

The Evolution of Dairy Price Policy in California: Our Unique System for Distributing Milk Revenue

by

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The California dairy industry generates about \$4.5 billion in gross farm revenue, more than any other agricultural industry in the state. The dairy industry is also one of the most heavily regulated and supported agricultural industries in California. This article examines how the role of government has evolved in one part of the California milk marketing and pricing system. We describe the creation of the system in the 1930s, and some key transitions, before analyzing the current methods for distributing milk revenue among producers. The system currently revolves around a policy-created asset that is tradable among producers in a market that has many of the characteristics associated with financial markets.

The early history of milk market regulation in the United States parallels that for many agricultural commodities. The beginning of the Great Depression in 1929 brought a collapse of prices and market disruption. However, the milk pricing system that was created is quite different from other government-supported agricultural commodities and also quite different than the systems for horticultural commodities, most of which developed with much less direct government price and market regulation. The same forces that led to the federal milk marketing order system created the California system, but from the very early years California has had its own separate set of programs for dairy.

The Agricultural Adjustment Act and The Young Act of 1935

President F. D. Roosevelt signed the Agricultural Adjustment Act of 1933 into law during the famous first 100 days of his administration. However, as with other important parts of his original set of policies, several court rulings soon made it clear that the Agricultural Adjustment Act was facing serious legal challenges. One of the constitutional issues was that the law provided for local price regulations to be set and administered through federal statute, seemingly in violation of the Commerce Clause of the U.S. Constitution, which reserved such policy for state and local government. Dairy producers in California could see the Agricultural Adjustment Act crumbling. The

California Farm Bureau Federation, milk producer associations, and others pushed for state legislation that would accomplish the same ends. On June 1, the Young Act, which effectively codified the dairy title from the Agricultural Adjustment Act, became state law. By the time a new federal law that avoided constitutional problems became effective a bit later, the California program was up and running, and so the state never joined the federal milk marketing order system.

The Young Act granted eligible producer groups the opportunity to set minimum prices as part of a marketing plan for fluid milk in each marketing area. The plans defined marketing areas, minimum prices by end-use of milk, and fair trade practice requirements. The minimum price formulas, under the guidance of the Director of the California Department of Food and Agriculture, were to maintain an “economic relationship” between the fluid-use and manufacturing-use milk prices. Unlike the federal system, which also set minimum prices by end use and thus also accomplished price discrimination, the California milk marketing orders did not provide for revenue pooling among farmers.

Like most attempts to “stabilize” agricultural markets, the Young Act was an emergency response to the marketing conditions of the 1930s. Of course, the economics of milk marketing changed significantly over the three decades that the Young Act regulated milk pricing and marketing in California. These changes highlighted a tension that existed when the Act first took effect.

The lack of pooling meant that producers who had contracts to deliver milk for fluid use (Class 1) received a substantially higher price for milk that in many cases was identical to milk used for manufacturing purposes. If it would have been legal to do so, qualified producers without contracts would have found it profitable to supply milk at below the state-set minimum price, and bottlers would have found it profitable to accept such offers to sell.

Tension existed between producers with and without contracts, and bottlers were able to require their suppliers to comply with extraneous requirements in

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order to keep their contracts. Even those producers able to maintain contracts to supply milk for the Class 1 price were vulnerable to contract termination because there were many producers willing to take their place. The Young Act was able to last through the end of the depression, the World War II era, and the early post-war period, but as milk production expanded even faster than Class 1 demand, pressure mounted for a change.

The Quota Approach to Milk Revenue Dispersal

A simple revenue pooling system as used in federal milk marketing orders seemed politically unacceptable in California because it would have imposed major losses on farmers who held Class 1 contracts. But, farmers who did not have Class 1 contracts wanted to share in the higher income from the lucrative fluid milk market. Both groups of farmers wanted an end to the vulnerability to what they considered to be unreasonable demands by processors.

