



# *Perspectives on Agriculture in a Commodity Downturn*

*51<sup>st</sup> Colorado Business  
Economic Outlook Forum  
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This is what the media has been telling us about commodities. Is it this simple?

**Forbes**

Why Commodities Are Toast

March 18, 2015



As US dollar soars,  
commodities get crushed

September 3, 2014

**Bloomberg**

Commodities Head for Record Losing Run on  
Oil to Dollar

December 30, 2014



Fate of commodities  
is linked to dollar

May 5, 2015

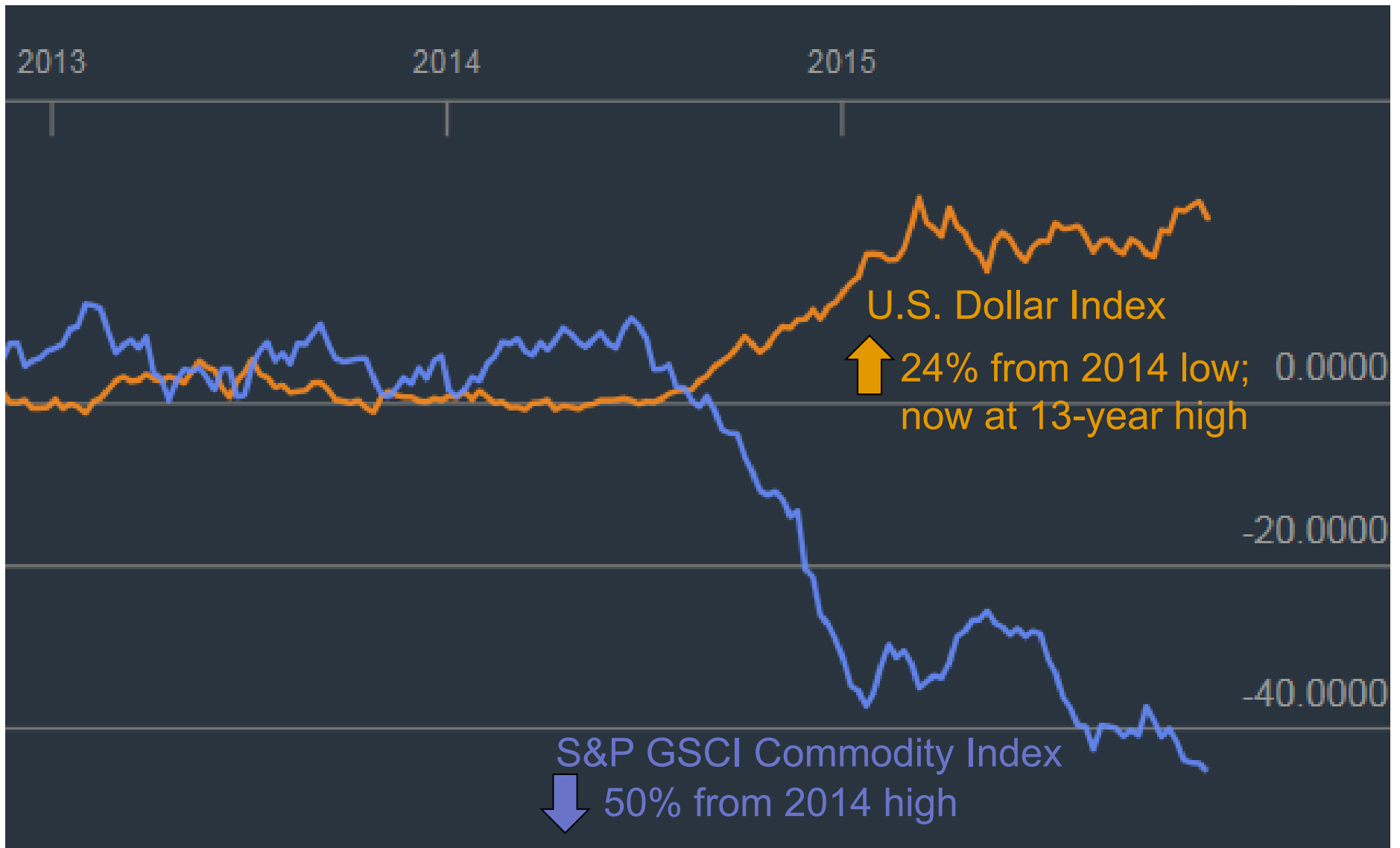
**THE WALL STREET JOURNAL.**

China's Weak Economy, Dollar  
Strength Dim Commodities Rebound

March 10, 2015

