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Agricultural Outlook Forum
U.S. Department of Agriculture

Presented: February 26-27, 2009

Factors contributing to the sharp rise, and then fall, in food commodity prices: 2002-2009

Ron Trostle
Economic Research Service
U.S. Department of Agriculture

Factors contributing to the sharp rise, and then fall, in food commodity prices: 2002-2009

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February 26, 2009

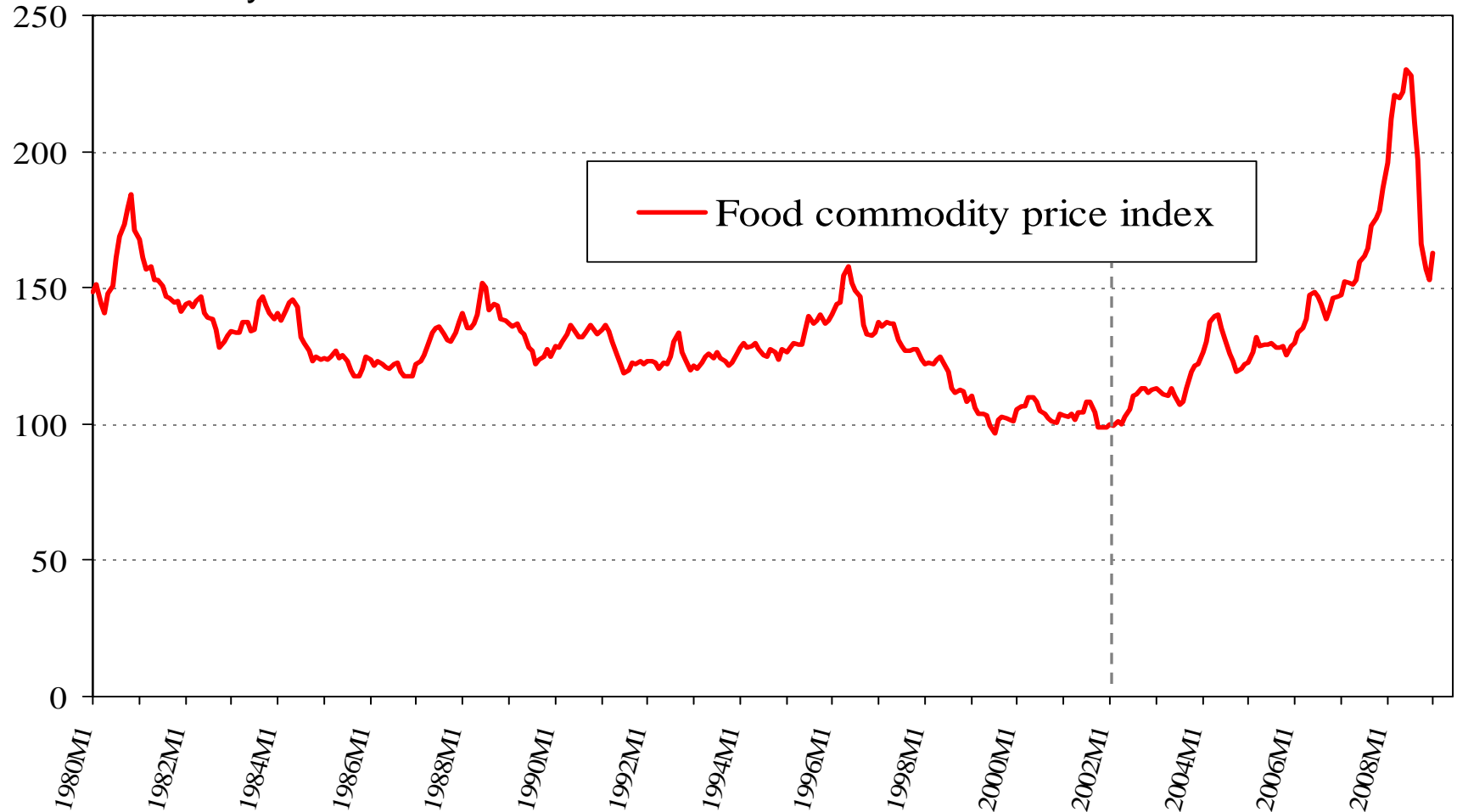
Factors contributing to the sharp rise, and then fall, in food commodity prices: 2002-2009

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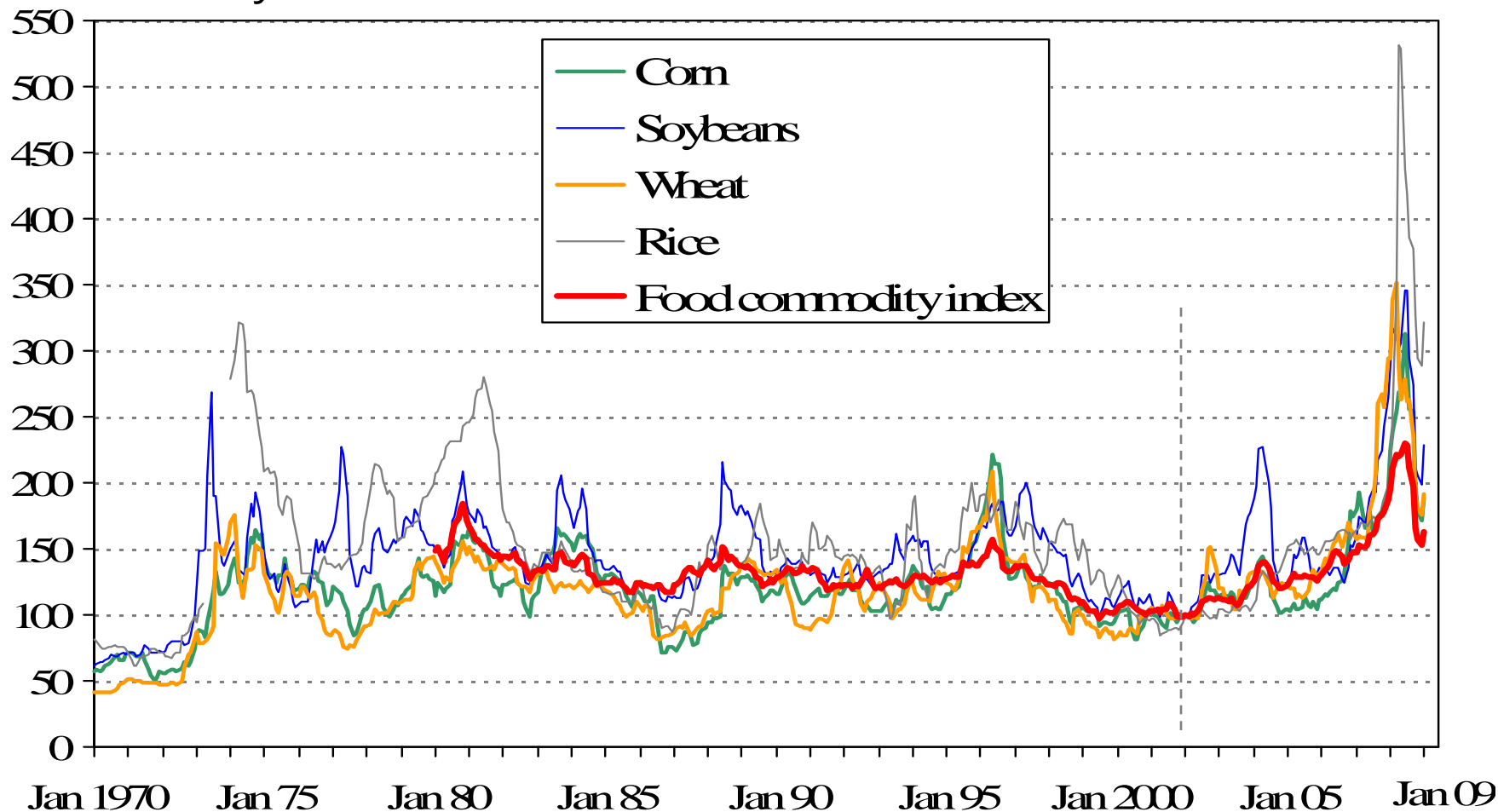
Food commodity prices since January 2002: Up 130 %, then down 1/3

Index: January 2002 = 100



Food commodity prices: Indices for selected crops and total food

Index: January 2002 = 100



Nominal price increases since January 2002 and declines since the peak

<u>Commodity</u>	<u>Up</u>	<u>Down</u> ¹	<u>Since peak in</u>
Wheat	337 %	62 %	Mid March, 2008
Corn	268 %	62 %	End of June, 2008
Soybeans	295 %	53 %	Early July, 2008
Rice	> 400 %	36 %	Late Sept, 2008
Index of food commodities	130 %	34 %	June, 2008

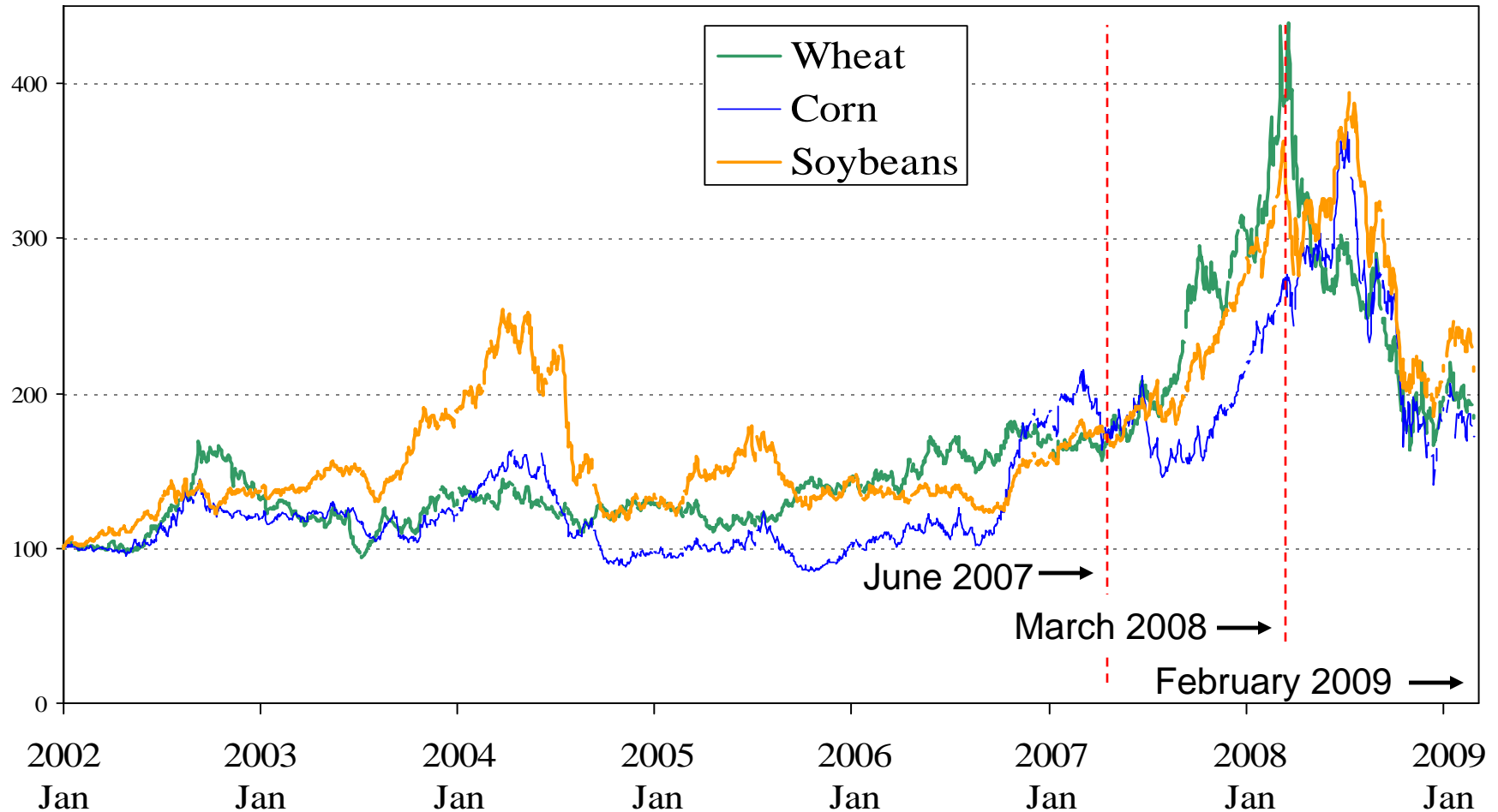
¹Lowest price since peak, as of February 23, 2009.

