

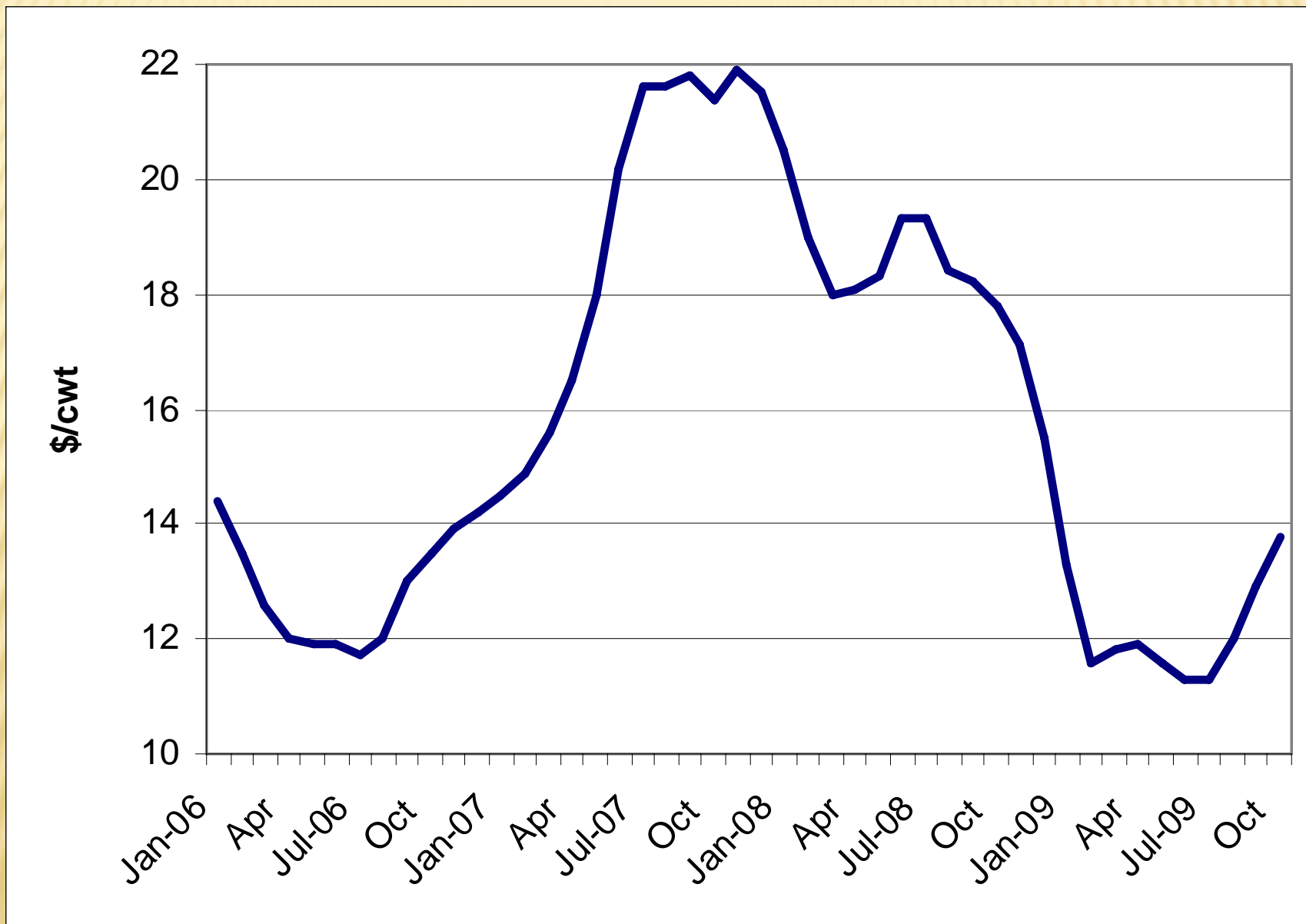
2009-10 Dairy Situation and Outlook

Christopher A. Wolf
Agricultural, Food and Resource Economics
Michigan State University

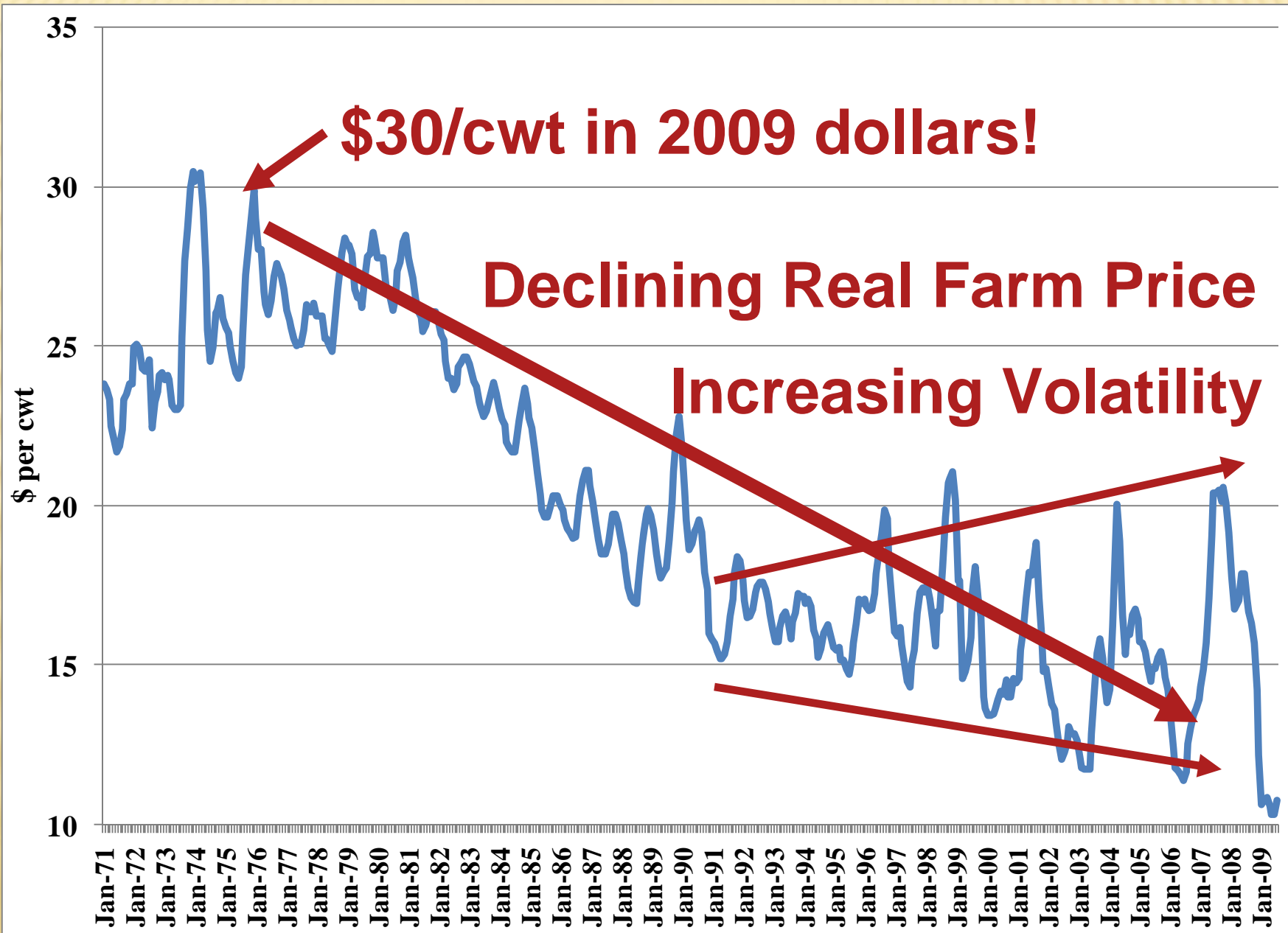
November 5, 2009

2009: WORST DAIRY FARM MARGIN YEAR IN DECADES

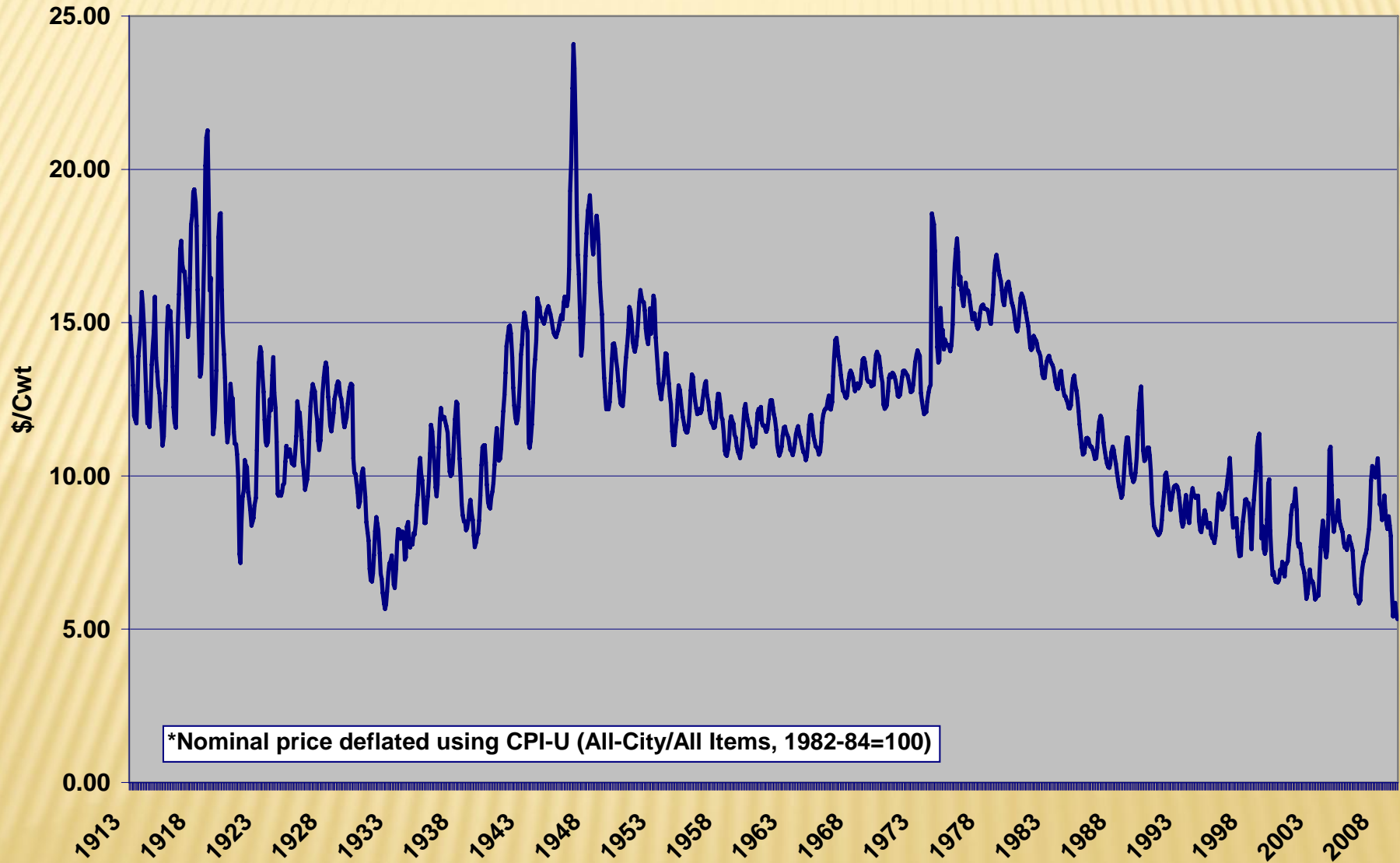
All milk: nominal monthly price, January 2006-October 2009



