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6/24/01

Hearing Background Resource ^b

Dairy Industry Statistics Related to Hearing Issues and the California Milk Pricing and Pooling Programs

The intent of this statistical document is to assist in the understanding of the issues raised at a public hearing, within the context of the economic regulation of the dairy industry. It applies specifically to the California Milk Pricing and Pooling programs and is also useful in understanding the operation of federal milk marketing orders.

THE CALLING OF THE HEARING

The California Department of Food and Agriculture (Department) has scheduled public hearings for 8:30 a.m. Thursday, June 28, 2001 in Ontario, California at the Airport Marriot Hotel, 2200 East Holt Boulevard, and for 8:30 a.m. on Monday, July 2, 2001, at the Department's Auditorium at 1220 N Street in Sacramento. These hearings will consider amendments to the Stabilization and Marketing Plans for Market Milk based on a petition received from the Imperial County Agricultural Commissioner's Office. The hearings will consider the Commissioner's proposal to provide for transportation allowances to haul milk from Imperial County into the Southern California receiving area and to add San Diego County to the Southern California receiving area.

In addition, the hearings will consider other changes to the Pooling Plan and Stabilization Plans including provisions for transportation allowances, transportation credits, the milk movement requirement, Regional Quota Adjusters (ROAs), and the Class 1 price differential between the Southern and Northern California Marketing areas.

DEPARTMENTAL EXHIBITS

This resource document is based on the Departmental Exhibits scheduled to be made part of the hearing record on June 28 and July 2, 2001. When material from the exhibits is used in this document, it will be cited in the text and referenced by exhibit number (HE#). In order to avoid long citations, a shorthand is used. Thus, the twelfth exhibit proposed to be entered into the hearing record, the "Monthly Pooling Summary Data," can be referred to as HE#12. All previous issues of hearing exhibits #8 through #40 will be entered by reference. If any material in this background document uses a previous issue of a Hearing Exhibit, an asterisk will be added to the shorthand. Thus, previous entries of the "Monthly Pooling Summary Data" can be referred to as HE#12*.

ECONOMIC DAIRY REGULATIONS

California Food and Agricultural Code Section 61801, *et seq.*, provides the authority, procedures, and standards for establishing minimum farm prices by the California Department of Food and Agriculture (Department) for the various classes of milk that processors (handlers) must pay for milk purchased from dairy farmers (producers). These

statutes provide for the formulation and adoption of Milk Stabilization and Marketing Plans for Market Milk (Stabilization Plans).

The Gonsalves Milk Pooling Act, California Food and Agricultural Code Section 62700, *et seq.*, authorizes the Secretary to operate a statewide pooling system under specified guidelines. These statutes provide for the formulation and adoption of Milk Pooling Plans for Market Milk (Pool Plan).

These statutes identify legal requirements and public policies that the Department is charged with implementing and enforcing. The determinations resulting from any hearing are made pursuant to the authority vested in the Department by statute and in furtherance of the important State purposes embodied in the governing statutes.

Some 95 percent of the market grade (Grade A) milk produced in the U.S. is subject to regulation under federal orders (73 percent) or state marketing programs (22 percent). The remaining Grade A and all Grade B milk are not subject to minimum price regulations. All grades of milk are impacted by the federal support price system.

California is not part of a federal milk marketing order; like ten other states, it has its own state-specific, milk marketing program. Currently there are two marketing areas: Northern California and Southern California. Each marketing area has a separate but essentially identical Stabilization and Marketing Plan. Each plan provides formulas for pricing five classes of milk.



CALIFORNIA DAIRY INDUSTRY

In 2000, California was the largest milk producing state in the U.S. California dairy farmers marketed 32.2 billion pounds of milk, which represented 19.2 percent of the nation's marketings. California's share of U.S. production is up from 14.1 percent in 1990 and 10.6 percent in 1980. California has also seen increases in cow numbers. In 2000, California had more cows than any other state in the U.S.: 1.5 million adult milk cows representing 16.5 percent of the nation's total herd. California's share of U.S. cow numbers is up from 11.4 percent in 1990 and 8.3 percent in 1980.

DYNAMIC INDUSTRY CONDITIONS

The relevant statutes recognize that conditions affecting the California dairy industry are subject to change over time. As such, the Department's regulation of the California dairy industry in accordance with the governing statutes and the public interest must be modified as appropriate when, as necessary, to address issues created by changing conditions. Since the beginning of economic regulation in 1935, much has changed:

- ◆ Dramatic increases in total milk production have been matched by equally dramatic decreases in numbers of dairy farms and dairy processing plants. From 1936 to 2000, there has been a seven-fold increase in milk production from 4.2 billion pounds to 32.2 billion pounds. Data on numbers of producers and processors is not as extensive. However, from 1940 to 2000 there was an 88.7 percent decline in number of dairy farmers from 19,428 to 2,195. From 1960 to 2000, the number of dairy processors declined about 81 percent from about 600 to 113. In addition to the decline in numbers, dairy processors have become more specialized. In 1960, many of the 600 processors made multiple class products. In 2000, most of the 113 processors specialized in only one or two classes. (see HE#23* and HE#24a*)
- ◆ The historic declines in number of dairy farms and processing plants do not capture the extent of the consolidation that has occurred in recent years. In 1985, there were 7 processing cooperatives each with a single plant; there were also 12 strictly marketing cooperatives. Today, there are only 4 processing cooperatives with as many as five plants each; there are also 5 strictly marketing cooperatives. In 1985, 18 of the cooperatives were strictly California based, while one had a few members in Northwestern Nevada. Today, the nation's three largest dairy cooperatives all have a presence in California. Two are headquartered out of state, while the nation's second largest cooperative is strictly California based.
- ◆ California has always had processing plants owned by national proprietary firms. However, in the last few years, there has been a major consolidation of fluid plants both nationally and in California. The nation's two largest fluid proprietary processors both have established a major presence in California through acquisition of former California firms. There has also been a trend away from grocery chains operating their own integrated fluid milk plants.
- ◆ As a percent of total milk fat production, fluid milk products declined from 65 percent in 1952 to 13 percent in 2000 attributed to: increased milk production, decreased consumption of fluid products, and introduction of lowfat milk.
- ◆ The declining importance of milk fat has resulted in changes in producer pricing. Pricing was fat-based until 1955; fat/skim-based from 1955 to 1962; mixed fat/skim and fat/solids-not-fat-based from 1962 to 1969; and fat/solids-not-fat-based since 1969.
- ◆ The number of classes of milk have changed with changes in production and marketing of dairy products: four classes prior to 1950; three classes from 1950 to 1968; four classes from 1968 to 1982; and five classes since 1982.
- ◆ Technology has improved the ability to ship bulk and packaged milk greater distances. Marketing areas were consolidated to reflect this technology. In the mid-1950's, there were 37 marketing areas in California; currently, there are only two.

A dynamic industry requires that the Department ensure that economic regulations are modified when necessary to ensure that the Pooling Plan and the Stabilization Plans continue to implement state policies and promote the public health and welfare.

SUPPLY, DEMAND, AND PRICES TO CONSUMERS

Milk Production and Supply. Many factors ultimately determine milk production. However, the most obvious ones are the number of milk cows and milk production per cow. More complex factors (output prices, input costs, weather, and environment) all affect cow numbers and production per cow.

Table 2 shows that California and other western states have been increasing milk cow numbers, while in the rest of the nation, cow numbers have been declining. The net result is a long-term decline for the nation as a whole. From 1990 to 2000, California dairy cow numbers increased at a 2.9 percent annualized rate, with a 3.0 percent increase in the last twelve months. During this same period, California's share of U.S. total cow numbers increased from 11.4 percent to 16.5 percent.

	Calif.	Other Western 1/	Other U.S.	U.S.	Calif. Share	Other Western Share
Milk Cows in Thousands						
1990	1,135	913	7,946	9,995	11.4%	9.1%
1991	1,155	929	7,745	9,828	11.8%	9.4%
1992	1,158	968	7,546	9,672	12.0%	10.0%
1993	1,210	1,006	7,375	9,591	12.6%	10.5%
1994	1,235	1,079	7,215	9,529	13.0%	11.3%
1995	1,254	1,133	7,079	9,466	13.2%	12.0%
1996	1,264	1,164	6,926	9,354	13.5%	12.4%
1997	1,389	1,191	6,744	9,324	14.9%	12.8%
1998	1,401	1,209	6,532	9,142	15.3%	13.2%
1999	1,466	1,254	6,439	9,159	16.0%	13.7%
2000	1,523	1,316	6,376	9,214	16.5%	14.3%
2000-2001 2/	1,541	1,328	6,341	9,209	16.7%	14.4%
Percent Change						
10 year ave. 3/	3.0%	3.7%	-2.2%	-0.8%		
Current 4/	4.3%	7.0%	-1.7%	0.4%		

1/ Alaska, Arizona, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming
2/ 12 months ending March 2001
3/ 1990 to 2000
4/ April 1999-March 2000 compared to April 2000-March 2001

Source:
HE#34*

Table 3 shows that production per cow has been increasing all across the U.S., especially in the last twelve months. California is among the top states in production per cow. In 1990, California production per cow was 31 percent higher than the rest of the nation. For the twelve months ending March 2001, it was 24 percent higher.

Table 3 - MILK PER COW

	Calif.	Other Western 1/	Other U.S.	U.S.	Calif. Relative to other US	Other West. Relative to other US
Milk per Cow in Pounds per Year						
1990	18,456	17,148	14,057	14,839	131%	122%
1991	18,534	17,455	14,315	15,107	129%	122%
1992	19,078	17,930	14,870	15,680	128%	121%
1993	18,948	17,993	14,855	15,701	128%	121%
1994	20,439	18,616	15,015	16,126	136%	124%
1995	20,170	18,575	15,410	16,419	131%	121%
1996	20,421	18,924	15,376	16,499	133%	123%
1997	19,894	19,306	15,715	16,796	127%	123%
1998	19,705	19,760	16,219	17,222	121%	122%
1999	20,777	20,442	16,559	17,766	125%	123%
2000	21,169	20,805	16,992	18,227	125%	122%
2000-2001 *	20,968	20,623	16,846	18,083	124%	122%
Percent Change						
10 year ave. 3/	1.4%	2.0%	1.9%	2.1%		
Current 4/	-0.6%	-0.7%	0.8%	0.6%		

1/ Alaska, Arizona, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming
 2/ 12 months ending March 2001
 3/ 1990 to 2000
 4/ April 1999-March 2000 compared to April 2000-March 2001

Sources:
 HE#8d
 HE#34

Table 4 shows that with the combination of increasing cow numbers and increasing production per cow, California and other western states have had increasing milk production. In the rest of the nation, milk production has been decreasing. The net result is an increase in milk production for the nation as a whole. From 1990 to 2000, California milk production increased at a 4.4 percent annualized rate, with a 3.6 percent increase in the last twelve months ending March 2001. During this same period, California's share of U.S. milk production increased from 14.1 percent to 19.2 percent.

