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**ADJUSTMENTS IN THE DAIRY SECTOR:  
THE 1986 TO 1988 ECONOMIC OUTLOOK**

by

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### Preface

Andrew Novakovic is an associate professor in the department of agricultural economics at Cornell University. This paper is based on his presentation at the Extension Outlook Session of the 1986 annual meeting of the American Agricultural Economics Association in Reno, Nevada on July 28, 1986.

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## Adjustments in the Dairy Sector: The 1986 to 1988 Economic Outlook

### Summary

By the author's estimates, milk production is expected to be somewhat higher in 1986 than the 143.7 billion pounds produced in 1985, perhaps in the neighborhood of a one percent increase. Milk production is projected to decline in 1987 and increase moderately in 1988.

Aggregate commercial disappearance of all dairy products, as measured on a milk equivalent fats basis (m.e.), is expected to continue the significant growth it began showing in 1986. The increases could be about three billion pounds per year over the next three years.

Federal net removals of dairy products (m.e.) will decline in 1986, relative to the 13.2 billion pounds removed in 1985. Further declines are projected for 1987, when net removals may very well approach the five billion pound figure targeted in the Food Security Act of 1985 (FSA). Modest increases in net removals could occur in 1988; however the total should remain near or below the eight billion pound level set in 1981 when dairy surpluses first became a problem.

Farm prices are expected to show more than normal seasonal increases in fall 1986. Industry forecasts have projected this supra-normal increase to be from 30 to 70 cents per hundredweight. Based on the tight seasonal supplies predicted herein, price increases at the high end of this scale appear to be a distinct possibility. Recent farm to wholesale price relationships indicate that wholesalers have been enjoying a greater cushion or margin than they did in 1984 when a similar farm price increase was caused by contractions in milk supplies due to the Milk Diversion Program. Hence, fairly large price increases may be easier to accommodate in 1986 than the experience of 1984 would suggest. Notwithstanding price increases this fall, the longer term trend in farm milk price still points downward, generally paralleling the price cuts specified in the FSA. The optional 50 cent/cwt cut on January 1, 1988 will surely be exercised. Another 50 cent/cwt cut in 1989 is a distinct possibility, although it will depend on changes in input costs and other factors that are difficult to predict with much certainty. The final price cut authorized by the FSA in 1990 is possible but may not be necessary. It may well be necessary if the dramatic productivity boosting technologies that now loom on the horizon become commercially practicable in the next few years.

Compared to what has been said by other industry analysts in recent months, this forecast would probably be characterized as optimistic; some more cynical observers might even say it is a "rosy scenario". This forecast is not intentionally "rosy"; however the author concedes and the reader is advised that this forecast is more optimistic than the apparent industry consensus.

### Roots of the Current Problem and Its Latest Solution

It is well and widely known even outside of dairy industry circles that the dairy industry has been plagued throughout the 1980s with surplus milk production and high government cost under the dairy price support program. The primary cause of the surplus condition was an overly stimulative price support policy that was too rigidly specified in legislation to permit the Secretary of Agriculture to prevent price increases that could not be justified by market conditions. Other economic factors exacerbated an already bad situation. Chief among these other factors were the declining financial conditions of farmers in other agricultural sectors and favorable input costs for most dairy farmers.

Most dairy economists and policy analysts trace the current problem to legislation enacted in 1979. I prefer to begin in the early 1970s. The policies that gave rise to market surpluses of dairy products in the 1980s were born out of conditions in the 1970s and the political responses that followed. Following a near doubling of feed prices between 1972 and 1973, milk production dropped 3.8% in 1973 and stayed at this lower level through 1975. This may seem like a small fluctuation compared to other agricultural commodities, but from the perspective of normal historical patterns for milk, it was a very large drop.

That drop in production occurred at a time when dairy markets were in fairly good balance. In 1972 government purchases totalled 5.3 billion pounds on a milk equivalent basis; not a small amount but not terribly large either. Between 1973 and 1975 government purchases averaged 1.8 billion pounds m.e. Moreover in all three years commercial disappearance or use of dairy products actually exceeded farm marketings of milk. This situation is extremely rare in the dairy sector and may have been unprecedented. In and of itself, these conditions would seem to justify higher farm prices for milk.

