

AZB ARIZONA BUSINESS

ARIZONA STATE UNIVERSITY'S MONTHLY NEWSLETTER ON THE ARIZONA ECONOMY

National economy slows, while Arizona's revs up

Quarterly Economic Forecast

The national economy is showing the first signs of slowing even while it continues to outperform expectations. Gross Domestic Product growth was so strong in first quarter 2000 that the forecast for this year is being revised upward. Meanwhile, in an unexpected development, the Arizona economy actually is re-accelerating.

The 2000 GDP growth forecast was raised one half of a percentage point because even though GDP growth is expected to slow, it will remain well ahead of recession level. The forecast for 2001 GDP growth remains the same.

The GDP number for first quarter 2000 showed 5.5 percent growth seasonally adjusted at an annual rate. The 5.5 percent growth figure assumes that the rate of GDP growth during the first quarter of 2000 will be repeated over the next three quarters. This 5.5 percent quarterly growth figure is often reported by the media as the GDP growth rate for the entire year, but it may be unrealistic. For example: the growth rates by quarter reported for 1999 were 3.7, 1.9, 5.7 and 7.3, for an average of 4.2 percent. The final number for the year might have been forecast more accurately by looking at the percentage change by quarter over the same period in the prior year – 3.9, 3.8, 4.3 and 4.6 percent. It can be useful to view the data in a variety of ways, looking beyond the nightly news.

Strong domestic demand has led to continued strength in industrial production at home, and has been driving imports up faster than exports for an extended period of time — thus leading to the deteriorating net export figure. The nation has been able to finance this buying binge because foreign demand for financial assets and dollars has been strong during the same period.

The combination of rising imports and a strong dollar have reduced inflationary pressures at home. We have been able to buy foreign goods more cheaply. However, if foreign demand for U.S. financial assets drops and imports keep growing, the inflationary pressure could be significant as the purchasing power of the dollar erodes. The forecast for net exports has been lowered repeatedly. The numbers for 2001 are expected to be better than 2000 (but not as good as was forecast last quarter) due to the combination of slower import growth rates and an acceleration of export growth. The forecast for industrial production in the year 2000 has improved in light of the continued

strength of domestic demand.

At the national level, the manufacturing sector clearly has thrown off the last lingering effects of the Asian financial crisis — but the trend going into 2001 will be toward slower growth. Capacity utilization, which measures use of productive capacity, has been up recently and should that trend continue it would have implications for inflation. In all likelihood, however, it will peak before this threat emerges.

Housing starts also have been fueled by the robust domestic demand but are expected to be down somewhat in 2000 and 2001. Higher interest rates have been the drag on housing starts; no dramatic drop is forecast, however, unless interest rates continue to increase. Meanwhile, the higher rates have had little if any impact on autos and retail sales in general.

It seems nothing can get between Americans and their cars. Despite higher prices, gasoline deliveries for the first half of 2000 were down a miniscule 0.7 percent (although this is the first time in five years deliveries were down for the first half of the year). Retail sales data suggest that neither higher interest rates nor higher gas prices have affected auto buyers or the broader retail markets. Retail sales at auto dealers were up 11.6 percent for the first six months of the year. To date, the only significant impact of these higher interest rates and gas prices may be that auto makers and dealers have been using more incentives.

Overall, retail sales for the first six months were up 10.5 percent. Excluding auto sales, the figure was 10.1 percent.

However, there are signs of an impending slowdown. Federal Reserve Board Chairman Alan Greenspan recently testified before Congress about monetary policy and the Fed's underlying economic view. The chairman listed the following factors

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which he said could lead to lower domestic demand in the coming months: the flattening of equity prices, the rising debt burden, the rise in the price of oil, and the non-sustainable pace at which consumers are acquiring durable goods and houses.

The Federal Reserve believes that domestic demand has been growing 1.5 to 2 percent faster than the potential supply. So far, increasing imports and the falling unemployment rate have filled the gap between the two. Imports cannot continue to rise, nor can the unemployment rate

fall much lower, so the Fed intends to relieve the pressure by slowing the economy. Unfortunately, slowing consumer demand could have the undesirable consequence of slowing business investment spending which would, in turn, cause a slowdown in productivity growth.

