

2002 Milk Prices Collapsed

Milk prices collapsed in 2002 as surging production shot past sagging dairy demand. Generally high returns during 1996-2001 generated strong pressures for expansion in milk production. However, these pressures were largely stymied in 2001 by a shortage of replacement heifers and tight supplies of western alfalfa. Expansion was not to be denied in 2002 as the problems of the previous year began to be resolved.

Demand for dairy products weakened substantially in 2002. Commercial use grew just barely, even though prices were substantially lower. Weak demand in 2002 was in sharp contrast to the very robust demand of the preceding 4 years.

Farm milk prices fell from an average of almost \$15 per cwt in 2001 to just more than \$12 in 2002, ending the year even weaker than at the start. Recent milk prices were the lowest since the late 1970s and have rather dim prospects for recovery in the short term.

Milk Production Surge Continues

Milk cow numbers in the 20 major States edged higher during most months of 2002, going from slightly below a year earlier in early 2002 to almost 1 percent above by yearend. For all States, milk cow numbers were not quite as strong, growing during the first half and then staying about flat during the rest of the year. Sizable numbers of new or greatly expanded facilities came into production, and earlier expansions were brought up to capacity. The lack of replacement heifers made increases in cow numbers more gradual than normal. In addition, relatively few farms quit dairying. Most of the weaker dairy operations have fairly low debt, giving them considerable flexibility as to when they leave. The relatively strong returns of recent years and the direct payments from Milk Income Loss Contracts (MILC) gave them extra resiliency to very low milk prices.

Last autumn's sharp drop in prices of replacements indicated that heifer supplies are no longer a substantial restraint on milk cow numbers. It also meant that upward pressure on cow numbers may have started to ease, as the surge in expansions probably has crested. However, dairy farm exits

have yet to pick up much, although some acceleration is expected as the year progresses. Fewer expansions and more exits would start milk cow numbers declining in coming months. However, declines probably will be gradual and are not likely to be dramatic by even yearend. For the year, the decrease in average milk cows is projected to be less than 1 percent.

The 2002 forage situation was highly mixed. Alfalfa hay production was down slightly and stocks of all hay (and probably alfalfa) were substantially lower on December 1, 2002. Alfalfa quality in most areas varied greatly from cutting to cutting. Silage quality and yields also were erratic because of dry weather. However, the situation for dairy farmers probably is not as bad as it might appear. The West likely has the best alfalfa situation in several years, the result of larger output and weaker export demand. Also, the greatest pressure on forage supplies has been from beef producers looking for grass or low quality alfalfa hay. Since autumn, alfalfa hay prices have run below a year earlier.

Forage developments may be critical in 2003. In some years with similar conditions, dairy farmers simply ran out of adequate forage in late spring, and milk per cow was harmed significantly. Whether such a situation emerges will hinge on the largely unknown amounts and quality of forage stocks on dairy farms and on forage crop development early in the new season. Dairy farmers will be vulnerable throughout the season to any shortfalls in 2003 production of dairy quality forage.

Smaller crops of feed grains and soybeans boosted concentrate prices during 2002. The price impacts were somewhat muted by the effects of large stocks at the end of the previous crop year. Even so, higher feed prices and much lower milk prices dropped milk-feed price ratios sharply from 2001's very high levels to levels normally associated with below-trend increases in concentrate feeding and milk per cow.

The expected low milk prices probably will leave milk-feed price ratios quite low again in 2003, even if crops are normal. Concentrate feed prices are projected to be above a year earlier (and milk

prices below) through at least summer. Additionally, feed prices will be more vulnerable to weather problems this year because of the reduced carryin stocks.

Milk per cow rose 2.3 percent in 2002, much less impressive than it seems following stagnation in 2001. Milk per cow made only slight recovery against the long-run trend. Compared with the 5-year average, 2002 milk per cow grew at an annual average rate of only 1.7 percent, much below the trend of 2 percent or a bit more. Low milk-feed price ratios and erratic forage quality share much of the blame. Disrupted culling patterns because of the lack of heifer availability probably also contributed. Gains in milk per cow weakened considerably as the year progressed.

Very weak growth going into 2003, little economic incentive to boost concentrate feeding, and erratic forage quality do not bode well for increases in milk per cow, even if this year's weather is normal. In addition, there likely is an unusually large share of first-calf heifers in the milking herd this year, further limiting potential gains. Milk per cow is projected to rise considerably less than 2 percent in 2003.

