUARY 2002

AZB

ARIZONA BUSINESS

ARIZONA STATE UNIVERSITY'S MONTHLY NEWSLETTER ON THE ARIZONA ECONOMY

A slow but certain recovery to begin in 2002

Quarterly Economic Forecast

It seems that 2001 was a year many people will long remember, but most would prefer to forget. Economically, it was a year of weakening performance led by declines in business spending and increasingly nervous consumers. The current year can be characterized by a movement to stronger performance led by government spending. The Gross Domestic Product forecast for 2001 and 2002 is identical, but the economy at the end of 2002 will be on a clear upswing.

Economists compete for the bragging rights to claim they were the first to call a turn in the economy, either up or down. Those who thought the economy was headed for recession before Sept. 11 may wish to claim they were closer to the mark, but it is not at all clear that a recession would have been called in the absence of the terrorist attacks. The current topic of debate, of course, is when the next expansion will begin. Those who say it has already started may be too optimistic, but it seems plausible that the next expansion will begin no later than April of this year.

The problem for the general public is that it won't feel like an expansion until later in the year. The primary gauge most people use in evaluating the current economy is a gut-level feeling about the job market gleaned either from personal experience or talking to friends and neighbors. Media reports and economic forecasts also figure in, to a lesser degree. However, shifts in employment lag the general economy — often by several months. Employers rarely start hiring at the first signs of an uptick in demand, preferring to offer overtime to current employees until they are certain the recovery is for real. In fact, the unemployment rate may continue to inch upward, although not at the rate we saw after the terrorist attacks.

The improvement in the economy is likely to be gradual rather than abrupt. Recoveries typically get a boost from pent-up demand for cars, houses or capital spending by businesses. This may not happen to any great degree this time. Government action will have to lift the economy. Monetary policy and Phase 1 of the federal economic stimulus package will kick in first. Phase 2 of the proposal appears to be dead, and has been delayed so long that it would not be a good idea anyway. Federal spending unfortunately will be offset to some degree by reduced state spending.

Auto sales for 2001 will be about 16.9 million units, which is down from the record 17.8 million unit pace of 2000 but well above the performance of any previous recession because of low interest rates. The outlook for 2002 is for fewer sales because of the dramatic recent trend of zero percent financing, which resulted in a rush to purchase vehicles in 2001. The forecast is for 15.7 million units to be sold in 2002 and 16.5 million units in 2003.

U.S. consumers have continued to buy homes during the recession, which suggests there won't be a boost coming from that quarter either. The pace of home building in 2000 and 2001 appears to have been about the same, at 1.59 and 1.60 million housing starts, respectively. The pace is expected to slow to about 1.54 million in 2002 and 1.56 million in 2003. It is surprising that home construction has held up so well, even with the incentive of low mortgage rates. Home buyers may be funneling money into housing that previously would have gone into the stock market.

Lower capital spending by business may be a drag on the economy until 2003 at the earliest. Capacity utilization is at such low levels that there is no incentive to expand capacity, and corporate profits have been hammered so hard that spending increases are unlikely to be popular. Finally, despite the best efforts of Microsoft, Windows XP has yet to fuel a significant increase in demand for new PCs.

That leaves the government. Spending has increased, as clearly evident from the disappearing budget surplus. However, the flood of expected stimulus measures that Congress hoped to enact fell victim to the political process and a realization that it may well be too much, too late. The majority of the stimulus envisioned for Phase 2 would, if enacted now, hit the economy sometime in 2003 when the rates of consumer and business spending are

INSIDE

CENTER FOR BUSINESS RESEARCH

College of Business
ARIZONA STATE UNIVERSITY

beginning to pick up steam anyway, and run the risk of overheating the economy — possibly leading to another recession.

The Federal Reserve has clearly done its best to ameliorate the current recession. It dropped rates faster and farther than anyone thought possible in 2000. Also, the Fed obviously is still concerned about the strength of the economy, which suggests it will be in no particular hurry to raise rates. Thus the benign interest rate picture will likely persist until sometime in 2003.