ARIZONA

The recent employment numbers for Arizona suggest that instead of slowing down, much of the economy is speeding up. The re-acceleration is not true for all

sectors, nor is it clear that it can last if the national economy slows. But for now the good times continue.

The composition of the forecast for total non-farm job growth changed although the final numbers remained the same. The forecasts for TCPU (transportation, communications and public utilities), FIRE (finance, insurance and real estate) and services were raised. Manufacturing, mining, construction, trade and government were lowered. Mining may not represent many jobs in relation to total employment, but it

TABLE 1

2000 AND 2001 ECONOMIC FORECASTS: UNITED STATES

	Actual 1996	Actual 1997	Actual 1998	Actual 1999	Forecast 2000	Forecast 2001
Gross Domestic Product						
Billions of 1996 Dollars	7,813.1	8,144.9	8,495.7	8,848.2	9,246.4	9,514.5
Percent Change.....	3.6	4.2	4.3	4.1	4.5	2.9
Industrial Production (Percent Change).....	4.4	6.3	4.3	3.5	5.0	3.3
Net Exports (Billions of 1996 Dollars)	-89.0	-112.2	-217.6	-323.0	-390.0	-380.0
Housing Starts						
Number in Thousands.....	1,476.8	1,474.0	1,616.9	1,663.0	1,621.4	1,524.1
Percent Change*.....	9.1	-0.2	9.7	2.9	-2.5	-6.0
Unemployment Rate (Percent).....	5.4	4.9	4.5	4.2	4.2	4.4
Consumer Price Index (Percent Change)	2.9	2.3	1.6	2.2	2.9	2.5
Three-Month Treasury Bill Rate (Percent)	5.0	5.1	4.8	4.6	5.7	5.2
10-Year Treasury Note Rate (Percent).....	6.4	6.4	5.3	5.6	6.3	6.4

*Calculated prior to rounding

TABLE 2

2000 AND 2001 ECONOMIC FORECASTS: ARIZONA

	Actual 1996	Actual 1997	Actual 1998	Actual 1999	Forecast 2000	Forecast 2001
Personal Income						
Millions of Current Dollars	95,787	103,968	112,974	120,923	128,783	135,737
Percent Change	7.8	8.5	8.7	7.0	6.5	5.4
Retail Sales						
Millions of Current Dollars	32,319	34,584	37,094	40,794	43,650	45,832
Percent Change	5.9	7.0	7.3	10.0	7.0	5.0
Unemployment Rate (Percent).....	5.5	4.7	4.1	4.4	3.8	4.0
Wage and Salary Employment						
Number in Thousands.....	1,892.2	1,984.7	2,074.7	2,160.2	2,243.0	2,306.5
Percent Change	5.4	4.9	4.5	4.1	3.8	2.8
Population						
Number in Thousands.....	4,438	4,570	4,703	4,837	4,963	5,082
Percent Change	3.3	3.0	2.9	2.8	2.6	2.4
Single-Family Units Permitted						
Number	40,386	42,993	50,997	51,764	46,329	39,379
Percent Change	4.9	6.5	18.6	1.5	-10.5	-15.0
Multifamily Units Permitted*						
Number	11,688	13,043	13,218	12,067	10,559	9,503
Percent Change	0.5	11.6	1.3	-8.7	-12.5	-10.0

*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.

is very important to most of the counties where mines still exist. The unemployment rate for the state as a whole, and the urban counties in particular, may be low enough that job growth is being constrained by a lack of enough workers to fill available jobs. But constrained or not, Arizona has created jobs at the fastest rate in the nation for three straight months.

Personal income growth was revised upward because of the expectation of strong employment numbers and because of upward revisions to the historical personal income

numbers. Revisions were made to the entire series back to 1969 (the first year for which quarterly estimates are released). These personal income revisions incorporate changes to the GDP information used to calculate the series. The rates for the last few years were raised from 7.2 percent to 8.5 percent in 1997; from 7.9 percent to 8.7 percent in 1998, and from 6.8 percent to 7.0 percent in 1999.

