



Understanding My Milk Check



THE UNIVERSITY
of
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What Is Special About Milk?

- It's perishable
- It's bulky
- It's produced and must be sold 365 days a year
- Specialized assets for production
- Many more sellers than buyers
- Relatively inelastic demand for products
- Historically led to “destructive competition”

A Brief History of FMMOs

- Ability of cooperatives to bargain effectively erodes prior to and during great depression.
 - Most people convinced that cooperatives can't do it alone.
- Agricultural Adjustment Act of 1933 amended in 1935 first authorizing marketing orders.
- 1937 Agricultural Marketing Agreement Act passed to preserve order language.

Many Unique Aspects of FMMOs

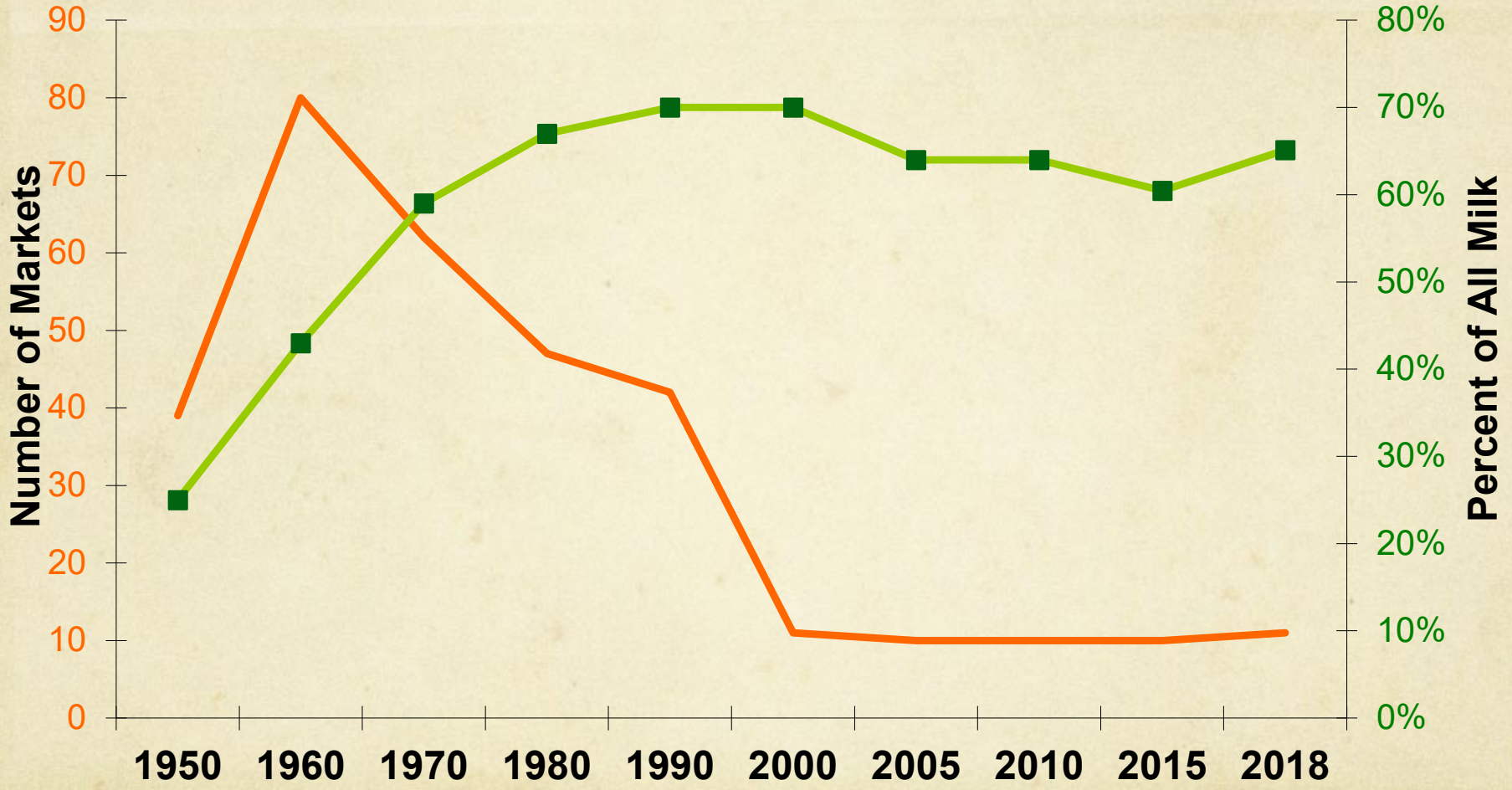
- Federal Orders are voted in or out only by dairy producers.
- Only dairy processors are regulated
 - Class I processors must be regulated
 - Manufacturing processors may be regulated
- Very open hearing process
- USDA issues a balanced and fair recommended decision to be voted on by producers.
- The vote is for the whole order, or nothing—not just the change.



