
FRBSF WEEKLY LETTER

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Arizona's Slowdown

Between 1970 and 1985, Arizona's employment grew at an average rate of 6.2 percent a year, more than twice that of the nation. During the past three years, however, the pace of growth has slowed markedly. Preliminary figures show that between the fourth quarters of 1987 and 1988, employment grew only 1.1 percent, in sharp contrast to 3.5 percent growth nationally. This *Letter* argues that a slowdown in the State's construction industry accounts for much of the current sluggishness in Arizona's economy. The State's fundamental strengths will overcome this weakness over the next few years, although growth is not likely to match the heady pace seen during the 1970s and early 1980s.

Construction slump

Slowing construction and real estate activity is the main source of Arizona's current weakness. Between 1985 and 1988, construction employment fell by 15 percent, the annual number of housing permits declined by 54 percent, and the inflation-adjusted value of nonresidential construction awards fell by six percent. This downturn has had a significant impact on the economy in Arizona, where construction is a particularly important component of economic activity. As recently as 1985, 8.8 percent of all wage and salary jobs were in construction, versus only five percent nationally.

Perhaps the most dramatic changes associated with the slowdown in construction activity can be found in the values of vacant parcels of land, some of which have fallen as much as 40 percent. This weakness has created problems for Arizona real estate lenders. At the end of September 1988, 12 percent of real estate loans held by large commercial banks in Arizona were past due or on "nonaccrual." Largely due to these real estate loan problems, eight percent of total

Arizona bank loans fell into these "troubled" categories.

These problems are serious ones, but they remain smaller than the problems in regions that recently have endured real estate "crises." For one thing, single-family home prices have not fallen significantly. According to a survey published by Arizona State University, home prices during the first three quarters of 1988 averaged only 0.7 percent lower than their year-earlier level.

Moreover, while vacancy rates remain high, there are encouraging signs of declining rates. In December 1988, for example, Tucson and Phoenix both reported declines in some vacancy rates compared to a year earlier, although other categories of structures registered small increases.

Construction cycle

One reason for the weak construction and real estate activity is that, by 1985, the Arizona market was vastly overbuilt. To some extent, this overbuilding reflected a "construction cycle." For reasons that are not well understood, building activity during boom times often exceeds the market's ability to absorb new space. Typically, construction activity then slows down as existing space is absorbed, and resumes as the economy's growth catches up with past building activity. Arizona currently is in the slowdown stage of this cycle, and activity should pick up once existing capacity is absorbed.

Tax law changes

Another reason that the Arizona real estate markets were overbuilt was that, until 1986, the tax treatment of real estate limited partnerships tended to subsidize apartment and office construction. This was true in other parts of the country, as well, but in Arizona, these incentives to build

THE WESTERN ECONOMY

The Western Economy is a quarterly review of economic conditions in the Twelfth Federal Reserve District. It is published in the *Weekly Letter* on the third Friday of February, May, August and November.

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heightened the boom phase of the construction cycle. Enactment of the Tax Reform Act of 1986, which eliminated these real estate tax advantages, similarly aggravated the bust phase of the construction cycle in Arizona.

Slower population growth

Slowing population growth has been both a consequence of the construction slowdown and a reinforcing factor. Arizona's population grew at an average annual rate of 3.3 percent between 1982 and 1987, but that rate fell to an estimated 2.4 percent in 1988. To the extent builders did not anticipate this, such a slowdown probably increased the severity of the construction cycle.

Explanations for the slower population growth hinge on changes in migration patterns, since natural increase comprises only a small proportion of Arizona's population growth. Researchers at Arizona State University found that out-migration increased because some residents left the state in search of better economic opportunities, particularly in California, where the economy

was relatively healthier. Others point out that recent improvements in the economy of the Midwest, traditionally an important sending region for Arizona, have reduced the number of immigrants.

Whatever the cause of slower population growth, Arizona's population continues to grow rapidly by just about any standard except its own. Arizona's current population growth rate of 2.4 percent is more than twice the U.S. average.

Outlook

In the near future, Arizona's economy is likely to remain weak until the excess inventories of commercial and residential properties are worked off. Longer-term prospects are brighter, since population growth is still strong by most standards, and Arizona's basic attractions—its climate and its hospitable business environment—should continue to stimulate the State's economy. However, the robust pace of growth seen between 1970 and 1985 is not likely to be repeated over an extended period, since Arizona seems to have reached a more mature—and hence slower-growth—phase in its economic development.

