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# FRBSF WEEKLY LETTER

May 24, 1985

## Western Agriculture and the Trade Balance

The appreciation of the dollar during the past several years has cut into the competitive edge of U.S. agriculture in the world market. This, in turn, has exacerbated the financial problems of the domestic farming industry already hurt by the combination of the recent sharp drop in inflation and current high real, or inflation-adjusted, interest rates. The deterioration of the U.S. trade position has, however, hurt some farmers much more than others.

In this *Letter* we argue that the differential impacts of the decline in the trade balance for farm products constitute one reason that agriculture has tended to fare better in the West than in the Midwest over the past several years. In particular, the West's mix of agricultural products has been the key to the relative vitality of farming in the region. The states within the Twelfth Federal Reserve District simply tend to have a smaller portion of agricultural production devoted to the crops that have borne the brunt of developments in international trade.

### The strong dollar

Over the past several years, the dollar has appreciated considerably. In March of this year, the value of the dollar, compared to a weighted average of the currencies of the United States' major trading partners, was more than 50 percent higher than in mid-1980. Since March, the value of the dollar has declined on balance, but it remains high compared to its level at the beginning of the 1980s when it began its rapid climb.

The impact of the strong dollar has varied substantially across sectors of the U.S. economy. It has had the greatest effect on those industries that produce goods for export and those that compete with imports. The manufactured goods sector in the U.S., for example, has suffered significantly. Its share of employment in the U.S. fell from 21.6 to 20.7 percent of all wage and salary employment between January 1982 and January 1985. In contrast, the domestic U.S. services sector has been less adversely affected by the strength of the dollar because most services, e.g., medical care and retail services, cannot easily be purchased from foreign producers.

Agricultural commodities, like manufactured goods, generally face competition in world markets from foreign producers. The USDA reports that *net* farm exports (exports minus imports) totaled \$18.5 billion in 1984, or 30 percent lower than the peak level reached in 1981. About two-thirds of this decline in the agricultural trade balance was due to the drop in exports.

Within the agricultural sector, however, some commodities face more effective foreign competition than others. Farm products such as grains and soybeans, for example, can be transported long distances and are widely produced elsewhere in the world. Since a large fraction of the U.S. production of these crops typically is exported, these crops have absorbed a correspondingly large portion of the dollar's shock to agriculture. Together, grains, oil seeds, and oil seed products accounted for well over one-half of the decline in net farm exports since 1981, and four-fifths of the drop-off in gross exports.

Cotton is another product that is particularly exposed to the adverse consequences of the strong dollar, with cotton exports representing around 50 percent of domestic production since 1981. According to the USDA, cotton exports contracted sharply in 1982 and 1983. In 1984, net exports of cotton recovered slightly but were still well below the level reached in 1980. Moreover, domestic cotton producers have been affected by the surge—35 percent increase in 1984—in textile imports.

It is more difficult to substitute foreign production for some other crops. Exports of tree crops, such as apples, for example, have not suffered as seriously as exports of food grains and other field crops. Similarly, products that are primarily consumed in the United States, such as fresh and perishable fruits and vegetables, have fared better than other crops during the dollar's rise.

### Agricultural prices

In recent years, the movement in the prices of some farm products relative to those of other farm products appears to reflect the differential vulnerability of certain crops to the vagaries of inter-

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national trade. Chart 1 shows that the average of the price index for all farm products from 1981 through 1984 was a little more than 2 percent higher than in 1980. In contrast, the averages for the "dollar-sensitive" crops—food grains and cotton—fell by 8½ to 9 percent. Although the difference is less dramatic, the prices for oil-bearing crops also were weaker than for farm products in general.

All of the differences in price performance among farm products, of course, would not be related to the differential impact of the dollar. For example, the price index for fruits was sharply higher in 1984 because of inclement weather, one of the few problems not being blamed on the strong dollar.