The real wild card will be the extent to which increases in federal spending are blunted by cutbacks in spending at the state and local levels. While the federal government can borrow money (and has done so quite happily for decades), many state and local governments are prohibited by their constitutions from borrowing money to any significant degree. Thus, when their revenues fall, either spending is reduced or taxes are raised — both of which tend to be a drag on the economy. Like the U.S. government, state and local governments are faced with the drop in personal and corporate income tax revenue, while at the same time often relying heavily upon sales taxes, which are very cyclical. The demand for government services also

TABLE 1
2002 AND 2003 ECONOMIC FORECASTS: UNITED STATES

	Actual 1998	Actual 1999	Actual 2000	Estimated 2001	Forecast 2002	Forecast 2003
Gross Domestic Product						
Billions of 1996 Dollars	$8,508.9	$8,856.5	$9,224.0	$9,316.2	$9,409.4	$9,710.5
Percent Change	4.3	4.1	4.1	1.0	1.0	3.2
Industrial Production (Percent Change)	5.1	3.7	4.5	(3.7)*	(0.5)	4.0
Net Exports (Billions of 1996 Dollars)	$(221.1)	$(316.9)	$(399.1)	$(406.8)	$(441.0)	$(462.0)
Housing Starts						
Number in Thousands	1,616.9	1,666.5	1,593.5	1,601.1	1,541.8	1,561.9
Percent Change**	9.7	3.1	(4.4)	0.5	(3.7)	1.3
Unemployment Rate (Percent)	4.5	4.2	4.0	4.8*	6.1	5.5
Consumer Price Index (Percent Change)	1.6	2.2	3.4	2.8*	1.9	2.6
Three-Month Treasury Bill Rate (Percent)	4.8	4.6	5.8	3.4*	2.3	3.4
10-Year Treasury Note Rate (Percent)	5.3	5.6	6.0	5.0*	5.0	5.7

* Actual numbers **Calculated prior to rounding

TABLE 2
2002 AND 2003 ECONOMIC FORECASTS: ARIZONA

	Actual 1998	Actual 1999	Actual 2000	Estimated 2001	Forecast 2002	Forecast 2003
Personal Income						
Millions of Current Dollars	$112,910	$119,354	$129,133	$136,622	$144,000	$152,640
Percent Change	8.9	5.7	8.2	5.8	5.4	6.0
Retail Sales						
Millions of Current Dollars	$37,071	$40,769	$43,940	$45,258	$46,706	$49,042
Percent Change	7.2	10.0	7.8	3.0	3.2	5.0
Unemployment Rate (Percent)	4.1	4.4	3.9	4.5	5.0	4.5
Wage and Salary Employment						
Number in Thousands	2,074.7	2,163.1	2,248.0	2,267.4	2,299.9	2,369.5
Percent Change	4.5	4.3	4.3	1.2	1.5	3.0
Population						
Number in Thousands	4,864	5,017	5,169	5,324	5,451	5,577
Percent Change	3.3	3.2	3.0	3.0	2.4	2.3
Single-Family Units Permitted						
Number	50,997	51,764	48,846	50,995	45,896	45,437
Percent Change	18.6	1.5	(5.6)	4.4	(10.0)	(1.0)
Multifamily Units Permitted **						
Number	13,218	12,067	10,920	9,631	8,187	7,777
Percent Change	1.3	(8.7)	(9.5)	(11.8)	(15.0)	(5.0)

** Apartment complexes of three or more units

Source (Tables 1 and 2): Bank One Economic Outlook Center, L. William Seidman Research Institute, College of Business, Arizona State University.

rises as the economy falls, which puts further pressure on public spending.

Arizona

Arizona is a good example of the aforementioned problem. In the fiscal year 2001 July through November, revenue from the big three taxes (sales, personal income and corporate income) was down 2.9 percent. In contrast, revenue in the same period grew by 9.0 percent in FY 1998, 7.9 percent in FY 1999 and 3.4 percent in FY 2000. Growth in sales taxes (which are highly cyclical) has yet to turn negative, but only because of significant auto sales. Sales taxes without the boost from auto sales were negative for several months. Income tax collections contributed significantly to revenue growth during the run-up in the stock market, but those additional revenues evaporated rapidly as the stock market sank, and in the meantime the income tax base and rates were significantly reduced. Corporate taxes, which had also grown significantly as corporate profits boomed, deflated rapidly as both real and stock market profits disappeared.

The prospects for a rapid recovery are not promising. Sales tax revenues will be reduced in the first half of 2002 because of anticipated declines in the number of autos sold. The jump in auto sales in the last three months of 2001 likely came at the expense of at least some sales that would have occurred in 2002. This may not have much impact on revenue collections for the fiscal year, but the year-to-date totals have been distorted and are likely to decline. Income tax collections should stabilize in 2002 and start growing again in 2003, but it may take three or four years for collections to go back to the pre-stock market correction levels unless the market takes off on another rocket ride. Corporate profits also were affected by the stock market, and in addition, corporate collections will suffer as companies use loss

