
FRBSF WEEKLY LETTER

November 17, 1989

Eastward, Ho!

Between 1980 and 1988, California's population grew by 20 percent, but growth varied widely within the state. The San Francisco Bay Area claimed three of the state's slowest growing counties: Marin, San Francisco, and San Mateo. None of these counties grew more than 10 percent during this eight-year period. The state's fastest-growing counties, in contrast, added population at rates at least double the statewide average. Three of California's fastest-growing large counties, El Dorado, Riverside, and San Bernardino, lie east of large metropolitan areas. Thus, inland areas of California seem to be experiencing the most rapid growth.

The logic behind this growth is compelling, both for firms and for individual households. Households find housing more affordable, and avoid the crime and smog of the big cities. Firms pay lower costs for land and labor, but still have access to large metropolitan markets. Many who live and work in these inland areas also avoid the long commutes that would be required if they worked in the larger metropolitan areas.

This *Letter* examines the geographical patterns of population and economic growth in California. It focusses on the differences in the cost of locating in different parts of the state, drawing some implications for future patterns in the state.

The conventional wisdom

Many argue that the high cost of housing is stifling growth in the San Francisco and Los Angeles areas. According to this argument, high housing costs discourage new migrants from locating in these high-cost areas, motivate current residents to "cash out" and move to areas where they can get more house for their money, and force downtown workers who lack substantial down payments to head further away from the city center to find affordable homes. Thus,

population growth should be slower in regions with higher home prices, and faster in regions with lower home prices.

Current relative home prices in different parts of California provide fuel for this argument. Median home prices in the Central Valley and Riverside-San Bernardino areas ranged between \$100,000 and \$125,000 during the spring of 1989. While these prices are not low compared to prices nationally, they compare very favorably to the statewide median of close to \$200,000, and to the \$250,000-plus price tags common on homes in nearby coastal areas.

A more complex relationship

Other things equal, it makes sense that households would tend to locate in regions where they face lower costs. However, other things are not equal. High-cost regions have high home prices because home buyers find these regions attractive and expect their economies to continue doing well. The specific attraction is likely to differ from one person to another; it could be a combination of job opportunities, weather, cultural or sporting opportunities, and scenery.

Because high home prices reflect fundamental *strengths* of a region and its economy, determining the extent to which high home prices are having a negative impact on the region's growth can be a difficult task. In fact, the statistical problems involved in correctly estimating the impact of housing prices on population growth are formidable. However, analysis of the simple relationship between the *level* of house prices and the *rate* of population growth in a given area may provide some indication whether the detrimental effects of high housing prices tend to outweigh the positive forces that are responsible for those high prices. If high house prices generally have had a detrimental effect on regional

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growth within California, regions with high house prices should have tended to experience relatively slower population growth.

During the 1950s and 1960s, there was a *positive* and statistically significant relationship between housing prices and growth. That is, regions with *higher* housing prices in the 1950s and 1960s tended to experience *more rapid* growth. This relationship evaporated during the 1970s; housing prices were completely uncorrelated with population growth. During the 1980s, home prices were *negatively* correlated with subsequent growth. That is, California counties that had *higher* housing prices in 1980 tended to experience *slower* rates of population growth between 1980 and 1989.

In light of these observations, one should be careful about claiming that high housing prices always stifle population growth. Regions that are healthy economically tend to have high housing prices, but they also provide economic opportunities that attract additional residents to the area. The effect of this strength can outweigh the detrimental effects of high housing costs, as the experience of the 1950s and 1960s suggests. Thus, high housing costs in the San Francisco and Los Angeles areas should be seen as a sign of fundamental *strength*, even though they may lead to some slowing of growth in these areas.

Business growth

The same factors that might attract people to low-cost areas also might attract firms. In outlying areas, firms can benefit from proximity to the huge markets the greater San Francisco and Los Angeles areas represent, while enjoying the considerably lower costs available outside those markets. Land costs are lower and land is more available. Labor costs also are lower. Fewer traffic snarls allow easier movement of people and materials to work locations.

Thus, it is not surprising that job growth in the 1980s has been rapid in the parts of California with fast-growing populations. During the four-year period from 1984 to 1988, employment expanded by 3.4 percent in California, but by more than six percent in El Dorado County and in the Riverside-San Bernardino area.