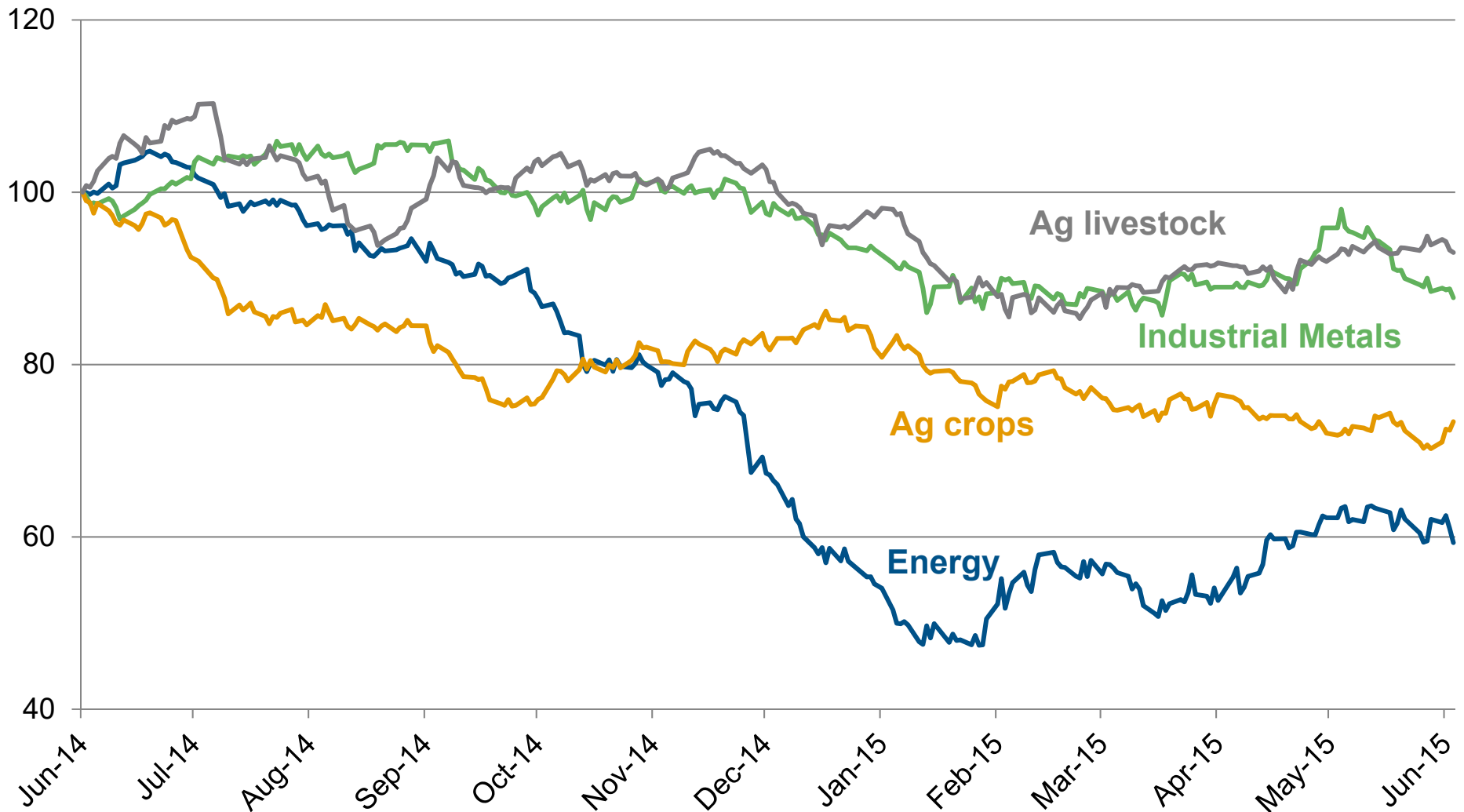


# At first glance the Dollar is to blame for commodity price woes



But the commodity sectors have not all performed the same

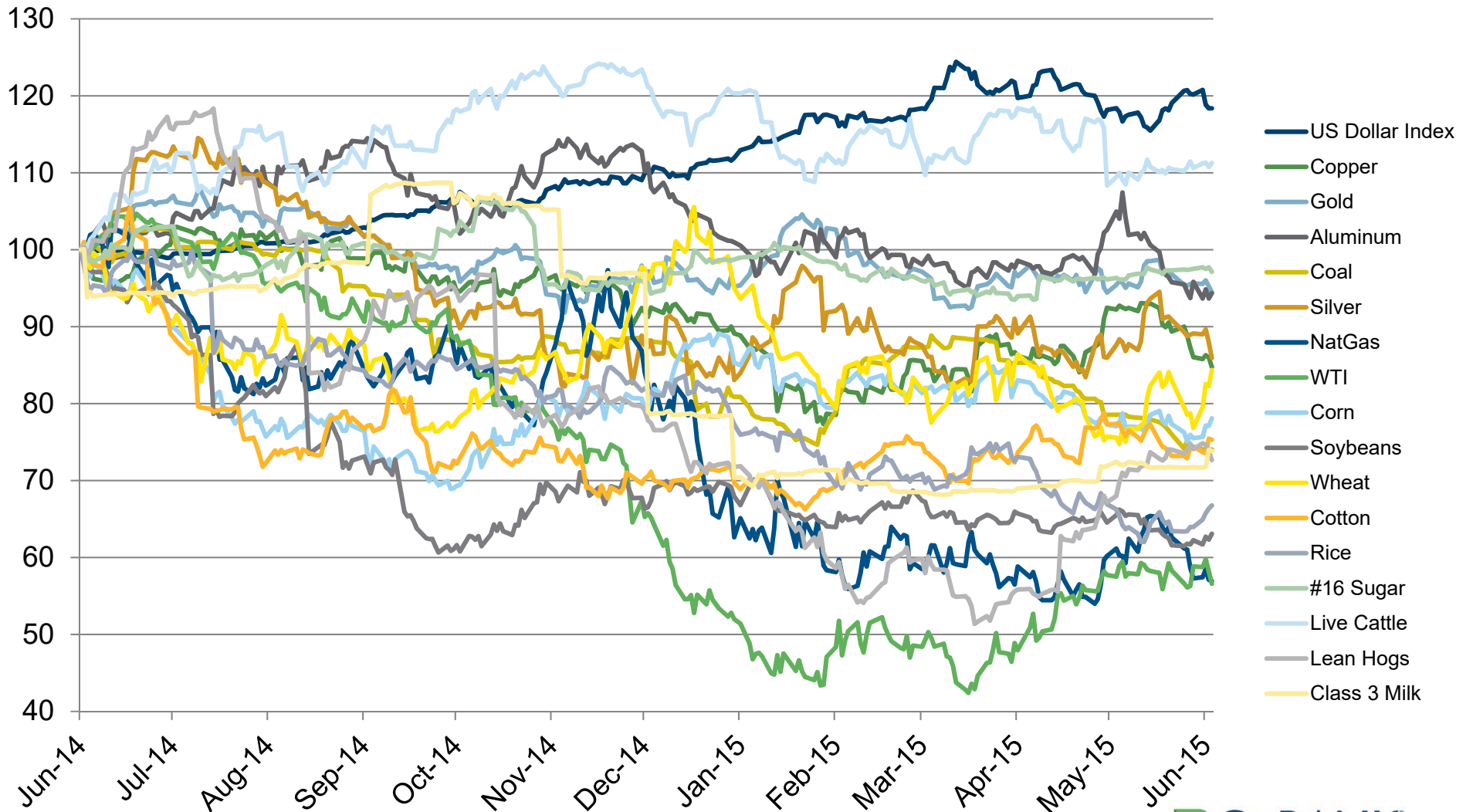
### S&P Commodity Price Indices



Source: Bloomberg

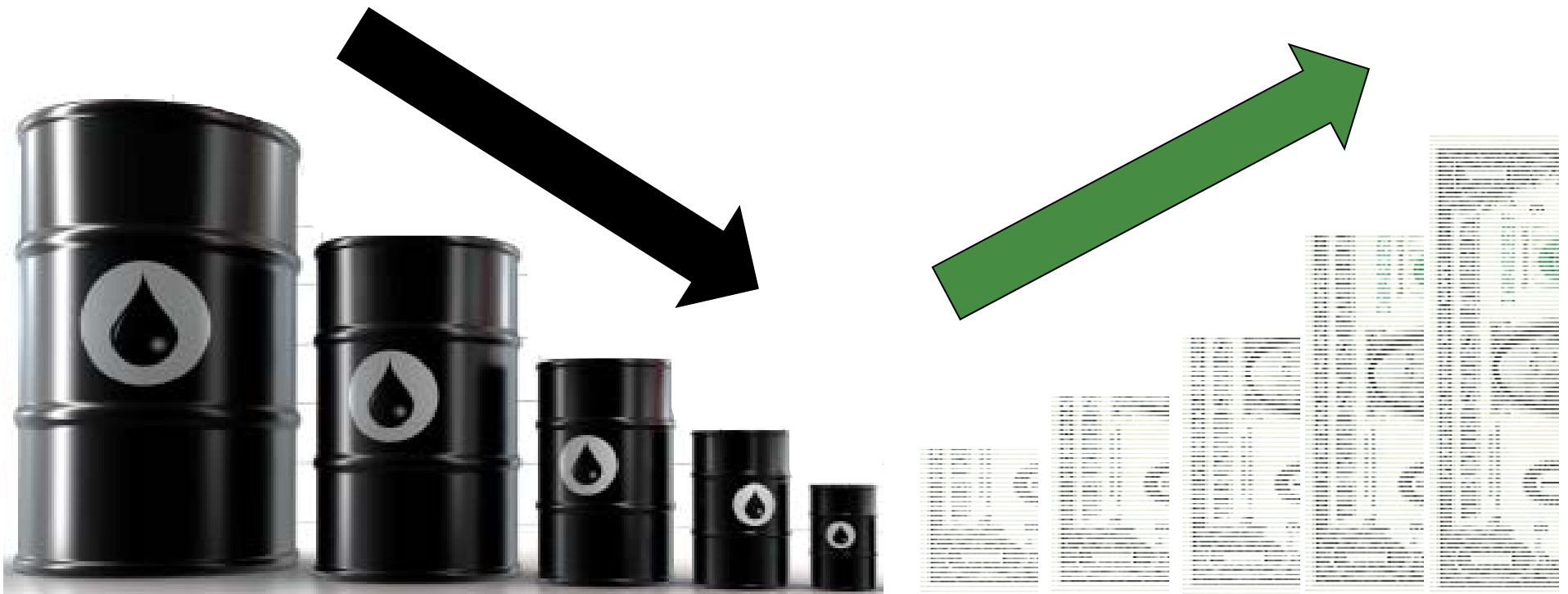
# And individual commodity prices have moved in a wide range

## Index of Commodity Prices and the U.S. Dollar



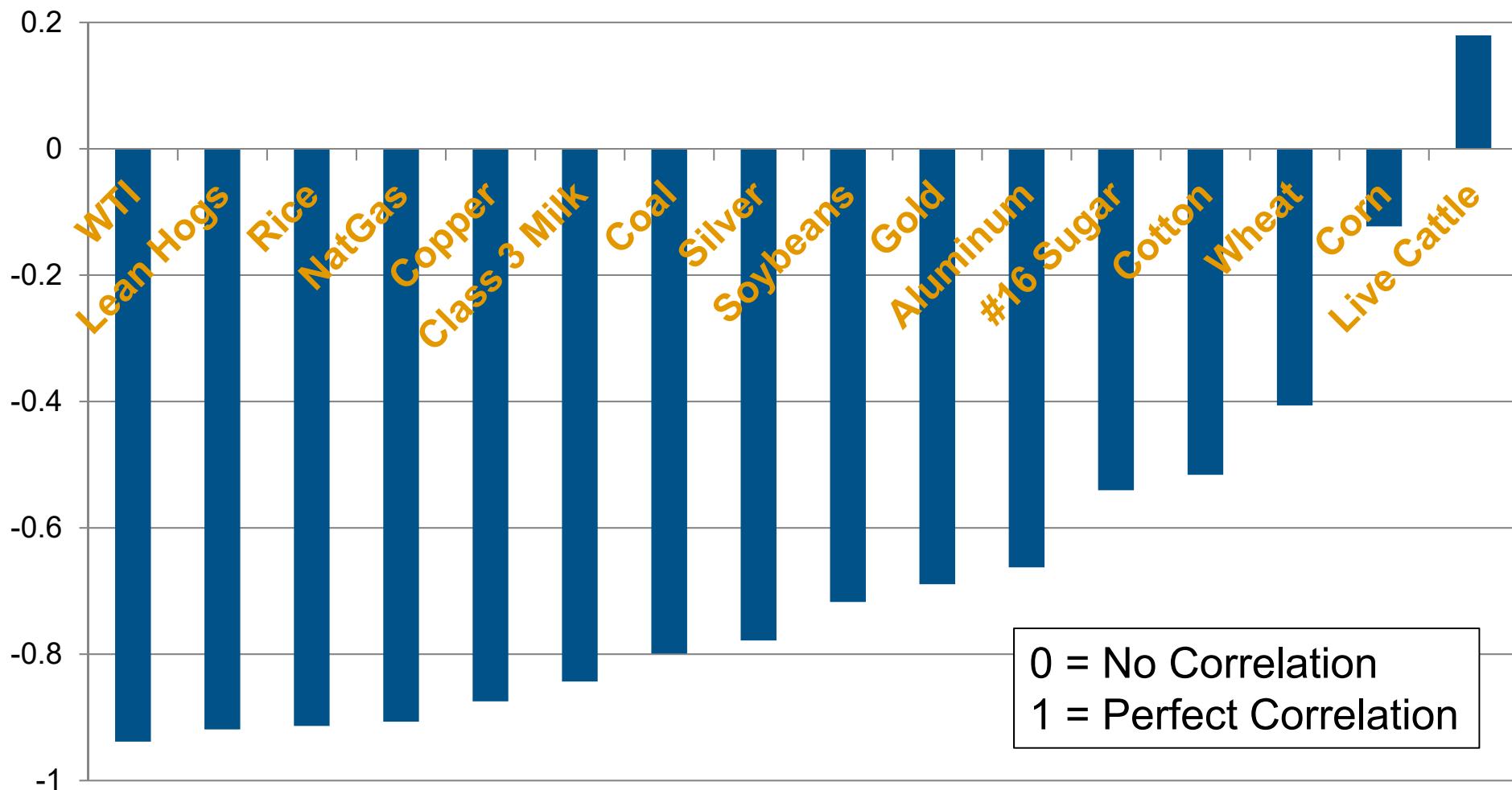
## Crude Oil vs. The U.S. Dollar

How important are crude oil and the dollar to commodities?



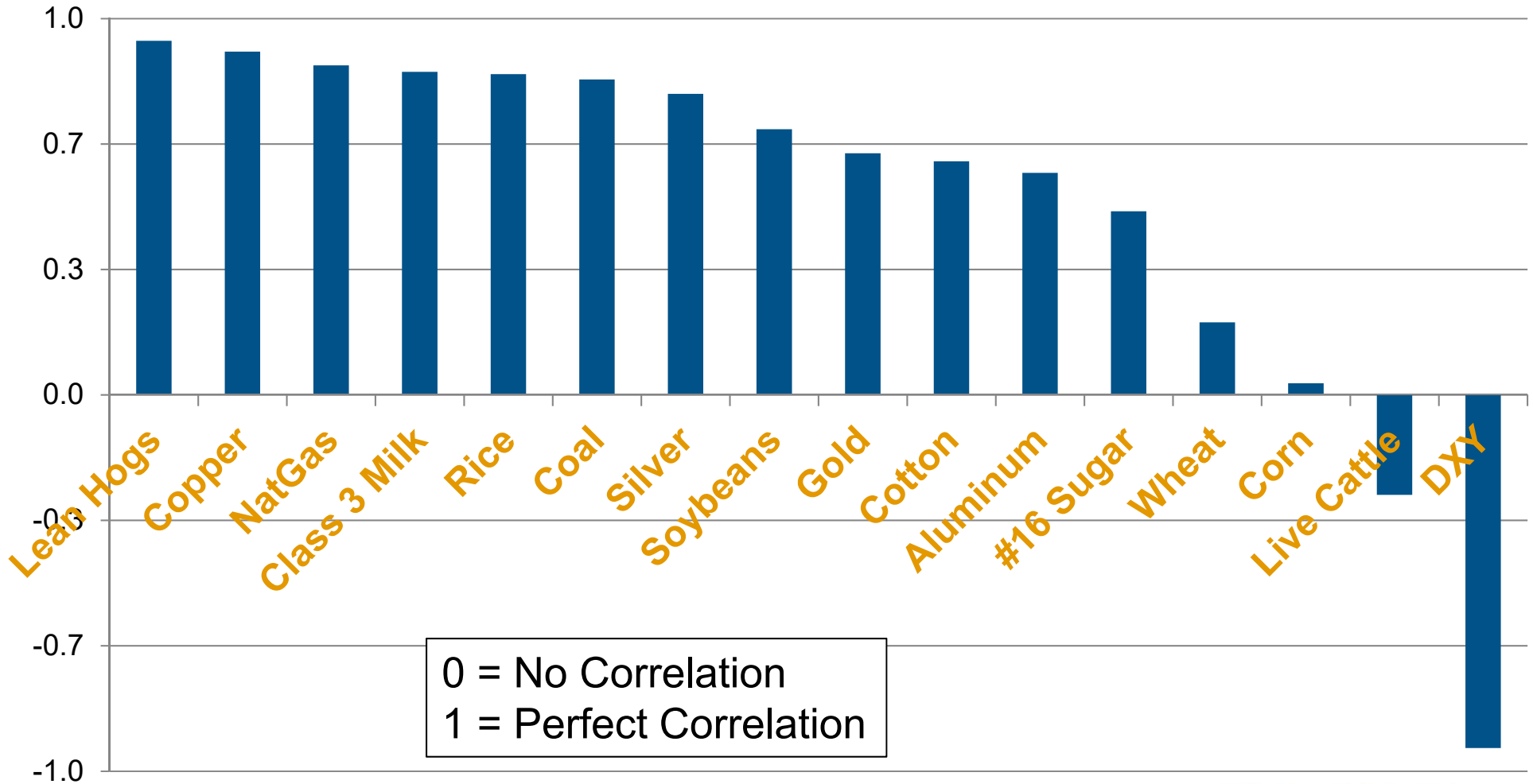
# Several commodities have had a strong inverse correlation with the dollar, but others are far less correlated