The forecast for retail sales will have to be raised in the next forecast unless consumer spending starts to slow. Total retail sales

have grown by 9.4 percent through May and auto sales have grown 17.6 percent through April.

— Tracy Clark
Senior Economist
Bank One Economic Outlook Center

TABLE 3

2000 AND 2001 ECONOMIC FORECASTS: MARICOPA COUNTY

	Actual 1996	Actual 1997	Actual 1998	Actual 1999	Forecast 2000	Forecast 2001
Retail Sales						
Millions of Current Dollars.....	21,664	23,360	25,207	27,825	29,773	31,262
Percent Change.....	8.2	7.8	7.9	10.4	7.0	5.0
Unemployment Rate (Percent).....	3.6	3.0	2.6	3.0	2.8	3.3
Wage and Salary Employment						
Number in Thousands.....	1,272.5	1,344.2	1,418.8	1,487.2	1,546.6	1,591.5
Percent Change.....	7.0	5.6	5.5	4.8	4.0	2.9
Population						
Number in Thousands.....	2,621	2,706	2,794	2,882	2,966	3,046
Percent Change.....	3.7	3.2	3.3	3.1	2.9	2.7
Single-Family Units Permitted						
Number in Thousands.....	28,319	30,466	35,603	35,430	30,680	25,732
Percent Change.....	2.1	7.6	16.9	-0.5	-13.4	-16.1
Multifamily Units Permitted*						
Number in Thousands.....	9,723	10,787	10,529	9,524	8,229	7,324
Percent Change.....	21.1	10.9	-2.4	-9.5	-13.6	-11.0

*Apartment complexes of three or more units

TABLE 4

ARIZONA EMPLOYMENT FORECASTS: 2000 and 2001
(In Thousands)

	Actual 1996	Percent Change	Actual 1997	Percent Change	Actual 1998	Percent Change	Actual 1999	Percent Change	Forecast 2000	Percent Change	Forecast 2001	Percent Change
Manufacturing.....	199.7	3.2	207.4	3.8	216.0	4.1	211.4	-2.1	214.5	1.5	217.7	1.5
Mining.....	14.0	8.5	13.8	-1.4	13.0	-5.8	11.5	-11.5	8.0	-30.0	7.8	-2.5
Construction.....	126.2	5.4	131.8	4.4	143.8	9.1	154.6	7.5	156.9	1.5	150.6	-4.0
TCPU*.....	91.8	5.3	96.6	5.2	100.9	4.5	103.7	2.8	107.8	4.0	110.0	2.0
Trade.....	464.4	4.5	482.4	3.9	498.0	3.2	511.3	2.7	526.7	3.0	539.8	2.5
FIRE**.....	117.1	8.6	127.7	9.1	135.6	6.2	139.7	3.0	145.7	4.3	151.5	4.0
Services.....	560.9	8.1	596.7	6.4	626.1	4.9	679.5	8.5	727.0	7.0	763.4	5.0
Government.....	317.9	2.4	328.3	3.3	341.5	4.0	348.7	2.1	356.3	2.2	365.6	2.6
Total Wage and Salary Employment.....	1,892.2	5.4	1,984.7	4.9	2,074.7	4.5	2,160.2	4.1	2,243.0	3.8	2,306.5	2.8
Total Employment.....	2,087.7	0.4	2,080.7	-0.3	2,161.6	3.9	2,259.6	4.5	2,338.6	3.5	2,446.2	4.6
Total Unemployment.....	121.7	9.3	101.4	-16.7	93.4	-7.9	104.2	11.6	93.6	-10.1	102.8	9.8
Labor Force.....	2,209.5	0.9	2,182.1	-1.2	2,255.0	3.3	2,363.7	4.8	2,432.3	2.9	2,549.0	4.8
Unemployment Rate.....	5.5%		4.7%		4.1%		4.4%		3.8%		4.0%	

*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.

Bank One Arizona Leading Index continues up in April

The Bank One Arizona Index of Leading Economic Indicators rose in April to 110.8. The number was 0.6 percent above the revised 110.1 number for March 2000 and 3.2 percent above the April 1999 number of 107.4 (1987 = 100).