Kansas City for wheat; Central Illinois for corn and soybeans.
CBOT for rice

Daily Prices for Wheat, Corn, & Soybeans

January 2002 – February 2009: Three periods of price changes

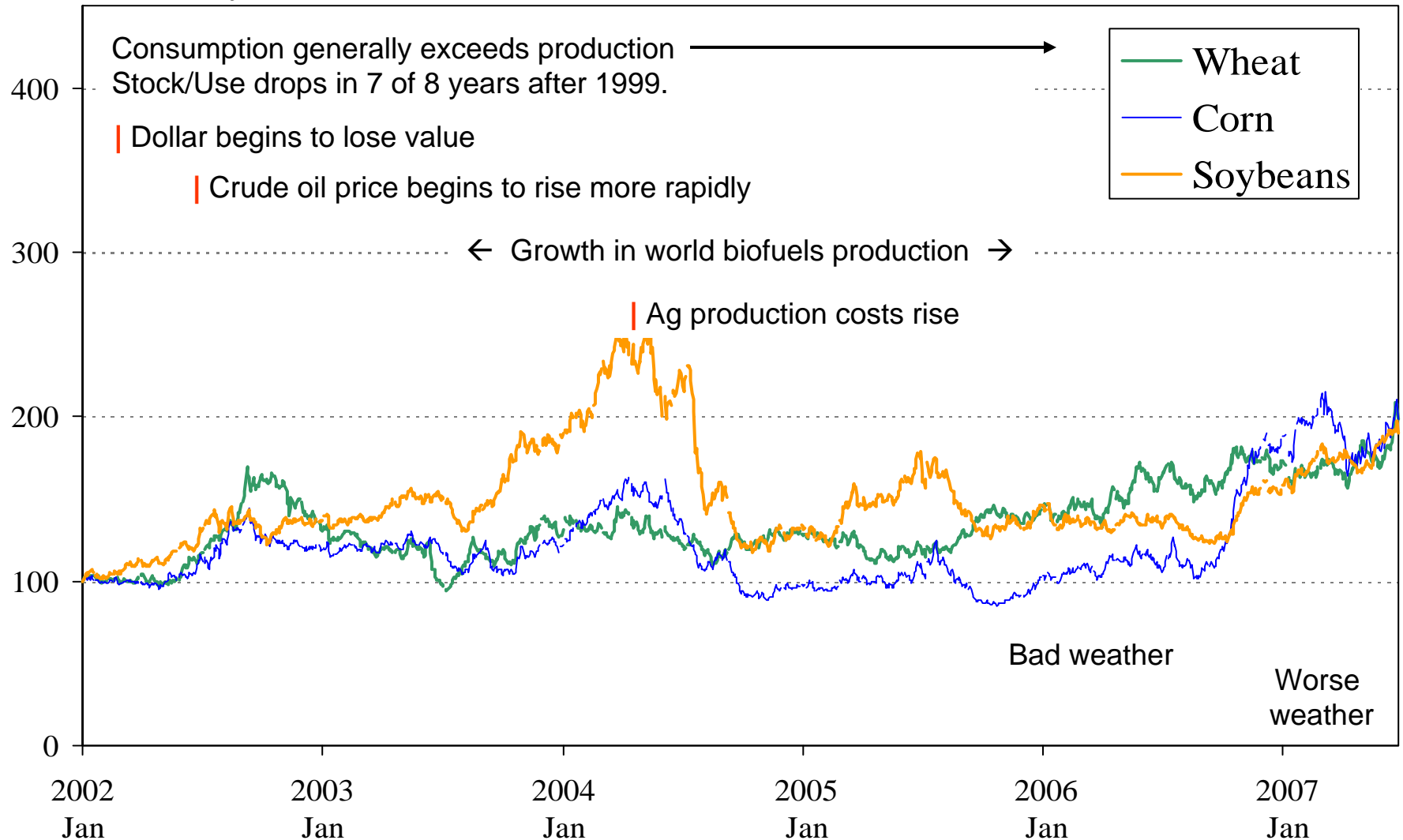
Index: January 2002 = 100



Daily Prices for Wheat, Corn, & Soybeans

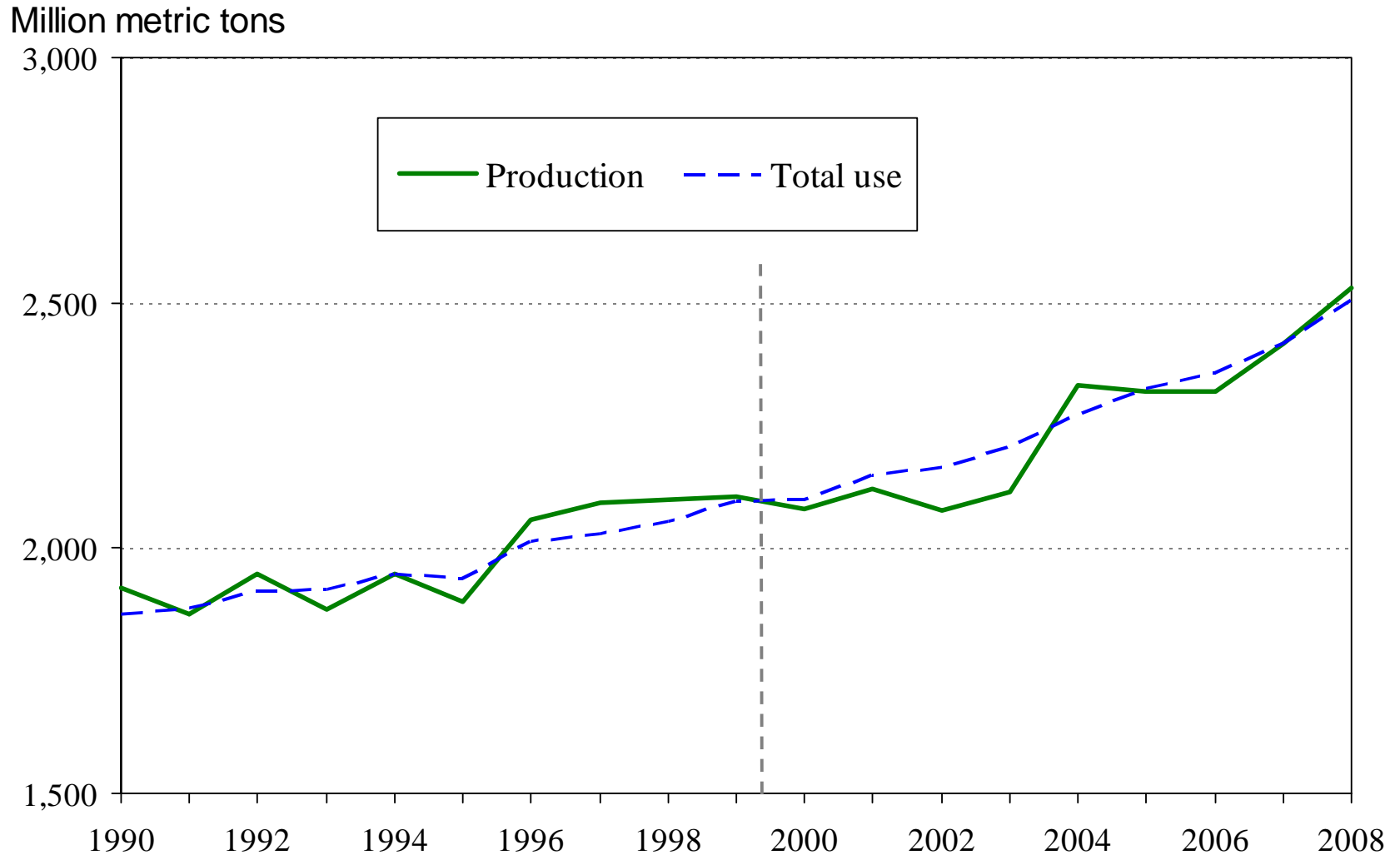
January 2002 – July 2007

Index: January 2002 = 100



World grain & oilseeds

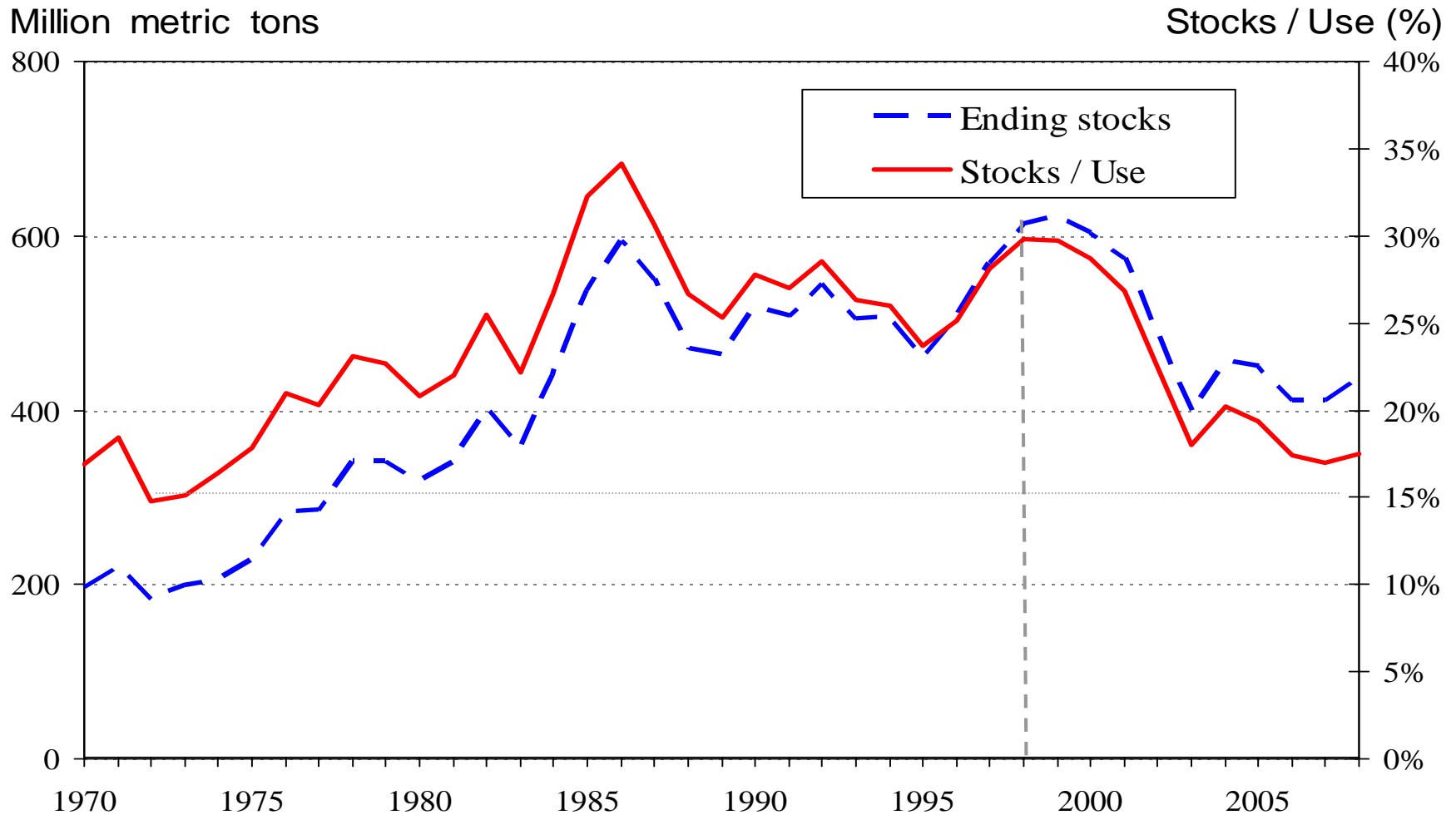
Total production and use



