

Appendix F

Analyses of IDFA Proposal to Adjust the Protein Price Formula to Reflect the Lower Value and Reduced Volume of Butterfat Recoverable as Whey Cream

Using Current USDA Baseline and Current Version of Econometric Model

August 2007

On July 11, 2007, at the reconvened hearing concerning Class III and IV pricing formulas, Dairy Programs was asked to provide economic analyses of a proposal by International Dairy Foods Association (IDFA) to adjust the protein price formula to reflect the lower value and reduced volume of butterfat recoverable as whey cream. This appendix provides analyses of the proposal using *USDA Agricultural Baseline Projections to 2016*, published in February 2007. Baseline projections have been adjusted to reflect make allowances as stated in the December 2006 Interim Final Rule. The most current version of the Dairy Programs National Econometric Model is used, as described in *National Econometric Baseline Documentation (Model Calibrated to USDA Baseline Projections to 2016)*, published in April 2007.

The International Dairy Foods Association (IDFA) previously proposed changing the Federal order protein price formula to account for the fat recovered in whey cream as well as the value associated with whey cream. However, a specific formula was not proposed before the hearing. During the reconvened hearing on Class III and Class IV pricing factors in July 2007, Sue Taylor of Leprino Foods Company (Leprino) presented a proposed protein price formula as a supplement to the IDFA proposal. This appendix includes two scenarios for analyzing this proposal. As with Appendix E, the impacts as stated in these analyses are in comparison to the USDA Agricultural Baseline Projections to 2016 (with adjustments to reflect make allowances stated in the December 2006 Interim Final Rule). The most current version of the National Econometric Model, as described in the April 2007 documentation, is used to analyze the scenarios. A summary of the impacts can be found in Table F-1. Detailed impacts of changes to major variables are listed in tables F-2 through F-13.

Scenario O incorporates the protein formula introduced in testimony. The formula was presented as follows:

$$1.383 \times (\text{NASS cheese price} - \$0.1682) + [1.572 \times (\text{NASS cheese price} - \$0.1682) - (0.922 \times \text{Fat Component Price}) - \$0.016] \times 1.17$$

The proposed formula increases the butterfat recovery factor from 0.900 to 0.922. The lower value of whey cream, as asserted by Leprino, is represented by the subtraction of \$0.016 per pound in the bracketed term.

As a result of these changes, the protein price falls below baseline by an average of \$0.0610 per pound over the ten-year projection period, bringing down the Class III price at 3.5 percent butterfat by an average \$0.12 per cwt over the same period. The all-milk price falls \$0.08 per cwt below baseline in the first year, but the gap narrows to \$0.03 below baseline by 2016, averaging a decline of \$0.04 per cwt below the baseline over the projection period. U.S. marketings fall, averaging 173 million pounds below baseline, due to lower cow numbers and yield per cow. The decline in marketings is a result of higher dairy product prices. The cheddar cheese, butter, nonfat dry milk, and whey prices increase by \$0.0081, \$0.0131, \$0.0053, and \$0.0016 per pound respectively over the ten-year projection period. Since Class III acts as the Class I mover over the projection period, the Class I price at 3.5 percent butterfat falls by \$0.12 per cwt. As a result, there is an average decrease in the retail fluid milk price of \$0.0082 per gallon over the projection period, and U.S. Class I marketings increase an average 34 million pounds. Producer revenue decreases by an average \$109 million below baseline levels.

Scenario P combines the formula changes from Scenario O with the proposed elimination of the 3-cent addition to the barrel price for cheese. This change in the cheese price calculation was previously analyzed with Scenarios I and I2, and is estimated in the same way for Scenario O, by subtracting \$0.0169 from the cheese price used in the protein price formula (See Preliminary Economic Analyses from February 2007 and Appendix E for details of previously related analyses).

