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THE CASH FLOW IMPACT OF THE NEW MILK PRICE ASSESSMENTS ON SELECTED GROUPS OF NEW YORK DAIRY FARMS

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PREFACE TO THE REVISED EDITION

This is a revised edition of A.E. Extension 83-2 published in January 1983. It differs from that original version only by the addition of an Appendix, beginning on page 25. This new material updates the cash flow impacts of the assessment program in light of the (apparent) effective imposition of the non-refundable 50¢ per hundredweight deduction on April 16, 1983. The revisions assume that this deduction remains in effect for the balance of the calendar year and further, that the additional 50¢ per hundredweight refundable assessment is not imposed during the year. At this time, no analysis of the refundable phase of the assessment program is planned. However, this decision will be reconsidered if policy changes so warrant.

Anyone desiring a copy of this revised publication should request A.E. Extension 83-2 REVISED by contacting the senior author at the address given below. Those already having a copy of the original A.E. Extension 83-2 should request only the Appendix.

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SUMMARY

Using 1981 production, revenue, and cost data from Cornell University's sample of 553 New York dairy farms, the cash flow impact of the new national two phase price assessment program was analyzed. Cash available for family withdrawal (net cash farm income plus interest paid less scheduled debt payments) was used as the annual measure of cash flow. Farms were subdivided by type of business organization, age of primary operator, debt per cow, milk sold per cow, and herd size in order to examine their cash position with and without the assessments.

Research shows that many New York dairymen experienced tight cash situations prior to the assessment program (through 1981 and 1982). For them the deductions may only serve to make a bad situation worse. While these analyses suggest serious cash shortages for most dairymen upon imposition of the assessments, many of them will undoubtedly be able to find ways to stay in business: increased productivity, cost control, family living expense reduction, increased reliance on off-farm income, assets sold or savings drawn out, and debt restructured.

Debt per cow was found to have the greatest effect on available cash. Output per cow was also important. As herd size increased, the farm's cash position was magnified; the cash available to profitable operations was enhanced while the cash shortages experienced by stressed farms were exacerbated. In general, younger farmers had tighter cash situations. Finally, these analyses suggested that the assessments had the greatest absolute and percentage effects on the cash positions of the larger herds. How this program might ultimately affect the structure of New York dairy farming, however, cannot be determined from this research.

THE CASH FLOW IMPACT OF THE
NEW MILK PRICE ASSESSMENTS ON
SELECTED GROUPS OF NEW YORK DAIRY FARMS

INTRODUCTION

On December 1, 1982 dairy farmers throughout the U.S. became subject to a 50 cent deduction from their milk price on all milk marketed. Before any deductions were actually withheld from farmers' checks, however, a preliminary injunction blocked the collection of any assessments. At this writing it is not known what the future of the assessment program will be. New or modified administrative procedures may be required for its reinstatement, the assessment program could be permanently blocked, or new legislation might be sought. If the program is reinstated, the Secretary of Agriculture is authorized to withhold an additional 50 cents per hundredweight beginning April 1, 1983. This second assessment must be refunded to farmers who voluntarily reduce their production by a specified amount. ^{1/} The purposes of this two phase assessment program, authorized through the 1985 marketing year (ending September 30, 1985), are to (1) generate revenues to help offset the cost to the federal government of buying surplus cheese, butter, and nonfat dry milk powder and (2) discourage surplus milk production.

The objective of this report is to show how the new assessment program would have affected various types of New York dairy farms had the deductions been imposed in 1981. Since price relationships without the assessments are expected to be similar in 1983, these analyses provide useful information concerning the impact of the assessments on 1983 cash flows. These analyses

^{1/} Those desiring more information on the milk price assessment program are referred to Boynton and Novakovic.

should be of interest to dairy farmers in evaluating their own situation as well as cooperatives, agricultural lenders, dairy policymakers, and all those individuals and organizations concerned with the financial health of dairymen. This information is designed to address questions about what kind of dairy farms will be affected the most by the assessments. Specific questions frequently asked include:

- * Will smaller farms be hit the hardest?
- * Are younger dairymen going to be squeezed out of the business?
- * Does production per cow or debt per cow have more effect on a farm's cash flow position?
- * What share of New York dairy farms are likely to be in a cash flow bind in 1983?

The results which are presented here rely exclusively on cost and revenue information from the dairy farm business summaries processed by staff of the Department of Agricultural Economics at Cornell University. Data from 553 farms for calendar year 1981 are used with no attempt made to project cost, price, or production levels to 1983. Five farm characteristics are examined for their effect on cash flow on these sampled farms before and after the milk price assessments. These characteristics are type of business organization, age of primary farm operator, herd size, production per cow, and debt carried per cow.

DATA AND INCOME MEASURES USED

The 553 dairy farms voluntarily participating in the 1981 Dairy Farm Business Summary Project are not randomly selected. Rather, these farms, representing 49 counties, are a cross section of dairy farms in the state; these farms are somewhat above average in size, production level, indebtedness, and perhaps management. Dairy farm renters (own no farm land or buildings), dairy-cash crop farmers, and part-time dairy operators have been excluded from this

data base. Additional information on the characteristics of the participating farms and the data collection and compilation procedures utilized can be found in the 1981 state summary of these data (Smith).

The business summaries compiled annually by Cornell University's Department of Agricultural Economics contain a complete profitability analysis, including labor and management income and return on equity capital. For present purposes, however, only cash income and cash operating expenses are studied. Changes in inventory values, unpaid labor, depreciation, and interest on equity capital are excluded from all analyses.

A key income statement item for present purposes is "net cash farm income" (NCFI). It is a measure of the cash available from the year's farm operations for family living, debt payments, capital expenditures, and capital retention. Additional cash may be available to a family if it liquidates past savings or earns off-farm income. Net cash farm income does not consider changes in inventories or capital usage; however, it is the best available basis upon which to examine the short-run financial status of a group of dairy farms.

Since NCFI is crucial here, it is important to recall specifically what it represents.

Revenue

Milk sales
Dairy cattle and other livestock sales
Crop sales
Miscellaneous receipts (government payments, etc.)