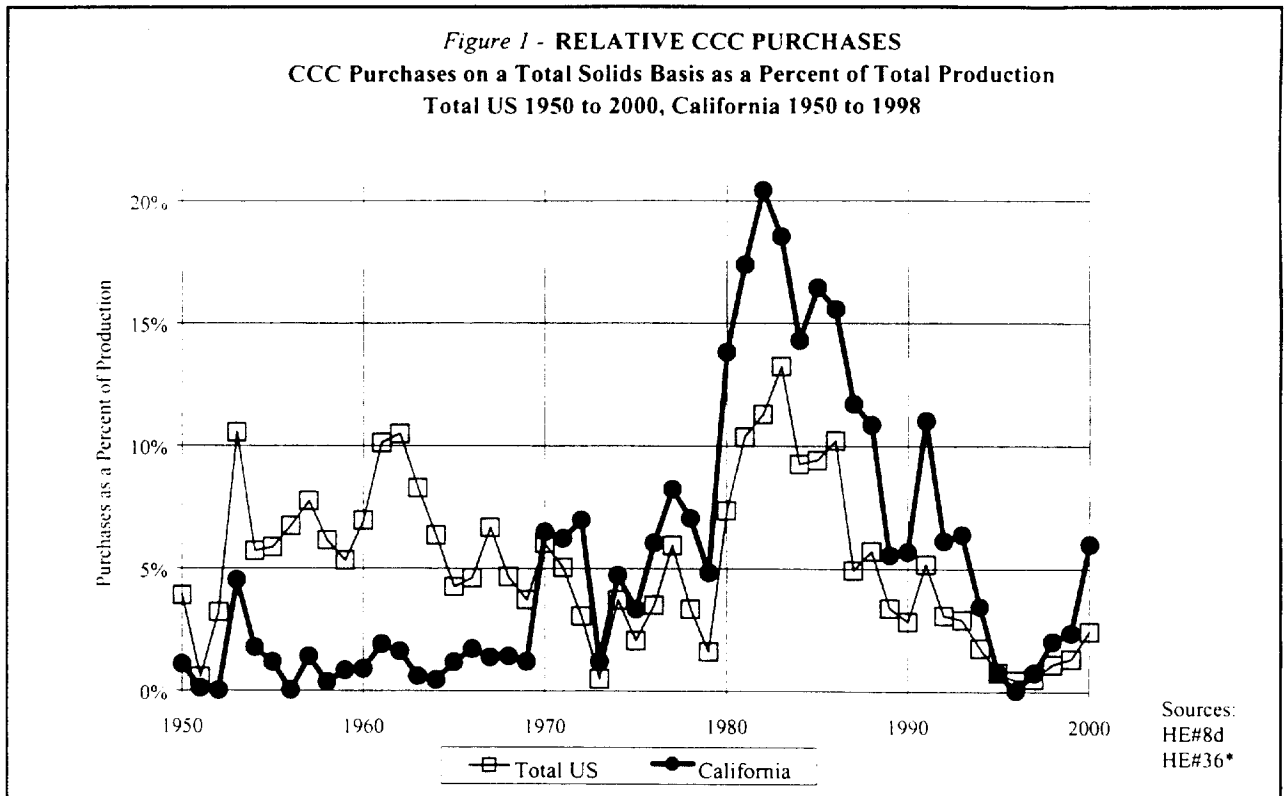
Table 4 - MILK PRODUCTION

	Calif.	Other Western 1/	Other U.S.	U.S.	Calif. Share	Other Western Share
Milk Production in Millions of Pounds per Year						
1990	20,947	15,663	111,703	148,313	14.1%	10.6%
1991	21,407	16,207	110,863	148,477	14.4%	10.9%
1992	22,092	17,349	112,206	151,647	14.6%	11.4%
1993	22,927	18,094	109,561	150,582	15.2%	12.0%
1994	25,242	20,085	108,337	153,664	16.4%	13.1%
1995	25,293	21,045	109,087	155,425	16.3%	13.5%
1996	25,812	22,027	106,492	154,331	16.7%	14.3%
1997	27,628	22,993	105,981	156,602	17.6%	14.7%
1998	27,607	23,890	105,944	157,441	17.5%	15.2%
1999	30,459	25,626	106,626	162,711	18.7%	15.7%
2000	32,240	27,371	108,341	167,952	19.2%	16.3%
2000-2001 2/	32,311	27,388	106,823	166,522	19.4%	16.4%
Percent Change						
10 year ave. 3/	4.4%	5.7%	-0.3%	1.3%		
Current 4/	3.6%	6.2%	-0.9%	1.0%		

1/ Alaska, Arizona, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming
 2/ 12 months ending March 2001
 3/ 1990 to 2000
 4/ April 1999-March 2000 to April 2000-March 2001

Sources:
 HE#8d
 HE#34*

Federal Support Purchases and Supply. Federal purchases of dairy products through the CCC are a reflection of general supply conditions. Generally, when supplies are long, CCC purchases are up. When supplies are short, CCC purchases are down. Historic CCC purchases have been highly variable. Relative to total production, total U.S. CCC purchases were large for brief periods in the mid-1950's and early 1960's. CCC purchases from both California and the rest of the U.S. were large for an extended period in the 1980's. In 1983, CCC purchases peaked at 13.2 percent of total U.S. milk production on a milk equivalent basis. Before that time, California did not produce enough manufactured products to have a significant impact on CCC purchases. During most of the 1990's, purchases from both California and the rest of the U.S. had been below historic averages and continued to trend downward. Since 1995, CCC purchases have represented less than two percent of total U.S. milk production. CCC purchases have begun trending upward. As of April 2001, there were no uncommitted federal inventories of butter or Cheddar cheese. However, for the first time since May 1996, there are uncommitted federal inventories of nonfat dry milk (NFDM) (see HE#8d, HE#36*). (see Figure 1)



Demand: Many factors ultimately determine demand for California dairy products. However, the most obvious ones are total population and per capita consumption. More complex factors (income, employment rates, product price, consumer tastes) all effect population change and per capita consumption. Also, depending on the dairy product, the relevant population and per capita consumption can be on a statewide, regional, national, or international basis. Table 5 shows the relative change in pooled milk utilization. Classes 1, 2 and 3 have lost production shares to Classes 4a and 4b.

Table 5 - POOL UTILIZATION
California Total Milk Solids

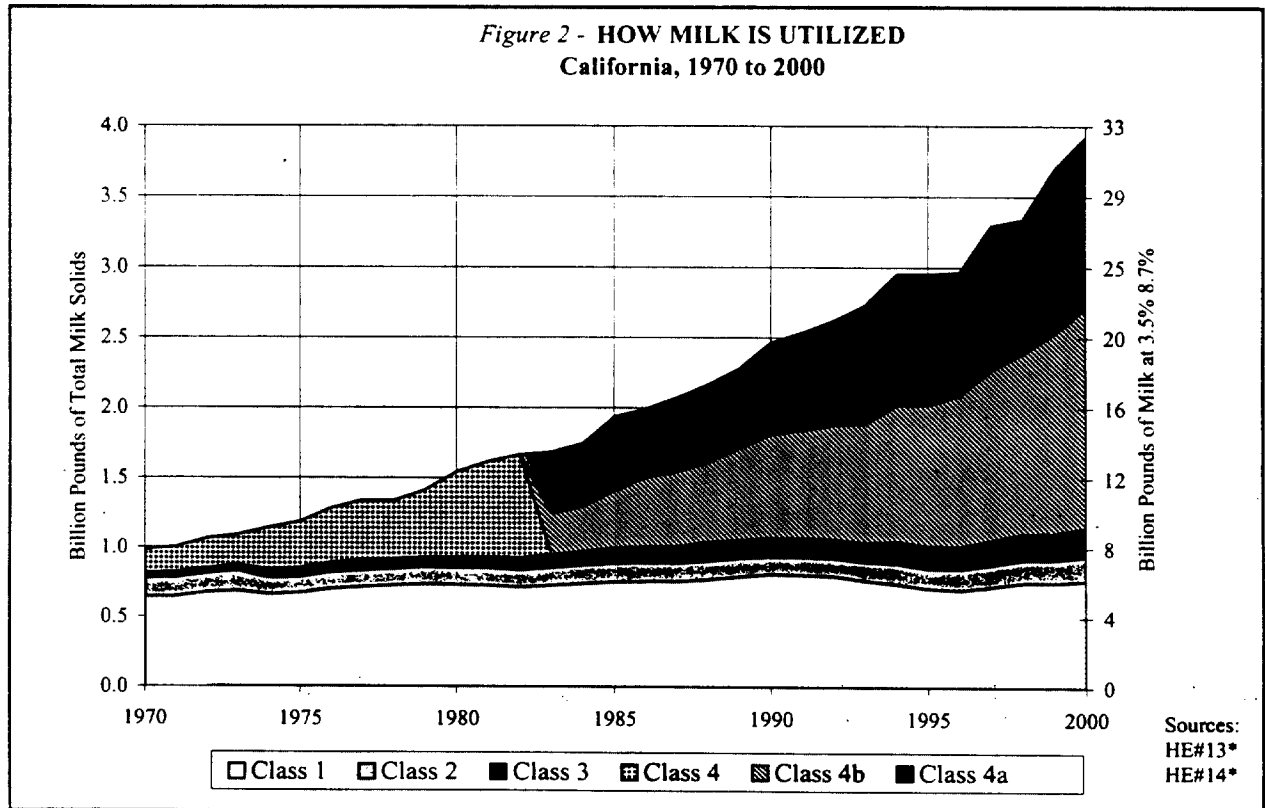
	Class 1	Class 2	Class 3	Class 4a	Class 4b	Total	
Market Share based on Fat plus SNF Utilization							
1989	35%	6%	6%	25%	29%	100%	
1990	33%	5%	6%	26%	30%	100%	
1991	32%	5%	6%	27%	30%	100%	
1992	30%	5%	5%	28%	31%	100%	
1993	28%	5%	5%	31%	31%	100%	
1994	25%	5%	6%	31%	33%	100%	
1995	24%	5%	6%	31%	34%	100%	
1996	24%	5%	6%	29%	36%	100%	
1997	22%	5%	6%	31%	37%	100%	
1998	23%	5%	6%	28%	38%	100%	
1999	20%	4%	5%	32%	38%	100%	
2000	20%	4%	5%	31%	40%	100%	
Percent Change							
'10 year ave.	1/	-0.6%	3.4%	4.4%	6.3%	7.8%	4.8%
Current	2/	1.9%	5.5%	9.1%	3.4%	10.5%	6.2%

1/ 1989 to 1999
2/ 1999 to 2000

Sources: HE#8b, HE#13*, HE#14*

Table 5 and Figure 2 show the absolute change in pooled milk utilization. Classes 1, 2 and 3 have grown more slowly than total pooled milk production; Class 1 has shown absolute declines at times; whereas, Classes 4a and 4b have shown steady increases.