The impacts of Scenario P are in the same direction as those of Scenario O, but of greater magnitude. The protein price falls an average \$0.1084 per pound over the projection period, while all other component prices increase, illustrating the inverse relationship between the protein price and the butterfat price. The all-milk price falls an average \$0.08 per cwt below baseline levels. U.S. marketings for manufacturing classes decline, and dairy product prices rise. Cheddar cheese, butter, nonfat dry milk, and whey prices increase on average by \$0.0141, \$0.0228, \$0.0094, and \$0.0028 per pound respectively over the 10-year projection period. Class III remains the mover for Class I in all years except for 2008 and 2010. With an average decrease of \$0.20 per cwt in the Class I price at 3.5 percent butterfat over the projection period, the retail fluid milk price falls by \$0.0139 per gallon, and U.S. Class I use increases by an average 57 million pounds per year. Declines in cow numbers and milk per cow cause total marketings to fall an average 305 million pounds over the projection period, bringing down producer revenue by an average \$190 million below baseline levels.

Table F-1. Model Results for Proposed Class III and Class IV Pricing Changes
Ten-year averages, 2007 through 2016

Scenario Proponent		Baseline ¹	O IDFA	P IDFA
	Units		Change from Baseline	
F.O. Minimum Prices, 3.5% BF				
Class I	\$/cwt	17.53	-0.12	-0.20
Class II	\$/cwt	14.94	0.10	0.18
Class III	\$/cwt	14.82	-0.12	-0.21
Class IV	\$/cwt	14.24	0.10	0.18
Blend	\$/cwt	15.75	-0.07	-0.12
F.O. Minimum Prices at Test				
Class I	\$/cwt	14.75	-0.14	-0.24
Class II	\$/cwt	23.24	0.17	0.29
Class III	\$/cwt	14.54	-0.12	-0.22
Class IV	\$/cwt	18.60	0.19	0.34
Blend	\$/cwt	16.17	-0.07	-0.11
NASS Wtd. Avg. Product Prices				
Cheddar	\$/pound	1.5340	0.0081	0.0141
Butter	\$/pound	1.7797	0.0131	0.0228
NFDM	\$/pound	1.0029	0.0053	0.0094
Whey	\$/pound	0.3583	0.0016	0.0028
Retail fluid milk price	\$/gal.	3.3768	-0.0082	-0.0139
Component Prices				
Protein	\$/pound	2.3040	-0.0610	-0.1084
Butterfat	\$/pound	1.9914	0.0157	0.0274
Other solids	\$/pound	0.1676	0.0017	0.0029
Nonfat solids	\$/pound	0.8375	0.0053	0.0093

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Table F-1 Continued. Model Results for Proposed Class III and Class IV Pricing Changes

Scenario		Baseline	O	P
Proponent			IDFA	IDFA
	Units		Change from Baseline	
Skim Milk Prices				
Class I skim price	\$/cwt	10.84	-0.18	-0.30
Class II skim price	\$/cwt	8.24	0.05	0.08
Class III skim price	\$/cwt	8.13	-0.18	-0.32
Class IV skim price	\$/cwt	7.54	0.05	0.08
F.O. Class Uses				
Class I	mil. pounds	44,972	28	47
Class II	mil. pounds	17,308	-32	-55
Class III	mil. pounds	52,646	-31	-55
Class IV	mil. pounds	11,362	-77	-135
Total Marketings	mil. pounds	126,288	-112	-198
Federal Order				
Cash Receipts	mil. \$	20,438	-100	-175
All Milk Price				
	\$/cwt	15.98	-0.04	-0.08
Milk Cows				
	1000s	8,705	-5	-9
Yield per Cow				
	pounds	21,574	-7	-12
U.S. Marketings ²	mil. pounds	186,979	-173	-305
Government removals of NFDM				
	mil. pounds	2	0	0
U.S. Producer Revenue ³				
	mil. \$	29,936	-109	-190

¹ For these analyses, the baseline reflects adjustments from the published USDA baseline to reflect changes in manufacturing (make) allowances per the Interim Final Rule issued by USDA on December 26, 2006.

² U.S. Marketings differs from U.S. milk production due to farm use of milk.

³ U.S. Producer Revenue includes Milk Income Loss Contract payments for 2007.