LESS

Expenses

Hired labor
Purchased feed
Machinery costs
Herd health and breeding costs
Replacement livestock costs
Milk marketing costs
Crop production expenses (other than machinery and labor)
Taxes and insurance
Land rental

(expenses continued on next page)

Expenses (continued)

Land, building, and fence repair
Utility costs
Interest expense
Miscellaneous cash costs

EQUALS Net Cash Farm Income (NCFI)

NCFI as reported here is for 1981. When the milk assessments are deducted from milk sales receipts, it is as if the milk assessment program existed in 1981. While costs and milk yields obviously changed in 1982 and surely will again in 1983, use of 1981 figures was deemed appropriate for several reasons. First, cash flow impacts are under study and they can be adequately demonstrated with 1981 data. Secondly, any attempt to incorporate 1983 conditions would involve forecasts, which would surely be debatable and may distract the reader's attention from the objective of this report. Finally, on balance the 1983 cost-revenue situation may not be substantially changed from 1981. In 1982, milk prices were down slightly over 1981 and most projections for 1983 call for extremely small reductions (pre-assessments). Production per cow and herd size will both be up modestly in 1982 and 1983. The small gains in milk sales revenue which these changes portend will be matched with a much slower rise in costs of production in 1982 and 1983 (feed costs may even be down in 1983) than in years previous. On balance then, the 1983 pre-assessment NCFI situation on New York farms might not have been substantially different than in 1981.

Net cash farm income does not tell the full cash flow story, however. In this report, the bottom line on a farm's cash flow position over the course of a year is given by the "cash available for family withdrawal" (CAFW). CAFW reflects the amount of cash available to pay the living expenses of farm owner-operators after debt payments (principal and interest) have been paid. Specifically, CAFW equals NCFI plus interest paid less planned annual principal and interest payments. CAFW is expressed on a per farm basis and a per operator basis in the following tables. Since many farms in the survey supported more

than one owner-operator (family), expressing CAFW on a per operator basis allowed this cash flow measure to be more appropriately compared to a single farm family's living expenses.

"Cash available for family withdrawal" (CAFW) has some unavoidable limitations as a cash flow measure. First, capital retention (savings) and cash payments for capital items (down payments) are ignored (assumed by necessity to be zero). Second, scheduled debt payments are farmers' intentions to repay long, intermediate, and short-term loans (in this case, in 1982) and as such are probably optimistic over-estimates. If intentions are not realized, the measures of available cash used here are biased downward. Finally, a small or negative CAFW does not mean a farm will be forced out of business. Drawing down savings, selling assets, restructuring debt, or earning off-farm income can all help forestall a cash shortfall in the farm business.

Three business and herd characteristics are considered in the cash flow analyses which follow. Table 1 presents the categories into which the 553 farms were divided for debt per cow (DPC), milk sold per cow (MSC), and herd size (HS). Three all-inclusive categories were defined for each characteristic. The average DPC among the 553 survey farms was \$2,212; the statewide average is likely somewhat lower but probably within the "medium" category. Milk sold per cow averaged 14,456 pounds annually in this sample compared to 12,163 pounds statewide in 1981 (N.Y. State Ag. and Markets, p.2). On this basis the average farm in New York State fell into the high end of the "low" MSC category. The average farm in the summary had 79 cows in 1981 while statewide the figure was 58 cows (N.Y. State Ag. and Markets, p.2), the extremely low end of the "medium" herd size category. Farmers wishing to place their own operation within the cash flow discussion to follow should identify which category their farm falls into for debt per cow, production level, and herd size.

TABLE 1. Farm Characteristic Classification Intervals Used in Categorizing 1981 New York Dairy Farm Business Summary Farms

<u>Debt per cow (DPC)</u>	<u>Range</u>	<u>Percent of farms</u>
Low (Lo):	0 - \$1499	34
Medium (M):	\$1500 - \$2999	36
High (H):	\$3000 and up	30
 <u>Milk sold per cow, annually (MSC)</u>	 <u>Range</u>	 <u>Percent of farms</u>
Low (Lo):	12,999 pounds or less	23
Medium (M):	13,000 - 14,999 pounds	39
High (H):	15,000 and up	38
 <u>Herd size (HS)</u>	 <u>Range</u>	 <u>Percent of farms</u>
Small (S):	54 or fewer cows	38
Medium (M):	55 - 114 cows	45
Large (La):	115 and up	17

CASH POSITION PRIOR TO EITHER ASSESSMENT

The Effects of Business Organization and Operator Age

With a low debt per cow, milk sold per cow of 14,500 pounds, and a herd size of 162 cows, dairy farm corporations had the highest CAFW of any type of business organization (Table 2). Parent-child partnerships also had a favorable cash position on a per farm basis. Their debt advantage over the other partnership group likely derives from the higher equity base (parent) from which parent-child partnerships developed. The cash position of sole proprietors of different ages conforms to the conventional wisdom. Those operators under 35 years of age received only about one-third the cash of the oldest group. Debt per cow and herd size were the factors most responsible for this relationship; likely surprising to some, milk sold per cow was virtually identical in all three groups.

The Separate Effects of Debt per Cow, Milk Sold per Cow, and Herd Size

Cash available for family withdrawal fell precipitously as DPC rose (Table 3a). At a DPC of over \$3,000, CAFW was negative, signifying that the average farm in this high debt group had to dis-save or rely on off-farm income not only to meet family living expenses but also to fully meet scheduled debt payments. It is important to note that production level and herd size varied little across debt categories, dramatizing the pre-eminent role of debt in affecting cash flows.

As expected, cash flow was positively related to MSC (Table 3b). That debt is independent of MSC, is again apparent in this table. Of some interest is the negative relationship between MSC and herd size; the highest production levels occurred in the largest herds, a situation reconfirmed in Table 3c.

TABLE 2. Amount of Cash Available for Family Withdrawal Prior to Any Assessments, by Age of Primary Operator and Type of Business Organization

No. of Farms in Sample	Business Organization	Age of Primary Operator		Farm Characteristics Average Values				Cash Available for Family Withdrawal ^{a/}	
		Classification	Average	DPC (\$)	MSC (1000 lbs.)	HS (cows)	Per Farm	Per Operator	
10	Corporation	All	49	\$1,821	14.5	162	\$53,355	25,407	
* Partnership b/									
71	Parent-child	All	51	1,990	15.0	90	29,308	14,367	
41	Other	All	34	2,437	15.1	126	20,431	9,503	
Sole Proprietorship									
108		Under 35 years	26	2,940	14.2	60	6,658	6,281	
236		35 - 49	42	2,287	14.4	72	10,611	9,917	
87		50 and over	55	1,462	14.3	79	17,269	16,447	

SOURCE: 1981 New York Dairy Farm Business Summaries

^{a/} "Cash available for family withdrawal" is net cash farm income + interest paid - scheduled debt payments (principal and interest).

^{b/} Defined as those partnerships for which age difference between the operators was 18 or more years.

