Investing in Commodities
1. Agricultural Commodities: Price features and modeling issues

Rita D'Ecclesia

April 15th th 2011

Outline

- Introduction
- Commodities Taxonomy
- Modeling Issues
- The Grain Markets
- Stock to Use Ratio
- Soft commodities

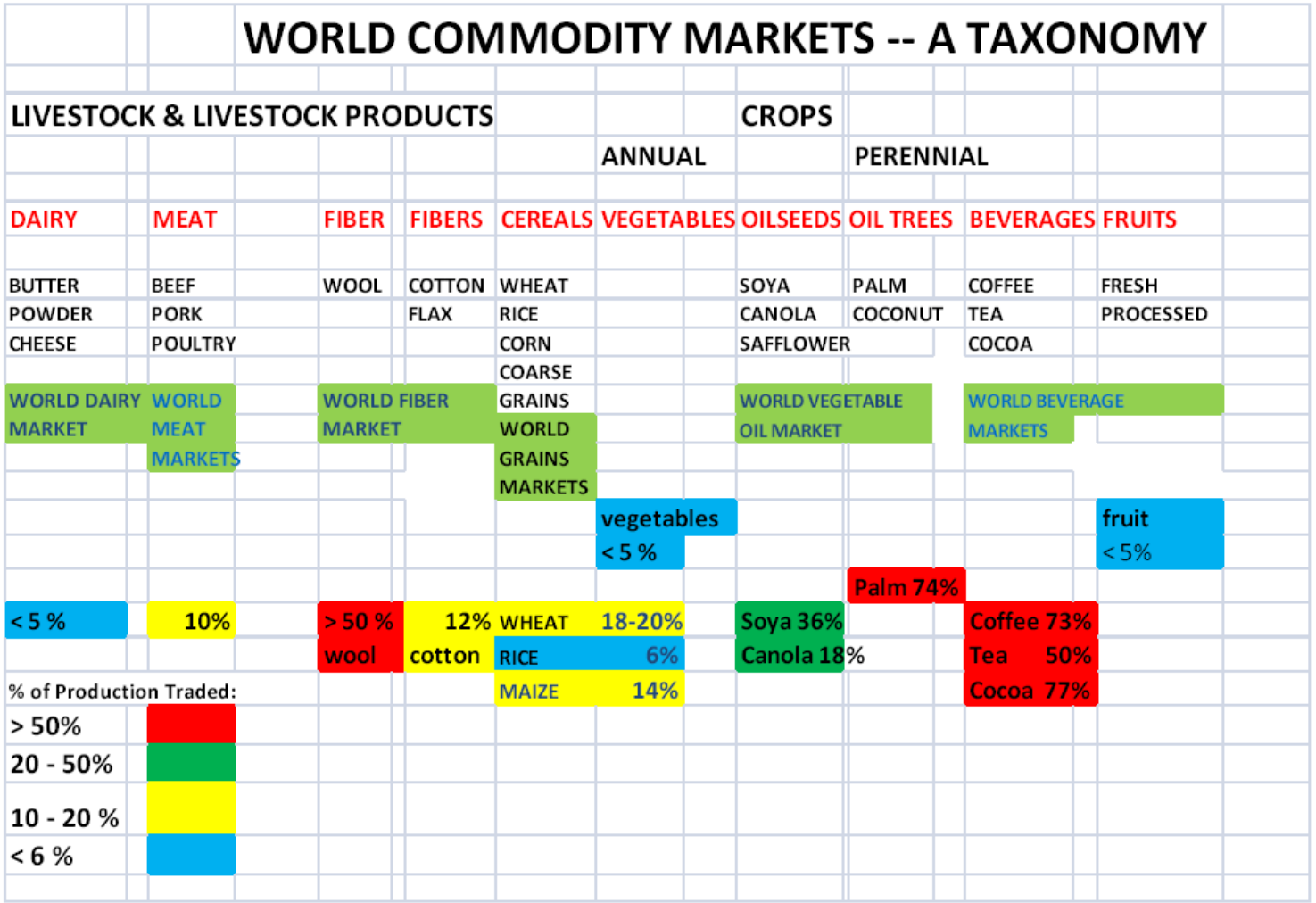
Commodities Taxonomy

The term commodity is widely applied to anything that is not a true asset.
Commodities conceal a great diversity that has meterial impact on price behaviour and modeling.
The most basic divide among commodities is between those that are storable and those that are not.
Among the storable commodities there is an incredible heterogeneity:

- continuously produced and consumed;
- seasonally produced;
- variation within the category of seasonally produced commodities.

Periodically Produced
- Grains and oilseeds
- Tree crops

Commodities Taxonomy



Modeling issues

Reduced Form Models

- SDE
- Spot vs. Forward Curve

Valuation of Contingent Claims (which could include real assets)

Structural Models

- Usually Partial Equilibrium Models for One Commodity: Understanding Underlying Determinants of Commodity Price Behavior.

Modeling issues

Structural models can help inform reduced form models.
They can help identify the kinds of price behaviors that reduced form models should capture:

- Forward curve shapes
- Correlations
- Volatilities

Modeling issues

Costs of storage lie along a continuum, and it is perhaps better to think of things that are very costly to store vs. those that aren't quite so costly.
Storability and other intertemporal linkages (e.g., exhaustibility) must be handled by dynamic programming approaches.
The curse of dimensionality rears its ugly head
Continuously produced, non-exhaustible commodities are the easiest case— recursive methods applicable here.

Theory of Storage

A fundamental model derives commodity prices as the equilibrium result of basic demand and supply factors.
The Theory of Stoarge is the canonical fundamental commodity price model (Kaldor 1939, Working 1949):

- commodity inventories generate a stream of benefits- convenience yield- and that marginal convenience yield varies inversely with the level of inventories.
- Forward prices of storable commodities are routinely below the spot price plus the costs of holding inventory until contract expiration.
- It does not provide an equilibrium model of the determinants of the marginal benefit of inventory holding.

Rational Expectation Model

Scheinkman and Schetctman (1983)
A random amount of a commodity is produced every period and competitive agents allocate production between current consumption and storage.
The stored commodity can be consumed in the future.
In a competitive market the equilibrium storage decisions maximizes the discounted expected utility of the representative agent.
It depends on two state variables:

1. current output,
2. current inventories.

Storage cannot be negative and this has implications on pricing.

Rational Expectation Model

Low demand $\longrightarrow$ agents hold inventory:

$$F_T = S_t + C_{t,T}$$

S_t = spot price at time t
$C_{t,T}$ = cost of holding inventory till the next production date.

High Demand and stocks are low $\longrightarrow$ it is optimal to consume all inventories:
Storage links spot and futures prices. Such a stockout disconnects these prices.
If demand is sufficiently high the equilibrium forward price during a stockout is less than the spot price (backwardation)

Rational Expectation Model

The S-S rational expectation models requires a numerical solution of a dynamic programming problem
It cannot be solved in closed form.
It is solved using recursive techniques.
The commodity is produced every period and the production shocks are IID and in this case solutions are computationally cheap.
Prices should be autocorrelated even when demand shocks are IID because storage links prices over time.
Problems: data collection mismatch the frequency of the storage decision which is less than a year and varies across disparate commodities. Using monthly or yearly data does not make sense...
This approach does not use the daily futures prices which are available for a wide variety of commodities.