All milk: monthly real prices, Jan 1971 - Aug 2009

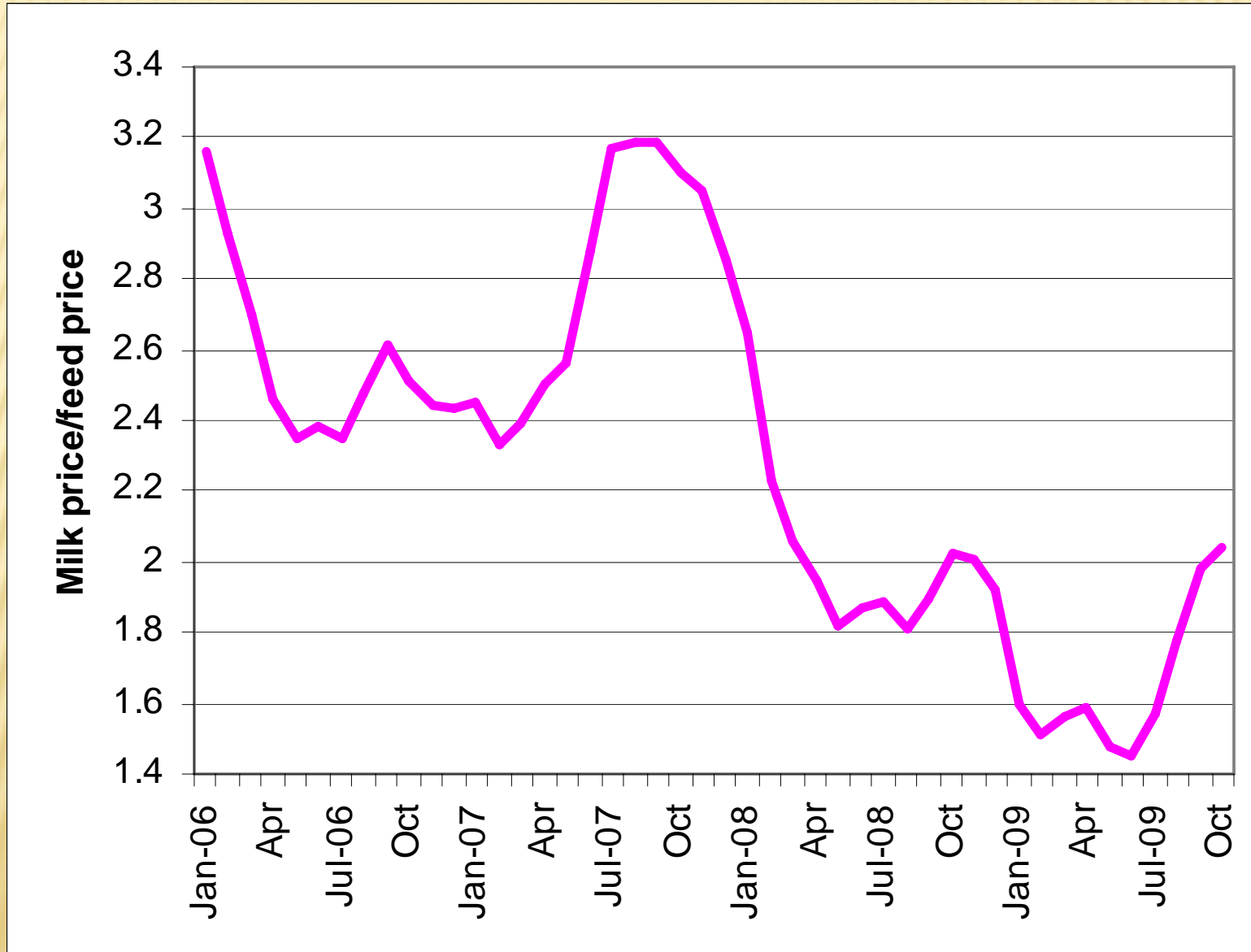


Deflated Monthly Wisconsin All-Milk Price*

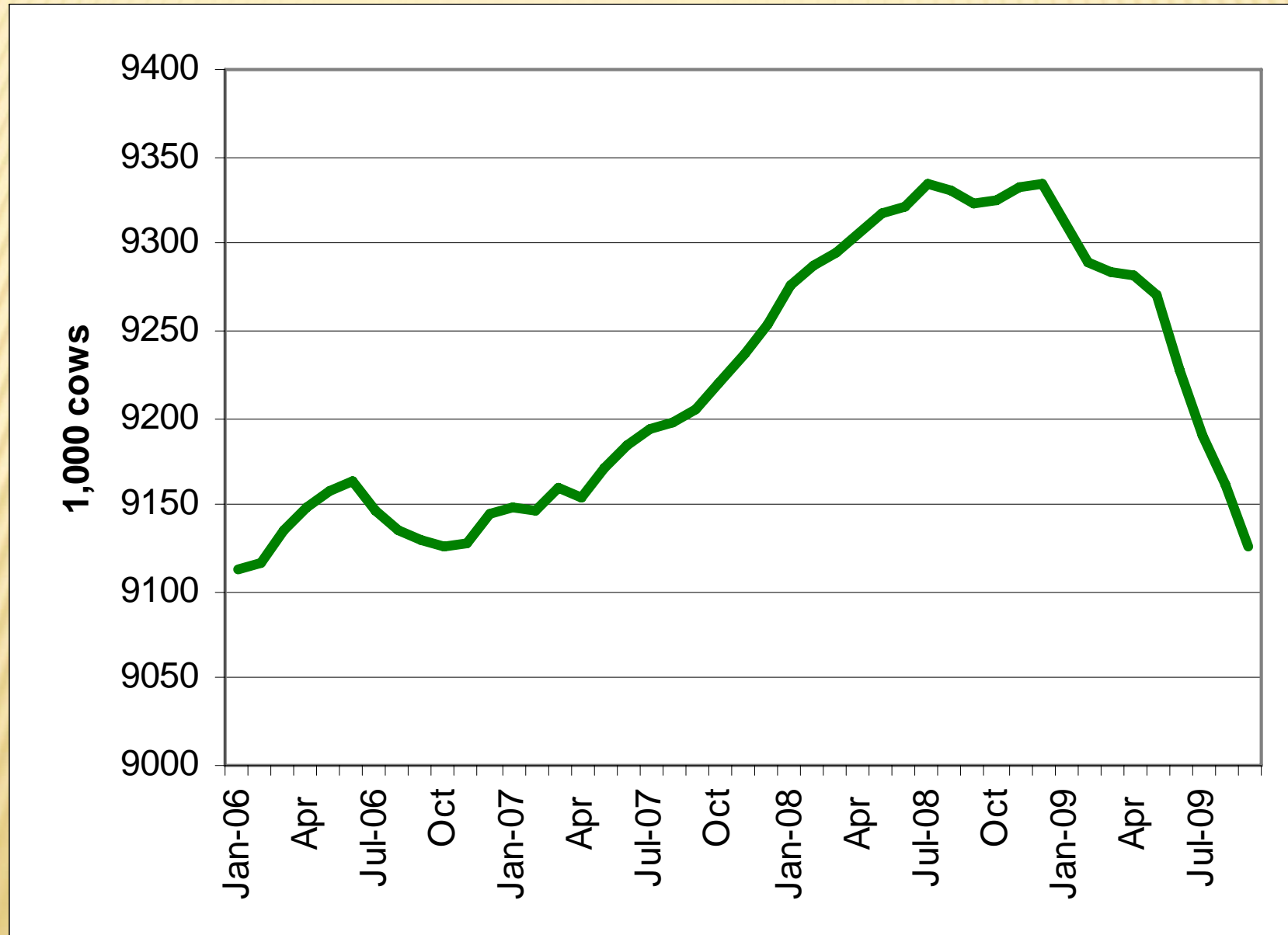


Source: Ed Jesse

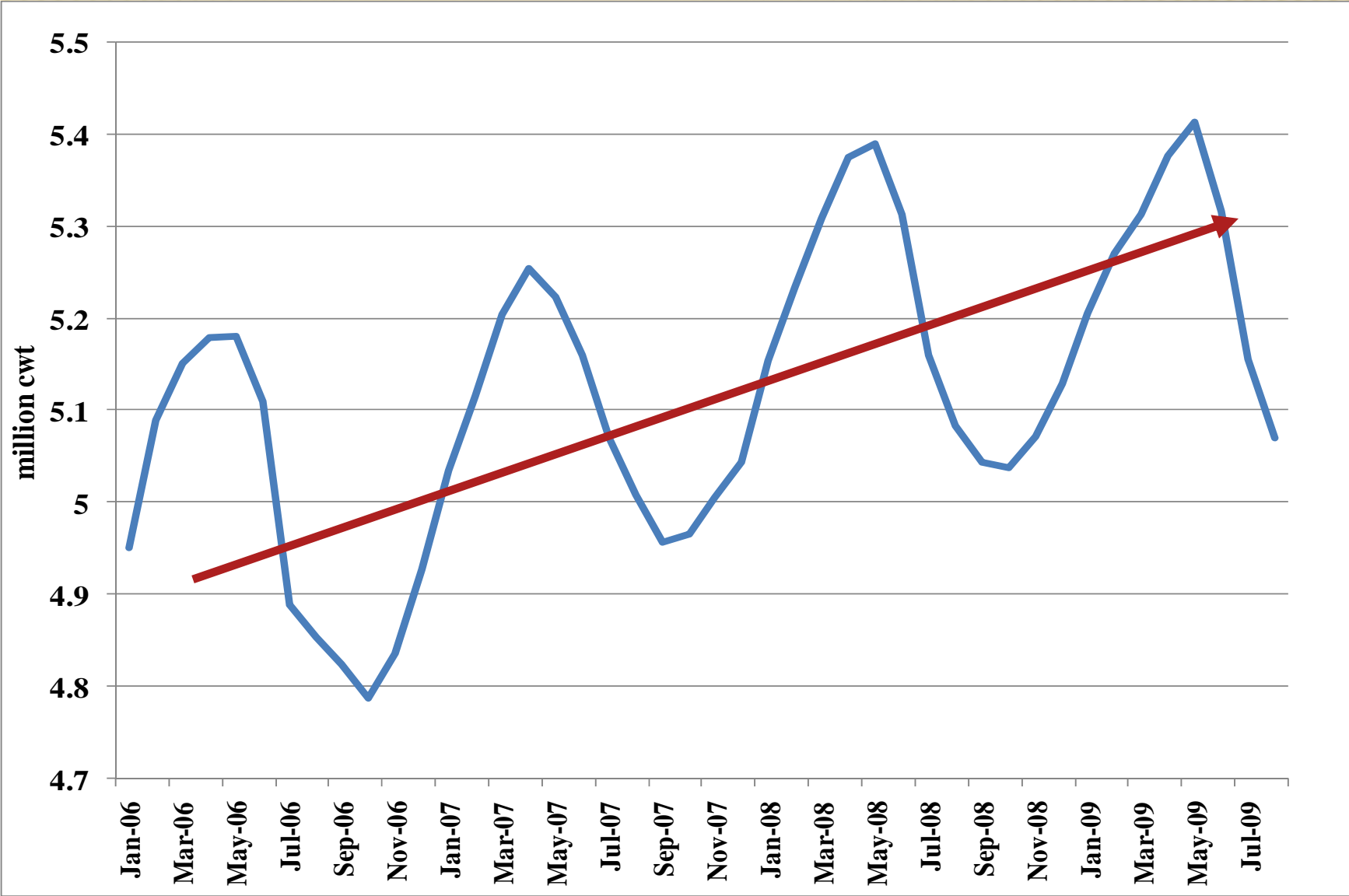