TABLE 3. Amount of Cash Available for Family Withdrawal Prior to Any Assessments

(A) By Varying Debt Per Cow Levels

Debt/Cow Categories	No. of Farms in Sample	Farm Characteristics			Cash Available For Family Withdrawal ^{a/}	
		DPC (\$)	MSC (1000 lbs.)	HS (cows)	Per Farm	Per Operator
\$0 - \$1,499 (Lo)	186	841	14.8	79	\$34,540	25,698
\$1,500 - 2,999 (M)	202	2,226	14.4	84	13,789	10,966
\$3,000 and up (H)	165	3,872	14.3	72	-6,252	-4,960

(B) By Varying Production Per Cow Levels

Production/Cow Categories	No. of Farms in Sample	Farm Characteristics			Cash Available For Family Withdrawal ^{a/}	
		DPC (\$)	MSC (1000 lbs.)	HS (cows)	Per Farm	Per Operator
12,999# or less (Lo)	128	2,416	11.3	64	494	402
13,000 - 14,999# (M)	213	2,197	14.0	81	11,657	9,230
15,000# and up (H)	212	2,143	16.3	86	26,562	19,689

(C) By Varying Herd Sizes

Herd Size Categories	No. of Farms in Sample	Farm Characteristics			Cash Available For Family Withdrawal ^{a/}	
		DPC (\$)	MSC (1000 lbs.)	HS (cows)	Per Farm	Per Operator
54 or less cows (S)	212	2,282	13.8	42	7,621	6,568
55 - 114 cows (M)	248	2,255	14.6	75	16,315	12,261
115 or more cows (La)	93	2,110	14.8	173	27,049	18,497

SOURCE: 1981 New York Dairy Farm Business Summaries

^{a/} "Cash available for family withdrawal" is net cash farm income + interest paid - scheduled debt payments (principal and interest).

The smallest spread in CAFW occurred among herd size categories (Table 3c). DPC was quite stable across herd sizes as suggested by Table 3a.

The Combined Effects of Debt per Cow, Milk Sold per Cow, and Herd Size

In Table 4 the three farm characteristics are examined together, each one at the three levels described in Table 1. This classification resulted in 27 separate groups of farms. To facilitate the use of this table by farmers and others, CAFW is shown along with its major components--NCFI, interest paid, and scheduled debt payment. This table is designed primarily for those readers desiring to examine the cash position of a farm with quite specific characteristics. It is sufficiently complex that general patterns across the characteristics under study are more easily detected in the preceding tables.

The first nine groups represent high debt under all possible combinations of MSC and herd size. Using scheduled debt payments for 1982, only one of these groups (no. 8) generated any cash for family withdrawal in 1981. Production levels had some effect on CAFW within these high DPC types, but it was not systematic. Seven groups among the second set of nine groups (10-18, representing medium debt loads) showed positive CAFW. The amount available was not particularly large, however, until high levels of MSC were reached. The final eight types ^{2/} all showed fairly high levels of CAFW per farm in 1981.

Before the cash flow impacts of the milk assessments are taken up, it is important to highlight what the analysis has revealed to this point.

(1) Many dairy farmers in New York were not in strong cash flow positions in 1981. That 10 of the 26 groups examined, representing averages for 27% of the sampled farms, generated insufficient cash even to meet scheduled debt

^{2/} Farm type number 21 contained only one farm and so was omitted from the analysis to preserve confidentiality.

TABLE 4. Amount of Cash Available for Family Withdrawal for 27 Farm Types Prior to Any Assessments, Three-way Classification:
Debt per Cow by Milk Sold per Cow by Herd Size

Cash Flow Analysis												
Farm Characteristics					Cash Flow Analysis							
Group No.	No. of Farms in Sample	Classifications			Average Values		Net Cash Farm Income a/	Interest Paid b/	Scheduled Debt Payments c/	Cash Available for Family Withdrawal d/		
		DPC	MSC	HS	DPC (\$)	MSC (1000 lbs.)					HS (milk cows)	
1	22	H	Lo	S	4,189	11.2	40	9,037	14,721	32,169	-8,411	-7,646
2	12	H	Lo	M	4,206	11.2	72	23,586	20,298	48,539	-4,655	-3,879
3	7	H	Lo	La	3,333	11.8	177	9,884	54,438	110,071	-45,749	-35,192
4	23	H	M	S	3,968	14.0	40	12,960	12,469	32,167	-6,738	-5,615
5	32	H	M	M	3,691	14.0	74	23,319	24,831	56,269	-8,119	-6,245
6	7	H	M	La	3,950	14.2	141	47,908	51,952	105,494	-5,634	-3,521
7	23	H	H	S	4,204	16.0	44	21,721	15,302	38,651	-1,628	-1,480
8	32	H	H	M	3,896	16.3	75	39,749	24,178	56,105	7,822	-6,017
9	7	H	H	La	3,765	16.2	176	50,270	66,505	149,549	-32,774	-20,484
10	31	M	Lo	S	2,262	11.0	41	13,394	8,817	19,868	2,343	2,343
11	13	M	Lo	M	2,298	11.4	73	18,764	15,091	34,056	-201	-134
12	5	M	Lo	La	2,272	12.4	145	39,349	31,740	76,082	-4,993	-4,993
13	25	M	M	S	2,219	14.0	43	19,434	8,922	21,081	7,275	7,275
14	41	M	M	M	2,250	13.9	75	30,722	17,450	42,115	6,057	5,048
15	15	M	M	La	2,319	14.0	175	72,812	40,240	84,147	28,905	16,058
16	18	M	H	S	2,255	16.6	46	26,854	10,093	19,950	16,997	13,075
17	34	M	H	M	2,261	16.3	77	47,350	16,200	38,750	24,800	19,077
18	20	M	H	La	2,128	16.1	187	83,966	40,801	88,425	36,342	25,959
19	23	Lo	Lo	S	616	10.9	42	18,908	2,425	8,982	12,351	8,822
20	14	Lo	Lo	M	853	11.1	76	28,587	7,262	15,898	19,951	14,251
21	d/	Lo	Lo	La								
22	21	Lo	M	S	808	14.2	42	26,686	3,404	10,499	19,591	17,810
23	33	Lo	M	M	885	14.2	76	46,254	7,023	20,788	32,489	24,992
24	16	Lo	M	La	996	14.2	169	77,300	18,966	59,382	36,884	30,737
25	26	Lo	H	S	454	16.9	41	33,108	1,920	6,679	28,349	23,624
26	37	Lo	H	M	747	16.5	74	56,040	6,089	16,972	45,157	32,255
27	15	Lo	H	La	953	16.3	175	123,219	17,225	49,562	90,882	53,460

Footnotes for TABLE 4:

- a/ "Net Cash Farm Income" is all receipts from sale of milk, cull cows, calves, extra crops, plus gas tax refund, government payments, machine work LESS costs of hired labor, purchased and grown feed, herd replacements, breeding, herd health, milk marketing, rent, real estate taxes, repairs, insurance, utilities (dairy share), and interest paid. From NCFI the following must be compensated: family and owner labor, management, equity. Out of this amount new dairy investments must be made as well.
- b/ "Scheduled Debt Payments" represent intentions to make principal and interest payments on farm debt in the year following the one for which cost and income figures are provided by survey participants.
- c/ "Cash available for family withdrawal" is net cash farm income + interest paid - scheduled debt payments (principal and interest).
- d/ There was only one (1) farm in this category. No data are reported for it to maintain confidentiality.

payments (for 1982) amply demonstrates this. Several of the remaining 16 farm types did not appear to generate sufficient cash from the farm business to meet debt payments and family living expenses. This will be examined more closely when the assessments are considered.