Figure 2 - HOW MILK IS UTILIZED
California, 1970 to 2000



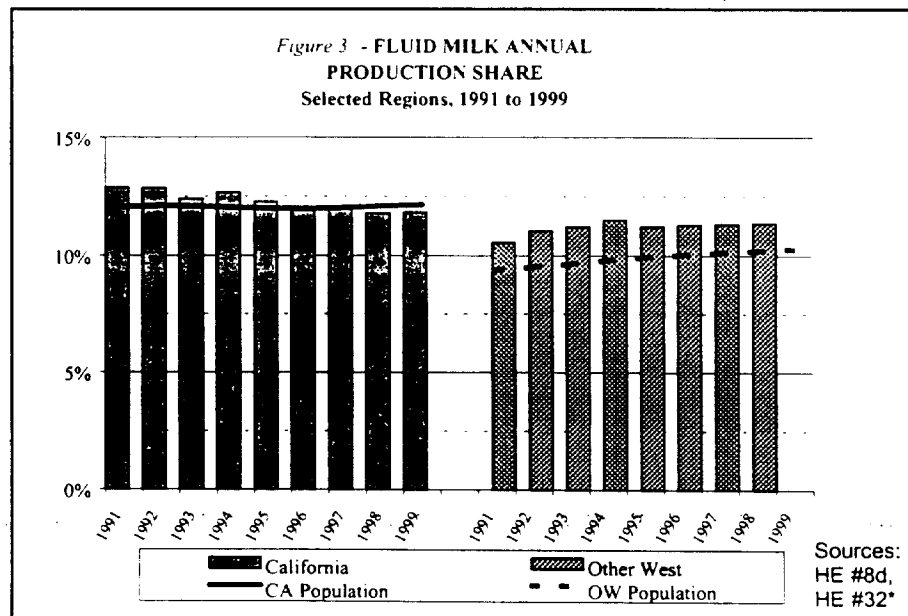
Unlike fluid milk products, manufactured dairy products have shown strong growth in commercial demand as evidenced: 1) by the rapid growth California manufacturers have experienced in production of Class 4a and 4b dairy products; 2) by robust and volatile prices on the national market for manufactured products; and 3) prior to 2000 by the low levels of CCC purchases from California.

Commercial disappearance is equal to beginning dairy inventory plus production less both sales to the CCC and ending inventory of all dairy products (fluid and manufactured). On a national basis, commercial disappearance was up in both 1999 and 2000. USDA projects that commercial disappearance will increase in 2001. (see HE#38)

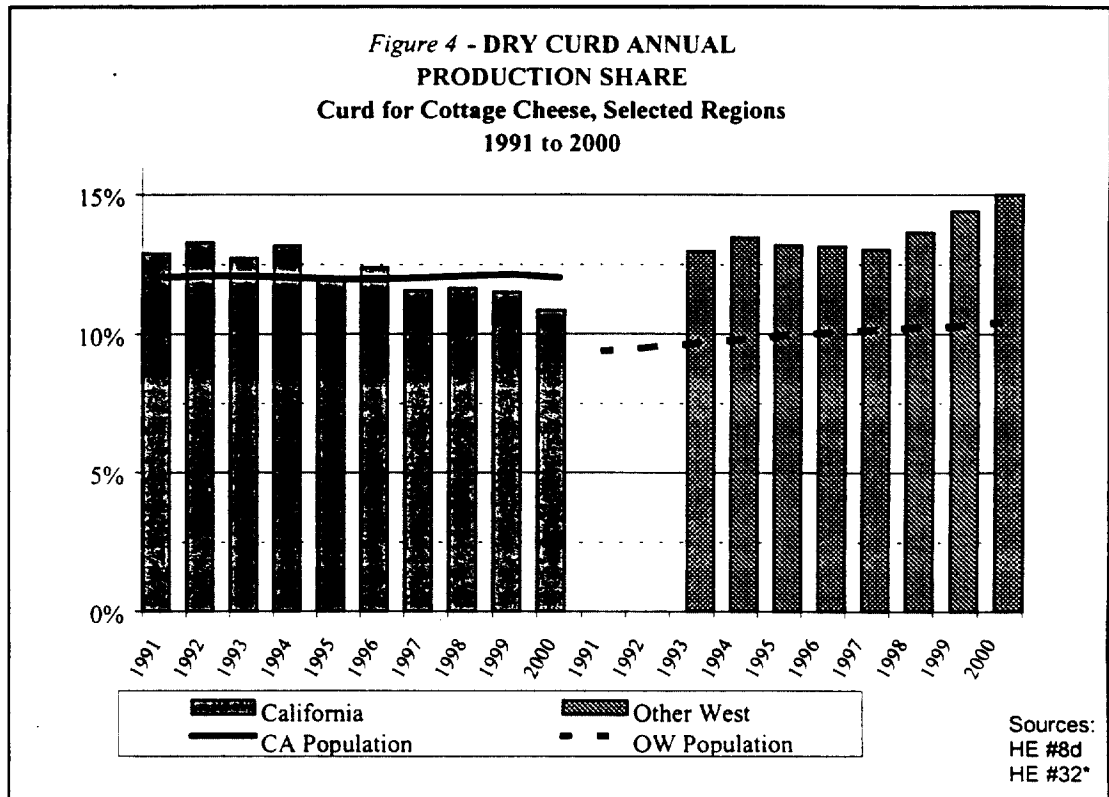
From 1970 to 2000, California's share of national milk production increased from 8.1 percent to 19.2 percent. Over that same period, California's share of U.S. population increased from 9.8 percent to 12.0 percent. California's share of various dairy products has also changed over time. Some have tracked the increases in milk production; others have been more associated with population trends (see Figures 3 through 8). These six figures show California's production share of six selected dairy products and compares that share to the production share of the other twelve western states. As defined by USDA, these states are Alaska, Arizona, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

California's milk production share (19.2 percent) greatly exceeds its population share (12.0 percent). Therefore, for almost all dairy products, California should be at least self-sufficient, with the potential for export to other states.

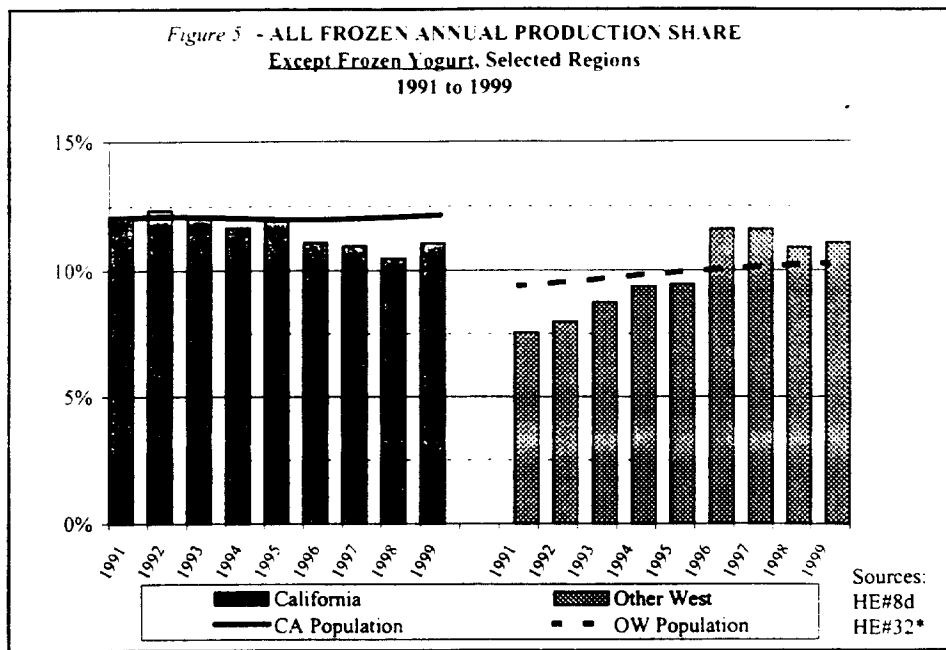
Before 1991, California's share of the national fluid market exceeded California's national share of population. This indicates either that Californians drank more milk than the national average, or that California processors supplied fluid markets in contiguous states. Since 1991, California's fluid share has fallen below its population share. For the same period, the other western states' share of the national fluid market exceeded their national share of population (see Figure 3). This indicates that California processors have lost market share.



Before 1989, California's share of cottage cheese curd greatly exceeded California's national share of population. It is not reasonable that Californians could consume these levels of cottage cheese. Therefore, California processors must have been supplying markets in contiguous states. Since cottage cheese curd production in the other western states exceeds their population share, out-of-state processors in these states have apparently been supplying the California market (see Figure 4).

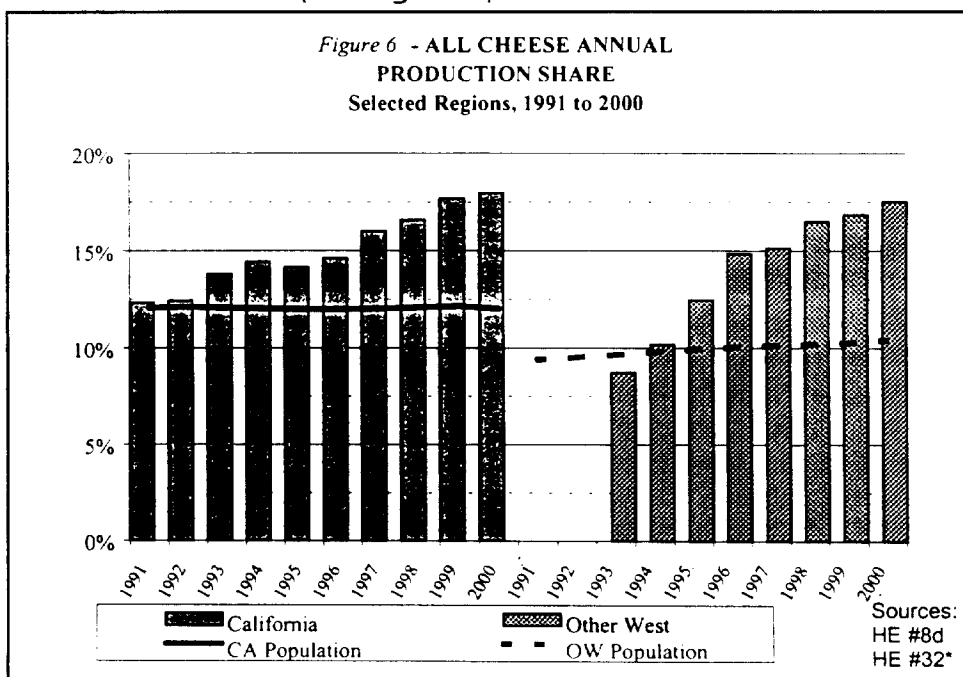


Since 1970, California's share of the national ice cream production has matched California's population share. Ice milk production has tended to lag population share and declined dramatically after 1990. Sherbet production has been much more erratic, above population share in the 1970's and late 1990's, but below in the 1980's and early 1990's. National frozen yogurt data only begins in 1994, but since that time California's production has tended to lag population share and declined dramatically after 1997. Within California, frozen yogurt production grew at an 11% annual rate from 1978 to its peak in 1990. From 1990 through 2000, it then declined at a 10% annual rate, reaching a level only twenty-three percent above California's 1978 production. Compared to other western states, California's share of total frozen products has been declining while theirs has been growing. (see Figure 5 – the figure does not include frozen yogurt, as the USDA does not publish regional data for this product). Presumably, processors in the other western states have displaced sales formally made by California processors.