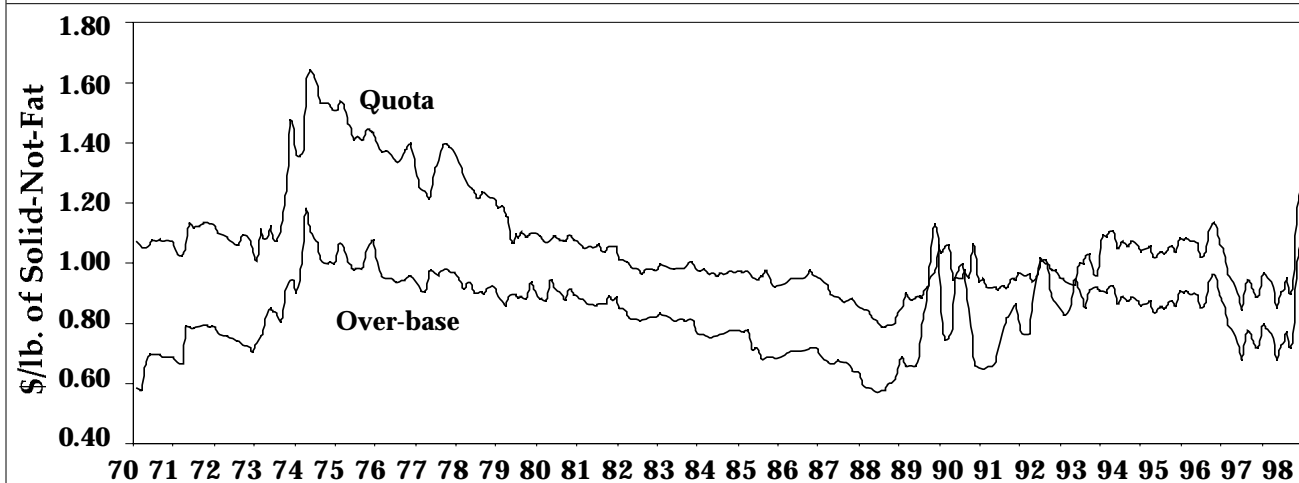
Finally after years of legislative effort, research from the University of California, and discussions among producers led to a program that adequately addressed the various farmer concerns. The Gonsalves Act of 1967 kept the system of higher prices based on fluid use of the milk, but ended the system requiring individual Class 1 contracts. Instead, the Gonsalves Act pooled milk revenues from these higher-priced-sales and distributed the revenues partly to producers who had held Class 1 contracts under the old system and partly to other producers.

Farmers who had a history of Class 1 contracts were assigned enough quota to assure them the highest price for that portion of their milk that had previously been under contract. Other farmers were assigned the rights to new quota that was created as Class 1 sales expanded. Thus, over time, producers who had previously not had access to the high-priced market got a major share of the new Class 1 revenue. In addition, quota was marketable so any eligible producer could buy into the system. Also, since the right to the additional revenue through quota was not tied to the actual use of any producer's milk, bottlers could buy milk from any eligible producer but were required to pay into the pool based on the use of the milk. The new policy provided benefits to most California milk producers and only marginal losses to a few producers who had previously held contracts and expected to expand their Class 1 sales. Consumers and bottlers were essentially unaffected because the total revenue paid for milk was not affected, only the way in which it was dispersed among farmers.

The Quota Policy Evolved

The policy created in the late 1960s remains in place today. Significant changes have been rare, but a few are worth noting. First, because the expansion of total quota had proceeded more slowly than some had expected and many producers still held relatively little quota, in 1978 the California legislature distributed a substantial amount of new quota to existing producers. This improved milk revenue for those who got the new quota, but reduced returns per unit of quota. Second, in 1989, fluctuations in the national dairy market

Figure 1. Deflated Prices of Quota-Milk and Over-base Milk, by Month



Source: CDFA, Milk Stabilization Branch, Dairy Information Bulletin, various years.

Note: Prices in 1992 dollars.

caused the pool price for milk for manufactured products (the over-base price) to jump above the price of quota milk (Figure 1). The return to quota hinged on the differential between the quota-milk price and the price of over-base milk, therefore this price inversion meant that the monthly revenue associated with quota ownership experienced large swings and was even negative on occasion. In subsequent years, the CDFA attempted various *ad hoc* policies to prevent the price inversions. Finally, in 1994, the California legislature simply fixed the differential between the quota and over-base milk prices at \$0.195 per pound of solid-not-fat.

The milk revenue distributed to quota owners, which is shown as the difference between the quota-milk price and the over-base milk price in Figure 1, has naturally been capitalized into the value of the quota asset. We now turn to that asset market.

The Market for Quota as an Asset

By using a marketable quota to distribute revenue among dairy farmers, the California milk marketing policy is unlike the policy in other parts of the United States. The value of quota is significant. Annual flow returns to quota ownership are about five percent of total milk revenue, and the total capital value of quota is currently about \$900 million. About 80 percent of dairy farmers own some quota, but most produce milk far in excess of the amount of quota that they own.