2) Of the three farm characteristics examined, debt load had the largest influence on the cash flow of a dairy farm business. Milk sold per cow was of secondary importance in this regard.

3) Herd size had a different effect on available cash depending on the farm's financial success. Larger herd size was associated with either greater financial success or greater cash stress. In general, among farm types 1 through 12, cash deficits grew as herd size grew. In contrast, among farm types 13 through 27 CAFW typically increased as cow numbers rose. This corroborates what is generally understood among farmers and students of farm management: increasing farm size requires especially skilled management.

CASH POSITION UNDER THE TWO ASSESSMENTS

In this section, the two milk assessments are deducted from CAFW in 1981. Several important assumptions and procedures employed to accomplish this should be noted at the outset.

1) The first 50 cent per hundredweight assessment was specified to be in effect for a full 12 months, a situation possible in calendar year 1983. The second 50 cent deduction was applied for the period April 1 through December 31, ^{3/} however, the cash flow impact would not be felt until May. As a result only eight monthly deductions would be made in 1981--the May through

^{3/} This is the period authorized for its collection in calendar year 1983. Phase two could continue from January 1, 1984 to September 30, 1985 provided government purchases of dairy products are expected to be at least 7.5 billion pounds (milk equivalent) in a marketing year.

December checks for April - November production. The average combined assessment in 1983 would be 83.3 cents per hundredweight under this program specification assuming a nonseasonal milk sales situation. ^{4/}

2) In computing the assessment under phase two, none of it was presumed to be refunded. While the legislation requires a refund of the second 50 cent deduction if a farmer reduces his production a specified amount from a base period, the proposed rules of the refund program appear to have been designed to minimize the amount refunded, that is, to discourage most farmers from choosing to meet the production cutback required for a refund. Moreover, any refunds would not be forthcoming until sometime after the end of the marketing year. In 1983 this means that no refund would likely be paid before December 1. By assuming no refunds in 1983, the cash flow-depressing impacts of the assessment have been maximized.

3) CAFW per operator in Tables 5-7 is compared for adequacy to a level of family living expenditures reported by 106 Minnesota farm families in 1981 (Voss). These families indicated they spent \$19,520 annually on the following living expense items: food and meals out, medical expenses and health insurance, church and welfare, gifts and special events, clothing and clothing materials, furnishings and home equipment, auto (personal share), household supplies, recreation, electric and phone (home shares), personal care, upkeep on house, education, taxes, and general home expenses. While this figure appears

^{4/} In these analyses the 83.3 cents was applied to total 1981 marketings of milk (equal monthly marketings assumed); no attempt was made to seasonally adjust annual production levels in accounting for the total dollar assessment under phase two. This procedure introduces a negligible downward bias in the amount of the assessment under phase two of the program since producer deliveries by New York dairymen for the period April 1 - November 30, 1981 represented 67.0 percent of annual deliveries (N.Y. State Ag. and Markets, p.11).

reasonable for a family of four (2.8 adult equivalents), it leaves some flexibility for a farm family in stressful financial times. It seems likely that many farm households could operate for one or more years on substantially less than \$19,520. In addition, off-farm family income is assumed to be zero. Despite the limitations of this estimated living expense threshold it is used here to indicate potential cash flow shortages. The reader should keep its limitations in mind and will probably wish to establish his or her own living allowance in assessing any shortfalls in the CAFW per operator reported here.

The Effects of Business Organization and Operator Age

The first 50 cent deduction exacerbated what already seemed an inadequate cash flow for partnerships and sole proprietorships (Table 5). Those proprietors under age 50 found their cash position most seriously impaired. Upon the imposition of phase two, no group retained a CAFW per operator above the \$19,520 threshold.

The Separate Effect of Debt per Cow, Milk Sold per Cow, and Herd Size

As shown in Table 6a, farms in the medium and high debt per cow groups, relying only on farm income, had cash pressures prior to either assessment which were accentuated by the new program. The high debt group experienced serious cash flow problems which only dramatic steps might alleviate.

The situation was similar among the milk sold per cow categories (Table 6b). Farms in all but the high milk sold per cow group found themselves in cash flow situations almost as serious as those of the medium and high DPC groups.

The most interesting cash flow impact of the assessment program is shown in Table 6c. The absolute and percentage impact of the assessment was greater for large herds than for small herds. While the large farm group had a reasonably

TABLE 5. The Effect of the New Milk Assessments on Cash Available for Family Withdrawal by Age of Primary Operator and Type of Business Organization, Per Operator Basis

Business Organization	Age of Primary Operator		Cash Available for Family Withdrawal per Operator ^{a/}		
	Classification	Average	Before Assessment	50¢/cwt. ^{b/} Assessment	Both ^{c/} Assessments
Corporation	All	49	25,407	19,812	<u>16,085</u>
Partnership					
Parent-Child ^{d/}	All	51	<u>14,367</u>	<u>9,207</u>	<u>8,857</u>
Other	All	34	<u>9,503</u>	<u>5,078</u>	<u>2,132</u>
Sole Proprietorship ^{e/}	Under 35	26	<u>6,281</u>	<u>2,263</u>	<u>-414</u>
	35 - 49	42	<u>9,917</u>	<u>5,080</u>	<u>1,859</u>
	50 and over	55	<u>16,447</u>	<u>11,085</u>	<u>7,514</u>

SOURCE: 1981 New York Dairy Farm Business Summaries

^{a/} Underlined figures are below the level needed for family expenses (\$19,520).

^{b/} Non-refundable 50¢/cwt. deduction is in effect for 12 months.

^{c/} Non-refundable 50¢/cwt. deduction is in effect for 12 months plus the refundable, additional 50¢/cwt. deduction is in effect from April 1 - December 31 (but reflected in milk checks from May - December 1981, for April - November milk sales). The average total annual deduction in this case is calculated to be 83.3 ¢/cwt.

