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POSSIBLE IMPACTS OF 1990 ETHANOL LEGISLATION ON AGRICULTURE

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ABSTRACT

Ethanol legislation in 1990 may eventually increase net cash farm income, but will negatively affect producers of livestock, vegetable oils and soybeans, and the EC's CAP. Corn prices will increase as much as 8-10% over the Baseline and soybean prices as much as 2-4% lower.

#20155

POSSIBLE IMPACTS OF 1990 ETHANOL LEGISLATION ON AGRICULTURE

Action by Congress in October 1990 has important implications for ethanol production and for the corn industry. The Clean Air Act amendments of 1990 mandate oxygenated gasoline fuels in certain cities. The Omnibus Budget Reconciliation Act of 1990 extends the blender tax credit and the excise tax exemption to the year 2000.

The Clean Air Act specifies that gasoline marketed in about 41 cities would have to contain 2.7% oxygen by weight during specified times of the year beginning in November 1992. This could increase ethanol production by 500-600 million gallons based on estimates of the Renewable Fuels Association. Another provision requires reformulated gasoline to be available in the nation's nine most air-polluted cities by 1995, which is expected to step up ethanol use an additional 100 million gallons annually.

The federal excise tax exemption, along with subsidies in a number of states, will provide the basis for a growth in ethanol use along with expanding demand for gasoline. The impact of the Clean Air Act on ethanol use will be dependent on the extent to which oil companies switch to methyl tertiary butyl ether (MTBE) to meet mandated oxygen requirements and to incorporate as an octane enhancer.

Without substitution, some studies have indicated that as much as an additional 3.2-3.4 billion gallons of ethanol would be required by 1995 involving another 1.3 billion bushels of corn (Sparks, May 1990; Sparks, June 1990). This amounts to a four-fold increase in ethanol production and an increase of 16-17% in total domestic and export use of corn. Other analyses suggest a much smaller increase under the assumption that MTBE will be an important source for oxygenation (Hsu, 1990).

The purpose of this paper is not to analyze the prospective demand for ethanol, but to measure possible effects of expanded ethanol use on agriculture. In this case, the more conservative projection by the Renewable Fuels Association was assumed and compared to a scenario of declining use that would accompany an elimination of the federal excise tax exemption as well as the absence of a Clean Air Act.

Ethanol Production and Byproducts

The U.S. Department of Agriculture estimated that 1,271 million bushels of corn was used for food and industrial purposes in the year beginning September 1, 1989 (USDA, Feed). Of this amount, 970 million bushels or about three fourths were processed by wet milling. Among the wet milled products, 370 million bushels were processed for high fructose corn syrup (HFCS), 206 million bushels for glucose and dextrose, 172 million bushels for starch and 222 million bushels for alcohol. In dry milling, 140 million bushels of corn were processed for alcohol and 161 million bushels for dry-milled and alkaline cooked products.

Major byproducts of the wet milling process are corn gluten feed, corn gluten meal and corn oil. Corn gluten meal, at about 60% protein, is directly competitive with other high protein feeds such as soybean meal (about 44% protein). Corn gluten feeds at about 21% protein would be considered a "middle protein" feed and would be substitutable for either energy or protein feeds. Corn oil would be a close substitute in the vegetable oil market and competitive in the general fats and oils market.

The byproduct of the dry milling process is an animal feed--distiller's dried grain with solubles (DDGS). This is another middle protein feed at about 30% protein.

Given the recent federal exemption from the excise tax, Kane and LeBlanc estimate that ethanol produced with existing technology is competitive if crude oil trades at $24

per barrel or higher (Kane). This assumes farm corn prices around $2 per bushel and prices on the byproducts at recent levels. If state-of-the-art technology is used, the competitive crude oil price drops to $20 and with possible technological improvements, the competitive price could drop to $18 per barrel. With state-of-the-art technology without the federal subsidy, ethanol would not be competitive unless crude oil prices reach at least $40 per barrel.

Very likely, crude oil prices will remain under $40 per barrel and corn prices will remain over $2 per bushel. For these reasons, continued subsidization of ethanol production is likely. This creates a number of sensitive political issues.