## 1 Year Correlation with US Dollar Index



# Several commodities have also been strongly correlated with crude oil, but not all

## 1 Year Correlation with Crude Oil Prices





## How important is China to commodities?



## China has a disproportionate impact on metals prices

### ❖ Metals – China consumes:

- ❖ 40% of the world's copper
- ❖ 50% of the world's iron ore

### ❖ Energy – China consumes:

- ❖ 12% of the world's oil
- ❖ 48% of the world's coal

### ❖ Agriculture – China consumes:

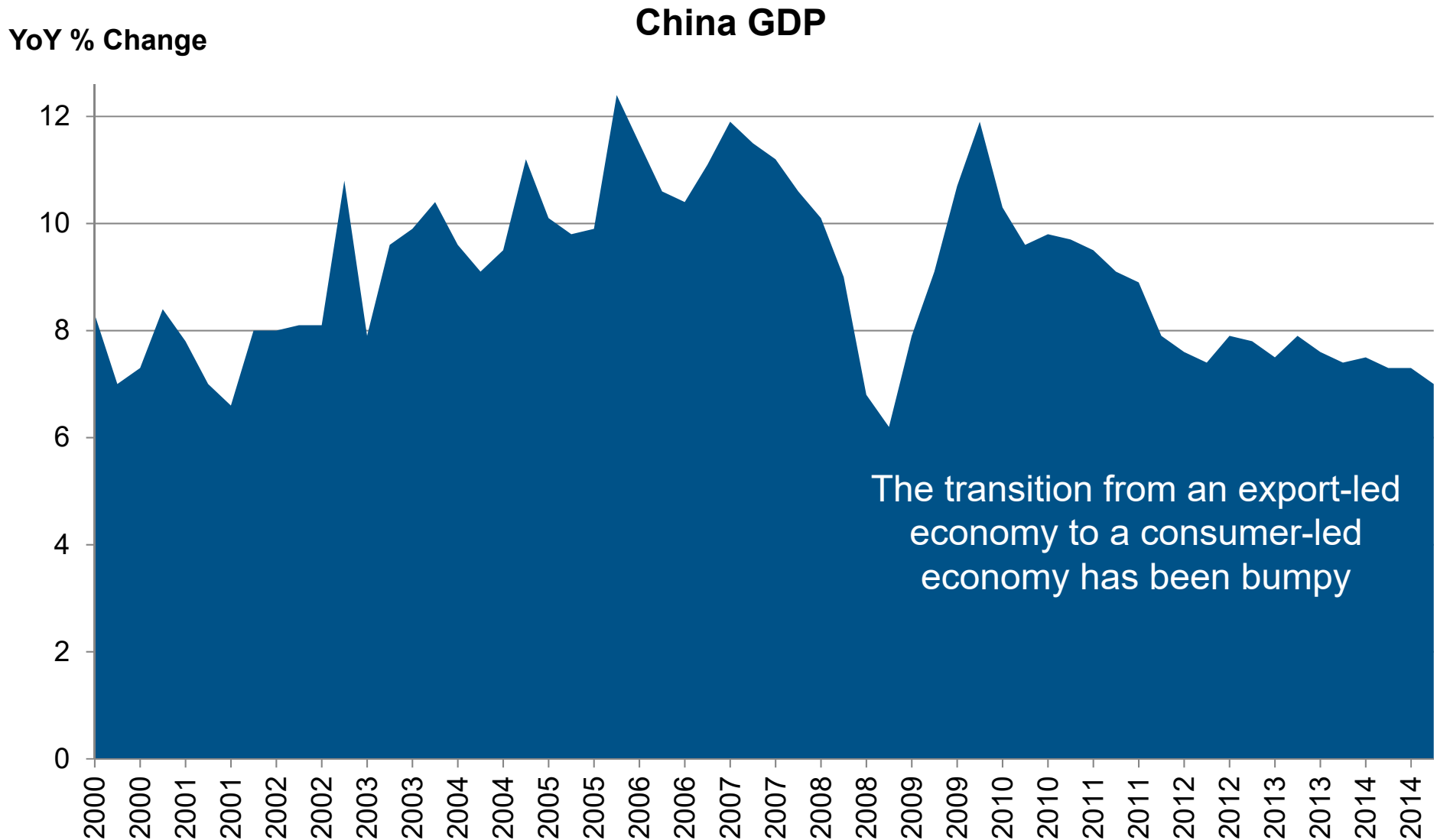
- ❖ 52% of the world's pork
- ❖ 31% of the world's cotton
- ❖ 31% of the world's rice
- ❖ 29% of the world's soybeans

All 3 sectors are fueled by the rising middle class

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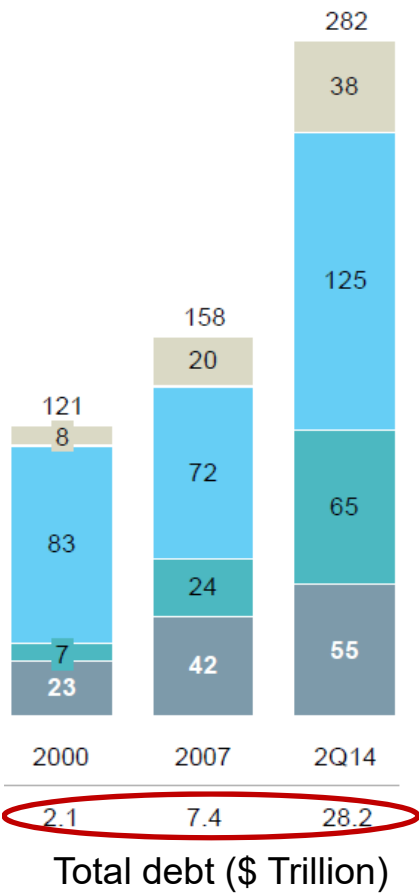
- ❖ But ag and energy consumption continue higher without declines
- ❖ Metals consumption has fallen since 2014 as China's economic expansion has slowed

China's GDP has been on a steady decline, dropping to the lowest level since the worst of the financial crisis



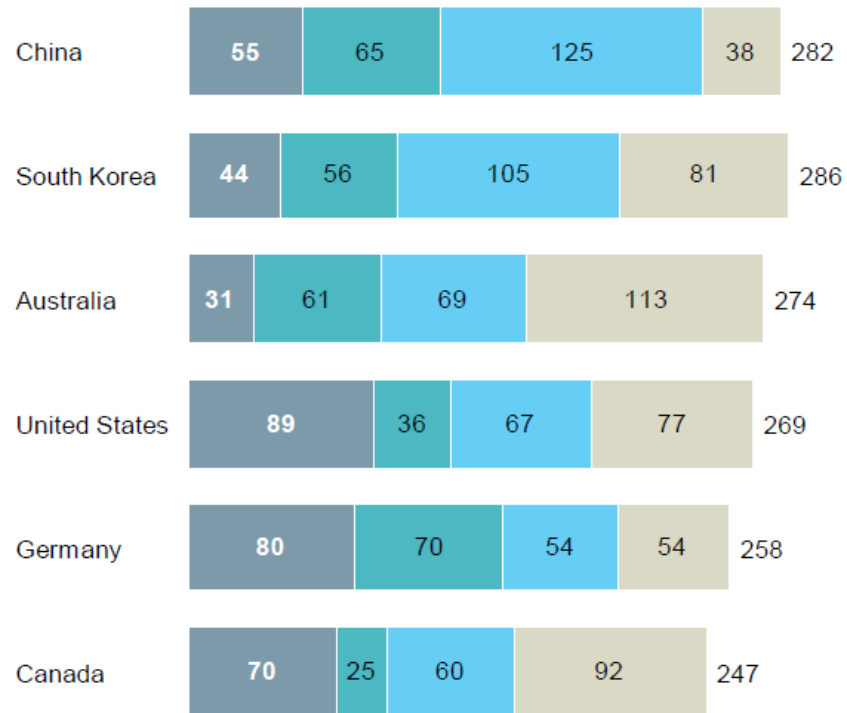
# China's debt problem - \$26 trillion increase since 2000

China  
Debt-to-GDP ratio (%)