^{d/} Defined as those partnerships for which age difference between the operators was 18 or more years.

^{e/} Multiple operators are allowed in sole proprietorships, e.g. husband-wife operations.

TABLE 6. The Effect of the New Milk Assessments on Cash Available for Family Withdrawal, Per Operator Basis

(A) By Varying Debt Per Cow Levels

Debt/Cow Categories	Cash Available for Family Withdrawal per Operator ^{a/}		
	Before Assessment	50¢/cwt. ^{b/} Assessment	Both ^{c/} Assessments
\$0 - \$1,499 (Lo)	\$25,698	21,424	18,496
\$1,500 - 2,999 (M)	10,966	6,130	2,960
\$3,000 and up (H)	<u>-4,960</u>	<u>-9,039</u>	<u>-11,730</u>

(B) By Varying Milk Sold Per Cow

Production/Cow Categories	Cash Available for Family Withdrawal per Operator ^{a/}		
	Before Assessment	50¢/cwt. ^{b/} Assessment	Both ^{c/} Assessments
12,999# or less (Lo)	\$402	-2,537	-4,480
13,000 - 14,999# (M)	9,230	4,759	1,790
15,000# and up (H)	19,689	14,472	11,046

(C) By Varying Herd Sizes

Herd Size Categories	Cash Available for Family Withdrawal per Operator ^{a/}		
	Before Assessment	50¢/cwt. ^{b/} Assessment	Both ^{c/} Assessments
54 or less cows (S)	6,568	4,074	2,426
55 - 114 cows (M)	12,261	8,159	5,444
115 or more cows (La)	<u>18,497</u>	<u>9,770</u>	<u>3,985</u>

SOURCE: 1981 New York Dairy Farm Business Summaries

^{a/} Underlined figures are below the level needed for family expenses (\$19,520).

^{b/} Non-refundable 50¢/cwt. deduction is in effect for 12 months.

^{c/} Non-refundable 50¢/cwt. deduction is in effect for 12 months plus the refundable, additional 50¢/cwt. deduction is in effect from April 1 - December 31 (but reflected in milk checks from May - December 1981, for April - November milk sales). The average total annual deduction in this case is calculated to be 83.3¢/cwt..

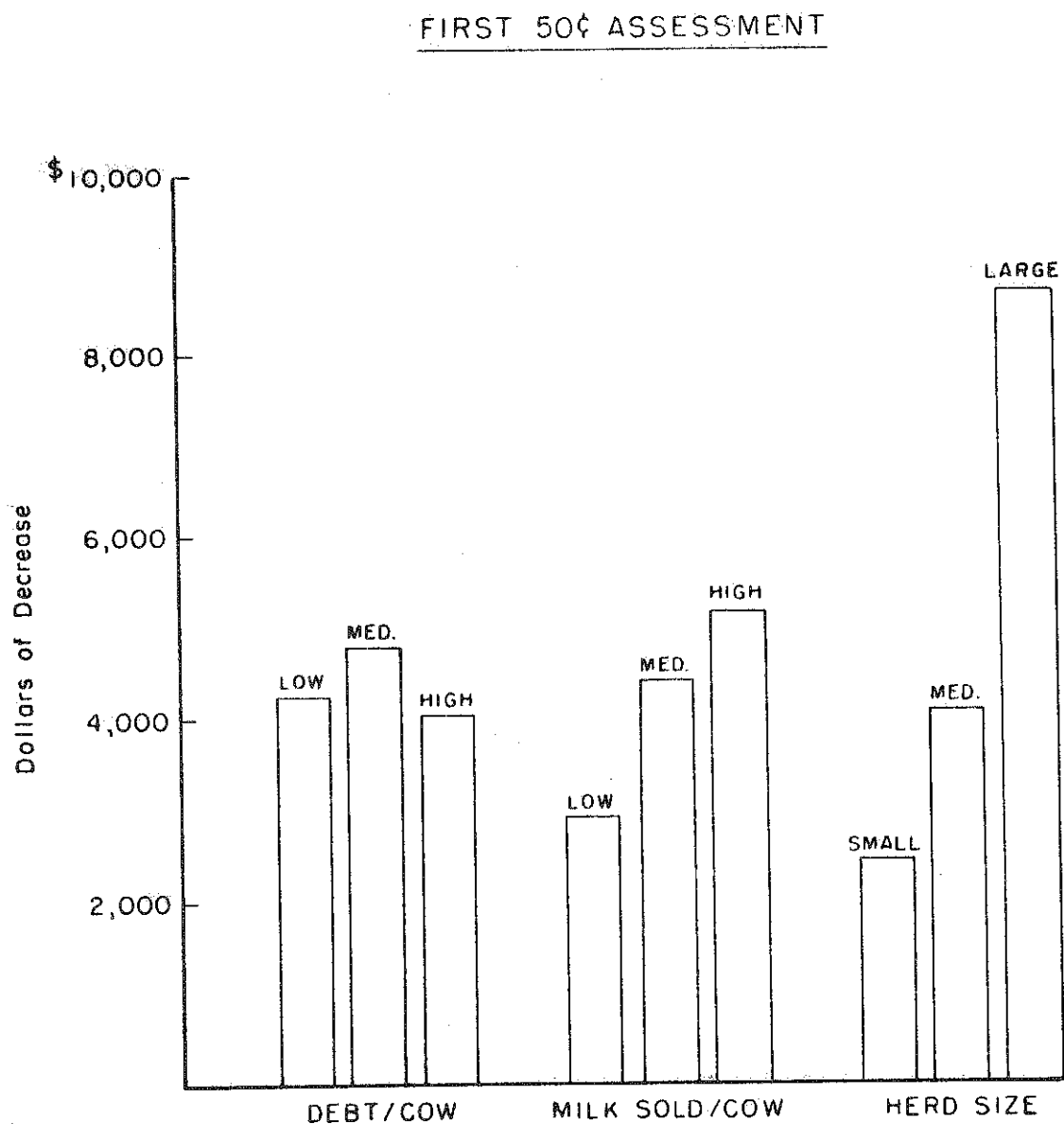
comfortable CAFW of \$18,497 per operator before any assessment, their cash position deteriorated by nearly 50 percent under the first deduction and by nearly 78 percent with both deductions. These percentages were 38 and 63, respectively, for the small farm group. Whether the assessment program is more likely to force larger or smaller farms out of business cannot be determined from these data. For equal per hundredweight cash shortfalls, however, larger farms will be at a disadvantage relative to smaller herds in using off-farm income or the drawing down of savings to alleviate cash deficits.