Table F-2. All-Milk Price and Producer Revenue

	Units	Scenario	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	10 Yr. Avg.
All Milk	\$/cwt	Baseline	13.75	14.74	15.40	15.93	16.33	16.55	16.63	16.77	16.80	16.86	15.98
	\$/cwt	O	-0.08	-0.07	-0.06	-0.05	-0.04	-0.04	-0.03	-0.03	-0.03	-0.03	-0.04
	\$/cwt	P	-0.15	-0.12	-0.10	-0.07	-0.07	-0.06	-0.06	-0.05	-0.05	-0.05	-0.08
Avg. MILC Payment (MILC payments/milk production)	\$/cwt	O	0.01										
	\$/cwt	P	0.02										
Producer Revenue (including MILC)	mil. \$	Baseline	25,338	26,952	28,158	29,254	30,195	30,963	31,350	31,934	32,334	32,886	29,936
	mil. \$	O	-119	-138	-123	-115	-106	-100	-99	-97	-96	-98	-109
	mil. \$	P	-235	-234	-222	-175	-189	-175	-172	-168	-166	-169	-190

Table F-3. Milk Production Variables

	Units	Scenario	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	10 Yr. Avg.
Milk Cows	1000s	Baseline	9,043	8,945	8,853	8,768	8,701	8,642	8,590	8,544	8,501	8,458	8,705
	1000s	O	-2	-3	-4	-5	-6	-6	-6	-6	-7	-7	-5
	1000s	P	-3	-6	-8	-9	-10	-11	-11	-11	-11	-12	-9
Yield per Cow	pounds	Baseline	20,235	20,540	20,745	21,021	21,332	21,719	21,998	22,343	22,694	23,110	21,574
	pounds	O	0	-2	-4	-6	-7	-8	-9	-10	-11	-12	-7
	pounds	P	0	-4	-7	-10	-12	-14	-16	-18	-19	-20	-12
Milk Production	mil. pounds	Baseline	182,995	183,741	183,666	184,323	185,619	187,697	188,961	190,906	192,923	195,460	187,629
	mil. pounds	O	-35	-85	-127	-158	-183	-202	-217	-230	-241	-252	-173
	mil. pounds	P	-68	-158	-230	-279	-319	-353	-380	-402	-421	-440	-305
Farm Use	mil. pounds	Baseline	1,000	900	800	700	700	600	500	500	400	400	650
Marketings	mil. pounds	Baseline	181,995	182,841	182,866	183,623	184,919	187,097	188,461	190,406	192,523	195,060	186,979
	mil. pounds	O	-35	-85	-127	-158	-183	-202	-217	-230	-241	-252	-173
	mil. pounds	P	-68	-158	-230	-279	-319	-353	-380	-402	-421	-440	-305