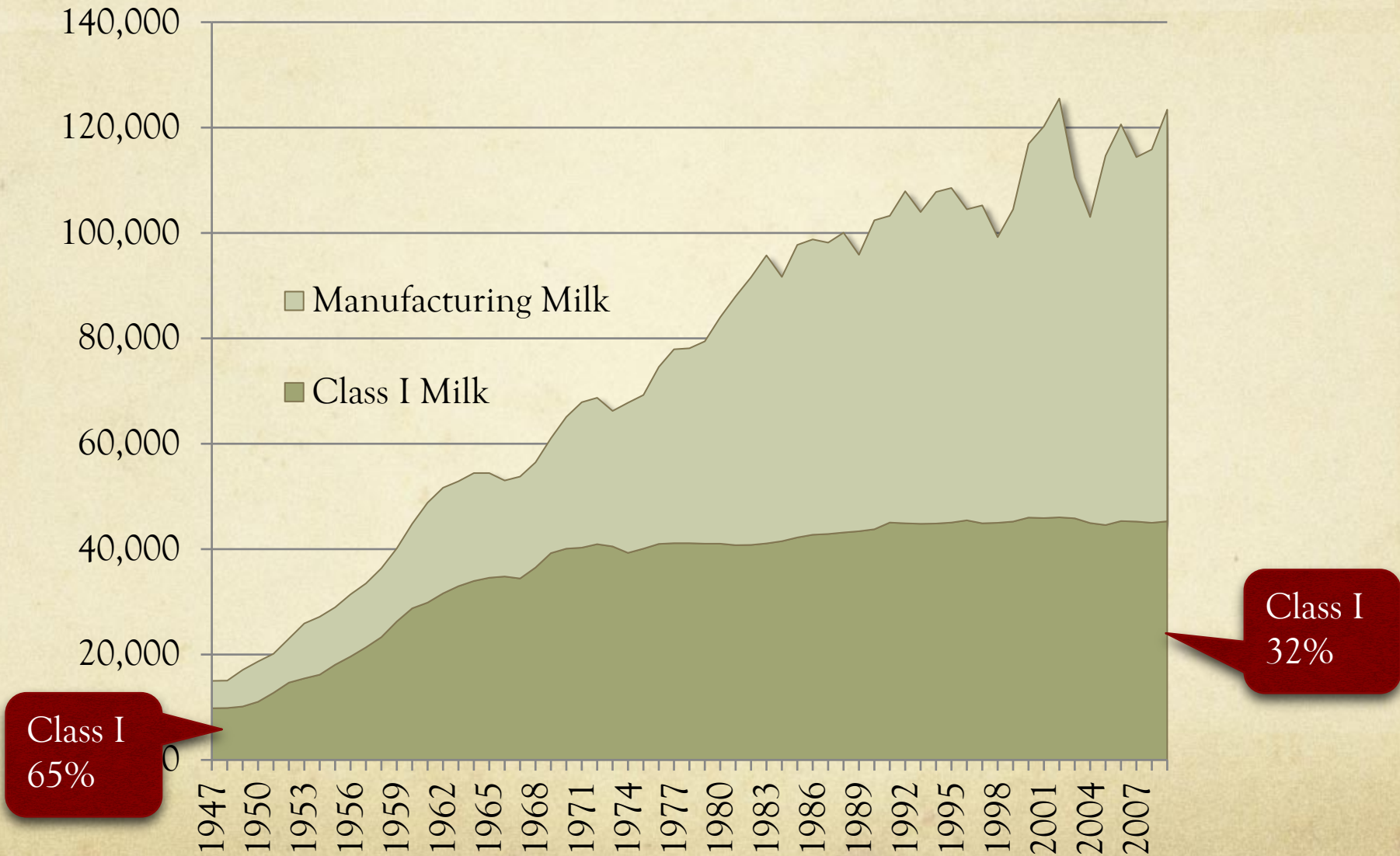
Two Primary Tools

- Classified Pricing
 - Milk price based on what milk was used to make
- Pooling
 - Sharing revenue among producers
- Regional Markets
 - Based on territory where fluid bottlers compete for sales
 - Value changes only based on Class I differentials and utilization
 - Class I differentials generally highest where milk is most deficit and lowest where milk is surplus

