CONSEQUENCES OF PROPOSED POLICY CHANGES IN FEDERAL MILK MARKET ORDER REGULATION*

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For AAEA meeting at San Diego, August 2, 1977

Background

Questions about the impacts of Federal milk marketing orders have been raised by many groups including dairy farmers, processors, consumers and government agencies. There are differences of opinion as to the objectives of milk orders. For example, some groups would place more or less emphasis on minimizing consumer expenditures for milk, on insuring adequate milk supplies, on stabilizing prices and on increasing income of dairy farmers. Persons affected by milk order regulation usually have limited information about the consequences of current or proposed provisions of orders. They are thus uncertain about changes in regulation which would be consistent with their objectives.

The pricing and pooling provisions of milk orders are the key policy variables which directly affect the level of milk production and regional shifts in production, farm income, the location and utilization of processing facilities, intermarket movements of raw and packaged milk, the level of consumption of various dairy products and consumer prices and expenditures. A Federal Milk Marketing Order Policy Simulator (FMMOPS) has been designed to analyze the consequences of

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* This research was supported by the National Science Foundation under Grant No. APR75 - 16815 entitled "Modeling the Impact of Alternative Regulatory Schemes: A Case Study of Federal Milk Marketing Orders". The project was a joint effort with D. E. Banker, O. Goldman, D. R. Martella and J. E. Pratt. The views expressed are the author's and do not necessarily represent those of N.S.F.

changes in Federal milk order provisions.[1/] FMMOPS projects the consequences (production, consumption, prices and the like) of changes in order provisions for up to 20 quarters on an order by order basis. It is hoped that FMMOPS will assist various groups in understanding the impacts of changes in regulation and in selecting order provisions which are consistent with their objectives of regulations.

Model Structure

An understanding of the model structure is needed to evaluate the projections of FMMOPS, i.e., the projections are no better than the model. Due to time limits, only a brief outline of the model will be discussed. The model includes all of the orders under Federal regulation. Projections are on a quarterly basis for up to 20 quarters.

The model can analyze proposed changes in order provisions in two different economic environments. In the first situation (exogenous factors constant), all variables which incluence projections of production, consumption and the like are held constant, except for those policy variables which are being changed (Figure 1). In this situation, the user can clearly see the consequences of changes in order provisions which have been made. For example, if Class I prices are increased, it is assumed that population, income, and prices of other products are held constant. This results in fluid milk prices increasing relative to other prices and to income (an increase in real price). Likewise, if prices received by dairy farmers (blend prices) increase, it is assumed that production costs and all other factors affecting milk supply are held constant.

In the second situation, all exogenous factors influencing projections are not constant during the five year projection period. The user may want projections which include the influence of policy changes plus the influence of factors not affected by policy changes. Further, the user may be trying

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1/ Detailed information about FMMOPS is contained in three publications: E. M. Babb, D. E. Banker, O. Goldman, D. R. Martella and J. E. Pratt, User's Manual for Federal Milk Marketing Order Policy Simulator - Model A, Sta. Bul. 157, Ind. Agr. Exp. Sta., April, 1977; E. M. Babb, D. E. Banker, O. Goldman, D. R. Martella and J. E. Pratt, Economic Model of Federal Milk Marketing Order Policy Simulator - Model A, Sta. Bul. 158, Ind. Agr. Exp. Sta., April 1977; D. E. Banker, E. M. Babb, O. Goldman, D. R. Martella and J. E. Pratt, Computer Program Documentation for Federal Milk Marketing Order Policy Simulator - Model A, Sta. Bul. 164, Ind. Agr. Exp. Sta., June 1977.

to select that combination of order provisions which achieves some predetermined objective (for example, minimum consumer expenditure). The combination of prices which achieves this objective when exogenous factors are constant may be infeasible when exogenous factors are permitted to vary. For example, prices which minimize consumer expenditures when exogenous factors are constant may not result in milk production which will match consumption expansion due to changes in population and income. For this reason, policies which are aimed at achieving some objective should be checked in the situation where exogenous factors vary.

When exogenous factors are permitted to vary, milk production, milk consumption, and costs are influenced by changes in factors other than the policy variables being analyzed (Figure 1). In the case of milk consumption, exogenous factors include the price of other products, income, population, and changes in marketing costs (which affect retail prices). Processing and transportation costs are estimated to increase about five percent per year. It is assumed that prices of other products increase five percent each year during the projection period and that income increases eight percent. Thus, nominal increases in retail price may result in either an increase or a decrease in real prices.

Milk production is affected both by conversion of milk from Grade B to Grade A status and by changes in the direct cost of milk production. It is projected that about one billion pounds of milk will be pooled in Federal orders each year as a result of Grade B milk conversion. Direct cost of milk production is projected to increase about 1.6 percent each year. If prices received by farmers (blend prices) increase by the amount of increases in production costs, there will be no change in production as a result of this factor. Milk production would be higher (lower) if blend price increases were higher (lower) than increases in production costs.