Table F-4. Product Prices

	Units	Scenario	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	10 Yr. Avg.
Cheddar cheese	\$/pound	Baseline	1.3555	1.4259	1.4931	1.5358	1.5698	1.5885	1.5863	1.5959	1.5933	1.5959	1.5340
	\$/pound	O	0.0021	0.0044	0.0065	0.0080	0.0091	0.0097	0.0100	0.0102	0.0103	0.0103	0.0081
	\$/pound	P	0.0042	0.0080	0.0118	0.0137	0.0157	0.0169	0.0174	0.0178	0.0179	0.0180	0.0141
Butter	\$/pound	Baseline	1.3302	1.5953	1.7118	1.8014	1.8431	1.8591	1.8898	1.9074	1.9168	1.9420	1.7797
	\$/pound	O	0.0080	0.0125	0.0133	0.0127	0.0130	0.0134	0.0136	0.0142	0.0149	0.0151	0.0131
	\$/pound	P	0.0159	0.0219	0.0239	0.0211	0.0225	0.0233	0.0235	0.0245	0.0257	0.0259	0.0228
Nonfat dry milk	\$/pound	Baseline	0.9213	0.9635	0.9819	1.0115	1.0243	1.0274	1.0326	1.0272	1.0205	1.0193	1.0029
	\$/pound	O	0.0013	0.0026	0.0044	0.0060	0.0067	0.0067	0.0068	0.0066	0.0063	0.0062	0.0053
	\$/pound	P	0.0026	0.0045	0.0081	0.0098	0.0118	0.0119	0.0120	0.0115	0.0110	0.0108	0.0094
Dry whey	\$/pound	Baseline	0.3212	0.3197	0.3249	0.3376	0.3529	0.3627	0.3749	0.3894	0.3981	0.4014	0.3583
	\$/pound	O	0.0003	0.0007	0.0010	0.0013	0.0016	0.0019	0.0021	0.0023	0.0024	0.0025	0.0016
	\$/pound	P	0.0007	0.0012	0.0018	0.0023	0.0029	0.0033	0.0036	0.0039	0.0042	0.0043	0.0028
Retail fluid milk	\$/gallon	Baseline	3.0462	3.1407	3.2299	3.3051	3.3758	3.4354	3.4814	3.5378	3.5833	3.6325	3.3768
	\$/gallon	O	-0.0101	-0.0099	-0.0090	-0.0084	-0.0078	-0.0074	-0.0074	-0.0074	-0.0074	-0.0076	-0.0082
	\$/gallon	P	-0.0199	-0.0147	-0.0161	-0.0097	-0.0138	-0.0130	-0.0129	-0.0127	-0.0127	-0.0130	-0.0139

Table F-5. Federal Order Component Prices and Pricing Factors

	Units	Scenario	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	10 Yr. Avg.
Butterfat	\$/pound	Baseline	1.4520	1.7701	1.9100	2.0174	2.0674	2.0867	2.1236	2.1447	2.1559	2.1862	1.9914
	\$/pound	O	0.0096	0.0150	0.0159	0.0153	0.0156	0.0161	0.0163	0.0170	0.0179	0.0181	0.0157
	\$/pound	P	0.0191	0.0263	0.0287	0.0254	0.0270	0.0279	0.0282	0.0294	0.0309	0.0311	0.0274
Protein	\$/pound	Baseline	2.2968	2.1886	2.2581	2.2825	2.3393	2.3793	2.3335	2.3421	2.3217	2.2984	2.3040
	\$/pound	O	-0.0597	-0.0662	-0.0641	-0.0614	-0.0596	-0.0586	-0.0589	-0.0595	-0.0604	-0.0612	-0.0610
	\$/pound	P	-0.1176	-0.1215	-0.1154	-0.1085	-0.1048	-0.1024	-0.1022	-0.1028	-0.1042	-0.1051	-0.1084
Nonfat Solids	\$/pound	Baseline	0.7567	0.7984	0.8166	0.8459	0.8586	0.8617	0.8669	0.8615	0.8548	0.8536	0.8375
	\$/pound	O	0.0013	0.0026	0.0044	0.0059	0.0066	0.0066	0.0067	0.0065	0.0062	0.0061	0.0053
	\$/pound	P	0.0025	0.0044	0.0080	0.0097	0.0117	0.0118	0.0119	0.0114	0.0109	0.0107	0.0093
Other Solids	\$/pound	Baseline	0.1294	0.1278	0.1332	0.1463	0.1620	0.1721	0.1847	0.1996	0.2086	0.2119	0.1676
	\$/pound	O	0.0003	0.0007	0.0011	0.0014	0.0017	0.0019	0.0021	0.0023	0.0025	0.0026	0.0017
	\$/pound	P	0.0007	0.0013	0.0019	0.0024	0.0029	0.0034	0.0037	0.0041	0.0043	0.0045	0.0029
Class I Skim	\$/cwt	Baseline	10.59	10.25	10.50	10.65	10.92	11.10	11.03	11.15	11.14	11.09	10.84
	\$/cwt	O	-0.18	-0.20	-0.19	-0.18	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.18
	\$/cwt	P	-0.36	-0.31	-0.35	-0.24	-0.31	-0.30	-0.29	-0.29	-0.30	-0.30	-0.30
Class II Skim	\$/cwt	Baseline	7.51	7.89	8.05	8.31	8.43	8.46	8.50	8.45	8.39	8.38	8.24
	\$/cwt	O	0.01	0.02	0.04	0.05	0.06	0.06	0.06	0.06	0.06	0.05	0.05
	\$/cwt	P	0.02	0.04	0.07	0.09	0.11	0.11	0.11	0.10	0.10	0.10	0.08
Class III Skim	\$/cwt	Baseline	7.88	7.54	7.79	7.94	8.21	8.39	8.32	8.44	8.43	8.38	8.13
	\$/cwt	O	-0.18	-0.20	-0.19	-0.18	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.18
	\$/cwt	P	-0.36	-0.37	-0.35	-0.32	-0.31	-0.30	-0.29	-0.29	-0.30	-0.30	-0.32
Class IV Skim	\$/cwt	Baseline	6.81	7.19	7.35	7.61	7.73	7.76	7.80	7.75	7.69	7.68	7.54
	\$/cwt	O	0.01	0.02	0.04	0.05	0.06	0.06	0.06	0.06	0.06	0.05	0.05
	\$/cwt	P	0.02	0.04	0.07	0.09	0.11	0.11	0.11	0.10	0.10	0.10	0.08