Issues

Expanded ethanol production would tend to raise feed grain prices to the detriment of the livestock industry, although prices on the middle protein feeds would tend to be under downward pressure. Actually, nearly all of the increased production of corn gluten feed and meal from the wet milling process during the 1980's has been exported with most going to the European Community (EC). This is because that market is the most profitable. Like soybeans and soybean meal, corn gluten feed and meal are not subject to the variable levy as are feed grains and wheat. The high-priced grains in the EC hold up the price on byproduct feeds which actually serve as substitutes for energy in a major way as well as protein. This substitution reduces the demands for the indigenous grains and increases the costs of the Common Agriculture Policy (CAP). Even the current level of exports of corn gluten feed and meal is drawing heavy criticism from the EC.

Increased exports of these byproduct feeds would be under a subsidized program and would tend to displace markets of farmers from other nations, counter to the U.S. posture on GATT. This would particularly affect South America which exports soybeans

and soybean meal in direct competition with the U.S. Partially offsetting lost markets for soybeans and soybean meal would be a stronger feed grain market due to diversion of corn to ethanol production. Also, the U.S. might be importing some ethanol from South America under the expanded program.

The world market on vegetable oil would be under downward pressure due to increased corn oil production in the U.S. This would have an impact on exporters of palm oil and on exporters of other fats and oils as well.

The expanded ethanol program would also have differential effects on farmers within the U.S. By driving up feed grain prices, cash crop farmers would gain and livestock producers would face higher costs. While many corn producers also grow soybeans, there are sections of the nation where soybean producers are more specialized and do not have much of a feed grain base. The program would tend to reduce their income.

Given the sensitivity to further exports of corn gluten feed and meal to the EC, the assumption was made in this analysis that only half of the increase in the production of these byproduct feeds would be exported. The other half would be absorbed in the domestic livestock industry and replace soybean meal. All of the increase in the production of DDGS would be fed domestically. What impact expanded ethanol production would have on high protein prices, including soybean meal, is not clear since higher feed grain prices would tend to support the meal market.

AGMOD Analysis

The complexities of the issues involved and the global effects of the program present a major challenge for analysis. The intent of this study is to point out these complexities and take a first step toward measuring the multiple impacts. The vehicle

for the analysis was AGMOD, an econometric model of U.S. agriculture with an international component (Ferris).

Baseline and Alternatives

The Baseline scenario incorporated in this analysis employs a number of assumptions which can be viewed as fairly standard projections of macro-economic variables--population, economic growth, etc. (WEFA). For the U.S., the projected growth in real disposable income per capita was 1.2-1.3% per year between 1991 and 1993 and 1.9% per year afterward. The growth in real incomes per capita abroad converged to about 1.3% per year. The inflation rate in the U.S. was estimated endogenously as a function of trends, energy prices, and food prices. This rate under the base scenario ranged between 4 and 6% per year for most of the 1990's. Interest rates as indicated by farm land loans by the Farm Credit Administration, were assumed to converge to about 6% in real terms.

Recent developments in petroleum prices preclude a consensus forecast. Assumed in the base scenario is that crude oil prices (F.O.B. Mideast light) hold near $20 per barrel during 1991 and 1992 and reach $40+ by the end of the decade. The essential provisions of the Food, Agriculture, Conservation and Trade Act of 1990 were assumed to remain intact through the decade.

The resulting projections of corn used in wet and dry milling are presented in Table 1. Under "Baseline", the tax exemption is phased out in 1992-93 and no Clean Air Act is in the picture. Under "Program", the tax exemption continues and the Clean Air Act pulls up corn used in ethanol production from 362 million bushels in 1989-90 to 700 million bushels by 1995-96, a level maintained for the rest of the decade. This amounts to corn use in ethanol reaching 5-6% of total feed grain use compared to about 2% in

the Baseline. The Program adds about half a billion bushels of corn to ethanol production over the Baseline in 1995-2000.

Results

The Program causes a shift from soybean to feed grain production with corn holding 3-6% over the Baseline in 1995-2000 and soybeans 2-4% below (Table 2). Effects on wheat production are minor. An increase in corn prices relative to soybeans encourages the shift (Table 3). Corn prices increase as much as 8-10% over the Baseline in the latter part of the decade while soybean prices decline as much as 4-5% before recovering. Wheat prices are somewhat buoyed by increased feeding to livestock. The impact of corn prices may appear extreme. However, at the lower level of feed grain stocks generated by the Program, corn prices became more sensitive to changes in carryover.

