



**WELLS
FARGO**

Managing Agricultural Risk

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Easy to confuse

Dangerous when confused

Is Agricultural Risk Rising?

■ Yes

- ◆ Quantifiably
- ◆ Qualitatively
- ◆ Emotionally

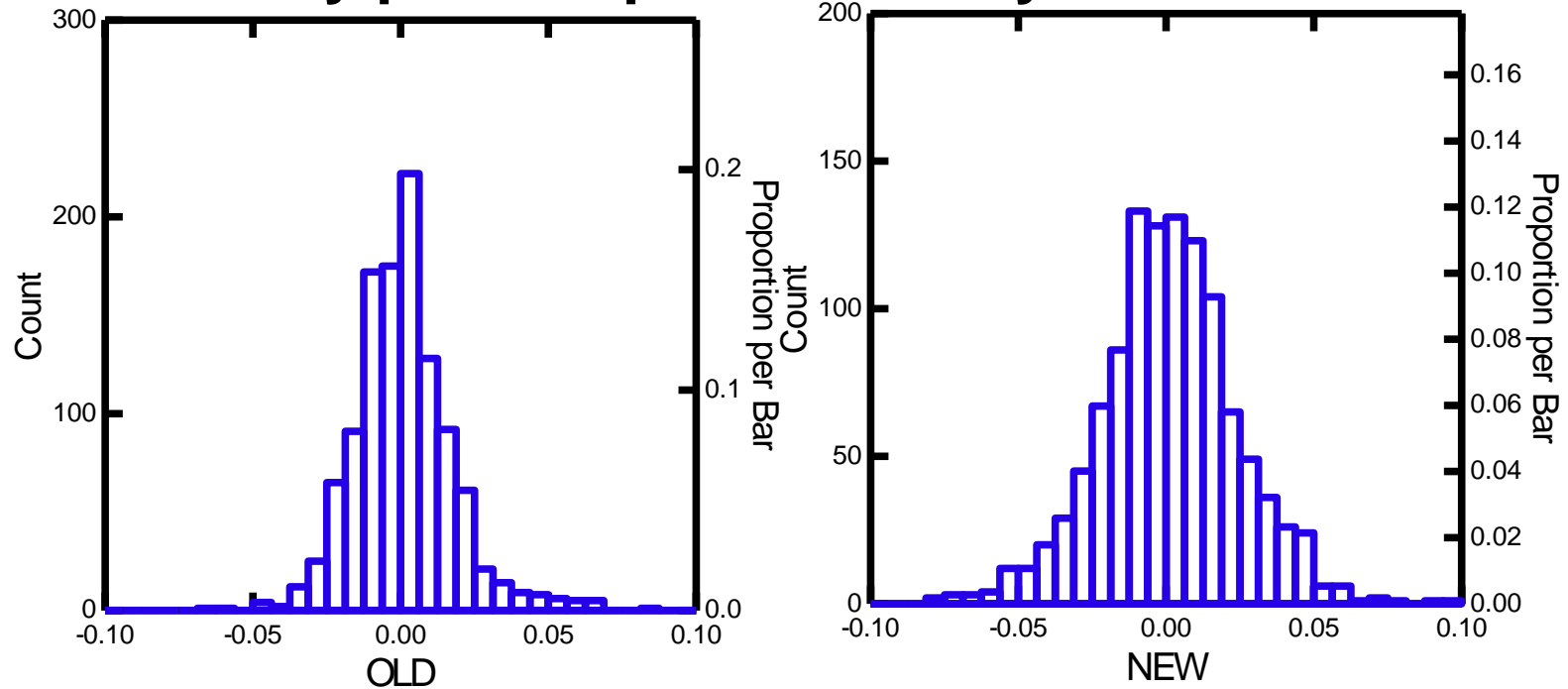
■ Drivers

- ◆ Interconnected markets
- ◆ Policy

■ Implications

Not a physical constant

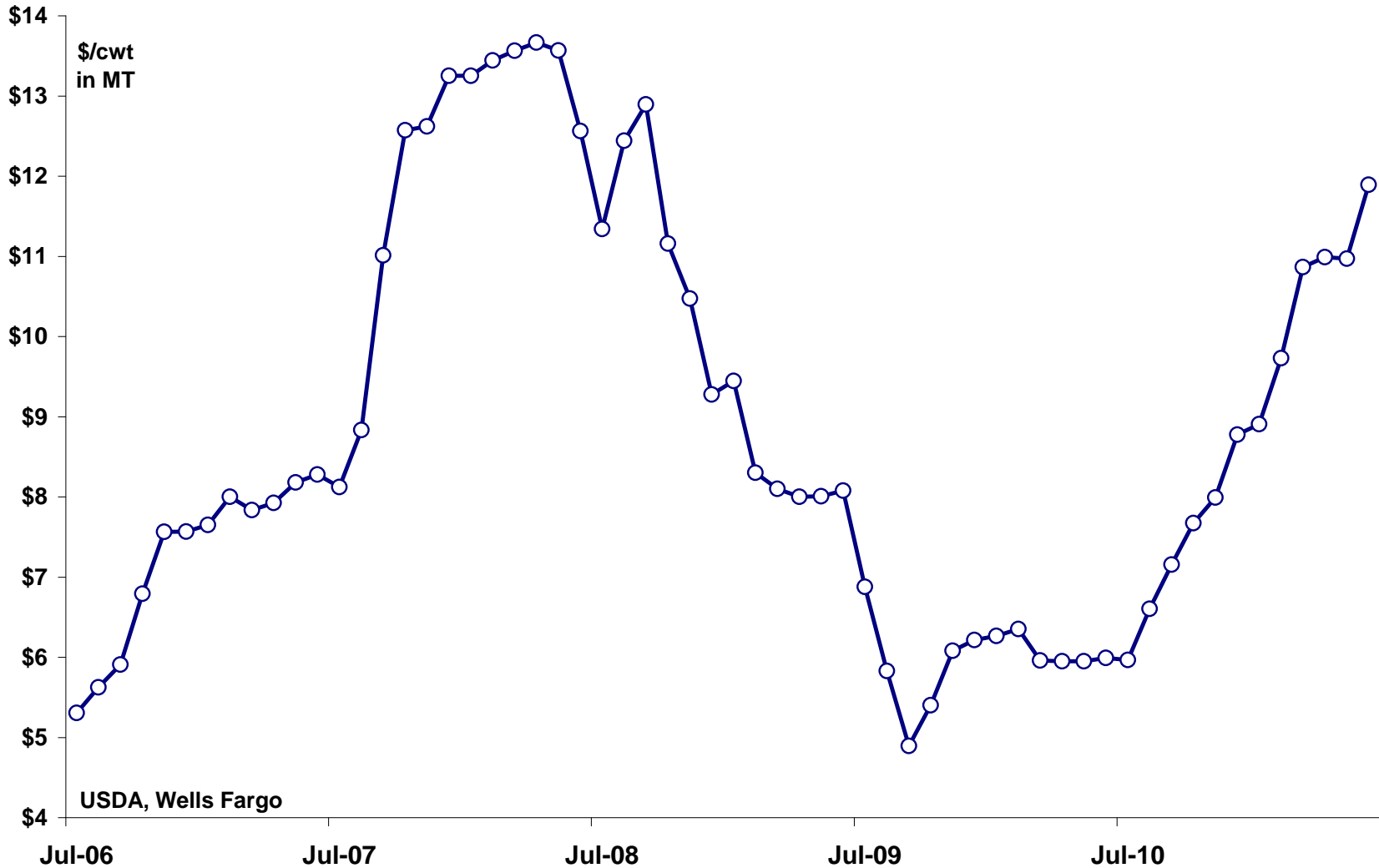
Daily percent price volatility CME corn



Daily Percentage Change in CME nearby corn contract	2007 to June 2011	2002 to 2006
N of Cases	1,120	1,120
Minimum	-7.8%	-6.5%
Maximum	9.8%	8.4%
Range	17.6%	14.9%
Median	0.0%	0.0%
Arithmetic Mean	0.1%	0.1%
Mode	0.0%	0.0%
Standard Deviation	2.3%	1.7%
Skewness (G1)	0.01	0.70
Kurtosis (G2)	0.81	2.38

Everything is connected ...

Malting Barley Price



Emotions matter in risk management

- **Credit decisions**
 - ◆ Probable (when will it happen?)
 - ◆ Possible (could it happen?)
- **Fear and Greed**
- **Integrating risk and reward**
 - ◆ Single owner/operator
 - ◆ Multi-party
 - ☒ Trader or risk manager
 - ☒ Treasury versus operations

Cohorts

■ Old school

- ◆ Haven't financially managed risk
- ◆ Won't financially manage risk

■ Current Crop

- ◆ Selectively managed financial risk
- ◆ Increasingly managing financial risk

■ Next Up

- ◆ From the start managed financial risk

Why now?