Table F-6. Federal Order Milk Prices at 3.5 Percent Butterfat

	Units	Scenario	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	10 Yr. Avg.
Class I	\$/cwt.	Baseline	15.40	16.18	16.91	17.43	17.87	18.11	18.17	18.36	18.39	18.44	17.53
	\$/cwt.	O	-0.14	-0.14	-0.13	-0.12	-0.11	-0.11	-0.11	-0.11	-0.10	-0.11	-0.12
	\$/cwt.	P	-0.28	-0.21	-0.23	-0.14	-0.20	-0.19	-0.19	-0.18	-0.18	-0.18	-0.20
Class II	\$/cwt.	Baseline	12.35	13.83	14.48	15.11	15.39	15.49	15.66	15.69	15.67	15.77	14.94
	\$/cwt.	O	0.04	0.07	0.09	0.11	0.11	0.11	0.12	0.12	0.12	0.12	0.10
	\$/cwt.	P	0.09	0.13	0.17	0.17	0.20	0.20	0.20	0.20	0.20	0.20	0.18
Class III	\$/cwt.	Baseline	12.69	13.47	14.20	14.72	15.16	15.40	15.46	15.65	15.68	15.73	14.82
	\$/cwt.	O	-0.14	-0.14	-0.13	-0.12	-0.11	-0.11	-0.11	-0.11	-0.10	-0.11	-0.12
	\$/cwt.	P	-0.28	-0.26	-0.23	-0.22	-0.20	-0.19	-0.19	-0.18	-0.18	-0.18	-0.21
Class IV	\$/cwt.	Baseline	11.65	13.13	13.78	14.41	14.69	14.79	14.96	14.99	14.97	15.07	14.24
	\$/cwt.	O	0.04	0.07	0.09	0.11	0.11	0.11	0.12	0.12	0.12	0.12	0.10
	\$/cwt.	P	0.09	0.13	0.17	0.17	0.20	0.20	0.20	0.20	0.20	0.20	0.18
Uniform at 3.5% BF	\$/cwt.	Baseline	13.52	14.48	15.19	15.73	16.13	16.33	16.41	16.55	16.56	16.61	15.75
	\$/cwt.	O	-0.10	-0.09	-0.08	-0.07	-0.06	-0.06	-0.06	-0.05	-0.05	-0.05	-0.07
	\$/cwt.	P	-0.19	-0.15	-0.14	-0.11	-0.11	-0.10	-0.10	-0.09	-0.09	-0.09	-0.12