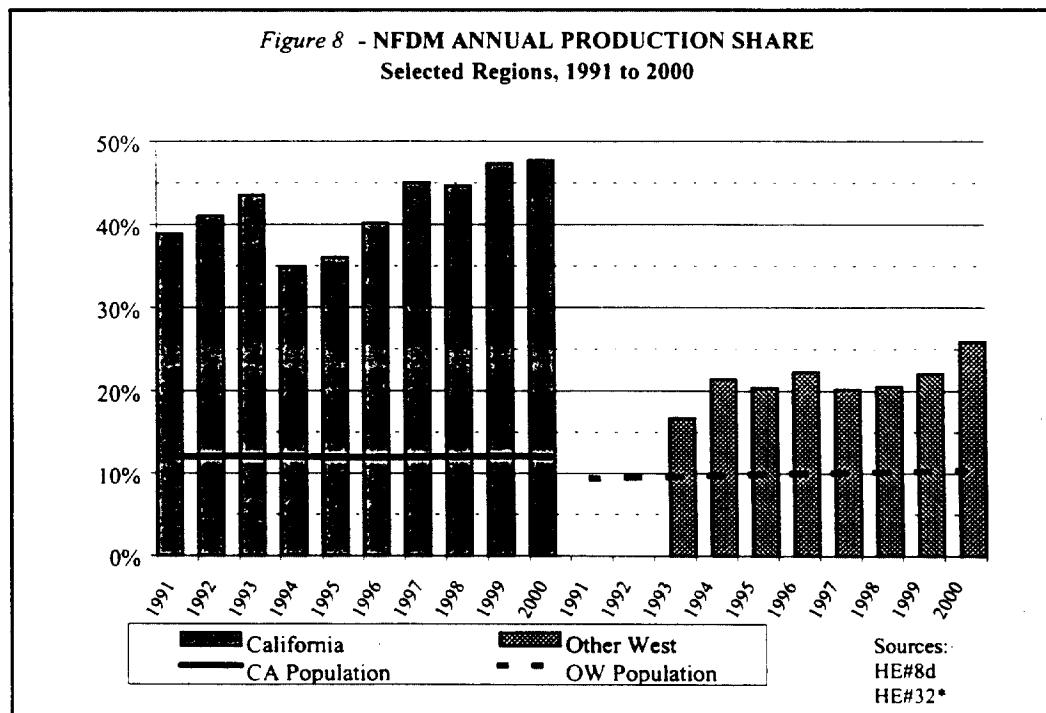
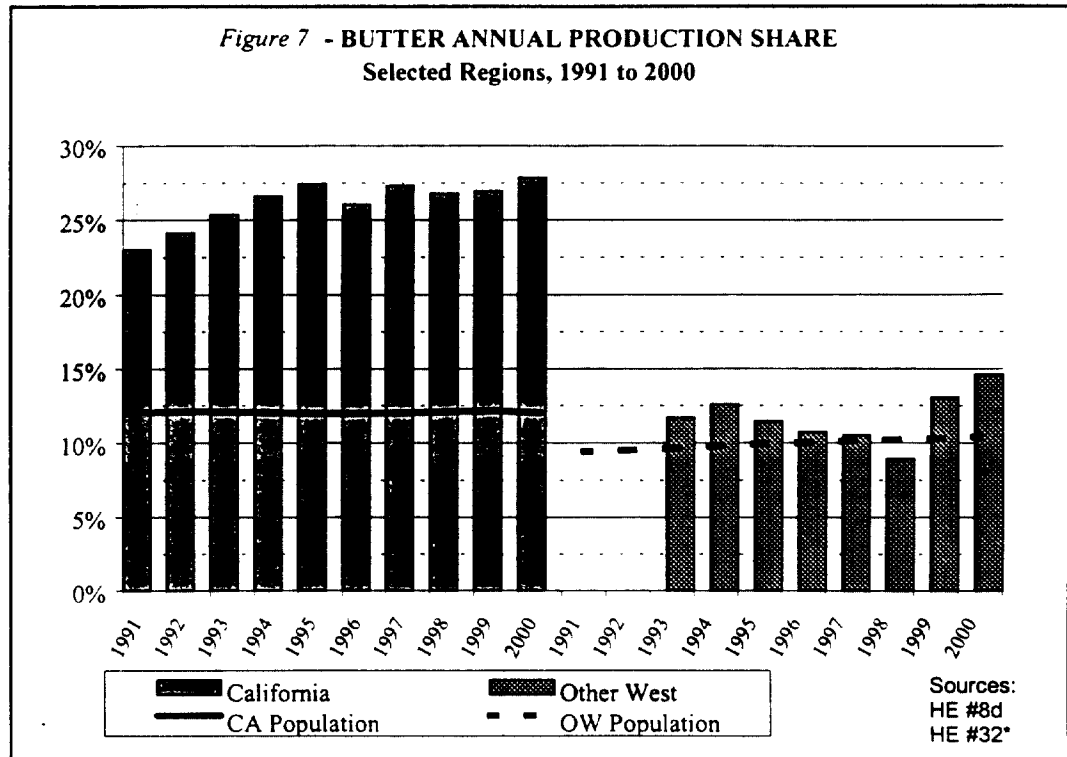


California's share of cheese production lags behind its milk production. However, California became self sufficient in total cheese production in the early 1990's. Before 1995, California's share of cheese by-product production lagged behind its share of cheese production. Since 1995, the whey protein concentrate (WPC) share has been above the cheese share, while the dry skim whey share has continued to lag below. Presumably, as California's cheese industry expanded, it chose to go with the newer technology associated with WPC production rather than the more traditional production of dry skim whey.

Both California and the other western states have increased their national shares of cheese production. However, the other western states have grown faster in some years and even briefly surpassed California for one year – 1996. Both California and the other western states cheese production exceed western needs. Thus, both must export their excess cheese to the central and eastern states (see Figure 6).

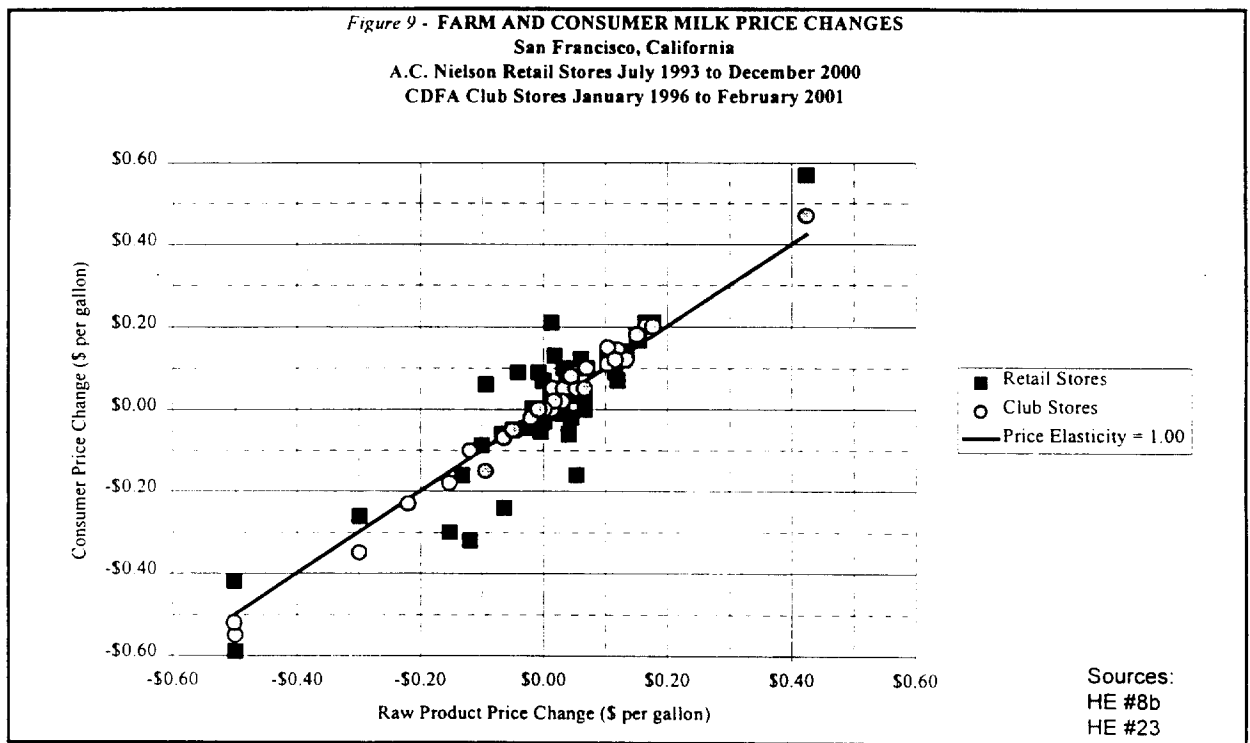


Since 1970, California's share of the national butter and NFDM production has exceeded California's population share. The other western states share of national butter production is similar to their population share while their NFDM share is well above their population share (see Figures 7 and 8). This indicates that California exports their excess butter to the central and eastern states. Both California and the other western states export their excess NFDM to the central and eastern states, as well as overseas.

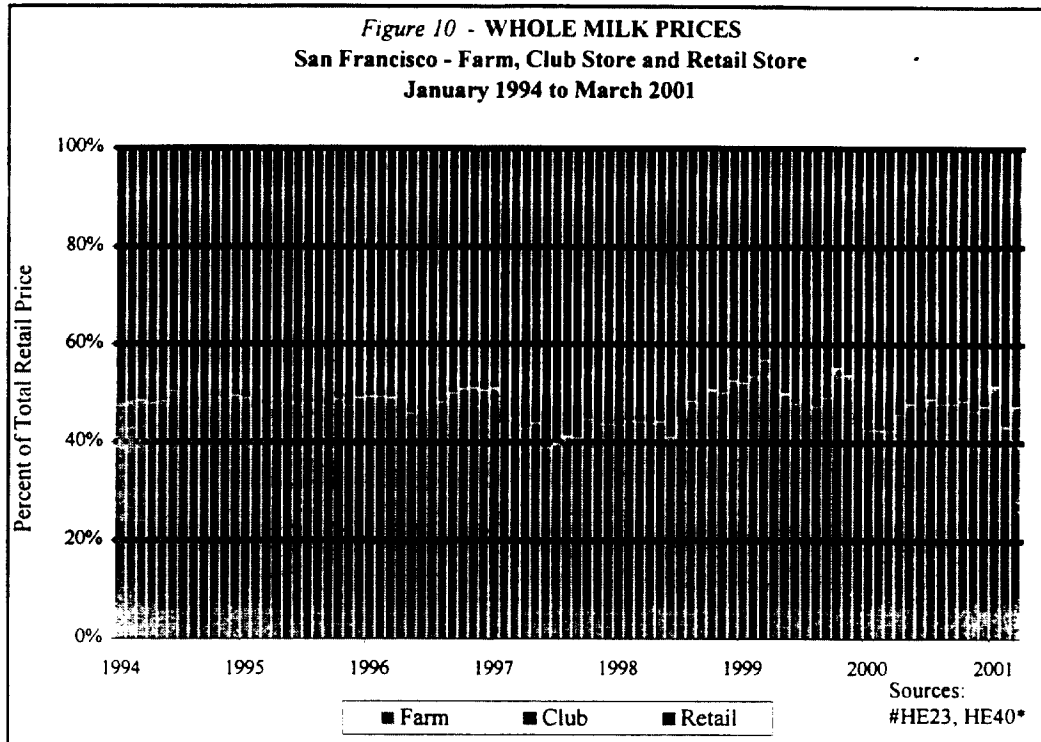


Prices to Consumers: From 1938 to 1978, the Department regulated retail milk prices. However, the Department no longer has the statutory authority for such regulation. The Department does maintain and publish data on retail milk prices from AC Nielsen data (see HE#23). There is a relationship between changes in the farm and changes in the retail price of milk. Historically, the relationship was much stronger when farm prices were increasing. When the farm price increased, the retail price increased accordingly. However, when farm prices decreased, the price change at retail did not tend to decrease at a corresponding rate. This historic view is supported by the analysis in Attachment D of the *"Economic Basis for Findings and Conclusions"* that resulted from the March 31, 1993, Class 1 hearing (see HE#44).