Source: USDA PS&D Database

Total world grain & oilseeds

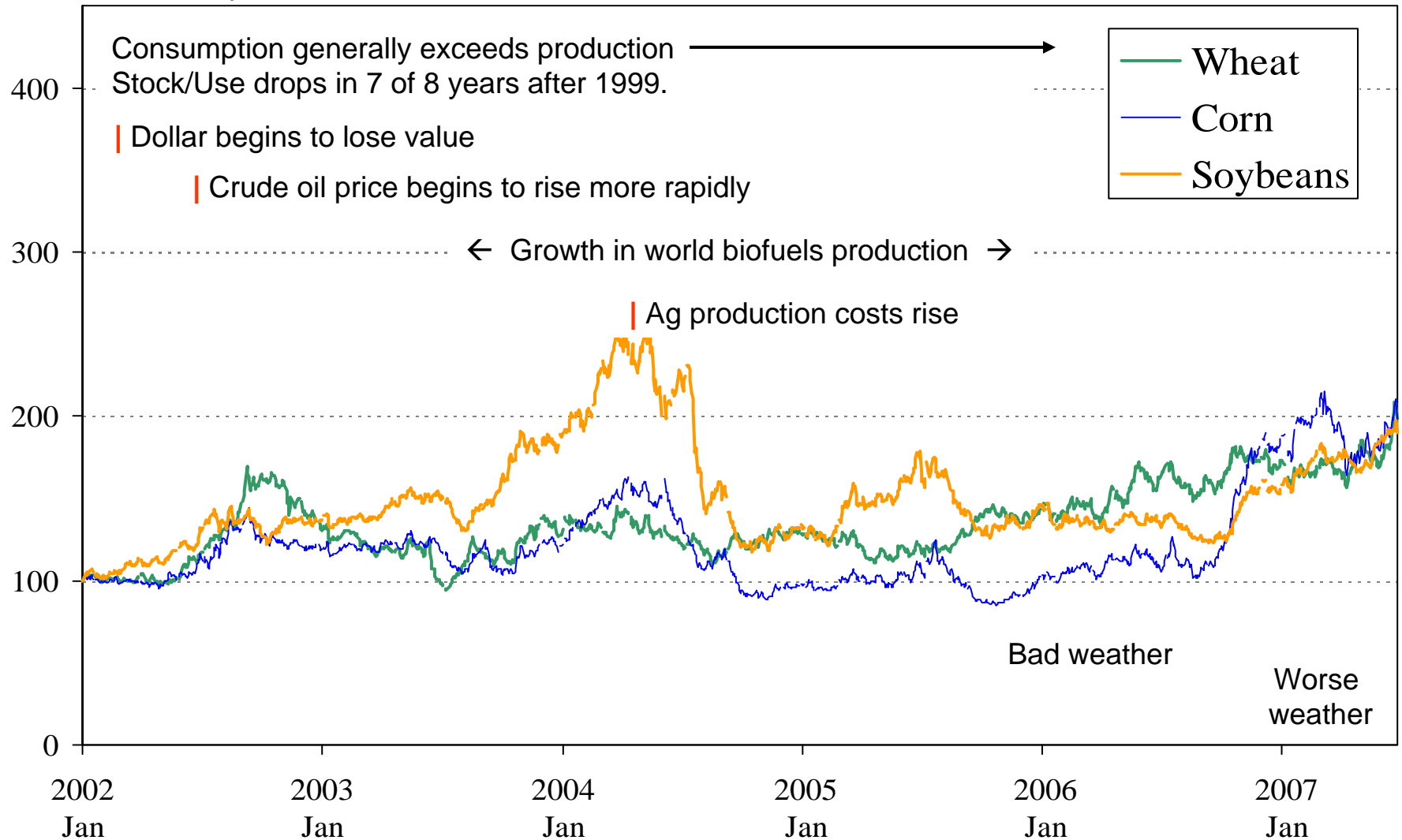
Stocks and stocks-to-use ratio



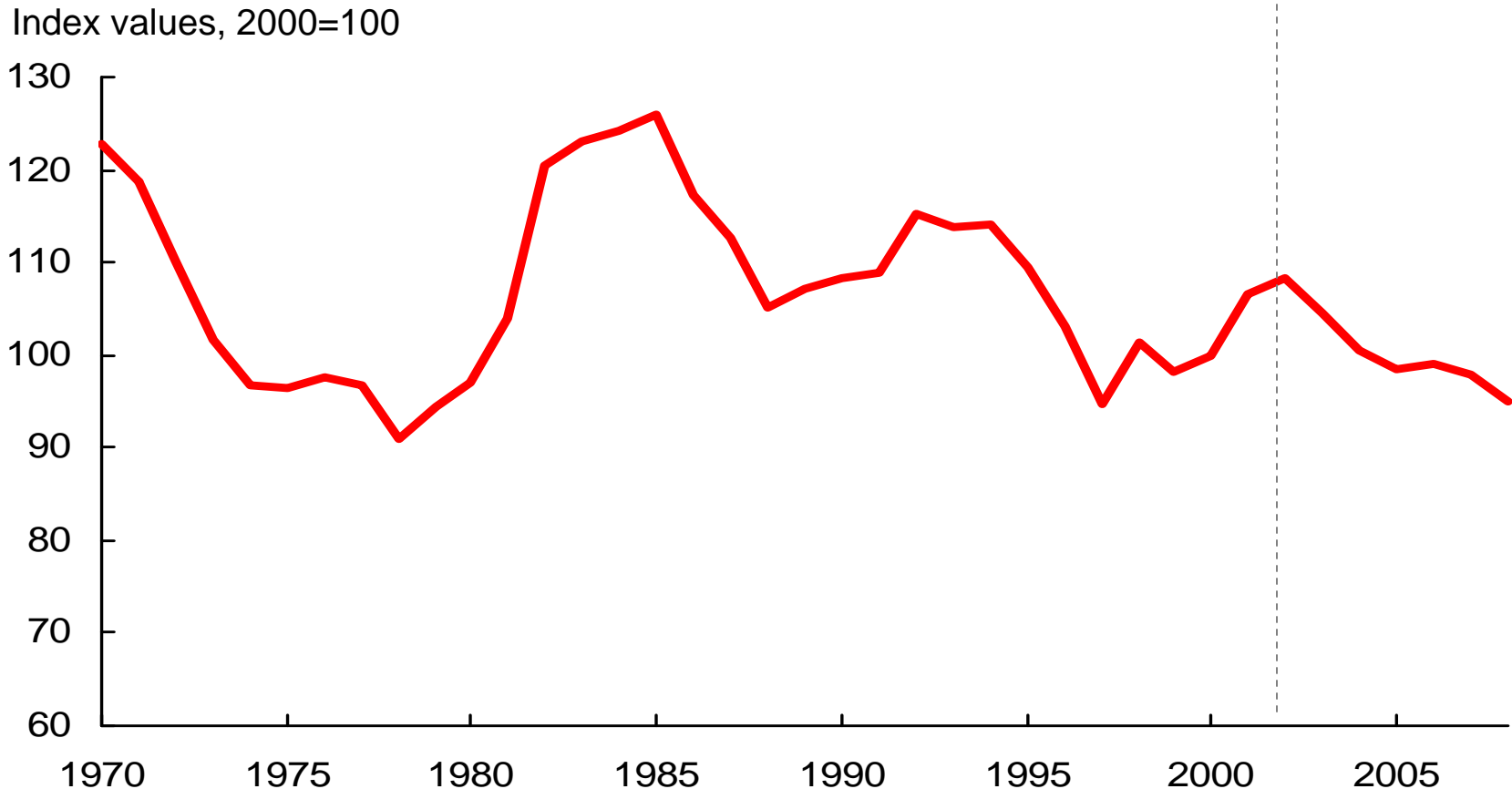
Daily Prices for Wheat, Corn, & Soybeans

January 2002 – July 2007

Index: January 2002 = 100



Value of U.S. dollar declines after 2002 1/

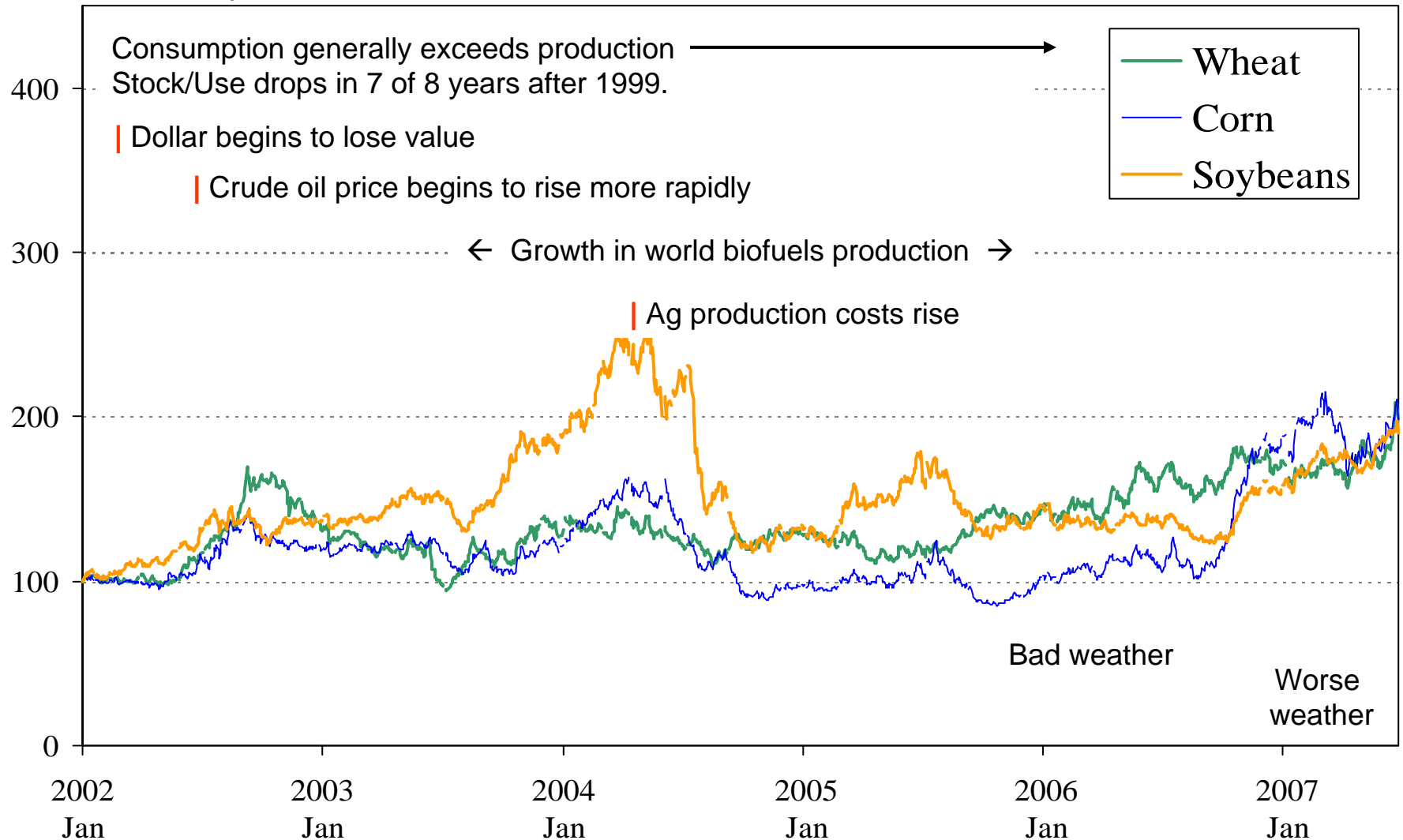


1/ Real U.S. agricultural trade-weighted dollar exchange rate, using U.S. agricultural export weights, based on 192 countries.