Policy variables and exogenous variables influence performance of Federal orders (Figure 1). Response variables which are computed by FMMOPS are reported on a market-by-market basis and for the system as a whole. Response variables may also influence policy variable settings. For example, low blend prices may signal lower than desired production levels or lower than desired producer income. High retail prices may signal future loss of sales or higher than desired consumer expenditures. Excessive volume of Class III useage may signal higher than desired out-of-Treasury expenditures under the price support program. Linkage between response variables and policy variables is on a trial and error basis, i.e., there is not a direct linkage built into the model. Response variables also influence the status of exogenous variables. Blend prices affect future production response and may affect conversion of Grade B milk to Grade A status. They may also influence indirect cost of milk production (resource ownership costs). Retail prices affect future consumption response. Most of these linkages are included in FMMOPS.

The following is a simplified description of how FMMOPS works (Figure 2).

1. Read base data. This consists of Federal order data for 1975, which is the base year, plus all relationships subsequently used in the model.
2. Introduce proposed changes. The user specifies changes in order provisions to be analyzed and/or the objectives which are desired.
3. Compute production and consumption. The quantities produced in each supply center (order milkshed) and consumed as Class I (fluid milk) and Class II (soft manufactured products) in each consumption center (order marketing area) are computed. These quantities are computed either on the basis of response to price changes alone or on the basis of price changes plus the effect of exogenous factors.
4. Compute least-cost flows. A capacitated network flow algorithm[2/] is used in the fourth step to move raw milk from supply centers to processing centers and packaged milk from processing centers to consumption centers at a minimum total cost. This type of flow is illustrated in Figure 3. Many institutional factors and constraints on milk movements are imbedded in the model such as shipping requirements specified in Federal orders, fluid milk and manufacturing plant capacities, gradual erosion of processor market shares and gradual shifts of producer milk among markets.

Total milk production (ΣQM) is partitioned (PDS and PSP) into that part which is direct ship (DS) and that which is supply plant milk (SP) for each supply center. Supply plants are assumed to be continuously pooled in each Federal order as during 1975 and must meet the order shipping requirements (SR). Otherwise, they may ship milk to any processing center (P) without restriction. Direct ship milk is initially pooled, as in the last quarter of 1975, but can shift to other orders over time. There is a restriction on movements of direct ship milk (ML) which is gradually reduced over time. Supply plant and direct ship milk moves to processing centers (P) or to manufacturing centers (M, MM or MD).

There are three types of manufacturing centers. The first type is a single center (M) for each market which has had adequate capacity to process milk in excess of fluid requirements. The second type is a multiple manufacturing center (MM) which reflects the capacities of several plants in a geographic area. These centers

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2/ The capacitated network flow algorithm solves the standard transportation problem with fixed supply and demand requirements. Restrictions are more easily introduced and computer time and core requirements are usually reduced, compared to alternative codes.

are used primarily for orders in the South and Southwest where manufacturing capacity is limited. The third type is a dummy manufacturing center (MD) which handles any milk in excess of the capacity (MC) of M or MM at an added cost reflecting transportation costs to more distant plants. The capacity restrictions are placed on arcs linking manufacturing centers to a common node (MS) which contains all milk used for Class III products (QIII).

Fluid milk processing centers are continuously pooled in each order as during 1975. Milk can be received at a processing center up to its capacity (CP). Each processing center starts with Class I sales (QIR) in its local consumption center (C), which is its regulated marketing area, as in 1975. Sales made by each processing center in its local consumption center can erode over time, as the sales restriction (SL) is gradually reduced over time. Processing centers make sales to other consumption centers based on their relative cost of making such sales.

The algorithm computes the disposition of total milk production (ΣQM) to satisfy total useage (ΣQIR + ΣQIII) in such a way that total costs for the order system are at a minimum, given the restrictions discussed above. These dispositions also result in minimum retail prices in the aggregate. The user has the option to remove each of the restrictions in the model. Total cost is composed of class prices for milk (raw product costs), transportation costs for bulk and packaged milk, handling charges, and processing costs.

A fluid milk processing center can obtain its needed raw milk supply from four sources at the following costs (for milk actually used as Class I):

(a) supply plants pooled in its order - Class I price,

(b) direct ship milk pooled in its order - Class I price,

(c) supply plants pooled in another order - Class I price in originating order plus transportation costs plus 25 cents handling charge, and

(d) direct ship milk pooled in another order - Class I price (plus 15 cents if movement is over 250 miles) if the net farm price received by the producer is equal to or greater than the net farm price in the other order (otherwise the processor must subsidize transportation cost to the extent necessary to equate net farm prices).

When direct ship milk shifts from one order pool to another, it stays in the new pool until there is an incentive for some further shift.