However, recent data suggests that this trend may no longer be true: *"California Milk Marketing Margins"* by Hoy F. Carmen, Department of Agriculture and Resource Economic, University of California, Davis. Professor Carmen found "... that there is a strong direct relationship between retail and farm level milk prices – retailers increase and decrease their prices equally in response to f.o.b. price increases and f.o.b. price decreases." This conclusion seems to be born out by the relationship between the change in farm and the change in retail prices for San Francisco as shown in Figure 9. The change in raw product cost explains 80 percent of the changes in retail store prices and 99 percent of the changes in club store prices.



Since 1994, the farm price has made up about 45 to 55 percent of the price at retail stores. The lowest price to consumers continues to be milk sold at "club membership" stores, with a 15 to 25 percent savings over the retail store price (see Figure 10).

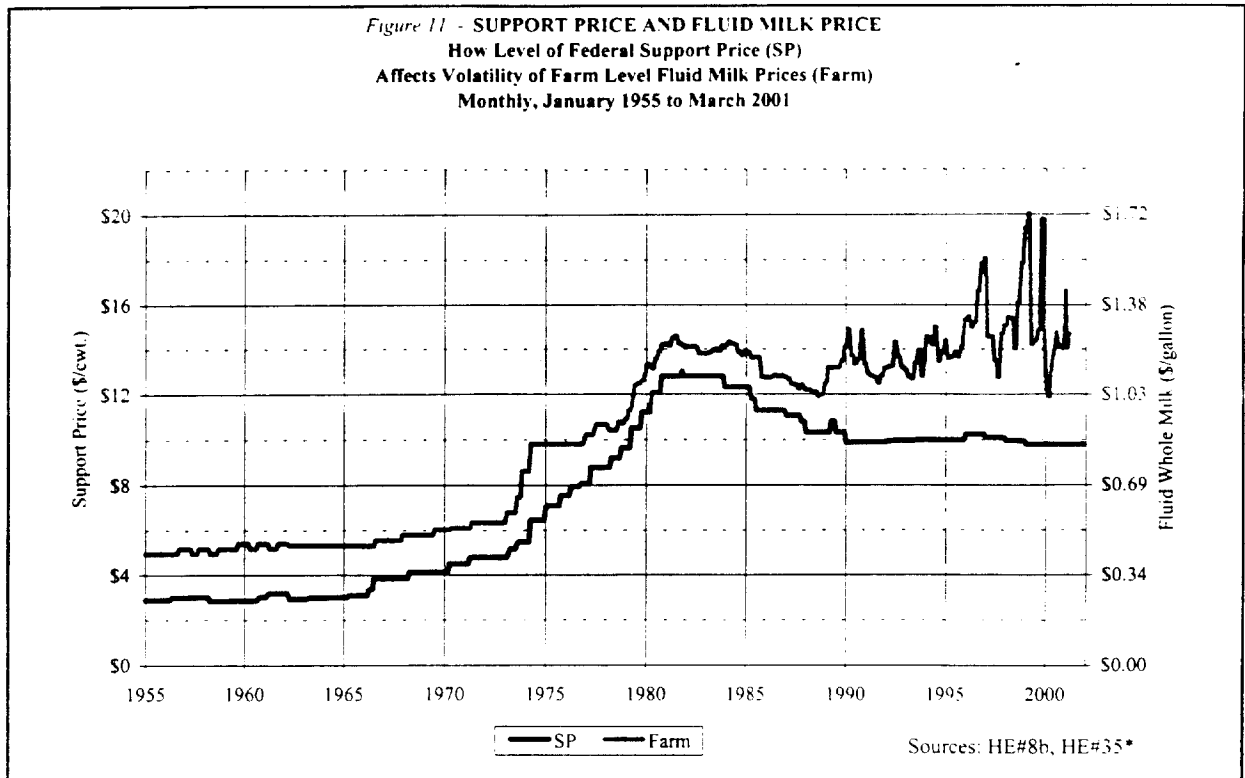


FARM AND COMMODITY PRICE RELATIONSHIPS

Between 1978 and 1987, national dairy farm prices were extremely stable. The federal support price program cleared the market when production exceeded demand by building federal inventories of butter, NFDm, and Cheddar cheese. These federal inventories were available to balance the needs of the commercial market whenever production fell short of demand.

During this period, because of the heavy influence in the marketplace of the relatively high federal dairy support price levels, commodity prices were stable from month to month. California farm prices were tied directly to commodity prices and federal order farm prices were tied indirectly to commodity prices.

Since 1987, the decrease in the federal target support price (and the accompanying decrease in support purchase prices for butter, NFDm, and Cheddar cheese) eliminated increases in federal inventories of butter, NFDm, and Cheddar cheese. Existing inventories were eliminated by domestic and foreign food aid efforts. The low federal inventories of butter, NFDm, and Cheddar cheese were no longer adequate to stabilize the market by helping to balance seasonal supply and demand. Consequently, whenever production of butter, NFDm, or Cheddar cheese has been inadequate to satisfy commercial demand, dairy commodity prices have been quite volatile. Thus, market-driven forces have led to volatility, both in California farm prices and in federal-order farm prices. (see Figure 11)



**CURRENT PRICE RELATIONSHIPS AMONG CALIFORNIA FARM PRICES,
 NATIONAL COMMODITY PRICES, AND FEDERAL ORDER FARM PRICES**

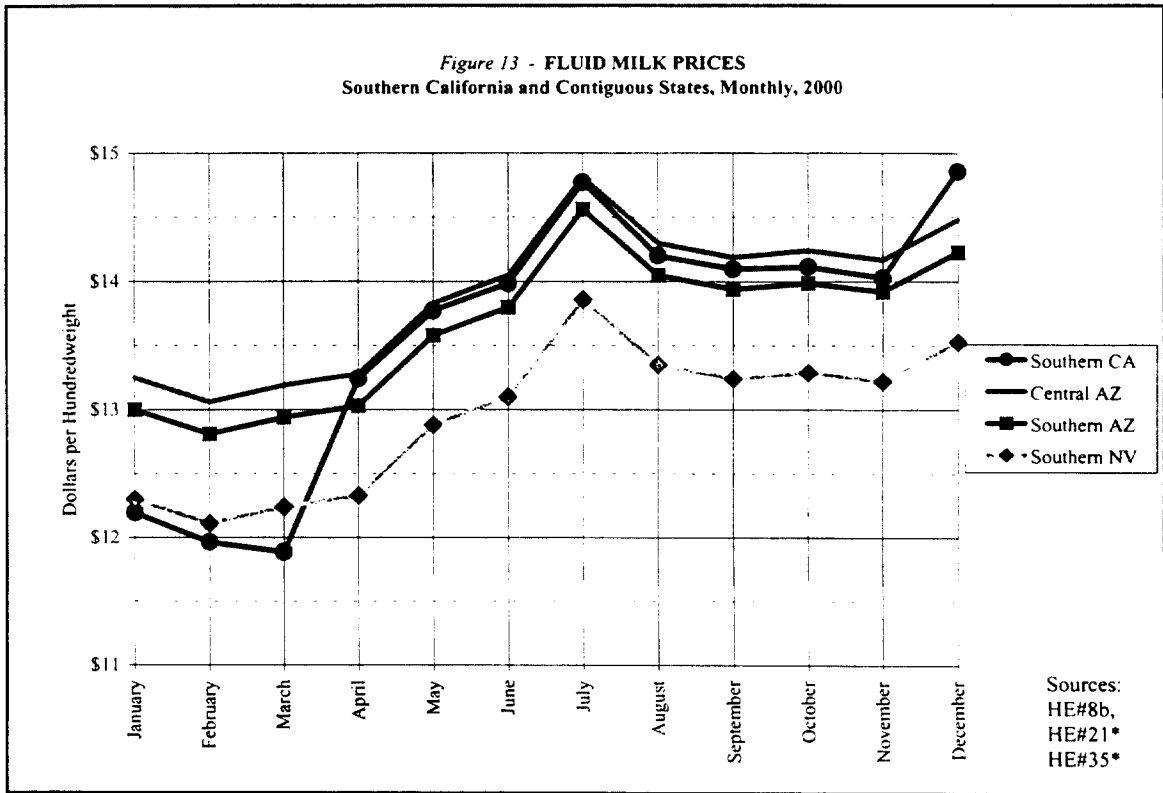
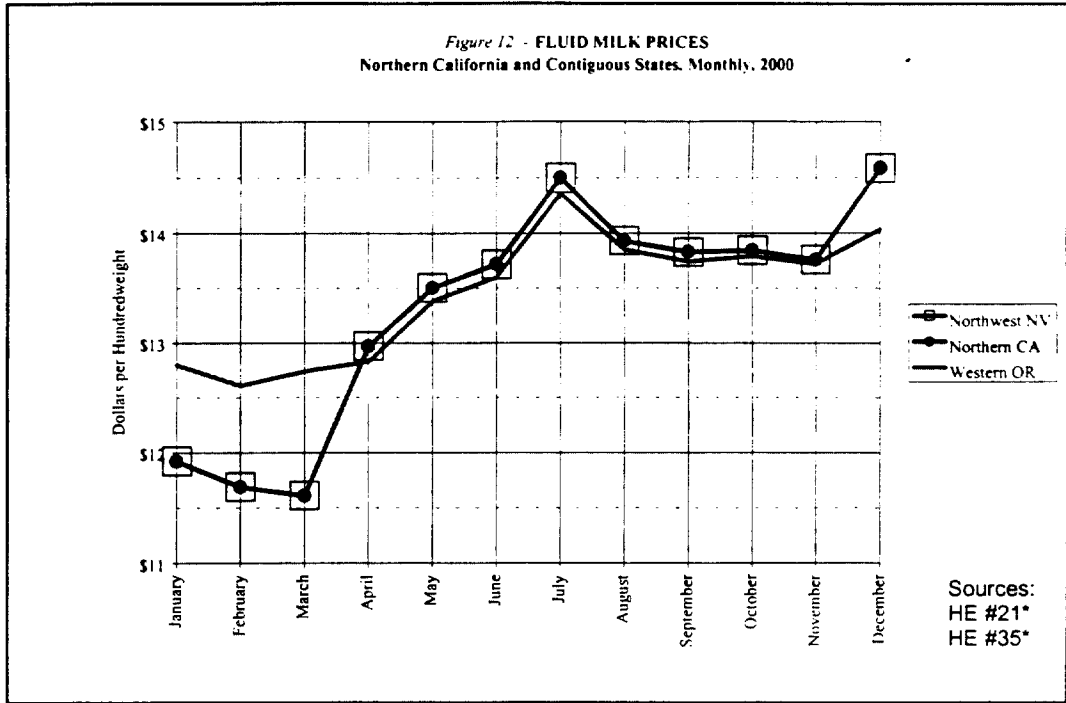
For all of 2000, California fluid milk prices on average were comparable to prices in adjacent states (see Table 6). For nine of the twelve months in 2000, the Northern California Class 1 price exceeded the Class 1 prices in Oregon (see Figure 12). For nine of the twelve months in 2000, the Southern California Class 1 price exceeded the Class 1 price in Southern Nevada (see Figure 13). For 11 of the twelve months of 2000, the Central Arizona Class 1 price exceeded the Class 1 price in Southern California.