Carolyn Sherwood-Call
Economist

District Conditions

1988 finished as a very strong year for the economies of most Twelfth District states. Brightening prospects in Idaho and Utah offset continued weakness in Alaska and Arizona, pushing employment growth in the District slightly above that of the nation in the fourth quarter when compared to the fourth quarter of 1987. Most sectors appear to be sharing in this growth, although fuel mining and finance, insurance, and real estate show District-wide weakness.

Manufacturing employment growth in the District moderated in the fourth quarter to 2.1 percent. Growth in the semiconductor industry slowed, with new orders trailing sales for the past four months. Slowing defense spending caused employment in California's missile and space sector to drop 1.5 percent over 1988, but strong commercial aircraft demand helped pick up the slack in aerospace generally.

Retail sales ended the year on a strong note thanks to a buying surge just before Christmas. Retail employment registered larger-than-normal increases for most states.

Services continued to post solid employment gains in much of the District. In Utah, employment in business services grew 10.9 percent and provided most of the state's new jobs in 1988. Led by strong growth in business services and tourism, service sector employment in Oregon increased over 6 percent during 1988.

Construction activity in the District was mixed. Nonresidential construction awards fell 17 percent in 1988, but the number of residential permits increased over 26 percent. Alaska and Arizona registered construction employment losses of 19 percent and 4 percent, respectively.

Non-fuel mining employment showed rapid growth over the year as prices increased strongly. In Idaho and Nevada, metal mining employment grew 50 percent and 30 percent, respectively. At the same time, oil drilling and exploration continued to fall off, although the rise in oil prices following the December OPEC accord should slow this trend.

Stephen O. Dean
Research Associate

DISTRICT INDICATORS

(SEASONALLY ADJUSTED)