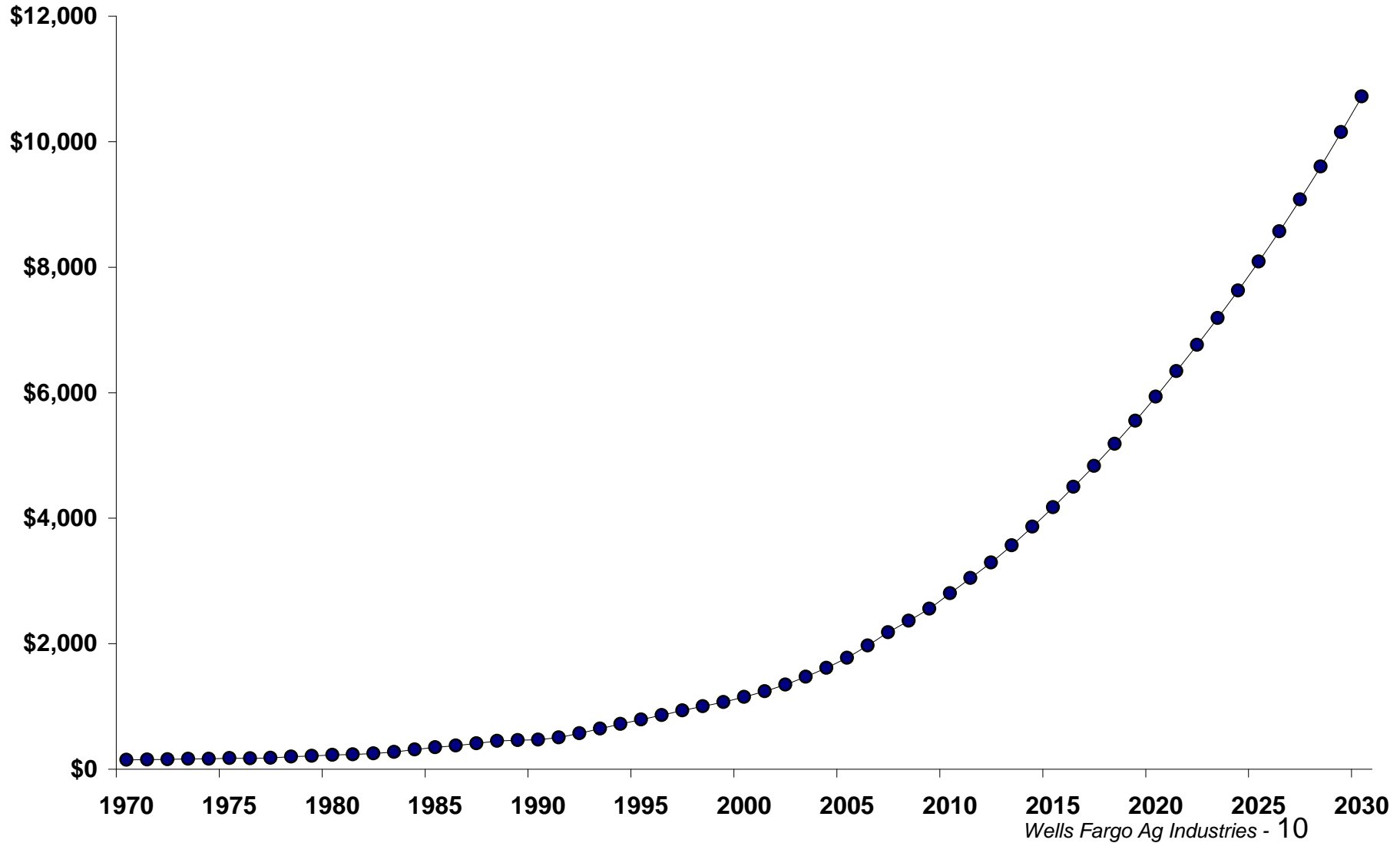
The Drivers

An intersection of factors

- **Global economic growth**
 - ◆ China moves to the next stage
 - ◆ The US dollar makes US agriculture cheap
- **Biofuels policy**
 - ◆ Deliberate
 - ◆ Secondary consequences
- **Speculative tools and fools**