Higher feed grain and wheat prices encourage expansion abroad resulting in lowered exports of grain (Table 4). On the other hand, lowered soybean prices encourage exports. If half of the increase in corn gluten feed (and meal) production is exported, the level would hold about 22% over the Baseline in 1995-2000.

The Program will place downward pressure on prices of middle protein feeds as indicated in Table 5. Prices on corn gluten feed and distiller's dried grains would run 10-15% under the Baseline. Somewhat surprising is the projected strength of soybean meal prices. The support given to soybean meal prices from higher corn prices more than offsets the substitution of the byproduct feeds for soybean meal. Prices on corn gluten meal (60% protein) decline less than on the middle proteins because of the higher soybean meal prices.

The expansion of wet milling of corn increases corn oil production more than 25% over the Baseline (Table 6). Total U.S. production of vegetable oils increases in absolute

terms and relative to the Baseline through 1997. Soybean carryover also increases more rapidly under the program. The result is that both soybean oil prices and corn oil prices are depressed relative to the Baseline. Soybean oil prices are as much as 10-13% lower until the response of soybean producers to lower prices brings about an adjustment by the end of the decade. Prices on corn oil remain depressed.

Some indication of the impact abroad is presented in Table 7. Higher corn prices generate slightly higher areas harvested for coarse grain. Wheat areas are about unchanged. The lower soybean prices hold areas harvested to soybeans in South America about 1.5-2.5% below the Baseline for much of the period from 1993 to 2000.

The possible effect of 1990 ethanol legislation on net cash farm income appears somewhat counter-intuitive (Table 8). In the first few years, income is lower under the Program followed by increases over 5% by the end of the decade. Through 1995, higher corn and wheat prices are partially offset by reduced deficiency payments to participants in the Feed Grain and Wheat Programs. At the same time, higher feed prices are increasing costs for livestock producers. The total effect reduces net cash income.

After 1995, corn prices remain above the $2.75 per bushel target price under both scenarios. The situation with wheat is similar though later in the decade. For this reason, the higher corn and wheat prices in the last part of the decade have no effect on deficiency payments since such subsidies cease if farm prices are above the target.

Also, by the end of the decade, the response of livestock producers to lower profit margins at mid decade would generate higher livestock prices and profits. This response, plus the higher prices on corn and wheat--wheat in particular--would inflate the Consumer Price Index on Food (Table 8). The impact over the Baseline would not likely exceed half a percent.

A Note on Methodology

Because the Clean Air Act could generate substantial increases in the availability of byproduct feeds to unprecedented levels, standard time series analysis of historical data could lead to erroneous conclusions about price impacts. A procedure was developed to forecast byproduct feed prices as a function of the energy and protein values. These values were derived from corn prices and soybean meal prices.

The prices of the byproduct feeds were forecast as a function of the feed value and the ratio of the availability of the particular feed to the total amount of concentrate feed fed on a protein basis. A lower bound was placed on the price equivalent to the lowest three-year average price relative to feed value in the past. That these byproduct feeds are readily substitutable in livestock rations has been confirmed by Ensminger and Olentine (Ensminger). Cattle would be the most likely outlet for corn gluten feed. The increased amounts of byproduct feeds postulated in this study could be readily absorbed by the U.S. livestock industry.

Similarly on corn oil, prices were a function of soybean oil prices and the ratio of corn oil production to soybean oil production. A lower bound was placed on the relationship between corn oil prices and soybean oil prices equivalent to the lowest three-year average in the past.

Conclusions

Aside from the positive impact of the environment, the federal ethanol program bears watching in terms of potential political repercussions. While agriculture would generally benefit, the effects are mixed. Producers of vegetable oils and soybeans would be somewhat disadvantaged. The EC would be accepting more unwanted corn gluten feeds. Consumers would see slightly higher food prices.