Table F-7. Average Class Butterfat Test

	Units	Scenario	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	10 Yr. Avg.
Class I	percent	Baseline	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05
	percent	O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	percent	P	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Class II	percent	Baseline	7.81	7.83	7.83	7.84	7.84	7.84	7.83	7.83	7.83	7.82	7.83
	percent	O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	percent	P	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Class III	percent	Baseline	3.38	3.37	3.37	3.36	3.36	3.35	3.35	3.34	3.34	3.34	3.36
	percent	O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	percent	P	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Class IV	percent	Baseline	5.29	5.71	5.91	6.00	5.99	5.91	5.85	5.75	5.64	5.56	5.76
	percent	O	0.01	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
	percent	P	0.02	0.04	0.05	0.05	0.06	0.06	0.06	0.06	0.05	0.05	0.05

Table F-8. Federal Order Milk Prices at Test

	Units	Scenario	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	10 Yr. Avg.
Class I	\$/cwt	Baseline	13.40	13.72	14.25	14.62	14.98	15.20	15.21	15.37	15.38	15.39	14.75
	\$/cwt	O	-0.16	-0.17	-0.16	-0.15	-0.14	-0.13	-0.13	-0.13	-0.13	-0.13	-0.14
	\$/cwt	P	-0.31	-0.25	-0.28	-0.18	-0.25	-0.23	-0.23	-0.23	-0.23	-0.23	-0.24
Class II	\$/cwt	Baseline	18.32	21.18	22.44	23.53	24.03	24.20	24.53	24.64	24.67	24.88	23.24
	\$/cwt	O	0.09	0.14	0.16	0.17	0.18	0.18	0.18	0.19	0.19	0.19	0.17
	\$/cwt	P	0.17	0.24	0.29	0.28	0.31	0.32	0.32	0.32	0.33	0.33	0.29
Class III	\$/cwt	Baseline	12.53	13.26	13.96	14.45	14.87	15.10	15.15	15.32	15.35	15.39	14.54
	\$/cwt	O	-0.14	-0.14	-0.13	-0.13	-0.12	-0.11	-0.11	-0.11	-0.11	-0.11	-0.12
	\$/cwt	P	-0.28	-0.27	-0.24	-0.23	-0.21	-0.20	-0.19	-0.19	-0.19	-0.19	-0.22
Class IV	\$/cwt	Baseline	14.13	16.88	18.20	19.26	19.64	19.63	19.78	19.63	19.42	19.41	18.60
	\$/cwt	O	0.08	0.15	0.19	0.21	0.22	0.22	0.22	0.22	0.22	0.22	0.19
	\$/cwt	P	0.16	0.25	0.34	0.34	0.38	0.38	0.38	0.38	0.38	0.37	0.34
Uniform	\$/cwt	Baseline	13.80	14.84	15.58	16.15	16.56	16.77	16.86	17.01	17.02	17.09	16.17
	\$/cwt	O	-0.10	-0.09	-0.08	-0.07	-0.06	-0.06	-0.05	-0.05	-0.05	-0.05	-0.07
	\$/cwt	P	-0.19	-0.15	-0.14	-0.10	-0.11	-0.10	-0.09	-0.09	-0.08	-0.08	-0.11

Table F-9. Federal Order Marketings

	Units	Scenario	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	10 Yr. Avg.
Class I	mil. pounds	Baseline	44,836	45,163	44,973	44,942	44,912	45,021	44,913	44,920	44,947	45,091	44,972
	mil. pounds	O	35	34	31	29	26	25	25	24	24	24	28
	mil. pounds	P	69	51	56	33	47	44	43	42	42	42	47
Class II	mil. pounds	Baseline	16,928	16,717	16,726	16,823	17,001	17,280	17,462	17,740	18,038	18,360	17,308
	mil. pounds	O	-14	-23	-28	-30	-33	-35	-36	-37	-39	-40	-32
	mil. pounds	P	-28	-41	-50	-51	-57	-60	-62	-65	-68	-69	-55
Class III	mil. pounds	Baseline	49,189	50,363	51,173	51,803	52,387	53,115	53,665	54,245	54,867	55,654	52,646
	mil. pounds	O	-5	-10	-17	-25	-32	-38	-42	-45	-48	-50	-31
	mil. pounds	P	-10	-19	-32	-43	-56	-66	-74	-80	-84	-88	-55
Class IV	mil. pounds	Baseline	12,990	11,665	10,811	10,488	10,530	10,802	10,994	11,377	11,792	12,173	11,362
	mil. pounds	O	-35	-55	-68	-77	-81	-85	-88	-91	-94	-99	-77
	mil. pounds	P	-69	-95	-124	-125	-143	-148	-153	-159	-164	-171	-135
Total	mil. pounds	Baseline	123,943	123,909	123,683	124,057	124,830	126,217	127,035	128,282	129,644	131,278	126,288
	mil. pounds	O	-19	-55	-83	-104	-119	-132	-141	-150	-157	-164	-112
	mil. pounds	P	-38	-103	-151	-185	-208	-230	-247	-262	-274	-286	-198