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

ANALYSIS

It is not surprising that with seven positive and two negative components, the index went up this month. However, it is unusual that all the component indexes had strong to moderate movement — typically, three or four of the component indexes will remain neutral or move only slightly.

The biggest positive contribution came from a boost in the money supply, which has not gone up this strongly since late 1998. The Federal Reserve Board focuses primarily on interest rates and has not worried too much about money supply movements for some time. In general, rising interest rates should be roughly correlated with either a slower growing money supply or a contracting supply of money. The strength of the boost in M2 is curious, given what the Fed says it is doing to raise interest rates. The Federal Reserve has raised interest rates to higher levels than prior to the Asian financial crisis. Higher interest rates have not slowed the economy to date, and the money supply will continue to grow until banks are less willing (or able) to lend or borrowers are less willing (or able) to borrow.

The Federal Reserve has been faced with a series of problems related to its ability to control monetary policy. The Fed can directly impact only the lending done by banks. It does this by buying and selling the government securities which banks need to satisfy the reserve requirements that control how much they are allowed to lend. The bull market has increased the importance of equity financing, and changes in financial markets have allowed companies to borrow money from many different sources. This has reduced the importance of bank financing for businesses. The budget surpluses

have raised the prospect that the Treasury will fail to issue enough securities to keep the market liquid.

Interest rates may be affecting the housing market, but not as much as expected. Single-family permits, which have provided the majority of the growth throughout the expansion, are running only slightly behind last year. Interest rates may have started to bite at the lower end of the market, but other factors are affecting the housing market as well. Cities have been imposing new fees, which could have accelerated permit activity earlier and led to something of a lull now. It is difficult to gauge the impact of proposed growth boundary legislation on developers' plans.

The Arizona economy has been much less dependent on construction during this expansion, so it is less likely that overbuild-

ing will cause the massive problems that occurred in the 1980s. However, construction is still a significant economic engine for Arizona.

Mortgage interest rates are not directly linked to actions by the Federal Reserve because they are long-term rates, and the Federal Reserve can directly impact only short-term rates. However, according to economic theory, inflation expectations are an important determinant of long-term rates. If people remain convinced of the Federal Reserve's resolve to fight inflation, long-term rates could move downward in the future.

—Tracy Clark

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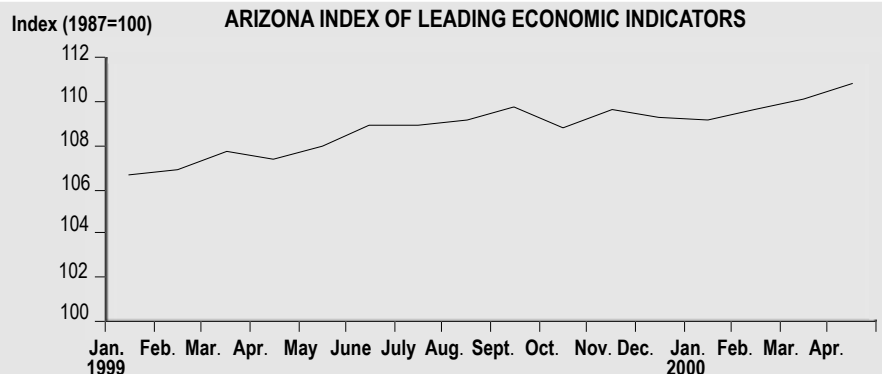
TABLE 1
NET CONTRIBUTION OF INDIVIDUAL COMPONENTS TO THE ARIZONA INDEX OF LEADING ECONOMIC INDICATORS

	Net Contribution*			
	Jan.	Feb.	Mar.	Apr.
Delivery Time*	-0.03	0.08	-0.01	0.08
Inventory Levels*	-0.01	0.14	0.00	0.14
New Orders*	-0.15	0.18	0.12	0.05
Production*	-0.26	0.20	0.11	0.14
Employment*	0.00	0.00	0.25	0.12
Residential Building Permits	0.08	0.03	-0.04	-0.26
Average Workweek, Manufacturing	0.11	-0.04	-0.04	0.11
Money Supply	0.16	-0.10	0.14	0.40
Change in Sensitive Materials	0.03	-0.11	-0.13	-0.11

* 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 1



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

1997 Economic Census: Manufacturing and Mining

Based on employment, manufacturing was the second largest of 18 sectors in Arizona in 1997. Mining was the third smallest. Retail trade employed the most, but manufacturing's total payroll was the greatest. Compared to the national per capita average, employment in these 18 sectors as a whole was 6 percent lower in Arizona. Receipts (or alternative dollar measures) per capita and per employee were far below average. Payroll per employee also was below average.