	88Q4	88Q3	88Q2	88Q1	87Q4	87Q3	87Q2	87Q1	% CHANGE FROM:	
									88Q3	87Q4
AGRICULTURE										
U.S. CROP PRICES, 1985=100	112.5	110.5	104.1	102.5	100.4	99.2	99.4	95.6	1.85	12.07
DISTRICT CROP PRICES, 1985=100	112.0	111.4	92.8	98.4	103.8	99.5	102.0	97.7	0.48	7.86
FARM CASH RECEIPTS, MILLION \$	N/A	2309.1	2222.2	2332.9	2182.9	2129.0	2111.9	2059.4	N/A	N/A
CATTLE ON FEED, 1985=100	97.3	96.4	95.7	93.9	95.4	93.9	85.1	82.4	0.94	1.91
CATTLE PRICES, CALIFORNIA, \$/CWT.	59.5	61.4	63.4	61.6	57.8	58.0	56.4	52.4	-3.20	2.82
FORESTRY										
LUMBER PRODUCTION, MILLIONS BOARD FEET	1812.9	1547.1	1647.5	1718.1	1661.9	1687.1	1756.1	1806.5	17.18	9.09
NORTHWEST LUMBER INVENTORY, MIL. BOARD FEET	2580.9	2472.1	2502.5	2506.3	2474.2	2608.5	2642.4	2578.9	4.40	4.31
U.S. LUMBER PRICES, 1985=100	109.7	113.8	113.3	110.6	109.4	111.8	107.2	104.1	-3.65	0.20
ENERGY										
SPOT PRICE OF OIL, \$/BARREL	14.8	15.2	17.3	16.7	18.8	20.4	19.3	18.2	-2.63	-21.22
U.S. RIG COUNT	800.1	957.8	1061.7	973.8	1002.2	1037.5	880.0	810.5	-16.47	-20.17
DISTRICT RIG COUNT	65.8	93.4	96.9	79.1	99.5	102.9	82.6	60.1	-29.54	-33.84
FUEL MINING EMPLOYMENT, 1985=100	76.2	78.6	79.3	77.2	77.9	78.2	77.6	76.0	-3.05	-2.21
U.S. SEISMIC CREW COUNT	151.1	184.0	201.9	199.1	189.8	181.9	173.8	157.5	-17.84	-20.36
MINING										
MINERAL PRICES, 1985=100	179.3	149.0	153.5	152.6	146.8	130.3	120.2	106.9	20.32	22.14
METAL MINING EMPLOYMENT, 1985=100	159.2	156.1	148.8	141.4	131.8	126.8	119.7	111.7	1.98	20.77
CONSTRUCTION										
NONRESIDENTIAL AWARDS, MILLION \$	1333.5	1570.1	1318.7	1482.7	1608.1	1476.1	1504.2	1450.6	-15.07	-17.08
RESIDENTIAL PERMITS	36229	32725	30907	27923	28694	30783	30200	32517	10.71	26.26
WESTERN HOUSING STARTS, THOUSANDS	33.2	36.3	36.8	28.5	27.9	37.6	40.1	34.3	-8.72	18.74
CONSTRUCTION EMPLOYMENT, THOUSANDS	981.2	970.4	957.7	945.6	916.9	909.9	905.8	901.3	1.11	7.01
MANUFACTURING										
WAGES, CALIFORNIA, \$/HOUR	11.0	10.9	10.8	10.8	10.9	10.9	10.7	10.6	0.64	1.04
EMPLOYMENT, THOUSANDS	3120.7	3084.0	3086.1	3086.4	3056.1	3024.7	3004.1	2991.1	1.19	2.11
DURABLES, 1985=100	102.9	102.2	102.1	102.2	101.1	100.4	99.7	99.3	0.68	1.75
CONSTRUCTION DURABLES, 1985=100	111.1	108.2	109.7	110.8	108.4	107.6	107.4	107.1	2.69	2.44
AEROSPACE, 1985=100	117.0	115.9	115.6	115.9	114.7	113.4	112.2	111.1	0.99	2.02
ELECTRONICS, 1985=100	100.8	100.1	98.5	98.0	97.2	95.9	94.9	94.7	0.79	3.76
SEMICONDUCTOR ORDERS, MILLIONS \$, NOT S.A.	1066.0	1222.0	1269.0	1126.2	1056.8	967.3	980.7	912.4	-12.77	0.87
WHLS/RETAIL TRADE										
EMPLOYMENT, THOUSANDS	4568.1	4539.8	4495.5	4462.2	4383.9	4347.1	4306.4	4259.6	0.62	4.20
RETAIL SALES, PACIFIC DISTRICT, MIL. \$	21582	20738	20559	20615	20133	19722	19531	18947	4.07	7.20
SERVICES EMPLOYMENT, THOUSANDS										
HEALTH CARE, 1985=100	115.7	114.5	113.4	112.7	111.4	110.1	108.7	107.7	1.10	3.88
BUSINESS SERVICES, 1985=100	121.1	120.5	119.2	118.6	115.9	115.1	113.5	111.3	0.53	4.56
HOTEL, 1985=100	121.9	119.2	117.0	116.3	114.9	112.2	110.6	108.8	2.22	6.03
RECREATION, 1985=100	111.3	107.2	108.2	109.3	108.2	106.1	106.6	105.4	3.81	2.87
FINANCE, INSUR. AND REAL ESTATE EMPLOYMENT										
	1223.3	1221.9	1214.7	1215.8	1209.2	1204.5	1196.2	1182.6	0.11	1.17
GOVERNMENT EMPLOYMENT, THOUSANDS										
FEDERAL GOVERNMENT	613.7	607.2	606.1	610.3	609.9	605.3	605.2	601.0	1.07	0.62
STATE AND LOCAL	2640.6	2619.4	2598.0	2570.1	2551.1	2527.3	2502.3	2490.0	0.81	3.51

Data are weighted aggregates of available 12th District state data and are expressed as monthly rates unless otherwise noted. District Indicator data are constructed by FRBSF research staff from public and industry sources.