While lower-cost regions might be expected to attract business activity in general, the attractions are likely to be greater for some kinds of firms

than for others. Specifically, the lower-cost areas of the state are likely to be particularly attractive to manufacturing and back-office activities that require large amounts of space and are sensitive to labor costs. It's not surprising, therefore, that manufacturing employment in El Dorado County and in the Riverside-San Bernardino area grew at better than a six percent annual rate between 1984 and 1988, even though manufacturing employment statewide grew at an annual rate of only one percent.

A look ahead

Because the differences in land and housing costs remain large between the Los Angeles and San Francisco areas and the lower-cost regions adjacent to them, further rapid growth in the lower-cost parts of the state is likely. While the Los Angeles and San Francisco areas should continue growing, they are likely to grow more slowly than the lower-cost regions adjacent to them.

An even more likely prospect is that the regional specialization of activities within the state will continue. The Los Angeles and San Francisco areas will continue to specialize in high-value activities like finance, law, and research and development that are not particularly cost-sensitive and require the infrastructure of these major metropolitan areas. Activities that are more cost-sensitive, such as line manufacturing and back-office business services, in contrast, are likely to experience their greatest expansion in lower-cost areas, either within California or outside its borders.

These two observations suggest that California's Central Valley economy, in particular, will continue to grow and to diversify away from its traditional farming-oriented activities, developing a larger manufacturing and export-service base. It is worth noting, however, that growth in this inland area may bring problems as well as possibilities. As economic activity increases and land use becomes more intense, some of the advantages of the interior locations likely will be eroded. The kinds of growth control measures that have become prevalent in the San Francisco and Los Angeles areas could become more popular in the inland areas, as traffic and smog problems become more severe.

Carolyn Sherwood-Call
Economist

DISTRICT INDICATORS
(Seasonally Adjusted)