The larger macroeconomic backdrop at this time featured a President intent on waging war against inflation and a Secretary of Agriculture who was determined to get government out of agriculture. Thus federal support prices for milk were increased by only minimal amounts, despite strong political pressures to increase them further. The increases were rather modest given the increase in feed prices.

To make up for the domestic shortfall in production, the President authorized temporary increases in dairy imports, which are generally restricted by quotas. Although small in quantity relative to domestic production, these were huge percentage increases in imports. The political repercussions were equally large. The quota increases added considerable fuel to the political fire started by the administration's reluctance to increase supports and gave impetus to the growing political activities of the emerging large regional dairy cooperatives.

To rectify the apparent unfair treatment dairy farmers received under the Nixon and Ford administrations, candidate Carter pledged to substantially increase the support price for milk. President Carter kept his promise and raised the support price by 9% in April 1986.

That price increase took place at about the same time that market forces had pretty well sorted out the short supply problems of 1973 to 1975. Between 1975 and 1976, milk production increased 4.4%, more than making up for the drop in 1973. The economic justification for increasing support price in 1976 was dubious but the political justification seemed great.

An impressive increase in commercial disappearance in 1976 kept net removals and government costs low, in spite of the Carter price increase. Not wishing to be outdone by the President, Congress enshrined a policy of higher and more frequently increased milk price supports in the Food and Agriculture Act of 1977 and then approved continuing legislation in 1979. Regardless of the predilections of some economists at the time, this policy of milk prices supported to 80% of parity, with semiannual adjustments, did not seem to result in excessive production. Production increases were moderate and were generally matched by consumption increases through 1979.

Starting in 1980 this happy pattern changed drastically. Commercial disappearance actually declined in 1980 whereas farm marketings increased more than 4%. Particularly with an economically and fiscally conservative President back in office, it was clear something should be done. At a minimum, it was decided, further mandated increases in support prices should be called off. Five years after President Carter initiated the increases in price supports, President Reagan signed legislation to prevent the last semiannual adjustment required under the 1979 legislation. From that time until now Congress and the Administration have repeatedly struggled to find policies to stem the tide of milk production without undue hardship on the nation's dairy farmers.

The policy response to rising surpluses and their attendant problems was timid and incremental at best. It took from 1980 to 1982 to conclude that further price increases were not needed. And it took from 1982 to 1984 or 1985 to appreciate that price decreases were warranted. To avoid price decreases, which are naturally unpopular among legislators as well as farmers, the successive Congresses became increasingly experimental.

In early 1981, the last semiannual adjustment was rescinded. The Agriculture and Food Act of 1981 essentially severed dairy policy's last ties to the parity standard and offered a policy of Congressionally specified but fairly small price increases. In early 1982 it became clear that even these modest increases were not warranted; however the political process stalled in the Congressional agriculture committees. The innovation wrought in 1982 was a policy of direct assessments on dairy farmers to cover part of the cost of the price support program and to provide some disincentive to further dairy farm entry and expansions. The ink was hardly dry on the Omnibus Budget Reconciliation Act of 1982 when the hue and cry over assessments began. After several months of bitter debate and judicial challenges and stalemates, the first assessments were collected in April 1983.

In the meantime dairy cooperative leaders pressed for a program that would reward farmers who voluntarily reduced their milk production. By the end of 1983 the Dairy Production Stabilization Act (DPSA) was completed and the next experiment in dairy policy began. The DPSA was a masterful piece

of political compromise which included elements of all the proposals that had been advanced. There were provisions for price cuts, assessments, nationwide authority to support milk promotion through farm check-offs, and the Milk Diversion Program. The price cuts to reduce production and assessments to raise revenue were not politically desirable; however they became acceptable when coupled with a producer designed and supported voluntary program that offered payments to farmers who agreed to reduce their future sales relative to their past sales--the Milk Diversion Program (MDP). The MDP succeeded in reducing production and net removals, and the assessment brought in enough revenue to mostly offset the cost of the MDP; so overall costs of the price support program declined in 1984. Supporters declared victory for the MDP, but the rapid rebound in production upon the expiration of the MDP on April 1, 1985 left the majority of policymakers in doubt of its usefulness. There was little interest in continually reviewing and renewing dairy policy and less in making the MDP a permanent fixture.

