FRBSF WEEKLY LETTER

August 18, 1989

Why Do Regional Economies Differ?

Regional economies differ significantly from each other, but it is not always clear why. Most economists have focussed on natural resource endowments or a region's infrastructure to explain differences among regional economies. More recently, some regional economists have emphasized the role of technology and price shocks in shaping regional economies.

In this *Letter,* we compare the development of the Washington and Oregon economies in an effort to shed some light on this debate. These two states, which began with similar resource endowments, developed into very different economies. Oregon remains more oriented toward natural resource industries, while Washington's economy has become larger and more industrial. This comparison suggests that an area's resource endowments and existing infrastructure do play a role in shaping its economy, but fundamental changes in orientation can occur as a result of unpredictable events.

Comparing the two economies

The natural resource endowments of Washington and Oregon are relatively similar—at least in comparison to most other states. Both have large forests of prime, old-growth timber, fertile farmland, abundant water, and ocean ports. Many differences exist, but these differences provide few clear advantages to either state. For example, Seattle's deep Puget Sound provides better access to large ocean vessels, but the Cascade Mountains separate it from nearby agricultural regions, and the ocean trip to the California market is longer from Seattle than it is from Portland. For Portland, the Columbia and Willamette Valleys provide relatively easy overland access to nearby resource-rich areas, but the shallow Columbia River must be dredged to allow access to large ocean-going vessels.

Despite their similar resource endowments, today the differences between the two economies are significant. Important differences have emerged in the industrial structures of the two states, largely due to the presence of the aerospace industry in Washington. Whereas transportation equipment accounted for 5.9 percent of Washington's Gross State Product (GSP) in 1986, it comprised only 0.6 percent of Oregon's GSP. Conversely, resource products and processing, primarily lumber and wood products and agriculture, accounted for 15.1 percent of Oregon's GSP, much more than their 10.3 percent share in Washington's GSP.

Natural resource endowments

Natural resource endowments help to explain some of the differences as well as the similarities of the two economies. For example, these two states' large stands of prime timber and abundant water, which provides a low-cost source of energy for aluminum production, explain why lumber and aluminum production are a larger share of output in both of these states than in the rest of the nation.

Some differences in the development of the two states' economies also can be attributed to differences in their natural endowments. For example, Washington has a large share of its agricultural production in the eastern half of the state, which is best suited for wheat and grains. In contrast, the Willamette Valley accounts for a large share of Oregon's agricultural production, and is better suited to production of fruits and vegetables. Moreover, because of differences in the ports, overland trade was more important for Oregon's early development, while ocean trade with San Francisco dominated the early development of Seattle.

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.

Two key events

Natural resource endowments, however, cannot explain why the two states' economies have taken such divergent paths. Instead, two events in the late-19th and early-20th centuries appear to have played a major role in shaping the subsequent development of the Oregon and Washington economies: the arrival of railroads and the development of the Boeing Company in Seattle.

Railroads arrived in Portland and Seattle at virtually the same time in the 1880s. The railroads improved both cities' access to overland transportation, reducing Portland's previous advantage. In this setting, Seattle, which already had developed strong, ocean-going trading ties to San Francisco and Alaska, rose in importance as a center of trade and surpassed Portland as the major financial and trading center in the Pacific Northwest. The Alaskan gold rush in 1897 augmented Seattle's status in this regard.

The second event that helped differentiate the two economies was the establishment of the Boeing Company in Seattle. William Boeing chose to begin manufacturing aircraft in his hometown in 1916. During World War II, Boeing's employment rose from 4,000 employees to a peak of 50,000. Employment dropped immediately following the war, but Boeing remained a dominant manufacturer of aircraft, and employment remained three times its pre-war level. The aerospace industry transformed Washington into an industrial power, creating a strong technical and engineering infrastructure.

Implications

The contrast between Oregon and Washington provides some useful lessons about regional economic development. Although Oregon's economic development has tended to support the popular view that an economy's character largely is determined by the region's initial endowments of natural resources, the experience of Washington suggests that unpredictable events unrelated to natural resource endowments can be decisive in shaping a region's economy.