Federal Orders Have Grown

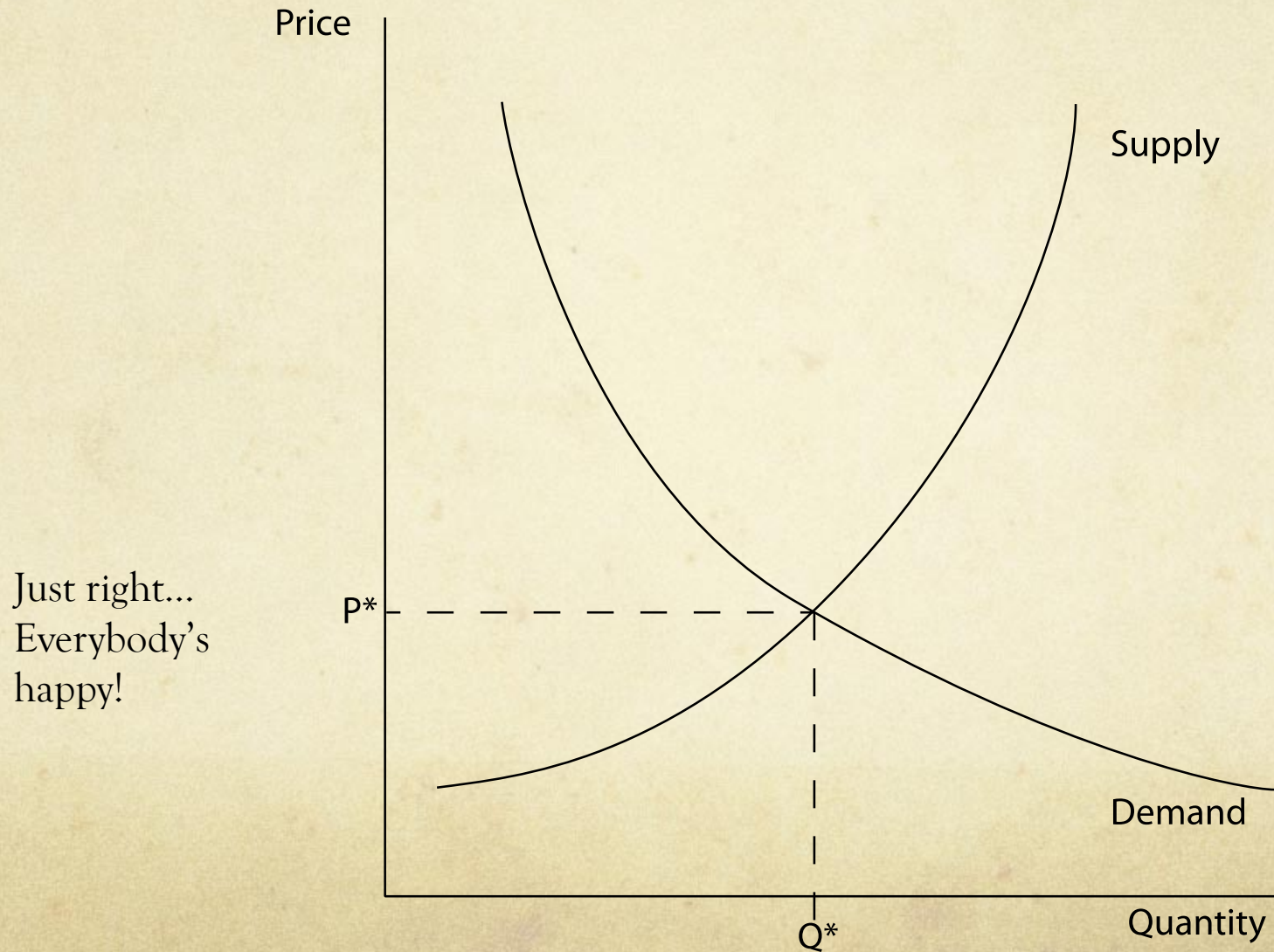


Milk Has Grown



How Do You Price Milk?

