Cornell University
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The Impact of the New York State Retail Milk Price Regulation on Farm-to-Retail Price Transmission and Supermarket Pricing Strategies in Metropolitan Fluid Milk Markets


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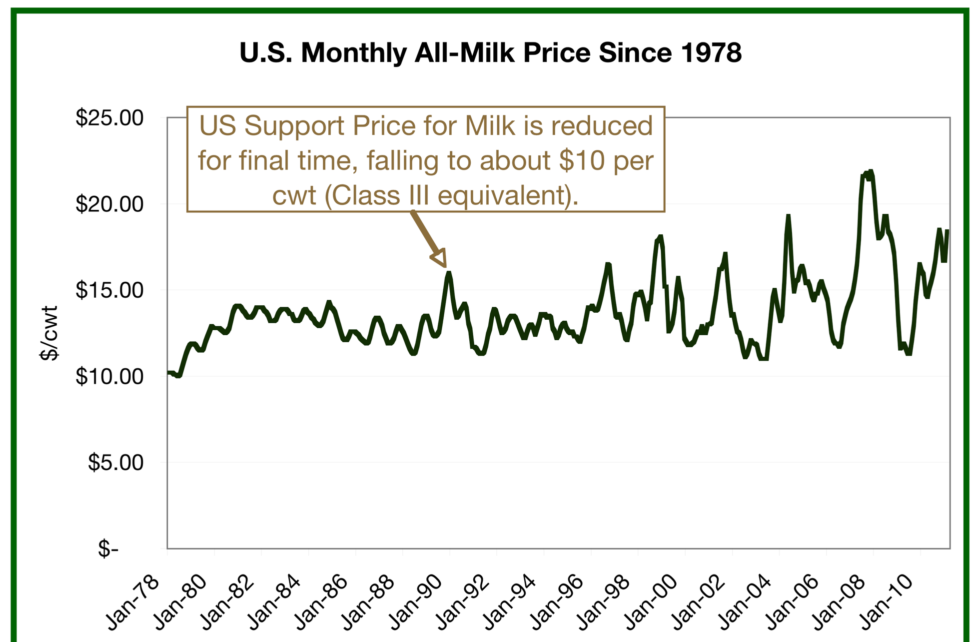
Abstract

The New York State Milk Price Gouging Law establishes that the retail prices of fluid milk products are not to exceed 200% of the prices that NYS milk processors py for Class I milk. The enforcement of this law significantly affected the nature of the Class I fluid milk price transmission process and the milk pricing strategies of supermarkets in the five largest cities in New York State: New York City, Albany, Syracuse, Buffalo and Rochester.

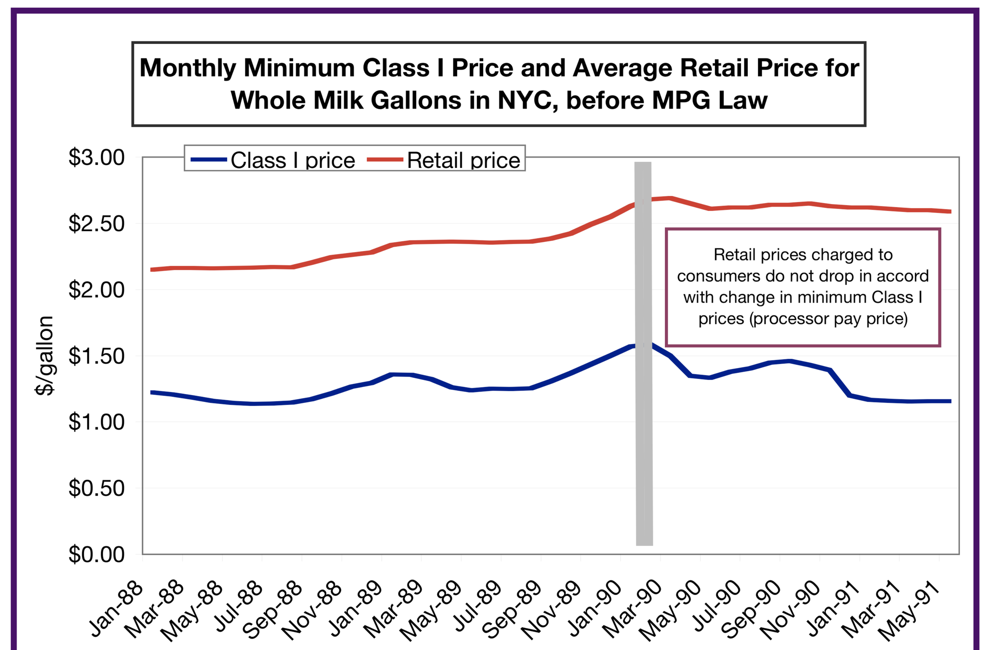
During the pre-law period, supermarkets used a retail price-stabilization strategy, as evidenced by asymmetric Class I fluid milk price transmission. In contrast, supermarkets use a retail profit stabilization strategy during the law period.