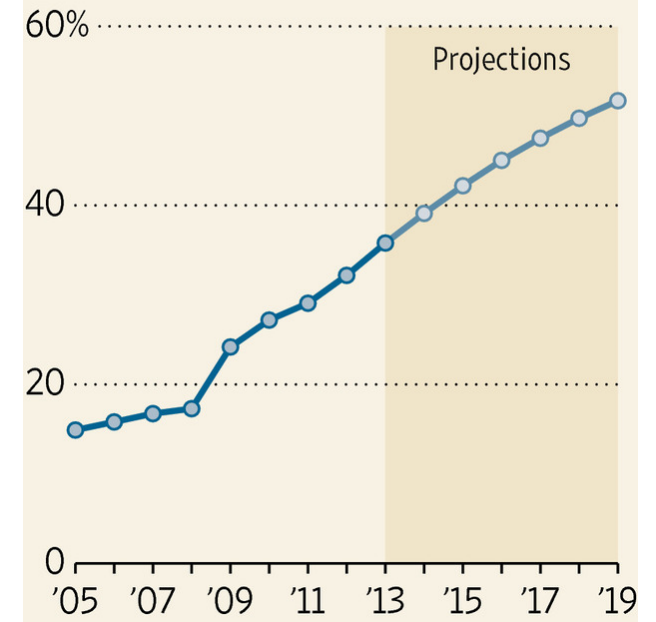


Government      Non-financial corporate  
Financial institutions      Households

By country, 2Q14



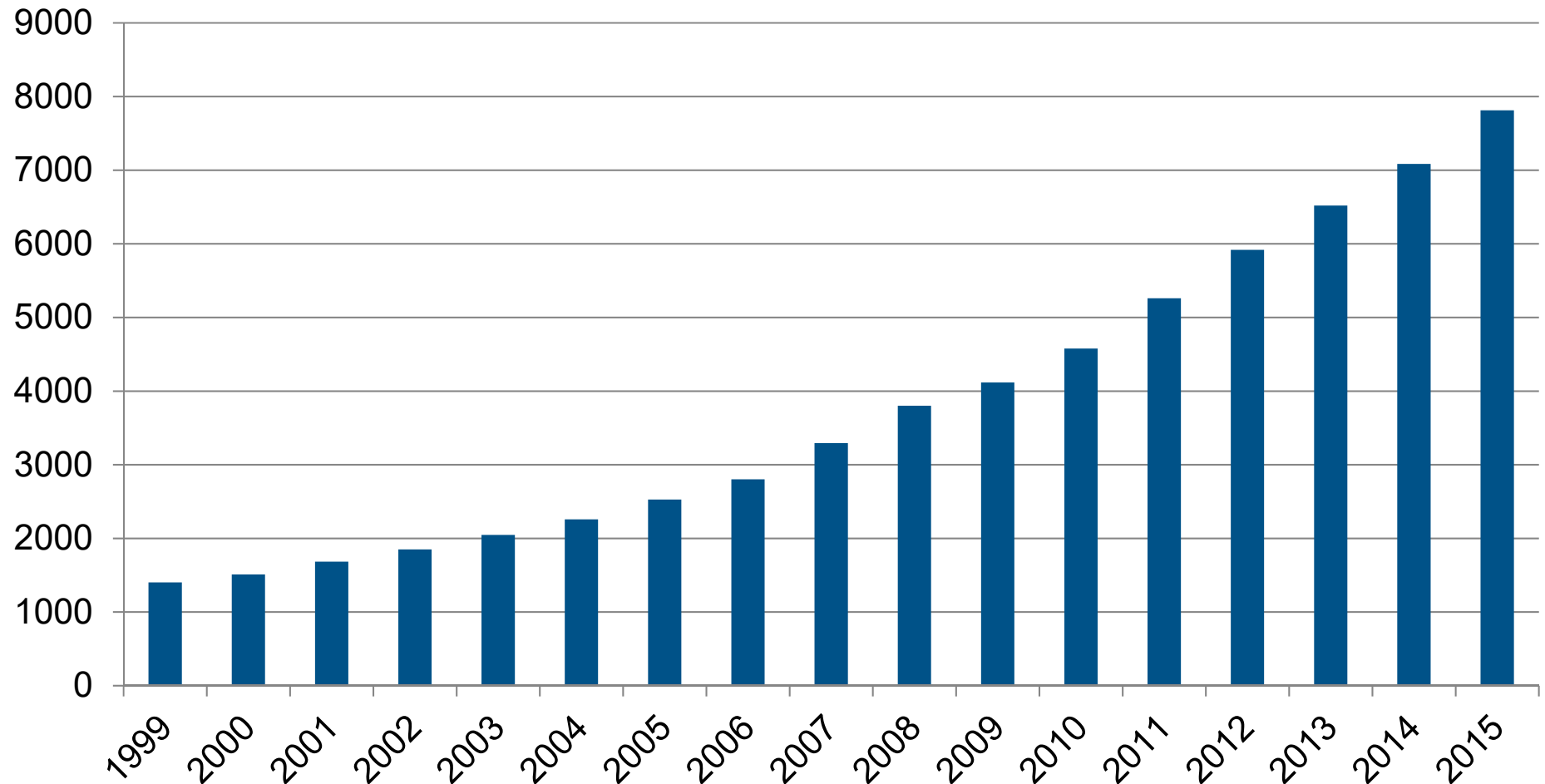
Local-government debt  
as a percentage of GDP



**But despite all the bad news, urban Chinese have more money to spend**

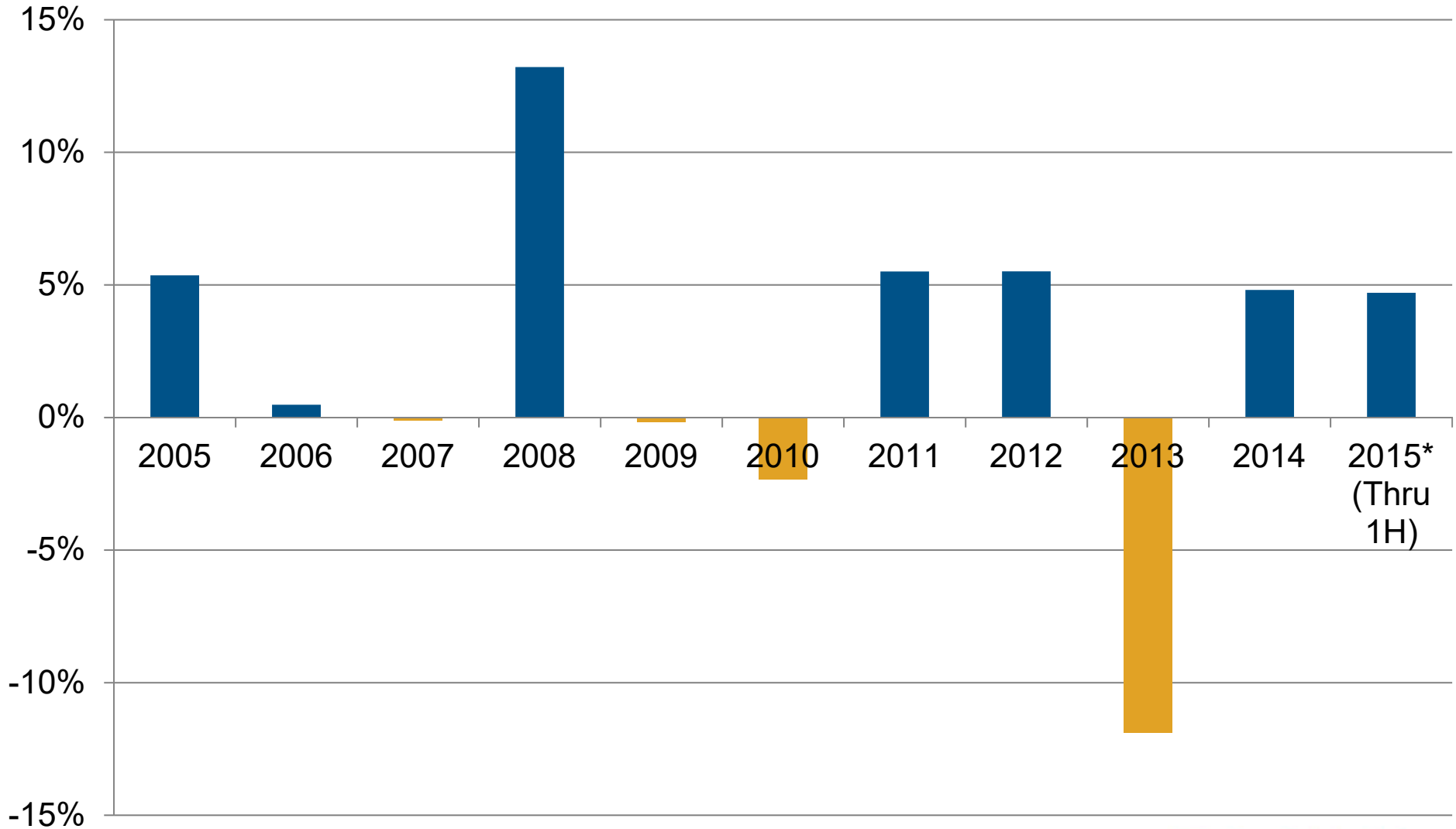
### China Urban Household Disposable Income (Q3)

Chinese yuan



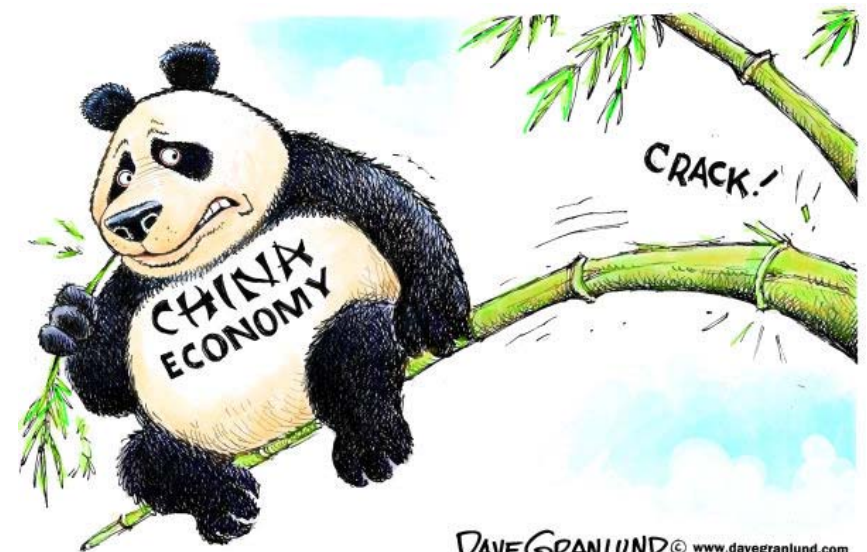
...and they are using some of that extra income to buy pricier food

China Urban Household 'Real' Food Spending (Year-over-Year)



## Summary: Macro forces are affecting commodities..but the effects vary significantly

- ❖ Macro forces are having disparate effects on commodities
  - ❖ Heavy effect on metals (Loss of China growth as production has increased)
  - ❖ Some effect on energy (slow economic growth, slow growth in energy consumption; but more supply-driven than weak demand)
  - ❖ Much less effect on ag (slow econ growth slows EM wealth effect for meat/dairy, but this is much less pronounced than metals and energy; A supply rebuild story)



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# Outlook: Strong dollar and higher interest rates won't help commodities

- ❖ The dollar is having some effect on all commodities
- ❖ Outlook for the USD – will remain high in 2016
  - ❖ Fed rate hike; Euro QE, slow growth; Japan easy monetary policy, stimulus; China weakness
- ❖ Interest rate increases are good for banks, usually not for commodities
  - ❖ Check out CoBank's 2012 Outlook report



OUTLOOK Economic Data and Commentary

October 2012 Volume 9 Number 10

## Commodity Prices and Interest Rates

When people think about the direction of commodity prices, they tend to focus on short-term supply shocks – like this summer's drought in the United States – or long-term trends in demand in China, India and other fast-growing parts of the developing world.

An often overlooked factor is the influence of interest rates. History shows a strong correlation between interest rates and prices for commodities, including oil, agricultural products, minerals, metals and other raw materials. Commodity prices generally climb when interest rates fall, and fall when interest rates rise.

In September, the Federal Reserve announced a new round of "quantitative easing" and affirmed its intent to hold short-term rates at super-low levels into 2015. Given the Fed's continued easy money posture, *OUTLOOK* turned to Harvard economist Jeff Frankel for a primer on the connection between rates and commodity price levels. Frankel has studied this dynamic over the course of his academic career, and argues that interest rates should always be kept in mind when assessing the future price for many commodities.

**OUTLOOK:** *At a high level, talk about the relationship between interest rates and commodity prices.*

**Jeff Frankel:** One important concept to define at the outset is the distinction between "nominal" interest rates and "real" interest rates. The nominal rate is the rate of interest before inflation is taken into account. To get the real interest rate, you take that nominal interest rate and subtract a good guess of what inflation will be in the future.