Milk production jumped 2.6 percent in 2002. Increases from a year earlier were very large through summer, first because of recovery in milk per cow and later because of growth in milk cow numbers. Although the autumn increase slackened, milk production expansion stayed sizable.

Changes in 2002 milk production varied greatly by region. Output rose rapidly in the West as the Mountain and Pacific regions boosted cow numbers and managed a mediocre increase in milk per cow. Production also rose in the Northern Plains, Corn Belt, Southern Plains, and Northeast. The Midwestern grain regions increased milk production because of increases in milk per cow large enough to offset modest declines in milk cow numbers. The increasing number of large "new style" dairy farms in those regions has lifted average milk per cow considerably. The Northeast had a sizable increase in milk per cow, following sluggish growth in 2001 that easily outweighed a fractional decrease in cow numbers. Meanwhile, brisk recovery in milk per cow in the Southern Plains dwarfed a sizable drop in milk cows.

Milk production slipped in the Lake States. A sizable decline in cow numbers was accompanied by only a small gain in milk per cow. Meanwhile, milk output continued to drop in the South. The Appalachian, Southeast, and Delta regions continue to lose cows relatively rapidly as many of their farmers have not been competitive at recent prices. Milk per cow was fairly stagnant in southern regions, in part because of a less favorable summer.

Milk per cow in 2002 was more than 10 percent larger than the 1996-98 average, an annual growth rate of 2.0 percent. About a fifth of the increase in average milk per cow during that period was due to shifts in the distribution of cows among States. If States' shares of the U.S. milk cow herd had remained unchanged during the last 5 years, milk per cow would have increased at only a 1.6 percent annual rate.

Milk production is projected to increase about 1 percent in 2003. Rises in output certainly could slow more rapidly than currently expected, if the squeeze in returns precipitates a sudden pick-up in dairy farm exits. However, a slower-than-expected start to declines in milk cow numbers probably is equally likely.

Dairy Demand Recovery Delayed

After 3 years of extraordinary strength, demand weakened considerably in late 2001 and further in 2002. Commercial use of milkfat rose less than 1 percent from a year earlier, while sales of skim solids slipped. Sales sluggishness came in the face of sharply lower prices for wholesale users and retail prices below a year earlier during the second half. Restaurant sales and sales of premium products apparently were particularly affected.

Economic weakness undoubtedly was a major factor in the slowdown in dairy demand. However, the economic weakness was relatively quite mild in most ways. The recession just barely qualified as one, consumer incomes stayed fairly strong, and the increase in unemployment was relatively small. Consumers continued to spend at a fairly brisk pace, in part fueled by savings from mortgage refinancing. However, consumers made major shifts in how they spent. Spending on home-related items was strong, but the somewhat

indulgent spending on food “treats” was reduced. In addition, economic recovery has been sluggish and erratic.

Unlike most recent periods of economic weakness, inexpensive restaurants did not seem to benefit from less spending in pricier restaurants. There were even some indications that more meals were being served at home, although many of them may have involved pre-prepared foods. These changes in away-from-home eating hurt demand for cheese, butter, and fluid cream, the strongest products in earlier years. Of particular importance to dairy was the lack of growth in pizza sales. The industry had counted on increases in pizza use, through thick and thin, for many decades.

Sales of butter rose only 1 percent in 2002, matching the anemic performance of American cheese. Both of these products exhibited strength during part of the year but neither could sustain growth for very long. Sales of other cheeses posted a much stronger, but not dramatic, rise of almost 4 percent. Faced with increased competition from imported milk proteins and reluctance from food processors to change formulations, commercial use of nonfat dry milk fell more than a fifth. Sales of fluid milk and ice cream rose just barely, even though demand for these products might have been expected to be relatively less affected.

Growth in dairy demand is expected to resume in 2003. Slow economic improvement is projected, and the recent retrenchment in dairy demand may have run its course. However, this modest demand growth probably will not be able to absorb the increase in milk production and to pull down the heavy beginning stocks except at continued weak prices. In addition, events in the Middle East may disrupt both the economy and dairy demand.

Cheese demand likely will expand in 2003, but growth is not expected to be robust because restaurant use may stay unsettled. Sales of butter are expected to grow, but demand probably will be somewhat sluggish. In addition to restaurant weakness, sales of premium products that use butter as an ingredient may not recover much, and processors probably will be reluctant to change formulations in light of the 1998-2001 history of generally high and volatile butter prices. Although retail sales account for considerably less than half of all butter use, much of 2003's increase in butter

sales is likely to be at retail. Butter can be a very effective product for price specials, and sales often increase considerably. However, specials during the autumn holidays were not widespread, and early indications are that specialling during the spring holidays will be modest.