Table 1

ASSUMED EFFECT OF 1990 ETHANOL LEGISLATION ON USE OF CORN FOR ETHANOL PRODUCTION

ITEM	UNIT	CROP YEARS												
		1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
WET MILLED														
Baseline	Mil bu	210	222	235	220	203	167	143	143	143	143	143	143	143
Program	"	210	222	235	220	366	366	366	422	422	422	422	422	422
Change	"	0	0	0	0	163	199	223	279	279	279	279	279	279
DRY MILLED														
Baseline	Mil bu	139	140	142	142	112	88	72	72	72	72	72	72	72
Program	"	139	140	142	142	234	234	234	278	278	278	278	278	278
Change	"	0	0	0	0	122	146	162	206	206	206	206	206	206
TOTAL														
Baseline	Mil bu	349	362	377	362	315	255	215	215	215	215	215	215	215
Program	"	349	362	377	362	600	600	600	700	700	700	700	700	700
Change	"	0	0	0	0	285	345	385	485	485	485	485	485	485
TOTAL CORN USE IN ETHANOL AS A PERCENT OF FEED GRAIN UTILIZATION														
Baseline	%	4.06	3.77	3.99	3.63	3.08	2.48	2.05	1.99	1.95	1.89	1.87	1.82	1.78
Program	%	4.06	3.77	3.99	3.63	5.72	5.68	5.55	6.26	6.14	5.99	5.89	5.76	5.64

Table 2

EFFECT OF 1990 ETHANOL LEGISLATION ON PRODUCTION OF CORN, OTHER FEED GRAIN, SOYBEANS AND WHEAT

ITEM	UNIT	CROP YEARS												
		1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
CORN														
Baseline	Mil bu	4929	7525	7933	8695	8995	8927	9073	8748	9100	9309	9903	10031	10323
Program	Mil bu	4929	7525	7933	8695	8995	9053	9190	9178	9380	9881	10292	10691	10753
Percent change	%	0.0	0.0	0.0	0.0	0.0	1.4	1.3	4.9	3.1	6.2	3.9	6.6	4.2
OTHER FEED GRAIN														
Baseline	Mil MT	24.1	30.0	28.8	37.7	41.2	40.8	40.4	40.2	41.5	42.2	43.3	44.1	44.6
Program	Mil MT	24.1	30.0	28.8	37.7	41.2	41.4	41.1	41.2	42.4	43.7	44.5	44.9	44.8
Percent change	%	0.0	0.0	0.0	0.0	-0.0	1.3	1.9	2.4	2.3	3.5	2.8	1.8	0.4
SOYBEANS														
Baseline	Mil bu	1549	1927	1922	1966	2056	2158	2196	2301	2397	2477	2518	2550	2571
Program	Mil bu	1549	1927	1922	1966	2056	2136	2182	2266	2344	2398	2427	2447	2478
Percent change	%	0.0	0.0	0.0	0.0	-0.0	-1.1	-0.7	-1.5	-2.2	-3.2	-3.6	-4.0	-3.6
WHEAT														
Baseline	Mil bu	1812	2037	2739	2386	2775	3053	3004	3095	3303	3295	3488	3410	3551
Program	Mil bu	1812	2037	2739	2386	2775	3053	3015	3109	3304	3287	3401	3314	3510
Percent change	%	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.1	-0.3	-2.5	-2.8	-1.2

Table 3

EFFECT OF 1990 ETHANOL LEGISLATION ON FARM PRICES OF MAJOR CROPS

ITEM	UNIT	CROP YEARS												
		1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
CORN														
Baseline	$/Bu	2.54	2.36	2.35	2.53	2.47	2.47	2.44	2.67	2.69	2.88	2.91	3.09	3.27
Program	$/Bu	2.54	2.36	2.35	2.53	2.55	2.58	2.59	2.82	2.97	3.12	3.19	3.27	3.42
Percent change	%	0.0	0.0	0.0	0.0	3.5	4.7	6.1	5.6	10.4	8.2	9.7	5.9	4.6
SOYBEANS														
Baseline	$/Bu	7.42	5.70	5.70	6.51	7.91	8.15	8.73	9.08	8.98	8.81	8.68	9.05	9.93
Program	$/Bu	7.42	5.70	5.70	6.51	7.53	8.07	8.50	8.68	8.62	8.56	8.70	9.23	10.12
Percent change	%	0.0	0.0	0.0	0.0	-4.8	-1.0	-2.6	-4.5	-4.0	-2.8	0.1	2.1	1.9
WHEAT														
Baseline	$/Bu	3.72	3.72	2.60	3.00	3.60	3.76	3.74	3.81	3.81	3.98	3.94	4.31	4.58
Program	$/Bu	3.72	3.72	2.60	3.00	3.61	3.83	3.84	3.94	4.01	4.28	4.46	4.79	5.03
Percent change	%	0.0	0.0	0.0	0.0	0.4	1.8	2.7	3.5	5.2	7.4	13.2	11.0	9.9

