

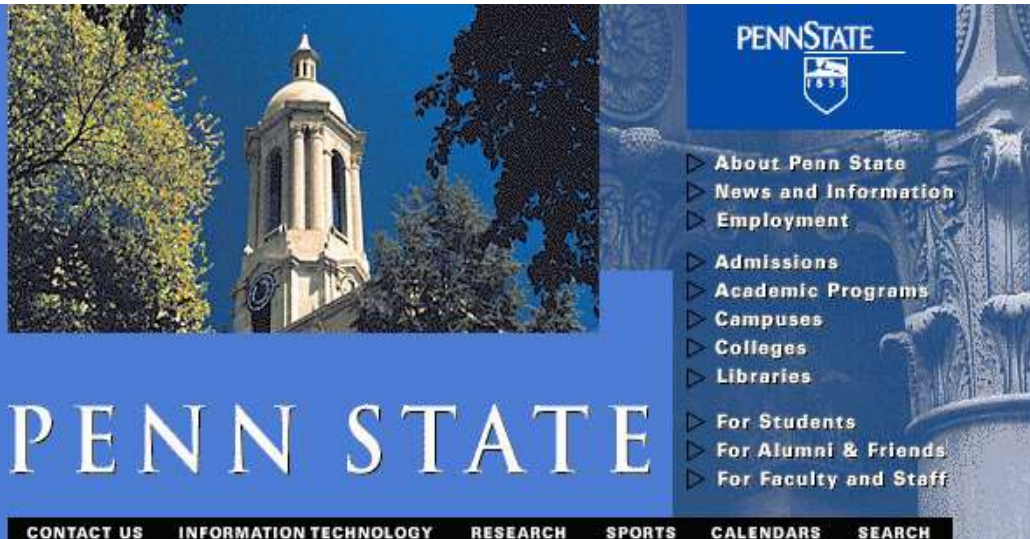
# An Objective View of the Northeast or New England Dairy Compact and Its Effect on Other Markets

*2001 Southern Dairy Conference, Atlanta, Georgia*

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# My Points

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- Class I over-order premiums are very important to the Northeast
- Pooling of these premiums is important
- New England has limited negotiating ability with over-order premiums
- The economics of Compacts are clear
- In the long-run, Compacts do not matter



# Part I

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- Economics of multi-regional dairy compacts



# Why I Did This Study?

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- At the request of:
  - Missouri Dairy Association
  - Missouri Director of Agriculture
  - Fluid milk processors



# Interstate Compacts Authorized Under the Compact Clause

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- Article I, Section 10, Clause 3
- No State shall, **without the Consent of Congress**, lay an Duty or Tonnage, keep Troops, or Ships of War in time of Peace, ***enter into any Agreement or Compact with another State***, or with a foreign Power, or engage in War, unless actually invaded, or in such imminent Danger as will not admit of delay.



# Dairy Compacts

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- Agreement among states to regulate the price of fluid milk
- Form a compact commission (one or more)
- Options:
  - Set over-order premiums
  - Fix a floor price



# Benefits of Multi-regional Compacts

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- Enhance and stabilize fluid milk prices
- Pool the benefits to everyone
- Maintain local milk supply
- Processors all have same cost



# Problems with Multi-regional Dairy Compacts

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- Will result in an expansion in the milk supply *if there is no supply control!!!!*
- Consumers will likely pay more
- Border issues will be a problem
- Public scrutiny!!!!
- Upper Midwest will be economically disadvantaged
- Not flexible with changing markets



# Northeast Interstate Dairy Compact

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- Fix one compact price for fluid milk (\$16.94/cwt)
- Monitor the federal Class I price each month
- Collect the difference (called the compact over-order obligation) from processors
- Distribute these proceeds to participating dairy farmers



# Method of Analysis

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- Develop a dairy industry model
- Develop a baseline
- Create a price wedge to reflect compacts in select regions
- Isolate impacts of regional compacts