5. Compute pool values, costs and prices. These are the consequences which are reported to the user.

6. Print reports. The user indicates which of a variety of reports are desired. When this step is completed, the model goes back to the third step above and computes production and consumption for the next period. This process continues for up to 20 quarters.

Policy Analysis

The user can explore a variety of changes in milk order provisions. An input form may be completed for this purpose, but it is more appropriate for the users to discuss provisions to be analyzed with the researcher. The model is very flexible in the range of provisions which can be analyzed and the user will need some assistance in taking advantage of this flexibility. Further, there will be a better understanding of provisions analyzed and projections of consequences where there is consultation between the user and researcher. The researcher can be of assistance in suggesting policy alternatives which would obtain user objectives. The following are some of the order provisions which can be analyzed.

1. Class I price level and structure. The user can establish any Class I price for each of the orders and changes in these prices over time. Thus, any price level or structures could be examined. Prices could be established on the basis of some percentage of parity, on the basis of milk production costs, on the basis of some differential over manufacturing grade milk prices or with the goal of achieving specified objectives.

2. Class II and III price levels. These prices can be set at different levels and for changes over time.

3. Order consolidations and distribution of returns to producers. The user can explore the impacts of all combinations of order consolidations and of different distributions of returns, i.e., various location differentials which would be applicable to blend prices.

4. Other. There are many options available to the user which are more complex than those discussed above. This is one reason why it is advisable to making consultations between users and researchers.

Results from Policy Analysis

We are now completing the analysis of various policies which have been proposed. There will be in excess of 100 proposals analyzed, however, many are variations on a theme. We have selected five proposals for discussion purposes which illustrate a range in price structure and level and pooling arrangements which can be analyzed using FMMOPS. The results we will present are preliminary and we are not suggesting that any one of the proposals should be adopted or that one policy proposal is better than another. As indicated previously, the "best" policy depends on the weights assigned to the multiple objectives of regulation.

A word of caution about projectons of FMMOPS is in order. Considerable effort was devoted to validation of the model and we were generally satisfied with its ability to correctly project 1976 order results.3/ But, even a perfect projection of an existing policy does not insure that the model can correctly project where policies other than those effective were imposed. Since only a few of the policies which will be analyzed will ever be made effective, a complete validation is impossible. The model does make projections using a consistent set of assumptions and response coefficients. Thus, the relative impacts of various policies should probably be given more weight than the absolute values.

Policies Analyzed

For all of the policies discussed here, exogenous factors were permitted to vary. The most important consequences of this were that prices of other products were assumed to increase five percent each year and per capita income was assumed to increase eight percent per year. About one billion pounds of milk per year was added to the Federal order system through conversion of Grade B milk to Grade A status. Direct cost of milk production was projected to increase about 1.6 percent per year. Milk processing and transportation costs were projected to increase about five percent per year. The same set of restrictions, coefficients and the like applied uniformly to each of the five analyses.

The five policies analyzed are identified and described below. Class prices dictated by each policy which were used for the analysis are shown in Table 1.

BASE 1. Class prices are based on current differentials over the M-W price (including over-order payments as they existed in 1975-76). Actual M-W prices were used through the second quarter of 1977 and estimates of the M-W were used beyond that point.

3/ For a complete discussion of model validation see Sta. Bul. 158, op. cit., pp. 82-97.

MIN 2. Initial Class I prices are the Federal order minimum prices for the 4th quarter of 1975 (10.29 weighted average) and are held constant through 1980. Initial Class II and Class III prices are those for the 4th quarter 1975 ($8.94 and $8.84) and are likewise held constant at this level. With exogenous factors held constant, this results in a decline in the real price of milk.

FLAT 6. Initial Class I price for all markets is the weighted average Class I price for the 4th quarter of 1975, which was $10.60 (minimum order price plus over-order payments). This price was increased 12 cents per quarter. Initial Class II and Class III prices are those for the 4th quarter of 1975 ($8.94 and $8.84) and are also increased 12 cents per quarter.

MW 7. Initial Class I prices are the M-W price for the 4th quarter 1975 ($8.84) plus 30 cents at four base points in the upper midwest, plus minimum distance from these base points times 2 cents per hundredweight/ten miles. Compared to the present order price structure, Class I prices would be lower in markets close to the base points (present Class I differential is greater than 30 cents at base points) and higher in more distant markets (present prices increase less than 2 cents per hundredweight/ten miles from base points). These prices are increased 12 cents per quarter through 1980. Initial Class II and Class III prices are those for the 4th quarter of 1975 ($8.94 and $8.84) and are increased 12 cents per quarter.

MERG 1. Initial Class I prices are the M-W price for the 4th quarter 1975 ($8.84) plus 90 cents at the four base points in the upper midwest, plus minimum distance from these base points times 1.5 cents per hundredweight/ten miles. These prices approximate the current price structure, and are increased 12 cents per quarter through 1980. Initial Class II and Class III prices are those for the 4th quarter of 1975 ($8.94 and $8.84) and are increased 12 cents per quarter. Under this policy it is assumed that all orders are merged into a single order and that there is no location differential applicable to the blend price (all producers receive the same blend price).