Table 6 - 2000 ANNUAL AVERAGE FLUID MILK PRICES
California Class 1 Prices Compared to Class 1 Prices in Contiguous States

2000 Average Price	Area	Differential above Class 1 Mover	Average Equivalent Differential
\$13.90	Arizona, Central - Phoenix, Tucson	\$2.35	
\$13.65	Arizona, Southern - Yuma, Nogales	\$2.10	
\$13.59	Southern California - Los Angeles		\$2.04
\$13.46	Average California 1/		\$1.90
\$13.45	Oregon, Western - Medford, Portland	\$1.90	
\$13.32	Northern California - San Francisco		\$1.77
	Nevada, Northwestern - Reno, Winnemucca 2/		
\$12.95	Nevada, Southern - Las Vegas 3/	\$1.40	

1/ Weighted by utilization.
 2/ The Northwest Nevada price is set equal to the Northern California price by the Nevada State Dairy Commission.
 3/ The Southern Nevada price is set equal to the Class 1 mover plus \$1.40 by the Nevada State Dairy Commission.

Sources: HE#8b, HE#21*, HE#35*



Nationally, volatile farm prices stemmed from the marketplace balancing supply and demand. In the middle of 1998, declining milk production resulted in significant price increases in dairy

Nationally, volatile farm prices stemmed from the marketplace balancing supply and demand. In the middle of 1998, declining milk production resulted in significant price increases in dairy commodity prices. However, in 1999, milk production levels rebounded and continued to increase in the first half of 2000. Increase in national production resulted in genuinely declining commodity prices. Lower prices led to declining production for the second half of 2000 and the first three months of 2001. As a result, commodity prices rebounded. Butter, block Cheddar cheese, and NFDM prices from February 2000 to February 2001 changed respectively: butter up 47%, block Cheddar cheese up 6%, and NFDM remained even. (See HE#37 and HE#22.) Because farm prices are tied directly to commodity prices, rising commodity prices translate into rising farm prices. California and federal prices for milk used to manufactured cheese products are up 8% and 18% respectively. Average producer prices are up as well. Changes in producer farm prices must be compared to changes in the on-farm cost of producing milk. Comparing January/February 2000 to January/February 2001, California overall production costs have increased approximately 4 percent (see HE#18). (see Table 7)

Table 7 - DAIRY PRICES AND COSTS

Commodity, Processor and Producer Prices, and Producer Costs, February 2000 to February 2001

		February 2000	February 2001	Change \$/unit	Change percent
Commodity Prices					
CME Cheese	\$/lb.	\$1.11	\$1.18	\$0.07	6%
CME Butter	\$/lb.	\$0.92	\$1.35	\$0.43	47%
California NFDM	\$/lb.	\$1.01	\$1.01	\$0.00	0%
Processor Prices					
San Francisco California					
Class 1	\$/gallon	\$1.01	\$1.19	\$0.18	18%
	\$/cwt.	\$11.69	\$13.80	\$2.11	18%
Class 2	\$/cwt.	\$11.38	\$13.25	\$1.87	16%
Class 3	\$/cwt.	\$11.33	\$13.20	\$1.87	17%
Class 4a	\$/cwt.	\$10.74	\$12.56	\$1.82	17%
Class 4b	\$/cwt.	\$9.28	\$10.05	\$0.77	8%
Portland Oregon					
Class I	\$/cwt.	\$12.61	\$13.84	\$1.23	10%
Class II	\$/cwt.	\$11.51	\$13.43	\$1.92	17%
Class III	\$/cwt.	\$9.54	\$10.27	\$0.73	8%
Class IV	\$/cwt.	\$10.80	\$12.70	\$1.90	18%
Producer Prices at Test					
California Grade A Price	\$/cwt.	\$10.71	\$12.28	\$1.57	15%
US Grade A Price	\$/cwt.	\$11.90	\$13.10	\$1.20	10%
Producer Costs					
CDFA					
Cost Index 1/	\$/cwt.	\$12.04	\$12.52	\$0.48	4%
USDA - Economic Costs					
Upper Midwest 2/	\$/cwt.	\$17.98	\$18.37	\$0.39	2%
Pacific 3/	\$/cwt.	\$11.06	\$11.31	\$0.25	2%

1/ Cost are for January-February of each year.

2/ Minnesota, Michigan and Wisconsin

3/ Arizona, California and Washington

Sources: HE#8b, HE#23*, HE#15*, HE#35*

DEPARTMENT PRODUCTION COST DATA

The Department conducts cost of production surveys for the five dairy regions within California. Comparing the twelve months ending February 2000 to the twelve months ending February 2001, the statewide weighted average on farm cost of milk production increased \$0.48 per hundredweight (see HE#15 and HE#16).

The \$0.48 increase reflected higher costs in all production areas, with the exception of the South Valley region. Costs in the North Valley, North Bay, Del Norte-Humboldt, and Southern California regions increased primarily due to higher replacement costs and seasonal production decreases. On the other hand, in the South Valley region, costs decreased because of increased milk production for the area, and lower feed costs compared to a year ago.

Production costs are quite variable, both within and among the five production cost regions. The following summarizes for January and February 2001, the average cost, the ranges of costs and share of the state's total milk production for each of the five regions (see HE#15 and HE#16):

	Average	Low to High	Production Share
Del Norte-Humboldt	\$14.72	\$10.70 to \$32.09	0.72%
North Bay	\$13.47	\$10.38 to \$18.18	2.87%
North Valley	\$12.38	\$10.12 to \$18.22	35.78%
South Valley	\$11.54	\$ 8.79 to \$16.33	41.65%
Southern California	\$12.41	\$ 9.93 to \$17.11	18.98%
Statewide	\$12.08	\$ 8.79 to \$32.09	100%

USDA PRODUCTION COST DATA

USDA conducts production cost surveys for the six largest dairy regions in the United States. The Department conducts cost of production surveys for the five dairy regions within California. The Department cost of production numbers cannot be directly compared to USDA production cost numbers because different collection methods are used. However, a comparison of USDA production costs in the Pacific Region which includes Arizona, California, and Washington, to the Department's average cost of production for California, shows that both have the same pattern of change. California produced 79 percent of the milk in the Pacific Region in 2000. Therefore, a comparison of USDA production costs in the Pacific Region to production costs in other regions may give an acceptable indication of how competitive California's cost of production is with the rest of the U.S. Such a comparison shows that for the twelve months ending December 2000, the Pacific Region's economic production costs averaged \$4.86 per hundredweight less than the lowest cost in any other region. For 1982 through 1999, annual cost differences ranged from a low of \$1.42 below all other regions in 1985 to a high of \$4.07 below all other regions in 1999. (See HE#8d, HE#24a, HE#15 through HE#18, and HE#39)

FEDERAL MILK SUPPORT PROGRAM

In addition to federal and state marketing order programs, the federal government also maintains a dairy support price program. The federal government establishes a minimum target support price as a floor for the milk dairy farmers sell to processors. This price is currently \$9.80 per hundredweight for milk testing 3.5 percent fat. The federal government does not buy milk from dairy farmers at the target price. Instead through the Commodity Credit Corporation (CCC), the federal government stands ready to buy unlimited quantities of butter, NFD, and Cheddar cheese from processors. It purchases these products at prices that, on average, will enable processors to pay dairy farmers the target price. These per-pound support purchase prices are currently \$0.65, \$1.00 and \$1.13 respectively, for bulk butter, non-fortified NFD, and block Cheddar cheese.

As provided in the 1996 FAIR Act, the federal support price program was scheduled to be terminated on December 31, 1999. However, legislation has extended the support price program to December 31, 2001.

FEDERAL DAIRY MARKET LOSS ASSISTANCE PROGRAM

In addition to the support price system, for 1998, 1999, and 2000, Congress authorized the Dairy Market Loss Assistance (DMLA) Program. The 2000 DMLA payments were "to offset 35 percent of the reduction in 2000 milk prices from the past 5-year average." The total amount appropriated for DMLA was \$200 million in 1998, \$123 million in 1999 and \$667 million in 2000. All three DMLA included caps that restricted the amount that larger dairy operations would receive.

