The Rise and Fall and Rise and Fall of American Grain Markets
2016 OSUE Agricultural Lenders’ Meetings

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Global Poverty Has Radically Declined Since 1970:

Share of the World Population living in Absolute Poverty, 1820-2015

All data are adjusted for inflation over time and for price differences between countries (PPP adjustment).


The interactive data visualisation is available at OurWorldinData.org. There you find the raw data and more visualisations on this topic. Licensed under CC-BY-SA by the author Max Roser.
Meanwhile, the Number of People Living Above the Poverty Line Has Exploded:

World population living in extreme poverty, 1820-2015

Extreme poverty is defined as living at a consumption (or income) level below 1.90 "international $" per day. International $ are adjusted for price differences between countries and for price changes over time (inflation).

Data source: World Poverty in absolute numbers (Max Roser based on World Bank and Bourguignon and Morrisson (2002))

OurWorldInData.org/world-poverty/ • CC BY-SA
Chinese Meat Consumption Has Risen with Income Growth:

[Diagram showing the increase in meat consumption over time, with categories for Beef, Chicken, Swine, and Turkey.]
Tremendous Amounts of Feed Are Needed to Support Production at That Level:
Land is the Ultimate Scarce Resource in Agriculture:

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- But in 2001, about 600m bu, or 15m acres.
- US Ethanol usage is 5bn bu, net of DGS is about 3.4bn bu, or 22m acres
- Compared to 2002, about 500m bu, or 2m acres.
- A total of 60m acres of additional land just to meet the #1 and #2 sources of demand.
- There is massive soy demand globally...these numbers don't count Chinese oilmeal or feedgrain demand, or Korea, Mexico, Japan, Brazilian domestic demand, etc.
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As the old saying goes: The best cure for high prices is. . .

Since 2001: - Global soybean production has increased by 4.7bn bushels - Global corn production has increased by 16.7bn bushels - Global wheat production has increased by 5.8bn bushels
The Commodity Cycle:

Oversupply, Low Prices
Grindingly low or nonexistent profits
The Commodity Cycle:

Demand Increases
Price Increases
Excess Supply
Declines
The Commodity Cycle:

- Markets Tighten
- Higher Prices & Profits
- Increase Prod
- Capacity Expansion
- Planning Begins
The Commodity Cycle:

High Prices, Profits, Investments
Maximize Production
Expand Capacity
The Commodity Cycle:

Prices Fall as Capacity Expands and Consumption is Rationed Variable Costs Remain High
The Commodity Cycle:

- Capacity Increases Rapidly
- Prices Fall as Market Becomes Oversupplied;
- Margins Tighten/ Losses Begin;
- lower prices, high VC, high FC
The Commodity Cycle:

Demand growth and lower costs slowly allow profitability to return.
The Commodity Cycle:

Demand growth, lower costs & capacity exit slowly shrink losses
The Cycle is Quite Visible in Corn:

And 2012 gave it another bounce...
The Cycle is Also Visible in Soybeans:
But Wheat Hasn’t had the Demand Growth of Corn or Soybeans:
The Effects on Farm Income are Clear

Net farm income and net cash farm income, 2000-2016F

Note: F = forecast
Where do we go from here?

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3. Costs must decline, primarily cash rents, but continued declines in seed, fertilizer & chemical, too.
World Wheat Stocks

![Chart showing world wheat stocks from 1990 to 2010. The chart includes data on production, domestic consumption, and exports.](chart.png)
US Soybean Stocks

Bn Bushels

Year

1990
2000
2010

Production

variable
Stocks
DomCons
Exports

0
1
2
3
4
5

Bn Bushels

18 14 13 11 14 8 5 8 13 11 9 7 6 5 9 16 19 7 5 4 7 5 5 3 5 5 10

Stocks/Use (%)

1990
2000
2010
How long will rationalization take?

- We don’t know: in the past there have been LDPs and/or *ad hoc* disaster payments to cushion against low prices, these would have slowed or prevented acres from exiting.

Chinese demand continues to grow along with their economy. There is some concern about a shift toward domestic soybean production away from corn, but that shouldn’t ultimately matter.

Declining costs will be the biggest source of adjustment in the short term, because so much land is cash-rented, and that is a large quantity of the price growth, that adjustment could take as little as 2-3 years.
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Cash Rented Acres in the US

U.S. = 38.8%

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- Watch for the unexpected in credit risk, when times get tough, people behave in strange ways...borrowing from friends and family.
- Beware of marital problems...is the spouse involved in the business?
Questions?

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