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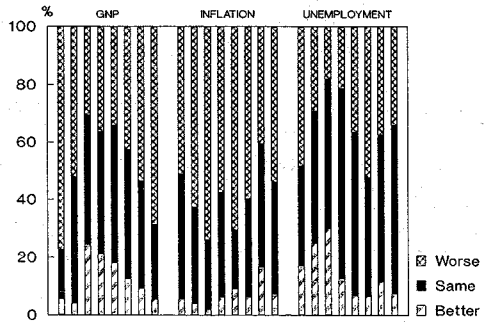
Alaska Arizona California Hawaii Idaho
Nevada Oregon Utah Washington

Research Department Federal Reserve Bank of San Francisco

PERSONAL INCOME
ANNUALIZED PERCENT GROWTH RATES

	PERSONAL INCOME					ANNUAL GROWTH RATE		
	88Q3	88Q2	88Q1	87Q4	87Q3	88 YTD	1987	1986
ALASKA	5.4	9.1	2.4	2.4	0.1	5.6	-0.6	-1.4
ARIZONA	7.8	7.9	-2.6	14.0	6.2	4.2	9.2	9.1
CALIFORNIA	11.1	10.3	1.3	12.2	6.5	7.5	9.5	7.5
HAWAII	10.2	9.2	6.3	13.5	9.2	8.5	9.7	7.9
IDAHO	7.4	12.5	10.8	-0.2	5.4	10.2	4.5	3.9
NEVADA	13.7	16.3	6.5	13.7	12.2	12.1	11.8	9.0
OREGON	10.8	9.9	7.3	8.7	6.7	9.3	7.6	5.8
UTAH	11.0	12.6	-0.7	9.3	3.4	7.4	6.6	3.3
WASHINGTON	11.8	8.3	8.7	10.3	5.5	9.6	5.9	8.8
12TH DIST.	10.8	10.1	2.4	11.6	6.4	7.7	8.8	7.4
U.S.	7.3	8.4	1.7	11.6	7.1	5.8	8.5	5.9

Twelfth District Business Sentiment Index*



* The index is constructed from a survey of approximately 75 business leaders in the 12th Federal Reserve District.

NON-AGRICULTURAL EMPLOYMENT
ANNUALIZED PERCENT GROWTH RATES

	NON-AGRICULTURAL EMPLOYMENT					ANNUAL GROWTH		
	88Q4	88Q3	88Q2	88Q1	87Q4	1988	1987	1986
ALASKA	6.7	-1.4	-5.8	1.4	4.9	0.2	-1.7	-6.4
ARIZONA	3.2	-0.1	-1.9	3.4	4.0	1.1	3.1	4.1
CALIFORNIA	3.1	2.9	2.5	5.3	3.3	3.5	3.6	2.5
HAWAII	2.7	1.5	1.6	4.7	7.4	2.7	3.8	2.6
IDAHO	7.0	1.7	1.0	4.4	3.2	3.6	1.0	-0.2
NEVADA	8.9	6.4	2.2	7.5	7.0	6.4	6.7	5.8
OREGON	6.9	4.7	0.9	6.9	3.8	4.9	3.5	2.7
UTAH	5.9	4.2	4.0	-0.8	2.8	3.7	1.3	1.0
WASHINGTON	6.3	4.0	3.7	4.8	5.4	4.8	4.5	3.6
12TH DIST.	4.1	3.0	2.1	5.0	3.8	3.6	3.5	2.6
U.S.	3.3	3.3	3.6	3.8	4.0	3.5	3.3	2.0

UNEMPLOYMENT RATES
AVERAGE QUARTERLY DATA

	UNEMPLOYMENT RATES					ANNUAL AVG.		
	88Q4	88Q3	88Q2	88Q1	87Q4	1988	1987	1986
ALASKA	9.2	8.8	8.9	9.3	10.1	9.1	10.8	10.9
ARIZONA	6.9	6.5	5.7	5.6	6.0	6.2	6.3	6.9
CALIFORNIA	5.0	5.4	5.7	5.2	5.4	5.3	5.7	6.7
HAWAII	3.1	3.0	2.9	3.5	3.8	3.1	4.0	4.9
IDAHO	5.6	5.5	6.3	7.4	7.3	6.2	8.0	8.8
NEVADA	4.6	5.3	5.7	6.0	6.0	5.4	6.3	6.0
OREGON	5.5	6.1	6.1	6.0	5.7	5.9	6.2	8.5
UTAH	4.9	4.7	5.0	5.5	5.9	5.0	6.4	6.0
WASHINGTON	5.9	6.7	6.6	7.0	7.4	6.5	7.6	8.2
12TH DIST.	5.3	5.6	5.8	5.5	5.8	5.5	6.1	7.0
U.S.	5.3	5.5	5.5	5.7	5.9	5.5	6.2	7.0