OTHER FACTORS

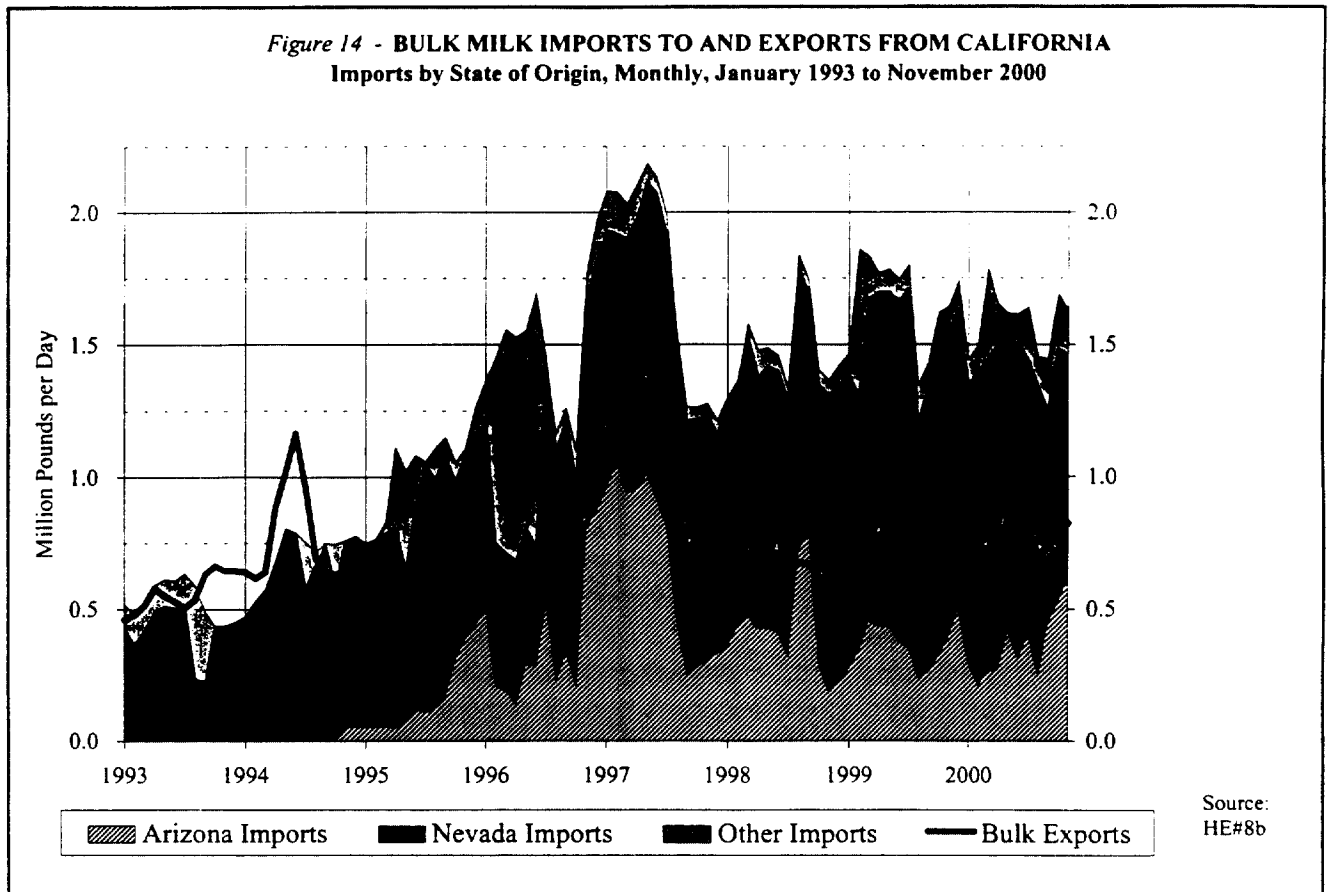
In addition to the above, in establishing the provisions of the Stabilization and Pooling Plan, the Department "shall take into consideration any [other] relevant economic factors" not specifically listed in the Food and Agricultural Code (§62802(h), §61805(b), §62062, §62076 and §62076(c)).

At recent hearings (see HE#43), independent processors and distributors in the Northern California Marketing Area have documented their competitive disadvantage in competing with packaged milk from processors in Oregon regulated under a federal order. The California processors have contended that they are at a disadvantage because California fluid milk prices are higher than prices in Oregon.

Bulk milk shipments into and out of California are small relative to California's total milk production. Exports have never exceeded two percent of total production. Imports have never exceeded four percent of total production, although approximately 90 percent of the imported milk is used in Class 1 products. From 0.5 million pounds per day in January 1993, imports rose to 2.2 million pounds in May 1997 and are currently 1.7 million pounds. Over the same period, exports rose from 0.5 million pounds to a peak of 1.4 million pounds and are currently 0.7 million pounds per day.

Historically, over 90 percent of bulk milk imports came from Nevada. However, starting in 1995, significant volumes of milk began coming in from Arizona, peaking at 52 percent of all California imports in February 1997. Since 1997, about 64 percent of the imports come from

Nevada and 24 percent from Arizona. (See Figure 14 – note that the term “Other” potentially includes milk from Arizona and Nevada whose origins were misreported.)



**Special Attachment:
California Milk Pricing Formulas**

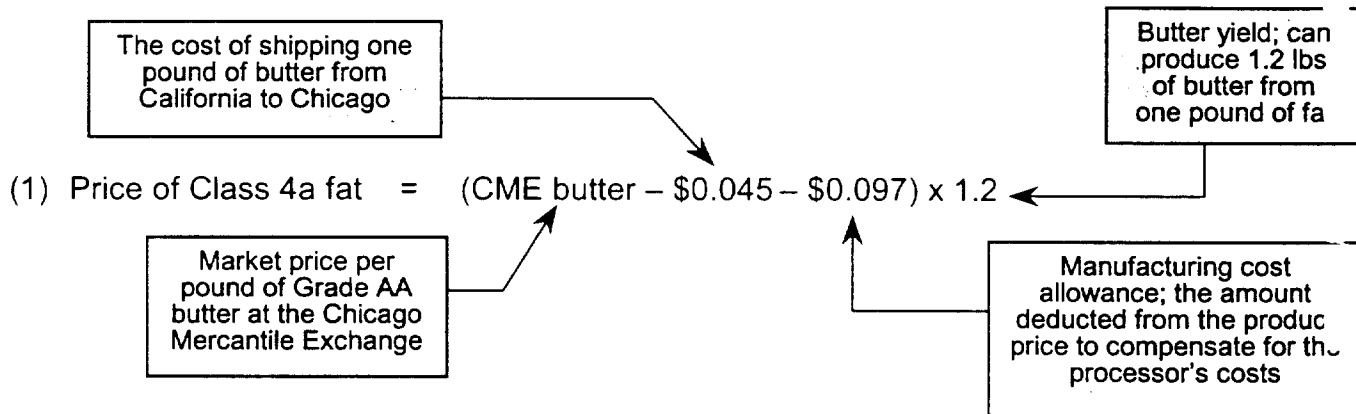
California's milk marketing program establishes minimum prices that processors must pay for Grade A milk received from dairy farmers. For the purposes of setting prices, there are five classes of milk that are established depending on the type of dairy product. In California's milk pricing system, commercial market prices for dairy product commodities are a significant factor in determining the minimum price that processors must pay for milk.

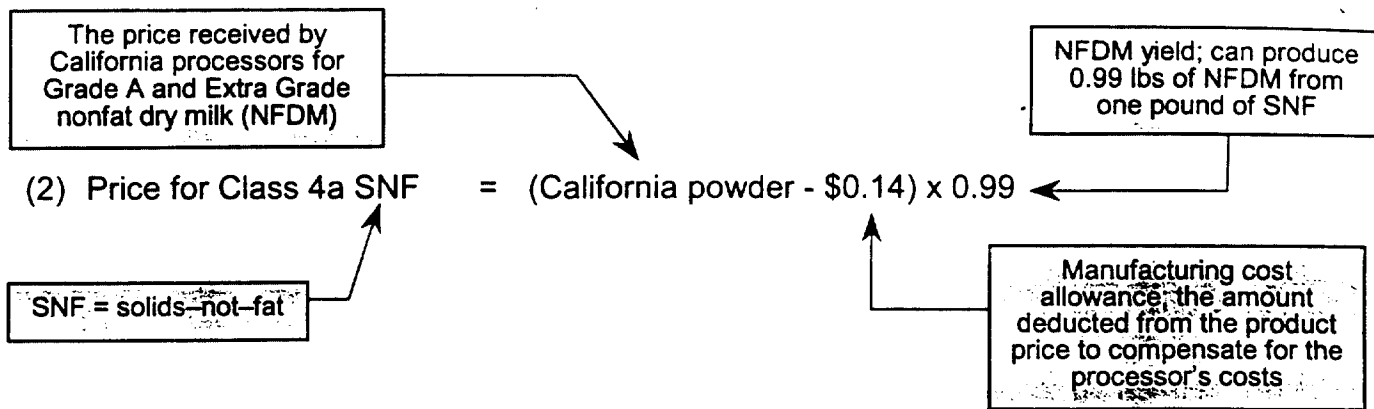
Milk consists of three basic components: butterfat (fat), solids-not-fat (SNF), and fluid carrier (water). Prices are assigned to all three components in the determination of the Class 1 milk price. Only the fat and SNF components are used to set the Class 2, 3, 4a, and 4b milk prices. Because prices are determined for individual milk components, a simple calculation must be performed to obtain the implied hundredweight price. Class 1, 2, and 3 prices are adjusted bimonthly, and Class 4a and 4b prices are adjusted monthly.

The Five Classes of Milk

- Class 1: Milk used in fluid products, including whole, lowfat, extra light, and nonfat milks.*
- Class 2: Milk used in heavy cream, cottage cheese, yogurt, and condensed products.*
- Class 3: Milk used in ice cream and other frozen products.*
- Class 4a: Milk used in butter and dry milk products, such as nonfat dry milk.*
- Class 4b: Milk used in cheese, other than cottage cheese.*

Class 4a price formula (butter and dry milk products)





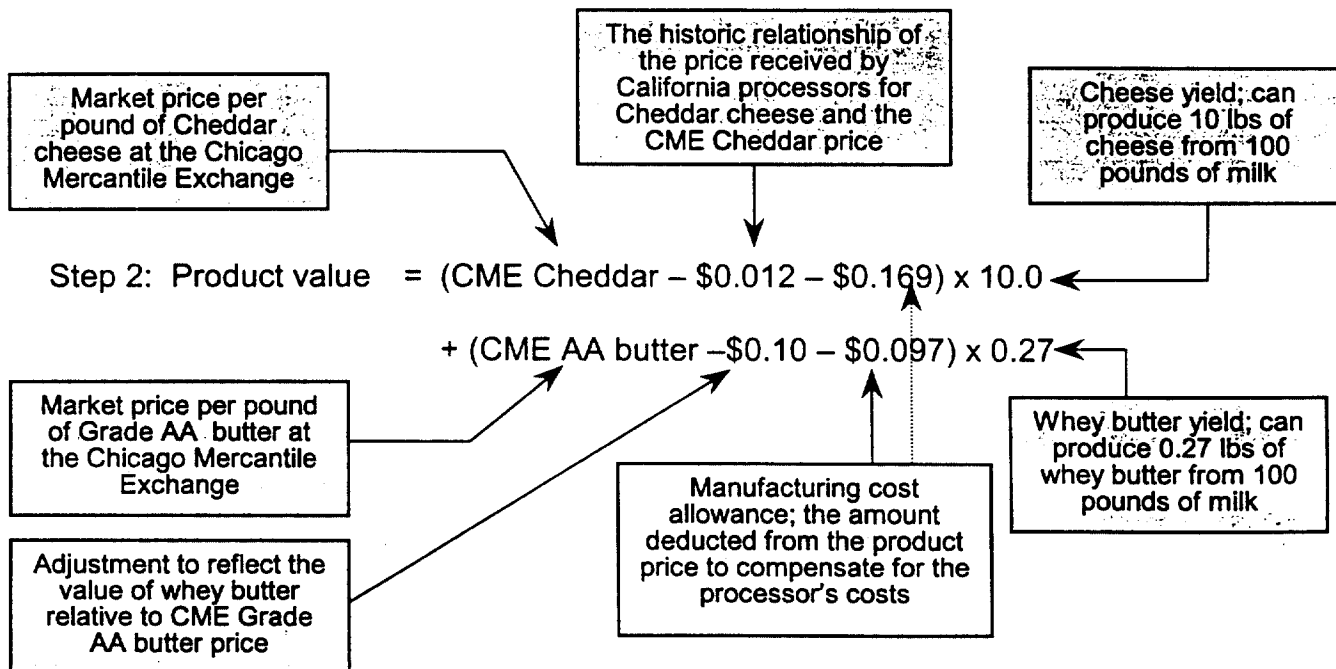
(3) Class 4a price per 100 pounds of standardized milk (@3.5% fat and 8.7% SNF)

$$= (3.5 \times \text{price of Class 4a fat}) + (8.7 \times \text{price of Class 4a SNF})$$

Class 4b price formula (cheese)

The Class 4b price calculation consists of four steps. The first step sets the fat component price in 4b milk to that of 4a milk. The second step determines the value of cheese and Grade B butter per hundred pounds of milk. The third step identifies the 4b SNF price. The fourth step converts the component prices to a standardized milk price.