| | 89Q3 | 89Q2 | 89Q1 | 88Q4 | 88Q3 | 88Q2 | 88Q1 | 87Q4 | % CHANGE 89Q2 | FROM: 88Q3 |
|---|--------|--------|--------|--------|--------|--------|--------|--------|------------------|---------------|
| AGRICULTURE | | | | | | | | | | |
| U.S. CROP PRICES, 1985=100 | 111.8 | 115.2 | 116.7 | 112.4 | 111.4 | 102.4 | 102.2 | 100.2 | -2.92 | 0.32 |
| DISTRICT CROP PRICES, 1985=100 | 114.7 | 120.7 | 121.1 | 112.1 | 111.5 | 92.6 | 97.5 | 104.3 | -4.99 | 2.83 |
| FARM CASH RECEIPTS, MILLION \$ | 2671.1 | 2646.0 | 2565.3 | 2333.2 | 2318.2 | 2205.5 | 2365.5 | 2210.2 | 0.95 | 15.22 |
| CATTLE ON FEED, 1985=100 | 92.1 | 90.0 | 93.1 | 96.6 | 95.9 | 96.5 | 94.1 | 94.8 | 2.28 | -3.97 |
| CATTLE PRICES, CALIFORNIA, \$/CWT. | 63.0 | 61.8 | 61.7 | 60.1 | 61.4 | 63.4 | 61.6 | 57.8 | 1.94 | 2.55 |
| FORESTRY | | | | | | | | | | |
| LUMBER PRODUCTION, MILLIONS BOARD FEET | 1815.7 | 1652.4 | 1575.1 | 1806.2 | 1547.1 | 1647.5 | 1718.1 | 1661.9 | 9.89 | 17.36 |
| NORTHWEST LUMBER INVENTORY, MIL. BOARD FEET | 2543.6 | 2447.8 | 2421.3 | 2568.1 | 2462.1 | 2504.1 | 2522.0 | 2462.7 | 3.92 | 3.31 |
| U.S. LUMBER PRICES, 1986=100 | 123.9 | 119.3 | 122.2 | 122.5 | 121.3 | 123.9 | 121.7 | 121.6 | 3.91 | 2.21 |
| ENERGY | | | | | | | | | | |
| SPOT PRICE OF OIL, \$/BARREL | 19.3 | 20.5 | 18.5 | 14.8 | 15.2 | 17.3 | 16.7 | 18.8 | -6.03 | 26.80 |
| U.S. RIG COUNT | 900.7 | 891.6 | 772.8 | 800.1 | 957.8 | 1061.7 | 973.8 | 1002.2 | 1.02 | -5.96 |
| DISTRICT RIG COUNT | 71.1 | 69.5 | 67.1 | 65.8 | 93.4 | 96.9 | 79.1 | 99.5 | 2.38 | -23.89 |
| FUEL MINING EMPLOYMENT, 1985=100 | 81.7 | 79.7 | 77.8 | 79.1 | 82.7 | 83.4 | 81.4 | 82.0 | 2.50 | -1.26 |
| U.S. SEISMIC CREW COUNT | 131.3 | 130.3 | 135.4 | 151.1 | 184.0 | 201.9 | 199.1 | 189.8 | 0.78 | -28.60 |
| MINING | | | | | | | | | | |
| MINERAL PRICES, 1986=100 | 129.4 | 136.9 | 150.4 | 146.7 | 135.2 | 136.9 | 136.4 | 138.5 | -5.49 | -4.25 |
| METAL MINING EMPLOYMENT, 1985=100 | 179.8 | 176.5 | 174.1 | 166.7 | 161.1 | 154.3 | 146.1 | 137.5 | 1.89 | 11.61 |
| CONSTRUCTION | | | | | | | | | | |
| NONRESIDENTIAL AWARDS | 1637.9 | 1518.7 | 1438.0 | 1338.0 | 1543.1 | 1262.6 | 1463.8 | 1608.1 | 7.85 | 6.14 |
| RESIDENTIAL PERMITS | 30430 | 30763 | 31470 | 36229 | 32725 | 30907 | 27923 | 28694 | -1.08 | -7.01 |
| WESTERN HOUSING STARTS, THOUSANDS | 35.1 | 37.7 | 29.6 | 33.0 | 36.3 | 36.8 | 28.5 | 27.9 | -6.98 | -3.39 |
| CONSTRUCTION EMPLOYMENT, THOUSANDS | 1004.3 | 991.1 | 987.1 | 966.8 | 946.2 | 933.7 | 920.0 | 906.8 | 1.33 | 6.13 |
| MANUFACTURING | | | | | | | | | | |
| WAGES, CALIFORNIA, \$/HOUR | 11.2 | 11.1 | 11.0 | 11.0 | 10.9 | 10.8 | 10.8 | 10.9 | 1.02 | 3.09 |
| EMPLOYMENT, THOUSANDS | 3159.0 | 3156.2 | 3157.4 | 3136.4 | 3103.5 | 3101.1 | 3089.2 | 3056.3 | 0.09 | 1.79 |
| DURABLES, 1985=100 | 104.3 | 104.2 | 104.3 | 103.5 | 102.7 | 102.5 | 102.3 | 101.5 | 0.14 | 1.57 |
| CONSTRUCTION DURABLES, 1985=100 | 113.1 | 112.5 | 114.1 | 112.5 | 110.0 | 111.2 | 111.4 | 110.1 | 0.55 | 2.78 |
| AEROSPACE, 1985=100 | 119.1 | 118.1 | 116.8 | 115.4 | 114.2 | 113.6 | 113.6 | 112.4 | 0.84 | 4.33 |
| ELECTRONICS, 1985=100 | 99.6 | 99.4 | 99.9 | 100.4 | 99.1 | 97.8 | 97.0 | 95.2 | 0.14 | 0.49 |
| SEMICONDUCTOR ORDERS, MILLIONS \$, NOT S.A. | 1173.0 | 1300.0 | 1300.0 | 1066.0 | 1222.0 | 1269.0 | 1126.2 | 1056.8 | -9.77 | -4.01 |
| WHLS/RETAIL TRADE EMPLOYMENT, THOUSANDS | 4676.5 | 4642.6 | 4629.5 | 4561.3 | 4531.2 | 4485.8 | 4452.5 | 4407.5 | 0.73 | 3.20 |
| RETAIL SALES, PACIFIC DISTRICT, MIL. \$ | 23393 | 23053 | 22484 | 22038 | 21007 | 20795 | 20813 | 20133 | 1.48 | 11.36 |
| SERVICES EMPLOYMENT, THOUSANDS | | | | | | | | | | |
| HEALTH CARE, 1985=100 | 118.3 | 117.1 | 116.2 | 115.5 | 114.3 | 113.3 | 112.4 | 111.5 | 1.00 | 4.05 |
| BUSINESS SERVICES, 1985=100 | 130.2 | 128.4 | 128.6 | 127.1 | 126.3 | 124.7 | 122.2 | 119.5 | 1.41 | 3.09 |
| HOTEL, 1985=100 | 127.5 | 126.2 | 125.4 | 125.2 | 122.2 | 120.3 | 119.5 | 118.1 | 0.99 | 4.31 |
| RECREATION, 1985=100 | 110.7 | 111.6 | 110.9 | 108.5 | 104.6 | 105.8 | 106.6 | 108.5 | -0.83 | 5.85 |
| FINANCE, INSUR. AND REAL ESTATE EMPLOYMENT | | | | | | | | | | |
| | 1236.7 | 1227.5 | 1227.0 | 1220.3 | 1214.4 | 1208.9 | 1205.7 | 1202.1 | 0.75 | 1.83 |
| GOVERNMENT EMPLOYMENT, THOUSANDS | | | | | | | | | | |
| FEDERAL GOVERNMENT | 623.8 | 625.8 | 627.8 | 620.1 | 613.9 | 611.9 | 613.2 | 613.9 | -0.32 | 1.62 |
| STATE AND LOCAL | 2707.9 | 2664.5 | 2644.5 | 2622.1 | 2599.0 | 2576.2 | 2552.0 | 2537.9 | 1.63 | 4.19 |