Projections of Consequences

Tables presenting projected consequences are the aggregate of all Federal orders. Prices are all weighted averages.

Blend Prices(Table 2)

Blend prices for all policies except BASE 1 and MIN 2 are about 33 percent higher in 1980 than in 1975. The blend price under MIN 2 is higher in 1980 than in 1975 because prices in the 4th quarter of 1975 were much higher than for 1975 as a whole. Pooling under a single order did not affect the aggregate weighted average blend price, but did affect blend prices in individual orders. For example, under MERG 1, the blend price in 1980 in Southeastern Florida was $1.78 lower then it would have been under a separate order and the blend price was 84 cents higher for the Upper Midwest order.

Return Over Direct Cost(Table 3)

Return over direct cost of milk production in 1980 increased sharply over 1975 under FLAT 6, MW 7 and MERG 1. The greatest increase for all policies was during 1976. After 1976, returns were fairly flat under Base 1 and declined under MIN 2. Pooling under a single order did not affect the aggregate return over direct cost greatly, but did have an impact on individual orders. For example, return over direct cost under MERG 1 was $1.77 lower than it otherwise would have been for the Southeastern Florida order in 1980 and $0.85 higher in the case of the Upper Midwest Order.

Milk Production(Table 4)

About 7.2 percent of the increase in production from 1975 to 1980 was due to Grade B conversion. Under MIN 2, there would be a slight decline in production after 1976, except for this conversion. Except for 1976, there would be very little increase in production absent Grade B conversion under BASE 1. It is apparent that Grade B conversion is the major factor leading to increased volumes of milk in the system.4/ Total production was not greatly affected by order consolidation, but production in individual orders was. For example, production in 1980 in Southeastern Florida was 42.5 million pounds (4.9 percent) lower than it would have been under a separate order and production in the Upper Midwest was 44.9 million pounds (0.6 percent) higher. Because of these relative changes in production, raw milk transportation cost was seven times higher under the single order,

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4/ The impact of Grade B conversion on Federal order producer receipts and associated equity problems have been analyzed previously. See Graft, T. F. and R. E. Jacobson, Resolving Grade B Milk Conversion and Low Class I Utilization Pricing and Pooling Problems, R-2503, Wisc. Agr. Exp. Sta., June 1973.

compared to separate orders, i.e., more milk had to be shipped to markets where production declined.

Retail Price of Fluid Milk(Table 5)

When Class I prices were held constant (MIN 2) retail prices increased about 1.3 cents (1.6 percent) per half-gallon per year due to increased processing and marketing costs. For other policies, increases in retail price were also related to increases in the Class I price. Retail prices in various markets were influenced by the different Class I price structures associated with the policies analyzed.

Class I Sales(Table 6)

Projected Class I sales increases were modest. Under FLAT 6, retail prices of fluid milk increased only slightly more than prices of other products and less than per capita income. The 1.5 percent increase in sales from 1975 to 1980 mainly reflects population changes. Under MIN 2, sales expanded 3.4 percent as the retail price increased only 2.1 percent. The Class I price structure for various policies affected retail prices in markets and thus relative changes in Class I sales. For example, consider the following data for 1980 for Southeastern Florida and Upper Midwest under FLAT 6 and MW 7.

	Southeastern Florida	Upper Midwest
Retail price FLAT 6 (half gal)	$0.979	$0.982
Retail price MW 7 (half gal)	$1.069	$0.907
Class I sales FLAT 6 (Mil lb)	752.4	1682.3
Class I sales MW 7 (Mil lb.)	739.3	1696.9

The retail price in Southeastern Florida was nine cents higher under MW 7 than under FLAT 6 and Class I sales were 13.1 million pounds (1.8 percent) lower. For the Upper Midwest order, the retail price was 7.5 cents lower under MW 7 than under FLAT 6 and Class I sales were 14.6 million pounds (0.9 percent) higher. The weighted average retail price under MW 7 was 0.3 cents higher than under FLAT 6, but this had little effect on relative changes of sales under the two policies.

Class I Utilization(Table 7)

Class I utilization declines under all policies, primarily due to increased producer receipts assocated with Grade B conversion. Differences among policies are related to changes in production and Class I sales previously discussed.

Implications

1. If the projections of the M-W are correct, increases in the retail prices for fluid milk will be less than for the CPI. The sharp increases in retail prices which occurred from 3rd quarter 1974 through 3rd quarter 1976 should be a thing of the past. Even under policies with a 48 cent per year increase in Class I price, retail price increases will not greatly exceed the increases in the CPI. Class I price increases of this magnitude do not appear necessary to generate an adequate supply, unless production costs depart greatly from projections. Modest increases in Class I sales are projected.