Recent models for seasonal commodities

Pirrong (99), Osborne (04), Chambers and Bailey (96).
Storage decision occur more frequently than production
Agents receive information about the size of the future crop prior to harvest.
State variables:

1. current demand shock,
2. current inventories,
3. information about the size of next harvest

Recent models for seasonal commodities

Problems:

- spot prices should exhibit little correlation with new crop futures prices;
- information about the size of the harvest should have little impact on spot prices but a big impact on new crop prices.

This model predicts the differential behavior of new crop and old crop prices even if demand is highly autocorrelated.
storage cannot link old crop spot prices and new crop Futures prices
unable to explain the behaviour of Futures prices

Modeling issues

Fundamentals-based structural rational expectations models of storable commodities shed some light on the behavior of commodity prices, commodity forward curves and commodity price dynamics but miss important features:

- cannot explain why old crop and new crop futures prices behave so similarly
- cannot capture the forward price dynamics as maturity increases
- it is not ready for derivatives pricing.

Forward curve

A forward contract is an agreement to buy a security at a given price (fixed now) at some specified future date. There is no initial payment in a forward in that one agrees to exchange the asset and make payments only at a future time. If:

- S_t is the price of the commodity in the spot market
- F_t is the forward price for a contract maturing in $T - t$

there are several ways of deriving the forward price.

Forwards

Consider first the party who is short the contract, and so must deliver the asset at time T. Although he does not know what the value of S will be at T this does not matter:

- he can borrow S_t when the contract begins,
- purchase the stock
- at expiration he can use the amount F_T to pay off the loan:

$$F_T = S_t e^{r(T-t)}.$$

Fundamental features

As for the other commodity markets to understand the dynamic of agricultural commodities prices and risk profile we have to understand the supply and demand features of these markets.

Supply:

- Surplus stock left from the previous year "carry in" (inventory);
- current year production
- import from other countries.

Demand:

- Domestic use
- Exports

Further subdivisions may be found as products that are used as raw materials and products that are processed before being used.

Fundamental features

Carry over

The remaining supply from the previous year + current year production + any imports - demand.

The **carry over** links Futures prices in different crop years

$$\searrow D_t \Longrightarrow Crop_{t+1} \nearrow \Longrightarrow P_{t+1} \searrow$$

D_t = demand at time t, P_{t+1} = price at time $t+1$.

Stock to-use ratio

It is a convenient measure of supply and demand interrelationships.

It is defined as the current year ending stocks, H_t, divided by current year use, G_T

$$S/U = \frac{H_t}{G_t}$$

Stock to Use Ratio

It indicates the level of carryover stock as a percentage of the total demand or use.
This number expresses how short supply may be: it should run between 20% and 40% .
It has an impact on price volatility : in a tight market any shock in supply while demand is steady is likely to send price very high.
S/U is a key index in technical analysis and option pricing.
S/U is a key quantity giving info on future years since the forward curve stops after 13 or 14 months.

Stock to use ratio S/U

Example: Canola				
Year	**Beginning Stock**	**Total Production**	**Total Use**	**Carryover Stock**
1983/84	486	2,599	2,965	120
1990/91	749	3,266	3.635	380
10-year Average	623	3,407	3,425	605
Stocks to Use Ratio				
1983/84	$\frac{486+2599-2965}{2965} = 4\%$		Ave. Vancouver Cash	
Year 1990/91	$\frac{486+2599-2965}{2965} = 4\%$		Ave Vancouver Cash Price: $287.20	
10-year Average	$\frac{486+2599-2965}{2965} = 4\%$		10-year Ave. Cash Price: $324.69	

Stock to use ratio S/U

Some early model relate annual prices of corn and wheat prices, respectively, to their stocks-to-use variables

$$(6a)Ln(p) = a + bLn(K/U) + c(CCC/U)$$

With a negative coefficient on the stocks-to-use variable, this functional form provides a downward-sloping, convex-shaped relationship between the stocks-to-use ratio and prices.

The Grain Markets

Set of commodities included:
Corn, Maize, Wheat, Soybean,
Information that may affect price behaviors:
The US Department of Agriculture (USDA) every month publishes an updated balance sheet containing

- the current year exports,
- domestic use,
- carry-out from last year,
- estimates for production in major nations competing with US producers (Brazil, Argentina), or traditional importers (India, Russia, Pakistan, Egypt)

Issuing the planting reports :

- Planting Intentions Report; Final Acreage Report.

The Recent Evolution

Agricultural Commodity Prices over the Past 3 Years;

- First They Sky Rocketed Up in 2008 ;
- In 2009/2010 they crashed down:
  1. from the peaks reached in the first half of 2008 grain prices have fallen by 50%
  2. prices still high by their historical standards and still above the 2007 levels.;
- in December 2010 and January 2011 prices advanced sharply, some values at their highest for 2 years

Factors affecting prices

- *Transfer Costs*. Key components of the U.S. grain and oilseed handling network include on-farm storage, trucks, railroads, barges, and grain elevators- tower containing a bucket elevator, which scoops up, elevates and then uses gravity to deposit grain in a silo- (including county, sub-terminal, and export elevators). A complex web of local supply and demand conditions determines how and when commodities move through this network.
- *Government Policies.* Several of the major field crops receive support under different types of government programs.The degree of influence of government programs varies greatly from commodity to commodity.

Factors affecting prices

- *Local Supply and Demand Conditions*. Differences in grain and oilseed prices throughout the world reflect differences in local supply and demand conditions (as well as differences in local market structures). rises, and export restrictions.
- *Product Characteristics.* Today's market participants tend to be very sophisticated buyers who carefully compare the price of different agricultural commodities in terms of their cost per unit of desired end-use characteristic.

Possible Reasons

:

"**Traditional"** explanations of high prices:

- supply reductions as a result of drought in major exporters and the lowest cereal stock levels for more than 30 years.
- inflow of speculative funds into agricultural commodity futures markets as the global financial downturn weakened more usual bond and equity markets. Once world prices began to rise significantly, the market and policy responses this provoked added to the inflationary pressure, e.g. hoarding against expectations of further price rises, and export restrictions.

Possible Reasons

:

New Drivers:

- Food Price Inflation: Food Riots in 60+ Poor Countries;
- rapid economic growth in certain emerging economies, China and India, increasing demand for food, especially for livestock products, which generated increased cereal and oilseed demand for feed.
- Speculation (more newcomers investors than institutional investors).
- No fundamental change in the overall supply and demand balance over the last year
- concerns of quality milling wheat and the tightening outlook for maize and soybeans
- influence of other commodity prices, increased demand for certain agricultural products as feedstocks for biofuel production, particularly maize for ethanol