Data from the 1997 economic census have been the first to be released under the new North American Industry Classification System (NAICS). Of 20 NAICS sectors, 18 are being released in a consistent format by the U.S. Bureau of the Census. Results from all 18 are available for Arizona. Data for agriculture (the 19th sector) were released by the U.S. Department of Agriculture. NAICS becomes progressively more detailed at the subsector, industry group, and industry levels.

MANUFACTURING

Among the 18 sectors in Arizona, manufacturing ranked second, with 193,616

workers in 1997. It consisted of a relatively small number of large establishments, with average establishment size ranked fourth and the number of establishments ranked 11th among the 18 sectors. Average pay was 37 percent above the average of the 18 sectors, ranking seventh. The Census Bureau provides different dollar measures by sector, with manufacturing's value of shipments being most comparable to the sales, receipts or revenue figures produced for other sectors. Manufacturing ranked third among the 18 sectors on the dollar measure and fourth on a per employee basis.

The best measure of the manufacturing sector's importance is value added by manufacturing, which totaled \$26.9 billion in 1997. Value added essentially is the value of shipments less costs of purchased goods and services. The manufacturing sector consists of 21 subsectors that varied widely in size in 1997 (see Table 1).

The computer and electronic products subsector accounted for 25 percent of all manufacturing employment, 38 percent of the value of shipments and 50 percent of value added. The importance of this subsector is apparent in Figure I. The average

wage of \$43,300 was second highest among the subsectors; the value of shipments per employee ranked third, and the value added per employee was the highest.

The average of 136 employees per establishment also was the highest. The computer and electronic products subsector consists of six industry groups. The semiconductors and other electronic components group accounted for 58 percent of the subsector's employment and 78 percent of its value added. Other large industry groups included instruments (more than one-half in the search, detection, navigation and guidance instruments industry, in which Arizona's value added was seventh highest among the states) and communications equipment (especially wireless communications, in which Arizona ranked 10th).

The semiconductor industry alone employed 18,100 and produced a value added of \$9.7 billion. Arizona ranked third in the nation on each measure, behind Texas and California. Arizona's share of the nation's value added was 15 percent (compared to its population share of less than 2 percent). Value added per employee was a very high \$537,000 and payroll per

TABLE 1
ECONOMIC CENSUSES, ARIZONA, 1997

	Number of Establishments	Value of Shipments in Millions	Payroll in Millions	Employment	Employment per Establishment	Value per Employee	Payroll per Employee
MANUFACTURING TOTAL.....	4,917	\$43,030	\$6,754	193,616	39	\$222,200	\$34,900
Foods.....	243	2,523	216	8,576	35	294,200	25,200
Beverages.....	41	583	48	1,754	43	332,200	27,600
Textile Mills.....	29	115	12	592	20	194,400	20,300
Textile Product Mills.....	100	102	24	1,168	12	87,500	20,300
Apparel.....	83	67	23	1,642	20	40,900	14,200
Leather and Allied Products.....	25	26	5	208	8	125,100	21,600
Wood Products.....	204	947	178	7,861	39	120,500	22,700
Paper.....	39	727	105	2,948	76	246,700	35,700
Printing.....	703	849	245	9,222	13	92,000	26,600
Petroleum and Coal Products.....	22	108	12	298	14	361,800	39,200
Chemicals.....	174	2,039	190	6,666	38	305,900	28,500
Plastics and Rubber Products.....	238	1,067	212	8,276	35	128,900	25,600
Non-metallic Mineral Products.....	262	1,131	201	7,106	27	159,100	28,200
Primary Metals.....	59	2,798	246	7,037	119	397,600	35,000
Fabricated Metal Products.....	835	2,765	628	20,292	24	136,200	31,000
Machinery.....	316	1,627	312	10,588	34	153,700	29,500
Computer and Electronic Products.....	356	16,295	2,095	48,384	136	336,800	43,300
Electrical Equipment and Appliances ...	90	925	131	4,322	48	214,000	30,200
Transportation Equipment.....	227	6,536	1,440	29,862	132	218,900	48,200
Furniture.....	360	675	163	7,977	22	84,600	20,400
Miscellaneous.....	511	1,126	267	8,837	17	127,400	30,200

