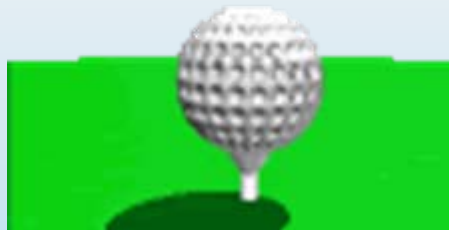


The Next Five Years: The Age of Random Shocks



DENNIS DIPIETRE

**If you Must Forecast
Forecast Often!**



We Live in a World of Predictable Events



**SORT
OF...**



And Random Shocks

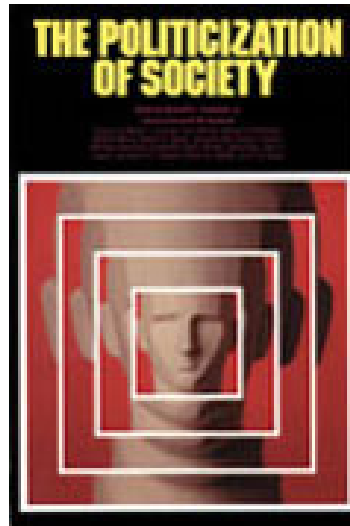


Two Key MegaTrends



www.virtuefoundation.org

1. Globalization
2. Politicization



www.libertyfund.org

Mega Trends in Conflict

- Globalization Offers Unprecedented Opportunities through the Global Exchange of Information and the Free Flow of Capital, Ideas, and Information:
 - The Promise is Every Nation Benefits by Exploiting Comparative Advantage and Free Trade
- Politicization Ushers in the Demise of Freedom and Free Trade. Politics Trumps Science and “The State” Emerges as the Coordinating and Controlling Force in Societies.
 - The Promise: Diminished Opportunity, Loss of Freedom, Increased Inefficiency

Emerging Issues in the Battle

- “Global Warming and Carbon Footprint”
- Use of Antibiotics
- Use of Genetically Modified Organisms
- The Control and Use of Water Resources
- Animal Welfare
- Livestock Production Siting and Permitting
- Environmental Regulation: Especially Air and Water
- Use of Fossil Fuels and other “Global Resources”
- The Meaning of Food Safety Expands to Include “Health” and Anti-Obesity Reducing Choice
- Worker Safety and Worker Rights

Input Price Shocks



**THE BIGGEST SINGLE IMPACT
ON COST OF PRODUCTION
WILL BE THE PRICE OF
FEEDSTUFFS**

Forecasted Path of Ethanol Impacts



ETHANOL PRODUCTION FACILITIES

in the U.S. currently operating: 135

TOTAL ANNUAL CAPACITY: 7 BILLION GALLONS

STATES WITH ETHANOL PRODUCTION: 21

ETHANOL PLANTS CURRENTLY UNDER CONSTRUCTION: 75

STATES WITH PLANTS UNDER CONSTRUCTION: 21

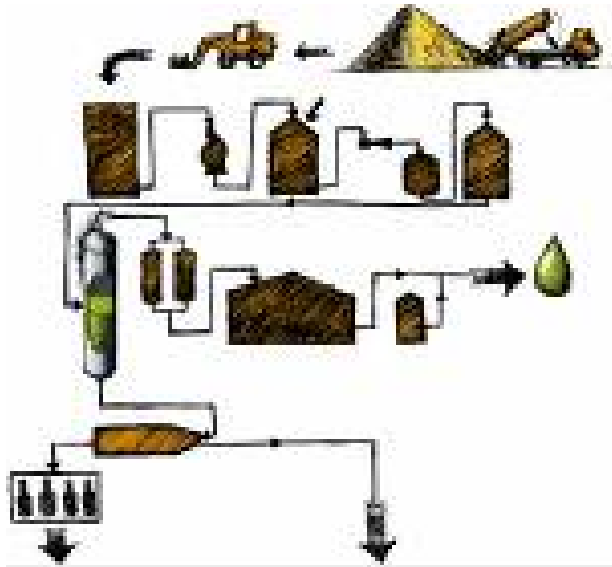
2004 U.S. ETHANOL PRODUCTION: 3.4 BILLION GALLONS