Daily Prices for Wheat, Corn, & Soybeans

January 2002 – July 2007

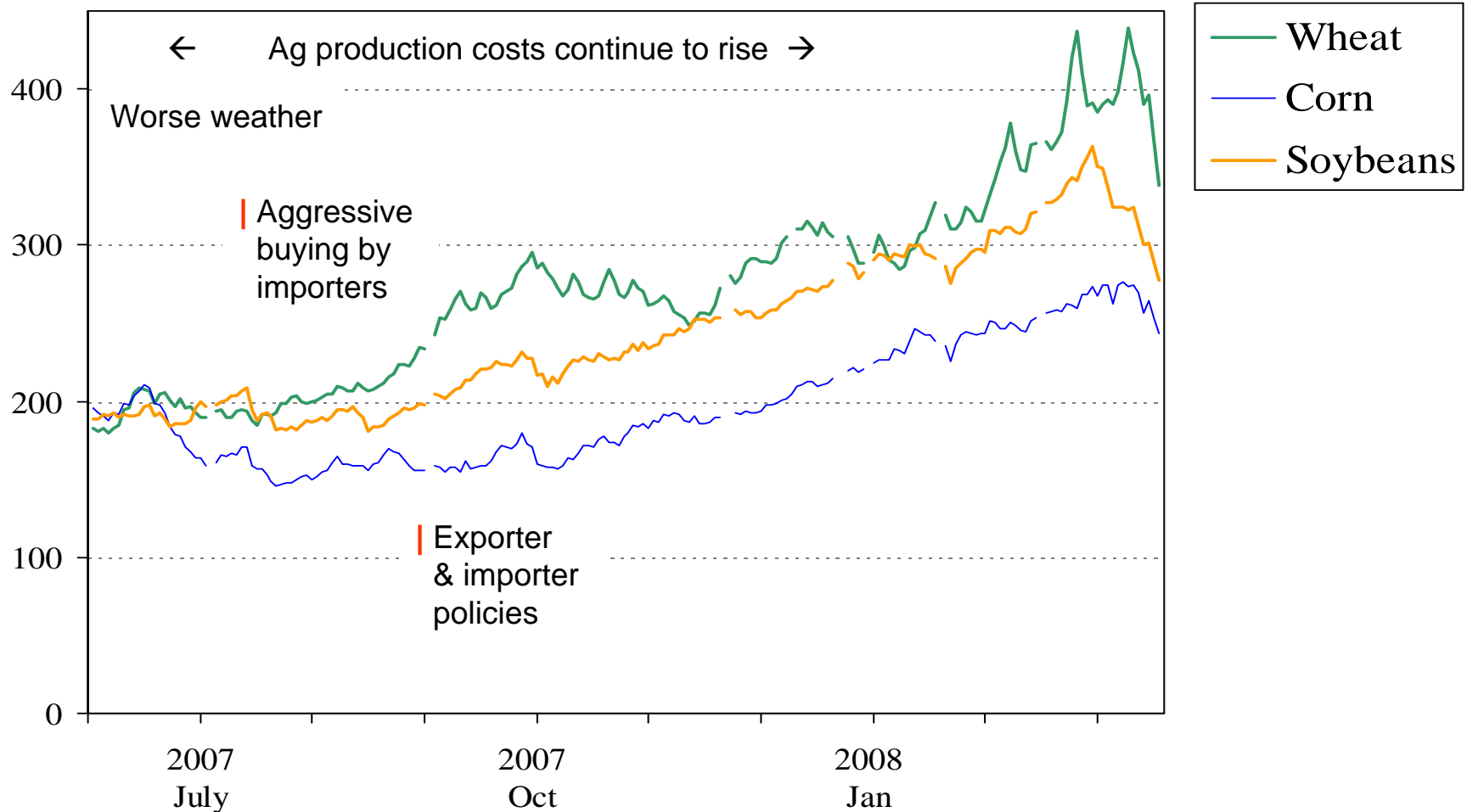
Index: January 2002 = 100



Daily Prices for Wheat, Corn, & Soybeans

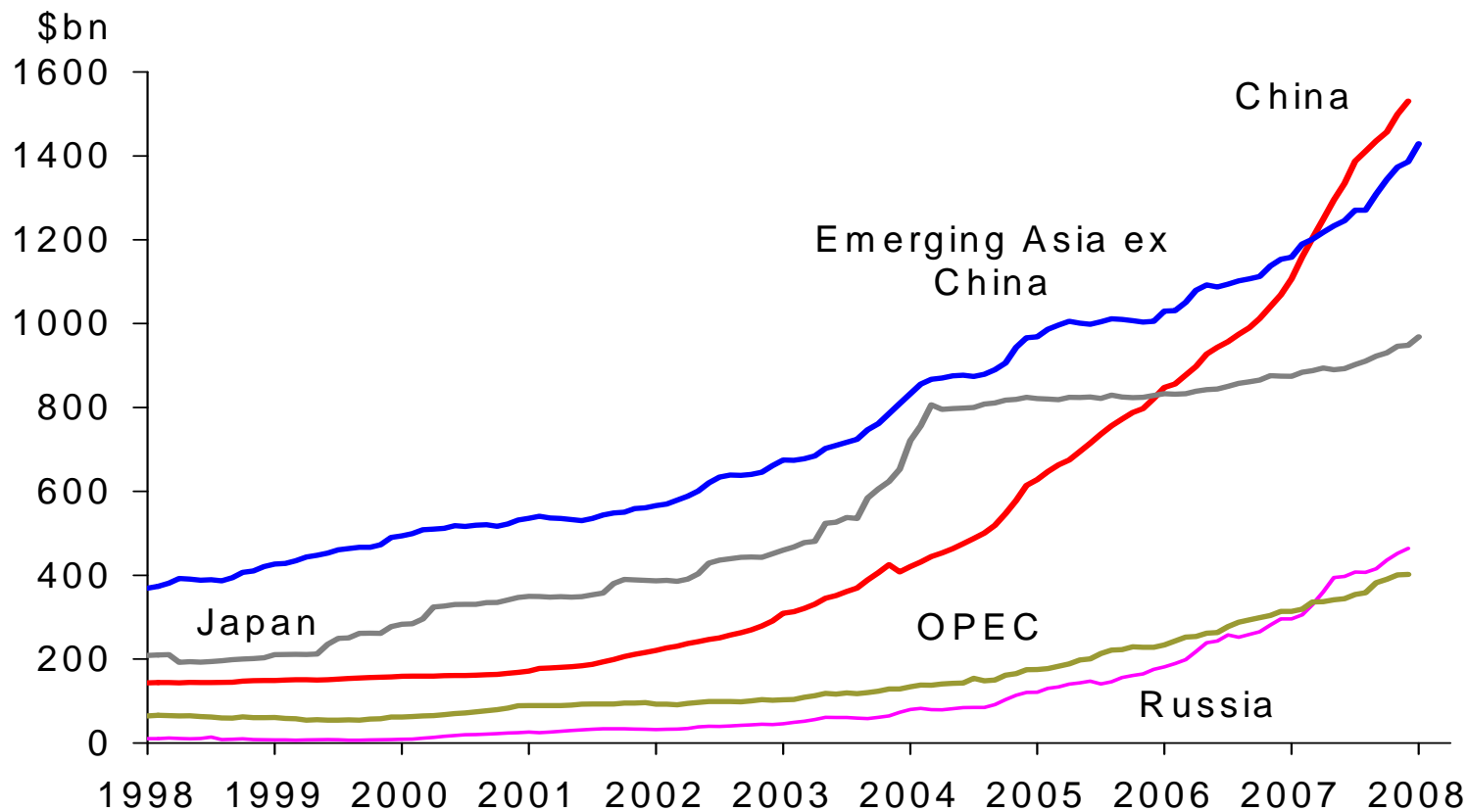
July 2007 – March 2008

Index: January 2002 = 100



Foreign Exchange Reserves

Emerging Asia: Foreign exchange reserves

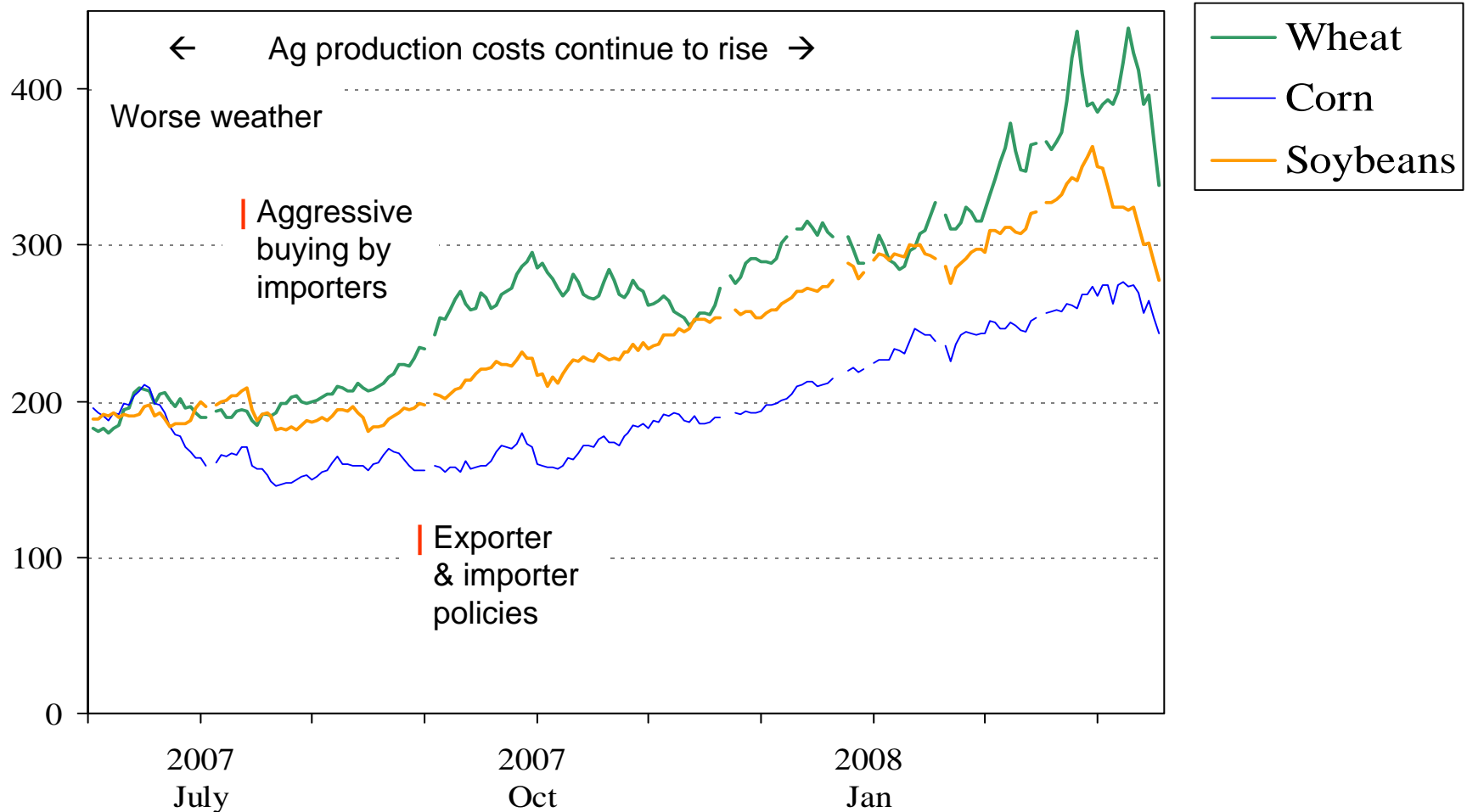


Source: Oxford Economics / Haver Analytics

Daily Prices for Wheat, Corn, & Soybeans

July 2007 – March 2008

Index: January 2002 = 100



Policy responses to rising prices by selected countries - Exporters

Country	Raised export taxes	Export volume restrictions	Export bans
Argentina	x	x	
Cambodia			x
Egypt			x
Kazakhstan		x	
Russia	x		
Ukraine			x
Vietnam	x		x
China	x	x	
India	x	x	x
Indonesia	x		
Malaysia	x		
Serbia			x

Policy responses to rising prices by selected countries – Importers 1/

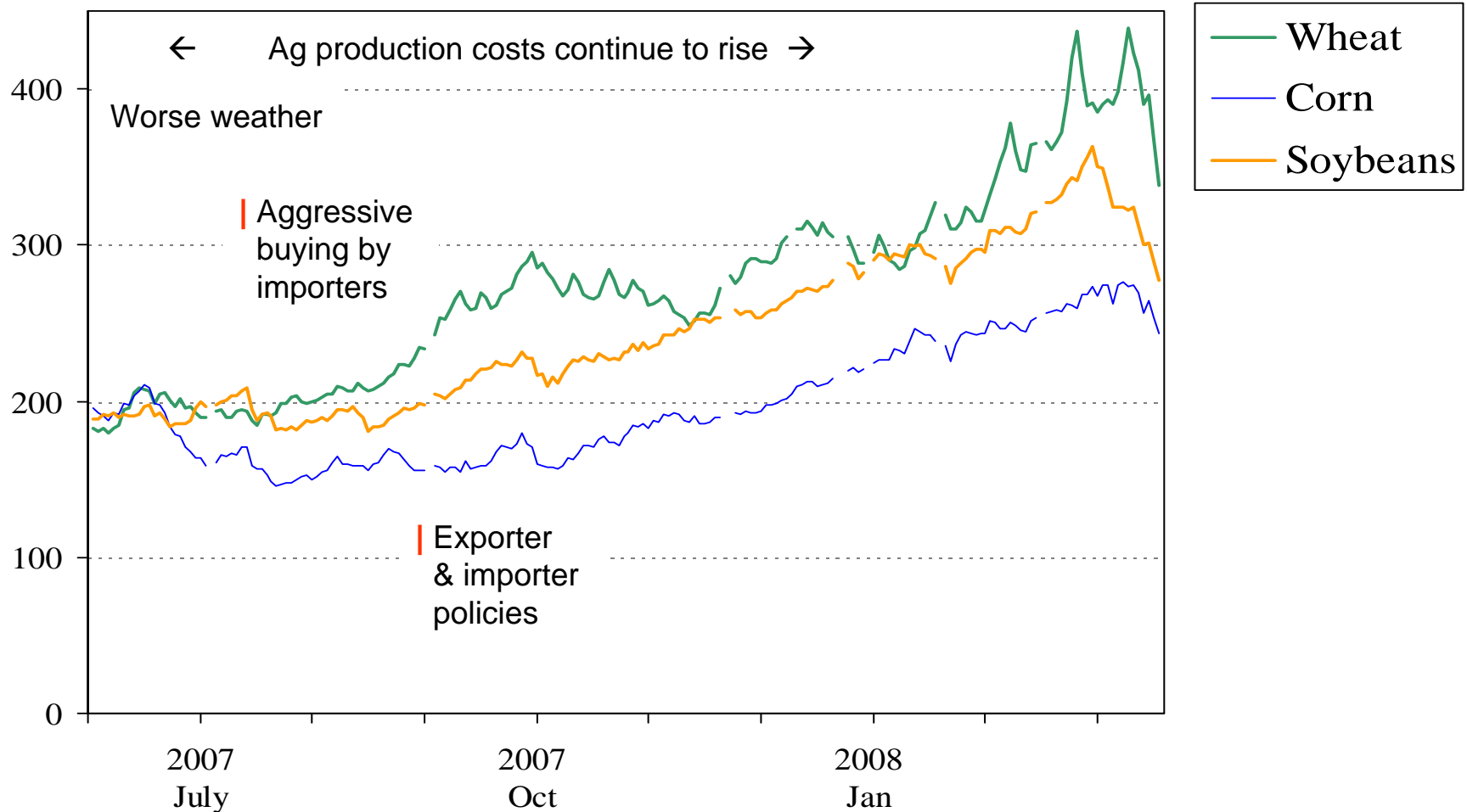
Country	Reduced import tariffs	Increased consumer subsidies	Imposed price caps
Bangladesh	x	x	x
EU	x		
Mexico	x		
Morocco	x		
Mongolia		x	
Philippines		x	
Thailand	x		
China		x	x
India	x	x	
Indonesia	x	x	
Malaysia			x
Serbia	x		