This variation of retail milk price control actually creates an institutional environment that facilitates cooperative conduct of supermarkets, acting in an oligopolistic market environment, which caused greater instability in retail milk prices. Differences in the competitive environments of each city impact the effects of the statewide law.

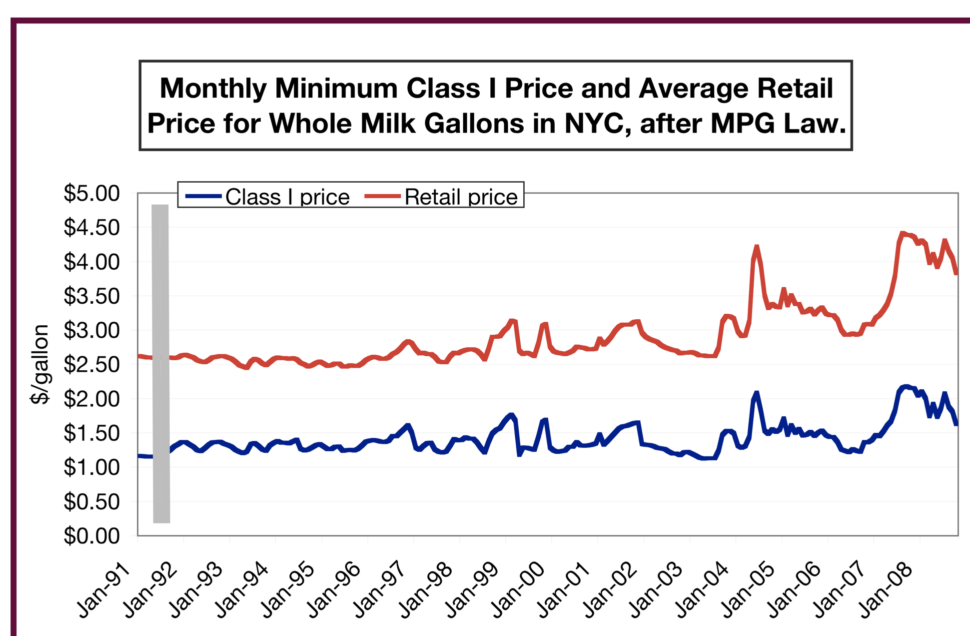
Farm milk prices become more volatile following the collapse of Dairy Price Support Program in the late 1980s.



A large drop in the Class I Price in early 1990 was matched by a far smaller drop in retail prices, illustrated here with prices applicable to New York City. This caused dairy farmers to cry foul.



Following the implementation of the Milk Price Gouging Law (MPGL) in June 1991, NYC Retail Prices began to follow a pattern very similar to that of monthly Class I prices, in marked contrast to the pre-law patterns.



Prior to the Milk Price Gouging Law

There is asymmetry in the transmission of changes in the Class I prices to retail prices during the pre-law period. The null hypothesis of symmetry of the effects of increases and decreases in the Class I prices on changes in the retail prices is rejected in all analyzed cases. Increases in the Class I prices are transmitted more completely than decreases, which is similar to the empirical evidence reported by other studies. There is no striking difference in the price-transmission patterns across the cities and whole milk container sizes, although there are some city-specific and container-specific variations.

After the Milk Price Gouging Law

The estimation results characterizing the law period reveal a completely different price-transmission pattern. The null hypothesis of symmetric transmission of increases and decreases in the Class I prices to retail prices is rejected. The magnitude of the estimated coefficients for the Class I price increases and decreases as well as their comparison with the pre-law period suggest that retail prices respond to increases and decreases in the Class I fluid milk prices in a symmetric manner in all analyzed cases in the law period. Furthermore, the magnitude of the estimated coefficients for both increases and decreases in the Class I price is higher in the law period as compared to the pre-law period.

Pooled Data Analysis of Regime Shift

In cases where the NYSDAM maximum retail price threshold is estimated to be binding, Class I price increases are transmitted at a higher rate than Class I price decreases. In contrast, in cases where the NYSDAM maximum retail price threshold is not binding, Class I price decreases are transmitted at a higher rate than Class I price increases. Although, whole milk gallons in Albany were not priced at the NYSDAM threshold, the price-transmission pattern characterizing this case was more consistent with the pattern for New York City, rather than the rest of Upstate New York cities. This may indicate a difference in the local competitive environments across Upstate NY.