2005 U.S. ETHANOL PRODUCTION: 4 BILLION GALLONS

2006 U.S. ETHANOL PRODUCTION: 4.89 BILLION GALLONS

If Ethanol Provides Any Value

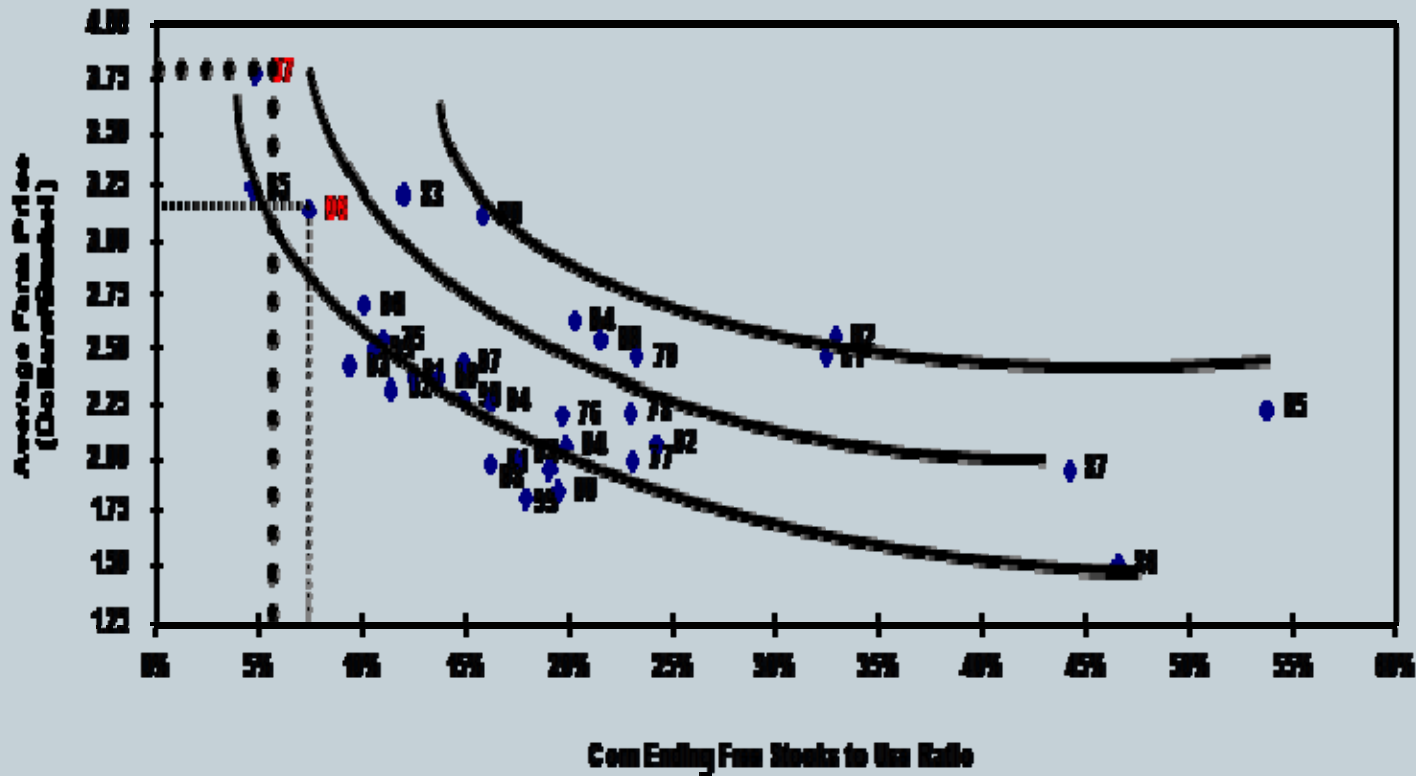
Technology Will Transition
Its Production to Far More Efficient
Raw Materials Than Corn