2. Even under stable blend prices (MIN 2), returns over direct production costs are not projected to fall below those for 1975. Under the projected M-W price (BASE 1), returns for 1980 are projected at 52 cents over 1976, a relatively good year for dairy farmers.

3. Under any of the policies analyzed, producer receipts in the Federal order system were more than adequate to meet consumption requirements. However, over five billion pounds of the increase from 1975 to 1980 were due to Grade B conversion. Under MIN 2, nearly all of the increase in producer receipts was due to Grade B conversion. If the M-W price were constant during the five years, as implied under MIN 2, total supply would likely contract from the 1976 level which would put upward pressure on the M-W price. Since the conversion from Grade B to A status does not necessarily change the total supply, the desirability of increased producer receipts in Federal orders as a result of conversion hinges on the costs and benefits of such conversion. The estimated cost of conversion is not high.5/

4. The intriguing feature of the projections is the high degree of stability in all response variables for the aggregate of Federal orders, given a level of class prices, when rather radical changes in class and blend price structures are imposed. Prices and quantities projected through 1980 are not greatly different among FLAT 6, MW 7 and MERG 1 for the system as a whole where the level of class prices is about the same, in spite of very different price structure.6/ Thus, policy makers have considerable

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5/ Peterson, G. A. and H. L. Cook, "Size and Costs of Production on Wisconsin Dairy Farmer Producing Grade A or Grade B Milk" AE-52, University of Wisconsin, Oct. 1972.

6/ This result is consistent with the other research which reported rather minor differences in aggregate consumption and production under different price structures. See Riley, J. B. and L. V. Blakley, "Impact of Alternative Class I Pricing Systems on Fluid Milk Prices", Am. Jo. of Agr. Econ. Vol. 57 (1975), pp. 67-73.

flexibilty as they make decisions about price structure to consider such factors as (1) equity among producers in different locations (2) equity among consumers in different locations (3) spatial efficiency in milk production and processing and (4) reduction of energy requirements by minimizing the need for milk movements (which are affected by price structure). While policymakers could adopt a variety of price structures without major impacts on aggregate results, there are sharply different views among groups affected by regulation about the above issues and the impacts of various price structures on groups at specific locations are great. Thus, a researcher in group decision-making would probably predict that no change in price structure will be made. On the other hand, changes in the level of price do have substantial impacts on response variables for the aggregate system (MIN 2 versus MERG 1). Such changes also have some differential impacts on response variables among markets.

5. Assuming that further analysis of policy proposals reveals no compelling reason to adopt a different class or blend price structure, the central issue will be determination of price levels which achieve regulatory objectives. Since these are multiple, the analysis can only reveal trade-offs among competing policies. Consideration must be given to how policies affect total milk production and consumption and not just volumes regulated by orders. This consideration is highlighted by Grade B conversion and entry of such milk into the Federal order system.