The absolute dollar impact of the assessment program on CAFW per operator can be clearly shown in bar graphs. In Figure 1, the decrease in CAFW per operator from the initial assessment is shown for the three debt per cow groups, the three milk sold per cow groups, and the three herd sizes. The cash lost to the assessment varies little by debt per cow, increases modestly (as expected) over the three sales per cow groups, and as noted previously, increases considerably with larger herd sizes. Figure 2 displays the same relationships under both assessments.

The Combined Effects of Debt per Cow, Milk Sold per Cow, and Herd Size

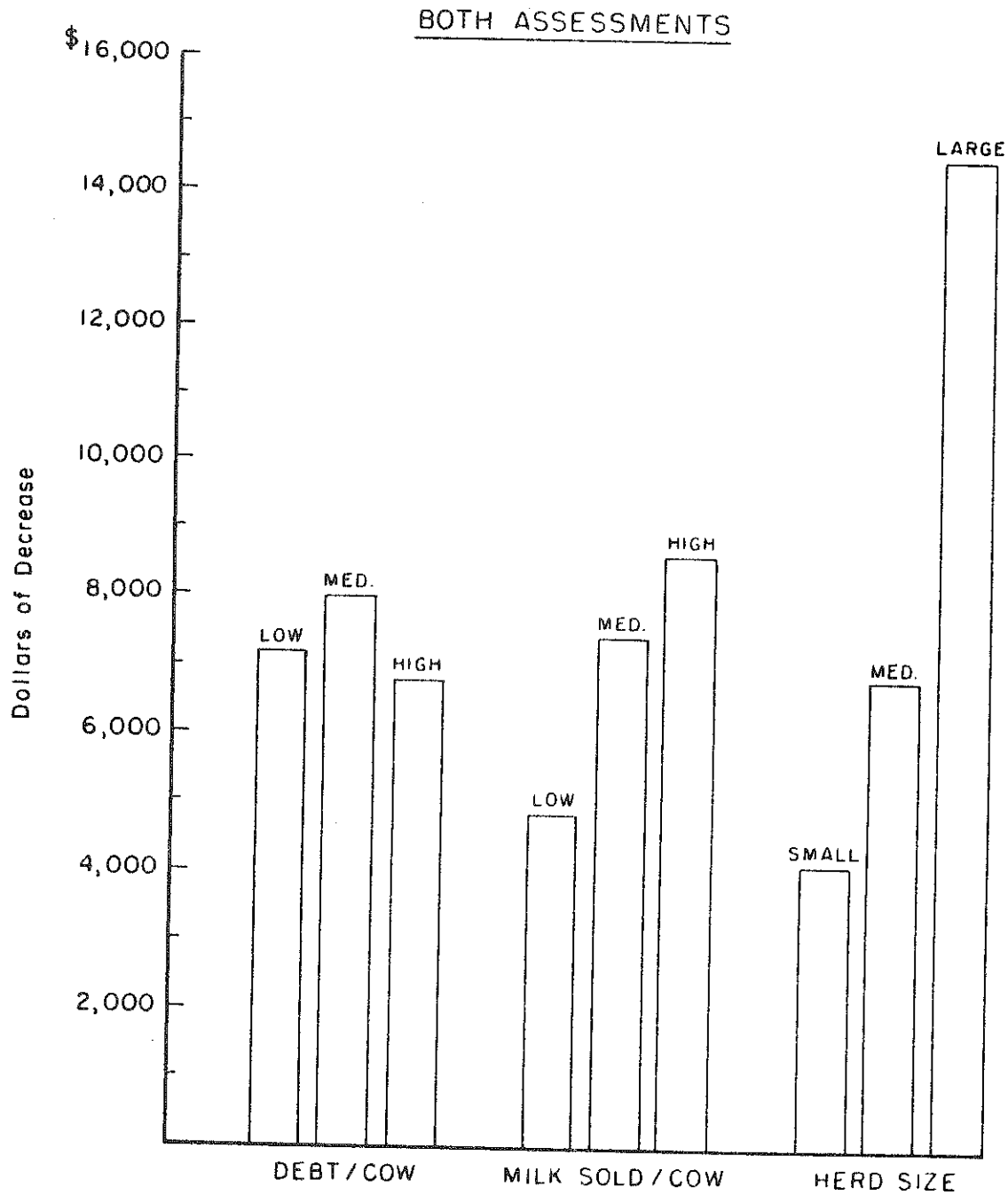
Before any assessments were deducted, only six groups generated sufficient CAFW per operator to meet the chosen living expense threshold without off-farm income (numbers 18, 23, 24, 25, 26, and 27), although five others were not too far below it (numbers 15, 16, 17, 20, and 22) (Table 7). Upon imposition of the first 50 cent deduction only five groups remained above the threshold level with three others close to it. With both assessments in place only two groups of farms had CAFW per operator which exceeded the threshold level while four others came fairly near it. As another measure of the cash flow stress these farms could experience under both assessments, consider that 13 of the 26 groups had a

FIGURE 1. DECREASE IN CASH AVAILABLE FOR FAMILY WITHDRAWAL
PER OPERATOR AS A RESULT OF THE FIRST 50¢
ASSESSMENT, FOR 3 FARM CHARACTERISTICS



Source: Calculated from data in Table 6

FIGURE 2. DECREASE IN CASH AVAILABLE FOR FAMILY WITHDRAWAL PER OPERATOR AS A RESULT OF BOTH ASSESSMENTS, FOR 3 FARM CHARACTERISTICS



Source: Calculated from data in Table 6.

TABLE 7. The Effect of the New Milk Assessments on Cash Available for Family Withdrawal, for 27 Farm Types, Three-way Classification:
Debt per Cow by Milk Sold per Cow by Herd Size, Per Operator Basis