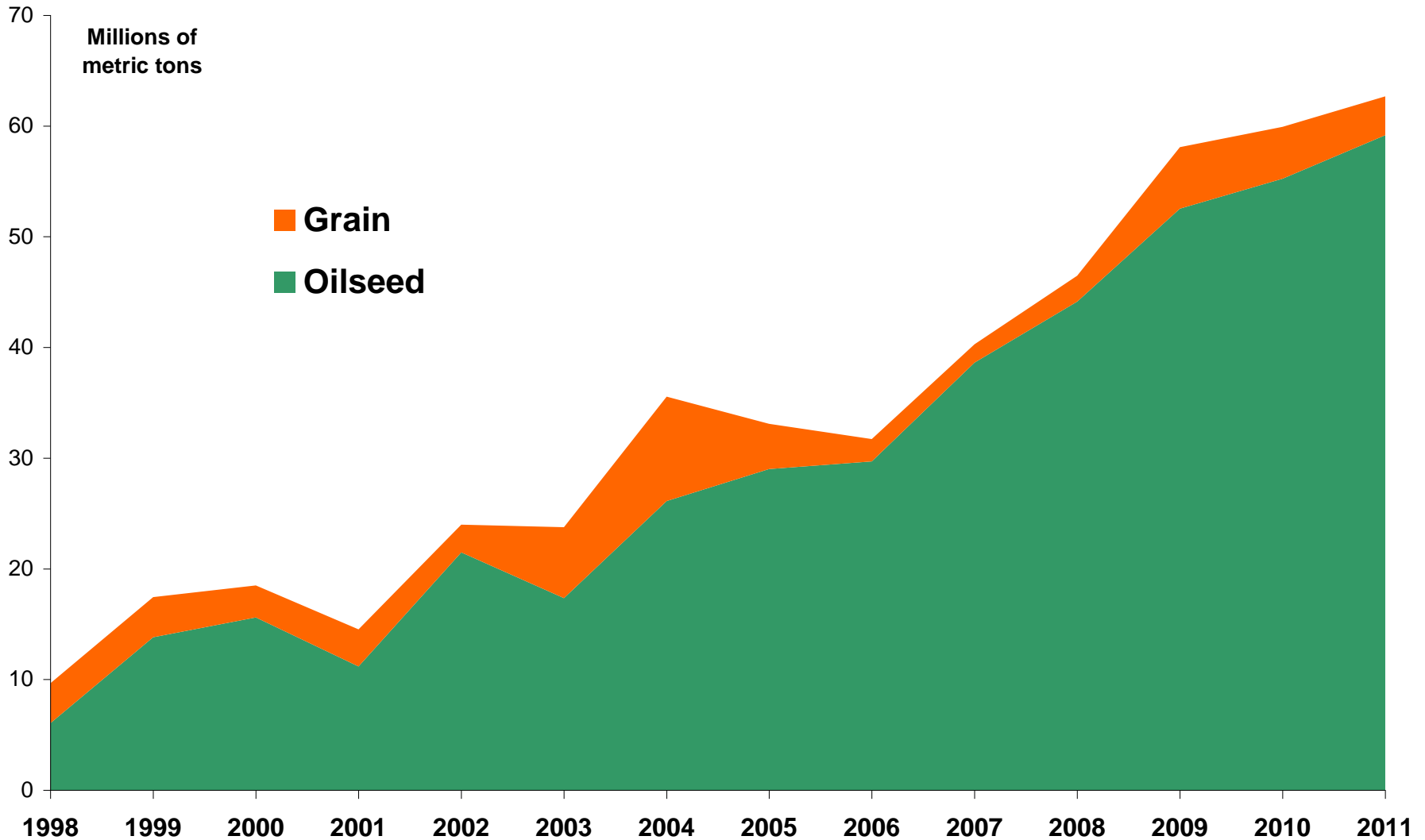
A bad forecast

China: Real Per Capita Income



Look at the impact already

China Agricultural Imports



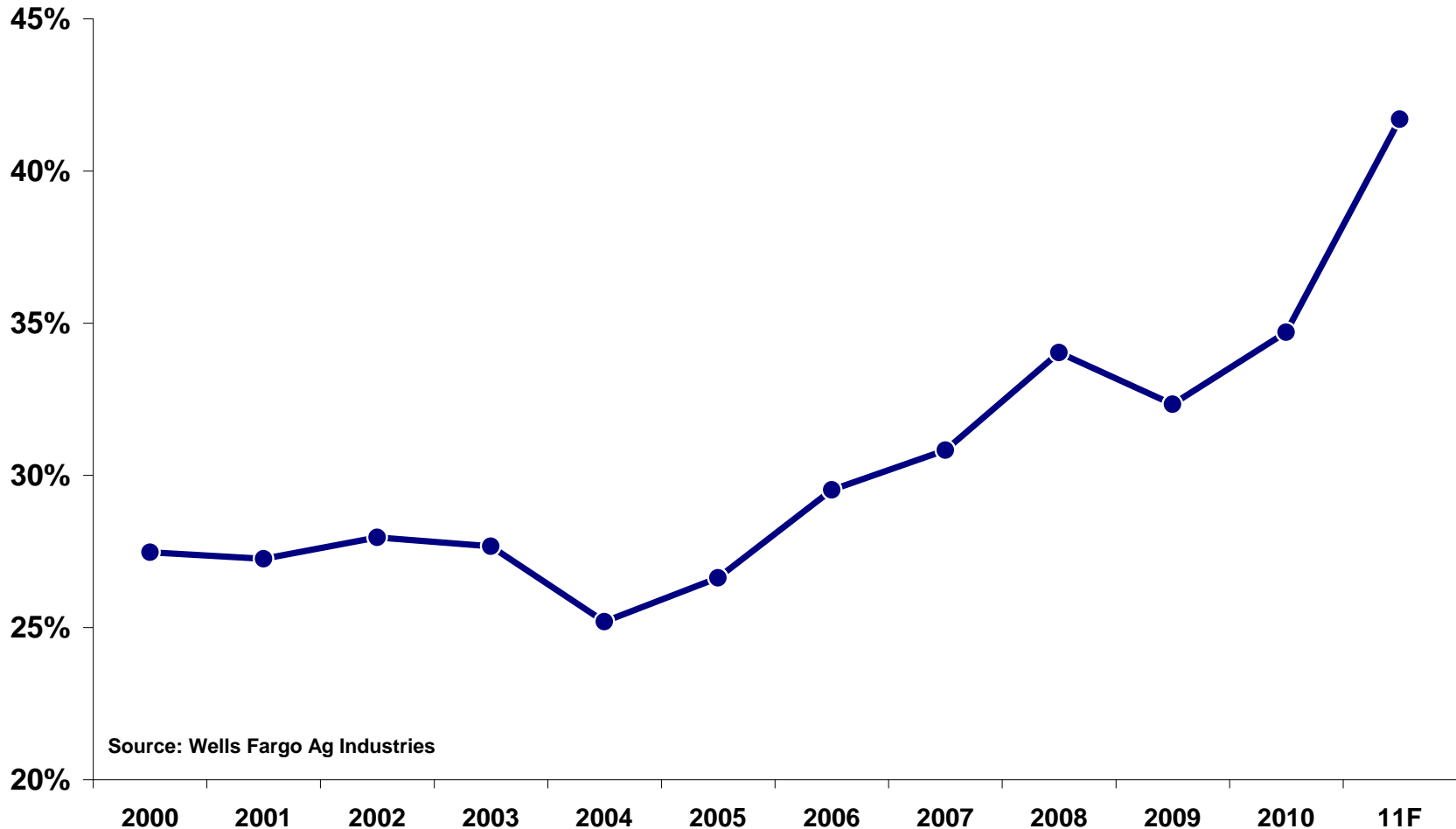
Source: USDA FAS, Wells Fargo Ag Industries

What if they want to eat meat?

Kgs. Country	Commodity			
	Meat, Beef and Veal	Meat, Swine (KG)	Poultry, Meat, Broiler	Grand Total
Hong Kong	23.9	67.3	40.1	131.3
United States	39.3	28.6	42.8	110.7
Argentina	61.3	6.5	33.1	100.8
Kuwait	26.6		67.7	94.3
Brazil	37.5	12.5	42.9	92.8
Australia	35.2	22.3	35.2	92.6
Qatar			88.4	88.4
Canada	30.0	24.7	29.7	84.4
United Arab Emirates	16.8		61.1	77.9
EU-27	16.7	43.0	17.8	77.5
Chile	23.1	22.6	30.1	75.7
Belarus	29.6	44.8		74.4
Uruguay	60.3	10.9		71.1
Singapore	6.4	26.9	36.1	69.4
Taiwan	5.6	36.4	26.6	68.5
Mexico	17.4	15.9	29.5	62.8
Korea, South	11.9	31.1	14.7	57.6
Russia	16.7	19.6	21.1	57.4
Kazakhstan	26.8	14.6	13.8	55.1
Switzerland	20.7	33.2		53.9
Venezuela	18.5	4.9	29.9	53.3
Jamaica	5.1	3.3	44.6	53.1
Bahrain			52.5	52.5
China	4.2	37.2	9.2	50.6