TABLE 3
2002 AND 2003 ECONOMIC FORECASTS: MARICOPA COUNTY

	Actual 1998	Actual 1999	Actual 2000	Estimated 2001	Forecast 2002	Forecast 2003
Retail Sales						
Millions of Current Dollars	$25,207	$27,825	$30,302	$31,271	$32,366	$34,016
Percent Change	7.9	10.4	8.9	3.2	3.5	5.1
Unemployment Rate (Percent)	2.7	3.0	2.6	3.9*	4.2	3.7
Wage and Salary Employment						
Number in Thousands	1,418.8	1,487.0	1,544.6	1,555.5*	1,577.3	1,621.5
Percent Change	5.5	4.8	3.9	0.7*	1.4	2.8
Population						
Number in Thousands	2,890	2,995	3,097	3,196	3,279	3,364
Percent Change	4.0	3.6	3.4	3.2	2.6	2.6
Single-Family Units Permitted						
Number in Thousands	35,603	35,430	33,107	33,239	29,251	29,836
Percent Change	16.9	(0.5)	(6.6)	0.4	(12.0)	2.0
Multifamily Units Permitted **						
Number in Thousands	10,529	9,524	9,490	8,446	7,264	6,973
Percent Change	(2.4)	(9.5)	(0.4)	(11.0)	(14.0)	(4.0)

* Actual numbers ** Apartment complexes of three or more units

TABLE 4
ARIZONA EMPLOYMENT FORECASTS: 2002 and 2003
(In Thousands)

	Actual 1998	Percent Change	Actual 1999	Percent Change	Actual 2000	Percent Change	Preliminary 2001	Percent Change	Forecast 2002	Percent Change	Forecast 2003	Percent Change
Manufacturing	216.0	4.1	211.7	(2.0)	214.9	1.5	211.4	(1.6)	211.8	0.2	214.0	1.0
Mining	13.0	(5.8)	11.4	(12.3)	9.8	(14.0)	9.5	(3.1)	9.5	0.0	9.5	0.0
Construction	143.8	9.1	154.7	7.6	162.0	4.7	164.2	1.4	151.3	(7.9)	152.0	0.5
TCPU*	100.9	4.5	104.2	3.3	108.7	4.3	109.1	0.4	111.1	1.9	114.5	3.0
Trade	498.0	3.2	509.7	2.3	525.6	3.1	534.6	1.7	544.2	1.8	561.6	3.2
FIRE**	135.6	6.2	139.6	2.9	143.6	2.9	146.2	1.8	150.6	3.0	155.9	3.5
Services	626.1	4.9	677.8	8.3	716.9	5.8	715.3	(0.2)	736.7	3.0	773.6	5.0
Government	341.5	4.1	354.1	3.7	366.6	3.5	377.1	2.9	384.7	2.0	388.5	1.0
Total Wage and Salary Employment	2,074.7	4.5	2,163.1	4.3	2,248.0	3.9	2,267.4	0.9	2,299.9	1.4	2,369.5	3.0
Unemployment Rate	4.1%		4.4%		3.9%		4.5%		5.0%		4.5%	

*Transportation, Communications and Public Utilities **Finance, Insurance and Real Estate

Source (Tables 3 and 4): Bank One Economic Outlook Center, L. William Seidman Research Institute, College of Business, Arizona State University.

carry forwards to offset liabilities in future years. Arizona is looking at a significant reduction in spending both in the current fiscal year and next year, and more restrained revenue growth for some time after that.

It now seems clear that Arizona may have been among the states most impacted by the fallout from the terrorist attacks. Preliminary employment data shows 4,700 jobs lost by year end in transportation and 4,900 jobs in hotel and other lodging. The annual average numbers are better because the picture did not deteriorate significantly until October.

Arizona had been suffering significantly before Sept. 11 because of the impact of the decline in business spending on high-tech manufacturing. This recession has primarily affected business spending, and Arizona manufacturing is much more dependent on business spending than consumer spending. Manufacturing was showing a loss of 12,800 jobs by year end 2001, but that loss is dwarfed by the 32,500-job decline in business services employment in the same period. Business services includes temporary, contract and employee leasing firms which grew dramatically during the 1990s as firms outsourced functions not directly related to their core business. It is likely that the majority of losses reported as business services would have been counted as manufacturing jobs prior to the outsourcing boom. Unfortunately, it also seems likely that the magnitude of the job losses was larger because employers felt less of a connection with the outsourced employees.

The news is not all bad. Arizona has few structural problems to deal with before the economy can get going again, which means that the state's economy should improve as the national economy recovers. There are also signs that the worst may be over for the semiconductor industry, which forms a large part of the state's manufacturing base. We may not see a return to the Y2K-induced buying frenzy of the late '90s, but there is light at the end of the tunnel.

— Tracy Clark
Senior Economist
Bank One Economic Outlook Center

Arizona Leading Index climbs in December

The Bank One Arizona Index of Leading Economic Indicators rose in December to 112.3. The number was 0.5 percent above the revised 111.7 figure for the previous month and 1.6 percent above the December 2000 number of 110.5 (1987 = 100).