Economist's View



Reality

Price

Supply

P?

P?



Demand

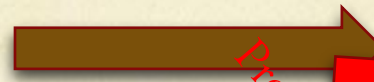
Quantity

Approximately right...
Everybody's happy?

Options for Setting Milk Prices

- Competitive Pay Price
 - Gold standard, but hard to achieve
- **Product Price Formulas**
 - **Competitive Pay Price moving one step up the marketing chain**
- Administratively Determined
 - Single entity that sets the price
- Economic Formulas
 - Always discussed, seldom employed
 - Dairy Price Support Program

Marketing Chain




Product Price Formulas



Wholesale Price



Classified Pricing*

- Class I – generally highest price
 - Class II
 - Class III
 - Class IV – generally lowest price
- 

What is consistent with this ordering?

These are minimum prices to be paid!

* Classified Pricing and Pooling were Cooperative ideas from back in the Boston Market in the 1880s. It predated FMMOs by 60 years!

Pooling

	Price	Utilization	Value to Pool
Class I	\$20.00	40%	\$8.00
Class II	\$18.50	10%	\$1.85
Class III	\$18.00	40%	\$7.20
Class IV	\$17.50	10%	\$1.75
Blend / Uniform Price		100%	\$18.80

Who is Regulated Under a Federal Order?

- Class I processors must be regulated
- Other class processors may be regulated
 - Why would they choose to be?
 - Pool of dollars—not milk
 - Receive equalization payment
 - What is the cost?
 - Paperwork/auditing
 - Performance

Pool Contribution/Draw

Class I	$\$18.80 - \$20.00 = (\$1.20)$
Class II	$\$18.80 - \$18.50 = \$0.30$
Class III	$\$18.80 - \$18.00 = \$0.80$
Class IV	$\$18.80 - \$17.50 = \$1.30$

If you “must” be pooled, are there benefits?

- Know that your competitors must also pay at least the minimum price
- “Performance” from manufacturing plants helps to assure you of a milk supply
- Advanced pricing guarantees that you know the price of milk before you buy it
 - Not true for manufactured milk prices

Product Price Timing for December, 2020

November '20

December '20

January '21

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

○ Class I Wednesday on or before 23rd of prior month

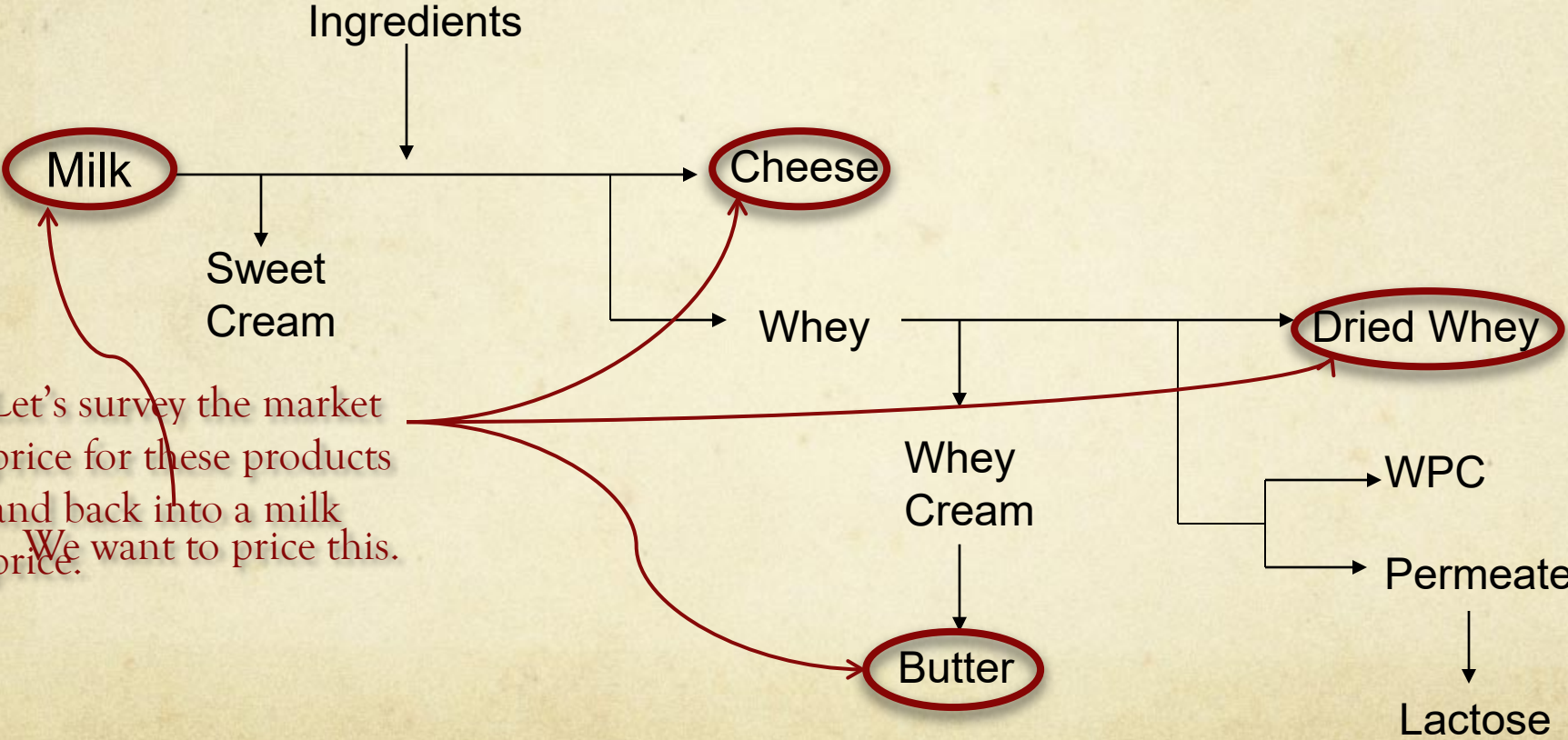
○ Class III & IV Wednesday on or before 5th of following month