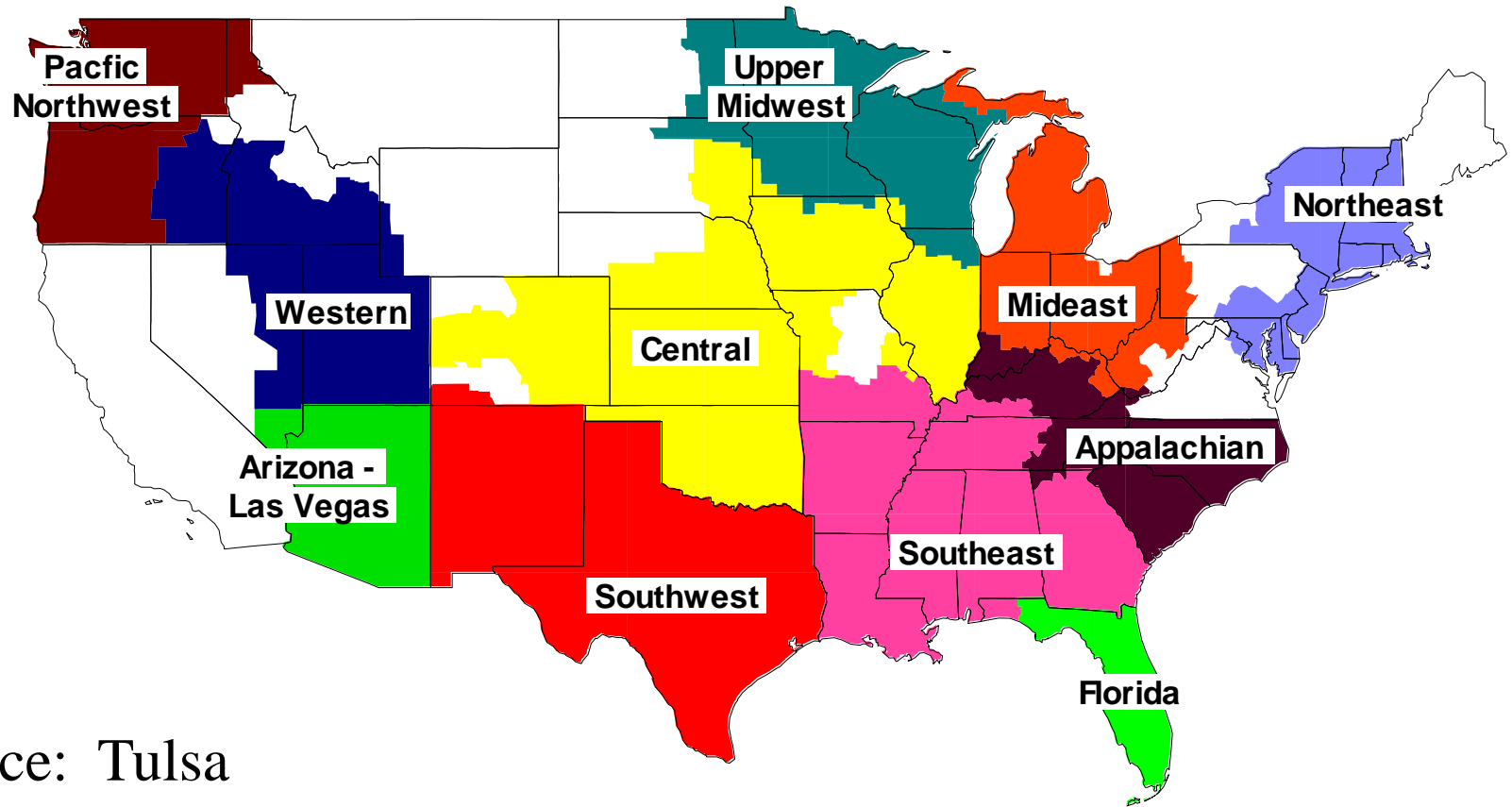


# Dairy Industry Model

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- Static equilibrium model reflecting intermediate-run solutions
- Multi-regional model
  - 11 federal order regions
  - California and unregulated regions
- Constant elasticity functional form
- Allocates milk to alternative class uses

# Eleven Federal Orders



Source: Tulsa  
MA Office



# Model--continued

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- Fluid demand modeled at the retail level
- Manufactured demand modeled at the wholesale levels
- Models solves simultaneously for:
  - Butter
  - Nonfat dry milk
  - Cheese



# Baseline

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- Started with 1997 baseline data
- Forecasted model for 2000
- Assumed federal order reform (Secretary's final rule)
- Baseline employed "normal" relationships between dairy commodity prices