The inflation-adjusted value of the money supply M2, sensitive materials prices, new orders, production, employment from the Business Conditions Survey, and hours worked in manufacturing were positive. Maricopa County residential building permits, materials inventories and delivery times were negative.

Revised data indicate that the index has risen for two months in a row. The index will have to rise further and over a longer period for a definite signal, but the prospects are brightening. Data revisions caused November to flip from negative to positive, which is somewhat unusual. Maricopa County building permits, which had been a small negative, became a small positive. Hours worked went from neutral to a fairly strong positive. The money supply, which already had been the most positive, was revised upward even further.

Revisions are somewhat common for economic data, particularly where preliminary figures are incomplete or in cases were survey-based measures are supplemented by more complete data later.

The seasonal adjustment factors used to adjust the data are forecast for 12 months ahead and re-estimated historically once a year. The factors must be forecast in order to reduce the volatility that would result if they were re-estimated every month. However, that means that once a year the data for the prior year could be impacted.

The least revised components of the index are the data from the Business Conditions Survey (formerly the Purchasing Managers Survey). The only time the base data would change is in the case of a transcription error.

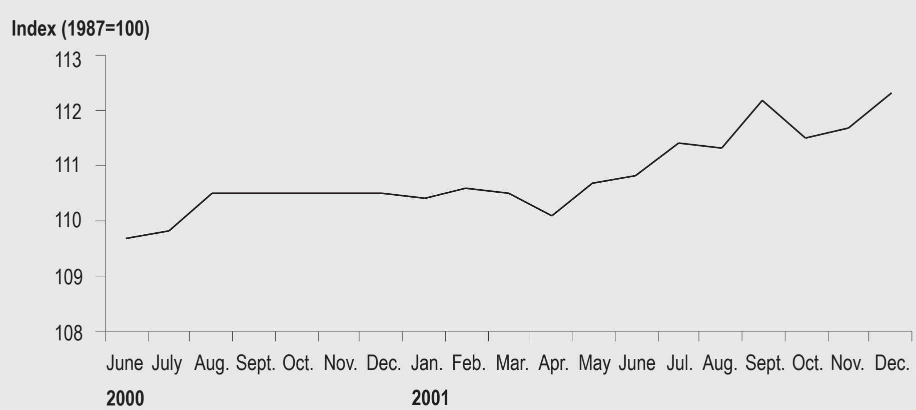
The remaining local components are Maricopa County building permits and hours worked in manufacturing. Hours worked in manufacturing can be revised during the annual benchmark revision process for the survey-based employment data, which also could further impact seasonal adjustment factors. Building permit data typically change when late responding cities are subsequently incorporated into the data. Also, some smaller cities that permit activity by month but issue the reports quarterly. These smaller cities have been experiencing increased growth recently.

The most volatile series are the national money supply figures and the data on sensitive prices. These series can incorporate revised data for several previous months every time a new month of data is released. In addition, there may be some re-estimation when the new seasonal factors are incorporated once a year. Finally, the Conference Board estimates the money supply figure for the current month because waiting for actual M2 would unduly delay the release of the national index.

— Tracy Clark
Senior Economist
Bank One Economic Outlook Center

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.

Arizona Business Conditions Index rises in December

The seasonally adjusted Arizona Business Conditions Index (formerly the Arizona Purchasing Managers Index) rose to 40.1 in December from 37.5 the previous month.

The index provides a reliable and forward-looking means of gauging the cycles of the local economy for those involved in commerce, industry and policy making in Arizona. The overall index, the Price Index and all of the subindices that are included with the Arizona Business Conditions Index are diffusion indices. This means that, rather than a measurement of actual levels of economic activity, they are measurements of increases and decreases.

Each component is calculated from data obtained from a survey of the members of Arizona affiliates of the Institute of Supply Management (formerly the National Association of Purchasing Managers).

If the index reading is below 50, the local economy is likely to face a slowdown in activity and a reading above 50 indicates economic growth in the near term.

Since its inception in 1962, the index has correctly predicted — with about a four-month lead — all upcoming recessions, including their depth, and has also shown the path of normal cycles of local economic activity. The index provides less lead time in forecasting economic recovery, usually signaling upturns about two months before they occur.

In January 2001, the index slipped to 47.7, an indication of a recession on the horizon. By March the index was in the low 40s, similar to readings just before the recession of the early 1980s.

The index is a compilation of six subindices: employment, production, new orders, purchases, purchased materials inventory level and delivery times from suppliers. These subindices can be used alone or in combination to analyze various aspects of the economy.