The normal farm policy-making process began again in 1985, meaning that dairy would have to be discussed again, and it was clear that something else needed to be done. Milk production was well on its way to setting a new record in 1985 and net removals were increasing although they stayed far short of the 1983 record thanks to impressive increases in commercial sales. The 1985 Food Security Act (FSA) resulted in a variation of the 1983 dairy legislation that authorized some price cuts and assessments but replaced the Milk Diversion Program with a new program that offered payments to farmers who agreed to dispose of their cattle and cease producing milk for at least five years. Thus was born the Dairy Termination Program (DTP), or buyout as it is more popularly known.

Although the process that led to the dairy provisions of the FSA was in many ways similar to that which led to the DPSA two years earlier, there were some significant differences. The DPSA and particularly its MDP component were for the most part designed by the dairy cooperatives which maintain a high profile in Washington. The House agriculture committee, which sponsored this approach, did little to alter the program suggested by dairy industry leaders in 1983. In 1985, the same dairy industry leaders offered another package, but this time it was not so readily accepted by the House. Although what finally emerged in the House's version of the FSA was not greatly different from what had been suggested by industry, the final bill that came out of conference had some striking and significant differences. The final bill rejected the proffered notion of setting prices according to an index intended to reflect farm costs, instead it gives the Secretary of Agriculture the authority to reduce supports at the beginning of the year based on projections of net removals (government purchases) for that year. It more or less abandons the MDP approach that industry leaders preferred and replaced it with a stronger approach that was less palatable to and not designed by the normal Washington circle of dairy farmer leaders. Compared to the 1983 act, the 1985 bill would have deeper price cuts and its supply control measures would be more stringent, require a greater commitment by participating farmers, and be more likely to have long-run benefits. Due to the Gramm-Rudman deficit reduction bill, the total assessments may also be larger as well.

### Will It Work?

The effects of the FSA, in particular the buyout program, are only now beginning to be felt. Although the program had barely begun it soon acquired many detractors who were convinced that it would offer no relief, either permanent or temporary. Many of the buyout's detractors are quick to compare it to the MDP. It is argued that both are voluntary, have only short-term effects, and are easily manipulated by participants; they are mostly a political gimmick having no long-run value. Those are harsh comments, but the comparison is not as close as the detractors suggest. Although both programs are voluntary, the buyout requires a total dispersal of cattle and termination of milking. That is certainly a stiffer requirement than the partial reductions required by the MDP. The likelihood of positive long-run effects, i.e. participants staying out of business, is surely higher than what one expected and observed with the MDP.

A production rebound after the MDP was a certainty. Some participating farmers or their resources could reenter (or stay) in dairying after the buyout, but this is far less likely. The fact that a total dispersal was required of buyout participants is one reason for that; another reason is the rather different profile of participants under the buyout versus those who participated in the MDP. The MDP invited what has come to be known as "air", i.e. farmers could cash in on prior reductions relative to their base, without doing anything new. It is more likely and it appears to have been true that poorer or less successful farmers found the partial cutbacks required under the MDP easy to achieve. Better or more successful farmers mostly ignored the MDP. With the buyout the reverse seems to be true.

In the beginning most analysts suspected that the buyout would draw heavily among farmers who were near retirement and those in the worst financial shape. It is undoubtedly true that the program appealed to these two groups, but the profile of those who actually are participating is quite different. Certainly many participants are farmers who had planned retiring anyway or who were financially strapped; however there seems to be a large percentage of farmers in the buyout who had been in good financial shape and were operating well managed successful farms. Farmers who were in poor financial shape, especially due to high debts--the primary cause of financial stress--tended to offer bids calculated to totally eliminate or substantially reduce their outstanding debt. That resulted in high bids that were ultimately rejected. On the other hand, profitable farmers who may very well have been able to sustain those profits, found that if the government would pay them what we now (a posteriori) would call a reasonable or acceptable bid, they could do as well or better than by milking cows. It proved to be cheaper to buy out profitable farms than to pay the debts of poorer farms.