Commercial use of nonfat dry milk likely will grow in 2003. International market prices are projected to be near domestic prices during at least most of the year. Even if commercial exports are modest, the price parity should soften demand for imported milk proteins, similar to the experience in 2001. In addition, the very large drops in prices of nonfat dry milk since early 2001 may encourage food processors to incorporate more skim solids in processed foods, once demand for these products recovers from economic weakness. On the other hand, demand for fluid milk and soft products probably will continue to stagnate. Sales of these products in recent years seem to be relatively unaffected by their prices or the state of the economy.

Production and Stocks of Manufactured Products Heavy

Production of cheese rose modestly during the last quarter of 2002 and early 2003, with a sizable rise from a year earlier for other-than-American varieties and a slight increase for American types. However, cheese demand was insufficient to draw enough milk away from butter-powder to make any real difference in the over-burdened markets for butter and nonfat dry milk. Butter output stayed near the large levels of a year earlier. Production of nonfat dry milk was a bit more erratic, down moderately last autumn but up in January.

Manufactured product output probably will stay large during 2003. Recovering cheese demand is expected to pull larger shares of the milk supply into cheese production, relieving some of the pressure on butter and nonfat dry milk markets. However, improvements are likely to be gradual and subject to any stumbles in the economy.

Production of almost all storable manufactured dairy products rose in 2002. Most manufacturing regions posted increases in milk production, and no product needed to pull in large additional amounts

of milk. Production of total cheese, American cheese, and Italian cheese all rose about 4 percent from a year earlier. Meanwhile, butter output jumped 10 percent, while nonfat dry milk production rose only slightly less at 7 percent. Even production of dry whole milk and canned milk increased significantly last year.

Commercial butter stocks continue to stagger milkfat markets. On February 1, commercial inventories exceeded 200 million pounds, more than twice the previous record for the date and larger than on any date prior to spring 2002. These winter stocks were already equivalent to about 2 months of sales. Normally, butter stocks rise steadily during the first half of the year to a midyear peak. The heavy butter holdings brought February 1 commercial stocks of all products above 11 billion pounds, milk equivalent, milkfat basis, another dramatic record.

Butter stocks became extremely large in 2002 because of heavy production and weak demand for milkfat. Unlike the situation for skim solids, this surplus could not be drained off by price support sales to the Government (at least not until very late 2002) and accumulated in commercial stocks.

February 1 commercial cheese stocks were moderately larger than the 2 preceding years on that date. Meanwhile, manufacturers' stocks of nonfat dry milk were down somewhat. Total commercial stocks on a milk equivalent, skim solids basis were about 9 billion pounds, up 6 percent from a year earlier. February 1 cheese and nonfat dry milk stocks might be considered comfortable in a tighter market situation, but probably were somewhat large in light of the heavy butter stocks and the continuing surplus prospects for skim solids.

Such very large (and costly) stocks are not likely to persist. The modest excess of cheese holdings could be dealt with in a number of ways. But, butter stocks will be a larger problem. Unless sales were to surge in response to spring retail price specials, price support sales of butter seem inevitable, as Dairy Export Incentive Program (DEIP) exports cannot accommodate such large amounts. Even then, heavy price discounts may be needed to move the accumulated stocks of old butter commercially.

Skim Solids Surplus Stubborn

The surplus of skim solids jumped in 2002 as milk output rose briskly, sales of all skim solids were about unchanged, and sales of separated skim solids fell. Net removals totaled almost 10 billion pounds, milk equivalent, skim solids basis, up substantially from any recent year. About 6 percent of the skim solids in farm milk marketings were not used commercially. On the other hand, the surplus of milkfat was negligible. Removals came to only 0.3 billion pounds, milk equivalent, milkfat basis.

Price support purchases of nonfat dry milk almost doubled in 2002, even though shipments under the DEIP rose slightly. Weak demand for separated skim solids in other products boosted production of powder, while use tumbled. Second-half sales to the government increased net removals of cheese to a modest 16 million pounds, up from 2001 but below 2000. There were no removals of butter.

Sales of skim solids in 2003 are expected to rise more than milk production, lowering net removals. The surplus would drop even more if commercial exports prove more vigorous than anticipated. Even so, the skim solids surplus is likely to remain large enough to forestall any significant increases in prices of nonfat dry milk and other related products.