# Critical Assumptions to Consider

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- Level of compact prices used
- Level of existing market (co-op) over-order premiums
- Fixed dollar or fixed percent markup (farm-to-retail)
- Number of states defined in the Combined Dairy Compact scenario



# Model Assumptions

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- Three regional compacts created:
  - Northeast
  - Appalachian
  - Southeast
  - Northern portion of Missouri + Florida
- Represents 27 percent of milk supply



# Model Scenarios

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1. \$1/cwt compact premium, 100% co-op over-order premiums
2. \$1/cwt compact premium, 50% co-op over-order premiums
3. \$2/cwt compact premium, 100% co-op over-order premiums
4. \$2/cwt compact premium, 50% co-op over-order premiums

# Model Results for Dairy Compact Regions

	<b>Scenario #1: Com prem: \$1 MOOP: 100%</b>	<b>Scenario #2: Com prem: \$1 MOOP: 50%</b>	<b>Scenario #3: Com prem: \$2 MOOP: 100%</b>	<b>Scenario #4: Com prem: \$2 MOOP: 50%</b>
Farm price	\$0.43/cwt	\$0.19/cwt	\$0.86/cwt	<b>\$0.62/cwt</b>
Milk revenue	3.7%	1.7%	7.4%	<b>5.4%</b>
Retail milk price	\$0.09/gal	\$0.04/gal	\$0.17/gal	<b>\$0.13/gal</b>
Retail milk expenditures	2.1%	1.0%	4.2%	<b>3.1%</b>

# Model Results for Non-Compact Regions

	<b>Scenario #1: Com prem: \$1 MOOP: 100%</b>	<b>Scenario #2: Com prem: \$1 MOOP: 50%</b>	<b>Scenario #3: Com prem: \$2 MOOP: 100%</b>	<b>Scenario #4: Com prem: \$2 MOOP: 50%</b>
Farm price	-\$0.07/cwt	-\$0.04/cwt	-\$0.14/cwt	<b>-\$0.10/cwt</b>
Milk revenue	-0.7 %	-0.4%	-1.4%	<b>-1.1%</b>
Retail milk price	\$0/gal	\$0/gal	\$0/gal	<b>\$0/gal</b>
Retail milk expenditures	0%	0%	0%	<b>0%</b>



# Study Critics:

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- Compact premium & co-op over order premium will cancel each other out
- Farm-to-retail mark up wrong
- Used “price wedge” instead of price floor
- This was a “theoretical study” rather than a real world study
- Study was clearly biased



# Academic Journal Article

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- Bailey, Kenneth, "Evaluating the Economic Impacts of Regional Milk Pricing Authorities: The Case of Dairy Compacts," ***Agricultural and Resource Economics Review*** 29/2(October 2000): 208-219



# Study Conclusions

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- Multi-regional dairy compacts will result in clear economic tradeoffs
- Who will benefit from compacts:
  - Compact farmers
- Who will not benefit economically:
  - Compact processors and retailers
  - Compact consumers
  - Non-compact dairy farmers



## Warning: Results are Conditioned on Many Assumptions

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- Compacts could use supply control
- Compact price could be much higher or lower
- Model parameters and elasticities used may be inaccurate
- Farm-to-retail markup may be wrong



## Part II

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- Report on the Operation and Performance of the Northeast Interstate Dairy Compact



# Why I Did the Study

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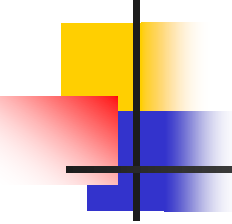
- At the request of a small group of dairy farmers from North Central Pennsylvania
- Extension purposes



# Northeast Dairy Compact

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- Benefits are clear:
  - July 97 – Aug 00: raised \$117 mil.
  - Jan 00 – Jul 00: raised \$44.9
  - About 7-10 percent of gross milk prices
- NE Compact to expire Sept 30, 2001
- What next?