Another benefit of the bidding process is that it lowered average program costs. By accepting bids on the buyout instead of offering the same payment to everyone as was done with the MDP, the average cost of the buyout is also much lower. The MDP payment was \$10 per cwt of milk production reduced relative to the farmer's base (because the bases that were used were not current, the payment for actual, new reductions was substantially higher). The average cost of the buyout program will be one-third the MDP

payment of \$10. (Those lower average payments do not necessarily mean that the \$10 MDP payment was overly generous. Partial cutbacks that result in underutilized capacity on farms put those farms in a high cost situation; hence a high payment is needed to induce participation.)

Thus it is argued that by eliminating dairy cattle, retiring milk producing assets, and attracting a different profile of participants, the buyout is more likely to have positive longer lasting effects than did the MDP. How great or long lasting will those effects be? That will be determined by other economic factors separate from the buyout. The key to any long-run solution is the expected and obtained profitability of dairying. If dairy farming looks sufficiently profitable five years from now, many buyout participants may be induced to reenter. Similarly, other new entrants will be encouraged and nonparticipants will be encouraged to expand. If milk price is reasonable relative to the prices of milk producing inputs, then such expansion will not be encouraged and the buyout will likely be judged a success. It could then be argued that the buyout had positive long-run effects that exceeded what could have been obtained with the same price policy sans the buyout and certainly the buyout will have hastened the adjustment.

What happens to the nonparticipants over the next few years, especially those poorer, struggling farmers is a nagging and troublesome question of keen social and economic concern. For them the buyout is no longer an option, they are left with the other components of the FSA--price cuts and assessments.

#### Price Cuts Under the FSA

Through compensating adjustments in the support price and assessment, the FSA essentially provided a 50 cent cut in farm supports at the start of the bill and sustains it through 1987. Beginning in 1988 and through 1990, the Secretary of Agriculture is permitted to reduce the support price by 50 cents/cwt on January 1 if he determines that annual net removals would otherwise exceed 5 billion pounds (m.e.) for the ensuing year. If all three cuts are taken, the support price could fall to \$9.60 (60 cents above the price President Carter proclaimed in 1976).

The first price cut in 1988 will likely be warranted, if current conditions continue. However the justification for further price cuts depends on a host of economic factors, the future condition of which we could only guess. Chief among these are feed prices, but other input prices may also be important, particularly if they change considerably. Perhaps most notable among these other input prices are interest rates, which could have important impacts on farmers whose debts are high.

Current expectations are that generally lower input prices will favor increased milk production. Feed prices will follow lower grain prices, resulting from lower loan rates for the major feed grains. Real interest rates are currently very high. There is considerable speculation about what will happen to nominal rates, but where they will be in 1988 and beyond, much less where real interest rates will be, is anybody's guess.



### New Supply Control Measures?

Another factor that seems to be leading to increased production right now is a rather perverse one that is not strictly economic, certainly not financial, in nature. It is the feeling on the part of a sizeable portion of dairy farmers that we are a short step away from mandatory supply controls, involving in one form or another quotas based on historical production records for each farm. Strong feelings, especially in the Upper Midwest, that such programs are not only desirable but inevitable are leading to what has been called a "race for base". By increasing production now, these farmers are hoping to create the largest possible historical base from which their quota would be calculated. There seems to be no region where sentiment in favor of mandatory controls is greater than the Upper Midwest, but support for it pervades all regions.

It cannot be denied that there is considerable support for the concept of mandatory controls and that some farmers are reacting to the "inevitable" by increasing their milk production--racing for base. Contrary to this and of considerable significance is the current denunciation of mandatory controls by political leadership, particularly by those who have been supportive of industry initiatives in the past. Members of Congress who have been viewed by their peers as leaders with respect to dairy policy, have strongly denounced mandatory supply controls. Congress and the administration has precious little interest in fiddling with dairy policy before the FSA expires in 1991.