Step 1: Price of Class 4a fat = Price of Class 4b fat



Step 3: Price of Class 4b SNF =

$$\frac{\text{Product value} - (3.65 \times \text{Price of Class 4b fat})}{8.78}$$

Average percent of fat in raw milk used in Cheddar cheese plants

Average percent of solids-not-fat in raw milk used in Cheddar cheese plants

Step 4: Class 4b price per 100 pounds of standardized milk (@3.5% fat and 8.7% SNF)

$$= (3.5 \times \text{price of Class 4b fat}) + (8.7 \times \text{price of Class 4b SNF})$$

Class 3 price formula (frozen dairy products)

Class 3 prices are established on a bi-monthly basis prior to the beginning of each even month. For example, the February–March pricing period for Class 3 milk uses the average Class 4a component prices for December and January.

(1) Class 3 fat price = average Class 4a fat price +

$\left(\begin{array}{c} \$0.0370 \text{ in Northern California} \\ \text{OR} \\ \$0.0393 \text{ in Southern California} \end{array} \right)$

The average Class 4a price for two consecutive months

Differentials depend on processor location

(2) Class 3 SNF price = average Class 4a SNF price + (\$0.0586 throughout California)

(3) Class 3 price per 100 pounds of standardized milk (@3.5% fat and 8.7% SNF)

$$= (3.5 \times \text{price of Class 3 fat}) + (8.7 \times \text{price of Class 3 SNF})$$

**Class 2 price formula
(sour cream, heavy cream, cottage cheese, and yogurt)**

Like the Class 3 prices, Class 2 prices are established on a bi-monthly basis prior to the beginning of each even month. For example, the February–March period pricing period for Class 2 milk uses the average Class 4a component prices for December and January.

(1) Class 2 fat price = Average Class 4a fat price + $\left(\begin{array}{c} \$0.0370 \text{ in Northern California} \\ \text{OR} \\ \$0.0393 \text{ in Southern California} \end{array} \right)$

Differentials depend on milk component and processor location

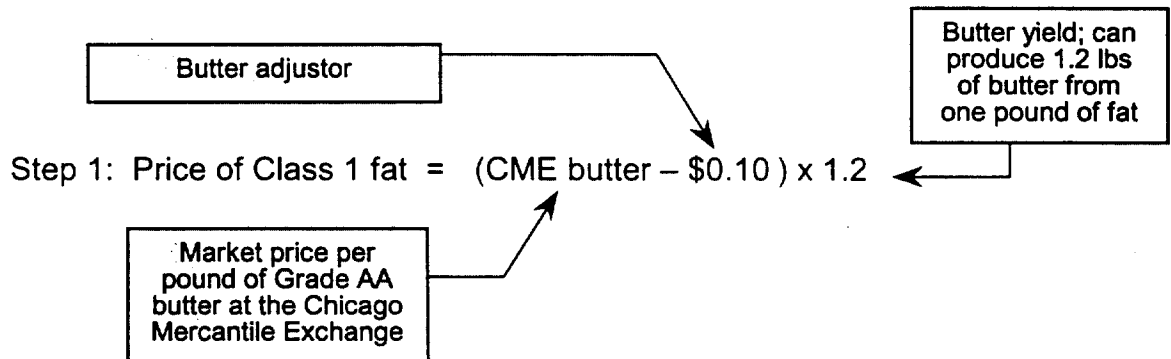
(2) Class 2 SNF price = Average Class 4a SNF price + $\left(\begin{array}{c} \$0.0643 \text{ in Northern California} \\ \text{OR} \\ \$0.0901 \text{ in Southern California} \end{array} \right)$

(3) Class 2 price per 100 pounds of standardized milk (@3.5% fat and 8.7% SNF)

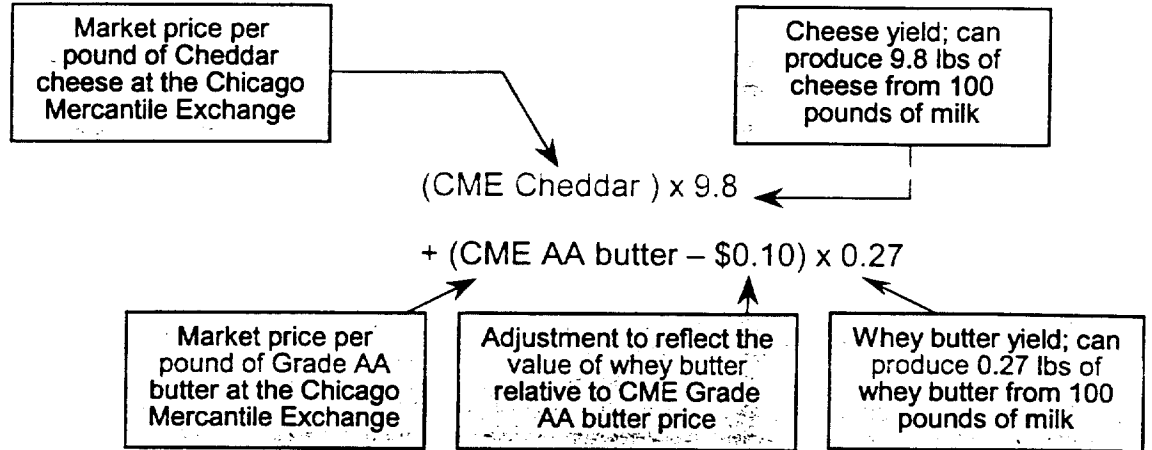
$$= (3.5 \times \text{price of Class 2 fat}) + (8.7 \times \text{price of Class 2 SNF})$$

Class 1 price formula for fluid milk products

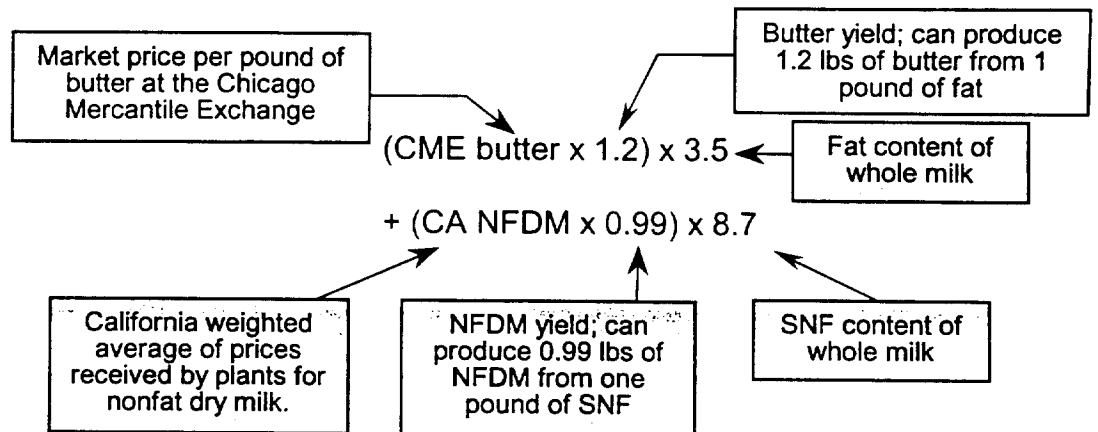
Determining the price for fluid milk products involves several steps. The Class 1 fat price for fluid milk pricing formula is set directly and uses the Chicago Mercantile Exchange (CME) butter price with an adjustment. The SNF and carrier prices are calculated as residuals. They rely on a basic price mover called the commodity reference price (CRP) which is based off the higher of the CME price for Cheddar cheese or the CME Grade AA butter and California weighted average price for nonfat dry milk. The Class 1 fat price is subtracted from the CRP and the remaining residual value is allocated to SNF and carrier. Once the component prices have been assigned to fat, SNF, and fluid carrier portions of milk, the implied value of raw milk can be calculated.

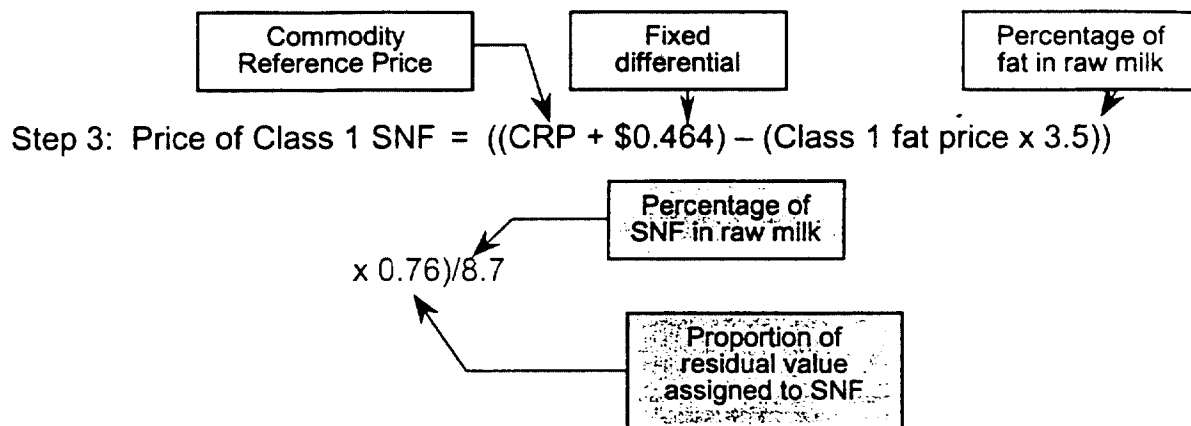


Step 2: Commodity Reference Price = the **higher of** two price calculations:

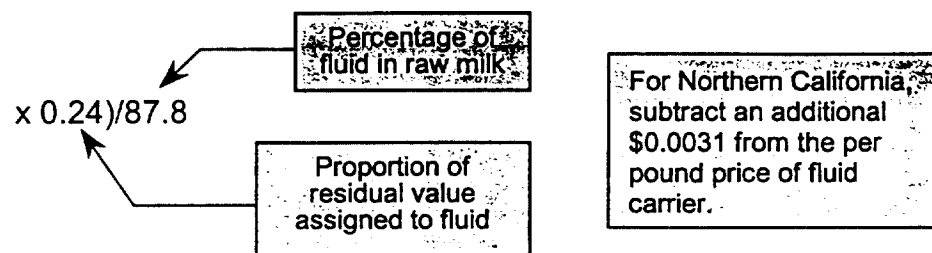


OR





Step 4: Price of Class 1 fluid = ((CRP + \$0.464) - (Class 1 fat price x 3.5))



Step 5: Class 1 price per 100 pounds of milk (@3.5% fat and 8.7% SNF)

$$= (3.5 \times \text{Class 1 fat}) + (8.7 \times \text{Class 1 SNF}) + (87.8 \times \text{Class 1 carrier})$$