Calculating a ratio of the production and employment subindices provides a measure of implicit productivity in the state. A rise in the subindex of delivery times from suppliers indicates that it is taking longer for suppliers to fill their orders, usually a symptom of high demand when compared to supply. An anomaly to this was the September 2001 interruption of air shipments and subsequent changes in shipping procedures, which caused a delay in deliveries.

The new orders subindex is particularly useful as a forecasting tool because new orders on the table mean work to come. In December, new orders rose to 42.6 from 38.8 in November. Changes in the ratio of the purchased materials inventory to include the new orders subindex can signal the beginning of a cycle where inventories are being built. In April 2000, this ratio indicated that inventories were building fairly quickly, and that trend continued until October 2001.

The Price Index reveals the direction of price pressure in the local economy. Prices are a result of the balance of supply and demand, and therefore rapid changes in the Price Index reflect shocks to the local economy. This was clear in December 1973 when the Price Index reached 95.5 due to the oil crisis initiated by OPEC. In late 1998, the Price Index fell below 50 in reaction to a sudden drop in export demand caused by financial problems in Asia. In January 2001, the Price Index had reached 60.1. By July, it had fallen below 50 and, in December, fell to 42.5 in response to declining demand both locally and nationally.

A drop in the Price Index usually occurs after the overall index has fallen, but the history of the index shows that both rise concurrently during an economic recovery.

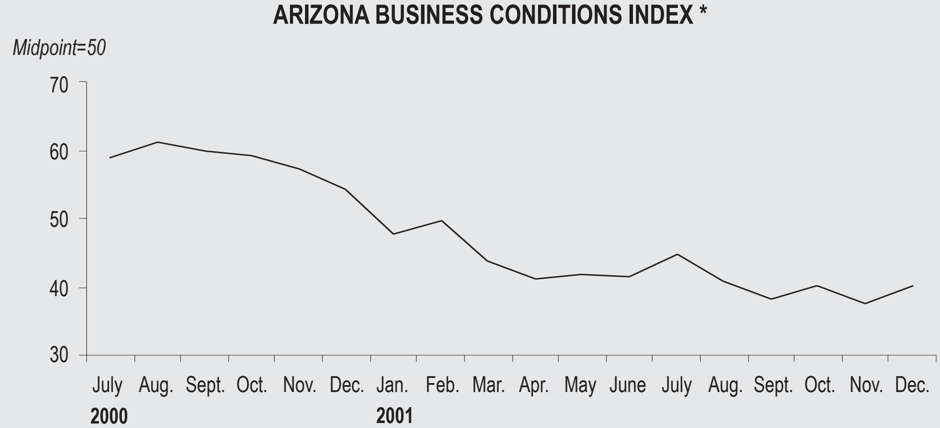
At the end of each year, the Arizona purchasing managers are questioned about planned annual capital equipment expenditures. Twenty-six percent of businesses surveyed plan to increase spending on capital equipment in 2002, while 38 percent plan to reduce spending. This represents a significant decline from last year, when 42 percent planned to increase their capital equipment expenditures during 2001.

— Dawn McLaren
Research Economist
Bank One Economic Outlook Center

TABLE 1
ARIZONA BUSINESS CONDITIONS INDEX AND PRICE INDEX

	July	Aug.	Sept..	Oct.	Nov.	Dec.
Overall Index	44.9	40.9	38.3	40.0	37.5	40.1
Delivery Times	46.5	47.0	53.5	51.7	49.6	48.7
Purchased Materials Inventory Level	37.1	33.5	35.0	39.0	30.0	26.7
Purchases	43.0	40.8	35.7	42.3	36.5	42.5
New Orders	45.5	42.7	36.0	36.0	37.8	42.6
Production	48.5	40.6	37.4	44.6	38.8	43.3
Employment	41.9	37.7	33.4	32.2	30.3	32.2
Price Index	47.0	45.6	47.0	47.4	48.7	42.5

FIGURE I
ARIZONA BUSINESS CONDITIONS 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.

Age distribution varies across state and ethnic groups

The most numerous non-Hispanic white Arizonans in 2000 were those of the baby-boom generation (ages 35 to 53). Among Hispanics, the greatest numbers were among children 10 or younger, followed by young adults age 30 or less.

This article analyzes more detailed data from the 2000 census than were available when the July 2001 issue of *AZB/Arizona Business* was written.

AGE DETAIL

When age distribution by single year of age is examined, the greatest numbers of Arizonans in 2000 were of each age between 35 and 42 years old, corresponding to the last several years of the baby-boom generation (those born from 1946 through 1964). A considerable number of children less than the age of 12 also resided in Arizona, corresponding to the large increase in the number of births nationwide and in Arizona during the 1980s (and in Arizona continuing through the end of the century). The number of Arizonans in 2000 dropped sharply between ages 53 and 54 — corresponding to the start of the baby boom.