Whenever you see interest rates going up, you have to ask, "Is that increase in the interest rate reflecting expectations of inflation?" If interest rates are rising because the economy is overheating and we're expecting inflation in the future, that's just an increase in the nominal rate rather than the real rate. For instance, in the 1970s, the U.S. had high nominal interest rates, but expected inflation was even higher, which meant that real interest rates were low. Real interest rates even went into negative territory in the late

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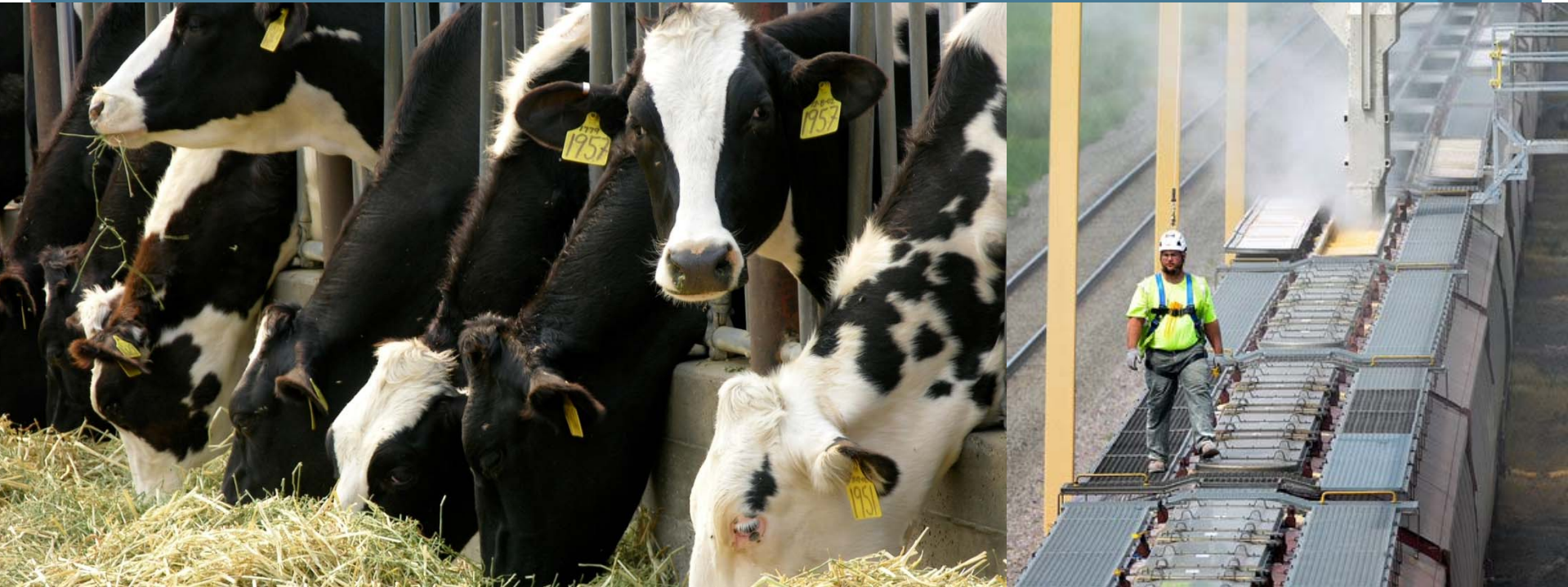


## Agricultural commodity outlook

- ❖ Some buying interest likely to return to some commodities in anticipation of supply peak, especially if inflation returns
- ❖ Ag price volatility will remain lower than past several years with large supplies slow to recede; Cattle is the exception
- ❖ China economy to struggle, with heavy debt burden, excess capacity, and slower gains from consumer vs. industry. But ag consumption will continue to increase.



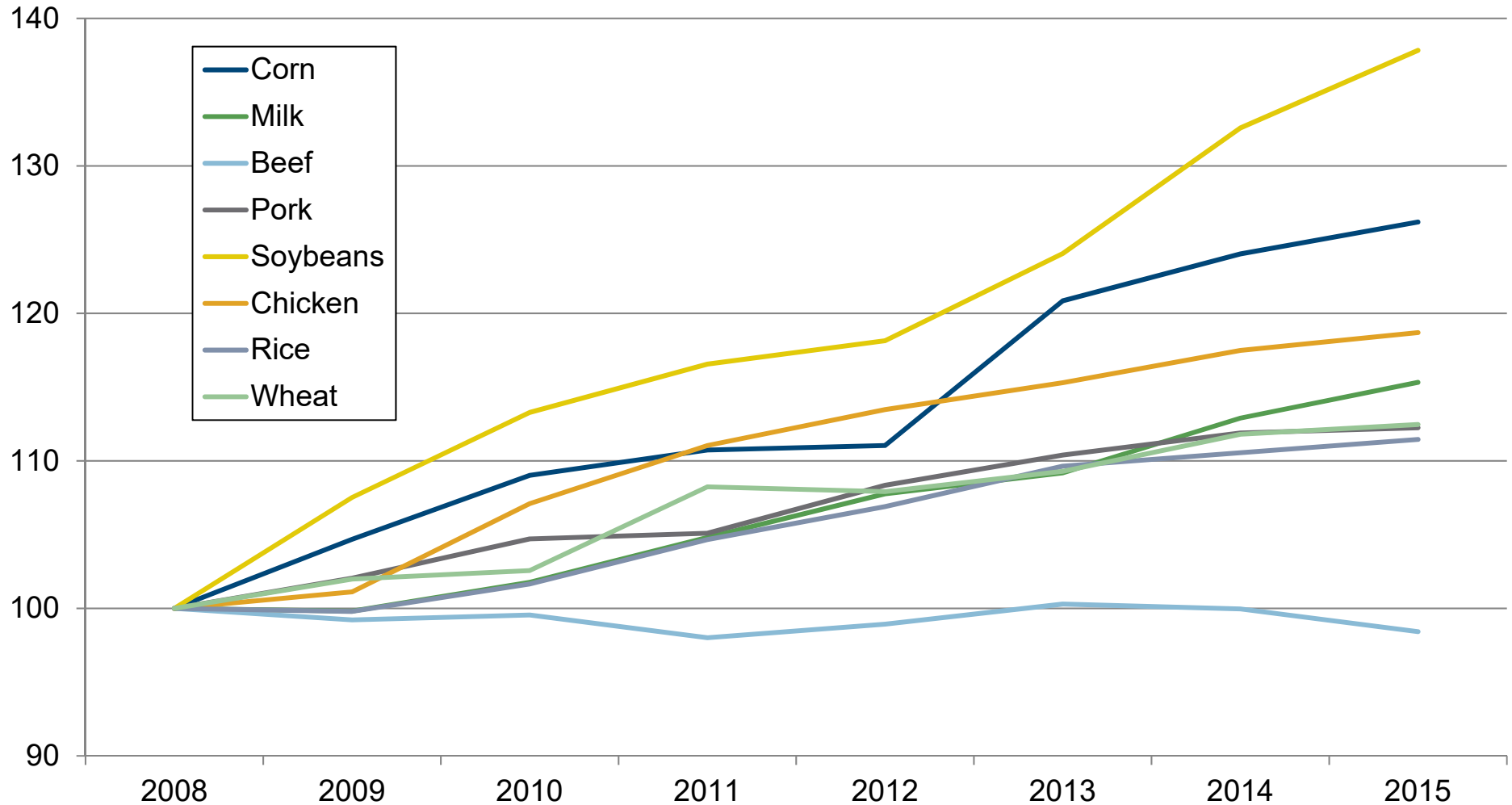
# Agricultural Supply & Demand



# Global ag consumption moved consistently higher through the economic crisis; demand has not been a problem

## World Consumption

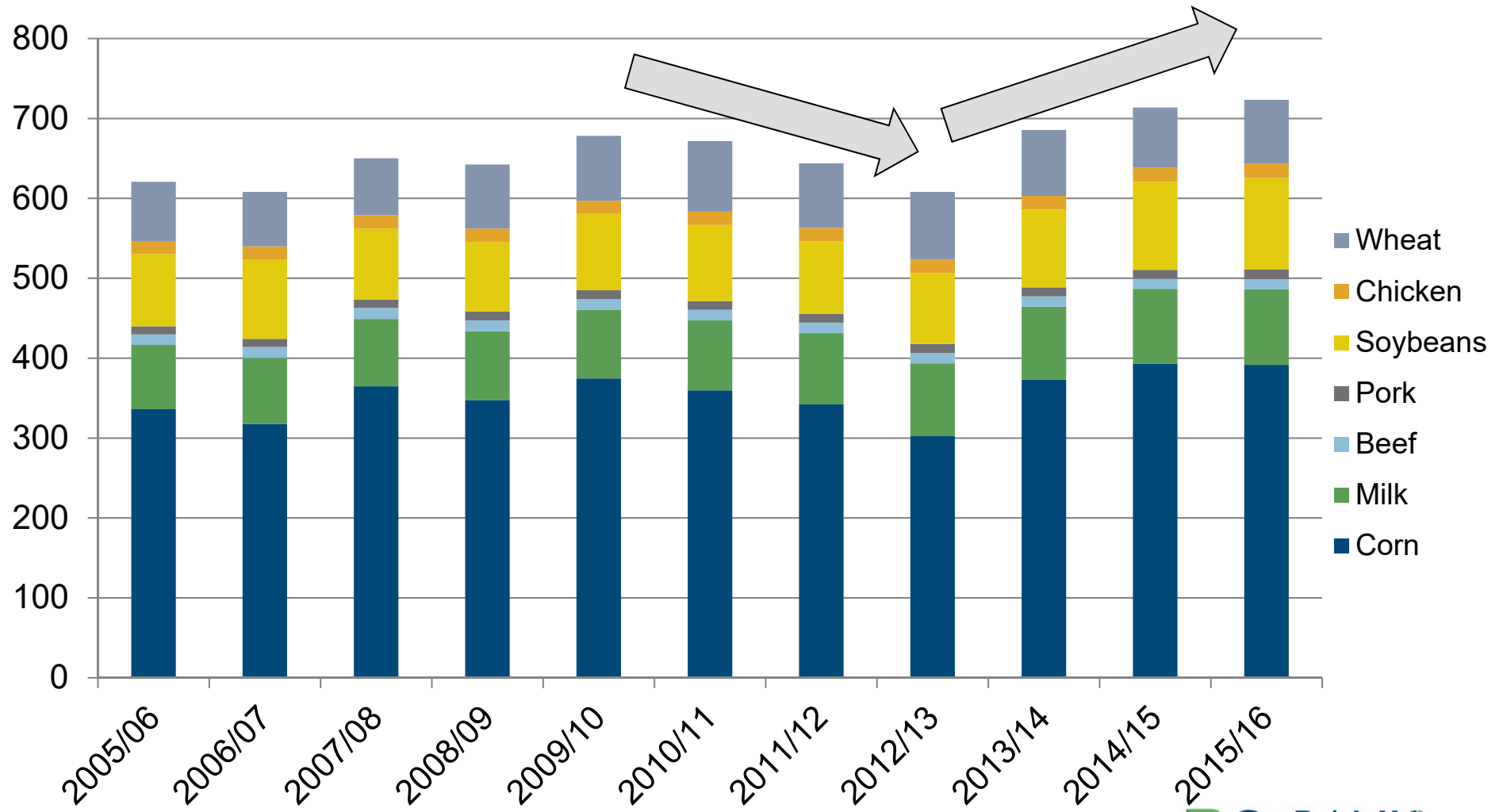
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# We have transitioned: Demand to supply driven market