FIGURE 1. VARIABLES INFLUENCING FEDERAL MILK MARKETING ORDER SYSTEM

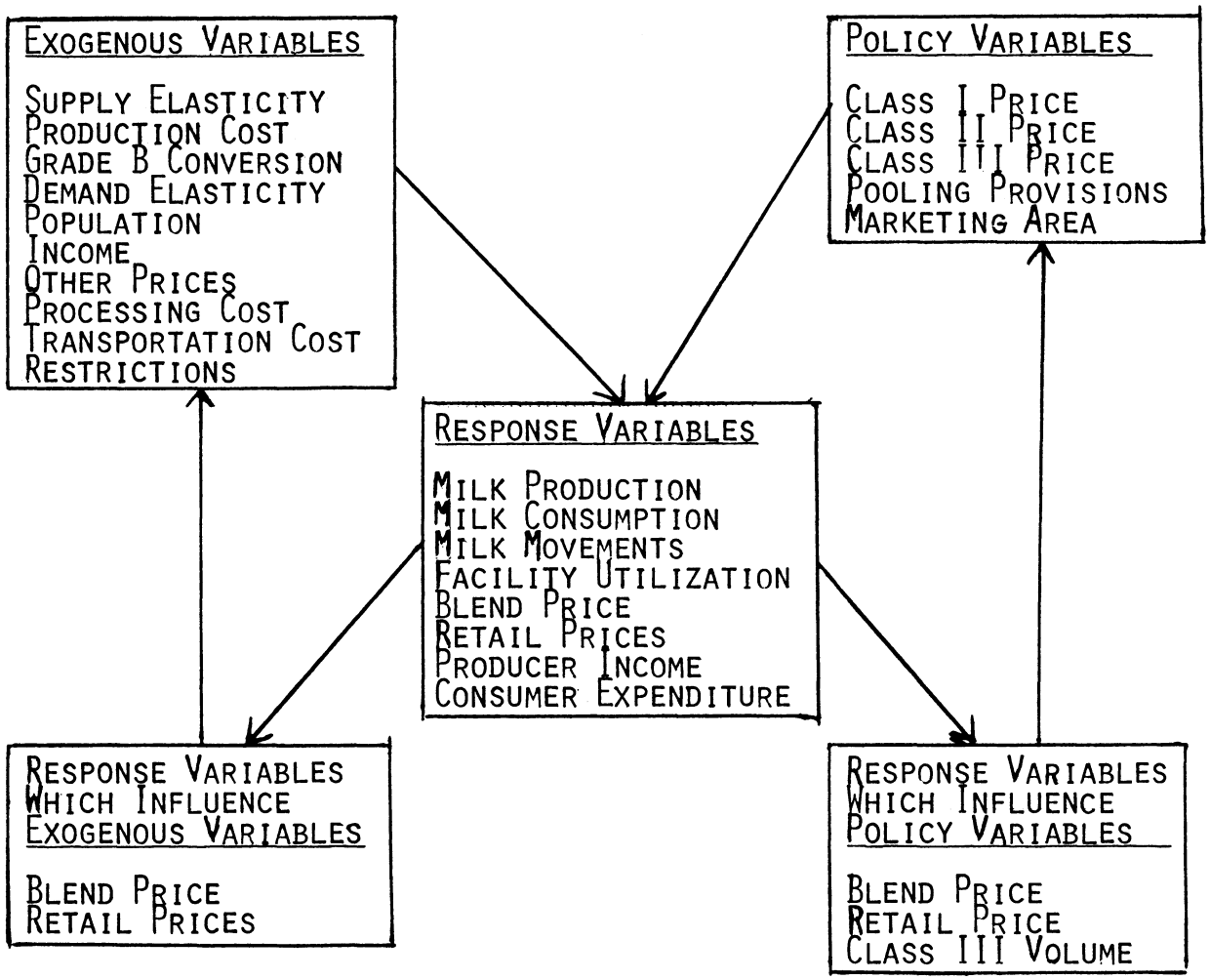

FIGURE 2. SIMPLIFIED STRUCTURE OF FMMOPS

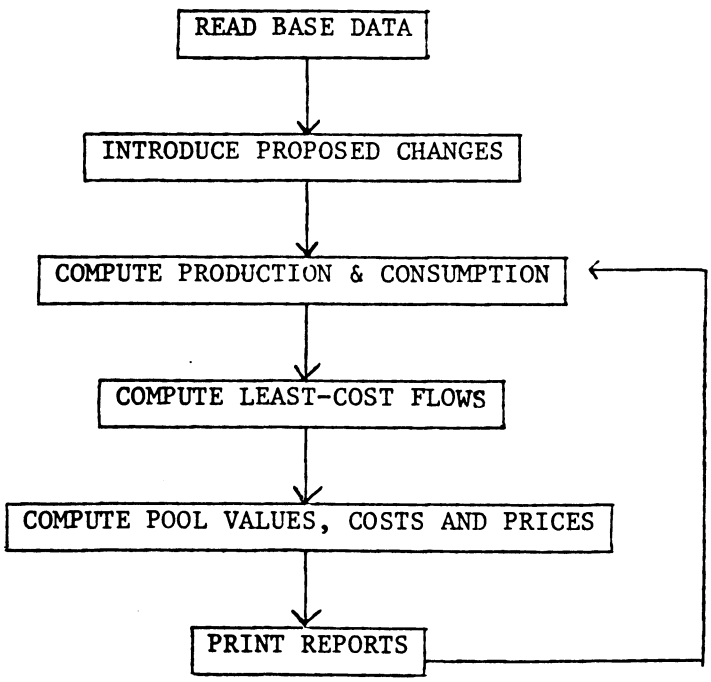

FIGURE 3. SIMPLIFIED NETWORK OF MILK FLOWS USED IN FMMOPS

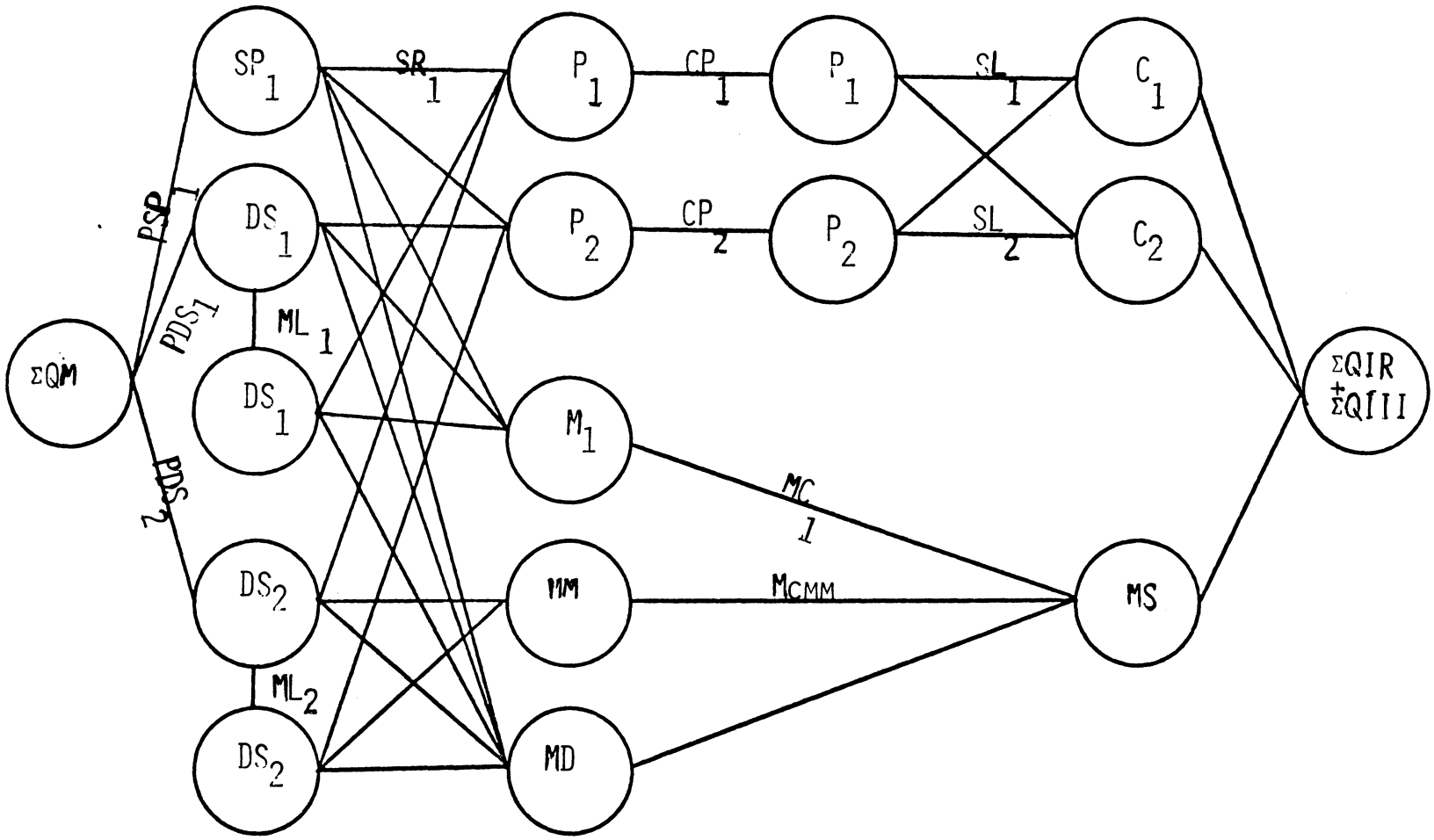

Table 1. Comparison of Class Prices (Dollars)

Class I , 1975 = $9.90

	1976	1977	1978	1979	1980
BASE 1	10.96	10.91	11.29	11.54	11.85
MIN 2	10.29	10.29	10.29	10.29	10.29
FLAT 6	10.78	11.26	11.74	12.22	12.70
MW 7	10.84	11.32	11.80	12.28	12.76
MERG 1	11.06	11.54	12.02	12.50	12.98

Class III , 1975 = $7.62

BASE 1	8.48	8.65	8.94	9.20	9.51
MIN 2	8.84	8.84	8.84	8.84	8.84
FLAT 6	9.02	9.50	9.98	10.46	10.94
MW 7	9.02	9.50	9.98	10.46	10.94
MERG 1	9.02	9.50	9.98	10.46	10.94

Class II = Class III + 10 cents , 1975 = $7.72

Table 2. Comparison of Blend Price , 1975 = $8.92

Dollars per Cwt.

	1976	1977	1978	1979	1980
BASE 1	9.85	9.90	10.21	10.45	10.75
MIN 2	9.65	9.65	9.64	9.64	9.64
FLAT 6	9.99	10.46	10.92	11.39	11.85
MW 7	10.02	10.49	10.95	11.41	11.88
MERG 1	10.14	10.60	11.07	11.53	11.99

Change from Year Ago (Dol.)

						Total %
BASE 1	0.93	0.05	0.31	0.24	0.30	20.5
MIN 2	0.73	0	-0.01	0	0	8.1
FLAT 6	1.07	0.47	0.46	0.47	0.46	32.8
MW 7	1.10	0.47	0.46	0.46	0.47	33.2
MERG 1	1.22	0.46	0.47	0.46	0.46	34.4

Table 3. Comparison of Return over Direct Cost , 1975 = $2.60

Dollars per Cwt.