Price ratio of milk to feed, Jan 2006 –Oct 2009 (feed pounds that can be purchased per pound of milk)



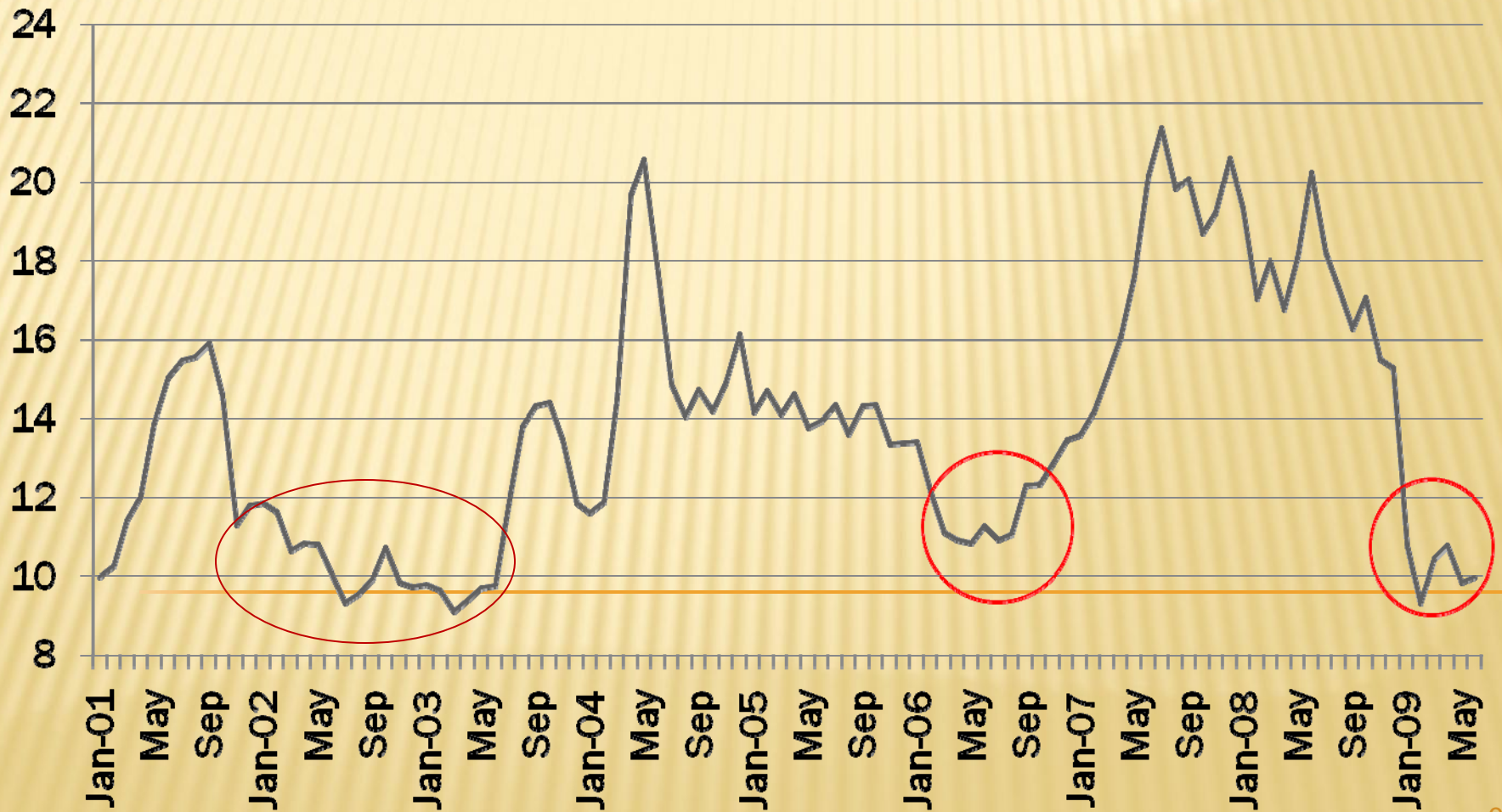
Monthly average number of U.S. milk cows (low to high is about 2%)



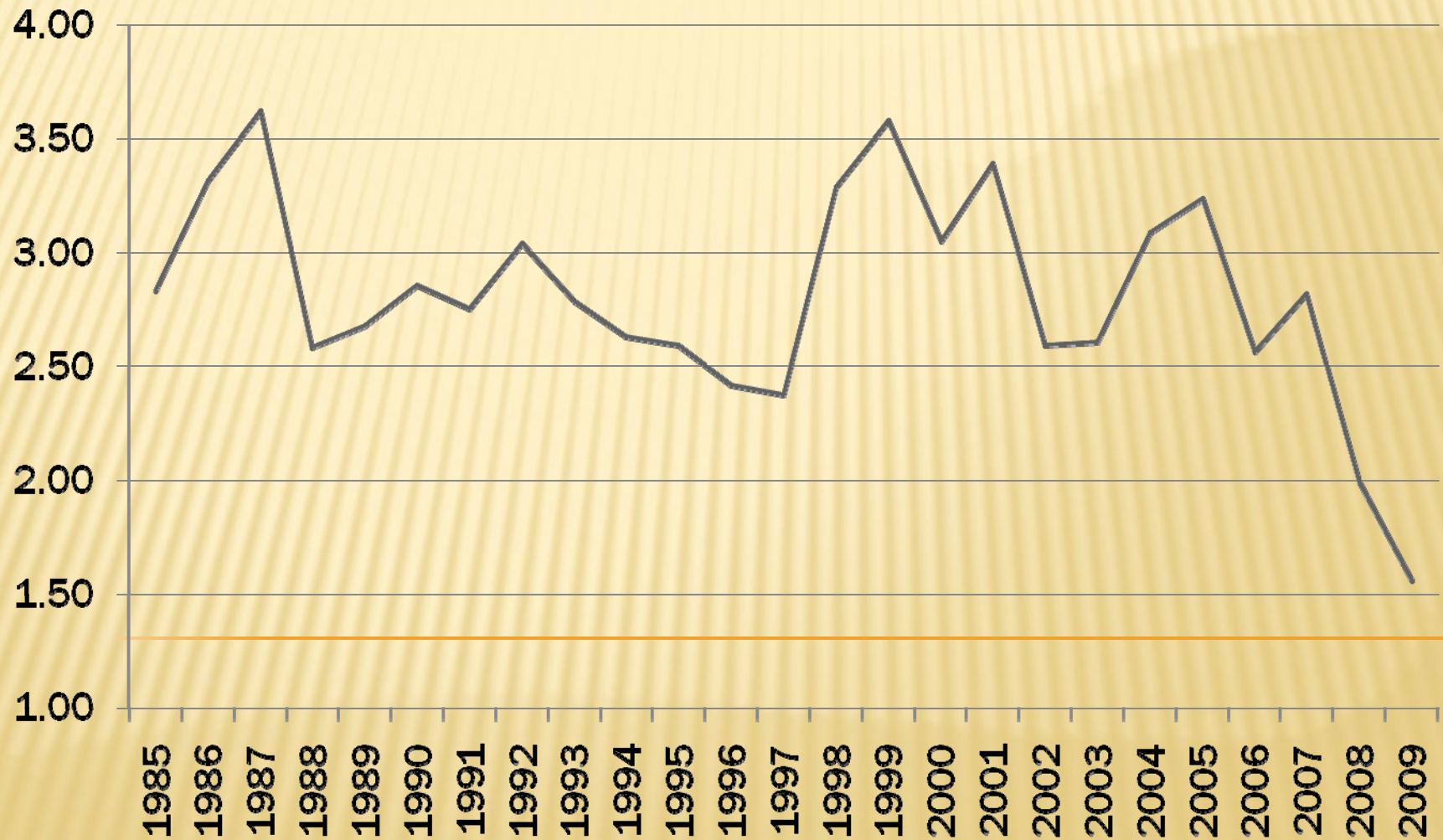
Average daily U.S. milk production (About 4% growth)