1/ Countries in red font employed both import and export policies

Daily Prices for Wheat, Corn, & Soybeans

July 2007 – March 2008

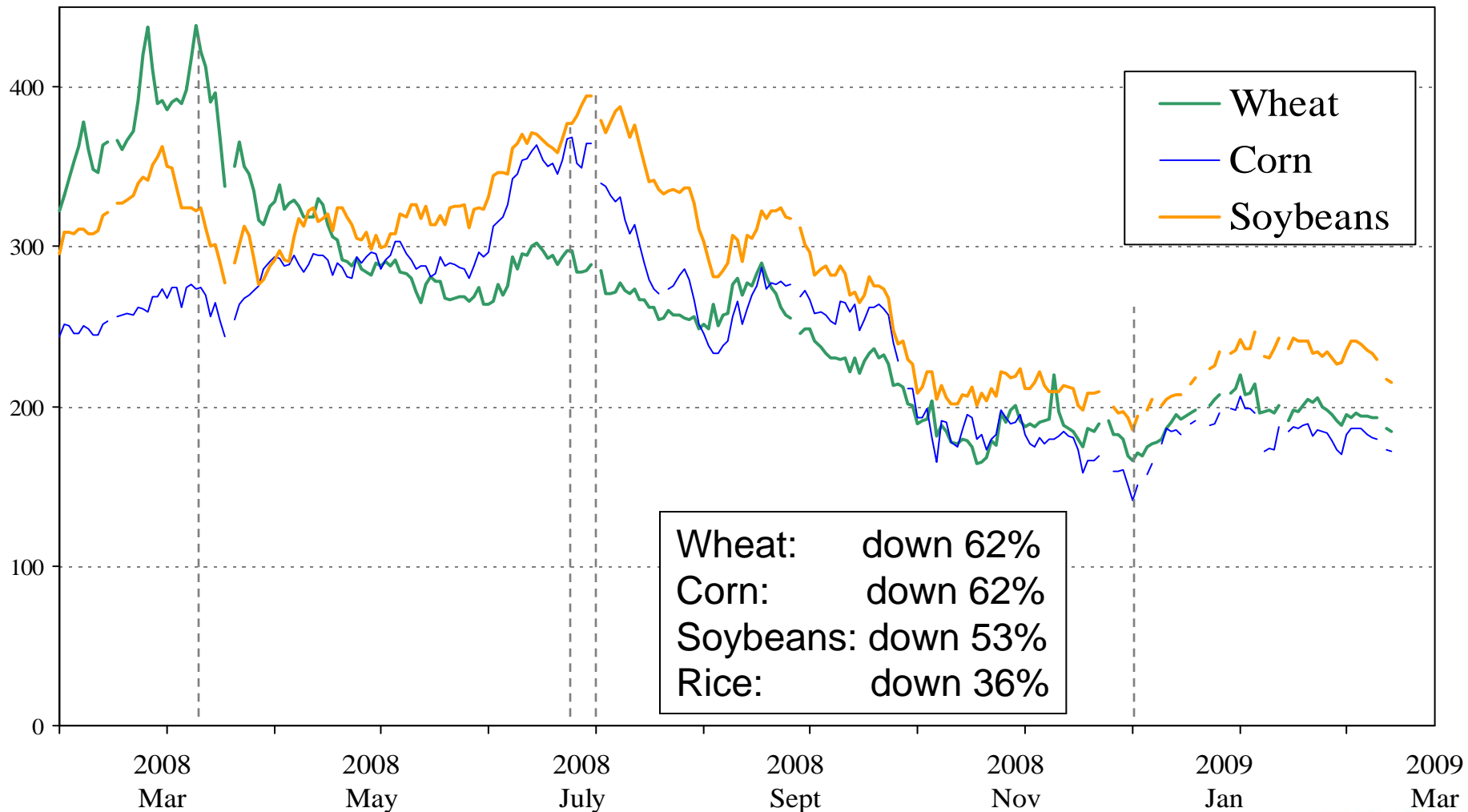
Index: January 2002 = 100



Daily Prices for Wheat, Corn, & Soybeans

March 2008 – February 2008

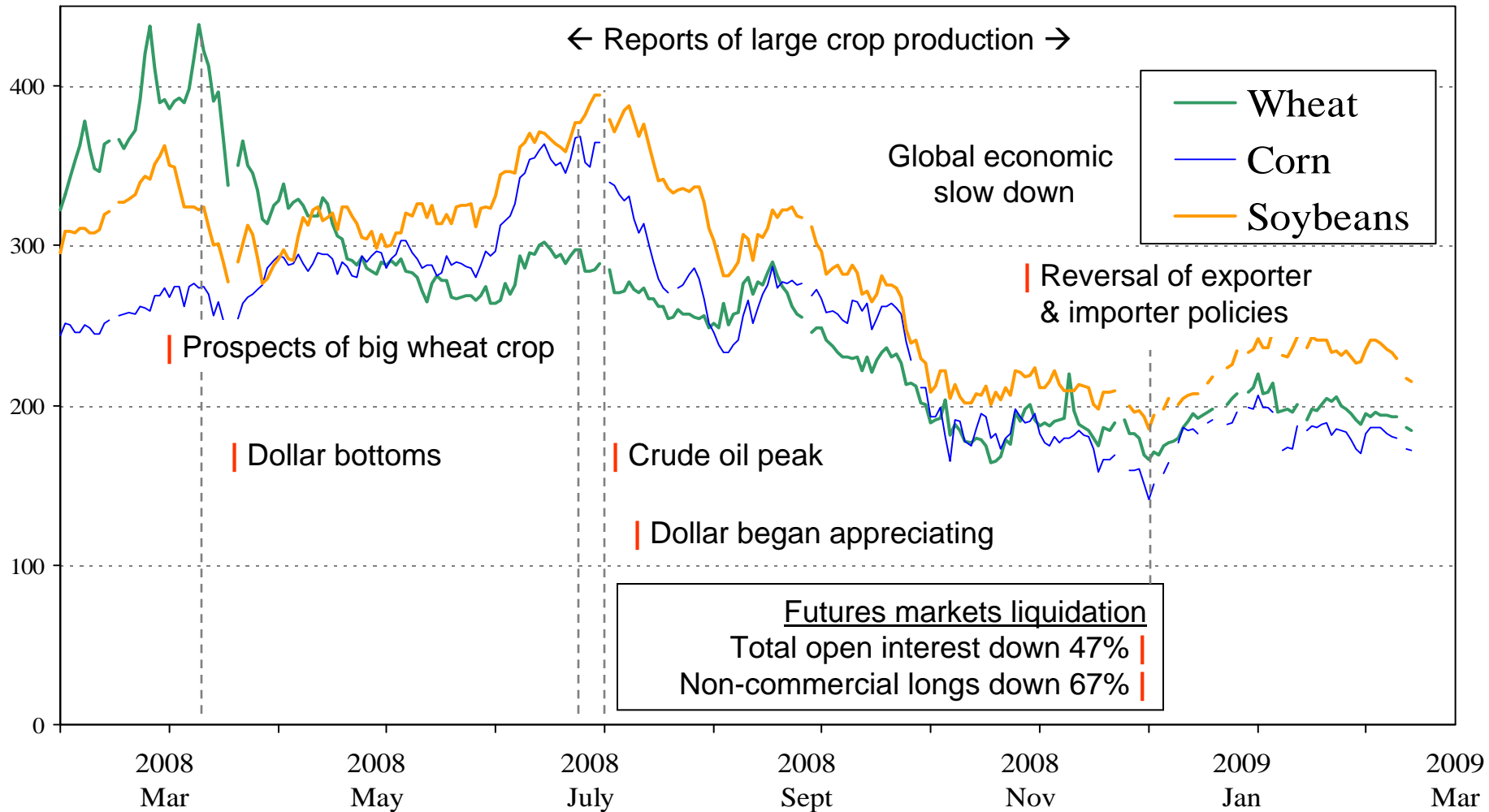
Index: January 2002 = 100



Daily Prices for Wheat, Corn, & Soybeans

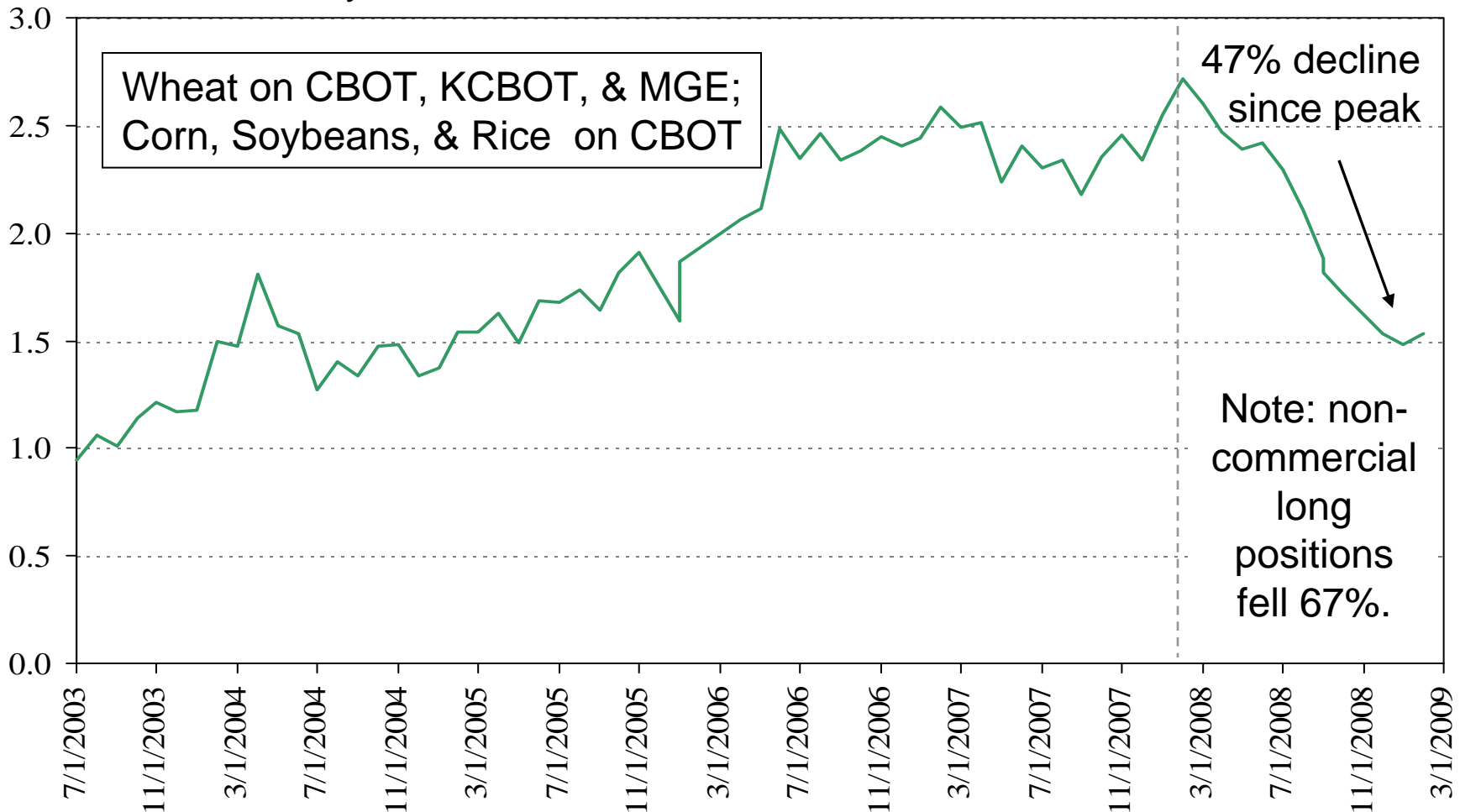
March 2008 – February 2009

Index: January 2002 = 100



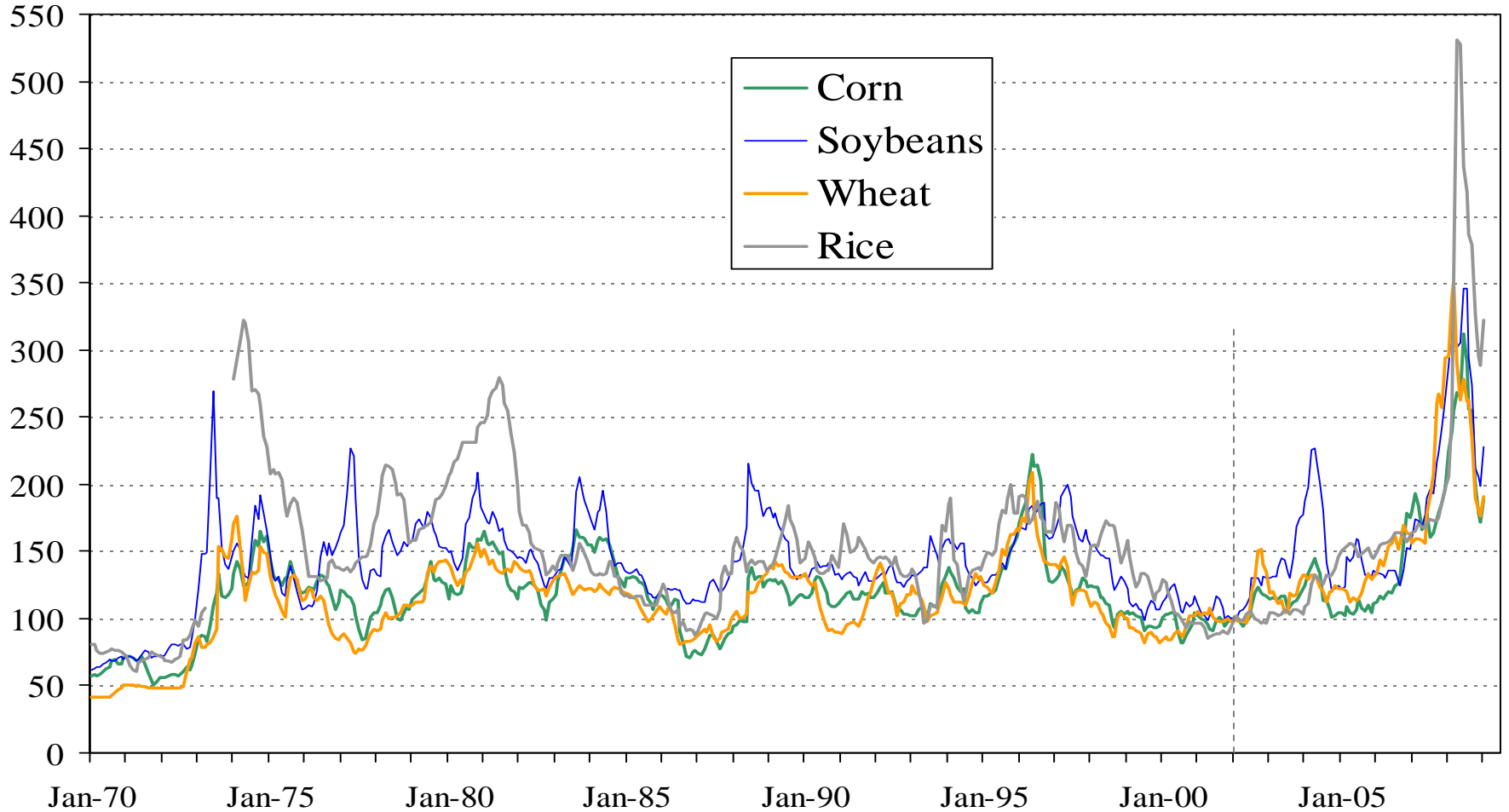
Total Open Interest: U.S. Futures Markets for Wheat, Corn, Soybeans, and Rice

Million contracts, by week



Spikes in food commodity prices: Will this time be any different?

Index: January 2002 = 100



Factors contributing to changes in food commodity prices

Temporary factors:

- Adverse weather
- Trade policies by exporters and importers
- Aggressive buying by importers

Continuing upward pressure on prices

Demand factors:

- Economic growth in many developing countries
- Population growth in developing countries
- Increasing per capita meat consumption
- Continued biofuels production

Supply factors:

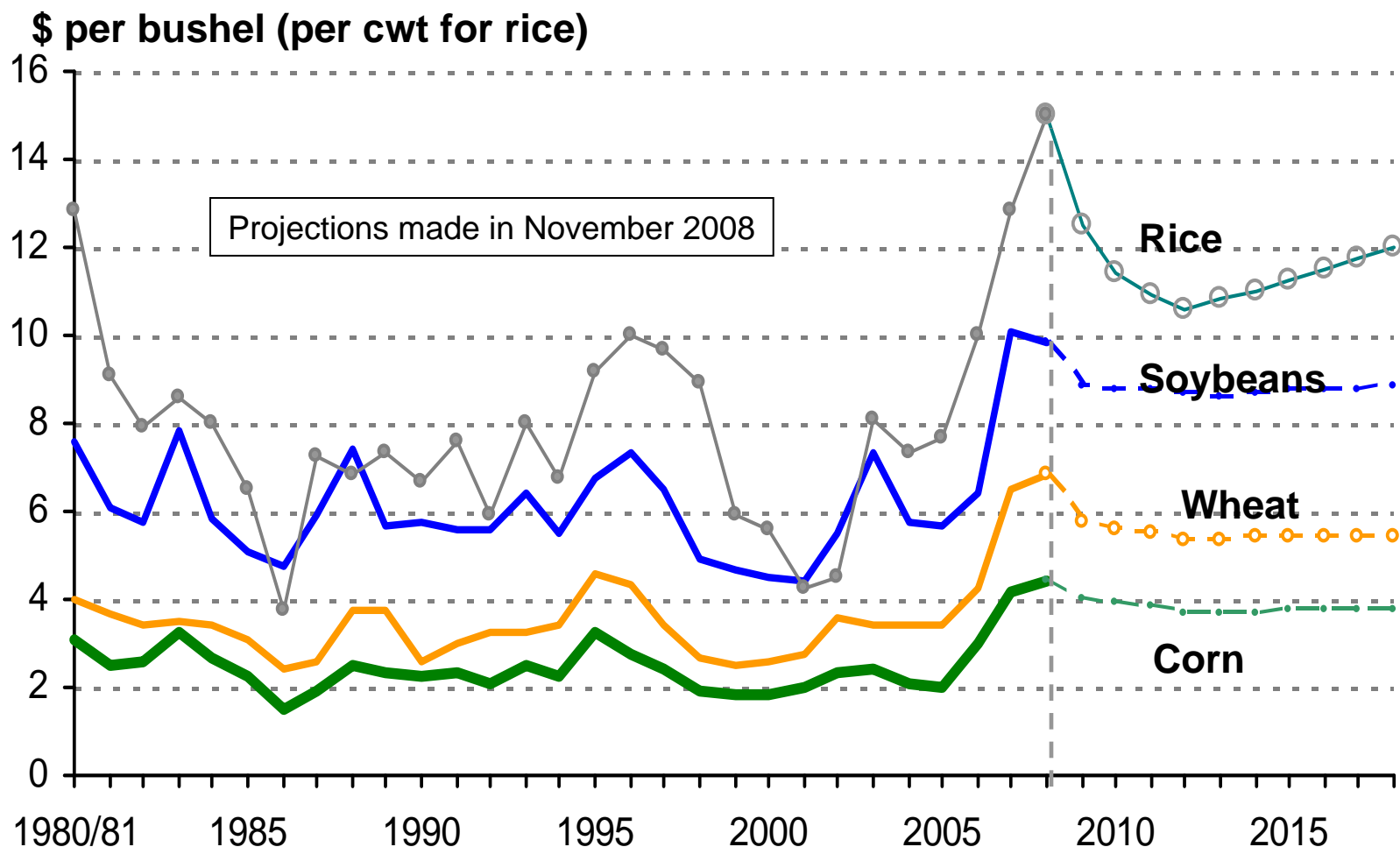
- Relatively high energy prices
- Ag production costs
- Slowing growth in total crop production