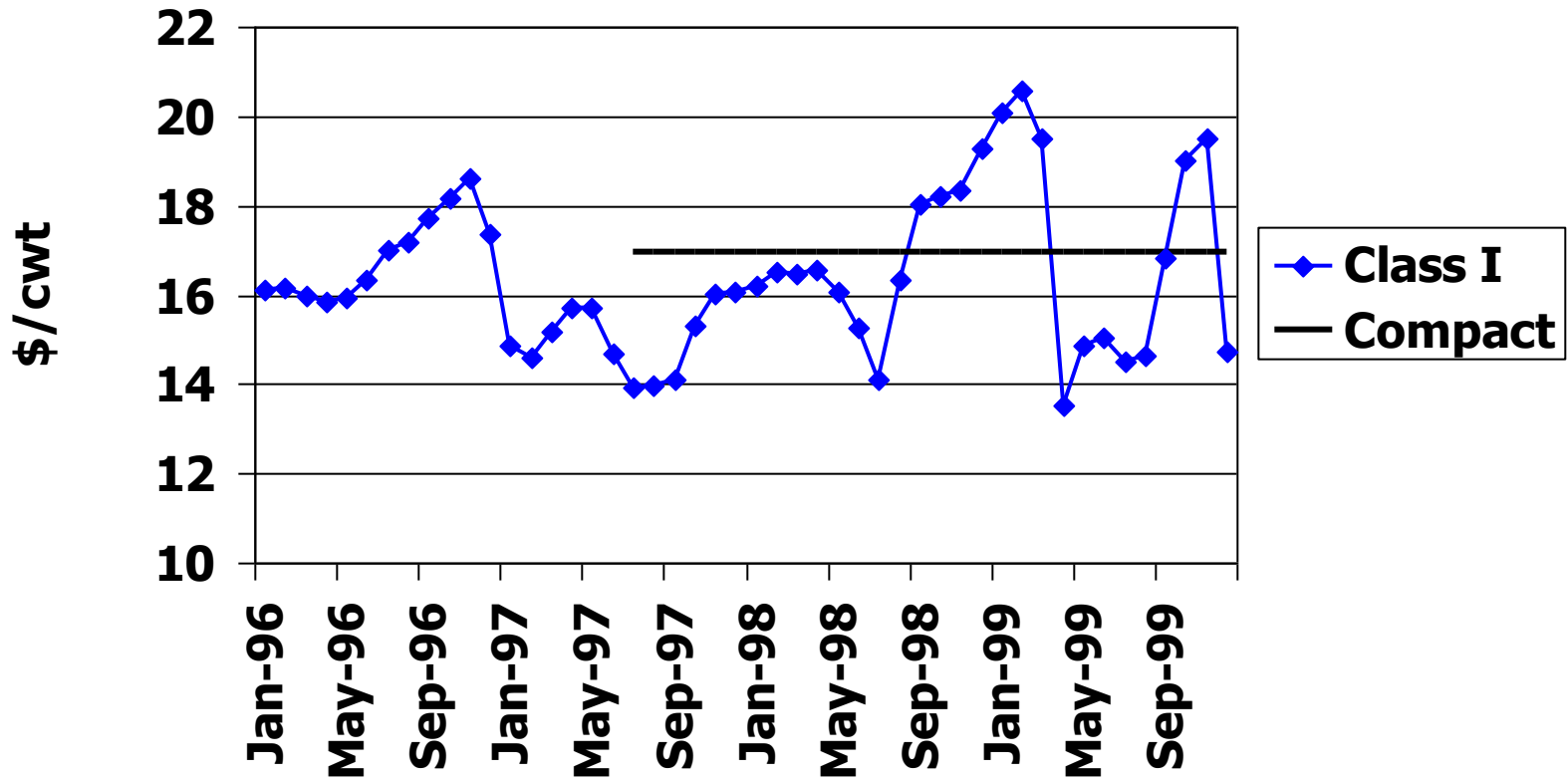


# Example Calculation of the NE Compact, December 1999

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- Compact price: \$16.94/cwt
- Fed Class I, Zone I price: \$14.73
  - Compact over-order oblig \$2.21
- Allocation:
  - Percent Class I in region: 46.96%
  - Deductions: \$0.04
- Adjusted producer price: \$1.00