## Regional exposure

The greater sensitivity of some crops to exchange rate movements combined with the regional concentration of their cultivation has meant that farmers in some parts of the country are more exposed to the adverse effects of the strong dollar than farmers elsewhere. Chart 2 shows that the crop categories—grains and oil-bearing crops—affected most by the decline in the trade balance account for a very large share of total agricultural production in the Midwest. Judging from the relative importance of these crops in the West, the exposure of the states in the Twelfth District, excluding California, is about half that of the midwestern states on average. For California, the exposure would be half again as much as for the other states in the Twelfth District taken as a whole.

The inclusion of cotton production, which is more important to agriculture in the West than in the Midwest, changes the assessment of exposure somewhat. In California, for example, cotton production accounted for about 8½ percent of farm receipts in 1983, almost twice its national share.

Overall, agriculture in the West still is less susceptible to exchange rate movements than agriculture elsewhere. In fact, historic figures on crop shares in the West may overstate the degree of exposure. This is especially true for California's farmers, who have greater flexibility in choosing which crops to grow. For example, some Central Valley fields formerly in cotton production have been planted in other crops, while some other California farm land has been converted to nonagricultural use.

## Land values

Some perspective on the relative severity of the farm problem among the various regions can be gleaned from the behavior of agricultural land values. Movements in land values are particularly useful guides in this regard since they reflect the market's evaluation of the deterioration in the earnings outlook for agriculture. Using data from the USDA, Chart 3 plots the indexes for agricultural land values for the continental U.S. and selected regions.

The chart shows that the market assessment of the outlook for agriculture has changed sharply. In the period from April 1982 to April 1984, the USDA estimates suggest that there was a decline in the average value of farm land in most of the states in the Twelfth District. In California, which accounts for about 60 percent of the agricultural production in the Twelfth District, the USDA data show that farm land values did not change much between the spring of 1982 and the spring of 1984. (Alternative information on California land values from a large West Coast bank indicates a drop in the average value of an acre of farm land during the same period.) This performance contrasts starkly with the rapid appreciation in agricultural real estate values in the 1970s. Among the states in the Twelfth District, farm land prices appear to have held up best in Washington.

On the issue of regional differences, the USDA data support the view that through the spring of last year, the agricultural problems in the West were not as severe as those experienced by farmers in the Midwest. Since the spring of last year, the average value of an acre of farm land in California and other western states probably has dropped. However, it is highly doubtful that the decline in the West matched the drop in farm land values in the Midwest over the past year. The Federal Reserve Bank of Kansas City, for example, reports that farm land value in its district declined an average of about 20 percent last year.

The data on the overall agricultural performance of any region, of course, mask the great variation in the experiences of individual farmers. This is certainly true for the West. For example, in California, prices for almonds and grapes have been severely depressed by the increases in supply associated with orchard and vineyard plantings undertaken in the 1970s. Since it is more costly to

convert orchards and vineyards to alternative uses, the value of the land with "permanent" plantings has been extremely depressed. As an example, the average per-acre price of land planted in raisin grapes in the Central Valley has fallen over 40 percent since 1982. The average price per acre for almond orchards also has declined sharply since 1982.

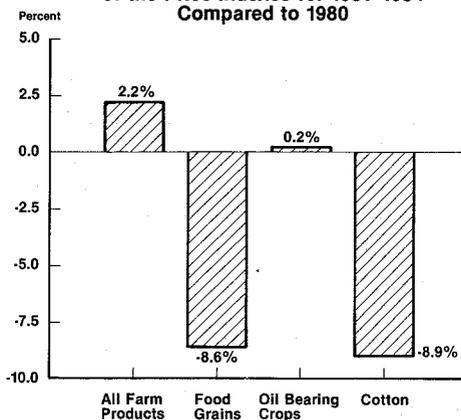
**Conclusion**

Along with high real interest rates, the strong dollar has been a major cause of financial stress in agriculture, as evidenced by the deterioration in

the trade balance for farm products. Western agriculture's more diversified "portfolio" of crops has tended to dampen the adverse consequences of the strong dollar and allowed farming in the region to fare better than in the Midwest over the past several years. However, by the same token, any appreciable weakening of the dollar could be expected, with some lag, to do more to improve the outlook for midwestern grain farmers than for vegetable producers in California.