A razor sharp two-edged sword

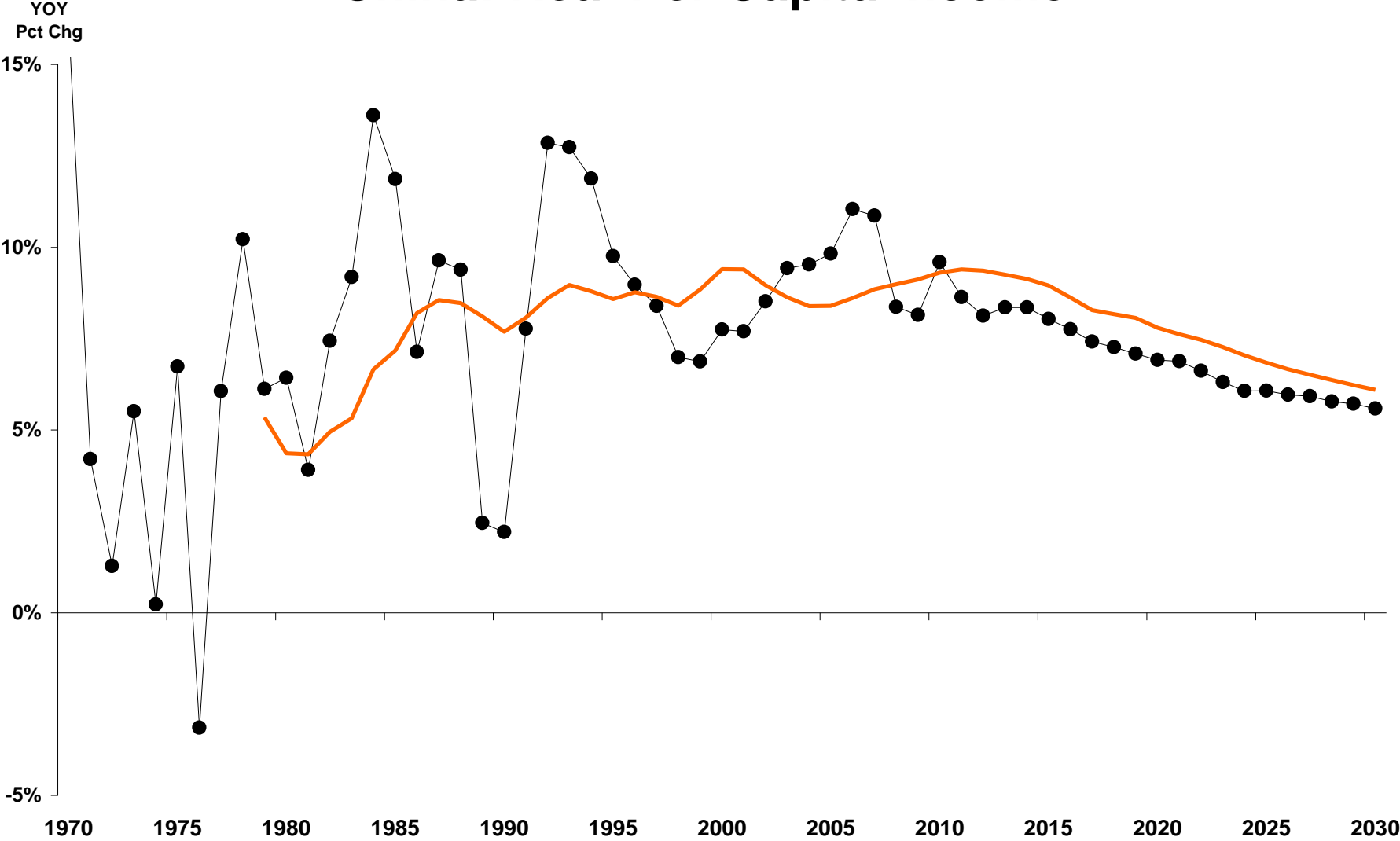
The Value of Agricultural Exports Relative to Farm Gate Revenue



Source: Wells Fargo Ag Industries

What if China stumbles?