○ Class II - Combo

Product Price Formulas

- Based on weekly AMS surveys of product sold
- Most accurate reflection of product value to look back at previous month (Class III & IV)
- Better business model to know the cost of inputs before you use it (Class I)

Ingredient & Product Streams



Let's survey the market price for these products and back into a milk price. We want to price this.

Product Price Formulas

- Based on weekly AMS surveys of product sold



**United States
Department of
Agriculture**

National Dairy Products Sales Report

United States Department of Agriculture

Agricultural Marketing Service

Dairy Program

Market Information Branch

NDPSR-0454

December 30, 2020

Butter Prices and Sales

United States	28-Nov	5-Dec	12-Dec	19-Dec	26-Dec
	<i>(dollars per pound)</i>				
Weighted Price	1.4061	*1.3878	1.4391	1.4777	1.4840
	<i>(pounds)</i>				
Sales	2,004,001	*3,857,445	2,549,803	3,148,162	2,810,794

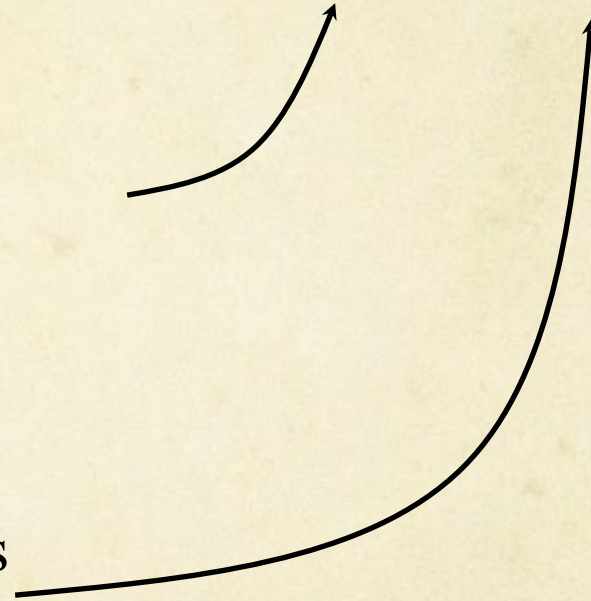
*Revised

Product Price Formulas

$$\text{Butterfat Price} = (\text{Butter price} - 0.1715) \times 1.211$$

Make Allowance - What does it cost you to transform milk into 1 pound of butter?

Yield Factor - How many pounds of butter can you make from 1 pound of butterfat?



How Big is the Pie?