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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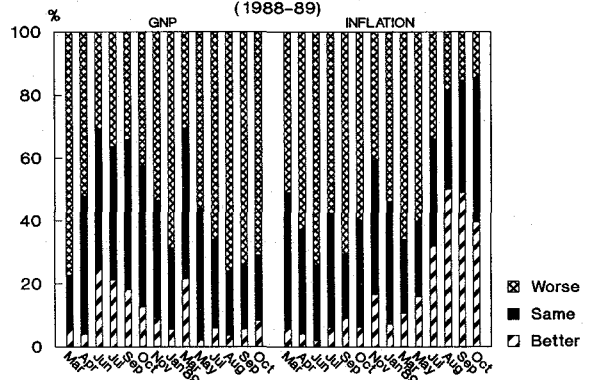
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PERSONAL INCOME ANNUALIZED PERCENT GROWTH RATES

| | 89Q2 | 89Q1 | 88Q4 | 88Q3 | 88Q2 | ANNUAL GROWTH | | |
|---------------|------|------|------|------|------|---------------|------|------|
| | | | | | | 1989* | 1988 | 1987 |
| ALASKA | 13.9 | 11.0 | 5.8 | 1.9 | 11.2 | 12.4 | 4.3 | -0.2 |
| ARIZONA | 8.8 | 5.9 | 9.4 | 10.0 | 9.6 | 7.3 | 7.0 | 9.8 |
| CALIFORNIA | 12.1 | 2.0 | 12.2 | 12.3 | 9.7 | 6.9 | 9.5 | 8.8 |
| HAWAII | 11.0 | 3.7 | 15.8 | 10.8 | 8.5 | 7.3 | 10.3 | 8.7 |
| IDAHO | 7.4 | 6.5 | 14.5 | 7.9 | 12.9 | 6.9 | 10.6 | 4.1 |
| NEVADA | 13.3 | 6.3 | 16.2 | 15.2 | 13.3 | 9.8 | 13.8 | 11.2 |
| OREGON | 11.1 | 4.1 | 14.0 | 7.6 | 10.9 | 7.5 | 10.0 | 7.4 |
| UTAH | 10.9 | 1.0 | 14.1 | 7.3 | 11.8 | 5.9 | 7.9 | 6.9 |
| WASHINGTON | 9.7 | 12.3 | 11.0 | 6.5 | 8.9 | 11.0 | 7.9 | 6.5 |
| 12TH DISTRICT | 11.5 | 3.6 | 12.2 | 11.0 | 9.9 | 7.5 | 9.2 | 8.4 |
| U.S. | 8.5 | 6.4 | 11.1 | 8.2 | 8.3 | 7.4 | 7.8 | 8.5 |