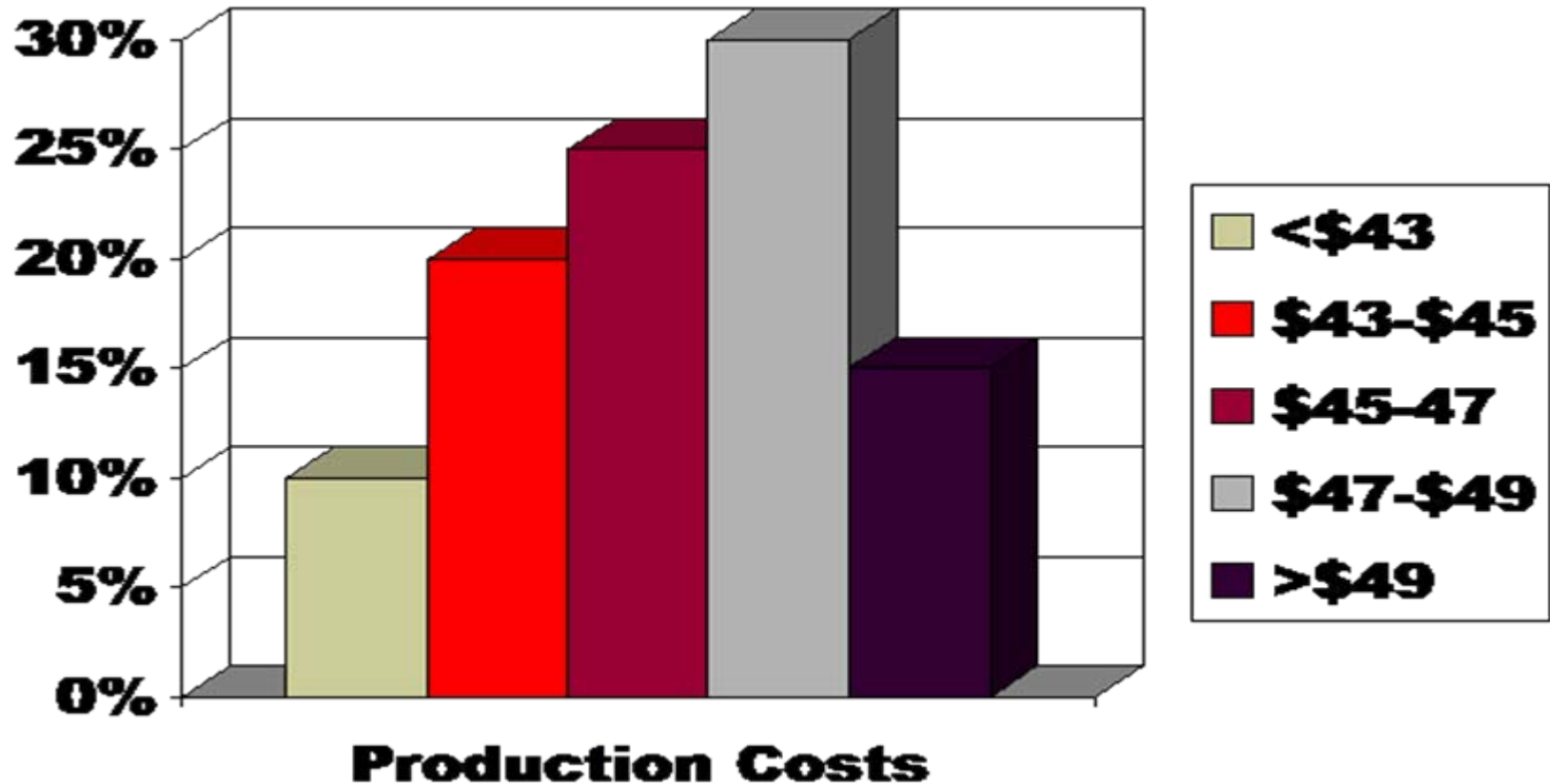
Current Stocks/Use Ratio: 6.4%



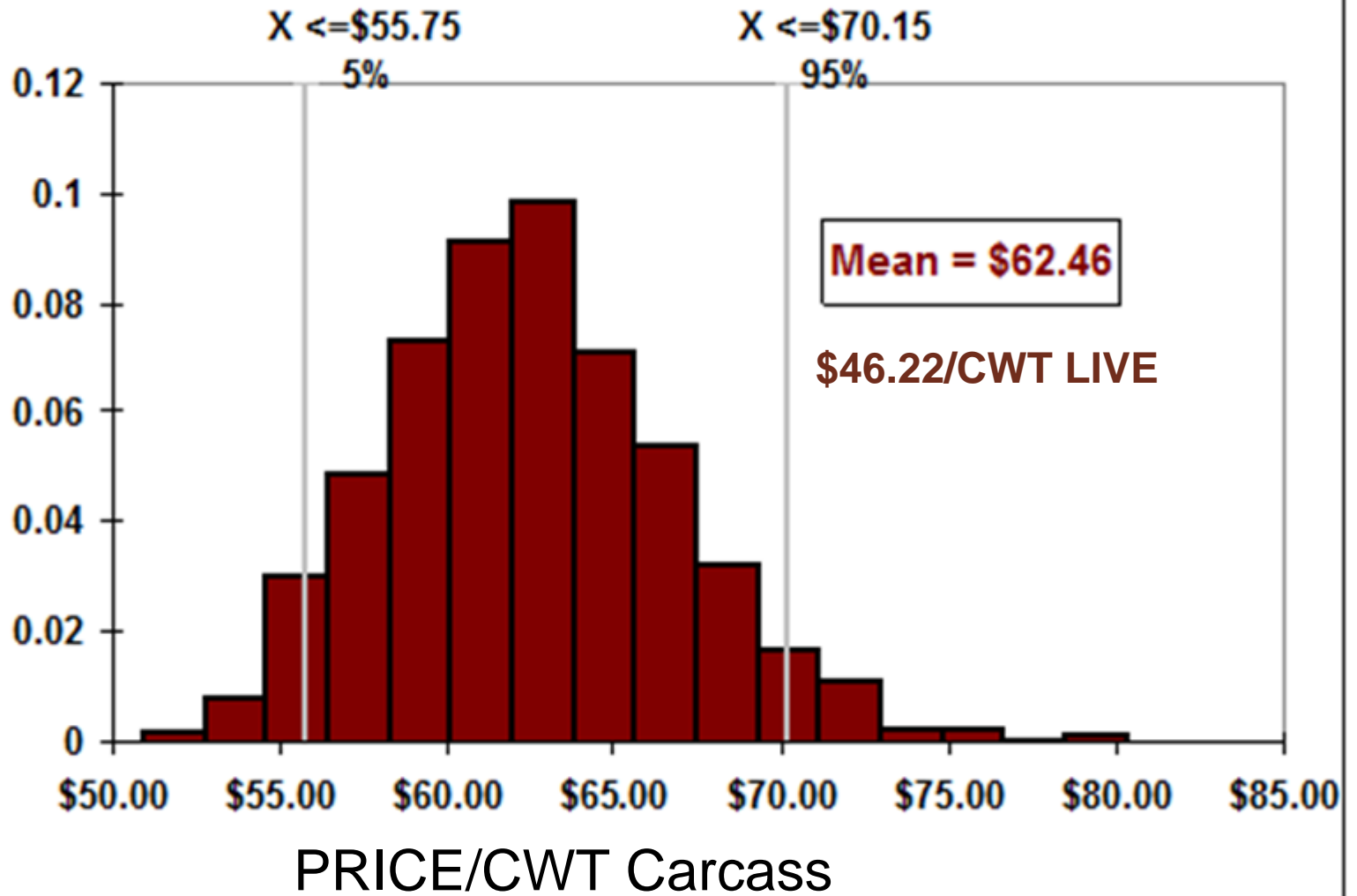
U.S. CORN FREE STOCKS
As a Percent of Use Vs. Average Price