The Recent Evolution: new drivers

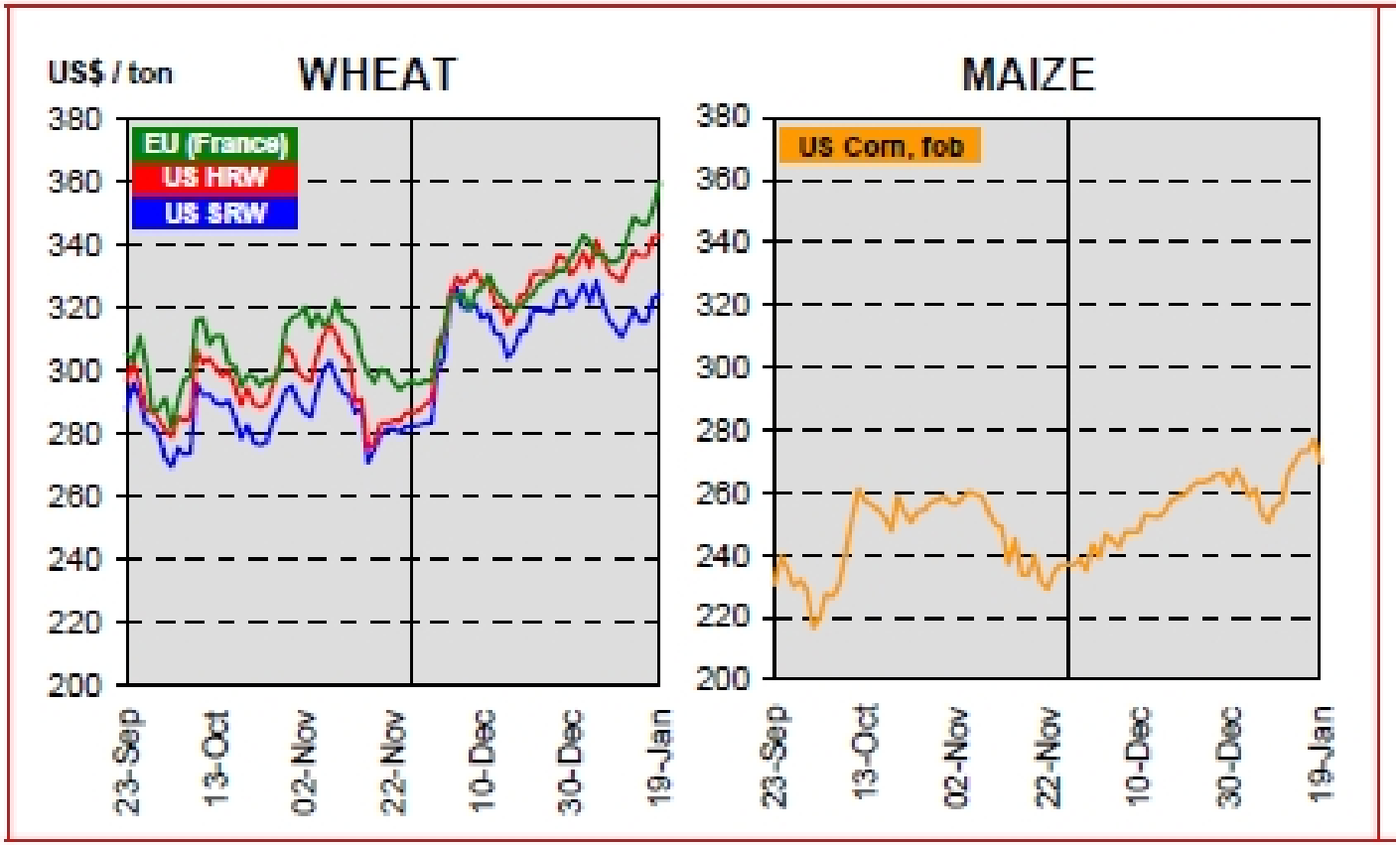
WORLD ESTIMATES

million tons

	06/07	07/08	08/09	09/10 est	10/11 forecast	
					25.11	20.01
WHEAT						
Production	598	609	686	678	644	647
Trade	111	110	136	127	122	123
Consumption	610	612	638	650	660	661
Carryover stocks	125	122	170	198	180	185
year/year change	*-12*	*-3*	*+48*	*+28*		*-13*
Major exporters**	47	40	65	72	52	55
MAIZE (CORN)						
Production	710	795	799	813	810	809
Trade	87	101	84	86	94	94
Consumption	725	775	781	815	840	842
Carryover stocks	117	137	155	153	121	120
year/year change	*-16*	*+20*	*+18*	*-2*		*-33*
TOTAL GRAINS*						
Production	1588	1697	1802	1793	1725	1726
Trade	222	239	249	240	241	242
Consumption	1629	1684	1724	1762	1786	1787
Carryover stocks	282	295	373	404	340	342
year/year change	*-40*	*+13*	*+78*	*+31*		*-62*
Major exporters**	116	112	152	162	105	104

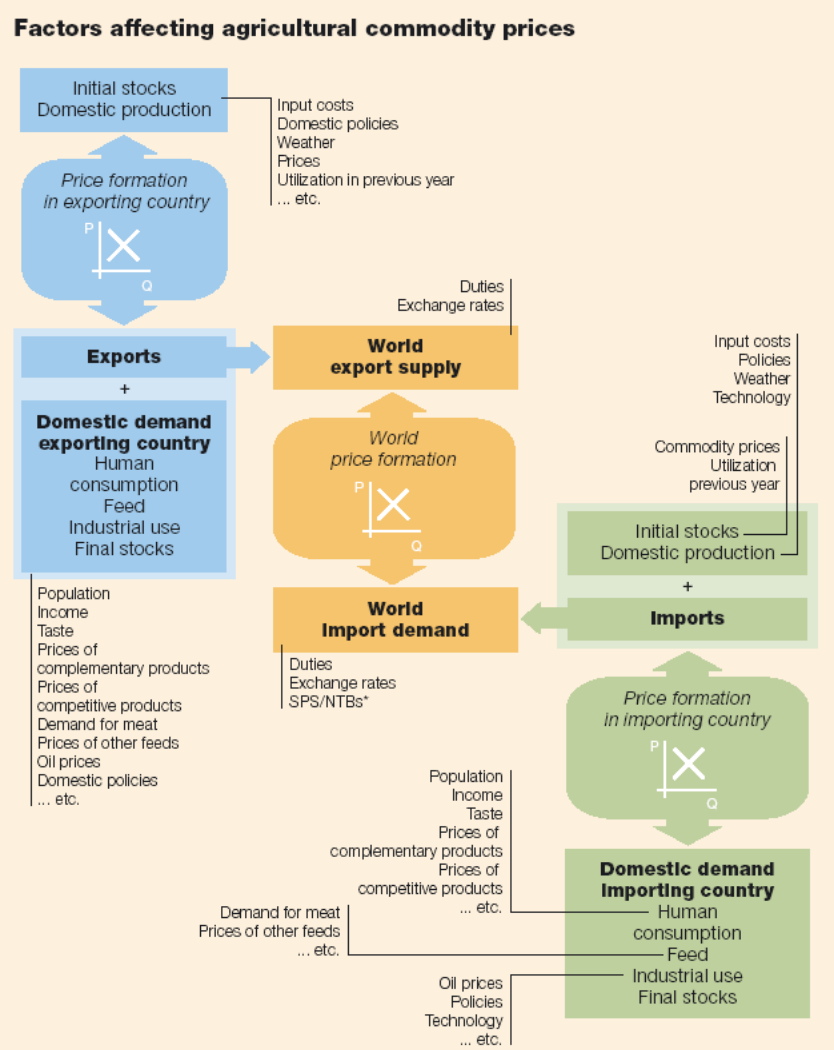
* Wheat and coarse grains
** Argentina, Australia, Canada, EU, Kazakhstan, Russia, Ukraine, United States