- Price discovery and classified pricing is all about how big the pie is.



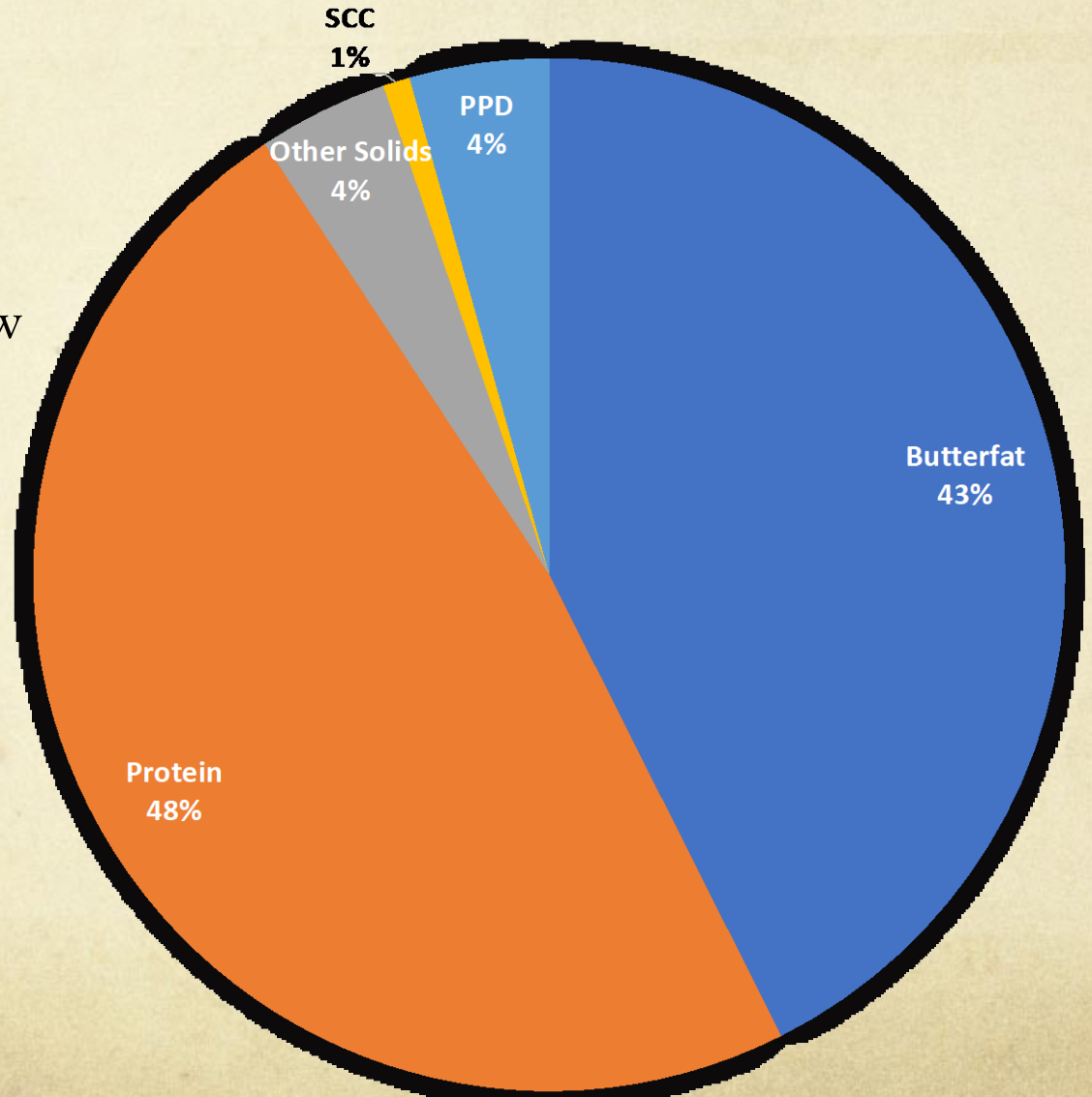
How Are Producers Paid?

- Component values based on Class III pricing
 - Butterfat, Protein and Other Solids (mostly lactose)
- PPD—residual value in pool after paying for components
 - Simple math: will always equal Blend price minus Class III price
 - PPD will be negative if you paid out more in Class III component values than the average value in the pool

How Are Producers Paid?

January, 2020, FMMO 33

- Pooling is all about how we split up the pie.