Estimated Cost of Production (Live) U.S. Swine Producers



Forecasted Cost of Production



Output Price Shocks



**PORK PRICES ARE
DRIVEN BY EXPORT
DEMAND AND SUPPLY
RESPONSES**

Value of U.S. Pork and Byproduct Exports per Head of Total U.S. Slaughter

Year	PORK	By-Products	Total
1995	8.79	1.83	10.62
1996	11.02	1.82	12.84
1997	11.36	2.46	13.82
1998	10.17	2.13	12.30
1999	10.86	1.83	12.69
2000	12.34	2.00	14.34
2001	14.17	2.23	16.40
2002	13.42	2.02	15.44
2003	13.80	2.38	16.18
2004	18.15	3.38	21.53
2005	22.01	3.43	25.44
2006	23.55	3.79	27.34

Source: Univ. of MO; Working Paper No. AEWP 2007-2, Grimes, Plain, Meyer

U.S. Pork Exports by Country in 2006



Importing Nation

Percent of US Imports

• Japan	• 33.8
• Mexico	• 20.3
• Canada	• 10.8
• South Korea	• 9.8
• China and Hong Kong	• 7.0
• Russia	• 5.5
• China (Taiwan)	• 2.0
• Others	• 10.8

Factors Supporting Hog Prices in the U.S. for the Next Five Years



- **U.S. KEY SUPPLIER OF ABUNDANT AND SAFE SUPPLY OF PORK**
- **U.S. PORK IS RELATIVELY INEXPENSIVE DUE TO WEAKNESS IN THE U.S. DOLLAR**
- **U.S. HAS KEY INFRASTRUCTURE SUPERIORITY**

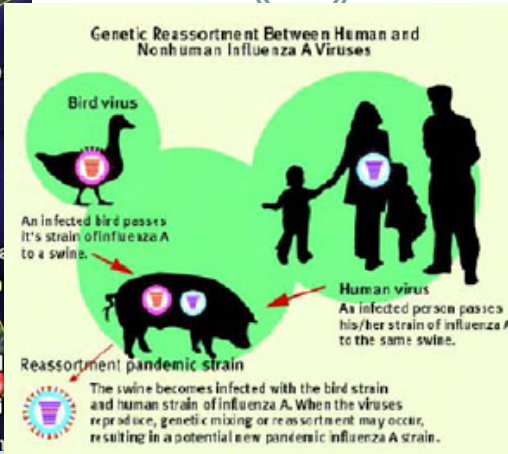
Foot and Mouth Disease



- 2001 Outbreak in UK
7 Million Animals
Euthanized and
Burned or Buried
- Exports Halted for
Most of Europe
- UK Losses
Approached 17 Billion
- 2007 Outbreak
Underway



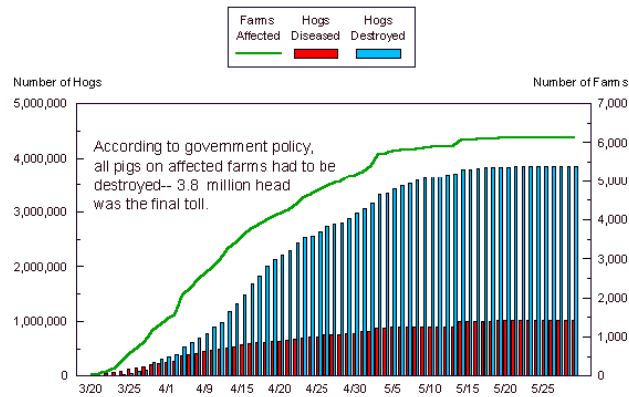
Avian Flu H5N1



China Problem



Taiwan FMD Outbreak:
Spread of the Disease Was Rapid and Indiscriminate





Farms.com Pages

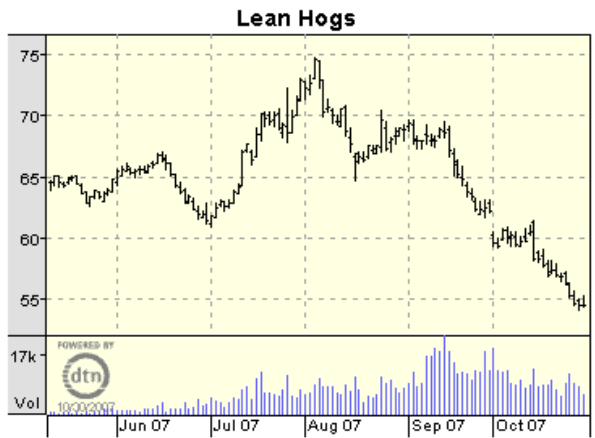
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Market Quotes as of 10/30/2007 3:53:46 PM