In Maricopa County, the peak numbers of residents counted in 2000 were between 24 and 42 years old and 10 or younger. Those 24 to 34 years old were born during the baby bust (a period of fewer births extending from 1965 to around 1980). The large number of Phoenix area residents in this age group reflects strong net in-migration of young adults, particularly from Mexico, which did not experience a decrease in the number of births from the mid-1960s through the late 1970s. Relative to the rest of the state, Maricopa County had high proportions of residents age five or younger and from ages 24 to 38. The proportion was low among those 54 to 79 years old. This illustrates that despite the Phoenix area's notable retirement communities, the proportion of its population in the early retirement and retirement age groups was less than in the rest of the state.

Pima County had a strong peak in number of residents between ages 18 and 21 — prime ages for attending the University of Arizona. A secondary peak occurred between ages 38 and 43. Relative to the rest of the state, the Tucson area had more residents from 18 to 21 and from 43 to 49, but fewer children age 10 or younger.

In the balance of the state, the ages with the most residents were those from seven to 17. Compared to the rest of the state, the 13 less populous counties as a whole had high proportions age 10 to 17 and 56 to 74. Many of the less populous counties are popular destinations for retirees, especially those retiring before the traditional age of 65.

Male-Female Ratio

Nationally, the number of males per 100 females in 2000 was 105 to 106 among those less than 20 years old (approximately 6 percent more males than females are born). Since death rates are higher for males than females across all age groups, females began to outnumber males at around age 35. The proportion of males to females drops sharply past the age of 60, so that in the 90 or older age group only 32 males were counted for every 100 females in 2000. Across the entire population, 96 males were counted for every 100 females.

In Arizona, nearly as many males were counted as females, with the ratio of males to females equal to or greater than the national average except among those 50 to 59 years old. The greatest differences from the national average were among those 65 or older (see Table 1). Since many of the elderly in Arizona moved to the state at or shortly before traditional retirement age, the relatively large number of elderly males suggests that those who choose to migrate are healthier than those who do not make a long-distance move. The differences in the ratio also were large among those 20 to 34 years old, an indication that among young adults net in-migration of males is greater than that of females.

The number of males counted in 2000 in Maricopa County was marginally greater than the number of females. The differences from the U.S. gender ratio were similar to those statewide, though not as large among those 65 or older. In the less populous counties, the differences also were similar to those statewide by age group, but the excess number of males was larger among young adults as well as retirees.

Pima County was like the rest of the state in having a higher male-to-female ratio than the national average among those 65 or older. In the younger age groups, however, the male-female ratio generally was similar to, or a little less than, the national average. Over all age groups, the male-female ratio was slightly less than the national average. The excess of females was most notable among the college-age population. Only 91 males are enrolled at the University of Arizona for every 100 females.

Whites v. Hispanics

The age distribution of Hispanic residents of Arizona in 2000 was much younger than that of non-Hispanic whites. Among the latter,

TABLE 1
NUMBER OF MALES PER 100 FEMALES IN 2000

Age	United States	Difference from United States: Arizona	Maricopa	Pima	Balance
TOTAL	96	3	4	-1	5
0-4	105	0	0	1	-1
5-9	105	0	0	0	-1
10-14	105	0	1	1	0
15-19	106	2	3	-5	3
20-24	104	7	7	-2	13
25-29	102	7	7	2	10
30-34	101	7	8	0	9
35-39	99	4	5	-2	4
40-44	98	3	4	-2	2
45-49	97	0	0	-3	2
50-54	96	-1	-1	0	0
55-59	94	-3	-2	-5	-4
60-64	91	0	-1	-3	4
65-69	86	6	3	3	13
70-74	79	8	4	3	17
75-79	70	9	5	6	20
80-84	59	13	10	10	22
85-89	46	10	7	9	21
90+	32	9	7	8	14

Source: Center for Business Research, L. William Seidman Research Institute, College of Business, Arizona State University from U.S. Department of Commerce, Bureau of the Census, 2000 census counts.

the greatest numbers of residents were those from 35 to 53 years old, directly corresponding to the baby-boom generation. The numbers of children and young adults (particularly those less than 28 years old) were considerably lower. Among Hispanics, the largest numbers were among children age 10 or younger, followed by those age 11 to 30.