Retail Pricing Strategies

The NYS MPG Law had a significant effect on the nature of the Class I fluid milk price-transmission process and supermarket pricing strategies in the fluid whole milk market. Prior to the enactment of the law, supermarkets used the retail price stabilization strategy.

The empirical evidence on the asymmetric response of changes in retail prices and marketing margins to increases and decreases in the Class I fluid milk prices is an indication of the presence of this type of strategy.

In contrast, during the period of enforcement of the MPGL 200% rule, supermarkets used the retail profit stabilization strategy. The empirical evidence on the symmetric response of changes in retail prices and marketing margins to increases and decreases in the Class I fluid milk prices may indicate a presence of this strategy.

Table 6. The OLS estimation results of the response of retail prices to changes in the Class I fluid milk prices: New York City, Albany, Syracuse, Buffalo and Rochester.

Variable	Whole milk sold in gallon containers		Whole milk sold in half-gallon containers	
	Pre-law period	Law period	Pre-law period	Law period
New York City				
N_CIP	**1.01*** (5.30)	**1.94*** (24.40)	**1.35*** (5.16)	**2.00*** (25.48)
Constant	0.14* (7.70)	-0.21* (-8.03)	0.11* (8.61)	-0.14* (-9.71)
DW-statistic	0.08	0.23	0.06	0.23
R2	0.32	0.81	0.32	0.81
Syracuse				
S_CIP	**1.47*** (5.84)	**0.73*** (10.75)	**1.60*** (6.03)	**1.89*** (37.45)
Constant	0.15* (6.30)	-0.17* (-9.21)	0.09* (6.80)	-0.06* (-9.90)
DW-statistic	0.07	0.57	0.08	1.04
R2	0.36	0.53	0.37	0.96
Albany				
A_CIP	**0.67*** (6.67)	**1.55*** (19.70)	**0.65*** (5.49)	**1.80*** (23.90)
Constant	0.11* (10.86)	-0.19* (-9.43)	0.07* (11.84)	-0.03* (-2.86)
DW-statistic	0.32	0.75	0.34	0.59
R2	0.43	0.81	0.33	0.88
Buffalo				
B_CIP	**0.67*** (2.59)	**0.89*** (12.27)	**0.77*** (2.50)	**2.02*** (45.80)
Constant	0.10* (5.30)	-0.11* (-6.03)	0.06* (5.27)	-0.07* (-7.22)
DW-statistic	0.04	0.32	0.06	0.27
R2	0.18	0.53	0.17	0.88
Rochester				
R_CIP	**0.91*** (4.06)	**0.73*** (7.17)	**0.87*** (3.24)	**1.95*** (40.30)
Constant	-0.001 (-0.08)	-0.14* (-5.89)	0.01 (1.48)	-0.12* (-13.49)
DW-statistic	0.10	0.15	0.06	0.35
R2	0.32	0.34	0.24	0.90

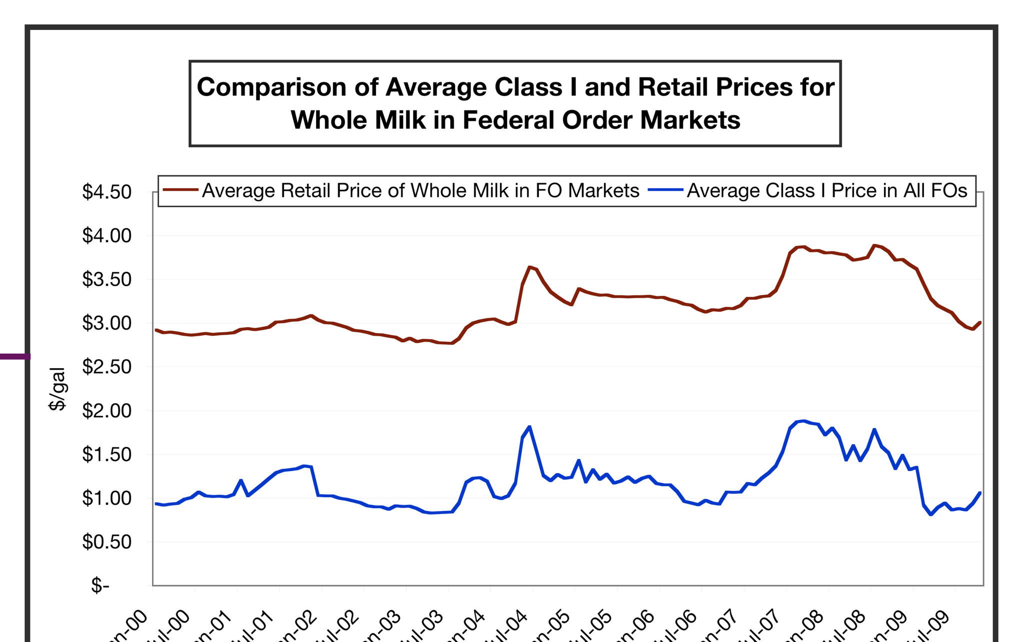
The table entries are the estimated coefficients (Z-ratios).
*The estimated coefficient is statistically significant at a 10% significance level; Ho: $\beta=0$ and Ha: $\beta\neq0$; the Z-statistic rejection regions are $(-\infty;-1.64]$ and $[1.64; +\infty)$. The Z-statistics are calculated based on the autocorrelation-robust standard errors adjusted using Newey-West approach.

