FRBSF WEEKLY LETTER
March 4, 1988

The West's Role in Agricultural Production

As a source of income, agriculture has fallen sharply in importance in the states of the Twelfth Federal Reserve District (Alaska, Arizona, California, Hawaii, Idaho, Nevada, Oregon, Utah, and Washington). Farm income did rise in 1987 because of major government crop and livestock reduction programs. Despite this rise, income from farming during the first half of the year accounted for only 1.3 percent of real personal income in the District compared to 2.5 percent in 1960.

This decline in relative importance, however, masks the significance of the western states' contribution to national agricultural production. Indeed, the West's share of national agricultural receipts has been rising. Moreover, the trends toward diversification and development of specialty products which are most prominent in the West are likely to keep the prospects for agriculture brighter here than in the rest of the nation.

Contribution to state income

Agricultural output in the Twelfth District has increased sharply in the post-World War II economy, although agricultural income has not. Farm productivity rose 86 percent in the Pacific Region (California, Oregon, and Washington) between 1960 and 1985. After adjusting for inflation, however, the Department of Commerce reports that real farm income has risen only 53 percent in the District since 1960. The dramatic productivity gains were offset by weakening real commodity prices and rising production costs.

By contrast, total real personal income in the West has tripled during this same period. Consequently, as shown in Chart 1, the share of income contributed by agriculture has fallen in the western states.

The agriculture sector's importance to the West is enhanced slightly when employment in food packing and processing — activities typically located near agricultural production — is considered. Employment in manufacturing of food and kindred products totaled 309,700 in the District in July of 1987 — or 1.7 percent of nonagricultural District employment.

In terms of relative importance, however, employment in food and kindred manufacturing in the West did not differ much from that in the nation. It made up only a slightly larger share of nonagricultural employment in Hawaii and Oregon than nationwide. California, Utah, and Washington all had about the national average of 1.9 percent of nonagricultural employment in that industry, while Arizona and Nevada had smaller food processing shares of employment than did the nation. Only in Alaska and Idaho, with employment shares of 6.7 and 4.8 percent, respectively, is the industry large compared to the national average. Furthermore, in the case of Alaska, most of the food processing is associated with fish packing rather than agricultural products.

Importance to national agriculture

Although agriculture has fallen in importance relative to nonagricultural enterprises, the West's agricultural sector has fared well in comparison to the rest of the nation. For example, the District's share of U.S. cash receipts from crops and livestock has risen from 13 percent in 1949 to over 17 percent in 1986.

The West's rising share of national agricultural receipts has allowed real farm income to rise, even though national farm income has declined. Between 1960 and 1986, the Department of Agriculture reported that while real farm income in the District rose slowly, real farm income in the nation actually declined 10 percent. This gain in income is especially significant because Twelfth District farmers have received a smaller share of government support payments. Because fewer District products are covered by government programs, the share of farm income provided by government payments has averaged just 10 percent between 1980 and 1986 compared to a national average share of 24 percent.

Although the District's share of national farm income has been rising, the District's role in national agriculture is unremarkable on a per capita basis. As shown in Figure 2, the share of U.S. agricultural crop and livestock receipts and the share of national population are virtually identical in most District states. Only Alaska and

Idaho had significant differences in per capita receipts from the national average.

The importance of the West to national agriculture, therefore, is not in its per capita contribution. Based on those aggregate figures, it would be tempting to claim that western agriculture is relatively unimportant in national production in the sense that the area is merely self-sufficient. In fact, the District is very important to the rest of the nation's food supply because of its diversity and its expanding list of specialty products.

The states of the Twelfth District can be grouped generally into 3 categories in terms of their agricultural composition. Alaska, California, Hawaii, Oregon, and Washington are primarily crop producers. In 1986, cash receipts from crops in those states ranged from 65 to 85 percent of their total cash receipts, with the remainder accounted for by livestock production. In contrast, Utah and Nevada relied most heavily on livestock, with Utah deriving 75 percent of its cash receipts from livestock and Nevada having 65 percent. Arizona and Idaho fall into a third group (with 46 and 42 percent of their receipts from livestock, respectively) that is close to the national average of 49 percent of cash receipts from livestock.

Production is highly dissimilar among these groups, however. Among the crop-intensive producing states, Alaska specializes in greenhouse products; California produces cotton, grapes, tomatoes, almonds, and citrus fruits; Hawaii specializes in sugar cane, pineapples, and papayas; Oregon produces wheat, greenhouse products, potatoes, onions, and grass seed; and Washington is strongest in wheat, apples, and potatoes. Among the livestock producers, Nevada's production is concentrated almost exclusively in cattle and dairy, whereas Utah also gets a significant share of its cash receipts from the sale of turkeys and sheep.