Defense of their current program is surely part of this Congressional response, but it also reflects that Congress has been and likely will continue to be much less favorably inclined toward mandatory agricultural programs than they have been toward voluntary programs. Despite the sentiment of the large number of farmers who currently are attracted to them and regardless of the pressure dairy cooperative leadership could bring to bear, mandatory supply controls are a political long shot at best. As the political reality of this sinks in, the race for base effect on milk production will diminish. Some industry observers are already speculating that the initial fervor has peaked or at least reached a plateau pending some new stimulus. For farmers who continue to expand production without a concomitant increase in net returns, the race for base will be exceedingly costly and may hasten their involuntary retirement from dairying.

Although mandatory controls are unlikely, another round of voluntary buyouts is possible. The FSA permits buyouts or MDP-like programs starting in 1988. Another MDP is unlikely, given the record of the last one, but if the buyout is working smoothly and seems to be holding production in check, another buyout could be viewed as a politically acceptable alternative to further price cuts. This becomes even more likely if it appears that production increasing technology, such as bovine growth hormone supplements, will cause severe disruptions in the smooth operation of existing programs and dairy markets.

### Supply and Utilization Prospects

Recent figures and 1986 projections for the supply of milk and the use of dairy products are given in Table 1. The 1986 projections and forecasts for 1987 and 1988 are discussed below.

#### Milk Production

Before the FSA was passed, USDA predicted milk production to reach 148 billion pounds in 1986, assuming the prevailing support price stayed in effect and there were no other policy changes. Shortly after the FSA was passed, most analysts projected that production would be held close to the 1985 level, although probably not less than that. More recent forecasts are more pessimistic, showing production increases of two billion pounds or more relative to 1985. If this proves to be the case, it would still be an improvement over what would have occurred without a buyout program, but the program clearly would have fallen far short of its mark.

Table 1. U.S. Supply and Use of Milk

	1983	1984	1985	1986
	----- bil. lbs. -----			
Production	139.7	135.4	143.7	144.8
Farm Use	2.4	3.1	2.6	2.3
Marketings	137.3	132.3	141.1	142.5
Beginning Commercial Stocks	4.6	5.2	4.9	4.6
Imports	2.6	2.7	2.8	2.8
TOTAL	144.5	140.2	148.8	149.9
Commercial Disappearance	122.5	126.7	131.0	135.0
Ending Commercial Stocks	5.2	4.9	4.6	4.6
Net Removals	16.8	8.6	13.2	10.3
TOTAL	144.5	140.2	148.8	149.9
	----- \$/cwt -----			
Farm Price				
All Milk	\$13.57	\$13.45	\$12.73	\$12.25
Assessment	\$ .48	\$ .50	\$ .13	\$ .35

A more favorable outcome is shown in Table 1. For the reasons mentioned above, production is estimated to increase about one percent relative to 1985. Given the more pessimistic consensus forecast, this level is not without some hope attached to it; nevertheless it is in line with the monthly trend in production for 1986 and the gradual phasing in of the DTP. A continuation of those trends will lead to this outcome. Analysts who peg 1986 production at higher levels are not giving full credit to the impact of the buyout this fall and may be overestimating the underlying growth rate of milk production on nonparticipating farms.

Through August 1987 the DTP will take larger and larger bites out of production. The DTP will be more or less fully implemented by spring 1987. This is particularly significant because the first half of the year is the period when the majority of the year's milk is produced (and when most of the year's federal purchases of dairy products occur). The DTP for the most part missed this crucial season in 1986. That surely suggests a larger buyout effect in 1987 than occurred in 1986. The fervor for mandatory supply controls and the race for base will abate. The possibility of further, substantial price cuts will loom larger. Declining input prices will have an opposite effect, but that may be less of a factor in 1987 than it has been in 1986. Add to this the distinct possibility of further Gramm-Rudman assessments or even price cuts and the net revenues of dairy farmers in 1987 could substantially deteriorate. Thus, factors point to lower aggregate production as the stimuli to expand production are reduced and more farmers leave dairying in the face of declining returns.