Ironically, inasmuch as the law was framed to protect consumers from price gouging, the effect of the law may well have been to ensure that a kind of price gouging did occur.

Advanced public announcements of the NYSDAM maximum retail price thresholds in conjunction with the advanced public announcements of the Class I fluid milk prices on a monthly basis created an institutional environment that facilitated cooperative conduct of retailers acting in an oligopolistic market environment. In this type of market environment, the retail profit stabilization strategy was more profitable for retailers than the retail price-stabilization strategy. Prevented from maintaining adequate absolute margins when input prices were very low, retailers found it appealing, if not necessary, to take advantage of high absolute margins when input prices were high.

As a result of this study, NYSDAM stopped announcing a monthly Threshold price, to avoid its anchoring effect. The MPG Law remains in effect.

The patterns observed in NYC differ from the averages observed in Federal Order markets not in their broad sweep but in the smaller monthly changes. Nationally, retailers engage in a "price smoothing" strategy that resists smaller changes in input prices but follows larger and/or longer trends, both up and down. This strategy means that losses incurred when input prices are rising are recovered when input prices decline.



STATE OF NEW YORK
DEPARTMENT OF AGRICULTURE AND MARKETS
10B AIRLINE DRIVE
ALBANY, NEW YORK 12235

DIVISION OF MILK CONTROL AND DAIRY SERVICES
518-457-5731

BACKGROUND INFORMATION October 2008

Milk Price Gouging Law, Section 396-rr of GBL

The milk price gouging law applies to the retail sale of fluid milk in consumer packages. The law was enacted in June 1991 at the same time as the legislation that permitted the Commissioner to implement an Interim Milk Pricing Order. At that time farm prices had fallen considerably while retail prices, particularly in the Metropolitan New York area, had fallen only a small amount.

Traditionally as a means of administering and enforcing the law, the Department calculated and announced an enforcement measure known as the "threshold price". It was established for two broad regions of the state for a quart, half gallon, and gallon container. The threshold price generally changed monthly, moving up or down two cents per gallon for every one cent gallon change in the farm price. The threshold price was not a maximum price and was geared to supermarkets.

Effective November 2008, the Department will discontinue announcing the monthly threshold price and will focus on the store's gross margin to determine compliance with the Milk Price Gouging Law. In considering whether a retail price appears unconscionably excessive, the Department uses a retail margin standard of $0.58 per gallon, $0.37 per half gallon, and $0.26 per quart. Retail margin standard equals total in-store handling costs plus net profit (before taxes). If a retail price has a gross margin (retail price minus net invoice price) that does not exceed the retail margin standard, the price is considered justified. If the gross margin is greater than the retail margin standard, then unit cost documentation is required to justify the price, unless it is terminated. Justification must be in light of the net invoice price paid for the milk item and the actual cost per unit to handle and sell it. If the justification is not accepted by the Commissioner, the case is required by statute to be referred to the Attorney General.

If you have any questions, please call 518-457-5731.