The historical pattern of the deflated price of milk quota is displayed in Figure 2. Figure 2 shows that the price of quota has fluctuated from month to month, but there have been three distinct periods, 1973, 1978 and 1994 when the price of quota has fallen in deflated

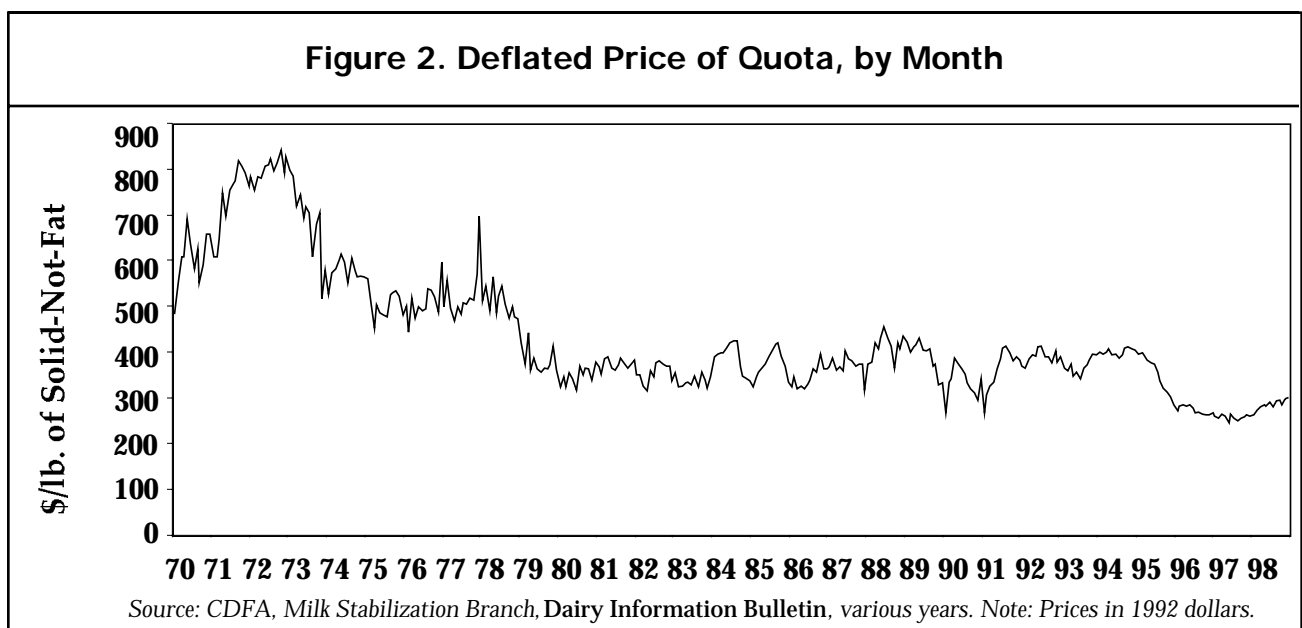
terms. The market price of quota has fallen from a peak of more than \$800 per pound of quota in 1973, to a low of about \$250 per pound of quota in 1997, measured in inflation-adjusted 1992 dollars. As with the price of other assets, the price of California milk quota depends on anticipated future revenues and on the anticipated future capital gains or losses. These expectations about the future can also be explored by comparing returns to quota ownership to returns from investments in other assets.

Figure 3 on page 6 shows the annual average rate of return to investments in California milk-quota.

This rate of return includes: (1) the flow of additional milk revenue each year, plus (2) the value of new quota if any is allocated during the year, plus or minus (3) any change in the price of quota during the year, all divided by the price of quota at the beginning of the year. From 1970 to 1998, this rate of return to quota averaged 26 percent, although, as Figure 3 shows, the rate of return, has ranged from a negative return in three years to more than 40 percent in seven years. For comparison, Figure 3 also shows the annual rate of return to investments in stocks (the S&P 500) and bonds (the 10-Year U.S. Treasury security). The average return to quota far exceeded the average return to stocks (about 15 percent) and bonds (about 8 percent). As measured by the coefficient of variation, the variability of the quota return (3.2) was high relative to that for the 10-Year U. S. Treasury Security (0.3) but not relative to the S&P 500 (4.0). Unlike stocks, most of the observed return to quota, close to 90 percent, was from the current flow return during the year