Table F-10. Federal Order Cash Receipts

	Units	Scenario	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	10 Yr. Avg.
Class I	mil. \$	Baseline	6,010	6,195	6,407	6,569	6,728	6,843	6,831	6,902	6,912	6,939	6,634
	mil. \$	O	-67	-70	-66	-62	-59	-56	-56	-56	-56	-57	-60
	mil. \$	P	-132	-107	-118	-77	-104	-99	-97	-96	-96	-97	-102
Class II	mil. \$	Baseline	3,101	3,541	3,753	3,959	4,085	4,182	4,283	4,372	4,449	4,568	4,029
	mil. \$	O	12	18	21	21	22	23	23	24	25	25	21
	mil. \$	P	24	32	38	35	39	40	40	41	43	43	37
Class III	mil. \$	Baseline	6,161	6,677	7,142	7,486	7,789	8,021	8,131	8,313	8,420	8,564	7,670
	mil. \$	O	-72	-74	-71	-69	-66	-65	-66	-66	-66	-68	-68
	mil. \$	P	-141	-138	-127	-124	-117	-114	-114	-114	-115	-117	-122
Class IV	mil. \$	Baseline	1,835	1,970	1,967	2,020	2,068	2,120	2,174	2,234	2,290	2,362	2,104
	mil. \$	O	5	8	8	7	7	7	7	7	7	7	7
	mil. \$	P	11	13	14	11	12	12	11	12	12	12	12
Total	mil. \$	Baseline	17,107	18,383	19,268	20,034	20,671	21,167	21,420	21,820	22,071	22,434	20,438
	mil. \$	O	-121	-119	-108	-103	-96	-92	-92	-91	-90	-93	-100
	mil. \$	P	-239	-200	-195	-155	-171	-161	-160	-158	-156	-160	-175

Table F-11. U.S. Marketings

	Units	Scenario	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	10 Yr. Avg.
Class I	mil. pounds	Baseline	54,412	54,810	54,579	54,542	54,505	54,637	54,506	54,514	54,548	54,722	54,577
	mil. pounds	O	42	42	37	35	32	30	30	30	29	30	34
	mil. pounds	P	84	62	67	40	57	53	52	51	51	51	57
Class II	mil. pounds	Baseline	19,798	19,553	19,563	19,676	19,884	20,210	20,424	20,749	21,097	21,473	20,243
	mil. pounds	O	-17	-27	-33	-35	-38	-40	-42	-44	-46	-47	-37
	mil. pounds	P	-33	-48	-59	-59	-67	-71	-73	-76	-79	-81	-65
Class III	mil. pounds	Baseline	89,598	91,736	93,211	94,359	95,423	96,749	97,751	98,808	99,939	101,373	95,895
	mil. pounds	O	-9	-19	-32	-46	-58	-68	-77	-83	-87	-91	-57
	mil. pounds	P	-18	-34	-58	-78	-101	-120	-135	-145	-153	-160	-100
Class IV	mil. pounds	Baseline	18,964	17,029	15,782	15,311	15,373	15,769	16,050	16,608	17,215	17,771	16,587
	mil. pounds	O	-51	-81	-100	-112	-118	-123	-128	-133	-138	-144	-113
	mil. pounds	P	-101	-138	-181	-182	-208	-216	-224	-232	-240	-250	-197
Total Class Use ¹	mil. pounds	Baseline	182,773	183,128	183,135	183,888	185,184	187,364	188,731	190,679	192,799	195,340	187,302
	mil. pounds	O	-35	-85	-127	-158	-183	-202	-217	-230	-241	-252	-173
	mil. pounds	P	-68	-158	-230	-279	-319	-353	-380	-402	-421	-440	-305