Significant removals of butter are possible in 2003, even though only tiny purchases have occurred so far. Huge butter stocks continue to depress milkfat prices. If the commercial market is unable to clear these holdings (as seems likely), significant sales to USDA seem probable. Additional DEIP exports beyond the initial 11 million pounds also are possible.

International Powder Markets Tighten

International dairy markets have tightened because of smaller supplies from Oceania at the tail of their production season. Both New Zealand and Australia have had dry conditions and weak milk production during the first calendar quarter, leaving them with below-normal supplies of products to ship in coming months. In addition, some of their winter forage reserves reportedly were fed during

the past season to help maintain milk production levels, possibly affecting the number of cows carried through their winter season.

International prices of nonfat dry milk have been fairly steady recently, after rising to near the U.S. domestic price during the last quarter of 2002. Despite the tightness in Oceania, import buyers know that large quantities are readily available from the United States if needed. In addition, the European Union (EU) recently boosted their subsidy rate to offset the strength of the euro. International powder prices probably will run near current levels in coming months. Some U.S. nonfat dry milk may be needed in international markets, but sizable exports are not expected.

International butter markets have been fairly weak and probably will stay so. Increased import demand from Russia produced minor seasonal increases last autumn that have since largely dissipated. Middle Eastern uncertainties have hurt demand in that region. The supply tightening probably has eliminated most butter sold under heavy discount but generally has not had much impact on prices of standard product.

Somewhat less milkfat was imported into the United States in 2002. Domestic prices weakened considerably more than did international prices, trimming high-tariff imports of fat. On the other hand, imports of skim solids products rose slightly as a price gap re-emerged when international prices fell. The weaker international markets also increased imports of cheese, with imports of varieties subject to quotas, and of nonquota varieties, both up about 8 percent. Imports of American cheese rose considerably in 2002, probably reflecting ample supplies of dairy products from Oceania.

DEIP exports were up somewhat for nonfat dry milk in 2002, but a bit smaller for cheese. Most of the year-to-year variation in DEIP exports is caused by changes in the pattern of actual shipments associated with the July-June commitment years. Non-subsidized exports of nonfat dry milk fell along with international powder prices, but commercial cheese exports managed to hold about steady.

The third set of DEIP allocations for the 2002/03 year, announced in late February, has been quickly exhausted. Contracts now cover all of the nonfat dry milk and cheese allowed during the current commitment year. Although contracting may resume in July, there might be a relative lull in export shipments this summer as old-year contracts wane and new-year contracts have yet to pick up. Recent contract activity included 5,000 tons of butter, part of last fall's allocation. This was the first butter activity since early 2000. Actions to allow additional butter contracts could be taken because most of the autumn allocation remains and that allocation was substantially below the limit under World Trade Organization commitments.

At current prices, substantial commercial exports of nonfat dry milk are possible—but not yet expected. Supplies from other exporters are projected to come close to filling the somewhat lackluster import demand. However, the situation could easily shift enough to generate substantial exports. Even so, exports large enough to significantly affect domestic powder prices are quite unlikely.

Imports of skim solids are likely to decrease somewhat this year because a significant price gap between domestic and international prices is not expected. Milkfat imports may be similar to, or slightly less than, 2002. However, changes probably will be modest. U.S. imports are dominated by cheese, and cheese imports do not respond much to short-run changes in price gaps. Most cheese exporters are driven by considerations related to long-run market position and may pay little heed to transitory price conditions.

Price Weakness To Persist

Butter and cheese prices have slipped a little since the start of 2003, but mostly varied within the same general ranges. The supply-demand picture has not changed much: rising milk production; use struggling to grow; and burdensome stocks. No more than modest seasonal strength is expected through at least summer. Although the adjustment processes may have begun, no market-tightening momentum has developed in either supply or demand. Considerable time probably will be

needed to erode the current surplus enough to generate significant price recovery, although butter sales to the government would have an accelerating effect. Autumn seasonal price increases are projected to be only modest.

Farm milk prices are projected to run below a year earlier during the first three quarters of 2003, with the largest declines during the first half. Although prices might post increases during autumn, such rises probably would be fairly small. For all of

2003, the average price of all milk is expected to decline 50 cents to \$1 from 2002's \$12.12 per cwt. Milk prices last year were the lowest since 1979.

Retail prices of dairy products averaged only fractionally higher in 2002 and were below a year earlier during the second half of the year. The farm-to-retail price spread grew considerably, after it declined significantly in 2001 because of farm and wholesale price jumps. Retail dairy prices in 2003 are projected to be about unchanged.

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