When Will PPDs be Negative?

- When prices are rapidly rising

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27	28	29	30	31	1	2
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○ Class I Wednesday on or before 23rd of prior month

○ Class III & IV Wednesday on or before 5th of following month

○ Class II - Combo

When Will PPDs be Negative?

- When prices are rapidly rising
- When there is a very large spread between Class III and Class IV prices
 - Farm Bill change in Class I pricing from “the higher of” to “the average of” Class III and IV prices

The Equalization Payment

- Normally, Class I plants make an equalization payment *into* the pool and manufacturing plants get to take a draw *out* of the pool. The payments are exactly equal to the Uniform (Blend) price minus the Class price.
- That way, all plants have exactly enough money to pay their producers the Blend price.

Pool Contribution/Draw

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What About a Negative PPD?

- If the PPD will be negative, it means that the Class III price is greater than the Uniform price. Under that circumstance, Class III plants would have to make an equalization payment *into* the pool for other plants to take a draw from.
- Remember, only Class I plants must be regulated. It is optional for all other plants. In this case, Class III plants might choose to depool their milk.
 - They are no longer bound by FMMO regulations
 - They get to keep the equalization payment
 - They get to pay producers whatever price they choose

Pool Contribution/Draw

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What will Class III plants pay if they depool?

\$20.00?

\$18.80?

Something else?

Example Milk Check



www.foremostfarms.com

PAY PERIOD ENDING: 07/31/2018

CHECK NO: 1293388

CHECK DATE: 08/17/18

PRODUCER: 0010378 PAYZONE: 002GRADE: A
UW MADISON - DAIRY SCIENCE DEPT

Daily Pounds

Tests

Check Summary

Day	Lbs	Day	Lbs	Pickup Days	31	Components	Pounds	Unit Price	Value	YTD
1	41,293	16	43,463	Avg Bfat	3.65	Butterfat	47,847	2.5287 - lb	120,990.71	956,305.81
2	41,757	17	41,448	Avg Prot	2.99	Protein	39,165	1.4827 - lb	58,069.95	544,900.27
3	40,391	18	41,602	Avg Solids	5.86	Other Solids	76,823	.1422 - lb	10,924.23	50,700.76
4	41,337	19	41,668	Avg SCC	137,000	SCC	1,310,256	.1576 -cwt	2,064.96	18,356.70
5	42,594	20	41,977	PLC 1st	1,000					
6	40,866	21	42,815	PI 1st	2,000					
7	42,176	22	43,248	PLC 2nd	1,000	Component Value		14.6574 -cwt	192,049.85	1,570,263.54
8	41,977	23	42,837	PI 2nd	2,000	Volume		.3419 -cwt	4,479.38	35,602.64
9	42,506	24	43,592	Cryo		Quality Premium		.1956 -cwt	2,562.86	22,048.11
10	41,381	25	43,657	Antibiotics	N	Zone Differential		.2200 -cwt	2,882.56	10,172.10
11	42,286	26	42,903			Assembly/Tanker Cr		.1500 -cwt	1,965.38	15,137.21
12	42,021	27	42,021			PLC/PI		.0700 -cwt	917.18	7,064.03
13	42,308	28	42,968	Farm Weight MTD	1,310,256	Adjustments to Gross		-.4400 -cwt	-5,765.13	-61,850.50
14	43,162	29	42,572	Farm Weight YTD	9,437,752					
15	42,837	30	42,506							
		31	42,087							
Farm Totals										
							GROSS PAY	15.1949	199,092.08	1,598,437.13

Example Milk Check

GROSS PAY	15.1949	199,092.08	1,598,437.13
Member Hauling Cost		2,125.86	27,615.00
Patron Fuel Surcharge		.00	.00
Gross Pay Less Hauling	15.0327	196,966.22	1,570,822.13
Less Deductions			
Mid-Month Advance		88,359.33	
Last Dec. Mid-Month Chk			99,366.81
Other Advances		.00	.00
Butter/Cheese/Other Food		.00	.00
Farm Supplies		.00	.00
State Promotion	.1000	681.36	9,437.77
National Promotion	.0500	340.68	4,718.88
CWT		272.55	3,775.10
Adjustments		116.00	1,290.75
Assignments		.00	.00
Total Deductions		89,769.92	118,589.31
NET CHECK*****		107,196.30	1,452,232.82

Questions?