Research Department
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World's Granary

Food experts disagree about how serious the Malthusian threat may be, but all agree that North America will play the pivotal role in countering that threat during coming decades. The U.S. and Canada now account for over half of the world's grain trade, and thus they exercise almost as much dominance in the world's food market as the Persian Gulf nations exercise in the energy market. Their role is especially important in view of the disappearance in recent years of the world's two major food reserves—the excess stocks of grain held by the leading exporting countries and the cropland formerly idled under U.S. farm programs.

Given the long-term uptrend in world demand, this situation implies an upward drift in food prices at home and abroad. But also, given the vagaries of the world's weather, it implies a striking variability in short-term price movements.

Too many people
North America has emerged as the world's breadbasket only since World War II, as can be seen from a comparison of net grain trade flows among various geographic regions. (This provides a useful indicator of food trends, since grains supply more than half of the world's food energy supply when consumed directly, and a sizable portion of the remainder when consumed indirectly as meat and dairy products.) The shift is dramatic; during the 1930's, all geographic regions except Western Europe were net exporters, but now only the North American countries (and occasionally Australia) are significant factors on the supply side of the market.

Asia has developed a massive deficit, with Japan, China, India, and other countries now importing some 50 million tons of grain per year. Africa, Latin America and Eastern Europe have all shifted into the deficit column. That leaves North America, which became a heavy exporter during World War II and then expanded its role during the ensuing decades. During the first half of the 1970's alone, North American grain exports nearly doubled—to about 94 million tons in the present crop year—reflecting the explosive growth of worldwide food demand and weather problems in other producing areas.

Accelerated population growth in certain areas has accounted for both the upsurge in demand and the reshaping of world trade patterns. For example, North America and Latin America both had about the same population in 1950, but Latin America's population then grew explosively over the next quarter-century, so that it is now more than 100 million larger than North America's. The same pattern elsewhere has created deficit trade positions and heavy pressures on North America's grain supplies.

Too much weather
Short-run weather patterns meanwhile have accentuated these supply problems. According to U.S. Department of Agriculture data, the deviation from the world's

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1960-75 grain-production trend has varied from a 43-million ton excess in the peak 1974 crop year to a 59-million ton deficit in the current crop year. Total production for 1975-76 is estimated at 1.15 billion tons worldwide, with both wheat and feed-grain production (but not rice) falling far below trend.

The source of the problem is the Soviet Union, which has accounted for over two-thirds of the fluctuations in world production over the past four years. Beset by poor weather and an inefficient farm sector (especially in livestock raising), the U.S.S.R. has become a large yet volatile factor in world markets, especially now that it no longer forces Russian consumers to bear the brunt of adjustments to domestic shortages. The new U.S.-U.S.S.R. trade agreement, which provides for sales of 6 to 8 million tons of U.S. grain each year over the 1976-81 period, will dampen but cannot completely overcome the volatility of market conditions stemming from shifts in Soviet demand.

Not enough food?

Some observers are rather pessimistic about the ability of world (and North American) producers to keep pace with the burgeoning food demand created by rising population and rising affluence. The leading spokesman for this view, Lester Brown, argues that "a world of cheap abundant food with surplus stocks and a large reserve of idle cropland may now be history." He bases his pessimism on the growing scarcity of basic resources (land, water, energy, and fertilizer), the ecological disturbances created in many developing countries by the attempt to expand output, and the diminishing returns on the use of energy and fertilizer in the more developed countries. The future, in Brown's view, may be a period of more or less chronic scarcity enlivened only by sporadic local surpluses—and featuring an ever-increasing world dependence on the North American granary.

Several recent studies, especially those of the U.N.'s Food and Agriculture Organization and the USDA's Economic Research Service, take a more sanguine view of the future. Generally, their authors argue that production over coming decades will manage to keep ahead of population and income growth, although (as Brown contends) with at least occasional severe shortages. In the UN-USDA view, recent problems carry within themselves the seeds of their own solutions. World food prices were too low and often artificially restrained prior to the 1970's. But now, anticipated higher levels of grain prices should stimulate grain production and inhibit the rate of growth of livestock feeding, while high fertilizer prices should stimulate increased production of that vital input.