Farm Type No.	Farm Characteristics			Cash Available for Family Withdrawal per Operator ^{a/}		
	DPC (\$)	MSC (1000 lbs.)	HS (cows)	Before Assessment	50¢/cwt. ^{b/} Assessment	Both Assessments ^{c/}
1	4,189	11.2	40	<u>-7,646</u>	<u>-9,767</u>	<u>-11,031</u>
2	4,206	11.2	72	<u>-3,879</u>	<u>-7,432</u>	<u>- 9,513</u>
3	3,333	11.8	177	<u>-35,192</u>	<u>-43,573</u>	<u>-48,597</u>
4	3,968	14.0	40	<u>-5,615</u>	<u>-7,823</u>	<u>-9,512</u>
5	3,691	14.0	74	<u>-6,245</u>	<u>-10,150</u>	<u>-12,880</u>
6	3,950	14.2	141	<u>-3,521</u>	<u>-9,962</u>	<u>-13,940</u>
7	4,204	16.0	44	<u>-1,480</u>	<u>-4,551</u>	<u>-6,804</u>
8	3,896	16.3	75	<u>6,017</u>	<u>1,269</u>	<u>-1,828</u>
9	3,765	16.2	176	<u>-20,484</u>	<u>-29,945</u>	<u>-35,311</u>
10	2,262	11.0	41	<u>2,343</u>	<u>95</u>	<u>-1,562</u>
11	2,298	11.4	73	<u>-134</u>	<u>-2,986</u>	<u>-4,753</u>
12	2,272	12.4	145	<u>-4,993</u>	<u>-14,006</u>	<u>-20,856</u>
13	2,219	14.0	43	<u>7,275</u>	<u>4,270</u>	<u>1,987</u>
14	2,250	13.9	75	<u>5,048</u>	<u>677</u>	<u>- 2,215</u>
15	2,319	14.0	175	<u>16,058</u>	<u>9,271</u>	<u>4,750</u>
16	2,255	16.6	46	<u>13,075</u>	<u>9,907</u>	<u>8,179</u>
17	2,261	16.3	77	<u>19,077</u>	<u>14,023</u>	<u>11,017</u>
18	2,128	16.1	187	<u>25,959</u>	<u>15,769</u>	<u>8,045</u>
19	616	10.9	42	<u>8,822</u>	<u>7,036</u>	<u>6,097</u>
20	853	11.1	76	<u>14,251</u>	<u>10,992</u>	<u>9,215</u>
21 ^{d/}						
22	808	14.2	42	<u>17,810</u>	<u>15,091</u>	<u>13,281</u>
23	885	14.2	76	<u>24,992</u>	<u>20,379</u>	<u>18,091</u>
24	996	14.2	169	<u>30,737</u>	<u>20,905</u>	<u>14,067</u>
25	454	16.9	41	<u>23,624</u>	<u>20,904</u>	<u>18,802</u>
26	747	16.5	74	<u>32,255</u>	<u>27,316</u>	<u>23,039</u>
27	953	16.3	175	<u>53,460</u>	<u>44,310</u>	<u>39,519</u>

SOURCE: 1981 New York Dairy Farm Business Summaries

^{a/} Underlined figures are below the level needed for family expenses (\$19,520).

^{b/} Non-refundable 50¢/cwt. deduction is in effect for 12 months.

^{c/} Non-refundable 50¢/cwt. deduction is in effect for 12 months plus the refundable, additional 50¢/cwt. deduction is in effect from April 1 - December 31 (but reflected in milk checks from May - December 1981, for April - November milk sales). The average total annual deduction in this case is calculated to be 83.3¢/cwt..

^{d/} There was only one (1) farm in this category. No data are reported to maintain confidentiality.

negative CAFW--implying that some debt restructuring may be needed. Six other farm types had CAFW per operator under \$10,000 after both assessments were considered. With respect to herd size, observe that for reasons elaborated previously, it was the largest herds which either weathered the assessments the best or experienced the greatest cash shortfalls.

CONCLUSIONS

The analyses conducted on the two phase milk price assessment program portend potentially severe cash flow shortages for many New York dairy farms. Only six of the 26 groups, representing averages for 27 percent of the sampled farms, had a sufficiently high CAFW in 1981 to meet estimated family living expenses. This percentage dropped to 23 percent under the first 50 cent assessment and to 9 percent under both assessments. This must be put in perspective, however. That a high rate of exit from dairy farming in New York has not been observed in the past two years suggests that substantial cash shortages (as reported by surveyed farms in 1981) have been absorbed in ways not revealed by this set of data. It is likely some farms will again find ways to meet the additional cash deficits imposed by the price deductions. Clearly though, not all farms in this situation have the ability remaining to do this, even with debt restructuring and the securing of scarce off-farm employment. Some will be forced out of business but not likely nearly as many as these pessimistic numbers suggest.

The analyses performed here lead to some other important conclusions. Debt per cow is the most crucial factor affecting which farms will be hardest hit by the program. An operator's age and his production per cow also are related to his cash position but not as strongly as debt. As herd size increases, farm profits are magnified but so are losses. The price deduction program may have

the potential to affect large farms' cash position more adversely than small farms, but the structural effects of this program cannot be predicted from these data.

Although not considered here, it is important to note that the second phase of the assessment program may offer some New York farmers an incentive (in the form of additional available cash) to reduce their production by culling when compared to the "no change" or "add cows" options. This incentive could exist for some dairymen despite the rather rigid requirements proposed by the U.S. Department of Agriculture for refund qualification. The best production level for a farmer after April 1, 1983 will need to be evaluated on an individual basis, but some guidelines can be offered. To this end, the authors have made plans for a study to assess the extent to which there is an incentive to cut back production under phase two of the assessment plan.

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A P P E N D I X

THE IMPACT ON ANNUAL CASH POSITIONS OF THE
ASSESSMENT IMPOSED ON APRIL 16, 1983

On March 16, 1983, U.S. Secretary of Agriculture John R. Block announced his Department's intention to begin one month hence the collection of a non-refundable 50¢ per hundredweight assessment on all milk marketed in the United States. This represents the U.S. Department of Agriculture's second attempt to implement the collection plan authorized by Congress late last summer; the first attempt, scheduled to begin on December 1, 1982, was blocked by a court order. Subsequently, the U.S. Department of Agriculture redressed the violations of the Administrative Procedures Act identified in that court case. Furthermore, at this writing it appears that the other legal challenges to the assessment have failed. Consequently, the likelihood of a non-refundable 50¢ per hundredweight deduction on all milk marketed beginning April 16, 1983 appears high. In this Appendix the cash flow impacts of this assessment are examined, again using data from the 1981 New York Dairy Farm Business Summaries.

In this analysis the April 16, 1983 assessment is assumed to remain in effect throughout the balance of the calendar year (eight-and-a-half months). As they affect annual cash flow, however, the deductions apply for only seven-and-a-half months (on marketings from April 16 to November 30) since handler payments to farmers are lagged one month. The imposition of a second 50¢ per hundredweight assessment (this one, refundable) is not analyzed here, as the likelihood of its implementation seems remote at this writing. Under these assumptions, the average annual assessment is 31.4¢ per hundredweight on all milk produced in the calendar year. The impact of this assessment on "Cash Available for Family Withdrawal" (CAFW) per operator is shown in REVISED versions of Tables 5, 6, and 7. Recall that CAFW is net cash farm income plus interest paid minus scheduled debt payments (principal and interest). For comparison to the CAFW per operator, \$19,520 is again used as an estimate of the 1981 living expenses of a farm family of four (2.8 adult equivalents).