William Boeing's decision to locate his company in Seattle is one such unpredictable event. In addition, the company's very rapid growth has been the result of successful risk taking. But other companies taking similar risks often fail, and the differences between success and failure frequently are a matter of luck.

Public policy and investment also seem to play a role in the process of economic development. Government subsidies that helped to bring the railroads to the Pacific Northwest apparently allowed Seattle to create a comparative advantage in trade by improving its limited overland access. Other regions also have used public policy to encourage investments that would hone their regional comparative advantages. In Memphis, for example, investment in transportation has made that city a major transportation center.

Moreover, public policy has been influential in spurring the expansion of Boeing, and thereby, the Washington economy. The company has flourished in part because of federal defense expenditures on the aerospace industry, especially during and after World War II. Boeing's presence in Washington, combined with powerful Senatorial representation, helped the state garner a disproportionately large share of Defense Department contract awards. For example, in 1986, the value of Defense Department contracts awarded in Washington was 8½ times the value awarded to Oregon contractors, even though Washington's economy was less than twice as large as Oregon's.

These examples suggest that a region's ability to capitalize on unpredictable events, as well as its natural resource endowments, are important sources of differences among regional economies. In some cases, an unpredictable event will work to enhance a region's natural resource endowments, as happened to Seattle when the railroads were introduced in the 1880s. In other instances, it simply may be a matter of being in the right place at the right time, as was true for the establishment of Boeing in Washington.

Economic development, therefore, seems to be the result of a confluence of factors, not the least of which is luck. Policy makers concerned with economic development can design policies that attempt to provide adequate physical and human infrastructure, and they can try to recognize and promote the opportunities that arise. However, there is no guarantee that the opportunities for which the region is positioned will in fact arise.

Ronald H. Schmidt
Senior Economist

Carolyn Sherwood-Call
Economist

DISTRICT INDICATORS
(Seasonally Adjusted)