Source: Center for Business Research, L. William Seidman Research Institute, College of Business, Arizona State University using data from the U.S. Department of Commerce, Bureau of the Census, 1997 Economic Censuses, Arizona.

employee was \$53,000. Printed circuit assembly (Arizona ranked seventh among the states), bare printed circuit boards (ranked fifth) and other electronics added another 10,000 workers and \$800 million of value added.

Transportation equipment was the second largest of the 21 subsectors, accounting for about 15 percent of manufacturing's employment and value added. Aerospace products was dominant among the seven industry groups, accounting for two-thirds of the subsector's employment and 80 percent of its value added. Aircraft engines (Arizona's value added ranked fourth, with 13 percent of the national total) and guided missiles and space vehicles were the two largest industries. Each paid high wages and had very high average establishment sizes. Among the other six industry groups, only motor vehicle parts was of significant size.

Fabricated metal products was the third largest of the subsectors in terms of employment and value added. Chemicals ranked fourth on value added but just 13th on employment. Its value added per employee was second. The food subsector produced more than \$1 billion in value added; the machinery subsector employed more than 10,000.

MINING

Mining employed the third fewest among the 18 sectors in Arizona, with 12,889 workers in 1997. With the fewest number of establishments, mining had the largest average establishment size at 63 workers per establishment. Payroll per employee was 56 percent above the average of the 18 sectors, ranking third.

While not directly comparable to the sales, receipts or revenue figures produced for other sectors, mining's value of shipments ranked 15th, though its per employee figure was third.

Mining's value added in 1997 was nearly \$2.2 billion. Nearly all of it originated in the mining (except oil and gas) subsector. Copper and nickel ore mining was dominant, accounting for more than three-fourths of the sector's employment and value added. The average establishment in this industry employed 396; the average wage was \$40,100.

Arizona was responsible for 70 percent of the nation's value added in copper and nickel ore mining and employed 72 percent of the national industry's workers. Arizona also was responsible for a disproportionately large share of the nation's output in the construction sand and gravel industry.

SUMMARY OF 18 SECTORS

Based on employment, retail trade was Arizona's largest sector in 1997 (see Table 2) with 14 percent of the total employment of the 18 sectors. Manufacturing; administrative and support and waste management and remediation services; health care and social assistance; and accommodation and food services were next largest, each with a sectoral share of between 11 and 12 percent. Including construction, six sectors employed more than two-thirds of the work force.

The ranking of sectors based on number of establishments was considerably different. Thus, average employment per establishment ranged widely, from 6 in the real estate and rental and leasing sector to 63 in mining. The average wage in the utilities sector was more than twice the 18-sector average. Payroll per employee was more than one-third higher than average (more than \$34,000) in management of companies and auxiliaries; mining; professional, scientific, and technical services; finance and insurance; information; manufacturing, and wholesale trade. In contrast, the average wage was less than one-half the overall average in the accommodation and food services sector and at least 25 percent below average in the administrative and waste management; retail trade; arts, entertainment, and recreation,