Revised Tables 5, 6, and 7 should be interpreted exactly as their original versions. Reductions in CAFW per operator are, of course, more modest in the present case than under the two assessment scenarios examined in the original version of this publication. Nonetheless, the impact on New York farmers' cash positions is significant. To put the impact of this program in perspective two observations should be made. First, observe that only two farm categories or types in the three tables (the high "milk sold per cow" group in Revised Table 6B and farm type No. 18 in Revised Table 7) which prior to any assessments generated sufficient cash to meet the threshold level of family living expenses, would fail to do so after imposition of the April 16, 1983 deduction. Second, while resulting in reduced total deductions compared to the full year 50¢ per hundredweight scenario analyzed in the original publication, the April 16, 1983 deduction scenario would yield the identical set of farm categories or types with available cash below the threshold level of family living expenses.

These results should be interpreted with the same cautions noted in the original publication. CAFW per operator includes only on-farm income and assumes scheduled debt payments are met. In all likelihood, many New York dairy farmers whose cash flow is seriously impaired by this most recent deduction program will find ways to remain in business. These results, as those in the original publication, cannot be used to directly predict the number of dairy farmers who might be forced out of business by the assessment program.

TABLE 5 REVISED. The Effect of the April 16, 1983 Assessment on Cash Available for Family Withdrawal by Age of Primary Operator and Type of Business Organization, Per Operator Basis

Business Organization	Age of Primary Operator		Cash Available for Family Withdrawal per Operator ^{a/}	
	Classification	Average	Before Assessment	50¢/cwt. ^{b/} Assessment begun 4/16/83
Corporation	All	49	25,407	21,893
Partnership				
Parent-Child ^{c/}	All	51	<u>14,367</u>	<u>12,290</u>
Other	All	34	<u>9,503</u>	<u>6,724</u>
Sole Proprietorship ^{d/}				
	Under 35	26	<u>6,281</u>	<u>3,757</u>
	35 - 49	42	<u>9,917</u>	<u>6,880</u>
	50 and over	55	<u>16,447</u>	<u>13,080</u>

SOURCE: 1981 New York Dairy Farm Business Summaries

- ^{a/} Underlined figures are below the level needed for family expenses (\$19,520).
- ^{b/} Non-refundable 50¢/cwt. deduction is in effect for 8½ months (mid-April - Dec. 31), but is reflected in milk checks for 7½ months (mid-May - Dec.). The average annual deduction is calculated to be 31.4¢/cwt.
- ^{c/} Defined as those partnerships for which age difference between the operators was 18 or more years.
- ^{d/} Multiple operators are allowed in sole proprietorships, e.g. husband-wife operations.

TABLE 6 REVISED. The Effect of the April 16, 1983 Assessment on Cash Available for Family Withdrawal, Per Operator Basis

(A) By Varying Debt Per Cow Levels

Debt/Cow Categories	Cash Available for Family Withdrawal per Operator ^{a/}	
	Before Assessment	50¢/cwt. ^{b/} Assessment begun 4/16/83
\$0 - \$1,499 (Lo)	\$25,698	22,965
\$1,500 - 2,999 (M)	10,966	7,943
\$3,000 and up (H)	<u>-4,960</u>	<u>-7,520</u>

(B) By Varying Milk Sold Per Cow

Milk Sold/Cow Categories	Cash Available for Family Withdrawal per Operator ^{a/}	
	Before Assessment	50¢/cwt. ^{b/} Assessment begun 4/16/83
12,999# or less (Lo)	\$402	-1,443
13,000 - 14,999# (M)	9,230	6,409
15,000# and up (H)	19,689	<u>16,421</u>

(C) By Varying Herd Sizes

Herd Size Categories	Cash Available for Family Withdrawal per Operator ^{a/}	
	Before Assessment	50¢/cwt. ^{b/} Assessment begun 4/16/83
54 or less cows (S)	6,568	5,000
55 - 114 cows (M)	12,261	9,681
115 or more cows (La)	<u>18,497</u>	<u>12,998</u>

SOURCE: 1981 New York Dairy Farm Business Summaries

^{a/} Underlined figures are below the level needed for family expenses (\$19,520).

^{b/} Non-refundable 50¢/cwt. deduction is in effect for 8½ months (mid-April - Dec 31), but is reflected in milk checks for 7½ months (mid-May - Dec.). The average annual deduction is calculated to be 31.4¢/cwt.

TABLE 7 REVISED.

The Effect of the April 16, 1983 Assessment on Cash Available for Family Withdrawal, for 27 Farm Types, Three-way Classification: Debt per Cow by Milk Sold per Cow by Herd Size, Per Operator Basis

Farm Type No.	<u>Farm Characteristics</u>			<u>Cash Available for Family Withdrawal per Operator ^{a/}</u>	
	DPC (\$)	MSC (1000 lbs.)	HS (cows)	Before Assessment	50¢/cwt. ^{b/} Assessment begun 4/16/83
1	4,189	11.2	40	-7,646	-8,933
2	4,206	11.2	72	-3,879	-6,047
3	3,333	11.8	177	-35,192	-40,284
4	3,968	14.0	40	-5,615	-7,060
5	3,691	14.0	74	-6,245	-8,727
6	3,950	14.2	141	-3,521	-7,524
7	4,204	16.0	44	-1,480	-3,433
8	3,896	16.3	75	6,017	3,148
9	3,765	16.2	176	-20,484	-26,180
10	2,262	11.0	41	2,343	974
11	2,298	11.4	73	-134	-1,923
12	2,272	12.4	145	-4,993	-10,653
13	2,219	14.0	43	7,275	5,388
14	2,250	13.9	75	5,048	2,355
15	2,319	14.0	175	16,058	11,795
16	2,255	16.6	46	13,075	11,271
17	2,261	16.3	77	19,077	16,085
18	2,128	16.1	187	25,959	18,956
19	616	10.9	42	8,822	7,816
20	853	11.1	76	14,251	12,392
21 ^{c/}					
22	808	14.2	42	17,810	16,103
23	885	14.2	76	24,992	22,450
24	996	14.2	169	30,737	24,401
25	454	16.9	41	23,624	21,791
26	747	16.5	74	32,255	29,579
27	953	16.3	175	53,460	48,296

SOURCE: 1981 New York Dairy Farm Business Summaries

^{a/} Underlined figures are below the level needed for family expenses (\$19,520).

^{b/} Non-refundable 50¢/cwt. deduction is in effect for 8½ months (mid-April - Dec. 31), but is reflected in milk checks for 7½ months (mid-May - Dec.). The average annual deduction is calculated to be 31.4¢/cwt.

^{c/} There was only one (1) farm in this category. No data are reported to maintain confidentiality.