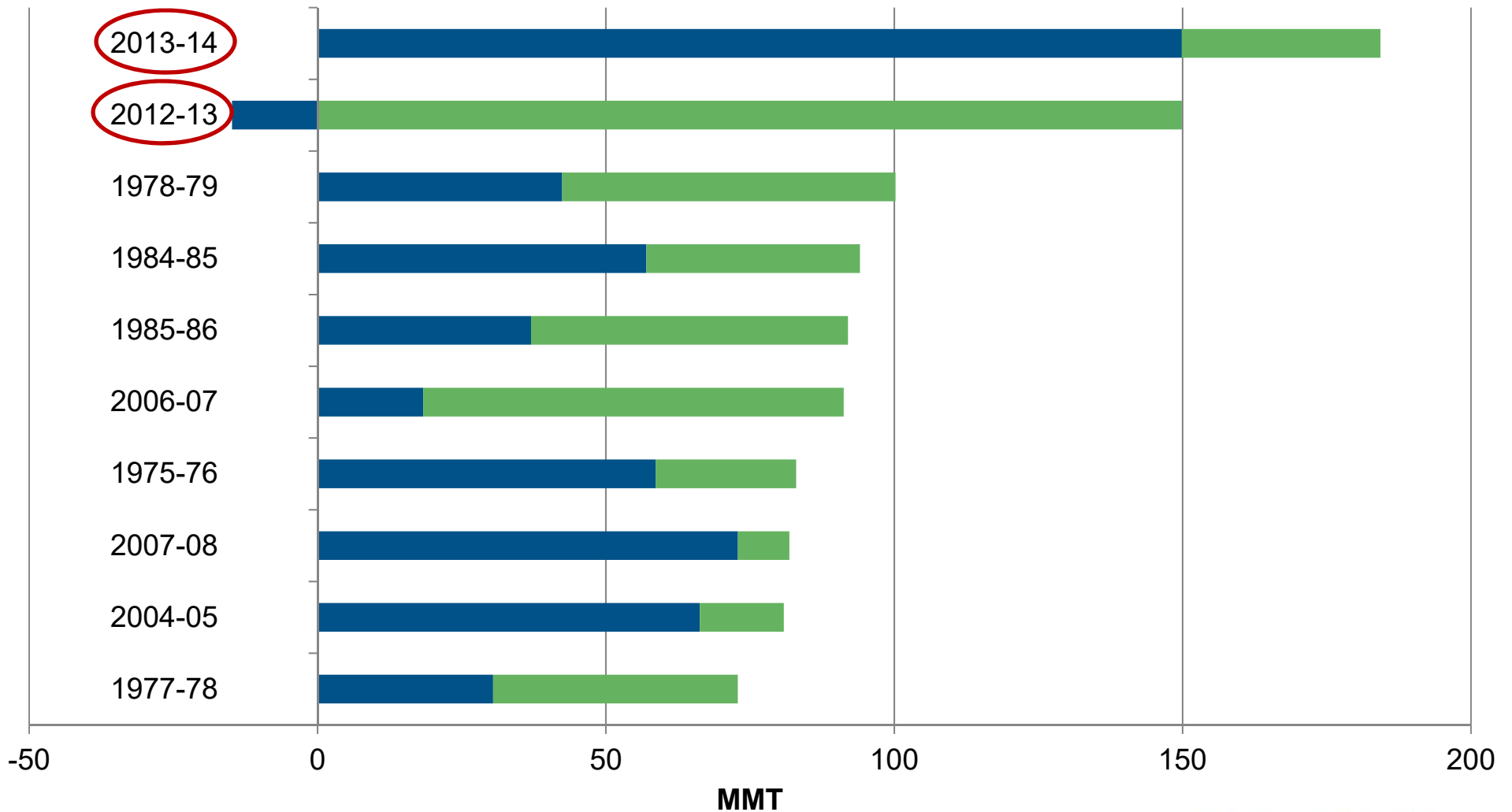
## U.S. Agricultural Supply

MMT Equiv



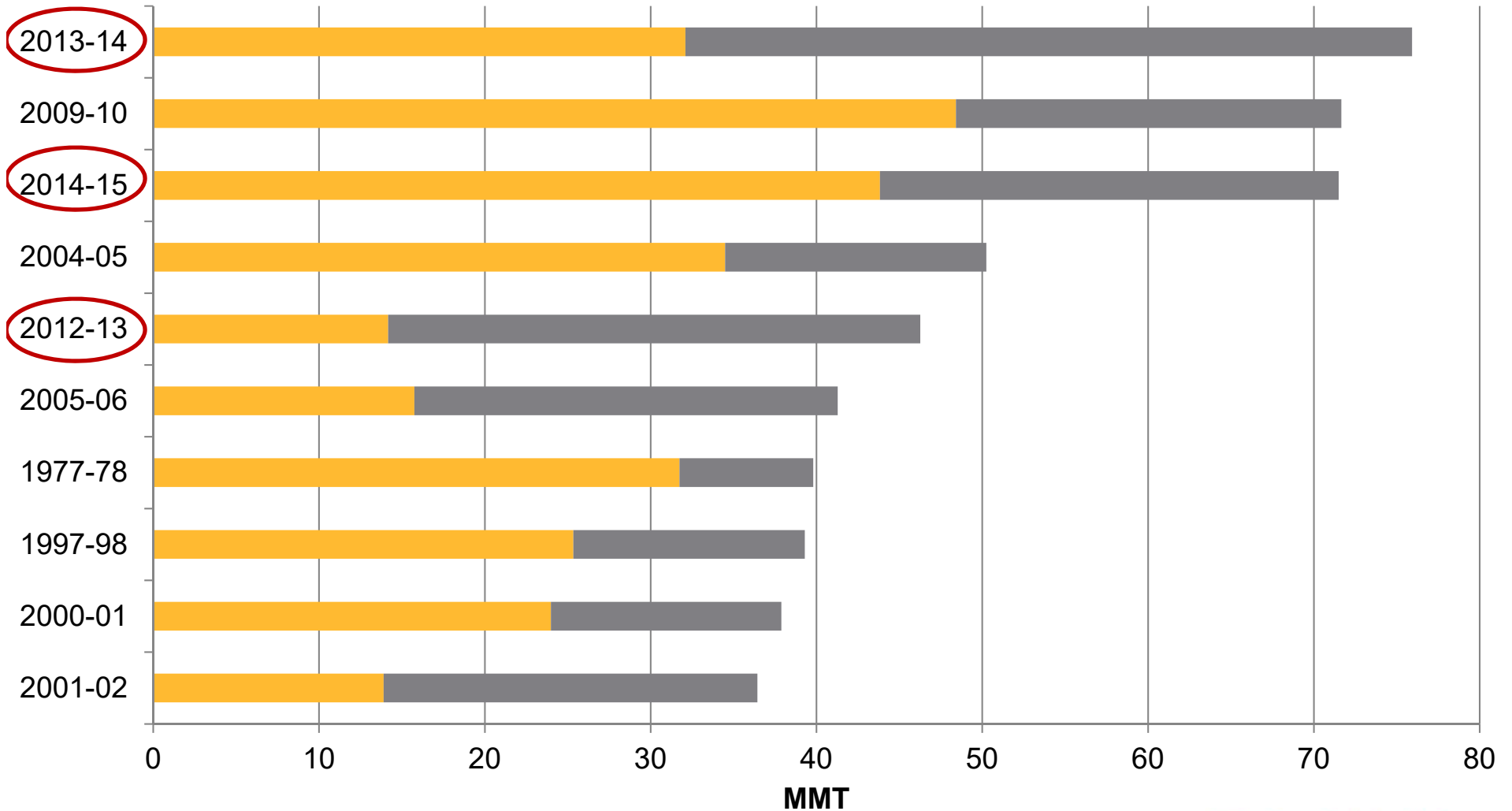
# Most ag markets are oversupplied; 2013 was a historic supply build year for corn

## Largest Consecutive Year Increases in World Corn Supply



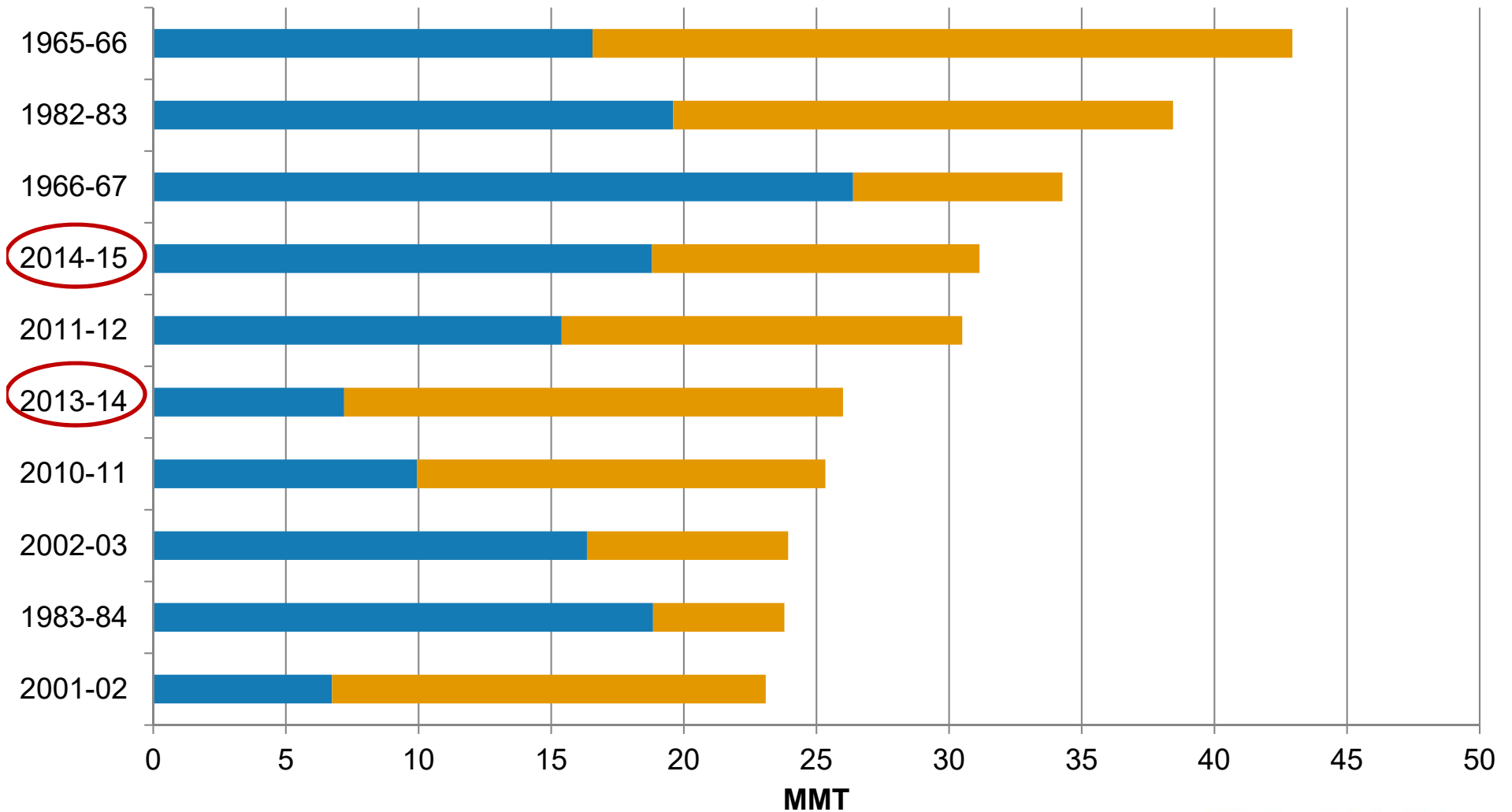
# The combination of 2013 and 2014 soybean supply increases have swamped the market