TABLE 2
SUMMARY OF 18 SECTORS, ARIZONA, 1997

	Number of Establishments	Employment	Employment per Establishment	Payroll per Employee
Retail Trade	16,283	232,050	14	\$18,200
Manufacturing.....	4,917	193,616	39	34,900
Administrative and Waste Management.....	5,528	191,729	35	16,600
Health Care and Social Assistance	10,521	186,232	18	28,300
Accommodation and Foodservices	9,089	184,323	20	9,900
Construction	11,058	131,871	12	27,500
Finance and Insurance.....	6,568	84,970	13	35,400
Wholesale Trade.....	6,689	80,155	12	34,300
Professional, Scientific, Technical Services.....	10,256	77,074	8	35,900
Other Services.....	7,743	53,050	7	19,000
Transportation and Warehousing	2,257	45,233	20	24,500
Auxiliaries and Management of Companies.....	920	44,376	48	46,100
Information.....	1,731	42,238	24	35,200
Real Estate and Rental and Leasing.....	5,450	32,529	6	23,000
Arts, Entertainment, and Recreation	1,336	31,087	23	18,300
Mining	206	12,889	63	39,600
Utilities.....	235	10,546	45	56,500
Educational Services.....	708	6,301	9	22,400
SUM OF 18 SECTORS	101,495	1,640,269	16	25,400

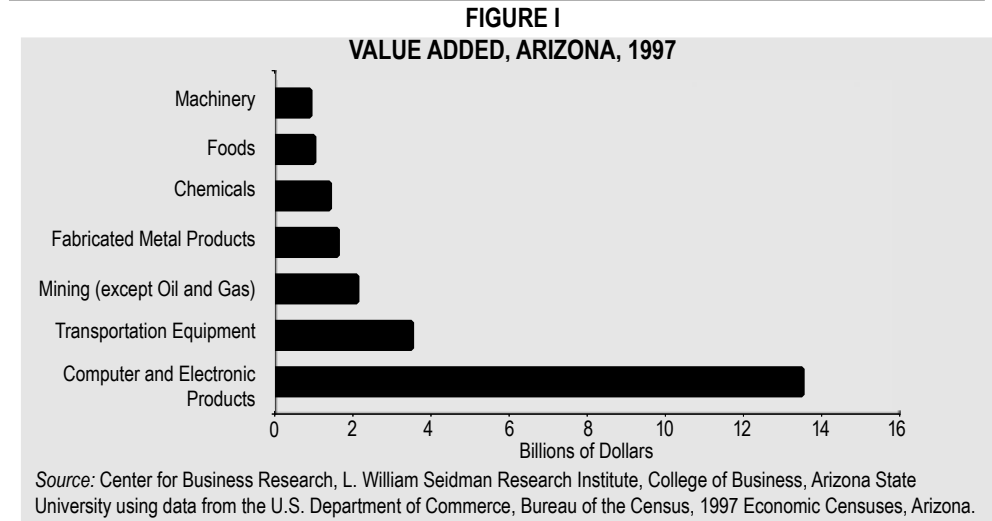
Source: Center for Business Research, L. William Seidman Research Institute, College of Business, Arizona State University using data from the U.S. Department of Commerce, Bureau of the Census, 1997 Economic Censuses, Arizona.

and other services (repair services and personal care) sectors.

The only consistent dollar measure across sectors is payroll. With a \$6.8 billion payroll, manufacturing was the state's largest sector, accounting for 16 percent of the total. Health care and social assistance was a distant second at \$5.3 billion, followed by retail trade at \$4.2 billion. Construction, administrative and waste management, and finance and insurance had payrolls of between \$3 billion and \$4 billion.

Compared to the national average, the average establishment size across all 18 sectors was slightly greater in Arizona. Ten of 18 sectors had a greater number of employees per establishment than their national counterpart. The biggest differences were in the mining; arts, entertainment and recreation; and construction sectors.

Using per capita measures to compare sectoral size, Arizona's overall sales/receipts/revenue/shipments were far below the national average. Per capita employment was 6 percent below average. Per employee dollars also were substantially lower than the national average as 14 of 18 sectors had a lower figure than the



national sectoral average.

Six sectors were relatively large (at least 10 percent higher than the national sectoral average) in Arizona based on both per capita measures: education services; administrative and waste management; arts, entertainment, and recreation; mining; construction; and accommodation and food services. In contrast, nine sectors were at least 10 percent below the national sectoral average on both measures. In particular, manufacturing;

management of companies and auxiliaries; finance and insurance, and wholesale trade were small in Arizona.