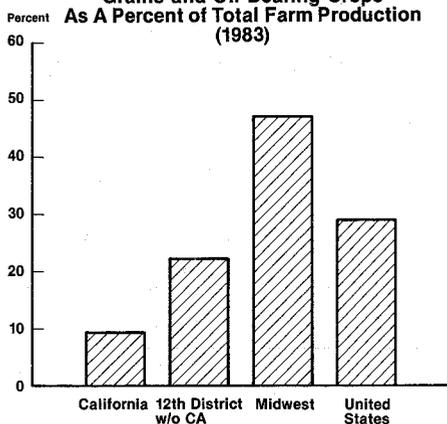
**Frederick T. Furlong and Randall J. Pozdena**

**Chart 1**  
Percent Difference in the Average of the Price Indexes for 1981-1984 Compared to 1980



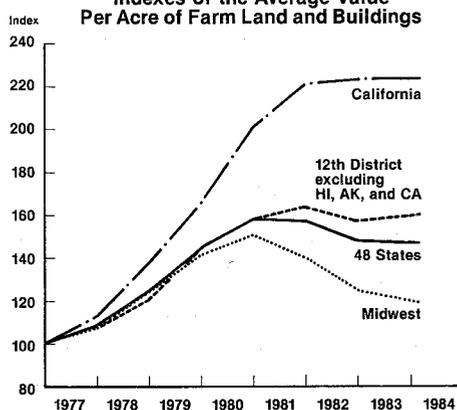
Source: Based on USDA data.

**Chart 2**  
Grains and Oil Bearing Crops As A Percent of Total Farm Production (1983)



Source: Based on USDA data.

**Chart 3**  
Indexes of the Average Value Per Acre of Farm Land and Buildings



Source: Based on USDA data.

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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**BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT**

(Dollar amounts in millions)

Selected Assets and Liabilities Large Commercial Banks	Amount	Change	Change from 05/09/84	
	Outstanding 05/08/85	from 05/01/85	Dollar	Percent <sup>7</sup>
Loans, Leases and Investments <sup>1 2</sup>	190,265	- 473	10,638	5.9
Loans and Leases <sup>1 6</sup>	172,134	- 486	11,944	7.4
Commercial and Industrial	52,069	- 101	2,842	5.7
Real estate	62,863	40	2,868	4.7
Loans to Individuals	33,924	- 1	6,207	22.3
Leases	5,375	12	362	7.2
U.S. Treasury and Agency Securities <sup>2</sup>	11,186	5	- 918	- 7.5
Other Securities <sup>2</sup>	6,945	8	- 388	- 5.2
Total Deposits	193,460	-2,616	8,119	4.3
Demand Deposits	44,819	-3,273	1,766	4.1
Demand Deposits Adjusted <sup>3</sup>	30,021	124	848	2.9
Other Transaction Balances <sup>4</sup>	13,375	168	1,075	8.7
Total Non-Transaction Balances <sup>6</sup>	135,265	487	5,277	4.0
Money Market Deposit				
Accounts—Total	43,037	171	3,667	09.3
Time Deposits in Amounts of				
\$100,000 or more	38,459	213	- 276	- 0.7
Other Liabilities for Borrowed Money <sup>5</sup>	21,386	-1,997	- 1,040	- 4.6
<b>Two Week Averages of Daily Figures</b>	Period ended 05/06/85	Period ended 04/22/85		
<b>Reserve Position, All Reporting Banks</b>				
Excess Reserves (+)/Deficiency (-)	6	88		
Borrowings	49	24		
Net free reserves (+)/Net borrowed(-)	- 42	64		

<sup>1</sup> Includes loss reserves, unearned income, excludes interbank loans

<sup>2</sup> Excludes trading account securities

<sup>3</sup> Excludes U.S. government and depository institution deposits and cash items

<sup>4</sup> ATS, NOW, Super NOW and savings accounts with telephone transfers

<sup>5</sup> Includes borrowing via FRB, TT&L notes, Fed Funds, RPs and other sources

<sup>6</sup> Includes items not shown separately

<sup>7</sup> Annualized percent change