## Largest Consecutive Year Increases in World Soybean Supply



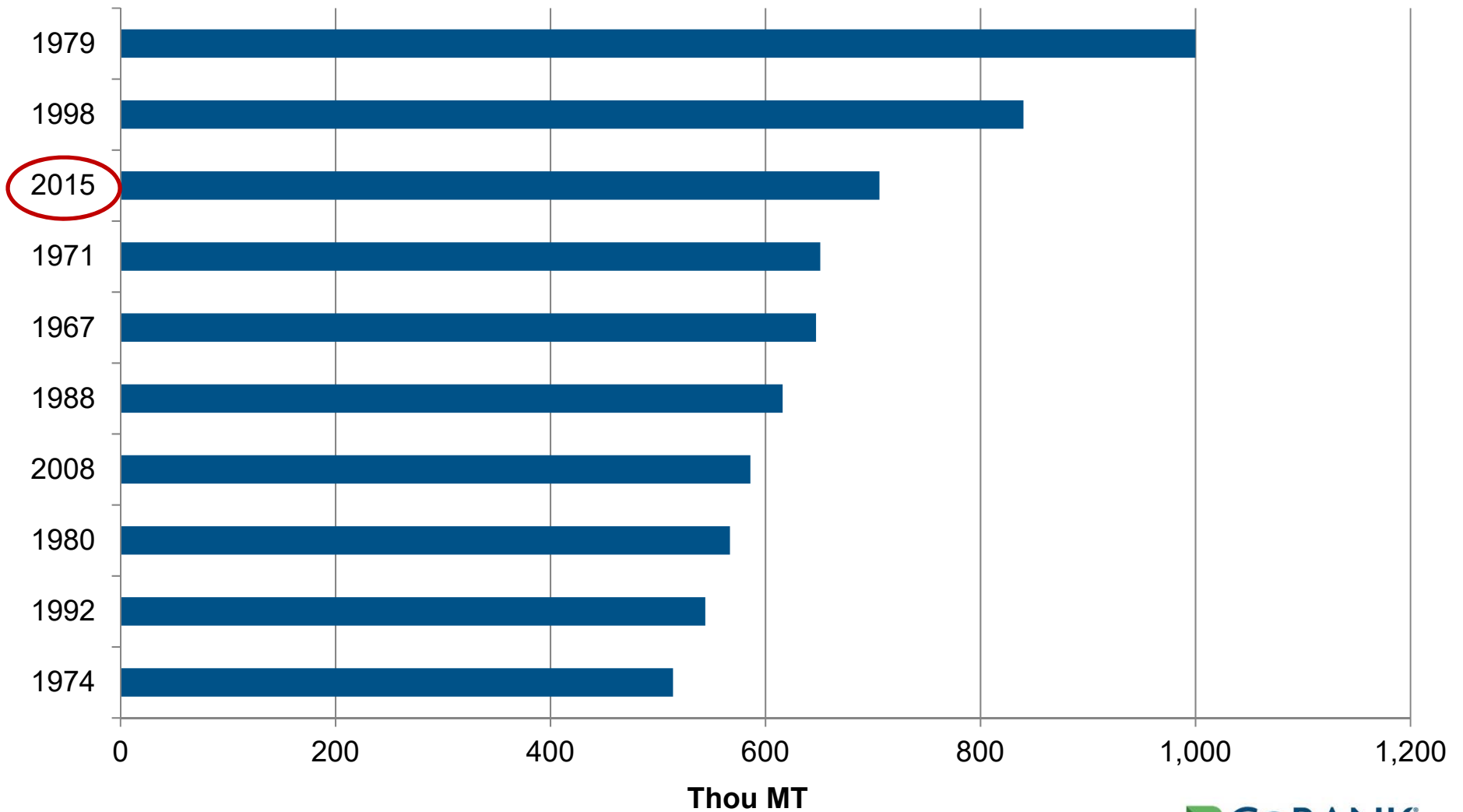
# Same story in dairy: 2015 will be the 3<sup>rd</sup> consecutive year of significant supply increase

## Largest Consecutive Increases in World Milk Supply



The pork supply increase is a domestic story, but historic nonetheless and caused prices to crater in late 2014

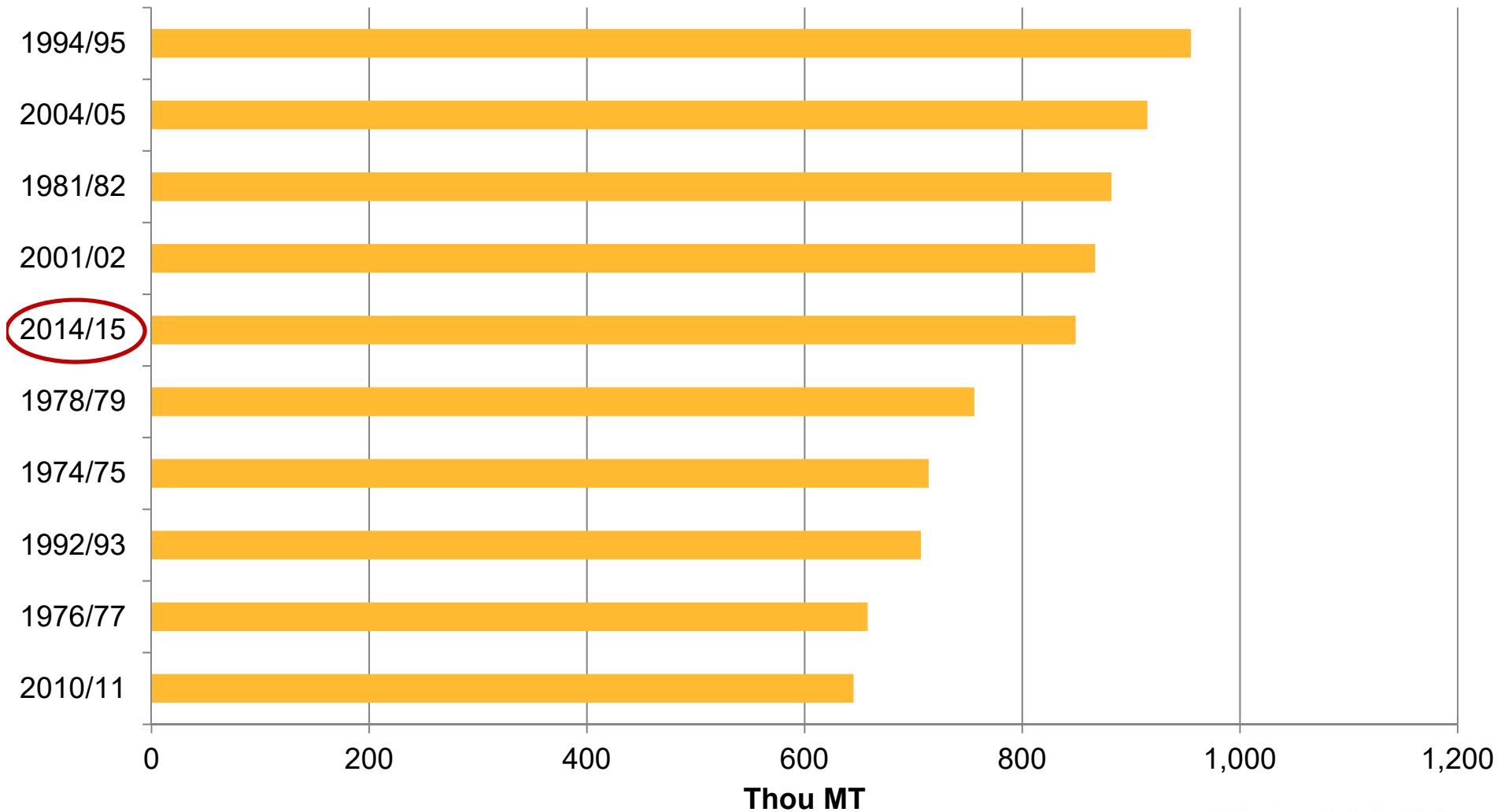
### Largest 1-Year Increases in U.S. Pork Supply





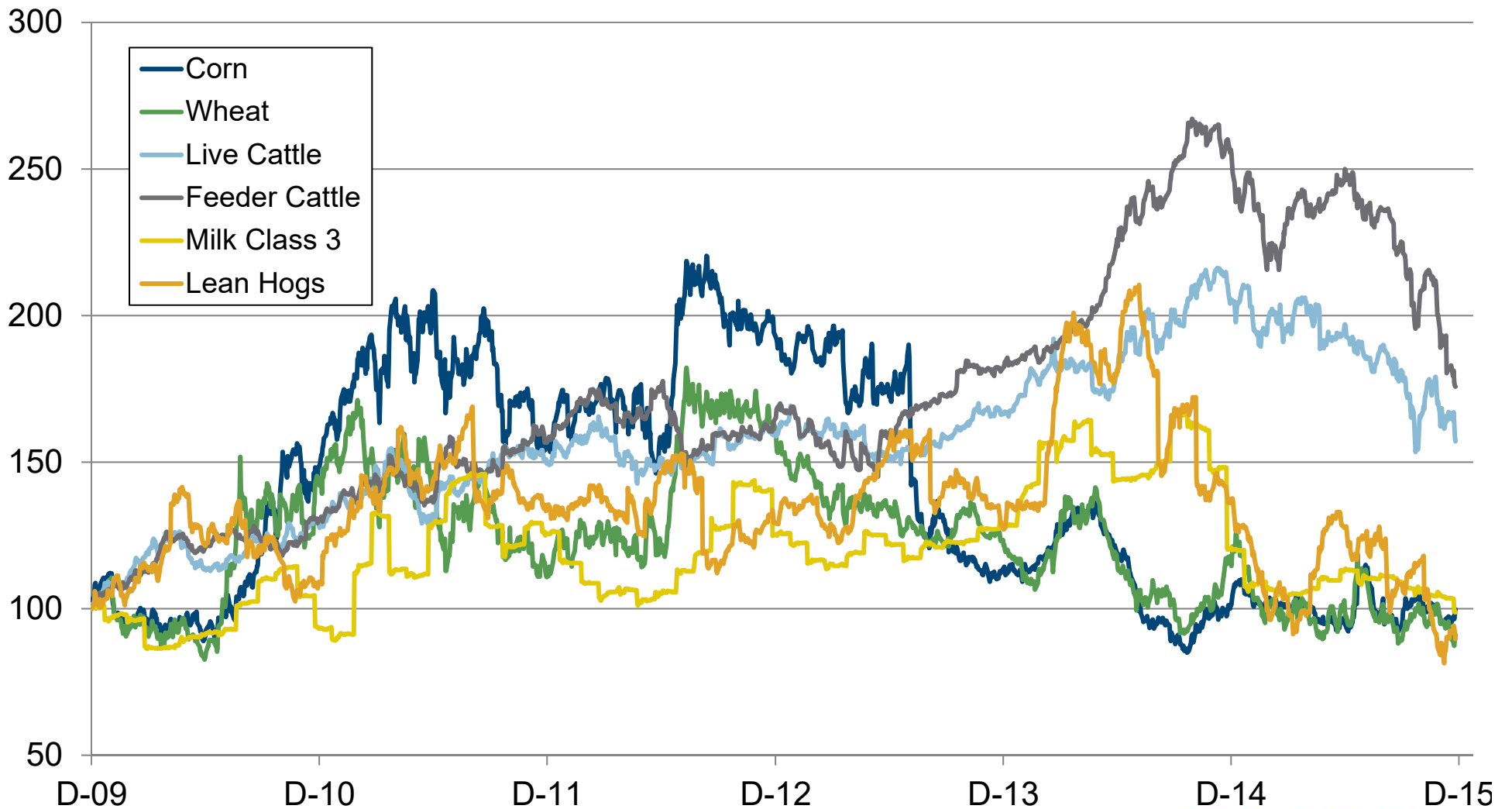
**Domestic rice supplies increased 11% in 2014; Prices over the past year have fallen 33%**