China: Real Per Capita Income



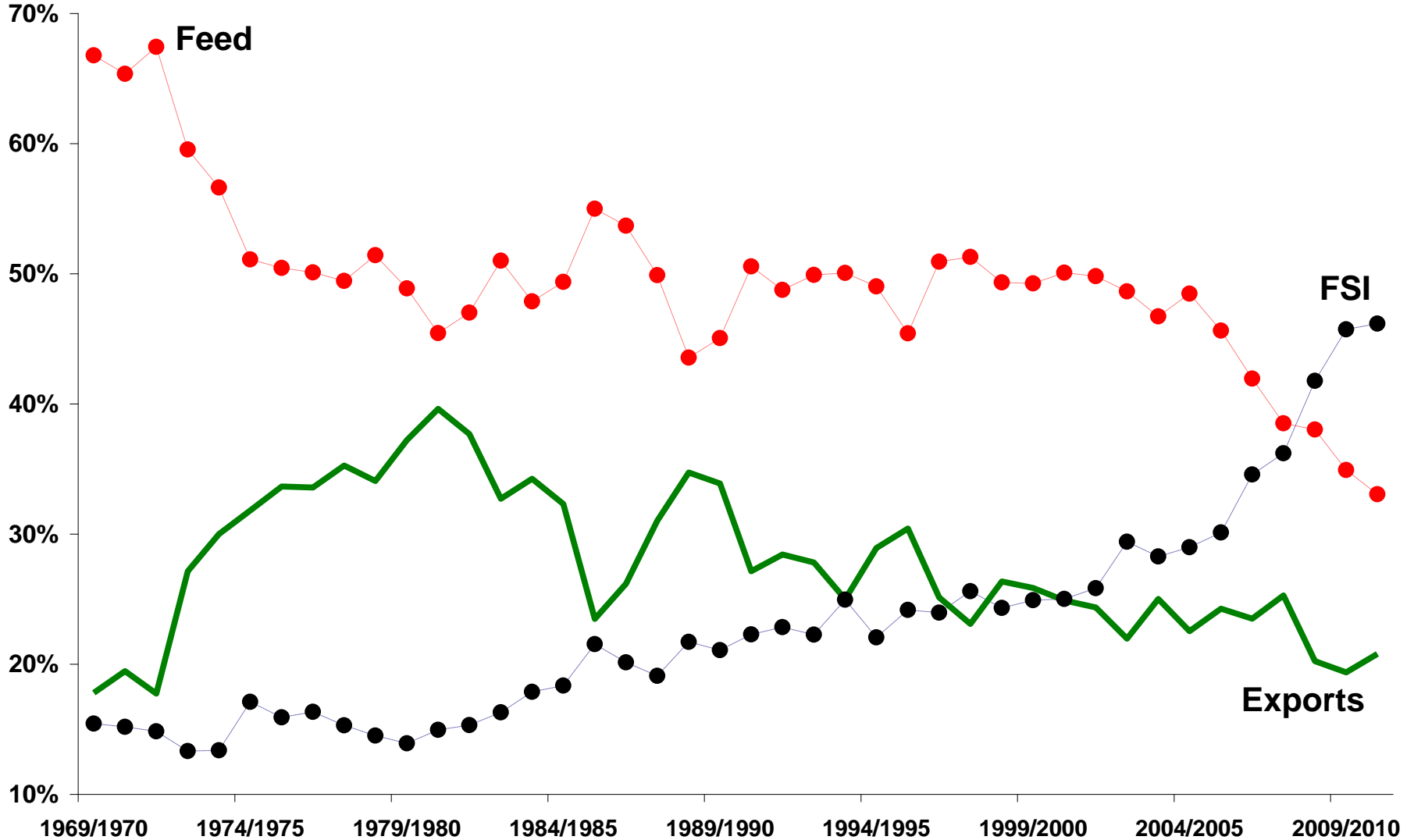
Source: USDA

The role of biofuels policy

- **How do you get off the tiger?**
 - ◆ Is ethanol policy factored into land?
 - ◆ Can you replace the BTUs and octane?
- **What numbers are right?**
 - ◆ Net benefit?
 - ◆ How much growth will there be?
- **Follow the money**