Table 4

EFFECT OF 1990 ETHANOL LEGISLATION ON U.S. EXPORTS OF FEED GRAIN, SOYBEANS, WHEAT AND CORN GLUTEN FEEDS

ITEM	UNIT	CROP YEARS												
		1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
FEED GRAIN														
Baseline	Mil MT	61	70	54	69	72	73	77	81	86	90	94	98	104
Program	Mil MT	61	70	54	69	72	72	76	80	84	88	91	95	98
Percent change	%	0.0	0.0	0.0	0.0	0.0	-0.5	-0.8	-1.6	-1.9	-2.6	-2.9	-3.8	-5.4
SOYBEANS														
Baseline	Mil bu	527	623	580	660	760	671	727	732	759	801	852	891	912
Program	Mil bu	527	623	580	660	770	728	732	741	772	814	853	876	877
Percent change	%	0.0	0.0	0.0	0.0	1.4	8.4	0.7	1.2	1.8	1.6	0.2	-1.7	-3.9
WHEAT														
Baseline	Mil bu	1419	1233	1025	1302	1751	1792	1846	1906	1917	1980	2045	2113	2187
Program	Mil bu	1419	1233	1025	1302	1750	1792	1845	1906	1914	1973	2026	2087	2152
Percent change	%	0.0	0.0	0.0	0.0	-0.0	0.0	-0.1	0.0	-0.1	-0.3	-0.9	-1.2	-1.6
CORN GLUTEN FEEDS														
Baseline	1000 MT	5611	5266	5266	5266	5266	5102	5051	5100	5149	5198	5247	5296	5345
Program	1000 MT	5611	5266	5266	5266	5266	5936	5985	6268	6317	6366	6415	6464	6513
Percent change	%	0.0	0.0	0.0	0.0	0.0	16.3	18.5	22.9	22.7	22.5	22.3	22.1	21.9

Table 5

EFFECT OF 1990 ETHANOL LEGISLATION ON PRICES OF HIGH AND MIDDLE PROTEIN FEEDS

		CROP YEARS												
		1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
SOYBEAN MEAL, 44% (DECATUR, IL)														
Baseline	$/Ton	233	174	163	189	198	190	196	210	217	229	234	244	257
Program	$/Ton	233	174	163	189	196	196	200	213	227	239	246	253	264
Percent change	%	0.0	0.0	0.0	0.0	-0.9	2.9	2.1	1.8	4.2	4.2	5.2	3.9	2.6
CORN GLUTEN MEAL, 60% (IL POINTS)														
Baseline	$/Ton	282	279	246	274	287	281	292	311	324	342	351	366	385
Program	$/Ton	282	279	246	274	258	271	278	290	309	325	337	347	361
Percent change	%	0.0	0.0	0.0	0.0	-10.3	-3.8	-5.1	-6.8	-4.7	-4.7	-4.0	-5.2	-6.2
CORN GLUTEN FEED, 21% (IL POINTS)														
Baseline	$/Ton	117	110	101	115	118	118	123	131	135	143	145	151	159
Program	$/Ton	117	110	101	115	99	100	101	109	115	121	124	128	133
Percent change	%	0.0	0.0	0.0	-0.0	-16.1	-15.7	-17.6	-17.3	-14.6	-15.1	-14.1	-15.6	-16.1
DISTILLER'S DRIED GR LAWRENCEBURG, IN)														
Baseline	$/Ton	141	130	112	128	140	144	153	164	171	182	188	197	208
Program	$/Ton	141	130	112	128	132	132	135	144	153	161	166	170	177
Percent change	%	0.0	0.0	0.0	0.0	-5.4	-8.0	-11.9	-12.3	-10.8	-11.7	-11.7	-13.7	-14.9