The Recent Evolution: traditional drivers



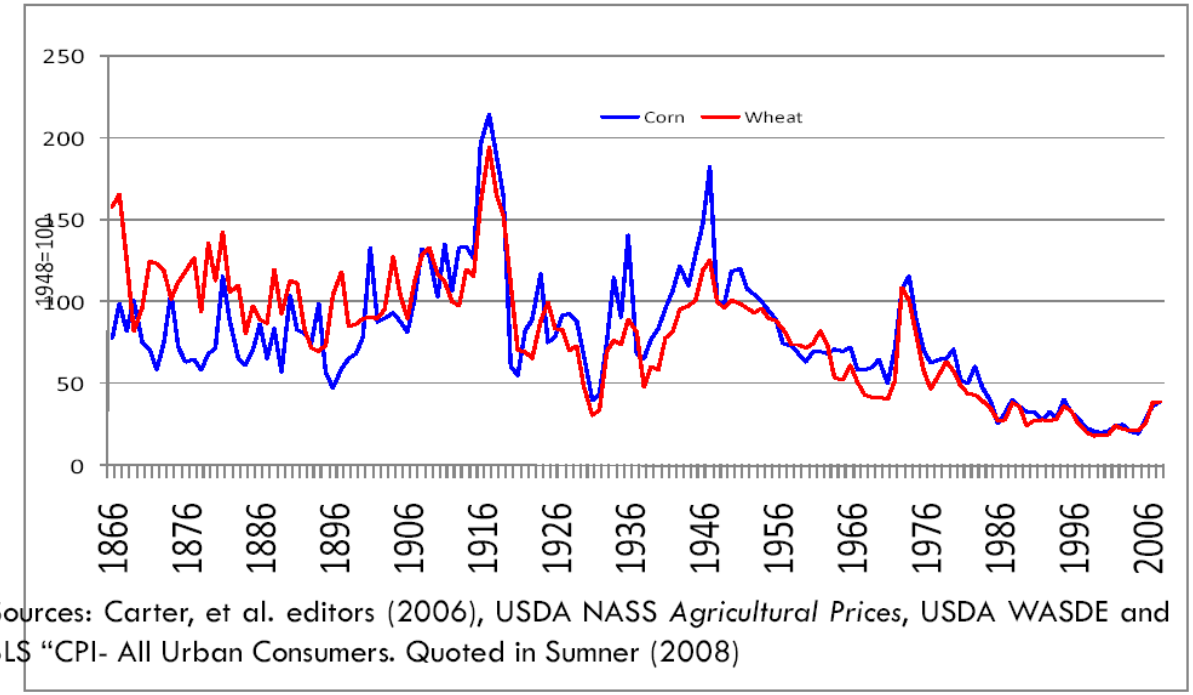
The Recent Evolution

Factors affecting price rise



Since 1870's LR real grain prices have been declining except for periodic price spikes .

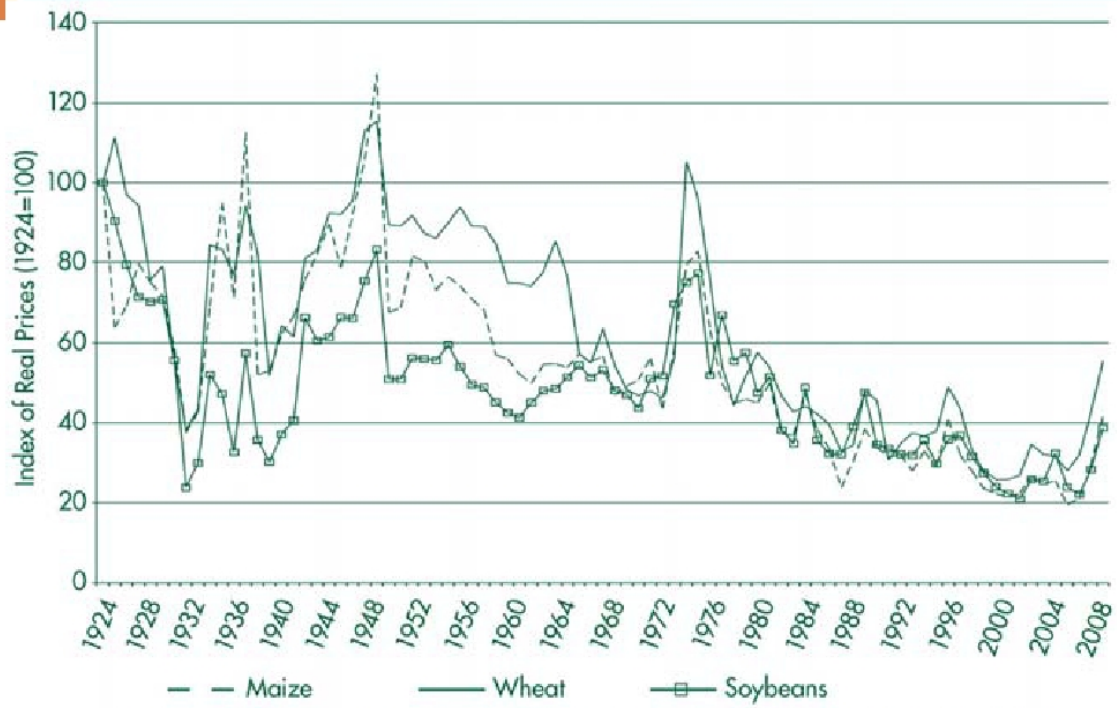
Index of real corn and wheat prices, 1866-2008



Sources: Carter, et al. editors (2006), USDA NASS *Agricultural Prices*, USDA WASDE and BLS "CPI- All Urban Consumers. Quoted in Sumner (2008)