# Compact Over-order Obligations in New England





# Methodology—Simple!!

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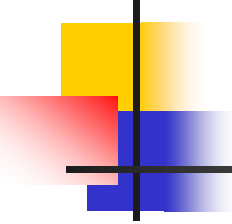
- Retail price model:  
(Class I price + coop prem + compact over-order obligation)\*(1+MU)
- Two time periods:
  - Jan 96 – Jun 97
  - Jul 97 – Dec 99
- Computed the following in both time periods:
  - Class I price
  - Compact over-order obligation
  - Farm-to-retail mark up (derived)!!
  - Retail milk price (Boston and Hartford)



# How I Computed Impact of Compact

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- Made the following compact period simulations:
  - Retail price without compact
  - Retail price with old coop premiums
  - Retail price with compact but old markup



# Average Results over Compact Period Jul 97 – Dec 99

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- Actual retail milk price: \$2.674
- Impacts:
  - Compact \$0.17
  - Change in coop premiums -\$0.03
  - Change in markup \$0.10
  - Total \$0.24



# Economic Impact of the NE Compact

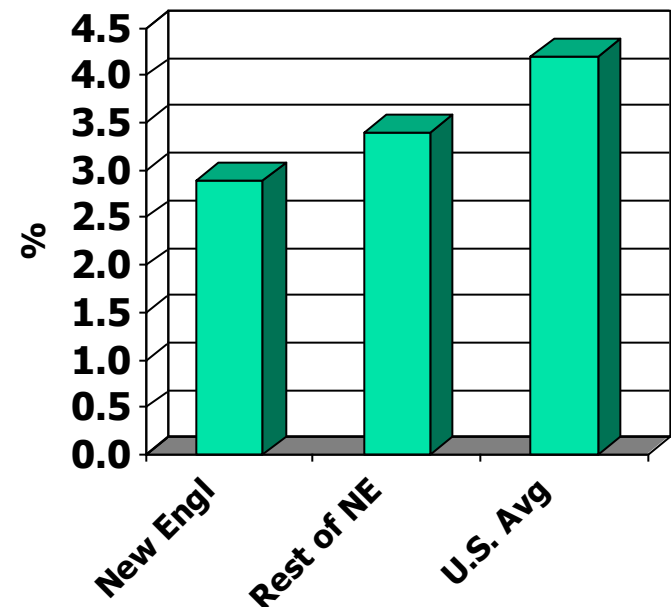
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- Generated \$0.48/cwt in additional revenue for participating dairy farmers
- Processors paid extra \$1.15/cwt, or \$0.10/gal
- Coop over-order premiums fell \$0.21/cwt
- Net cost of milk went up \$0.95, or \$0.08/gallon