Class III Price, 2001-09



US Milk-to-Feed Price Ratio



WHAT HAPPENED? LOST EXPORT MARKETS

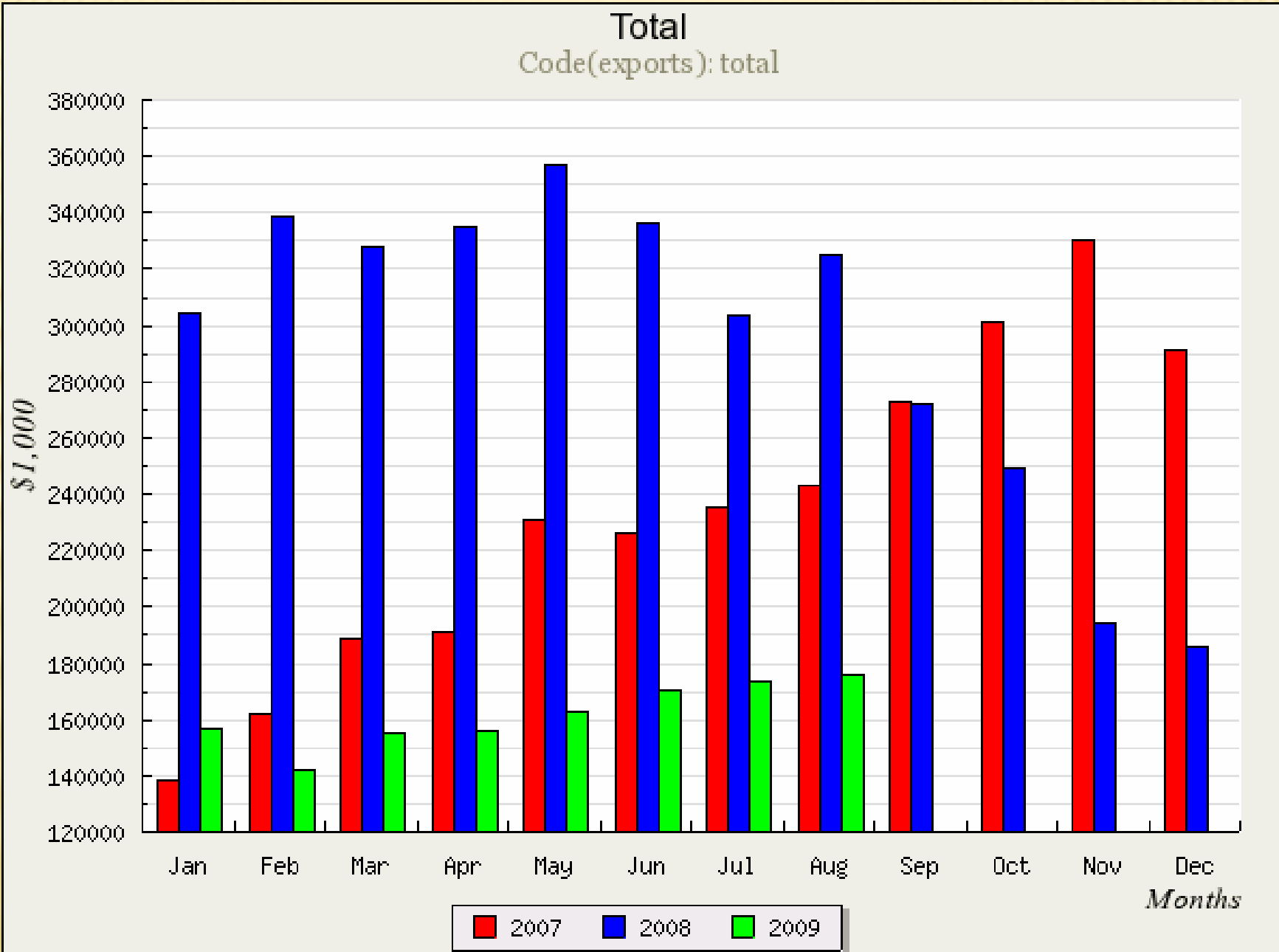
EXPORTS

- ✘ Prior to 2004 less than 5% of production (total solids basis)
- ✘ 2004 US exported 7.5% of milk production
- ✘ Increased to 11% in 2008

EXPORTS

- ✘ Global economic crisis began in the fall of 2008
 - + shrank demand for dairy products world-wide
 - + dried up credit to finance imports
- ✘ World prices for dairy products crashed—butter, nonfat dry milk, and cheese prices dropped by 50% or more between late summer and the end of 2008
- ✘ U.S exports (with the exception of whey) fell off sharply

Source:
www.future.aae.wisc.edu



HOW DO WE GET OUT OF THIS?

- 1. GOVERNMENT INTERVENTION**
- 2. PRIVATE INTERVENTION**
- 3. MARKET FORCES**

How many cows to get to break-even?

- ✘ Beginning of 2009 consensus was 250,000-400,000 cows
- ✘ US herd down 168,000 cows thru September
- ✘ 3 CWT Retirements in 2009
- ✘ Retirement 1: 101,000 cows 1.96 bil. lbs
- ✘ Retirement 2: 74,113 cows 1.523 bil. lbs
- ✘ Retirement 3: 26,412 cows 517 mil. lbs

How many herds on the edge?

- ✘ Many herds losing \$4-6/cwt in 2009
- ✘ Small herds helped more by MILC
- ✘ Herds purchasing feed very stressed
- ✘ A great deal of financial stress in West