* Year-to-date

Twelfth District Business Sentiment Index* (1988-89)



* 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

| | 89Q3 | 89Q2 | 89Q1 | 88Q4 | 88Q3 | ANNUAL GROWTH | | |
|---------------|------|------|------|------|------|---------------|------|------|
| | | | | | | 1989* | 1988 | 1987 |
| ALASKA | 5.3 | 7.3 | 2.8 | 3.6 | 0.3 | 5.2 | 1.9 | -2.2 |
| ARIZONA | 2.0 | 1.3 | 2.0 | 2.8 | 0.1 | 1.8 | 1.1 | 3.1 |
| CALIFORNIA | 2.7 | 0.7 | 4.3 | 3.1 | 3.1 | 2.6 | 3.2 | 3.8 |
| HAWAII | 3.5 | 2.7 | 3.7 | 2.9 | 2.9 | 3.3 | 3.1 | 5.7 |
| IDAHO | 4.6 | 2.4 | 3.3 | 4.7 | 4.0 | 3.4 | 5.1 | 1.0 |
| NEVADA | 5.5 | 2.6 | 6.4 | 10.5 | 7.4 | 4.9 | 8.0 | 7.3 |
| OREGON | 2.4 | 1.7 | 6.5 | 8.2 | 4.7 | 3.5 | 5.3 | 3.5 |
| UTAH | 5.4 | 5.3 | 1.3 | 5.2 | 3.2 | 4.1 | 4.2 | 1.4 |
| WASHINGTON | 3.1 | 3.9 | 6.1 | 6.7 | 2.7 | 4.4 | 4.3 | 5.5 |
| 12TH DISTRICT | 2.9 | 1.5 | 4.3 | 4.1 | 3.0 | 2.9 | 3.5 | 3.8 |
| U.S. | 2.1 | 2.4 | 3.3 | 3.1 | 3.0 | 2.6 | 3.2 | 3.1 |

* Year-to-date

UNEMPLOYMENT RATES AVERAGE QUARTERLY DATA

| | 89Q3 | 89Q2 | 89Q1 | 88Q4 | 88Q3 | ANNUAL AVERAGE | | |
|---------------|------|------|------|------|------|----------------|------|------|
| | | | | | | 1989* | 1988 | 1987 |
| ALASKA | 7.6 | 7.5 | 8.5 | 9.0 | 8.8 | 7.9 | 9.0 | 10.8 |
| ARIZONA | 5.8 | 5.1 | 5.8 | 6.2 | 6.8 | 5.6 | 6.3 | 6.3 |
| CALIFORNIA | 5.0 | 5.5 | 4.8 | 5.0 | 5.3 | 5.1 | 5.3 | 5.7 |
| HAWAII | 2.0 | 3.2 | 3.6 | 3.2 | 3.0 | 2.9 | 3.1 | 3.9 |
| IDAHO | 5.1 | 5.2 | 5.5 | 5.5 | 5.5 | 5.3 | 6.2 | 8.0 |
| NEVADA | 5.3 | 5.2 | 5.5 | 4.3 | 4.9 | 5.4 | 5.1 | 6.3 |
| OREGON | 5.3 | 5.4 | 5.5 | 5.1 | 6.0 | 5.4 | 5.8 | 6.2 |
| UTAH | 4.0 | 4.4 | 4.3 | 4.1 | 5.1 | 4.3 | 4.9 | 6.3 |
| WASHINGTON | 5.8 | 5.7 | 6.0 | 5.7 | 6.3 | 5.8 | 6.1 | 7.6 |
| 12TH DISTRICT | 5.1 | 5.4 | 5.1 | 5.1 | 5.6 | 5.2 | 5.5 | 6.1 |
| U.S. | 5.2 | 5.3 | 5.2 | 5.3 | 5.5 | 5.2 | 5.5 | 6.2 |

* Year-to-date