Supply factors

Demand factors

U.S. commodity prices: soybeans, wheat, corn & rice

History, current year, & projections



Global Agricultural Supply and Demand: Factors Contributing to the Recent Increase in Food Commodity Prices

A report available at:

<http://www.ers.usda.gov/publications/WRS0801.pdf>

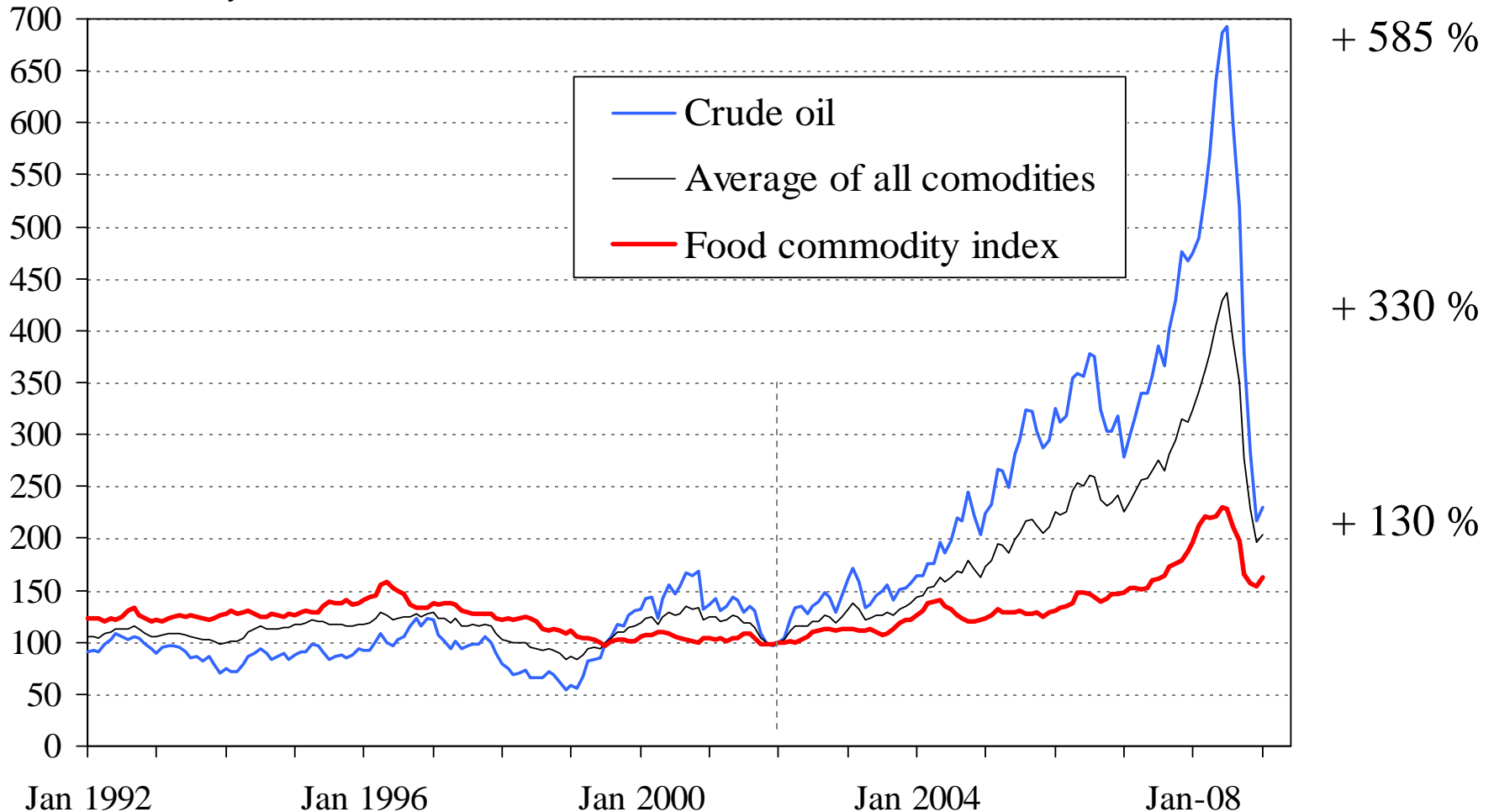
Ronald Trostle
Economic Research Service
U.S. Department of Agriculture
rtrostle@ers.usda.gov
202-694-5280

End of slides used in presentation

The following slides provide more detail on various aspect of the story.

Prices of many commodities rose even more

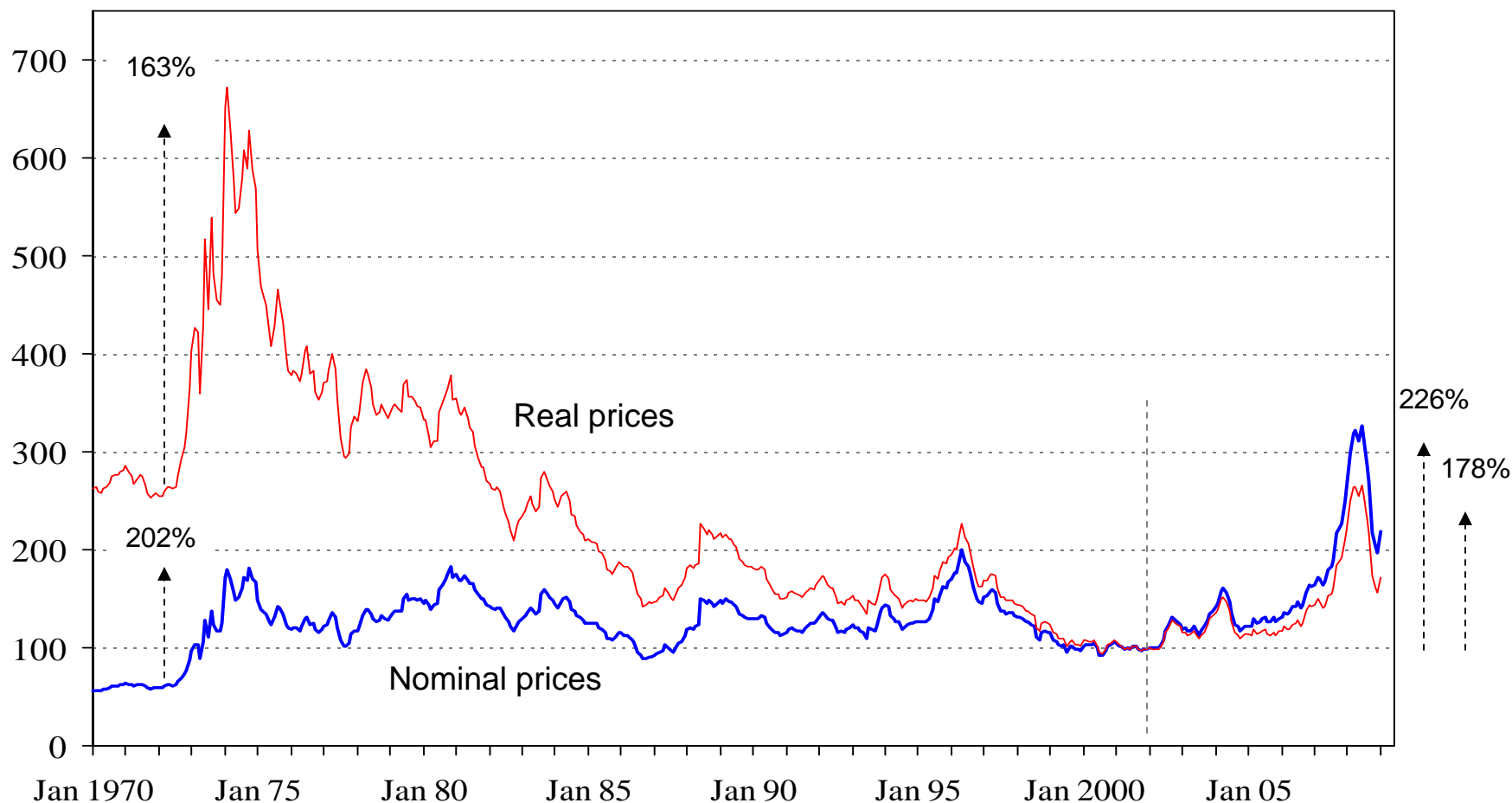
Index: January 2002 = 100



Crop price increases: real vs. nominal

Weighted average of 4 crops (wheat, soybeans, corn & rice) 1/

Index: January 2002 = 100

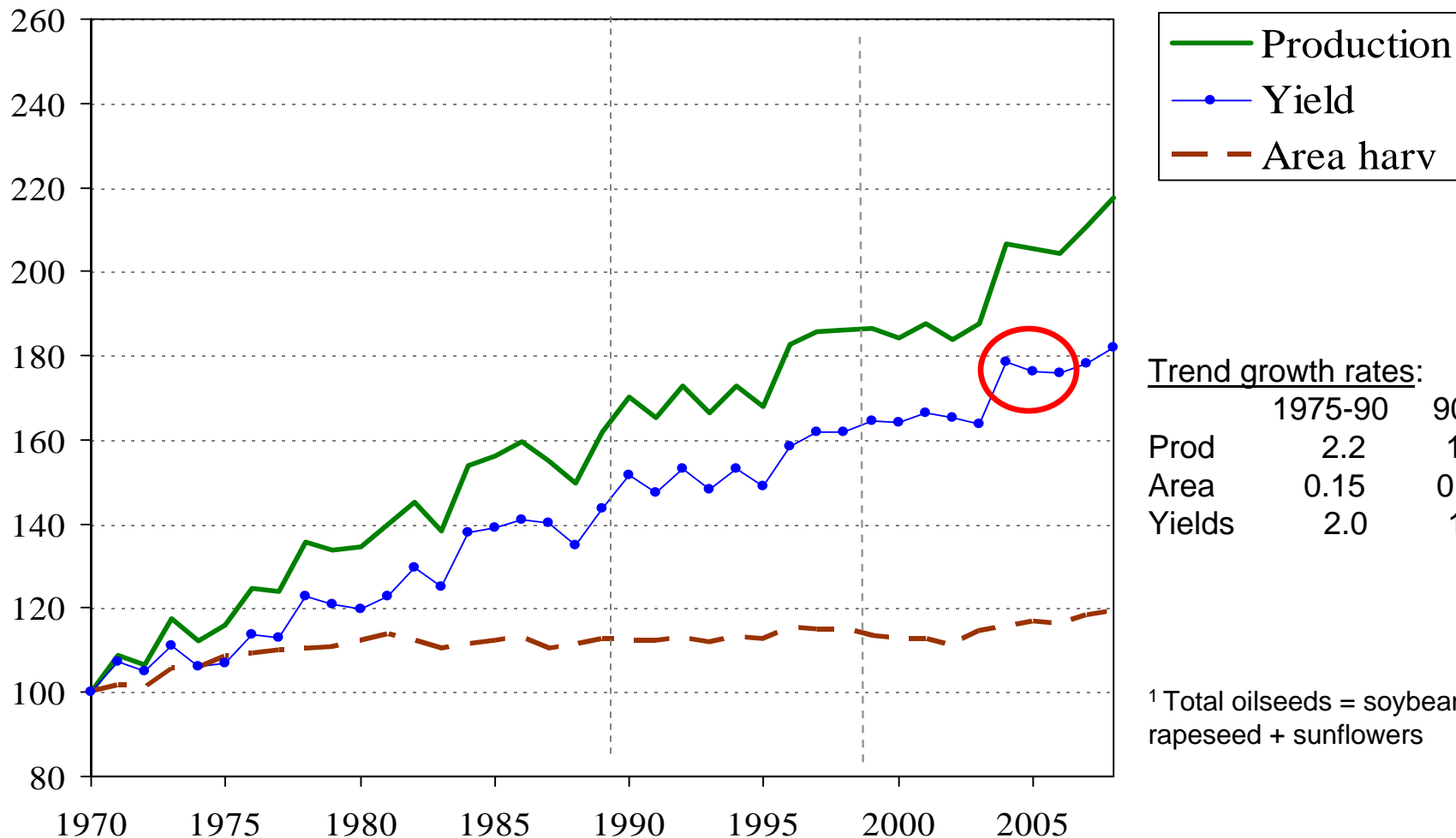


1/ IMF monthly prices weighted by world exports.