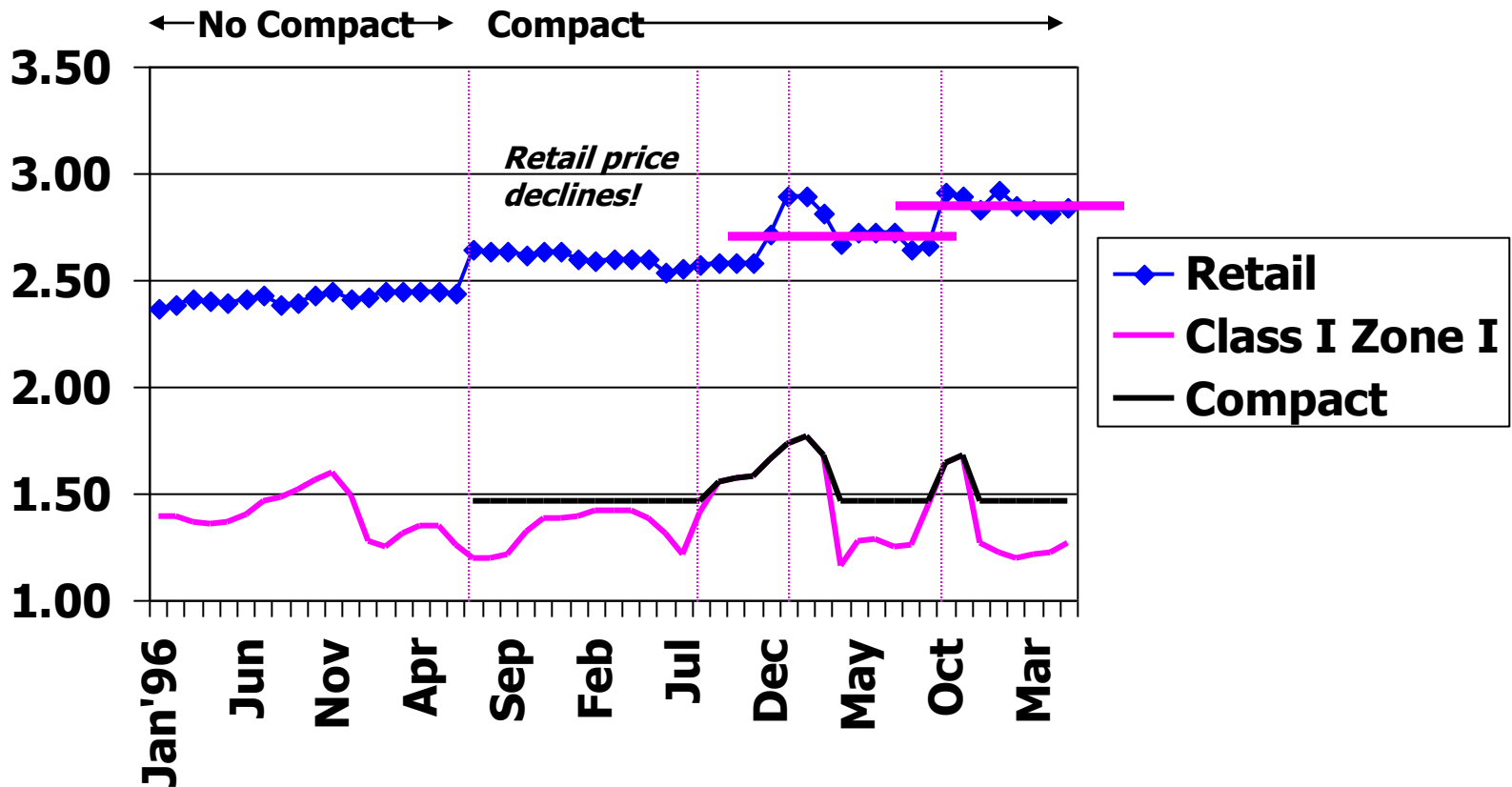
# Economic Impact of the New England Compact--continued

- Milk production in NE did not grow above U.S. rate
- Retail milk price rose \$0.14/gal due to compact
- Milk consumption changed little

**Growth Rates for Milk Production, 97-99**



# Boston Retail vs. Compact Price, \$/gal.





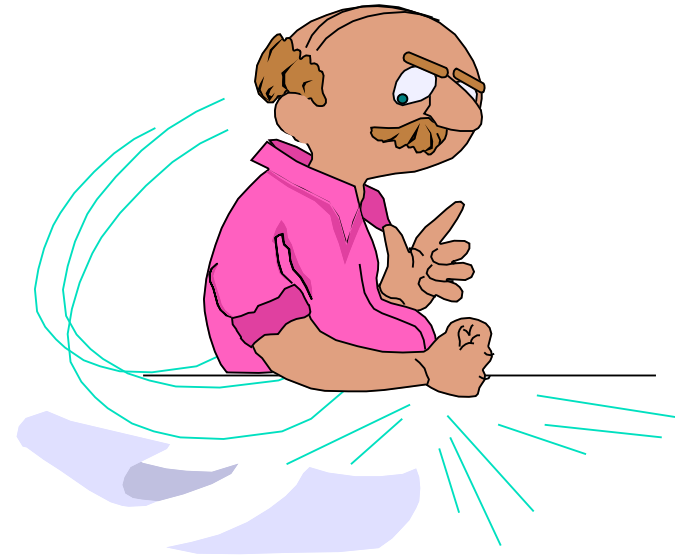
# My Conclusions of the Northeast Study

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- It's not the economics
  - Milk supply did not expand
  - Fluid milk consumption changed little
  - \$1.15/cwt cost to processors
  - \$0.14/gal to consumers not much

# Why Do People **Really** Hate Compacts?

- Processors:
  - Takes away flexibility
  - Margins are fixed
- Politicians:
  - Ideologically opposed





# Conclusions

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- Class I over-order premiums are very important to the Northeast
- Pooling of these premiums is important
- New England has limited negotiating ability with over-order premiums
- The economics of Compacts are clear
- In the long-run, Compacts do not matter