September 2009 situation

× California

+ Production down 6.4%

+ Milk cow numbers down 73,000 head

× AZ -10.8%, ID -2.3%

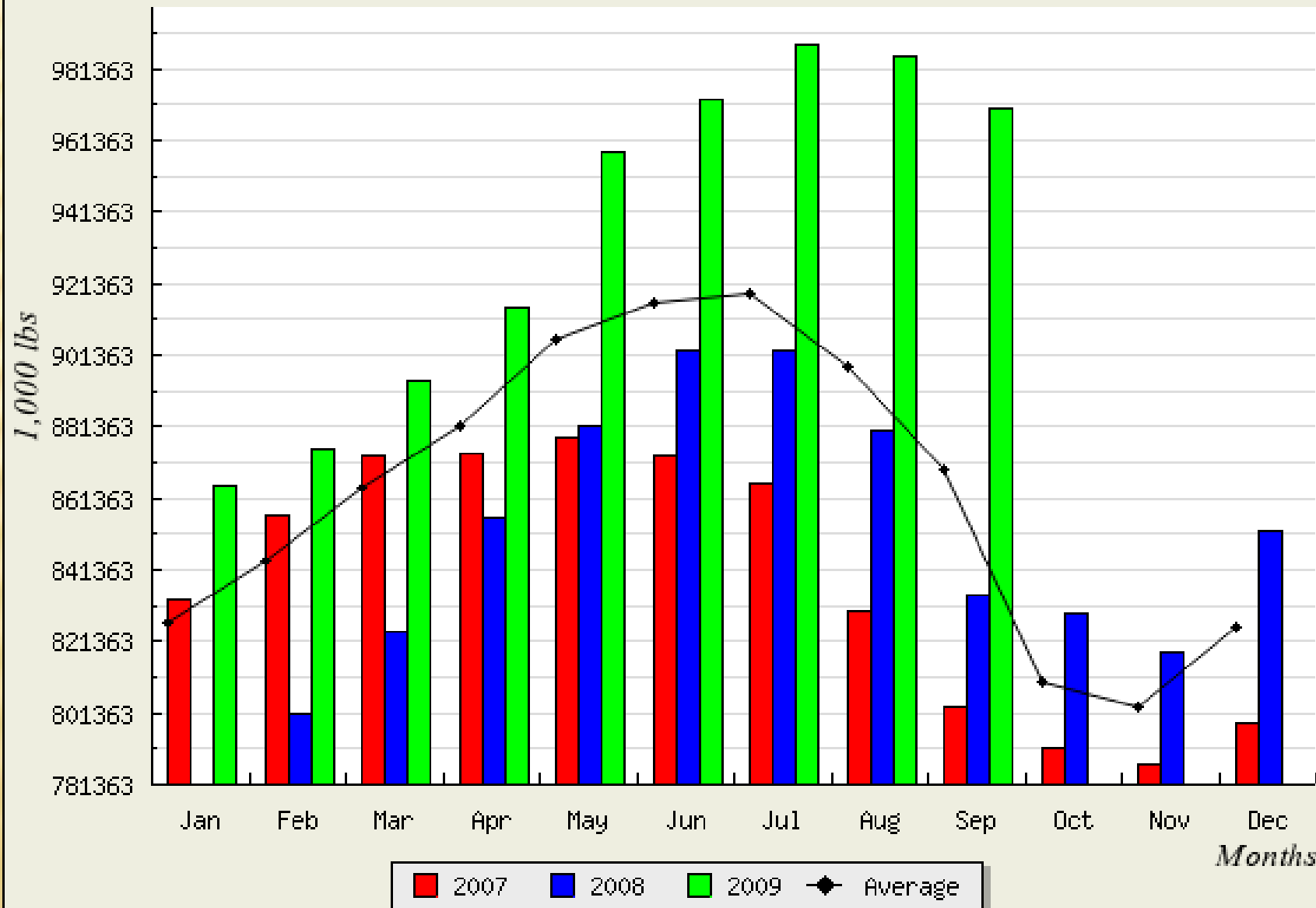
× WI +5.2%, MN +3.9

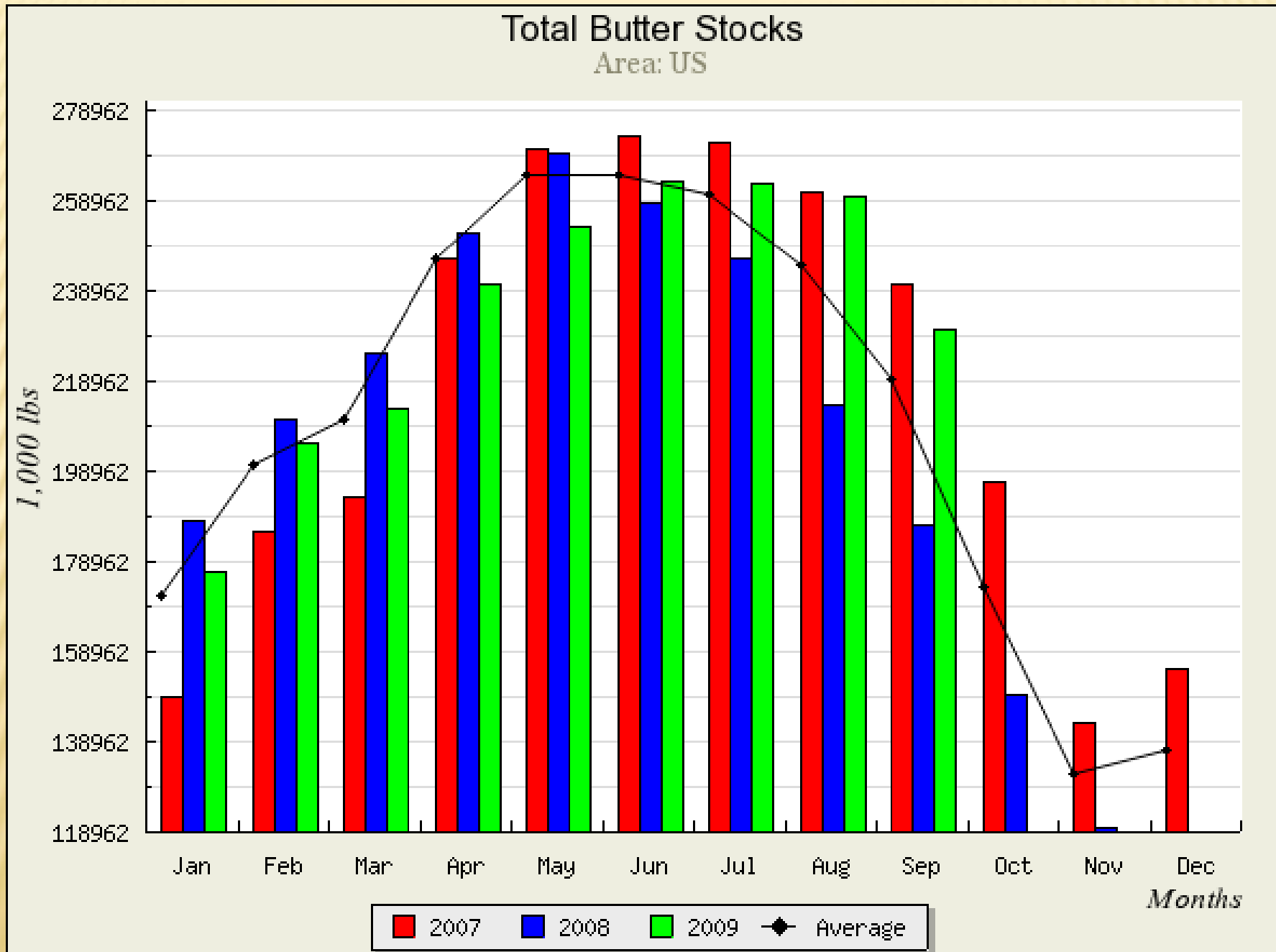
× US -0.7% production; 168,000 cows

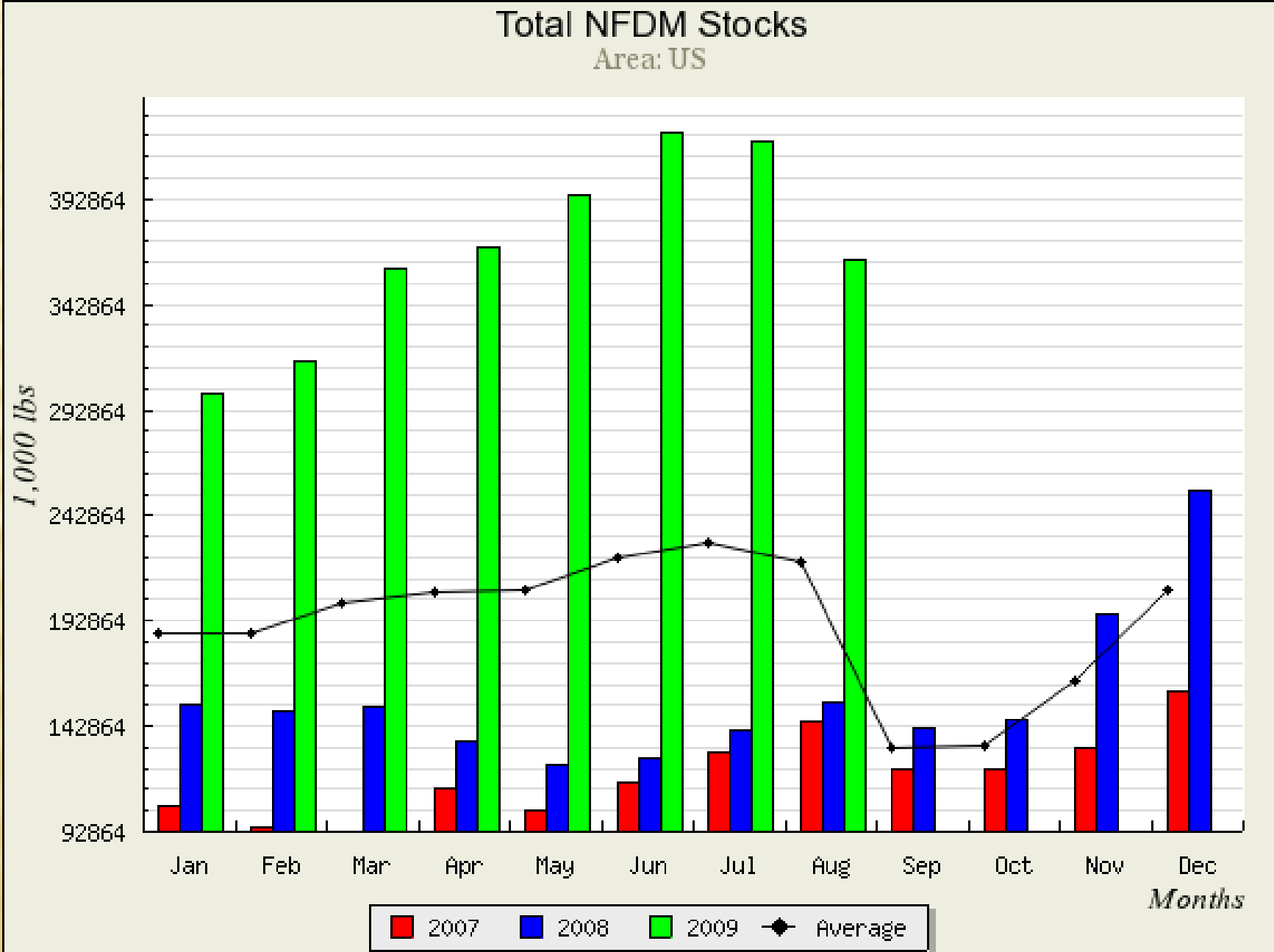
Recent production reports

- × Cheddar production +8.0% in September
 - × Total cheese production +4.4%
 - × Butter production -21.9%
 - × NDM milk production -19.9%
-