Further declines in input costs, especially feeds, could provide some stimulus to milk production in 1988. Farmers' expectations with respect to price cuts and future policy changes may be the deciding factor in determining production changes in 1988. If the type of scenario presented above actually unfolds in 1987, one could speculate that there may be a production increase in 1988, but it would not be large.

#### Commercial Disappearance

Changes in commercial disappearance, or the use, of dairy products will be critical to the perceived success of the dairy provisions of the FSA, even though it is not clear that dairy policy will have much direct effect on commercial use. From 1983, commercial use of dairy products has increased at unprecedented annual rates. The industry has been enjoying those increases, while analysts are at a loss to really understand why they occurred. To be sure, moderate and even declining nominal prices, declining real prices, and a reasonably strong economy have contributed to strong sales, but a clear understanding and quantification of the factors that explain those increases in sales continue to escape industry observers and analysts.

Without being fairly certain of their current cause, it is difficult to predict whether those increases will persist. Most analysts are predicting that they will. One of the major reasons to be hopeful may be the increasing attractiveness of dairy products to the food service industries and their use in prepared foods. Consumer trends are encouraging food service

and prepared food industries to stress high quality foods and ingredients. The inherent quality of dairy foods and their improving cost competitiveness with substitutes could greatly enhance their use in these cost conscious food industries.

The three billion pound increase in commercial disappearance shown in Table 1 probably reflects a consensus forecast. Based on USDA reports for the first half of 1986, it certainly seems to be a level that could easily be attained. The prospects for further decreases in real retail prices and perhaps even nominal price declines suggest that this rate of increase could be maintained in 1987 and 1988.

#### Net Removals

Net removals of dairy products under the price support program are projected to be between 1984 and 1985 levels in 1986 (see Table 1). At midyear USDA is already very close to the 10 billion pound level. This is not entirely inconsistent with normal seasonal patterns of federal purchases, but it implies that net removals will be very low for the remainder of the summer and net sellbacks--purchases by industry from the government--could occur later this year.

Net removals could decline very close to the five billion pound target specified by Congress if production declines substantially in 1987 and commercial use increases three billion pounds or so. With further increases in commercial disappearance, it is quite possible to keep net removals near that level in 1988, provided production is not stimulated further.

#### Beyond 1988

Additional price cuts in 1989 and 1990 might be warranted. That will depend on two major factors, the level of input prices and the prevalence and success of productivity increasing technologies. Input prices could conceivably fall dramatically under current legislation; however practical factors, world events, and Mother Nature could intervene to lessen or prevent these large drops. Bovine growth hormone and other productivity increasing technologies could have dramatic effects and seem to be on the horizon of commercial application. However the expected dates of their first application continue to be postponed as industry reaction calls for further study and even injunctions on their use. Such technologies cannot be delayed forever, and less dramatic ones will inexorably push productivity up even if at a slower rate, nonetheless those factors may not provide any large boost to production before the FSA expires.

Barring any significant change in the economic and technical factors and any drastic turnabout in Congressional and administrative philosophies, the long-run path set by the FSA will be adhered to at least through the life of the bill, if not longer. Programs such as the buyout are an important part of the fabric of the FSA, but the long-run path for dairy policy is more than ever before defined by the willingness to let price move in response to market conditions, even if it means moderate but persistent

drops in the support price. Unless we become willing to reverse course and embark on the path of more direct supply controls, price increases do not seem imminent for quite some time. But policies, like the buyout, to augment, blunt, and minimize price cuts may become increasingly important, particularly in the face of dramatic increases in productivity induced by new technologies and the improved and expanded use of existing technologies. The challenge for future applications of this type of dairy policy will be to better target their effects to meet social goals relative to a depressed farm and rural community than to achieve purely economic goals relative to supply and demand in dairy markets.