	89Q2	89Q1	88Q4	88Q3	88Q2	88Q1	87Q4	87Q3	% CHANGE FROM: 89Q1	% CHANGE FROM: 88Q2
AGRICULTURE										
U.S. CROP PRICES, 1985=100	115.3	116.7	112.2	111.3	102.7	102.2	100.1	99.0	-1.24	12.29
DISTRICT CROP PRICES, 1985=100	122.1	121.5	111.9	110.4	93.1	97.8	104.1	98.8	0.53	31.15
FARM CASH RECEIPTS, MILLION $	N/A	2395.9	2331.5	2274.7	2154.4	2288.2	2182.9	2129.0	N/A	N/A
CATTLE ON FEED, 1985=100	90.1	93.1	96.4	96.1	96.6	94.1	94.6	93.8	-3.18	-6.70
CATTLE PRICES, CALIFORNIA, $/CWT.	62.1	61.7	60.1	61.4	63.4	61.6	57.8	58.0	0.65	-2.00
FORESTRY										
LUMBER PRODUCTION, MILLIONS BOARD FEET	1496.0	1575.1	1806.2	1547.1	1647.5	1718.1	1661.9	1687.1	-5.02	-9.20
NORTHWEST LUMBER INVENTORY, MIL. BOARD FEET	2358.0	2415.7	2574.6	2473.1	2493.4	2516.5	2470.1	2609.3	-2.39	-5.43
U.S. LUMBER PRICES, 1986=100	119.3	122.2	122.5	121.3	123.9	121.7	121.6	125.5	-2.42	-3.74
ENERGY										
SPOT PRICE OF OIL, $/BARREL	20.5	18.5	14.8	15.2	17.3	16.7	18.8	20.4	10.85	18.54
U.S. RIG COUNT	891.6	772.8	800.1	957.8	1061.7	973.8	1002.2	1037.5	15.38	-16.02
DISTRICT RIG COUNT	69.5	67.1	65.8	93.4	96.9	79.1	99.5	102.9	3.52	-28.33
FUEL MINING EMPLOYMENT, 1985=100	79.7	77.8	79.1	82.7	83.4	81.4	82.0	79.5	2.38	-4.44
U.S. SEISMIC CREW COUNT	130.3	135.4	151.1	184.0	201.9	199.1	189.8	181.9	-3.74	-35.47
MINING										
MINERAL PRICES, 1986=100	124.6	136.8	133.4	123.0	124.5	124.1	126.0	119.7	-8.96	0.01
METAL MINING EMPLOYMENT, 1985=100	176.0	174.1	166.7	161.1	154.3	146.1	137.5	130.5	1.10	14.08
CONSTRUCTION										
NONRESIDENTIAL AWARDS	1500.7	1437.9	1341.7	1568.0	1262.6	1463.8	1608.1	1476.1	4.37	18.85
RESIDENTIAL PERMITS	30763	31470	36229	32725	30907	27923	28694	30783	-2.25	-0.47
WESTERN HOUSING STARTS, THOUSANDS	37.5	29.6	33.0	36.3	36.8	28.5	27.9	37.6	26.55	1.99
CONSTRUCTION EMPLOYMENT, THOUSANDS	989.8	987.2	966.8	946.2	933.7	920.0	906.8	900.9	0.27	6.01
MANUFACTURING										
WAGES, CALIFORNIA, $/HOUR	11.1	11.0	11.0	10.9	10.8	10.8	10.9	10.8	0.91	3.21
EMPLOYMENT, THOUSANDS	3155.8	3157.4	3136.4	3103.5	3101.1	3089.2	3056.3	3033.8	-0.05	1.76
DURABLES, 1985=100	104.2	104.3	103.5	102.7	102.5	102.3	101.5	100.7	-0.11	1.60
CONSTRUCTION DURABLES, 1985=100	112.5	114.1	112.5	110.0	111.2	111.4	110.1	109.1	-1.42	1.15
AEROSPACE, 1985=100	118.1	116.8	115.4	114.2	113.6	113.6	112.4	112.1	1.06	3.92
ELECTRONICS, 1985=100	99.4	99.9	100.4	99.1	97.8	97.0	95.2	94.7	-0.49	1.64
SEMICONDUCTOR ORDERS, MILLIONS $, NOT S.A.	1300.0	1300.0	1066.0	1222.0	1269.0	1126.2	1056.8	967.3	0.00	2.44
WHLS/RETAIL TRADE EMPLOYMENT, THOUSANDS	4643.2	4629.5	4561.3	4531.2	4485.9	4452.5	4407.5	4362.0	0.29	3.51
RETAIL SALES, PACIFIC DISTRICT, MIL. $	22666	22484	22038	21007	20795	20813	20133	19722	0.81	9.00
SERVICES EMPLOYMENT, THOUSANDS	4941.8	4912.3	4862.6	4796.0	4746.6	4691.7	4640.0	4577.9	0.60	4.11
HEALTH CARE, 1985=100	117.1	116.2	115.5	114.3	113.3	112.4	111.5	110.2	0.71	3.30
BUSINESS SERVICES, 1985=100	128.4	128.6	127.1	126.3	124.7	122.2	119.5	117.2	-0.11	2.98
HOTEL, 1985=100	126.3	125.4	125.2	122.2	120.3	119.5	118.1	115.1	0.73	5.00
RECREATION, 1985=100	111.4	110.9	108.5	104.6	105.8	106.6	108.5	106.3	0.43	5.28
FINANCE, INSUR. AND REAL ESTATE EMPLOYMENT	1227.5	1227.0	1220.3	1214.4	1209.0	1205.7	1202.1	1200.9	0.04	1.53
GOVERNMENT EMPLOYMENT, THOUSANDS										
FEDERAL GOVERNMENT	625.8	627.8	620.1	613.9	611.9	613.2	613.9	607.3	-0.33	2.27
STATE AND LOCAL	2662.1	2644.8	2622.3	2598.8	2582.7	2552.0	2537.9	2514.8	0.65	3.08

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.