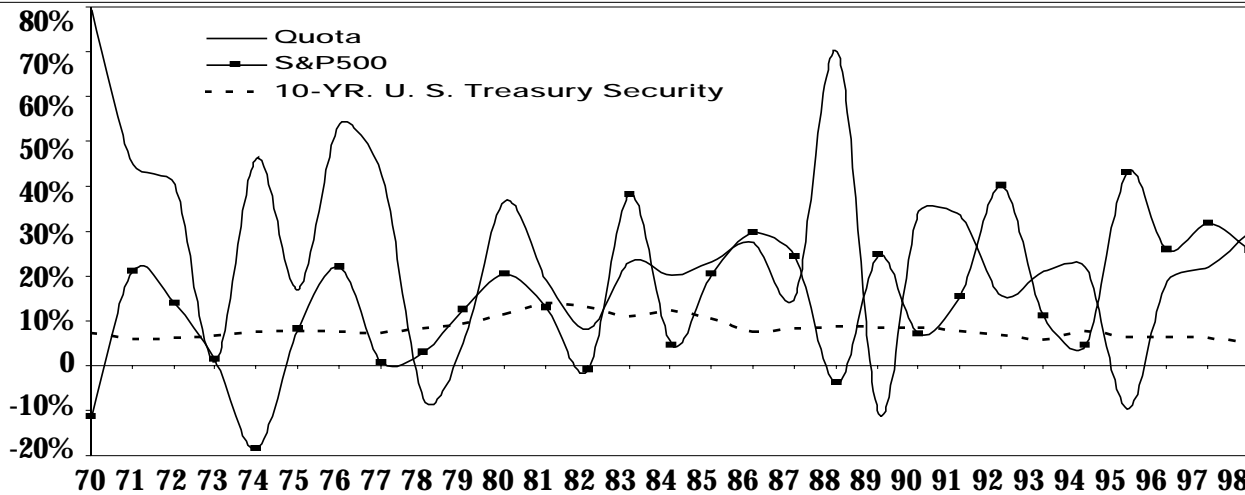
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Figure 2. Deflated Price of Quota, by Month



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Figure 3. Annualized Monthly Rate of Return to Milk-Quota Compared to Alternative Investments



Source: Authors' calculations from national and CDFA sources. Details provided upon request.

rather than capital gains or losses. However, as with stocks, the capital gain contributed most of the variability to annual quota return.

In evaluating the risk of a particular investment, one must evaluate how much that asset contributes to the overall risk of the relevant portfolio. In this regard, we note that the annual rate of return to quota has had a small negative correlation with returns to investments in the S&P 500 and the 10-Year U. S. Treasury Security. Therefore, ownership of milk-quota would have lowered variability of returns in a portfolio comprised mainly of these assets. Of more relevance we found that the returns to quota covaried negatively with net returns to milk production in California. Thus an investment in milk-quota has contributed to stabilizing total farm returns for producers who have invested in quota. This stabilizing effect means that the extremely high rate of return experienced by owners of milk-quota cannot be explained by added variability of overall returns to quota owners relative to other dairy farmers. Investments in quota have not been risky in the portfolio sense that quota adds to the variability of returns. In fact, just the opposite is true, and for this reason one might expect the rate of return to owning quota to be lower, not higher, than the average investment.

After examining the historical data, and discussing this issue with farmers and others, our conclusion is that the high rate of return to milk-quota reflects farmers' concern that the quota program itself may be unsustainable. That is, although the quota program has been operating for more than 30 years, farmers

still do not have confidence in the future of this government policy. This lack of confidence keeps the price of quota low relative to the flow return received in the milk check. This consequently keeps the rate of return high.

Summary

For sixty-five years California has operated a milk pricing policy that is separate from the program operated by the federal government for most of the rest of the United States. For the past 30 years California has used a quota system to distribute pooled revenue from milk sales. Most dairy farmers own some quota, and quota is traded in an active market that is much like that for other financial assets. The average annual rate of return, about 26 percent, is high relative to that for other assets. This high rate of return seems to reflect uncertainty that dairy farmers hold about the continued future operation of the program. Despite more than 30 years of experience, dairy farmers are not convinced that the program will continue to provide higher milk revenue and avoid severe capital loss. Thus they demand above-normal returns to investments in the policy-created asset.

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