Historical Context

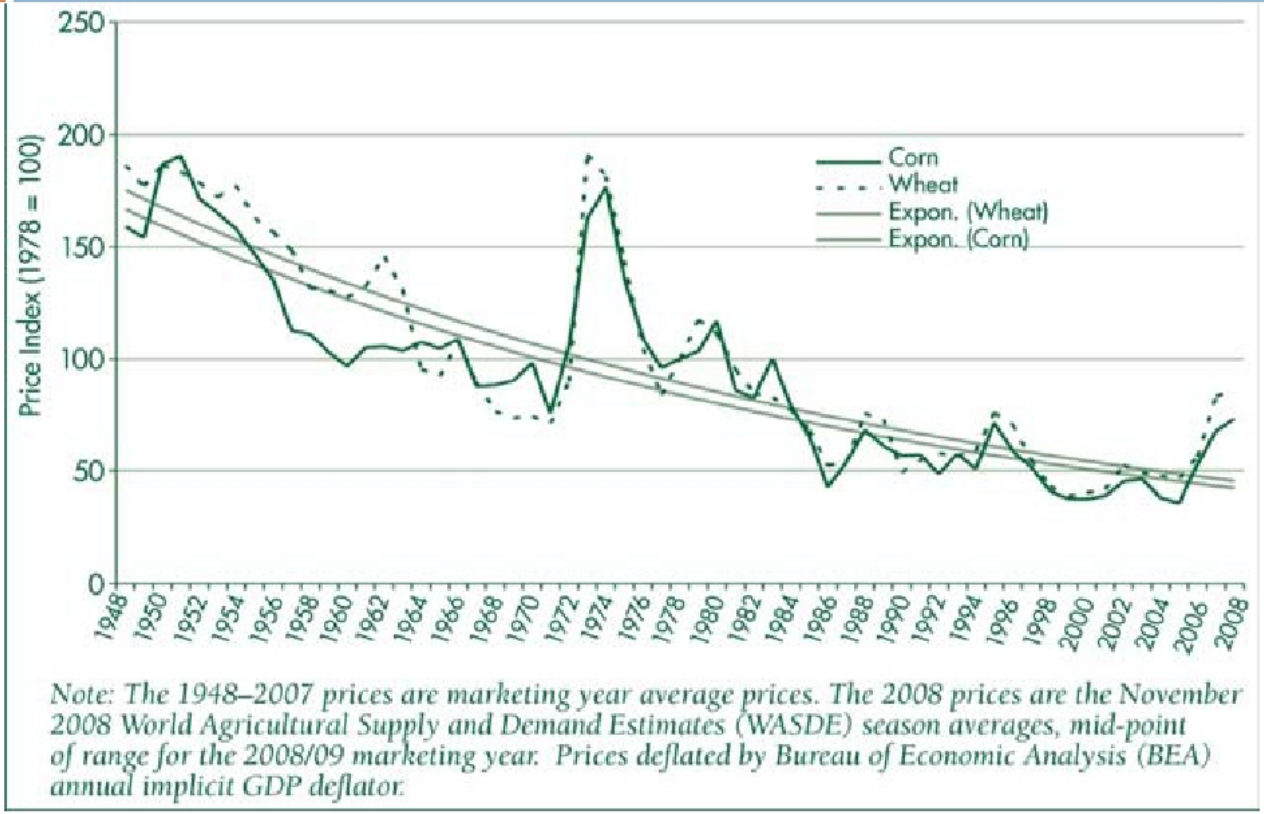
Real U.S. Prices of Maize, Soybeans, and Wheat, 1924-2008



Source: Compiled by the authors as described in Alston, Beddow, and Pardey (2009).

Long term trend

Index of Real Corn and Wheat Prices and Long term Trend -1948-2008 (from Sumner 2008)



Note: The 1948–2007 prices are marketing year average prices. The 2008 prices are the November 2008 World Agricultural Supply and Demand Estimates (WASDE) season averages, mid-point of range for the 2008/09 marketing year. Prices deflated by Bureau of Economic Analysis (BEA) annual implicit GDP deflator.

Long term trend

The tremendous breadth of relevant information spanning global markets seems to give an advantage to the large multi-national agriculturalbased companies monitoring crop and market conditions in all of the major grain and oilseed producing countries worldwide.
3 principal sources of market information available to all the particpants

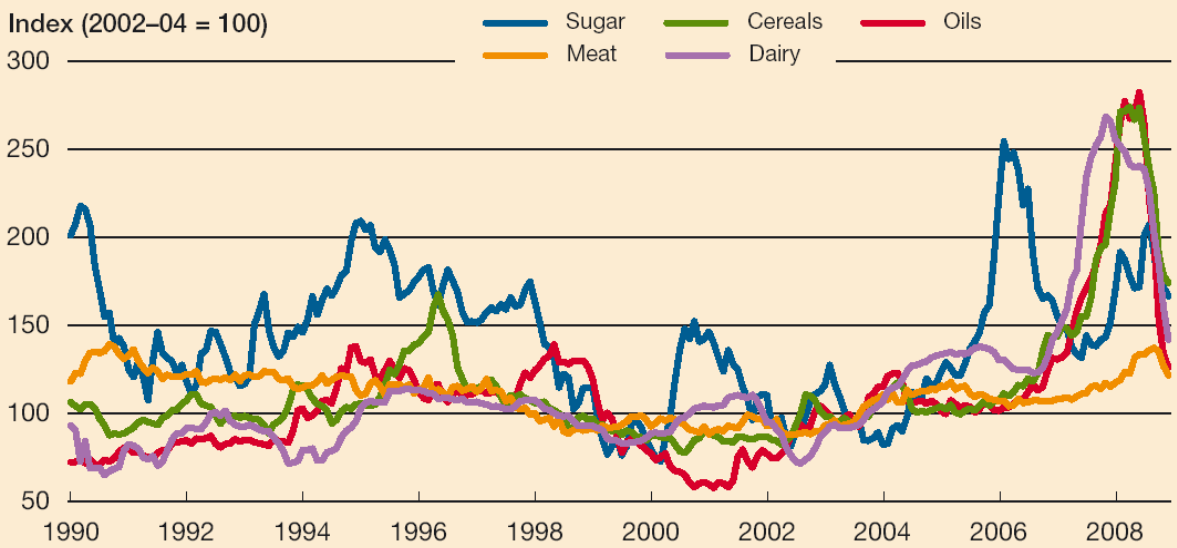
- Agricultural Commodity Futures Markets. Commodity futures markets function as a central exchange for domestic and international market information and as a primary mechanism for price discovery.

Long term trend

- U.S. Department of Agriculture (USDA). USDA attempts to level the "information" playing field for market participants by publishing timely U.S. and international crop supply, demand, and price projections for major U.S. program crops, as well as for several livestock production activities.
- Private News Services. In addition to USDA's commodity market information activities, a large network of private sector, fee-based agricultural market news and information services (including weather information services and commodity market reporting services) have developed since the early 1970s to complement and enhance USDA's commodity reporting.

Long term trend

Evolution of monthly FAO price indices for basic food commodity groups



Source: FAO.

Price spikes

Price spike is a pronounced sharp increase in price above the trend value. For practical purposes, can be identified as an annual percentage change that is more than two standard deviations,σ, of the price in the five years preceding the year that the percentage change is calculated from.
Using this definition, it is possible to identify the years in which highprice events for basic food commodities occurred
Checking each year's percentage change against twice the standard deviation calculated as:

$$\sigma_t = \sqrt{\frac{\sum_{t-6}^{t-2} (x_i - \overline{x})}{5}}$$

four distinct periods can be identified where prices exhibited significant increases: 1972–74, 1988, 1995 and the current period.

Why Increase

Additional reasons for the increases of 2008

- year of drought in Australia
- unfavourable weather in EU and Ukraine

This chain reaction somewhat repeated itself in 2008, but this time in reverse order.
Farmers in the United States of America cut back on their maize plantings in favour of soybeans because of their higher relative prices. Strong soybean prices gave rise to a substantial increase in soybean planted area in the United States of America for the 2008/09marketing season. This trend is confirmed by the soybean–maize price ratio in the futures market.

Why Increase

From a historical perspectives when the ratio approaches two, as a rule of thumb soybeans are favoured over maize, resulting in a shift of planting area from maize to soybeans.
As this ratio fell in 2006/07, farmers drastically increased maize plantings.
With the ratio well above two in the 2007/08 season, farmers expanded soybean plantings instead.

Agricultural Prices and Energy Prices

- Support for biofuels and the additional demand for the agricultural products will continue to shore up their prices.
- The higher oil prices are, the more economically viable biofuel production becomes and the more agricultural products are demanded as feedstocks.
- When oil prices reach a level where biofuels become competitive, demand by the energy market for agricultural products as feedstocks increases and this new demand pushes up agricultural prices.