Research Department
Federal Reserve
Bank of
San Francisco

P.O. Box 7702
San Francisco, CA 94120

PERSONAL INCOME
ANNUALIZED PERCENT GROWTH RATES

	89Q1	88Q4	88Q3	88Q2	88Q1	ANNUAL GROWTH 1989*	1988	1987
ALASKA	12.1	4.5	3.9	8.5	2.1	12.1	4.7	-0.4
ARIZONA	6.3	11.7	11.5	12.6	-1.2	6.3	8.5	9.2
CALIFORNIA	5.0	16.4	13.1	9.4	0.2	5.0	9.6	9.4
HAWAII	5.1	20.1	9.0	8.4	5.3	5.1	10.5	9.6
IDAHO	10.0	11.2	6.2	10.8	7.5	10.0	8.9	4.3
NEVADA	11.4	19.1	15.3	14.3	5.8	11.4	13.5	11.9
OREGON	7.0	14.9	5.6	8.9	6.1	7.0	8.8	7.6
UTAH	2.1	14.4	9.2	11.4	-2.0	2.1	8.1	6.6
WASHINGTON	13.3	10.4	6.2	8.0	6.6	13.3	7.8	6.0
12TH DISTRICT	6.2	15.3	11.5	9.6	1.4	6.2	9.3	8.7
U.S.	9.8	12.6	8.4	7.5	2.1	9.8	7.6	8.7

* Year-to-date

NON-AGRICULTURAL EMPLOYMENT
ANNUALIZED PERCENT GROWTH RATES

	89Q2	89Q1	88Q4	88Q3	88Q2	ANNUAL GROWTH 1989*	1988	1987
ALASKA	7.2	2.8	3.6	0.3	2.3	5.0	1.9	-2.2
ARIZONA	1.1	2.0	2.8	0.1	-0.7	1.5	1.1	3.1
CALIFORNIA	0.7	4.3	3.1	3.1	3.1	2.5	3.2	3.8
HAWAII	2.6	3.7	2.9	2.9	5.4	3.2	3.1	5.7
IDAHO	2.4	3.3	4.7	4.0	5.5	2.8	5.1	1.0
NEVADA	2.2	6.4	10.5	7.4	5.9	4.3	8.0	7.3
OREGON	1.9	6.5	8.2	4.7	0.9	4.2	5.3	3.5
UTAH	5.2	1.3	5.2	3.2	6.2	3.3	4.2	1.4
WASHINGTON	3.9	6.1	6.7	2.7	4.9	5.0	4.3	5.5
12TH DISTRICT	1.5	4.3	4.1	3.0	3.1	2.9	3.5	3.8
U.S.	2.4	3.3	3.1	3.0	3.2	2.9	3.2	3.1

* Year-to-date

UNEMPLOYMENT RATES
AVERAGE QUARTERLY DATA

	89Q2	89Q1	88Q4	88Q3	88Q2	ANNUAL AVERAGE 1989*	1988	1987
ALASKA	7.5	8.5	9.0	8.8	8.9	8.0	9.0	10.8
ARIZONA	5.1	5.8	6.2	6.8	6.5	5.5	6.3	6.3
CALIFORNIA	5.5	4.8	5.0	5.3	5.6	5.2	5.3	5.7
HAWAII	3.2	3.6	3.2	3.0	3.4	3.4	3.1	3.9
IDAHO	5.2	5.5	5.5	5.5	6.3	5.3	6.2	8.0
NEVADA	5.2	5.5	4.3	4.9	5.5	5.3	5.1	6.3
OREGON	5.4	5.5	5.1	6.0	6.1	5.5	5.8	6.2
UTAH	4.6	4.3	4.1	5.1	4.9	4.5	4.9	6.3
WASHINGTON	5.7	6.0	5.7	6.3	6.2	5.8	6.1	7.6
12TH DISTRICT	5.4	5.1	5.1	5.6	5.7	5.3	5.5	6.1
U.S.	5.3	5.2	5.3	5.5	5.5	5.2	5.5	6.2

* Year-to-date