Even in Arizona and Idaho, where the balance of crop and livestock activity is similar to that in the nation, there are major differences in the product mix relative to that of the nation. Arizona produces a far larger than average share of cotton, hay, and lettuce than does the rest of the nation, whereas Idaho has a clear comparative advantage in potatoes, barley, sugar beets, hay, and onions.

Role of specialty products

The importance of the West's agriculture to the rest of the nation is particularly visible in its production of specialty crops. California, for example, reported income from the sale of over 250 varieties of crops and livestock in 1985. Although the major sources of cash receipts in California were cattle, milk production, and cotton, 18.7 percent of cash receipts came from the production of 22 specialty crops of which California contributed more than 70 percent of the nation's supply. In fact, in 1985 California accounted for better than 95 percent of national production in almonds, apricots, avocados, dates, figs, kiwifruit, nectarines, olives, pistachios, pomegranates, prunes, and walnuts.

Similarly, Hawaii produces virtually all of the nation's domestic pineapples, papayas, macadamia nuts, coffee, and bananas; Oregon produces nearly all of the nation's grass seed, blackberries, and filberts; and Washington accounts for over 70 percent of domestic hops production.

Implications of diversity and specialization

Diversity and rapidly expanding specialty product lines are particularly important for the District's long-term agricultural outlook. Diversification into multiple products makes the area's agricultural communities less susceptible to downturns in a single crop's revenues. Factors that can cause a decline in cash receipts for one commodity may either not affect others, or may help increase cash receipts of substitute commodities.

The effect of this diversification can be seen in Chart 3. Real net farm income in the Twelfth District has been considerably less volatile than in states that have less diversified production, such as Iowa, Kansas, and Nebraska. (In 1985, corn, wheat, sorghum, and soybeans alone were responsible for 97 percent of Iowa's crop receipts, 92 percent of Kansas' crop receipts, and 93 percent of Nebraska's crop receipts.)

The movement toward specialty agricultural products is also important for the long-term profitability of agriculture. In past years, domestic and international shortages of major crops and livestock allowed farm income and farm land values to rise over time. In recent years, however, major increases in productivity and heavily subsidized foreign agricultural projects have drastically increased the world supply of most major commodities. Consequently, profits from traditional crop and livestock products (excluding government payments) have been severely reduced.

Although government acreage and livestock reduction programs were successful in temporarily cutting inventories, the long-term trend is unlikely to be reversed. Budgetary pressures

Chart 1
Western Farm Income Has Dropped as a Percent of Personal Income

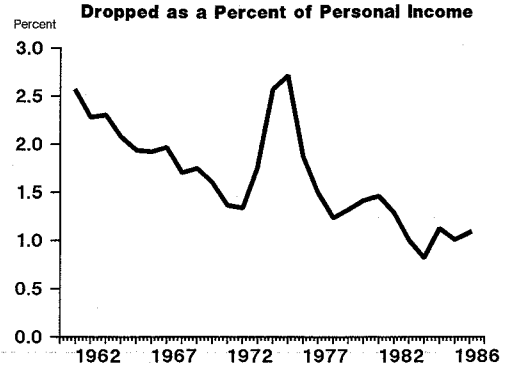


Chart 2
West's Share of Farm Cash Receipts Matches Population Share

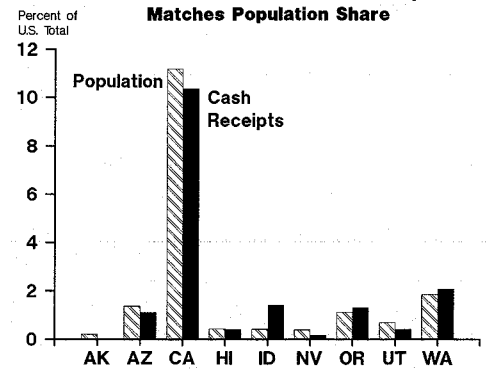
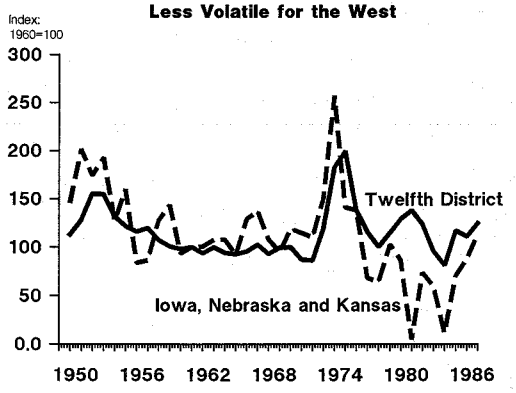


Chart 3
Diversification Makes Net Farm Income Less Volatile for the West



will probably limit the ability of government programs to continue restricting supply as dramatically as during 1987, and only slow growth in demand is expected.