¹ Total Class Use differs from U.S. Marketings due to the presence of imported dairy ingredients.

Table F-12. Domestic Commercial Disappearance

	Units	Scenario	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	10 Yr. Avg.
American Cheese	mil. pounds	Baseline	3,958	4,011	4,043	4,064	4,089	4,131	4,159	4,195	4,236	4,292	4,118
	mil. pounds	O	-1	-2	-2	-3	-3	-3	-3	-3	-3	-3	-3
	mil. pounds	P	-2	-3	-4	-4	-5	-5	-6	-6	-6	-6	-5
Other Cheese	mil. pounds	Baseline	5,759	5,884	5,970	6,044	6,114	6,201	6,267	6,335	6,407	6,495	6,148
	mil. pounds	O	-1	-2	-3	-4	-4	-5	-6	-6	-7	-7	-4
	mil. pounds	P	-1	-3	-5	-6	-8	-9	-10	-11	-11	-12	-8
Butter	mil. pounds	Baseline	1,479	1,441	1,398	1,392	1,401	1,422	1,439	1,462	1,487	1,515	1,444
	mil. pounds	O	0	0	0	0	-1	-1	-1	-1	-1	-1	0
	mil. pounds	P	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Nonfat dry milk	mil. pounds	Baseline	1,004	1,001	1,010	1,015	1,032	1,061	1,082	1,116	1,151	1,187	1,066
	mil. pounds	O	-1	-2	-3	-5	-5	-5	-5	-5	-5	-5	-4
	mil. pounds	P	-2	-3	-6	-7	-9	-9	-9	-9	-9	-9	-7
Dry whey	mil. pounds	Baseline	582	567	552	536	521	509	494	480	468	458	517
	mil. pounds	O	0	0	0	0	0	0	0	0	0	0	0
	mil. pounds	P	0	0	-1	-1	-1	-1	-1	-1	-1	-1	-1

Table F-13. Milk Income Loss Contract (MILC) Payments and Net Government Removals of Nonfat Dry Milk Through the Milk Price Support Program (MPSP)

	Units	Scenario	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	10 Yr. Avg.
Class I Price at Boston (3.5 percent butterfat)	\$/cwt.	Baseline	15.40										
	\$/cwt.	O	-0.14										
	\$/cwt.	P	-0.28										
MILC Payments	mil. \$	Baseline	323										
	mil. \$	O	22										
	mil. \$	P	44										
NDM Net Govt. Removals ¹	mil. pounds	Baseline	0	7	4	2	1	1	1	1	1	1	2
	mil. pounds	O	0	-1	-1	0	0	0	0	0	0	0	0
	mil. pounds	P	0	-1	-1	0	0	0	0	0	0	0	0
MPSP Outlays ²	mil. \$	O	0	0	0	0	0	0	0	0	0	0	0
	mil. \$	P	0	-1	-1	0	0	0	0	0	0	0	0
Total Govt. Outlays	mil. \$	O	22	0	0	0	0	0	0	0	0	0	2
	mil. \$	P	44	-1	-1	0	0	0	0	0	0	0	4

¹ Net government removals equals support price purchases plus Dairy Export Incentive Program (DEIP) removals minus unrestricted sales.

² MPSP outlays are not projected in the model. The change is computed by multiplying NDM net removal quantities by the NDM support price of \$0.80. No attempt is made to estimate changes in storage, handling, transportation, processing, and packaging.