Energy markets are huge relative to agricultural markets, demand from the biofuel sector could in principle absorb any additional production of crops usable as feedstocks so the energy market would effectively set a **floor price** for the agricultural products. It would also set a **ceiling on agricultural prod**uct prices at the point where they have risen so much that biofuel production is no longer competitive. It would be energy demands rather than food demand that would set agricultural product prices.

Agricultural Prices and Energy Prices

- Energy markets are huge relative to agricultural markets
- Demand from the biofuel sector could in principle absorb any additional production of crops usable as feedstocks so the energy market would effectively set a **floor price** for the agricultural products.
- It would also set a **ceiling** on agricultural product prices at the point where they have risen so much that biofuel production is no longer competitive.
- It would be energy demands rather than food demand that would set agricultural product prices.

Speculation

- Speculation brings liquidity into the market and helps farmers and other participants to offset their exposure to future price fluctuations in the physical commodity markets.
- Speculation can sometimes play a perverse role in markets.
- Excessive levels of speculation can lead to sudden or unreasonable fluctuations or unwarranted changes.
- The level of speculative activity could be controlled by regulating commodity markets (Limiting the number of futures contracts that one non hedger participant can hold). This is risky as excessive regulation may drive speculators out of the market, depriving it of liquidity.

Data on Corn/Maize

"Crop Values" includes average prices and values of production for major field crops and many specialty crops.
All prices are Marketing Year Average (MYA) prices.
Do not include allowances or adjustments for commodities under government loan at the end of the marketing year, commodities forfeited to the Commodity Credit Corporation, loan deficiency payments, direct and counter cyclical payments, or disaster payments.
Each State MYA price is based on sales in the months comprising its marketing year, U.S. MYA prices are based on sales during the standard U.S. marketing year for each crop.

Data on Corn/Maize

US monthly prices, for all crops in the monthly price estimating program, are computed by weighting monthly State prices by monthly marketing for each State.
US MYA prices for corn, sorghum, oats, barley, wheat, rice, soybeans, peanuts, flaxseed, sunflower, canola (beginning with 2007), upland cotton, dry edible beans, chickpeas (garbanzo beans), dry edible peas, Austrian winter peas, and lentils are computed by weighting U.S. monthly prices by monthly marketing for the U.S. marketing year.
State and U.S. preliminary MYA prices
(http://usda.mannlib.cornell.edu/usda/)

The data

1. Livestock and Grain Market News Branch of the Livestock and Seed Program (LSP) compile and disseminate information that will aid producers, consumers, and distributors in the sale and purchase of livestock, meat, grain, and their related products nationally and internationally. web site http://www.ams.usda.gov/mnreports
2. International Grains Council (http://www.igc.int/en/publications/default.aspx). Reviews the current situation and outlook for wheat (including durum), coarse grains (including maize (corn), barley, sorghum, oats and rye), oilseeds and rice.

Separate chapters cover production, trade, consumption, stocks, prices, ocean freight rates and national policy developments.
The analysis is supported by some 40 statistical tables.

The Recent Evolution

Export prices remained below the peaks recorded early in 2008.

- Winter wheat plantings further triggered buying.China was among several recent customers for Australian feed grade wheat.
- For maize, there were worries about a reduced official US carryover forecast as well as about whether plantings for the next crop would be sufficient to prevent stocks falling further in 2011/12. The impact of dryness, attributed to the La Niña event, on Argentina's upcoming harvest added to the market's nervousness.
- US soyabean prices moved higher, initially because of continued heavy demand from China but more recently due to a lower official US supply estimate and strength in crude oil.
- Rice export prices also increased, but while Thai values in late-December climbed to a ten-month peak, they subsequently fell back as the main crop harvest advanced.

SEE: www.igc.int/gmr/407/prices06_11.pdf

Coarse Grains

World coarse grain markets: Corn represents about 70%:
Main producers: US (38%), China (20%) Brazil (7%) EU (7%) Mexico (3%)
Main consumers: US (32%), China (20%) and the Eu (7%)
China recently became a net exporter of corn.
Corn in Europe and US is mainly used for forage. In Central and South American is still used for human consumption.
It is also used in food preparation, distilleries and in production of alcohol for engines.(ethanol) so its use is related to the price of the oil.

Corn trading

The corn traded on the CBOT is animal feed, the main competitors are wheat, sorghum and soybean meal.
Corn prices have risen to their highest levels since the summer of 1996 on renewed investment fund buying and building concerns that the 2007 U.S. growing season might have detrimental weather conditions. The uncertainty of what the USDA will reveal its first look at 2007/08 prospects

Corn prices

corn futures Dec 2011

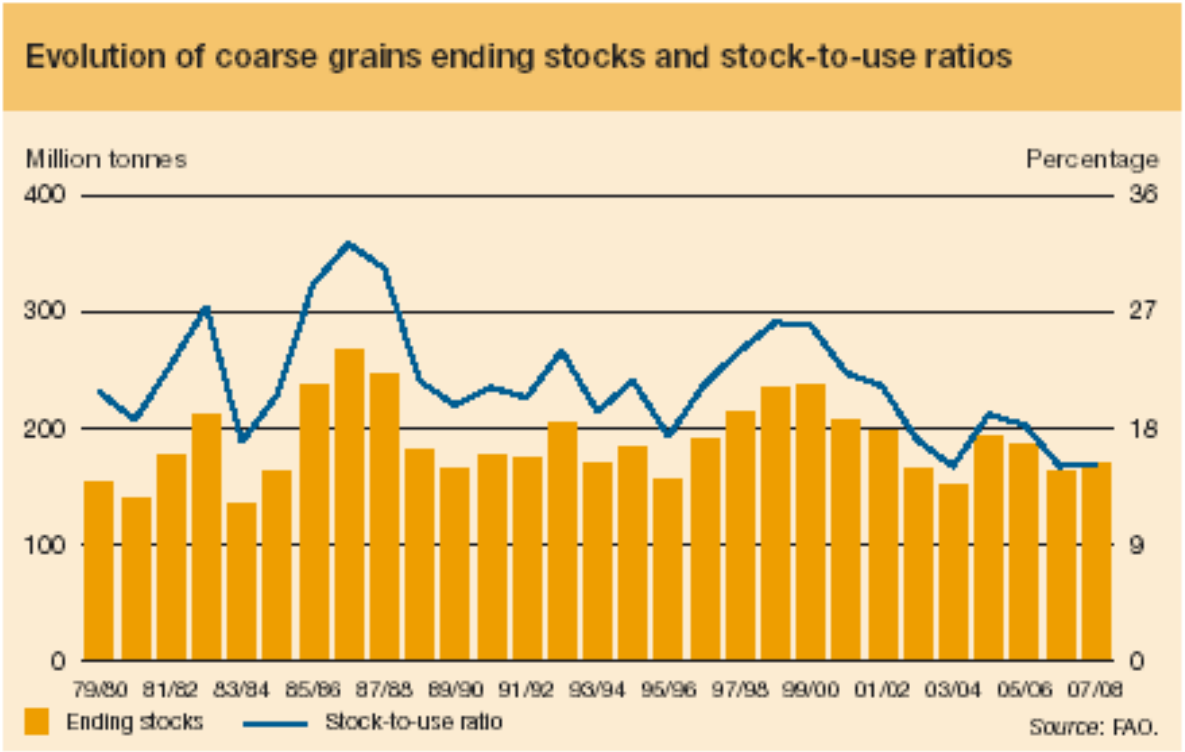
Corn Derivatives

Corn Futures and Options are traded at the CBOT.
In Feb. 2002 the Minneapolis Grain Exchange (MGEX) launched corn and soybean derivatives: Futures and Options contracts written on the National Corn Index (NCI) and National Soybean Index (NSI)
MGEX launched also its electronic platform, MGEX press.
NCI and NSI Futures and Options trade exclusively on the MGEXpress.
The NCI and NSI are indexes composed of country elevator bids. they tend to track prices where grain is originated -the cash market- more closely than corn and soybean contracts traded at the CBOT which are based on delivery to a few major elevators.
(*Open Appendix1.pdf for an example of option prices*)