Lean Hogs		More Quotes ▾				
	Day	Night	Trading Hours			
Contract MTH	Open	High	Low	Last	Change	
DEC Lean Hogs	56.825	54.650	53.700	53.800	0.675	-
FEB Lean Hogs	60.950	60.950	60.350	60.625	0.575	-
APR Lean Hogs	66.950	64.900	63.950	64.350	0.500	-
MAY Lean Hogs	71.400	71.700	70.750	71.500	0.175	-
JUN Lean Hogs	74.200	74.500	74.000	74.450	0.075	+
JUL Lean Hogs	74.600	73.950	73.400	73.950	0.150	+



Dollar Vs. Euro 2002-Oct 2007



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Major Competitive Advantage
Emerging Over the Next Five Years



**CONTROLLING
VARIANCE IN
PRODUCTION**

Managing by Specification



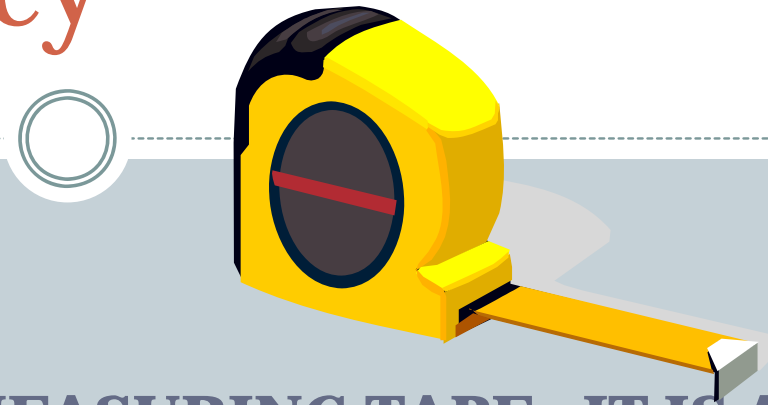
**VS. RAISING
THE AVERAGE**

The Emergence of



OPPORTUNITY COST THINKING

Cost is *Not First* About Money



**MONEY IS LIKE A MEASURING TAPE. IT IS A
MEASURE OF THE *VALUE* GIVEN UP
TO GAIN SOMETHING IN RETURN**

Assume Two Farms Produce the SAME
CWT of Pigs with the SAME Money Paid in a
Year



**DO THEY HAVE THE SAME COST OF
PRODUCTION?**

Assume the Following:

Two Producers Produce the Same CWT of Pigs with
the Same Total Money Cost



**PRODUCER 1 SELLS 92%
STANDARD PIGS**

**PRODUCER 2 SELLS 85%
STANDARD PIGS**

**SAME COST OF PRODUCTION?
SAME PROFIT?**



The Ideal Outcome

*Every Pig Which Comes Into
Our Care...*



- 1. REACHES MARKET ALIVE...**
- 2. AT OR NEAR THE PROFIT
MAXIMIZING WEIGHT...**
- 3. WITH NO DISCOUNTS FOR
QUALITY**

Question



**HOW MANY PIGS DO WE SELL AT
OR NEAR THE PROFIT-
MAXIMIZING WEIGHT?**

Case Example

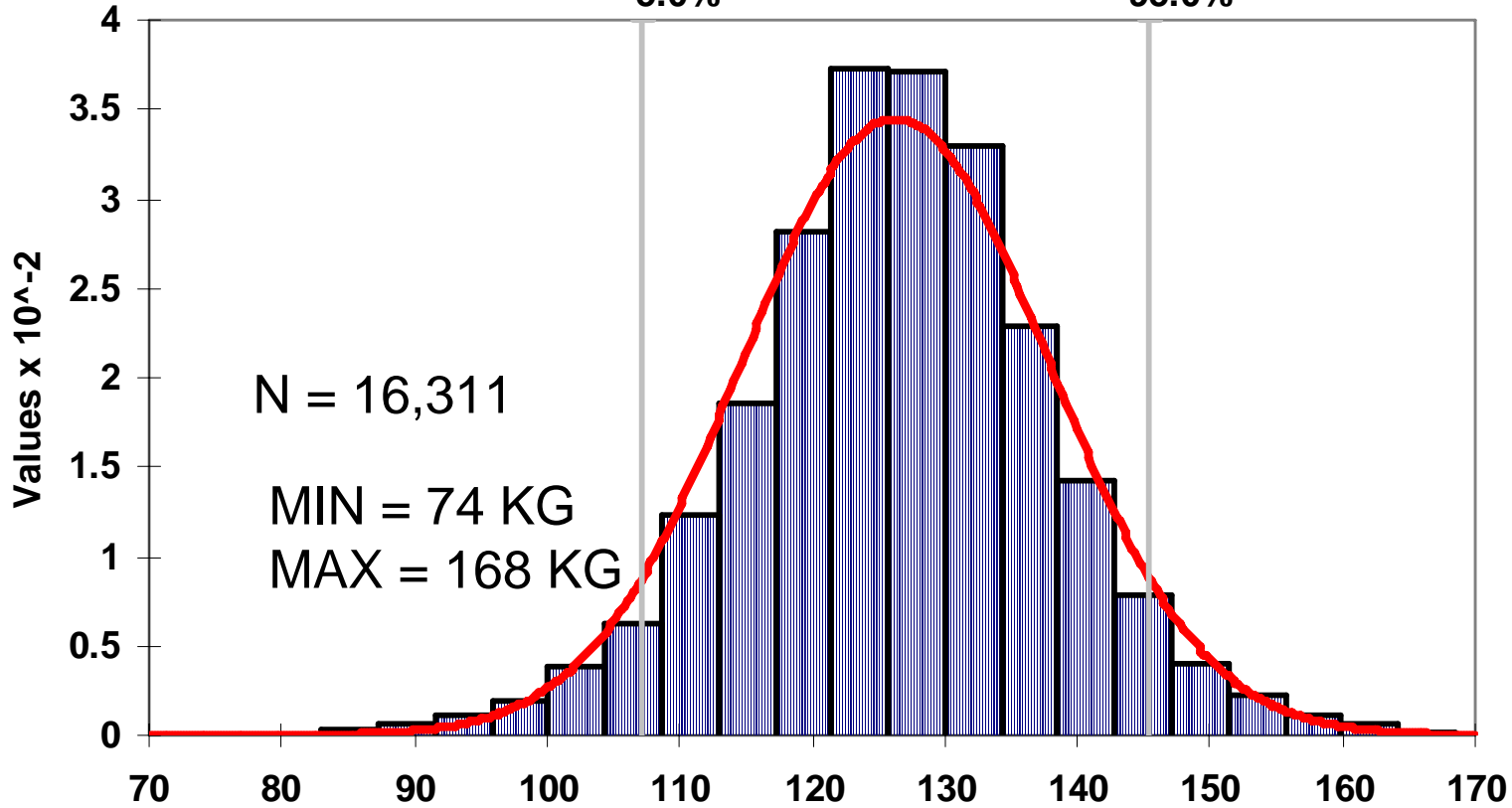


**16,311 HOGS
MARKETED SEQUENTIALLY
IN NOVEMBER 2006**

Normal(126.284, 11.570)

X <= 107.3
5.0%

X <= 145.3
95.0%



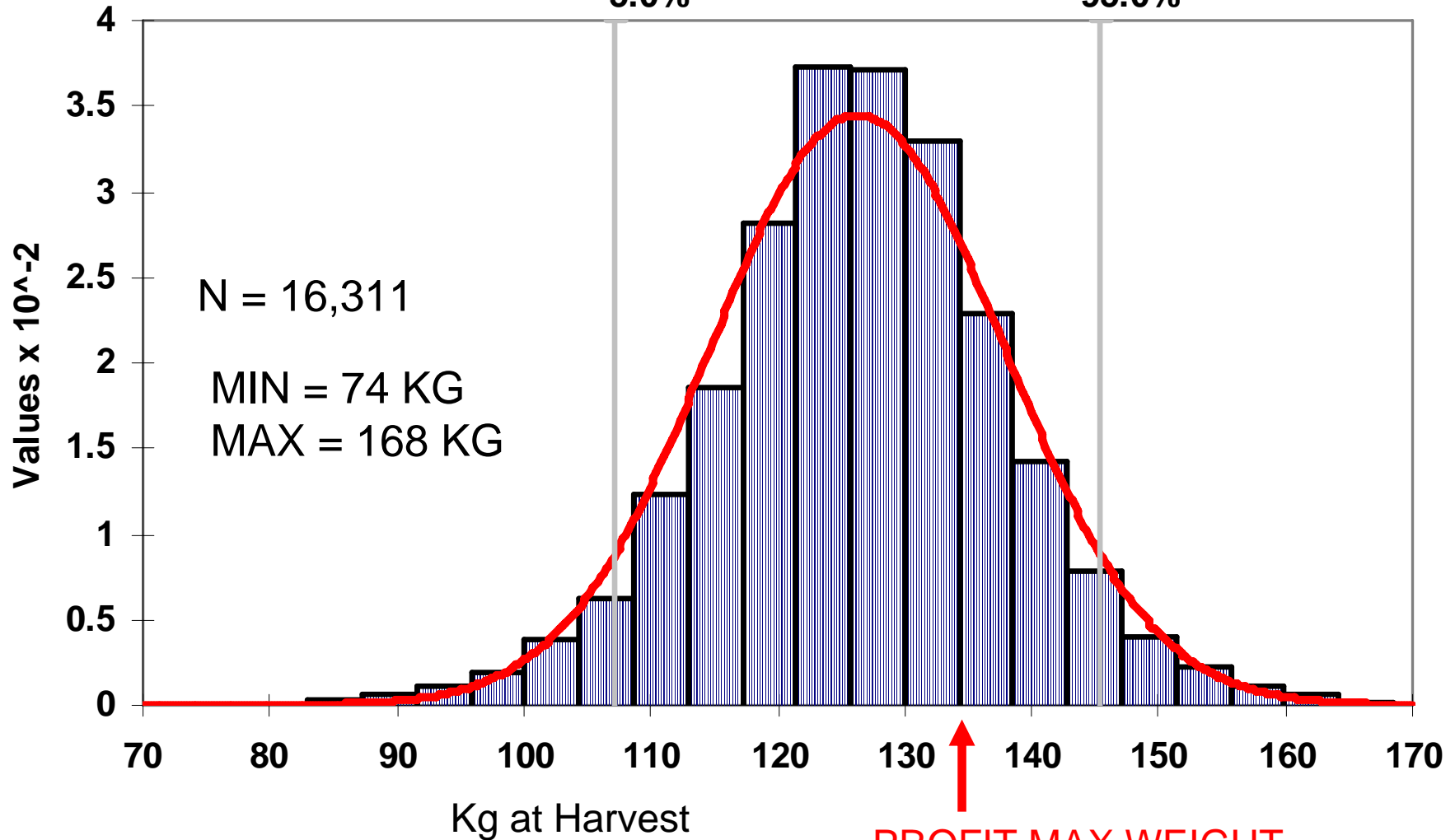
Actual November 2006 Sales

Kg at Harvest

Normal(126.284, 11.570)