Particularly in the United States, the demand for traditional basic foodstuffs is unlikely to rise sharply. Consumers tend to reduce the share of their income spent on basic foodstuffs as their incomes rise. In fact, the share of consumer expenditures on food in the home fell from 20 percent to 10 percent between 1961 and 1987. Consumption rises over time with income and population growth, but the gains are low relative to non-food commodities. The long-term outlook for traditional agricultural commodities, therefore, is one of declining relative importance.

The trend toward increased reliance on specialty products is one way of combating this bleak outlook. Specialty products are more likely to gain appeal as income rises. Recently, specialty items, such as organically grown vegetables, have commanded a premium in markets, with consumption targeted at the higher income groups.

Specialty products are not a panacea for the agriculture industry, however. Although the demand for specialty products should rise with income, farmer's incomes from such products are likely to dissipate quickly if other farmers also can produce them. To be successful, it is necessary continually to create new products and to stimulate demand to capture the temporarily high incomes that accrue to early entrants into the market. Such an effort, of course, requires significant expenditures on marketing and advertising. Futhermore, it requires the flexibility to change crops frequently to match changing consumer tastes.

Outlook

The long term outlook for the West's agriculture is brighter than it is for agriculture nationally. Attempts to reduce the federal budget deficit will put increasing pressure on government payments to agriculture. Reduced payments can be expected to have a smaller effect in the West because government payments comprise a smaller share of farm income here than in the nation. Furthermore, the ability to produce a large variety of crops and to switch among those crops rapidly, and the accessibility to marketing tools should allow the West to increase its share of national agricultural receipts.

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Opinions expressed in this newsletter do not necessarily reflect the views of the management of the Federal Reserve Bank of San Francisco, or of the Board of Governors of the Federal Reserve System.
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Nevada Oregon Utah Washington

BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT

(Dollar amounts in millions)

Selected Assets and Liabilities Large Commercial Banks	Amount Outstanding 2/10/88	Change from 2/3/88	Change from 2/11/87 Dollar	Percent[7]
Loans, Leases and Investments[1] [2]	203,537	62	− 1,501	− 0.7
Loans and Leases[1] [6]	180,473	66	− 4,229	− 2.2
Commercial and Industrial	50,814	151	− 2,441	− 4.5
Real estate	70,814	154	4,058	6.0
Loans to Individuals	36,216	− 131	− 4,393	− 10.8
Leases	5,805	2	417	7.7
U.S. Treasury and Agency Securities[2]	16,019	− 15	2,551	18.9
Other Securities[2]	7,046	12	178	2.5
Total Deposits	202,221	− 652	− 551	− 0.2
Demand Deposits	49,027	− 1,347	− 1,490	− 2.9
Demand Deposits Adjusted[3]	33,661	− 12,407	− 12,653	− 27.3
Other Transaction Balances[4]	20,135	− 263	1,101	5.7
Total Non-Transaction Balances[6]	133,059	958	− 163	− 0.1
Money Market Deposit Accounts—Total	43,157	500	− 3,625	− 7.7
Time Deposits in Amounts of $100,000 or more	30,666	419	− 972	− 3.0
Other Liabilities for Borrowed Money[5]	21,772	− 933	− 6,611	− 23.2

Two Week Averages of Daily Figures	Period ended 2/8/88	Period ended 1/25/88
Reserve Position, All Reporting Banks		
Excess Reserves (+)/Deficiency (−)	98	130
Borrowings	9	11
Net free reserves (+)/Net borrowed(−)	90	119

[1] Includes loss reserves, unearned income, excludes interbank loans
[2] Excludes trading account securities
[3] Excludes U.S. government and depository institution deposits and cash items
[4] ATS, NOW, Super NOW and savings accounts with telephone transfers
[5] Includes borrowing via FRB, TT&L notes, Fed Funds, RPs and other sources
[6] Includes items not shown separately
[7] Annualized percent change