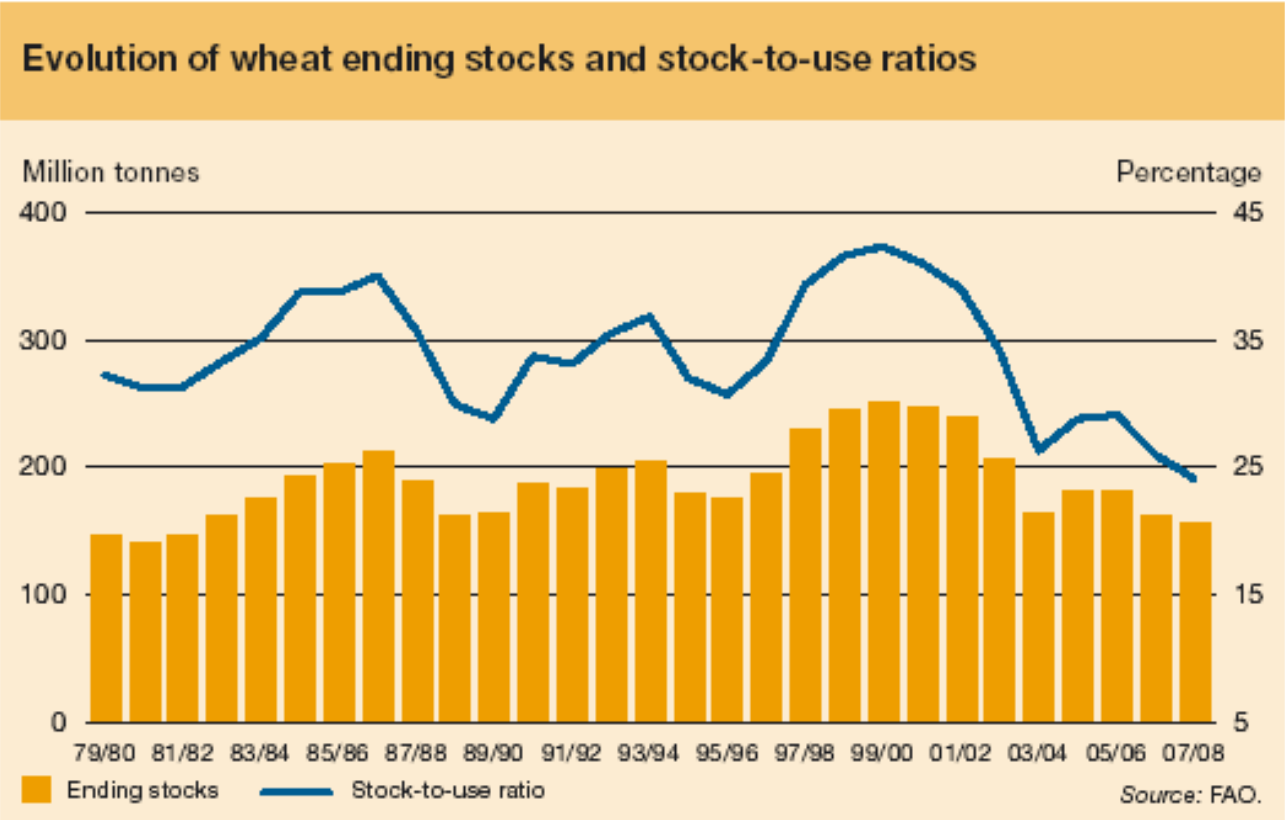
Corn Derivatives

The indices are calculated by Data Transmission Network which collects bids from roughly 1500 elevators and calculated the index. They are related to the bids in the country so they tend to correlate with cash prices, so futures contract really represent an efficient tool for risk management.
The contract size is of 5000 bushels for both NCI and NSI.
The index reflects a broad spectrum of market participants so prevent manipulation.

Coarse Grains



Coarse Grains



Soybean

After the 60's US, Brazil and Argentina became the main producers 81% of the world production.
Soybean was initially traded for its seeds which were processed into different types of food products.
Today soybean accounts for more than 1/2 of the total fats consumed in the US.
Soybean meal and Soybean oil are also traded creating the "soybean complex".
example:
http://www.cmegroup.com/popup/mdq2.html?code=ZSH9&title=March_2

Soybean meal and oil

Soybean are crushed to produce meal and oil.
The crush spread is the expected gross margin of soybean processing.
This spread is traded by the simultaneous purchase of soybean Futures and the sale of soybean oil and soybean meal Futures.
Meal makes up to 75-80% of the content of a bean and is used as animal feed.
Prices are affected by the availability of meal from crushing operations.
If meal demand is high and oil demand is not processed promptly turn to crushing and allow oil stocks to build up in anticipation of future demand.

Soybean price

Soybean with Bollinger bands

Soybean meal prices

soybean meal futures

soybean meal and oil

Soybean oil with momentum

soybean meal and oil

Soybean oil

Crush spread

A commodity product spread involving the purchase of soybean futures and the sale of soybean oil and soybean meal futures. A trader may employ this strategy if he/she believes there is a relative mispricing.
The CRUSH study is similar to the CRACK spread used for crude oil. Soybeans are the raw material used to produce bean oil (BO) and soymeal (SM). However, the ratio for this spread is 1:1:1. One bushel of soybeans produces one unit of soymeal and one unit of bean oil. The products soybeans produce are measured in liquid and dry weights. However, the end result from processing soybeans into its chief products is a 1:1:1 ratio.
Soybean contracts are quoted in cents per bushel,
Bean Oil is quoted in cents per pound and
Soymeal is quoted in dollars per short ton.

Crush spread

The crushing process produces 11 pounds of oil per bushel of soybeans, this price is converted to cents per bushel by multiplying by 11. No price conversion is necessary because both trade in cents.
Soybean meal is quoted in dollars per short ton, a price conversion must be made (dollars to cents), then a mass conversion must be made (short tons to pounds) finally a conversion from mass to volume.
The price is multiplied 100 ($/c) next a short ton of Soybean meal is converted to pounds by dividing by 2000 (short tons to pounds,) finally, since the crushing process produces 44 pounds of soybean meal per bushel of soybeans, the price is converted to bushels by multiplying by 44.
This is equivalent to multiplying by 2.2 (2.2 = 100/2000*44).

$$-\%S \times 1 + \%SM \times 2.2 \times 1 + \%BO \times 11 \times 1$$

Wheat

Wheat is the oldest commodity contract and started to be traded at CBOT in 1850.
It is used as food for humans and animals. It is a staple diet and is certainly a major part of the US diet.
World wheat production reached its maximum in 1998:609 million tones (US, CHINA, FSU)
Wheat is traded on 3 US Exchanges: CBOT, KCBOT and MGEX
Chicago soft wheat
KCBOT is the largest crop (pizza and bread dough wheat)
MGEX is the highest grade of wheat.