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UPSTATE NEW YORK
AVERAGE SUPERMARKET PRICES, OCTOBER 2007

Market	Milk Paper Quart	Milk Paper 1/2 Gal	Milk Plastic Gallon	2% RFM Paper 1/2 Gal	2% RFM Plastic Gallon	1% LFM Paper 1/2 Gal	1% LFM Plastic Gallon	Skim Paper 1/2 Gal	Skim Plastic Gallon
	Dollars								
Capital District									
Albany	1.16	2.09	3.84	2.05	3.74	1.99	3.74	1.95	3.64
Amsterdam	1.17	2.09	3.65	2.05	3.58	1.99	3.70	1.95	3.43
Gl'sville/J'twn	1.16	2.09	3.69	2.05	3.59	1.99	3.78	1.95	3.46
Schenectady	1.15	2.01	3.73	1.98	3.65	1.93	3.62	1.90	3.54
Troy	1.16	2.08	3.84	2.04	3.74	1.98	3.69	1.94	3.60
Weighted Average	1.16	2.07	3.80	2.03	3.70	1.97	3.70	1.94	3.59
Central NY									
Auburn	1.17	2.11	3.04	2.08	2.93	2.10	2.96	2.06	2.83
Rome	1.15	2.15	3.67	2.10	3.44	2.11	3.59	2.09	3.44
Syracuse	1.14	2.18	2.92	2.14	2.83	2.15	2.71	2.14	2.69
Utica	1.15	2.07	3.36	2.03	3.30	1.99	3.30	1.98	3.24
Weighted Average	1.15	2.15	3.08	2.11	2.98	2.11	2.93	2.10	2.88
Southern Tier									
Binghamton	1.04	1.86	3.13	1.82	2.97	1.76	2.95	1.57	2.69
Elmira	1.14	2.18	2.99	2.16	2.89	2.16	2.93	2.15	2.82
Ithaca	1.16	2.15	3.15	2.08	3.05	2.18	3.07	2.15	2.93
Weighted Average	1.09	2.00	3.10	1.96	2.97	1.95	2.97	1.84	2.77
Hudson Valley									
Kingston	1.16	2.11	3.83	2.08	3.72	2.03	3.78	2.00	3.58
Newburgh	1.15	2.11	3.87	2.08	3.84	2.10	3.90	2.07	3.78
Poughkeepsie	1.09	2.01	3.98	2.01	3.97	2.00	3.96	1.99	3.95
Weighted Average	1.12	2.06	3.92	2.04	3.88	2.03	3.91	2.02	3.83
Western NY									
Batavia	1.12	2.04	3.46	2.02	3.36	1.99	3.37	1.99	3.20
Buffalo	1.12	2.17	3.06	2.17	2.94	2.17	2.87	2.17	2.76
Niagara F/NTona	1.10	2.05	3.24	2.01	3.12	2.01	3.04	2.01	2.96
Rochester	1.14	2.20	2.97	2.20	2.86	2.19	2.77	2.19	2.67
Weighted Average	1.13	2.17	3.04	2.17	2.93	2.16	2.85	2.16	2.75
Unregulated									
Jamestown	1.14	2.20	2.93	2.17	2.83	2.17	2.84	2.17	2.70
Plattsburgh	1.19	2.11	3.83	2.08	3.67	2.02	3.72	2.00	3.56
Watertown	1.15	2.15	3.96	2.12	3.90	2.10	3.89	2.08	3.76
Weighted Average	1.16	2.16	3.57	2.13	3.47	2.11	3.48	2.09	3.34
Upstate Average	1.13	2.10	3.42	2.07	3.32	2.06	3.31	2.02	3.19

* = Insufficient number of observations to report.

A long history of dairy data collection, price regulation and plant and store inspection facilitates implementation and enforcement of the law

STATE OF NEW YORK
DEPARTMENT OF AGRICULTURE AND MARKETS
10B AIRLINE DRIVE
ALBANY, NEW YORK 12235

Division of Milk Control & Dairy Services
518-457-5731

TO: Retailers of Milk

DATE: September 21, 2007

SUBJECT: Announcement of threshold price relative to milk price gouging law, **effective OCTOBER 2007.**

Threshold prices are unchanged from the previous month. For **OCTOBER 2007**, threshold prices for milk, lowfat milk, or skim milk offered for retail sale in the state are:

	Gallon	Half Gallon	Quart
Metro Region: (NYC and Counties of Nassau, Suffolk, Rockland, Westchester, Orange, Putnam and Dutchess)	$4.54	$2.32	$1.20
Upstate Region: (Remaining Counties)	$4.33	$2.21	$1.14

A retailer who sells above the threshold price may be in violation of the law unless such selling price is justified as not being unconscionably excessive. Such justification includes net invoice price paid for the milk item plus actual costs incurred in handling and selling that milk item.

Please be advised that the threshold price is only changed if there is at least a $0.02 per gallon ($0.23/cwt) change in the underlying price for Class I (fluid) milk at 3.5% butterfat. This is the second consecutive month that the threshold remains unchanged. Compared to the base month (August 2007) of the current threshold price, the federal order Class 1 for October decreased $0.17 per hundredweight ($0.015/gallon). On a monthly basis, the federal order Class I price (3.5% butterfat) for October decreased $0.32/cwt or $0.028/gallon. The threshold price is calculated by multiplying by two the total of two components, the minimum federal order price and the premium paid for Class I milk.