Total world grain & oilseeds¹

Production, yield, & area harvested

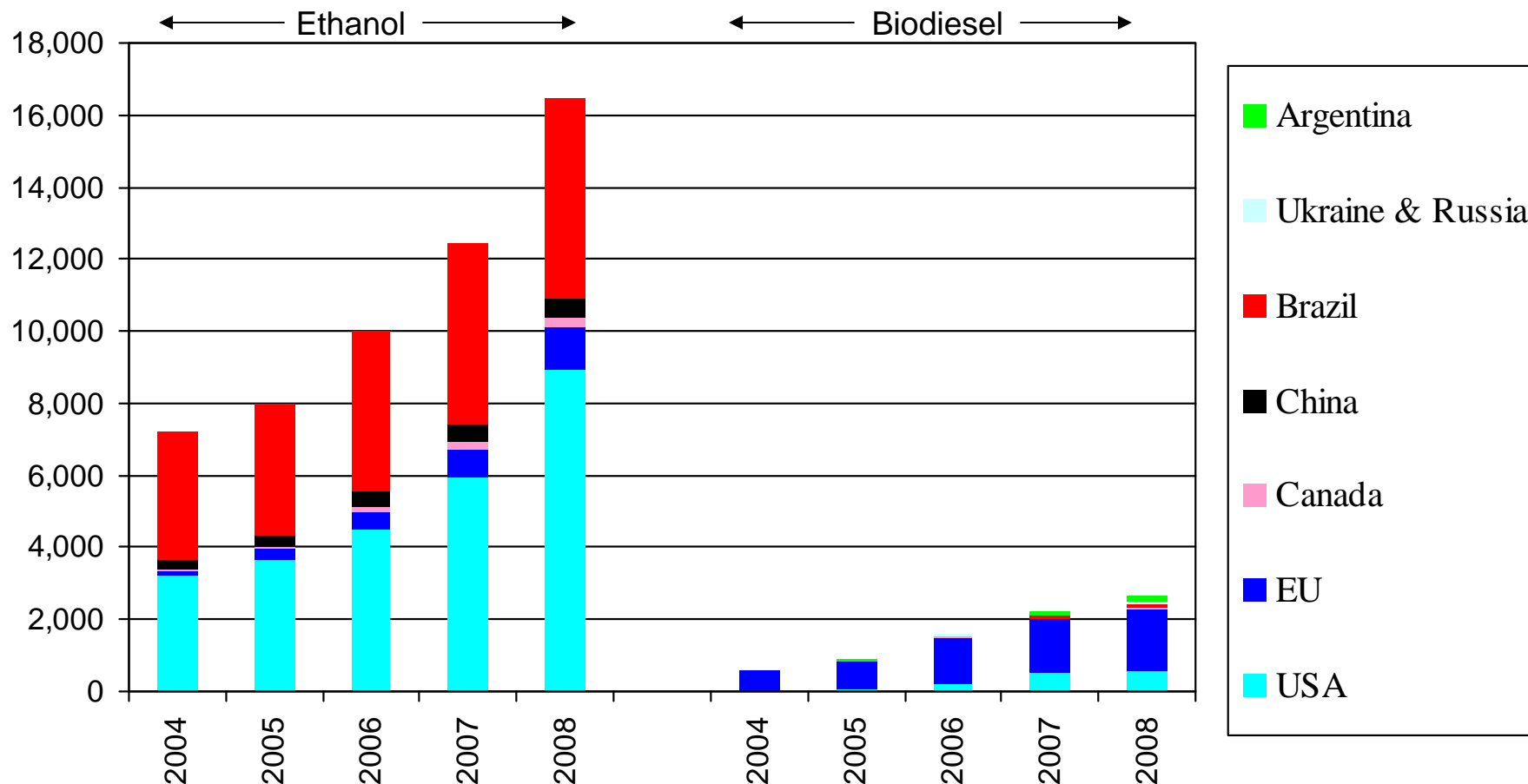
Index: 1970 = 100



¹ Total oilseeds = soybeans + rapeseed + sunflowers

Biofuels production: Largest producers

Million Gallons



Adverse weather reduced production:

➤ In 2006

- Australia
- Ukraine & Russia

➤ and 2007

- Europe: dry spring; harvest floods
- SE Europe: drought
- Ukraine & Russia: drought (2nd year)
- USA: late spring freeze
- Canada: hot and dry
- Australia: 2nd year of severe drought
- NW Africa: drought
- Turkey: dry

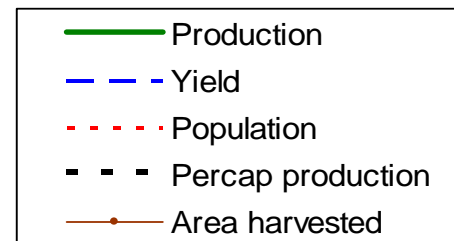
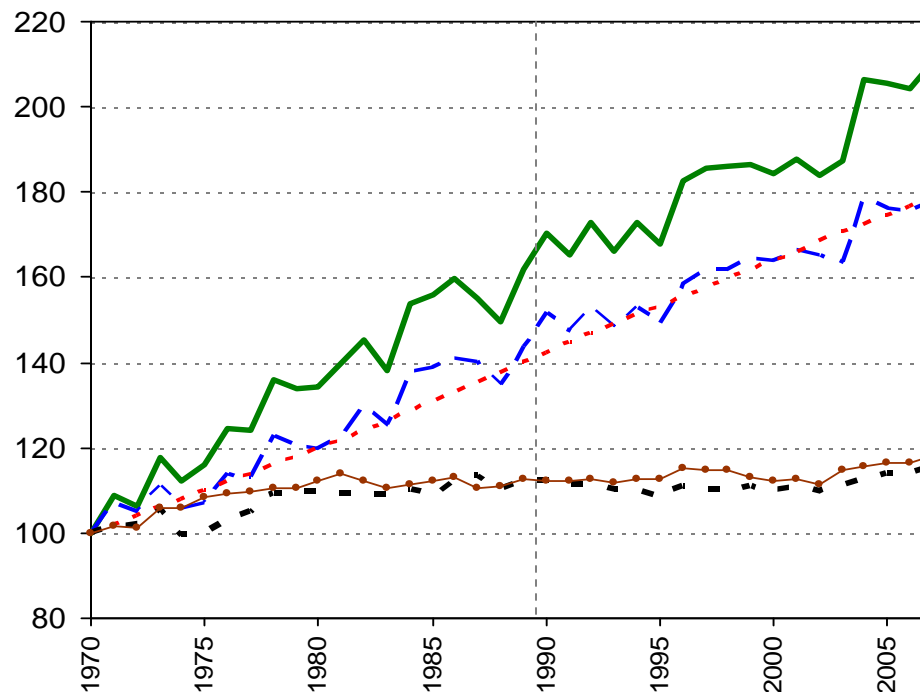
Total world grain & oilseeds¹

Production, yield, area harvested, population & percap production

Exponential trend growth rates:

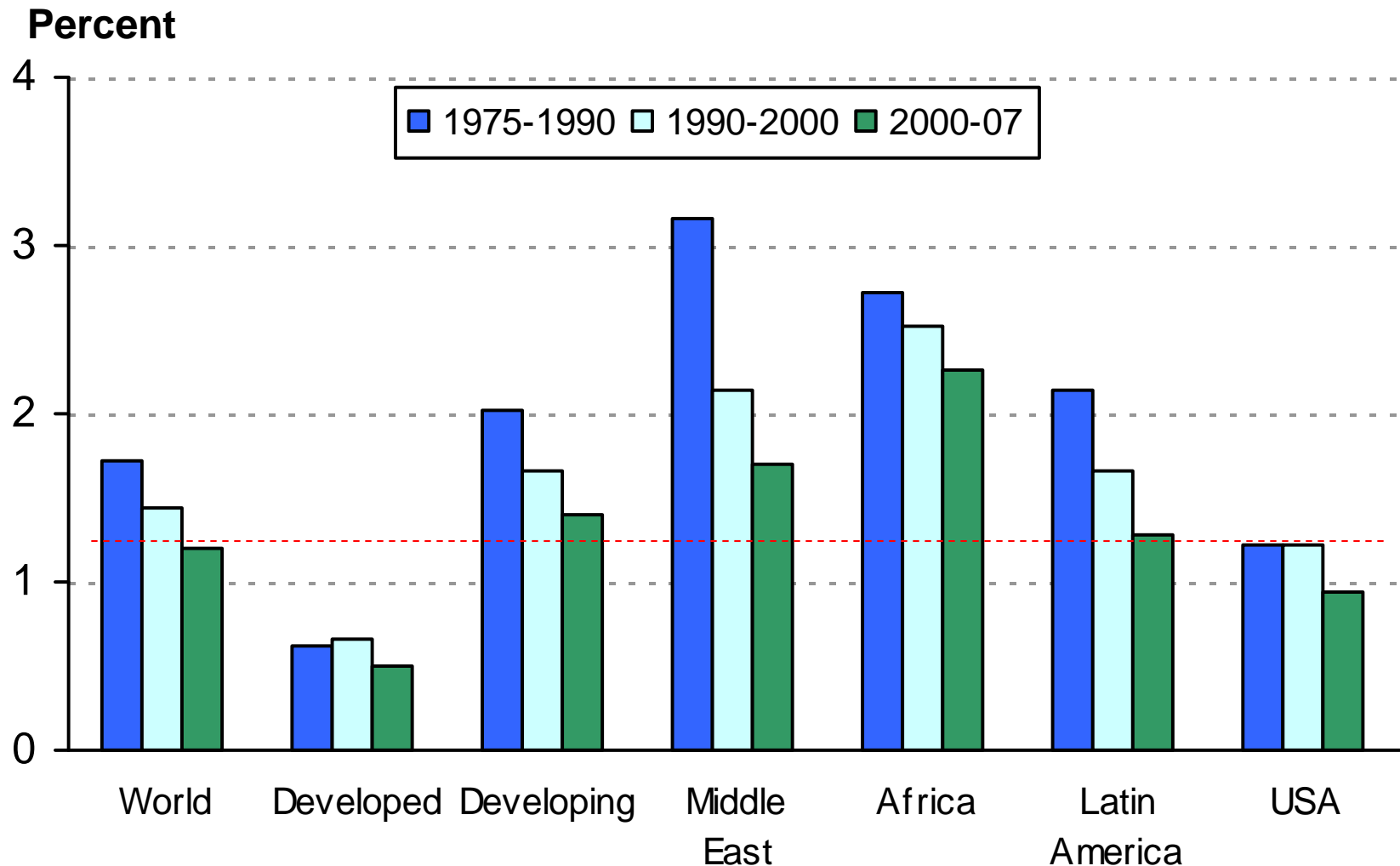
	1970-90	90-07
Production	2.2	1.3
Yields	2.0	1.1
Area	0.15	0.14
Population	1.7	1.4
Per capita production	0.56	0.11

Index: 1970 = 100



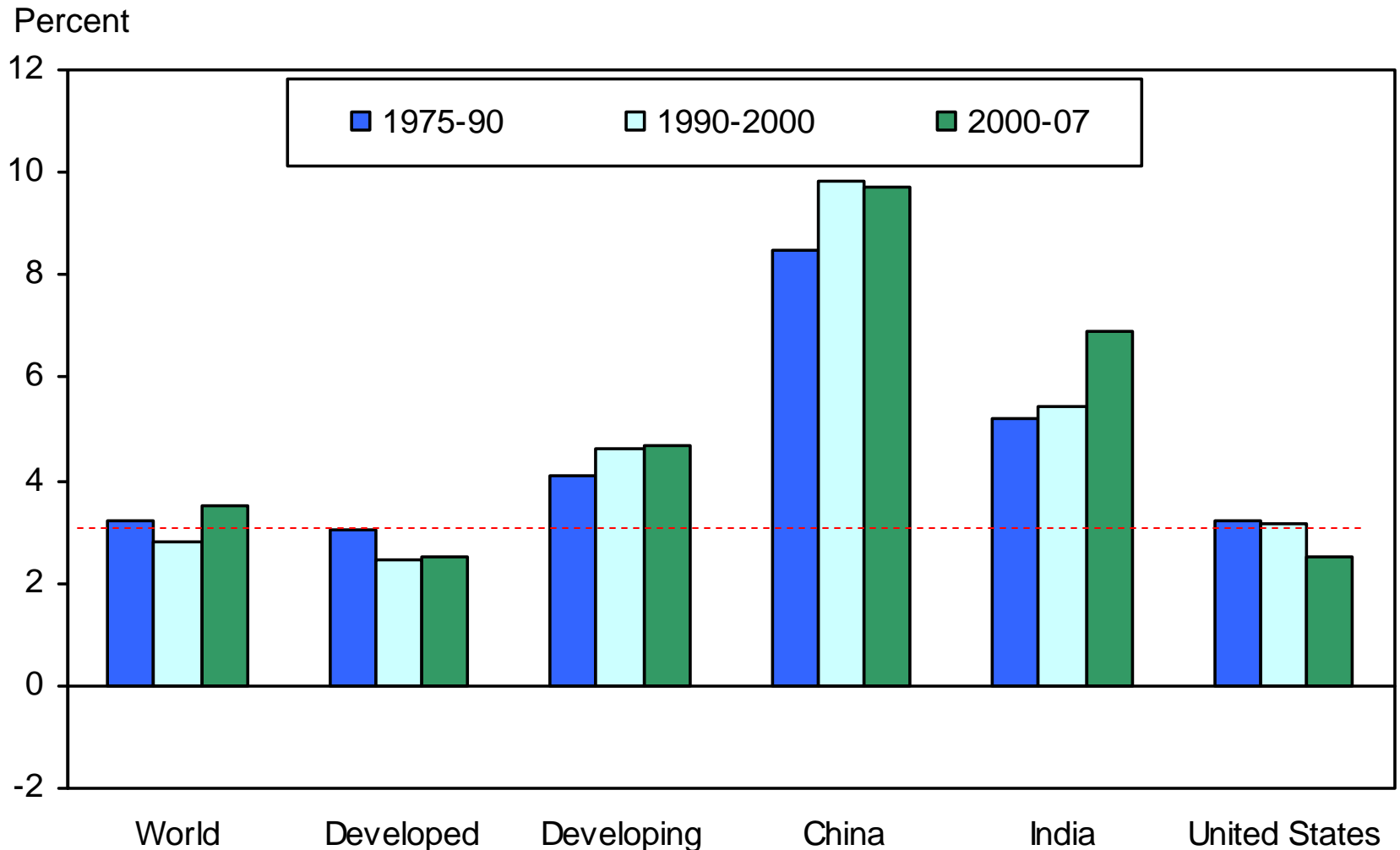
¹ Total oilseeds = soybeans + rapeseed + sunflowers

Population growth rates decline (Percent by period)