The male-female ratio among non-Hispanic whites was between 105 and 107 through age 34, except for slightly lower figures at college age. Since the ratio nationally starts to drop a bit around age 20, this suggests that Arizona receives slightly more male than female non-Hispanic white net in-migrants in the young adult age groups. The male-female ratio among Hispanics is similar to that of non-Hispanic whites through age 15, but then jumps to between 109 and 123 between the ages of 16 and 38 (see Figure I). These high ratios indicate that among Hispanics substantially more young males than females move to the state.

For the entire population, the male-female ratio was 97 among non-Hispanic whites but was 107 among Hispanics. The difference between the ethnic groups was largest in Maricopa County (96 v. 111) but was minimal in Pima County (95 v. 97).

Among non-Hispanic whites, the male-female ratio among children was similar across Arizona. Pima County had a disproportionate number of females of college age but otherwise had a male-female ratio not substantially different from that of Maricopa County. The male-female ratio in the balance of the state was noticeably higher than in Maricopa County for ages 17 through 32 and for ages 62 or older.

The male-female ratio among Hispanics was much higher in Maricopa County than in Pima County among those 16 or older. It was higher in Maricopa County than in the balance of the state from ages 15 through 60. The ratio for Hispanics was much higher than that of non-Hispanic whites from age 16 through the mid-50s in Maricopa County and in the balance of the state. In Pima County, the male-female ratio was a little lower for Hispanics than non-Hispanic whites in this age range.

VACANCY RATE DETAIL

The non-seasonal portion of the vacancy rate is split into four parts by the Census Bureau: housing units for sale, for rent, rented or sold but not occupied, and other vacant. In most counties, the percentage for rent exceeded the percentage for sale, with a lesser proportion rented or sold but not occupied. The percentage in the "other" category ranged widely.

Statewide, 2.8 percent of housing units were vacant and for rent in 2000. The rate in most counties was within one percentage point of the state average, but Greenlee County's figure was 5.2 percent. In most counties, the percentage for rent in 2000 was not much different from that in 1990, with the 2000 vacancy rate generally slightly lower. However, the for-rent vacancy rate dropped 3.5 percentage points in Maricopa County and 4.4 percentage points in Greenlee County between 1990 and 2000.

The statewide proportion of housing units that were vacant and for sale in 2000 was 1.3 percent, with the vacancy rate in most counties ranging from 1.0 to 1.9 percent. Pinal County had the highest proportion at 2.5 percent, followed by Mohave County's 2.2 percent. In most counties, the percentage vacant and for sale was not much different in 2000 than in 1990. The biggest changes were declines of 1.0 percentage points in Maricopa and Yavapai counties.

The combination of the for-rent and for-sale categories approximates the real estate definition of the vacancy rate — units actively being marketed for sale or lease. The combined figure was 4.1 percent statewide, 3.9 percent in Maricopa County, and 4.4 percent in Pima County. Most of the less populous counties had rates between 3.0 and 4.6 percent, but Greenlee, Pinal and Cochise counties had rates from 5.5 to 6.7 percent. The combined vacancy rate fell between 1990 and 2000 in 11 counties, with decreases exceeding 2 percentage points in Greenlee, Maricopa and Pima counties.

Statewide 0.6 percent of the housing units were rented or sold but not occupied. The percentage ranged from 0.5 to 0.9 in most counties, but was 1.5 percent in Mohave County and 1.8 percent in Greenlee County. The "other" category includes units held for personal reasons of the owner other than seasonal use. The figure was less than 2 percent in Maricopa and Pima counties, but ranged from 2 to 6 percent in most of the other counties — with Apache County being the outlier at 12 percent. Compared to the 1990 rate, the 2000 rate was lower in most counties.

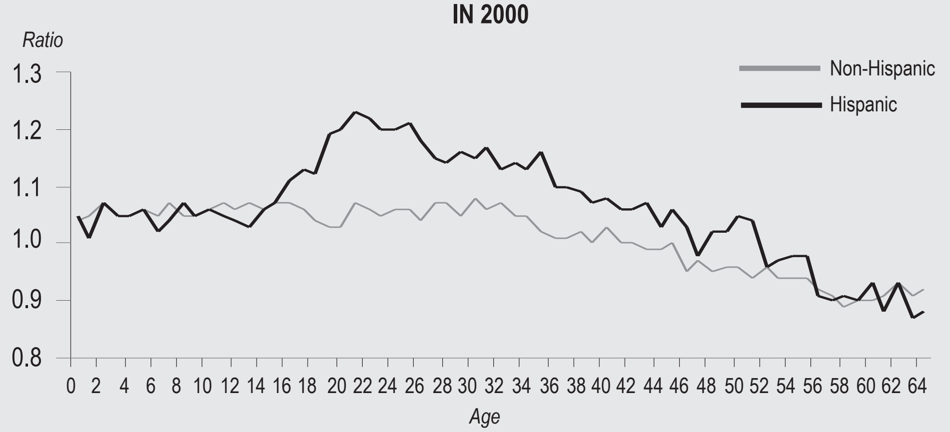
HOUSEHOLD SIZE BY RACE

The average household size in 2000 varied considerably by race and ethnicity. Statewide, households headed by a Hispanic or an American Indian each had an average of 3.66 persons per household. The average size was 2.80 for Asian-headed households, 2.74 for Black-headed households, and only 2.35 for non-Hispanic White households. Part of the reason for the variation relates to age of the householder. For example, relatively few Hispanics are elderly — where the household size typically is one or two — and many are young adults of prime childbearing age.