Biofuels inside the US

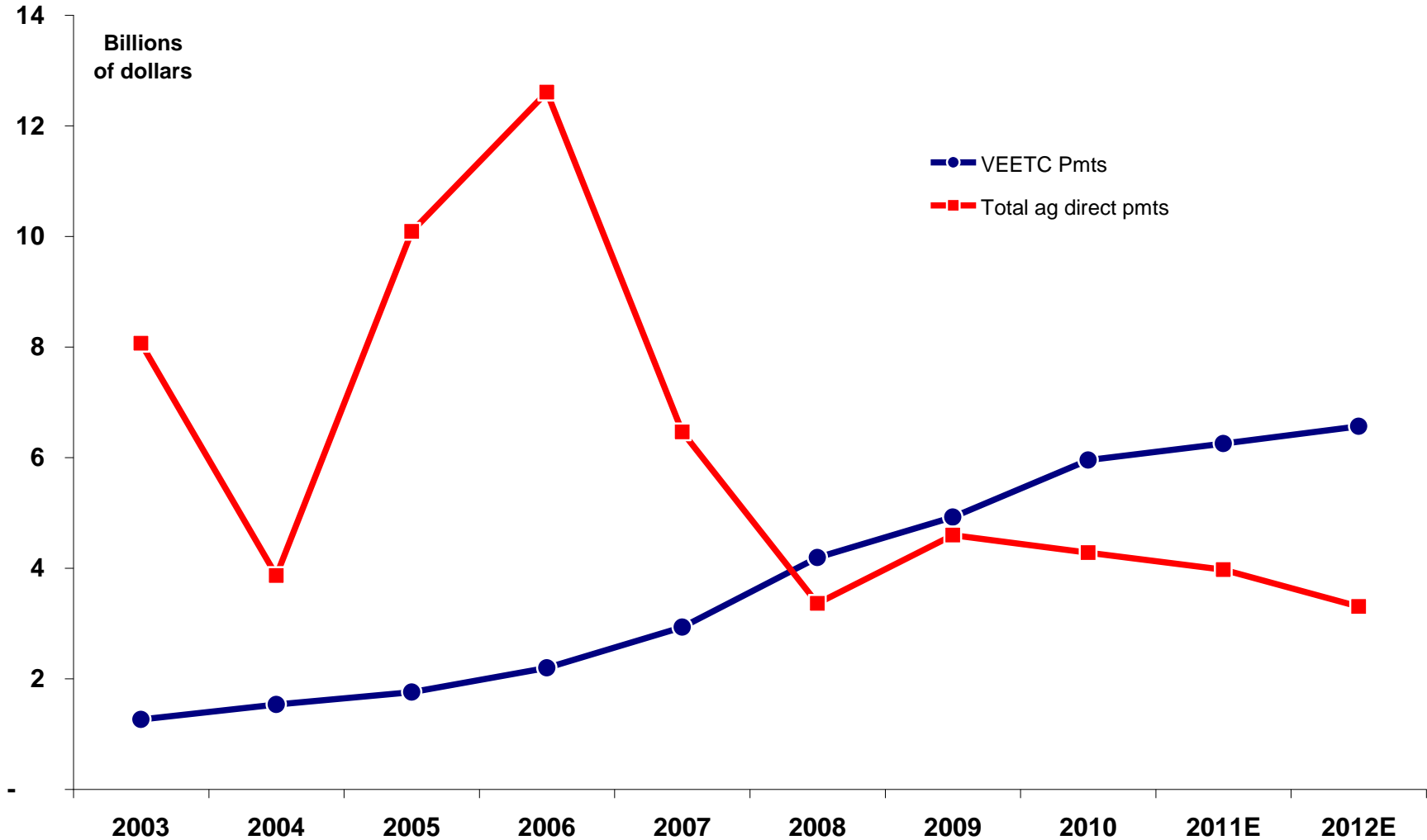
US Domestic Grain Usage



Ag payments are now routed thru transportation



Government Payments



What are the implications

Different sector different tools

■ Marketing versus hedging

- ◆ Farmers have always been marketers
- ◆ Hedging is a completely different animal
 - ☒ Covering both sides simultaneously
 - ☒ Living with limited return

■ The seen and the unseen

- ◆ Income earned
- ◆ The risk avoided

■ Do they need new tools or new attitudes

Are the tools important?

Risk Tool	Pro	Con
Hedge To Arrive	<ul style="list-style-type: none"> • No margin funding required • Cost established upfront • Delivery point established at sale • Local connection 	<ul style="list-style-type: none"> • Locked into single delivery point • Limits ability to negotiate better basis • “Rolling” risks • Hard to evaluate counter-party risk • Typically more expensive
Futures Accounts	<ul style="list-style-type: none"> • Liquidity • Transparency • Options trading possible • No counter-party risk • Open on basis and delivery 	<ul style="list-style-type: none"> • Margining required • Harder to manage emotionally due to constant repricing • Can become speculative instead risk managing • Open on basis and delivery
Over the Counter	<ul style="list-style-type: none"> • No margin funding required • Cost established upfront • Known counter-party risk • Counter parties typically stronger financial institutions • Open on basis and delivery 	<ul style="list-style-type: none"> • Open on basis and delivery • Dodd-Frank act reduces number of parties willing to enter swap

Livestock – It depends on who you are

Key Livestock Risk Factors

Key Livestock Risk Factors		
Feed	<ul style="list-style-type: none">• Self supplied	<ul style="list-style-type: none">• Purchased
Replacement animals	<ul style="list-style-type: none">• Self supplied	<ul style="list-style-type: none">• Purchased
Output price	<ul style="list-style-type: none">• Open bid	<ul style="list-style-type: none">• Contracted
Technology	<ul style="list-style-type: none">• Open market	<ul style="list-style-type: none">• Proprietary
Land base	<ul style="list-style-type: none">• Significant	<ul style="list-style-type: none">• Minor
Permitting	<ul style="list-style-type: none">• Minor	<ul style="list-style-type: none">• Significant

- Broilers – Looking for further tolling arrangements
- Cattle feeders – Generational split
 - ◆ Small operators with large feed bases still open
 - ◆ Larger operators almost completely hedged
- Hog feeders – increasingly hedged
- Dairy – still the wild west of financial risk

Summary

- **Agricultural risk is rising**
 - ◆ What creates opportunity increases risk
 - ◆ Prediction versus planning
 - ☒ Fools believe in their predictions
 - ☒ Management by scenario
- **Policy makers have a limited role**
 - ◆ Unintended consequences
 - ◆ Trying to save everyone won't work