Strong economic growth

Average Real GDP growth rates



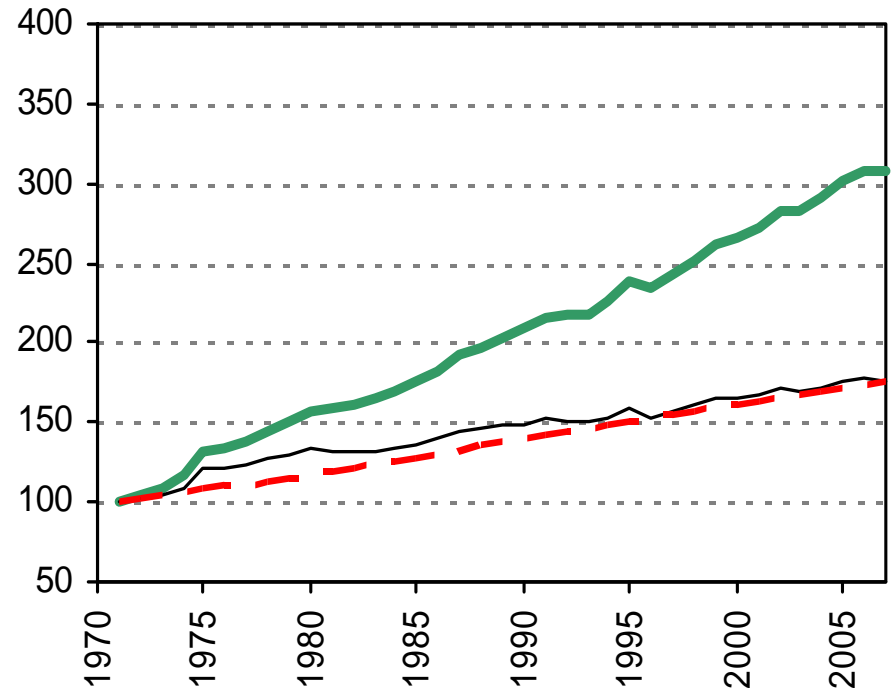
Global meat¹

Production, per capita consumption, and population

Exponential trend growth rates:

	1975-90	90-07
Production	3.1	2.5
Population	1.7	1.4
Per capita consumption	1.4	1.1

Index: 1971 = 100

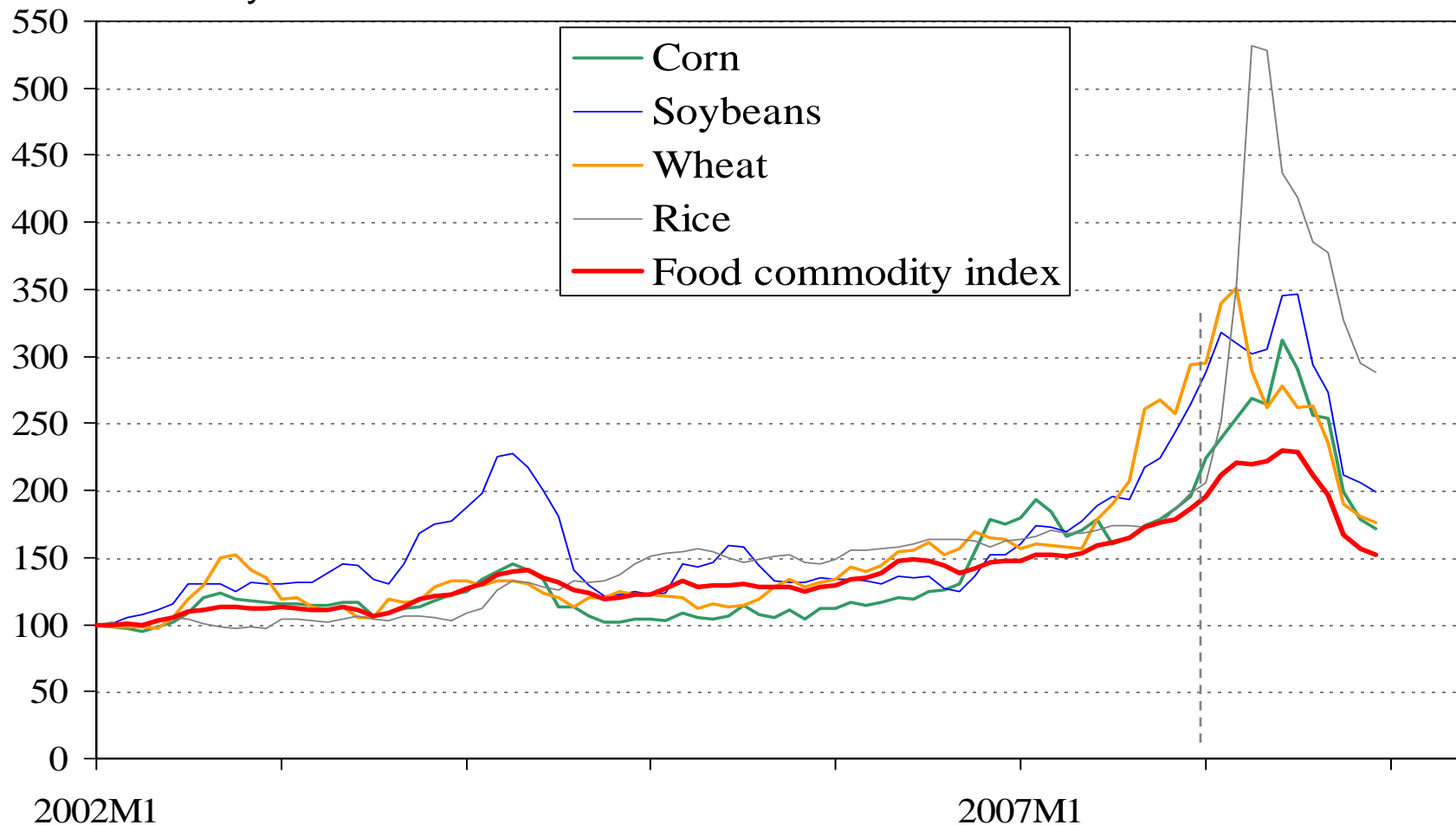


— Production
— Per capita Cons
- - - Population

¹ Total meat = beef + pork + chickens & turkeys.

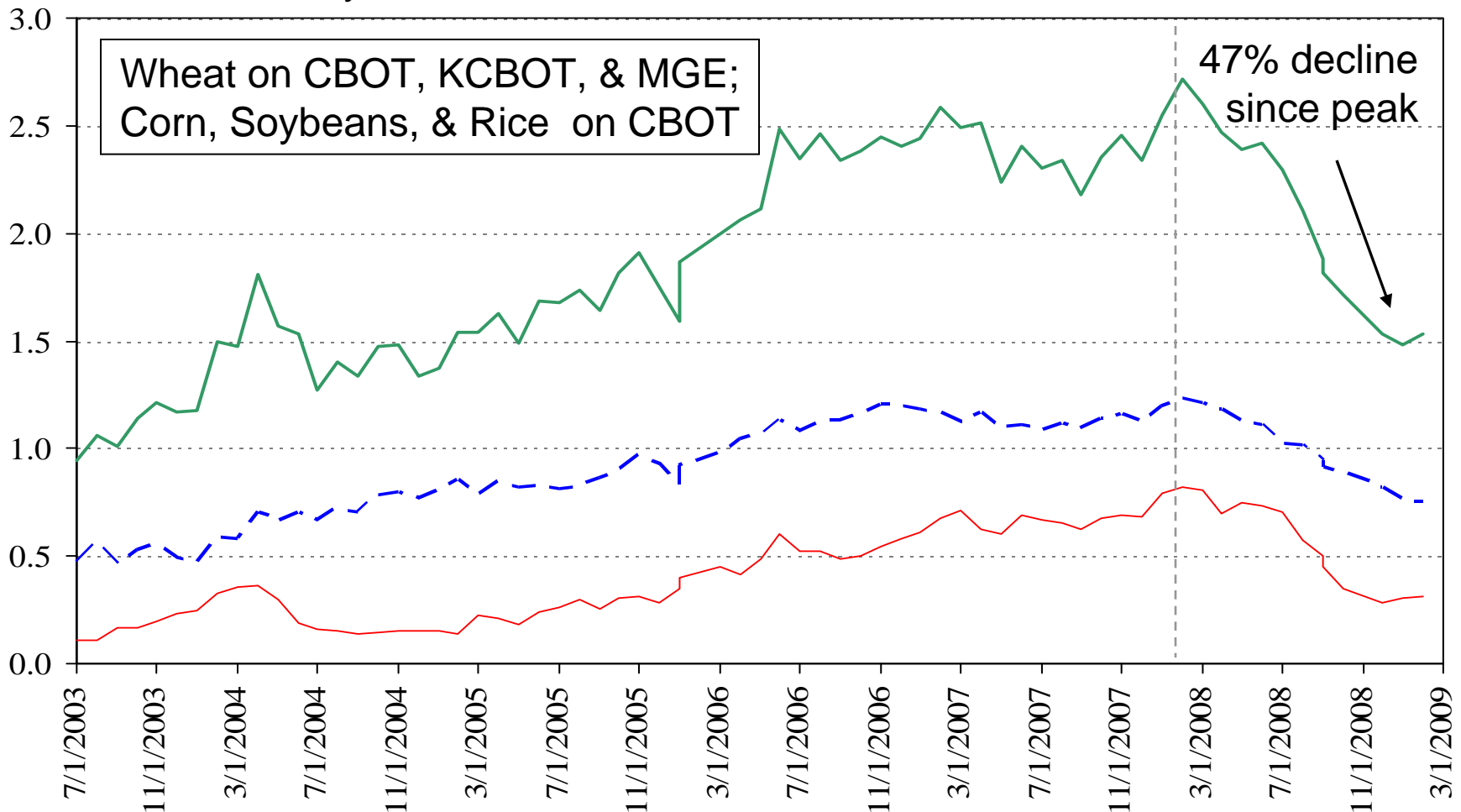
Food commodity prices: Indices for selected crops and total food

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Total Open Interest: U.S. Futures Markets for Wheat, Corn, Soybeans, and Rice

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Wheat	337 %	62 %	Mid March
Corn	268 %	62 %	End of June
Soybeans	295 %	53 %	Early July
Rice	> 400 %	36 %	Late September
4-crop average	247 %	40 %	April
Index of food commodities	130 %	34 %	June

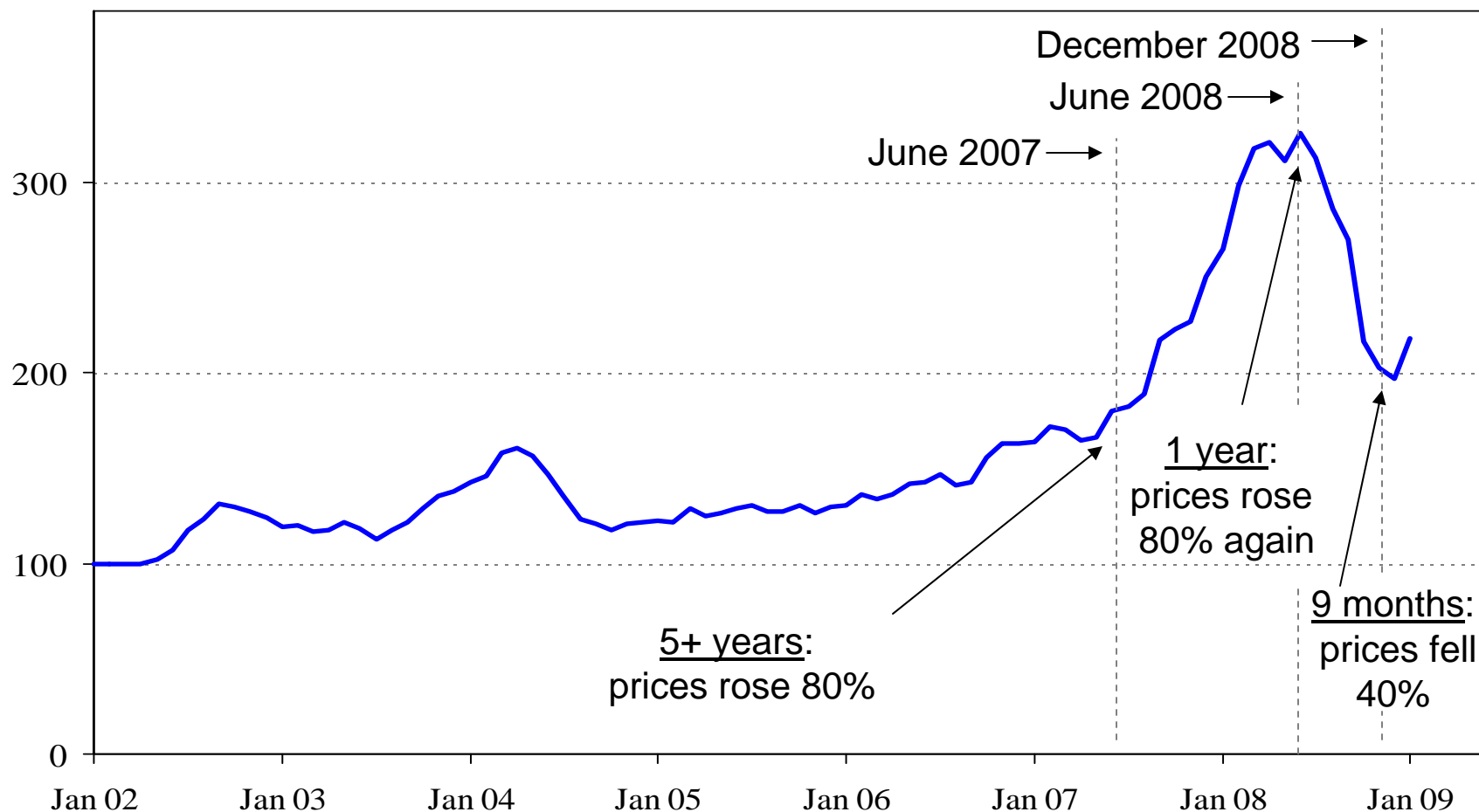
¹Lowest price since peak, as of January 29, 2009.

Kansas City for wheat; Central Illinois for corn and soybeans.

Nominal Crop Price Index

Weighted average of 4 crops (wheat, soybeans, corn & rice) 1/

Index: January 2002 = 100



1/ IMF monthly prices weighted by world exports.

Conditions in the summer of 2007:

- Dollar was weak
- Oil price was record high
- Production costs were high
- Biofuels production had been expanding rapidly
- World consumption growing faster than production
- Low stock/use ratio

Also

- Foreign exchange reserves were large and growing
- Involvement of funds were increasing

Factors contributing to higher food commodity prices