According to these studies, world food resources are adequate to permit continued per capita increases in food production for the rest of this century. Real food costs should remain high, but not so high in relation to other goods as they were at the 1973-74 peak. Over the next decade, this could mean a 9-percent livestock-production increase in this country, and an increase in crop production of 5 to 11 percent, in physical volume terms. It could also mean a further sharp expansion of exports, 22 to 40 percent higher than even the recent peak.

Unstable prices

No matter how viable the future outlook might appear, no one doubts that severe pressures will affect the North American granary on at least some occasions in coming decades. In recent Congressional testimony, Willard Cochrane and Lauren Soth said, "Instability of prices is likely to be a more serious problem in meeting the world food needs of the next quarter-century than the trend of total food output."

The problem is caused in part by the highly inelastic nature of demand, with a small change in grain supply resulting in a large change in price. In addition, production of grain is unstable because of unpredictable weather conditions. Also, demand for grain in international commerce is unpredictable because of policy changes in importing countries, with their in-and-out buying destabilizing commodity-distribution patterns and prices. (Soviet grain imports dropped from 21 million to 5 million tons between 1972 and 1974, and then jumped to about 25 million tons in 1975.) The U.S., as the leading exporter, is extremely sensitive to fast-changing prices in the closely-knit world market.

Accelerated increases in production costs, which in the case of livestock feeders include feed prices themselves, make U.S. producers vulnerable to serious losses when prices move wildly in either direction. Moreover, violent fluctuations harm consumers by causing extreme advances in food prices. These increases become imbedded ratchet-like in the price structure, because rigidities in costs of processing and distribution tend to keep retail prices from falling when supply increases as much as they rise in time of short supply.

In an attempt to level out the peaks and valleys of food prices, some economists are proposing a renewed build-up of grain reserves. Cochrane and Soth suggest a world reserve of 60 to 70 million tons—roughly what this country held in the 1950's—with governments (or private firms) acquiring stocks at the lower boundary of a price-stabilization range and releasing stocks at the upper boundary of the range. Some analysts propose even higher reserves. Indeed, as long as wild fluctuations occur in the grain market, support for the concept of an ever-normal granary will increase, continuing a tradition that stretches from Joseph of Egypt to Henry Wallace of Iowa.

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BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT

(Dollar amounts in millions)

Selected Assets and Liabilities Large Commercial Banks	Amount Outstanding 2/04/76	Change from 1/28/76	Change from year ago Dollar	Percent
Loans (gross, adjusted) and investments*	87,617	+ 41	+ 2,361	+ 2.77
Loans (gross, adjusted)—total	64,883	+ 190	− 1,754	− 2.63
Security loans	878	+ 97	− 465	− 34.62
Commercial and industrial	23,324	+ 105	− 1,182	− 4.82
Real estate	19,636	− 36	− 385	− 1.92
Consumer instalment	10,363	+ 1	+ 425	+ 4.28
U.S. Treasury securities	10,078	− 263	+ 4,431	+ 78.47
Other securities	12,656	+ 114	− 316	− 2.44
Deposits (less cash items)—total*	88,010	+ 88	+ 4,571	+ 5.48
Demand deposits (adjusted)	23,187	− 504	+ 928	+ 4.17
U.S. Government deposits	669	+ 151	+ 172	+ 34.61
Time deposits—total*	62,184	− 363	+ 3,143	+ 5.32
States and political subdivisions	7,286	− 191	+ 234	+ 3.32
Savings deposits	24,091	+ 434	+ 5,578	+ 30.13
Other time deposits‡	28,006	− 400	− 2,252	− 7.44
Large negotiable CD's	13,271	− 603	− 3,184	− 19.35

Weekly Averages of Daily Figures	Week ended 2/04/76	Week ended 1/28/76	Comparable year-ago period
Member Bank Reserve Position			
Excess Reserves	77	33	77
Borrowings	8	5	2
Net free(+)/Net borrowed (−)	+ 69	+ 28	+ 75
Federal Funds—Seven Large Banks			
Interbank Federal fund transactions			
Net purchases (+)/Net sales (−)	+ 1,358	+ 1,291	+ 1,525
Transactions of U.S. security dealers			
Net loans (+)/Net borrowings (−)	+ 227	+ 234	+ 558

*Includes items not shown separately. ‡Individuals, partnerships and corporations.

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