Table 6

EFFECT OF 1990 ETHANOL LEGISLATION ON PRODUCTION OF CORN OIL AND PRICES OF SOYBEAN AND CORN OIL

ITEM	UNIT	CROP YEARS												
		1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
CORN OIL PRODUCTION														
Baseline	Mil Lbs	1415	1475	1505	1498	1487	1447	1425	1439	1454	1468	1483	1497	1512
Program	Mil Lbs	1415	1475	1505	1498	1733	1747	1762	1861	1875	1890	1904	1918	1933
Percent change	%	0.0	0.0	0.0	0.0	16.6	20.8	23.6	29.3	29.0	28.7	28.4	28.1	27.9
PRICE OF SOYBEAN OIL (DECATUR, IL)														
Baseline	Cents/Lb	21.1	22.3	21.5	23.9	35.4	39.5	43.7	44.2	41.5	37.3	35.1	36.4	42.1
Program	Cents/Lb	21.1	22.3	21.5	23.9	32.1	37.5	40.6	39.5	36.1	32.9	32.5	36.1	42.4
Percent change	%	0.0	0.0	0.0	0.0	-9.3	-5.0	-7.1	-10.7	-13.1	-12.0	-7.3	-0.8	0.8
PRICE OF CORN OIL (WET MILL, CHICAGO, IL)														
Baseline	Cents/Lb	21.0	22.9	23.0	24.3	34.8	40.8	47.2	50.4	51.4	50.8	50.9	53.3	59.1
Program	Cents/Lb	21.0	22.9	23.0	24.3	31.6	36.9	39.9	38.8	35.4	33.3	34.0	37.3	43.0
Percent change	%	0.0	0.0	0.0	0.0	-9.3	-9.8	-15.6	-23.0	-31.0	-34.5	-33.1	-30.0	-27.2

Table 7

EFFECT OF 1990 ETHANOL LEGISLATION ON AREA HARVESTED FOR COARSE GRAIN AND AND WHEAT ABROAD AND FOR SOYBEANS IN SOUTH AMERICA

ITEM	UNIT	CROP YEARS												
		1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
COARSE GRAIN ABROAD														
Baseline	Mil Ha	293	286	286	282	282	283	282	281	280	280	280	281	282
Program	Mil Ha	293	286	286	282	282	283	282	282	281	281	282	283	284
Percent change	%	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.4	0.5	0.5	0.7	0.7
WHEAT ABROAD														
Baseline	Mil Ha	197	200	203	207	210	210	212	213	215	216	217	218	219
Program	Mil Ha	197	200	203	207	210	210	212	213	215	216	217	218	220
Percent change	%	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.0	-0.0	0.1	0.1	0.3
SOYBEANS IN SOUTH AMERICA														
Baseline	Mil Ha	16.2	16.3	15.3	16.4	17.8	19.0	19.8	20.6	21.0	21.2	21.2	21.4	21.9
Program	Mil Ha	16.2	16.3	15.3	16.4	17.6	18.7	19.5	20.1	20.4	20.6	20.7	21.1	21.8
Percent change	%	0.0	0.0	0.0	-0.0	-0.8	-1.5	-1.6	-2.1	-2.6	-2.8	-2.2	-1.4	-0.4

Table 8

EFFECT OF 1990 ETHANOL LEGISLATION ON NET CASH FARM INCOME AND CONSUMER FOOD PRICES

ITEM	UNIT	CROP YEARS												
		1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
NET CASH FARM INCOME														
Baseline	Bil $	58.1	54.6	59.0	57.5	50.8	55.3	61.8	69.6	73.3	76.8	72.4	72.4	74.3
Program	Bil $	58.1	54.6	59.0	57.5	50.3	54.4	61.0	67.9	73.4	77.3	76.1	76.0	78.6
Percent change	%	0.0	0.0	0.0	0.0	-1.0	-1.7	-1.3	-2.4	0.2	0.7	5.1	4.9	5.8
CONSUMER FOOD PRICE INDEX (1982-84=100)														
Baseline	Index	118.3	125.1	133.0	137.8	142.5	147.9	155.7	165.6	177.3	188.6	199.3	209.5	220.2
Program	Index	118.3	125.1	133.0	137.8	142.5	148.1	156.1	166.1	177.9	189.4	200.2	210.5	221.0
Percent change	%	0.0	0.0	0.0	-0.0	0.0	0.1	0.2	0.3	0.3	0.4	0.4	0.5	0.4

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