Total Natural Cheese Stocks Area: US

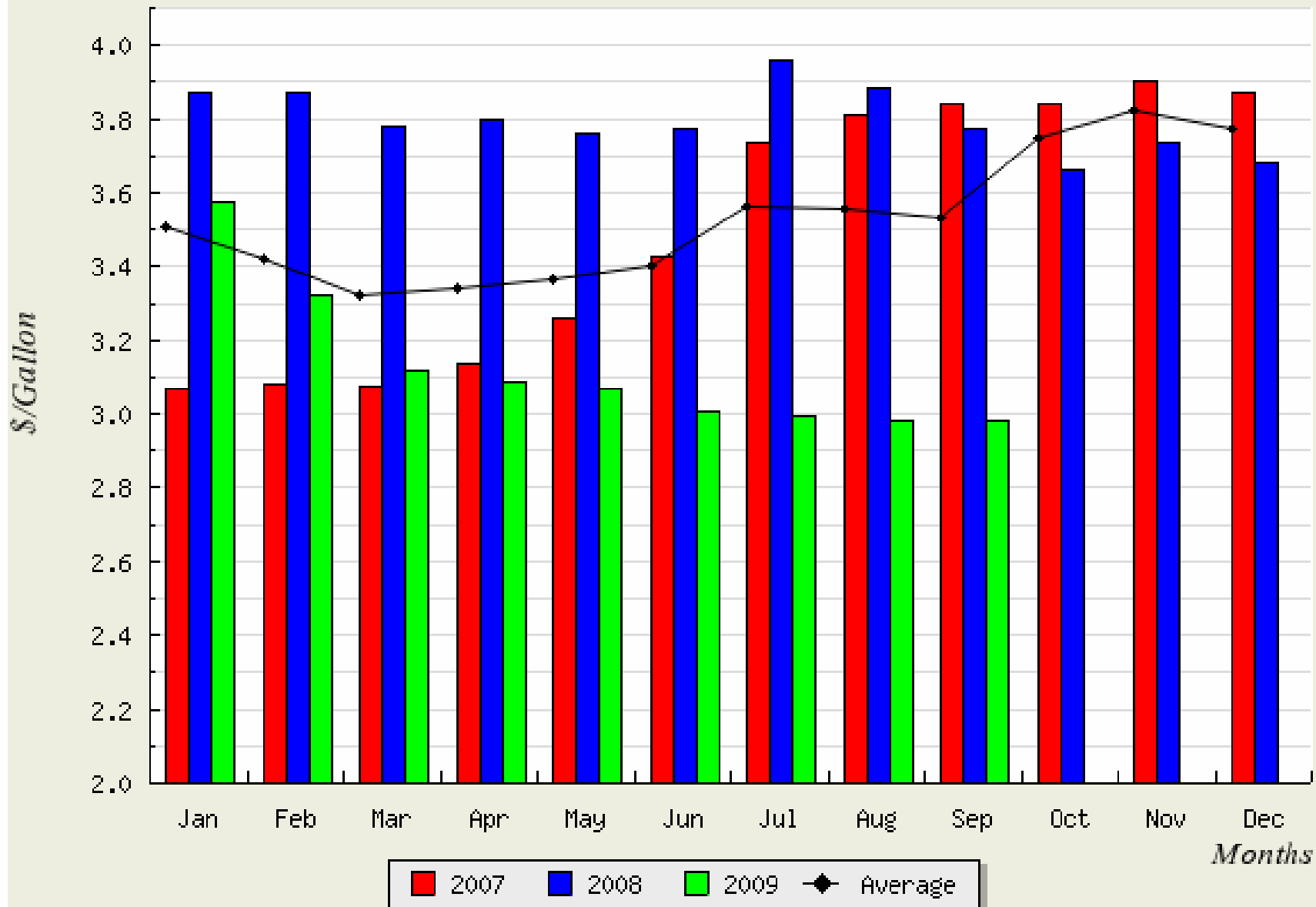




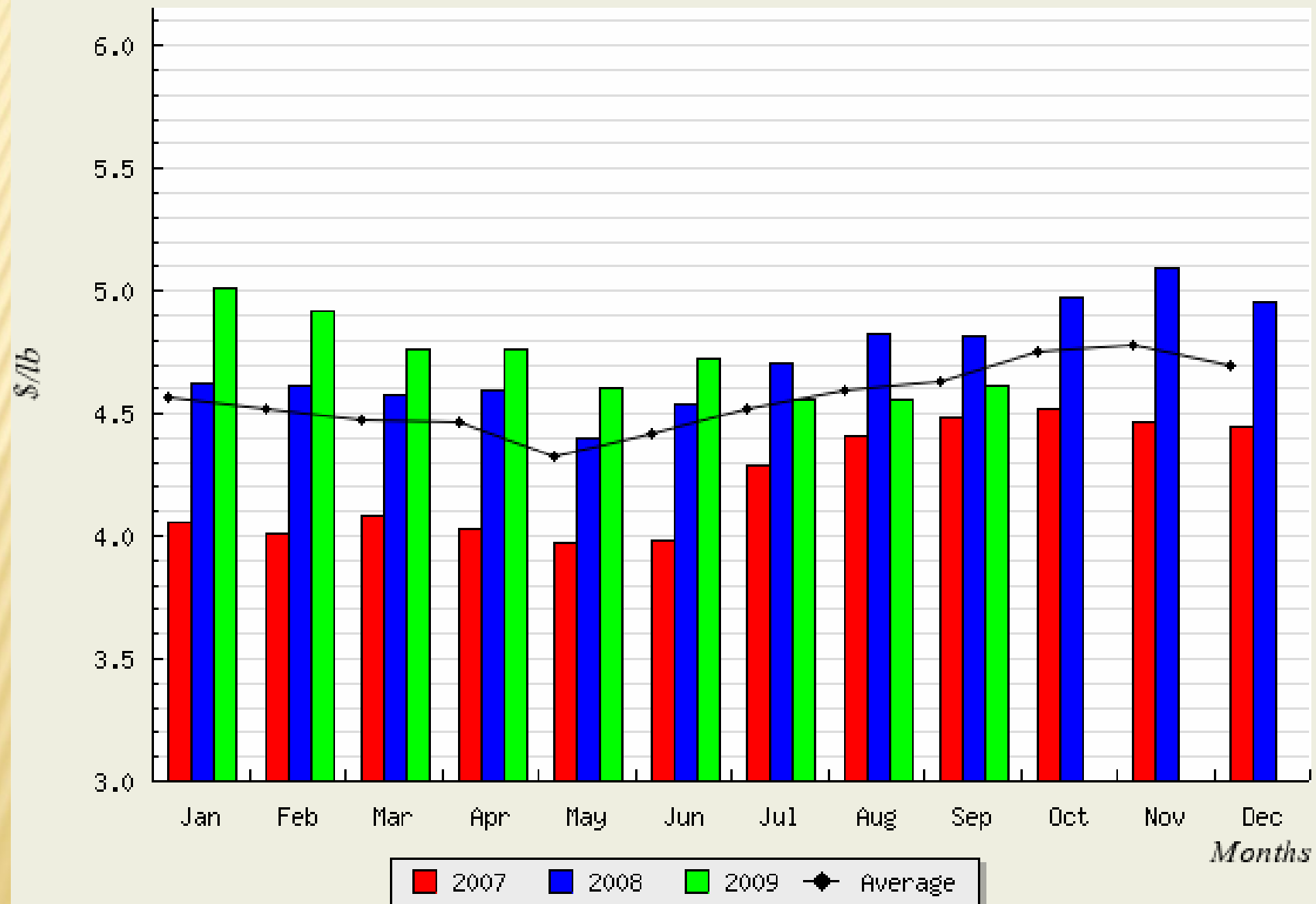


Fresh Whole Milk Retail Price (Gal)