Overall average payroll per employee in Arizona was 11 percent below the national average. The average wage was at least 10 percent below average in six sectors, with the biggest disparity in the finance and insurance sector.

— T.R.

Purchasing Managers Index down again in June

The Arizona Purchasing Managers Index dropped again in June. The seasonally adjusted index shifted down to 57.1 from 61.0 in May. An Arizona Purchasing Managers Index reading of over 50 percent indicates that the local economy is generally growing, while a reading below 50 percent suggests a slowdown in the near term.

ANALYSIS

The index is still above where it was last year at this time (56.4) and above where it stood at the beginning of this year (49.3 in January). Delivery times and employment rose this month, but not enough to offset the declines in the other components. In the midst of a very tight labor market, 40 percent of the respondents reported higher employment this month and only 18 percent reported lower employment. Although four of the component indexes declined this month, for all components a greater percentage of managers reported higher levels.

The price index reversed course this month, rising after two months of declines.

— T.C.

TABLE 1
ARIZONA PURCHASING MANAGERS INDEX AND PRICE INDEX

	June	May	Apr.	Mar.	Feb.	Jan.
Overall Index	57.1	61.0	67.8	52.0	56.9	49.3
Delivery Times	62.7	55.2	68.9	64.8	67.4	60.0
Purchased Materials						
Inventory Level	51.4	55.2	60.8	51.3	52.8	42.8
New Orders	52.7	60.1	68.9	65.6	58.7	47.9
Production	57.2	67.6	71.8	63.2	56.3	47.3
Employment	62.3	61.6	63.7	58.2	49.5	49.2
Price Index	66.2	64.1	65.7	70.4	64.0	67.2





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A R I Z O N A E C O N O M I C I N D I C A T O R S

	Month or Quarter	Current Value	Previous Value	Percent Change Previous Period	Percent Change from Year Ago	Year-to-Date	
						Value	Percent Change from Year Ago
LEADING ECONOMIC INDEX (1987 = 100)							
Arizona.....	April	110.8	110.1 ^r	0.6	3.2	NA	NA
PURCHASING MANAGERS INDEX							
Arizona.....	June	57.1	61.0	-6.4	-0.4	NA	NA
BUILDING PERMITS (Thousands of \$)							
Maricopa County.....	May	957,415	840,623	14	44	3,859,639	6
Pima County.....	May	107,052	91,379	17	-3	540,967	9
Balance of State.....	May	157,096	136,665 ^r	15	-7	673,193	-22
Arizona.....	May	1,221,563	1,068,667 ^r	14	30	5,073,799	2
TOTAL HOUSING UNITS AUTHORIZED							
Maricopa County.....	May	4,466	3,959	13	15	27,385	-1
Pima County.....	May	675	691	-2	-35	4,991	-4
Balance of State.....	May	1,417	1,205 ^r	18	-7	8,848	-16
Arizona.....	May	6,558	5,855 ^r	12	2	41,224	-4
HOME SALES							
Maricopa County - Number.....	May	10,030	8,210	22.2	-5.9	40,660	1.2
Maricopa County - Median Price(\$).....	May	130,275	130,000	0.2	5.1	129,200	6.3
HOUSING AFFORDABILITY INDEXES							
Metropolitan Phoenix - New Homes.....	1st Qtr.	91	94	-3.2	-15.0	NA	NA
Metropolitan Phoenix - Resale Homes.....	1st Qtr.	108	114	-5.3	-18.2	NA	NA
MORTGAGE RATES (30-year Fixed)							
Maricopa County.....	June	7.8	8.1	-3.7	8.3	NA	NA
POPULATION ESTIMATES (Thousands)							
Maricopa County.....	1st Qtr.	2,946	2,924	0.8	3.0	NA	NA
Arizona.....	1st Qtr.	4,933	4,900	0.7	2.7	NA	NA
RETAIL SALES (Millions of \$)							
Maricopa County.....	May	2,631	2,551	3.1	12.9	12,366	10.1
Arizona.....	May	3,787	3,722	1.8	10.8	17,986	9.7

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.