Most of the variation by county in household size resulted from differences in the racial/ethnic mix rather than from variations in the number of persons per household across counties by racial/ethnic group. For example, the average size of Hispanic households was relatively high in all counties. The highest figure was 3.89 in Maricopa County.

— Tom R. Rex
Research Manager

TABLE 2
MALE-FEMALE RATIO IN ARIZONA IN 2000



Source: Center for Business Research, L. William Seidman Research Institute, College of Business, Arizona State University from U.S. Department of Commerce, Bureau of the Census, 2000 census counts.

ASU College of Business

AZB/ARIZONA BUSINESS

Larry Edward Penley, Dean
Timothy D. Hogan, Center Director
Nancy A. Maneely, Editor

AZB/ARIZONA BUSINESS (ISSN 1079–4255) is published monthly by the Center for Business Research, L. William Seidman Research Institute, College of Business, Arizona State University, PO Box 874011, Tempe, AZ 85287–4011; phone (480) 965–3961. Annual fee: $18 per year to Arizona residents, $24 per year out-of-state, $30 per year foreign. Checks must be made payable to ASU Foundation, a separate non-profit organization which exists to support ASU. Your payment is not considered a charitable contribution. Fees will be applied to the printing and mailing of AZB/ARIZONA BUSINESS, which is not printed or mailed at state expense. Periodicals postage paid at Tempe, Arizona. POSTMASTER: Send change of address to AZB/ARIZONA BUSINESS, Center for Business Research, College of Business, Arizona State University, P.O. Box 874011, Tempe, AZ 85287–4011.

AZB/ARIZONA BUSINESS is also available online at: www.cob.asu.edu/seid/cbr.

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	December	112.3	111.7 r	0.5	1.6	NA	NA
BUSINESS CONDITIONS INDEX							
Arizona	December	40.1	37.5	6.8	-26.1	NA	NA
BUILDING PERMITS (Thousands of $)							
Maricopa County	November	491,521	669,413 r	-26.6	-13.4	8,769,778	9.6
Pima County	November	122,153	108,050	13.1	23.4	1,260,371	5.7
Balance of State	November	132,453	176,253	-24.9	19.5	1,728,303	3.5
Arizona	November	746,127	953,716 r	-21.8	-4.1	11,758,452	8.2
TOTAL HOUSING UNITS AUTHORIZED							
Maricopa County	November	2,185	2,466 r	-11.4	-28.4	40,711	-1.5
Pima County	November	573	870	-34.1	-8.6	7,895	3.5
Balance of State	November	1,136	1,533	-25.9	9.9	14,494	6.1
Arizona	November	3,894	4,869 r	-20.0	-17.4	63,100	0.8
HOME SALES							
Maricopa County - Number	November	7,840	8,660	-9.5	7.7	94,024	3.8
Maricopa County - Median Price($)	November	139,000	137,875	0.8	5.8	137,000	4.6
HOUSING AFFORDABILITY INDEXES							
Metropolitan Phoenix - New Homes	3rd Quarter	100	98	2.0	8.7	NA	NA
Metropolitan Phoenix - Resale Homes	3rd Quarter	113	113	0.0	4.6	NA	NA
MORTGAGE RATES (30-year Fixed)							
Maricopa County	December	6.8	6.4	6.3	-1.4	NA	NA
POPULATION ESTIMATES (Thousands)							
Maricopa County	3rd Quarter	3,221	3,196 r	0.8	3.2	NA	NA
Pima County	3rd Quarter	874	869 r	0.6	2.4	NA	NA
Balance of State	3rd Quarter	1,268	1,259 r	0.7	2.9	NA	NA
Arizona	3rd Quarter	5,362	5,324 r	0.7	3.0	NA	NA
RETAIL SALES (Millions of $)							
Maricopa County	November	2,488	2,542	-2.1	-1.2	27,441	1.6
Arizona	November	3,689	3,723	-0.9	0.4	40,222	2.2

Note: The above figures reflect the latest data available as of date of publication and are subject to revision.

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.