Area: US

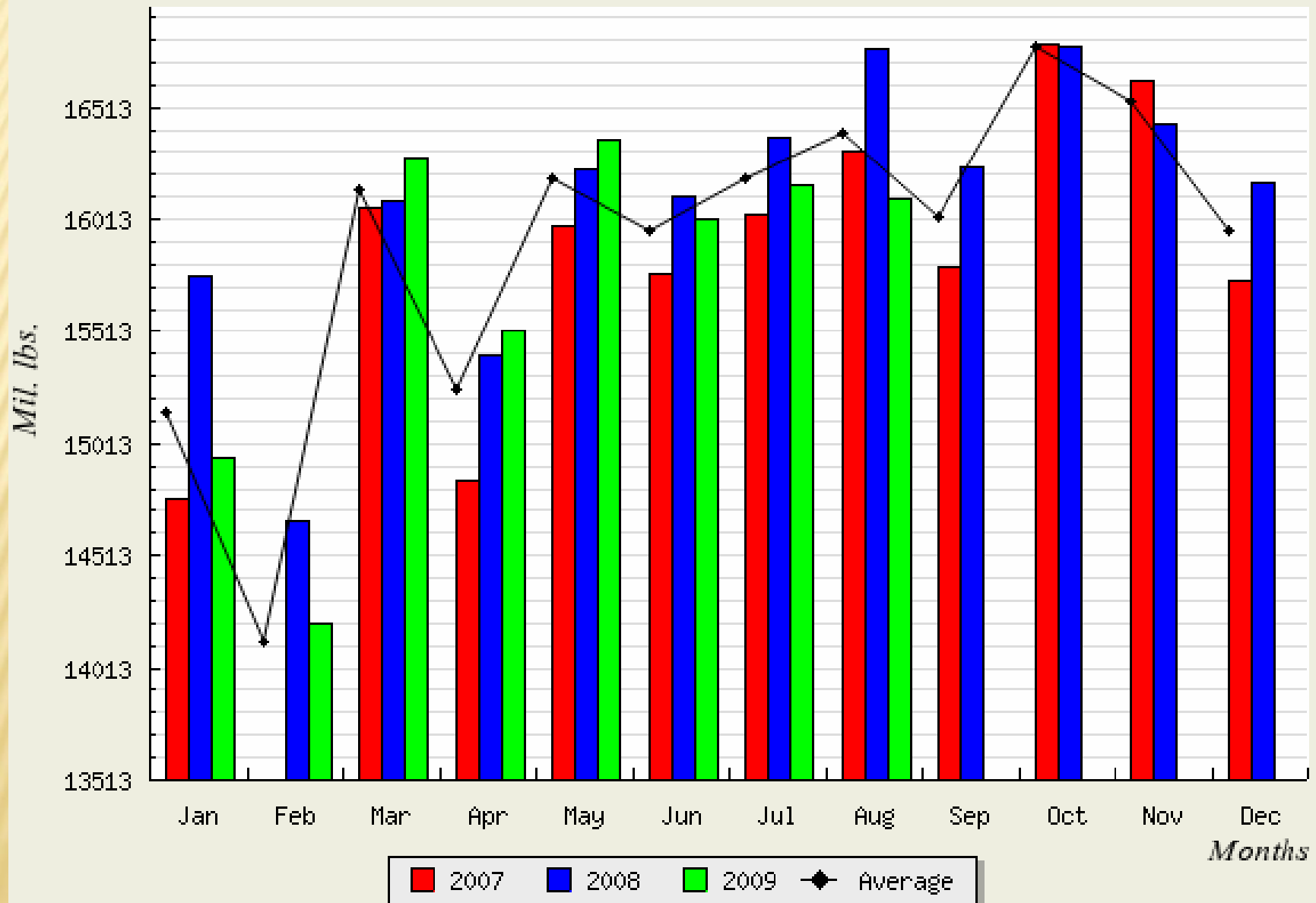


Natural Cheddar Cheese Retail Price Area: US



All Milk (Milkfat Equivalent) Commercial Disappearance Summary

Area: US



Government policy responses

- ✘ MILC Payments to producers triggered by low prices and will account for about 4% of dairy revenue in 2009.
- ✘ Raise the price support purchase prices by around 15% for skim milk powder, and cheese.
- ✘ Cheddar blocks: \$1.13/lb to \$1.31/lb
- ✘ Cheddar barrels: \$1.10/lb to \$1.28/lb
- ✘ Nonfat dry milk: \$0.80/lb to \$0.92/lb

Government policy responses:

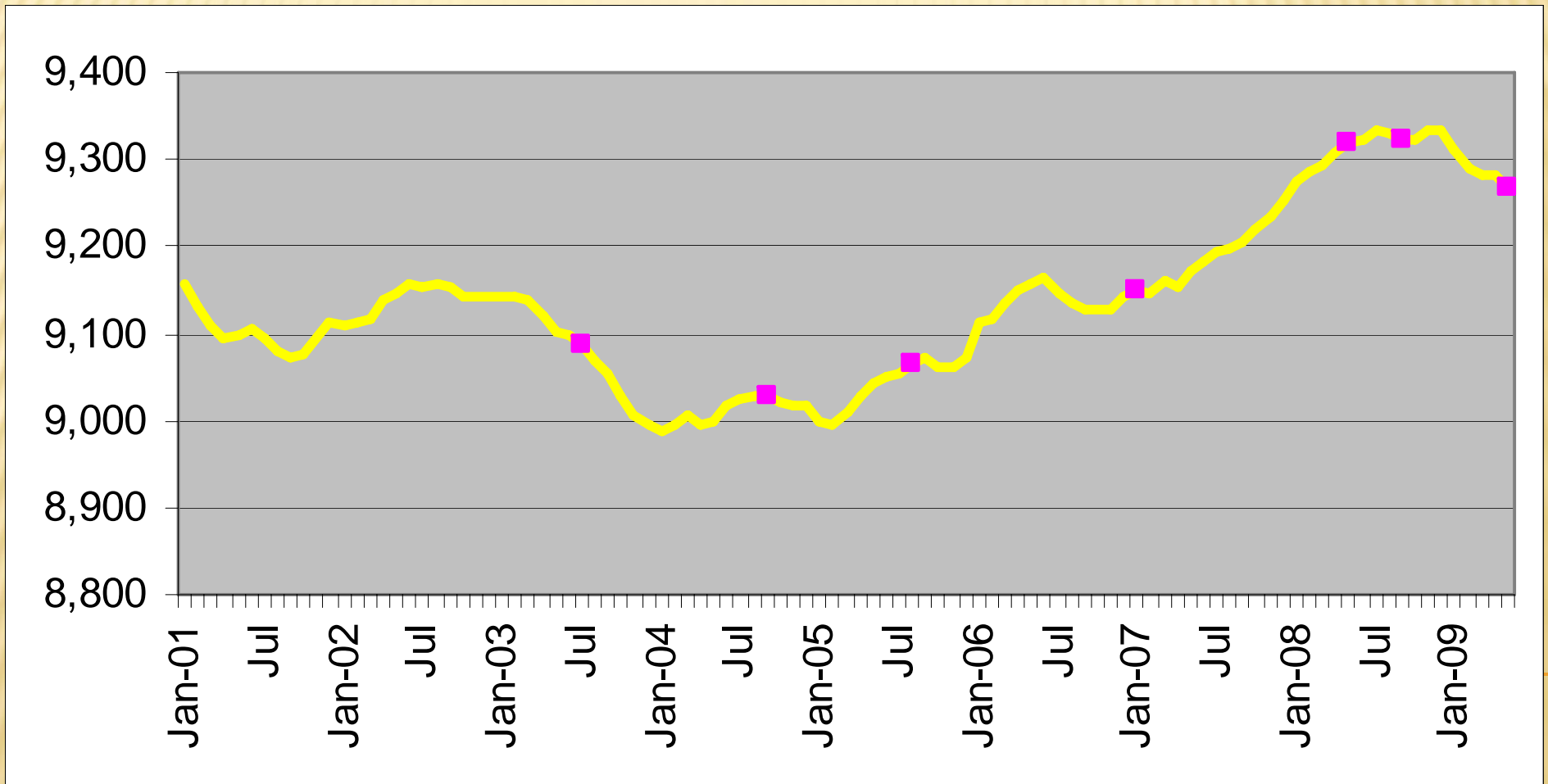
Dairy “Bailout”

- ✘ \$350 million in total aid
 - + \$60 million to purchase cheese
 - + \$290 million in direct payments
- ✘ Senator Boxer (CA) held bill to discuss distribution
- ✘ If per farm, about \$4,800 each
- ✘ If per annual cwt, about \$0.15/cwt
 - + 100 average cows means \$3,000

Industry Response: CWT

- × Herd Buyouts**
 - × Subsidized exports**
-

Herd Size and CWT Herd Buyouts



MICHIGAN DAIRY FARM SITUATION

Michigan milk production and cows

× September 2009:

+ 356,000 milk cows (+4,000 – 1.1% – over 2008)

+ 1,835 lbs/cow (+2.5% over 2008)

+ State Milk production up 3.7% over 2008

Michigan 2001-2008

Year	2001	2002	2003	2004	2005	2006	2007	2008
ROA (percent)	7.6	3.2	4.3	7.7	6.3	5.5	11.3	7.0
Milk Price (\$/cwt)	15.23	12.47	12.59	16.42	15.70	13.44	20.21	19.41
Purchased Feed (\$/cwt)	3.95	3.45	3.56	4.36	4.06	3.74	5.32	5.56
Total Feed Cost (\$/cwt)	6.75	7.01	7.18	7.47	8.14	8.29	9.55	12.74
IOFC \$/cwt)	8.48	5.46	5.41	8.95	7.56	5.15	10.66	6.67

MI dairy income items, 2002-08

Income Item	2002	2003	2004	2005	2006	2007	2008	Avg.
	\$/cwt							
Milk	12.50	12.59	16.42	15.70	13.44	20.21	19.41	15.75
Culls+Calves	0.75	0.88	1.01	0.89	0.80	1.98	0.87	1.03
Dairy Steers	0.16	0.42	0.42	0.41	0.51	0.40	0.72	0.43
Dairy Heifers	0.14	0.13	0.15	0.25	0.16	0.53	0.56	0.27
Gov't. Pay	1.34	1.51	0.71	1.22	0.93	0.46	0.68	0.98
Pat. Divid		0.16	0.08	0.11	0.15	0.15	0.25	0.15
Crop sales		1.64	0.95	1.19	1.56	2.23	3.52	1.85
Other Inc.	0.31	0.55	1.07	0.68	0.55	0.71	0.93	0.69
Total Inc	15.20	17.88	20.81	20.45	18.10	26.67	26.94	21.15

Top Michigan dairy expenses, 2002-08

Expense	2002	2003	2004	2005	2006	2007	2008	Avg.
	\$/cwt							
Purchased Feed	3.45	3.54	4.36	4.06	3.74	5.32	5.56	4.29
Hired Labor	2.31	2.14	2.27	2.30	2.23	2.67	2.84	2.39
Machinery Dep.	1.11	1.29	1.53	1.67	1.19	1.90	1.68	1.48
Repairs	0.97	1.06	1.27	1.33	1.07	1.59	1.50	1.26
Interest	0.96	0.88	0.90	0.88	0.95	1.38	1.27	1.03
Fuel and Oil	0.42	0.54	0.66	0.84	0.89	1.22	1.38	0.85
Live. Supplies	0.71	0.89	0.78	0.80	0.69	0.94	0.78	0.80
Mkting+Truckg	0.73	0.74	0.79	0.82	0.81	0.83	0.90	0.80
Building Dep.	0.51	0.47	0.72	0.61	0.64	0.95	0.96	0.69
Custom Hire	0.39	0.41	0.54	0.48	0.52	0.79	0.69	0.55

Michigan Profitability, Solvency and Liquidity 2002-2008

	2002	2003	2004	2005	2006	2007	2008
ROA	3.2	4.3	7.7	6.3	5.5	11.3	7.0
ROE	2.1	4.1	9.1	6.9	5.4	13.3	7.5
OPM	11.0	14.9	23.3	20.0	19.4	33.1	23.1
ATO	29.3	29.0	32.9	31.7	28.2	34.1	30.5
D/A	32.7	31.7	31.4	27.6	28.1	26.6	28.2
CR	1.55	1.48	1.71	1.99	2.06	2.71	2.35
NWC	60,175	80,680	167,926	154,939	131,409	274,793	158,194