### Largest 1-Year Increases in U.S. Rice Supply



# Price volatility has been record high over the past decade; Will it subside for Colorado ag commodities?

## Futures Price Index



# Corn

## US CORN SUPPLY AND DEMAND (Million Bushels/Million Acres)

	2012/13	2013/14	2014/15	2015/16		2016/17
				USDA	Informa	Informa
Planted Acres	97.3	95.4	90.6	88.4	88.4	90.1
Harvested Acres	87.4	87.5	83.1	80.7	80.7	82.7
Yield	123.1	158.1	171.0	169.3	169.3	169.0
Carryin (Sep 1)	989	821	1,232	1,731	1,731	1,720
Production	10,755	13,829	14,216	13,654	13,654	13,972
Imports	160	36	32	30	30	30
Total Supply	11,904	14,686	15,479	15,415	15,415	15,722
Feed & Residual	4,315	5,040	5,315	5,300	5,300	5,525
Food/Seed/Ind	6,038	6,493	6,568	6,555	6,595	6,540
Ethanol for Fuel	4,641	5,124	5,209	5,175	5,225	5,175
Domestic Use	10,353	11,534	11,883	11,855	11,895	12,065
Exports	730	1,920	1,864	1,800	1,800	1,900
Total Use	11,083	13,454	13,748	13,655	13,695	13,965
Carryout (Aug 31)	821	1,232	1,731	1,760	1,720	1,757
Stocks/Use	7.4%	9.2%	12.6%	12.9%	12.6%	12.6%
Farm Price (\$/Bu)	6.89	4.46	3.70	3.35-3.95	3.75	3.65

# Wheat

## US ALL WHEAT SUPPLY AND DEMAND (Million Bushels/Million Acres)

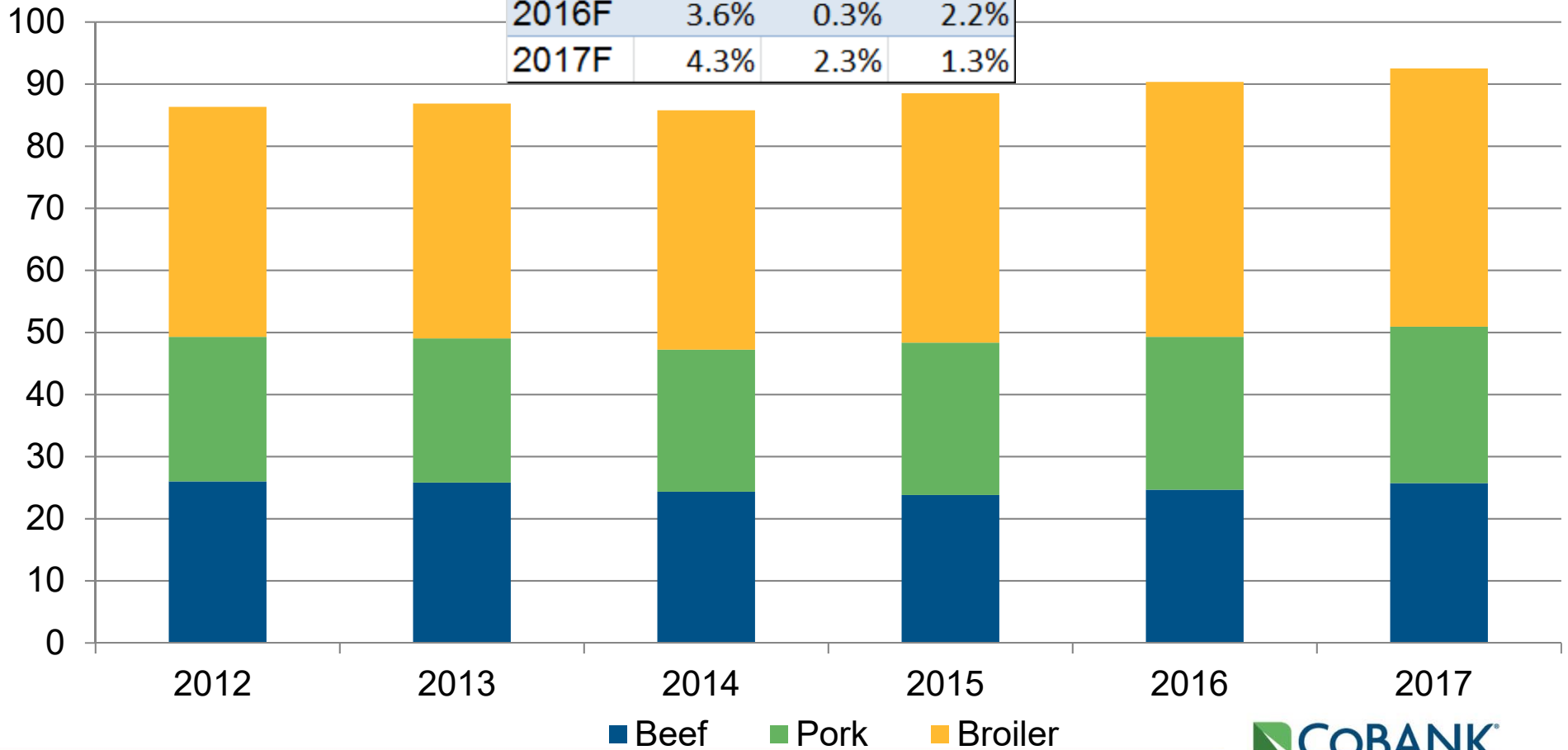
	2012/13	2013/14	2014/15	2015/16		2016/17
				USDA	Informa	Informa
Planted Acres	55.3	56.2	56.8	54.6	54.6	<b>53.5</b>
Harvested Acres	48.8	45.3	46.4	47.1	47.1	<b>45.9</b>
Yield	46.2	47.1	43.7	43.6	43.6	<b>45.8</b>
Carryin (Jun 1)	743	718	590	753	753	<b>889</b>
Production	2,252	2,135	2,026	2,052	2,052	<b>2,103</b>
Imports	124	172	149	125	<b>120</b>	<b>135</b>
Total Supply	3,119	3,025	2,766	2,930	<b>2,925</b>	<b>3,127</b>
Food Use	951	955	958	967	<b>965</b>	<b>970</b>
Seed Use	73	77	81	72	<b>70</b>	<b>71</b>
Feed & Residual	365	227	120	180	<b>215</b>	<b>200</b>
Domestic Use	1,389	1,259	1,159	1,219	<b>1,250</b>	<b>1,241</b>
Exports	1,012	1,176	854	800	<b>785</b>	<b>950</b>
Total Use	2,401	2,435	2,013	2,019	<b>2,035</b>	<b>2,191</b>
Carryout (May 31)	718	590	753	911	<b>889</b>	<b>936</b>
Stocks/Use	29.9%	24.2%	37.4%	45.1%	<b>43.7%</b>	<b>42.7%</b>
Farm Price (\$/Bu)	7.77	6.87	5.99	5.00	<b>5.05</b>	<b>4.90</b>

# Meat supplies are rising; Cattle and beef prices next to fall

## U.S. Meat and Poultry Production

% Change from Year Ago			
	Beef	Pork	Broiler
2015F	-2.2%	7.3%	4.2%
2016F	3.6%	0.3%	2.2%
2017F	4.3%	2.3%	1.3%

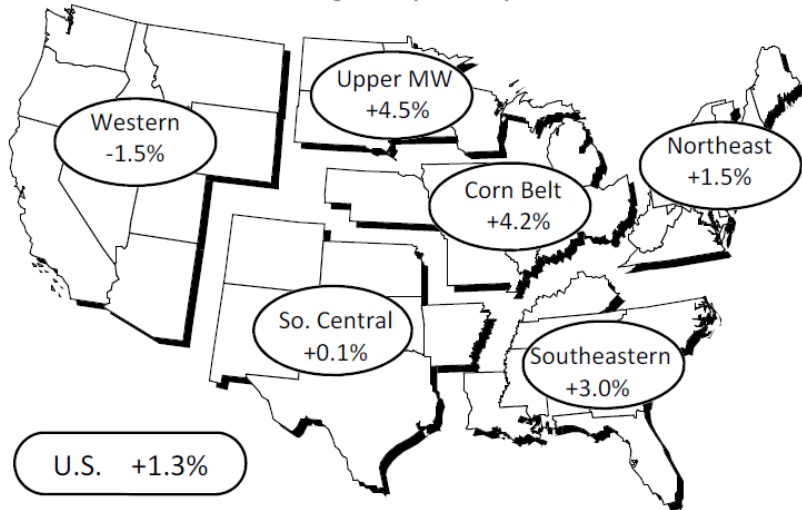
Bil Lbs



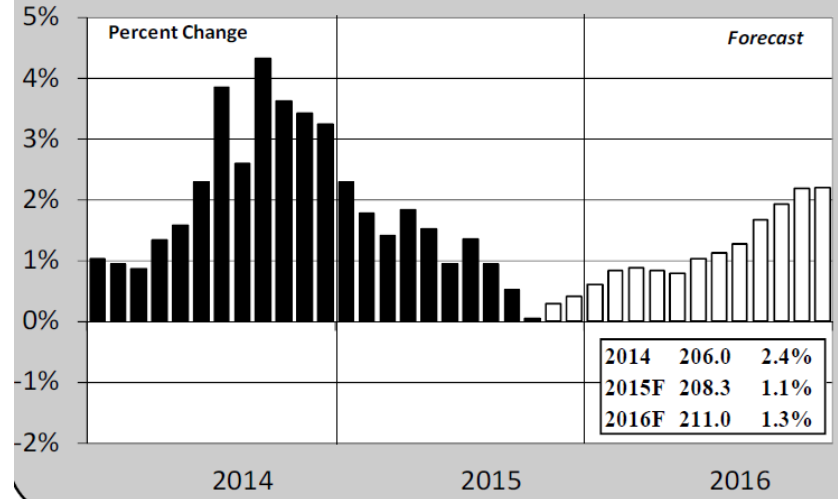
# Dairy

## Milk Production, YTD through October 2015

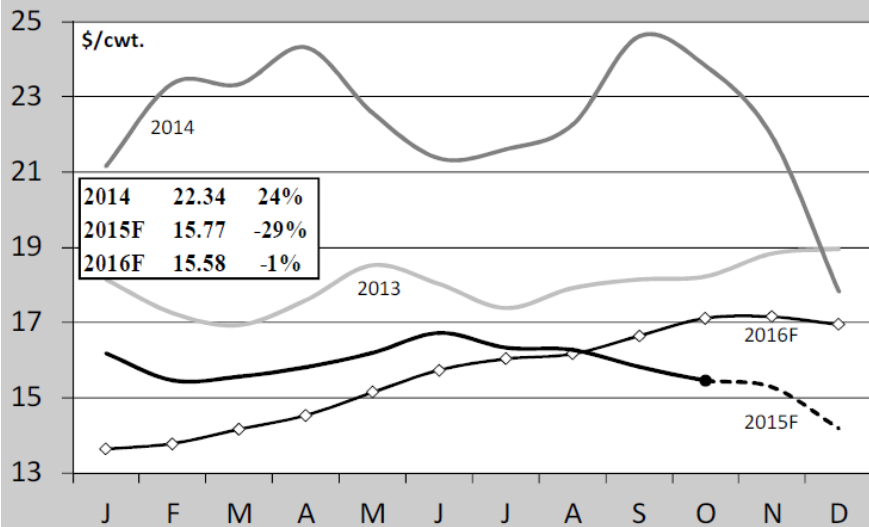
% change from previous year



## U.S. Milk Production



## Class III Milk Price



## PRODUCTION

% Change Year Ago

Colorado

4.4

3.3

4.5

Colorado has the fastest growing milk supply of any state in 2015



# Questions?

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