	1976	1977	1978	1979	1980
BASE 1	3.39	3.39	3.61	3.74	3.91
MIN 2	3.19	3.13	3.04	2.93	2.80
FLAT 6	3.54	3.95	4.31	4.68	5.01
MW 7	3.56	3.97	4.34	4.70	5.04
MERG 1	3.69	4.09	4.46	4.82	5.16

Change from Year Ago (Dol.)

						Total %
BASE 1	0.79	0	0.22	0.13	0.17	50.4
MIN 2	0.59	-0.06	-0.09	-0.11	-0.13	7.7
FLAT 6	0.94	0.41	0.36	0.37	0.33	92.7
MW 7	0.96	0.41	0.37	0.36	0.34	93.8
MERG 1	1.09	0.40	0.37	0.36	0.34	98.5

Table 4. Comparison of Production , 1975 = 71.8

Billions of Pounds

	1976	1977	1978	1979	1980
BASE 1	74.8	75.6	77.2	78.4	79.7
MIN 2	74.5	75.3	76.3	77.2	78.0
FLAT 6	74.8	76.4	78.0	79.6	81.1
MW 7	74.9	76.5	78.2	79.8	81.3
MERG 1	74.9	76.5	78.1	79.7	81.2

Change from Year Ago (Bil. Lbs.)

						Total %
BASE 1	3.0	0.8	1.6	1.2	1.3	11.0
MIN 2	2.7	0.8	1.0	0.9	0.8	8.6
FLAT 6	3.0	1.6	1.6	1.6	1.5	13.0
MW 7	3.1	1.6	1.7	1.6	1.5	13.2
MERG 1	3.1	1.6	1.6	1.6	1.5	13.1

1. About 7.2% of increase was due to Grade B Conversion.

2. Under MIN 2, return over direct cost in 1980 is 20 cents higher than in 1975, but declines each year after 1976. Under BASE 1, return is $1.31 higher in 1980, compared to about $2.47 for other policies.

Table 5. Comparison of Retail Price , 1975 = 77.7

Cents per Half - Gallon

	1976	1977	1978	1979	1980
BASE 1	84.2	85.3	88.4	91.0	93.9
MIN 2	80.7	82.0	83.2	84.6	85.9
FLAT 6	83.2	87.0	90.7	94.5	98.3
MW 7	83.5	87.3	91.0	94.9	98.6
MERG 1	84.7	88.5	92.2	96.0	99.8

Change from Year Ago (Cents)

						Total %
BASE 1	6.5	1.1	3.1	2.6	2.9	20.8
MIN 2	3.0	1.3	1.2	1.4	1.3	10.6
FLAT 6	5.5	3.8	3.7	3.8	3.8	26.5
MW 7	5.8	3.8	3.7	3.9	3.7	26.9
MERG 1	7.0	3.8	3.7	3.8	3.8	28.4

Table 6. Comparison of Class I Sales , 1975 = 41.1

Billions of Pounds

	1976	1977	1978	1979	1980
BASE 1	41.0	41.3	41.5	41.7	41.9
MIN 2	41.2	41.5	41.8	42.2	42.5
FLAT 6	41.0	41.2	41.3	41.5	41.7
MW 7	41.0	41.1	41.3	41.4	41.6
MERG 1	40.9	41.1	41.2	41.4	41.5

Change from Year Ago(Bil. Lbs.)

						Total %
BASE 1	-0.1	0.3	0.2	0.2	0.2	1.9
MIN 2	0.1	0.3	0.3	0.4	0.3	3.4
FLAT 6	-0.1	0.2	0.1	0.2	0.2	1.5
MW 7	-0.1	0.1	0.2	0.1	0.2	1.2
MERG 1	-0.2	0.2	0.1	0.2	0.1	1.0

1. Under MIN 2, retail prices increase 1.3 cents/year (1.6%) due to increased processing and marketing costs.

2. From 1975 to 1980, price increased 1.6 cents/year (2.1%) under MIN 2, 3.2 cents/year (4.2%) under BASE 1, and about 4.2 cents/year (9.1%) under other policies.

Table 7. Comparison of Class I Utilization , 1975 = 57.4

Class I Percentage

	1976	1977	1978	1979	1980
BASE 1	55.0	54.8	53.9	53.4	52.8
MIN 2	55.4	55.3	55.0	54.8	54.7
FLAT 6	55.0	54.1	53.1	52.3	51.5
MW 7	54.9	53.9	53.0	52.1	51.3
MERG 1	54.8	53.9	52.9	52.1	51.3

Change from Year Ago (%)

						Total Δ
BASE 1	-2.4	-0.2	-0.9	-0.5	-0.6	-4.6
MIN 2	-2.0	-0.1	-0.3	-0.2	-0.1	-2.7
FLAT 6	-2.4	-0.9	-1.0	-0.8	-0.8	-5.9
MW 7	-2.5	-1.0	-0.9	-0.9	-0.8	-6.1
MERG 1	-2.6	-0.9	-1.0	-0.8	-0.8	-6.1