Average 2008 Michigan Dairy Farm Characteristics by Herd Size Category

	20-99 cows	100-249 cows	250+ cows
Average number of cows	65	166	461
Milk sold per cow (pounds)	18,699	20,703	22,892
Average price of milk sold (\$/cwt)	19.50	19.26	19.58
Total acres owned	268	455	675
Total crop acres	379	753	1,318
Number of farms	27	55	34

2008 Michigan Dairy Farm Income Statement by Herd Size

	20-99 cows	100-249 cows	250+ cows
	(\$)	(\$)	(\$)
Gross cash farm income	334,752	799,616	2,524,888
<u>- Total cash expense</u>	<u>273,825</u>	<u>655,254</u>	<u>1,991,170</u>
= Net cash farm income	60,927	144,362	533,718
+ Inventory change *	5,113	-6,490	15,093
<u>+ Depreciation and capital adjustments*</u>	<u>-35,705</u>	<u>-82,337</u>	<u>-259,721</u>
= Net farm income	30,335	48,576	289,090

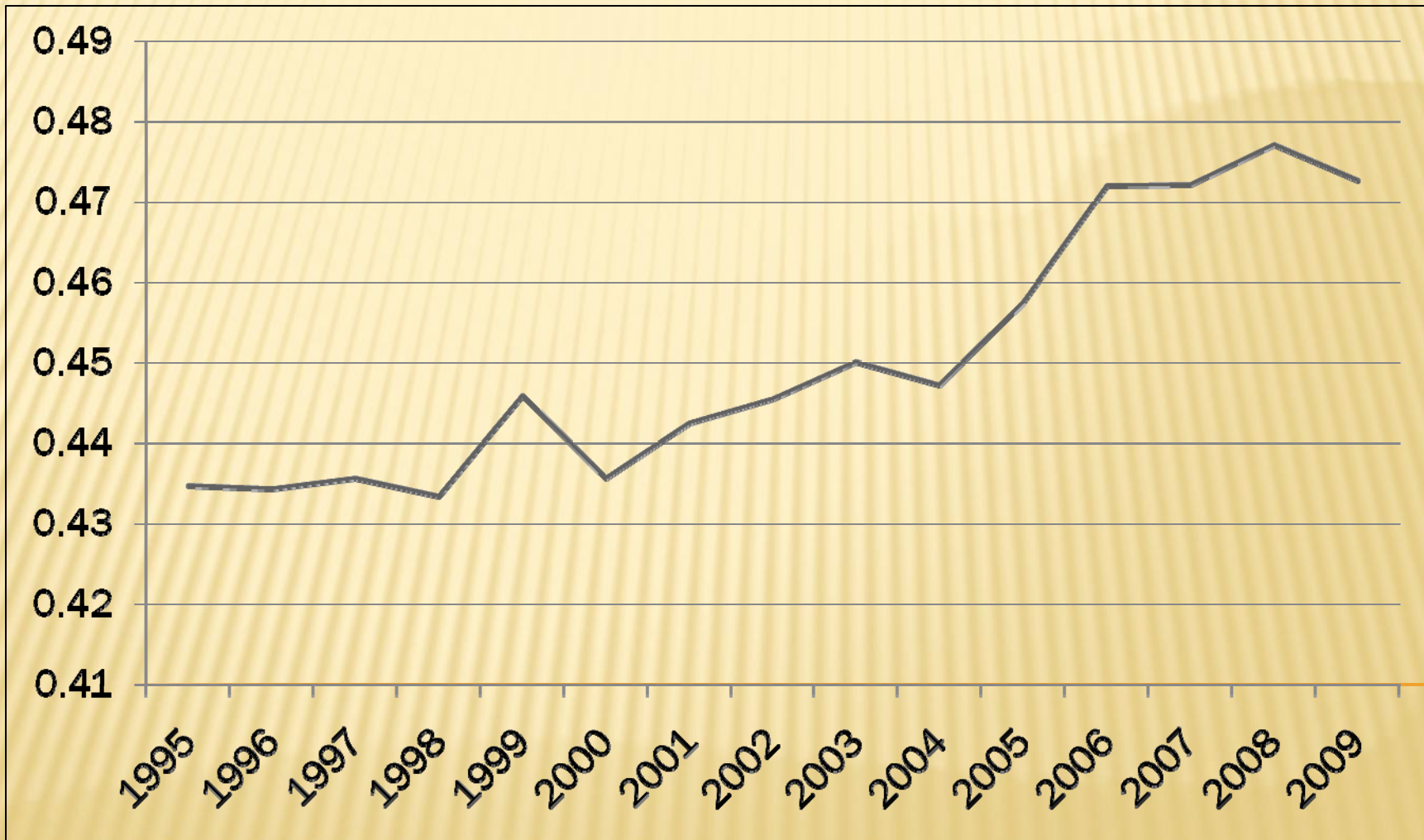
2008 Michigan Dairy Farm Profitability Indicators by Herd Size

	20-99 cows	100-249 cows	250+ Cows
	(percent)		
Rate of return on assets*	3.7	4.2	9.4
Rate of return on equity	3.2	3.7	11.0
Operating profit margin	18.3	15.2	27.5
Asset turnover rate*	20.2	27.6	34.1

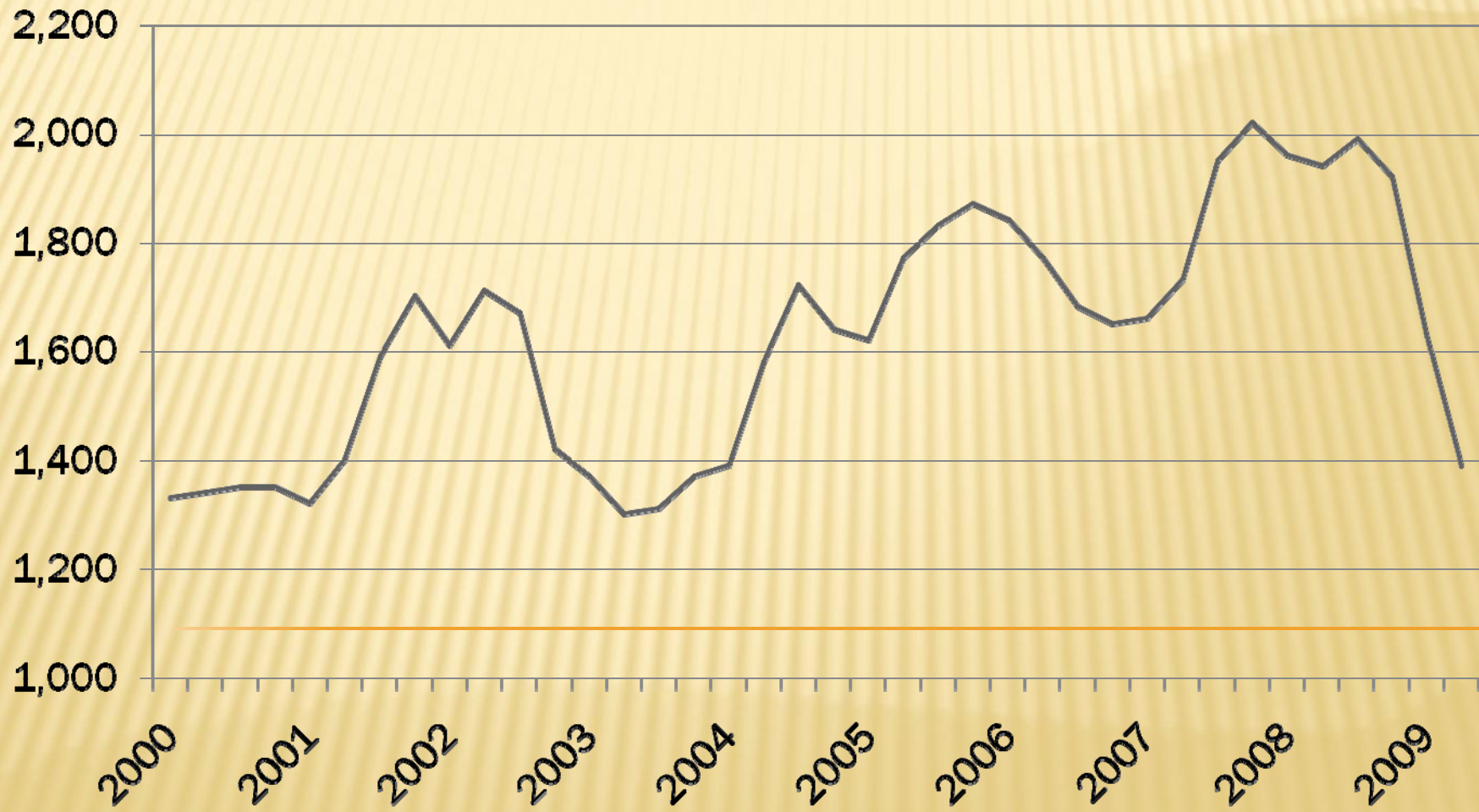
2010 MILK PRICE FORECAST

Keys for 2010: US Herd Size

Ratio of heifers/milk cows



Milk Cow Price



Keys for 2010: Export Markets

- ✘ World economic situation
 - ✘ Exchange rates
 - ✘ EU and Oceania
-

Global Milk Production

- ✘ EU higher than expected
 - ✘ New Zealand +2%; Australia flat
 - ✘ Argentina +6%
-

11/4/09	Class III	Class IV	Class III	Class IV
	Futures market		USDA 10/16	
Nov	13.88	13.49		
Dec	14.77	13.25		
Jan 10	15.00	13.36	12.58- 13.28	11.31- 12.11
Feb	15.13	13.49		
Mar	15.25	13.37		
Apr	15.36	13.62	13.28- 14.28	11.94- 13.04
May	15.40	13.46		
Jun	15.37	13.71		
Jul	15.47	13.91	14.51- 15.51	12.39- 13.49
Aug	15.62	13.96		
Sep	15.74	13.96		
Oct	15.65	14.21		

MICHIGAN 2010 ALL MILK PRICE FORECAST