Wheat price

Prices are strongly dependent to the crops and the seasonal features.
Storage facilities in the US exist for up to half of its production the rest is sold immediately.
A regular seasonal pattern may be found in the price trajectories.
The fundamentals that produce the pattern are clear: if the prices approach the bottom third of the historical trading range for wheat during the month of May, June or July, it is likely that this will be the low for the year.
The combination of approaching historical low prices in the right seasonal time frame can be a buying signal for technical analysis speculators.

Wheat price

wheat futures

soft commodities

The soft group is an odd mix.
They are always refereed as tropics given that they are primarily grown in the tropical or subtropical regions
Cocoa
Sugar
Cotton
Coffee.

Cocoa

Measuring demand is difficult. Cocoa grind statistics are released country by country but more cocoa is being ground in the production countries and shipped afterward. As for other commodity the "stock-to-use" figure is the most important one.

Cocoa Futures May 2011

Coffee

The tropical crop is grown in so many different varieties. The main differences is between Arabica coffee and Robusta coffee (Africa vs Latin America)
The London coffee contract is arabica and the NYC is Robusta
Overproduction of coffee in the world explain the consistent decline of coffee prices since 1998 (despite the sharp increase in the demand.

Coffee

Coffee futures

Sugar

The demand for Sugar will increase dramatically given the increasing production of Ethanol
In fact, Brazil's agricultural minister recently stated that they need $10 billion dollars in investment by 2012 to keep up with the rising demand for Ethanol.
As it stands, the current Sugar supply will not be able to fill the increase demand for the commodity. And this demand will continue to increase as Oil prices continually head higher.

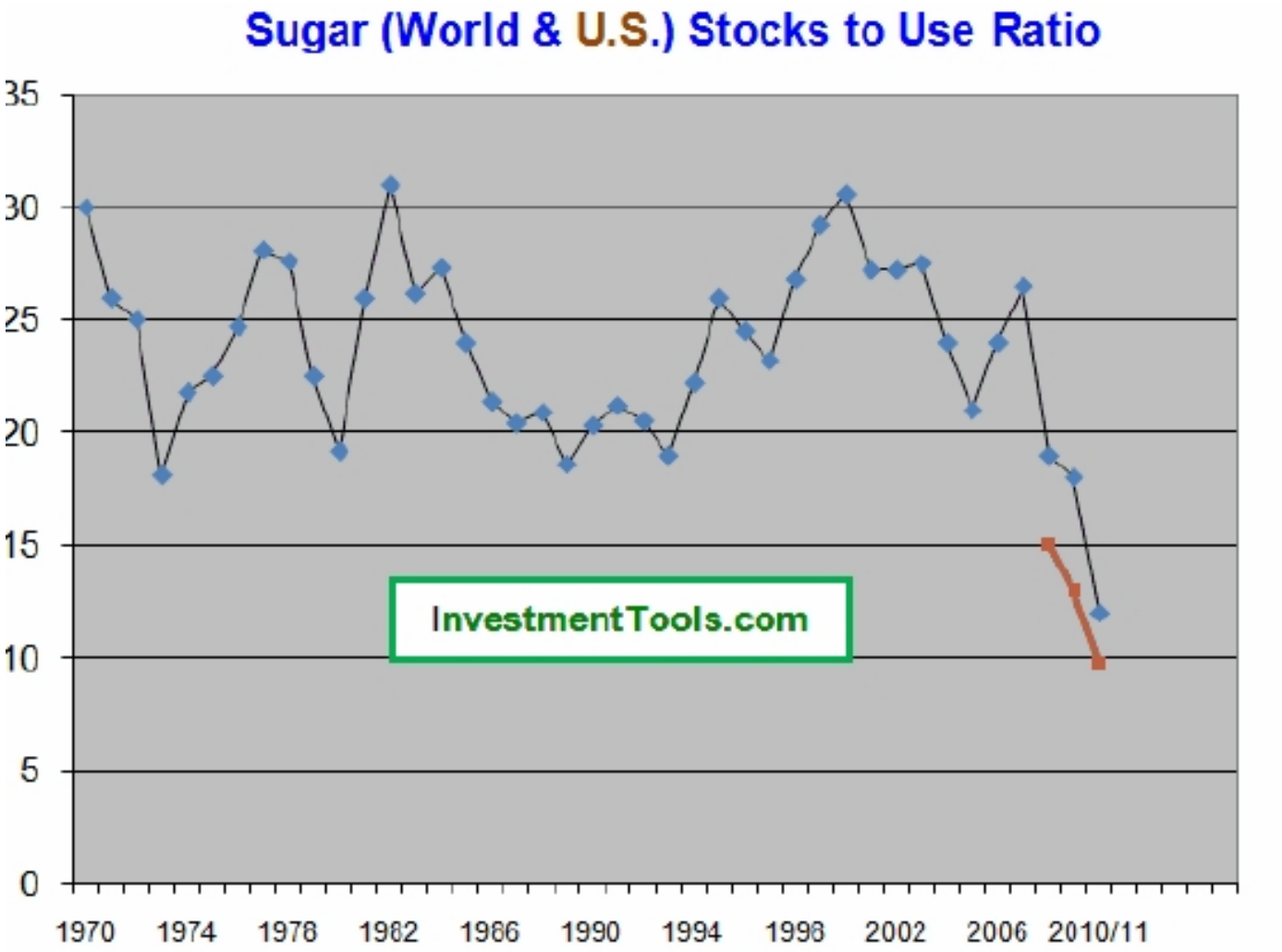
Sugar price

Sugar Price

Sugar demand

The demand for Sugar will come from a need for a cheaper fuel alternative, it will also come from a need for a more environmentally cleaner fuel.
This type of demand to increase as these countries experience success in curbing emissions and as we get closer to 2012.
Coinciding with this demand for a cheaper and cleaner fuel alternative is a demand for Sugar as a food product. In the last 50 years, a steady increase in world sugar consumption.
Exponential demand for sugar as a food product to come out of China, India, and other emerging economies.
The increase demand for Sugar as fuel source coupled with the increase demand for sugar as a food product, will ultimately contribute to demand greatly outweighing supply. The end result will be new historical highs for Sugar. As you can see from the chart below, sugar is still cheap at these levels.

Sugar Demand



Sugar

Managing Risk

Nothing ever changes when it comes to market risk it will always be there. You don't have to like it but you do need to manage it. Managing your risk of falling prices can enhance your farm's bottom line and that's a key goal for any farm operation.

Market risks include two components, regardless of where your farming operation is located—price and basis. Prices for feed grains and oilseeds, like corn and soybeans, are discovered in the Chicago Board of Trade (CBOT®) futures markets.

The most basic futures strategy to protect your selling price is the Short Futures Hedge. This strategy provides protection against falling prices.

The most basic option strategy to protect your selling price is the Long Put Option Hedge.