X ≤ 107.3
5.0%

X ≤ 145.3
95.0%

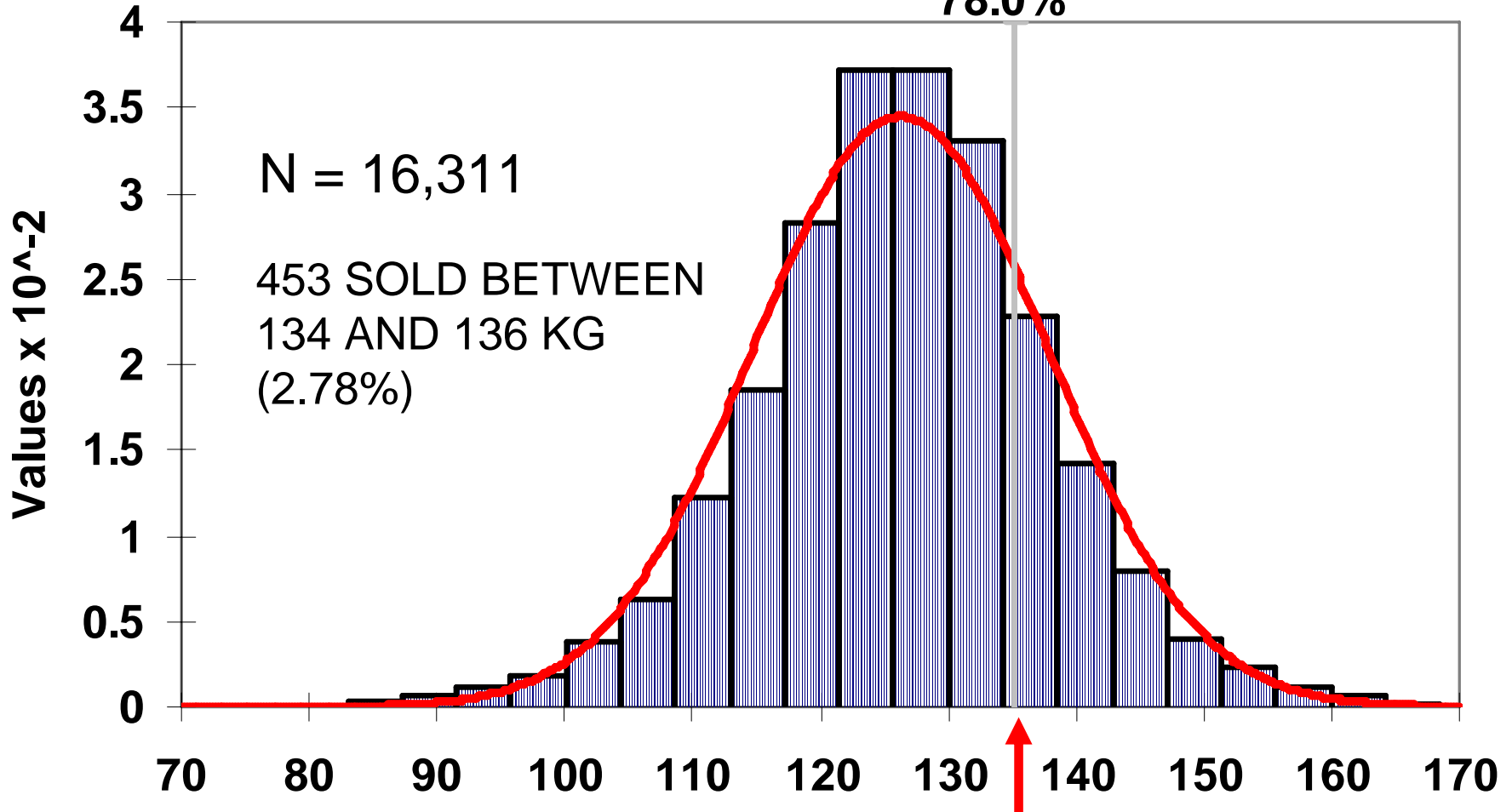


PROFIT MAX WEIGHT
FOR INDIVIDUAL PIG

Normal(126.284, 11.570)

$X \leq 135.2$

78.0%



N = 16,311

453 SOLD BETWEEN
134 AND 136 KG
(2.78%)

PROFIT MAX WEIGHT
FOR INDIVIDUAL PIG

What is the Opportunity Cost of This Variation from Ideal?

Estimating the Shortfall

Full Value Pig 135kg \$1.166/kg = \$157.42

Avg Pig Sold 126kg \$1.116/kg = \$140.94

Opportunity Revenue = \$16.48/pig

Total Opportunity Revenue = \$268,828

Estimating Cost of Production and Opportunity Losses



**OPPORTUNITY COST (REVENUE) IS
ONLY PART OF THE STORY.**

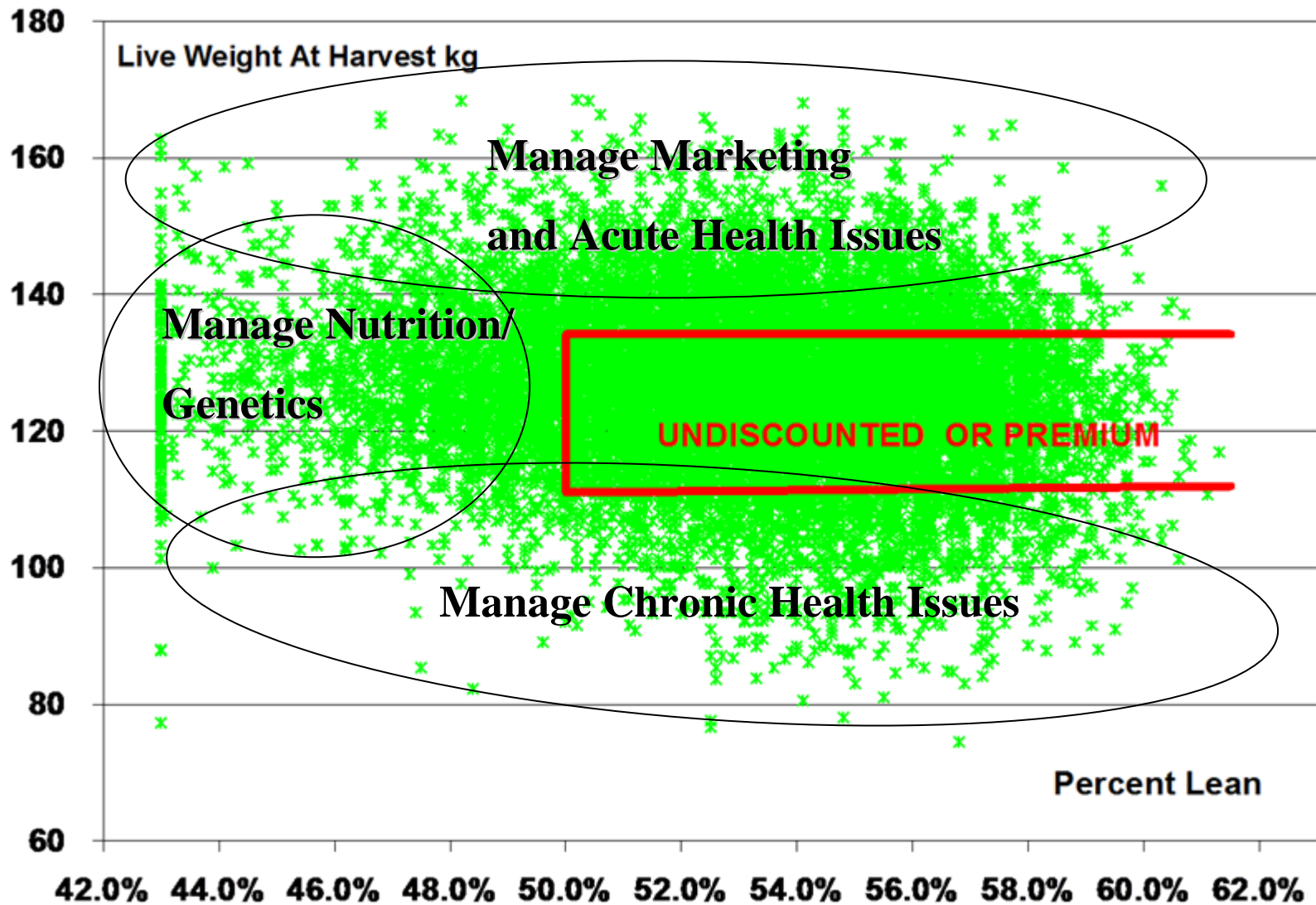
**SUB VALUE PIGS TYPICALLY COST
MORE /KG THAN FULL VALUE PIGS**

Estimating Opportunity Value of Mortalities



- PWM = 11% 2,165 Pigs Lost
- Nursery Mortality = 3% 525 Pigs Lost
- Finisher Mortality = 4% 680 Pigs Lost
- Total Mortality 3,370 Pigs Lost
- **Opportunity Revenue \$530,472**
- **Opportunity Profits \$150,133**
- **19,681 Born Alive to Sell 16,311**

Key Areas to Manage Cost and Improve Revenue



Where Possible Target Individual or Subgroup Animal Care (Bottom 20-30%)



- **Most Efficient and Least Cost Way to Move Stable System Process to Better Performance (More PROFIT)**
- **Observe Subgroups Which Drag Overall Profitability Down**
- **Devise Strategy to Reduce Impacts and Target Subgroups for Intervention**
- **Raises the Standard of Caretaker Husbandry Providing Collateral Benefits**
- **Consistent with Economic Principles**