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Current Agricultural Conditions and Their Effects on Land Prices



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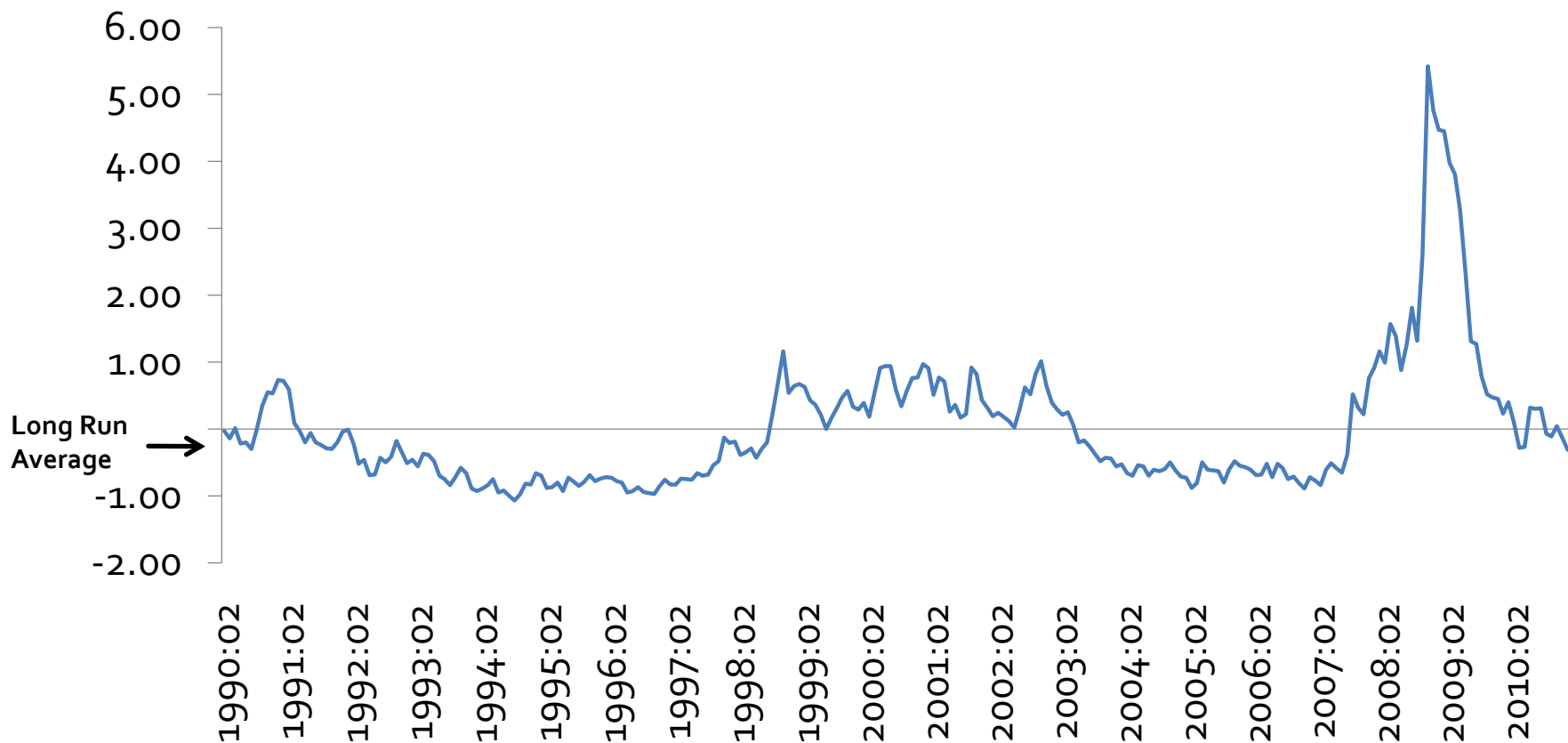
Today's Roadmap

- **Financial and credit conditions**
- **Agricultural supply and demand conditions**
- **Commodity prices and agricultural profits**
- **Interest rate risk and farmland values**



Recently, financial stress has moved closer to its long-run average.

Kansas City Financial Stress Index

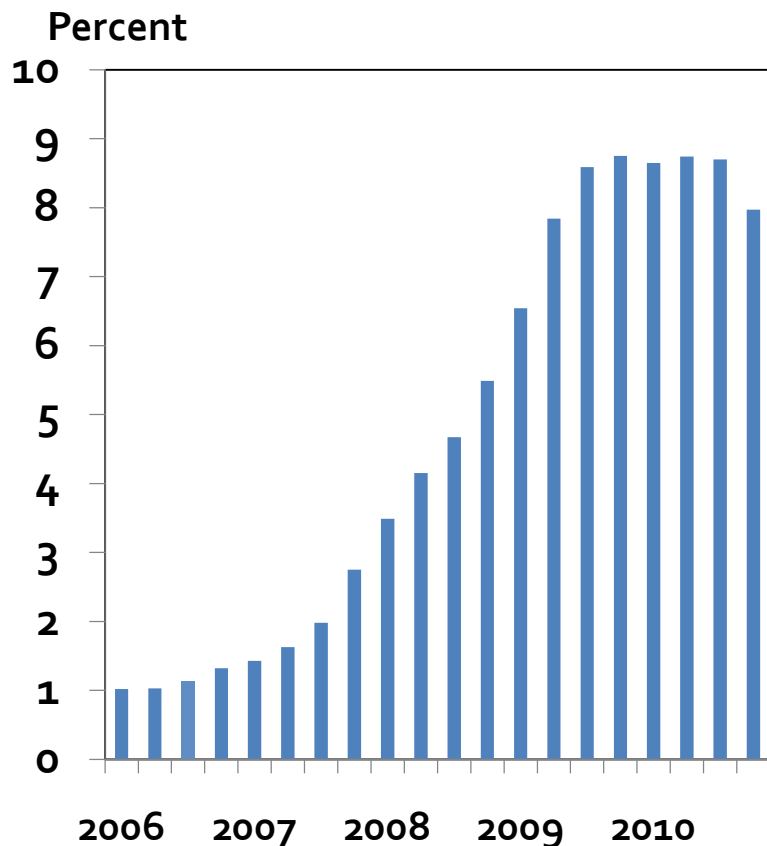


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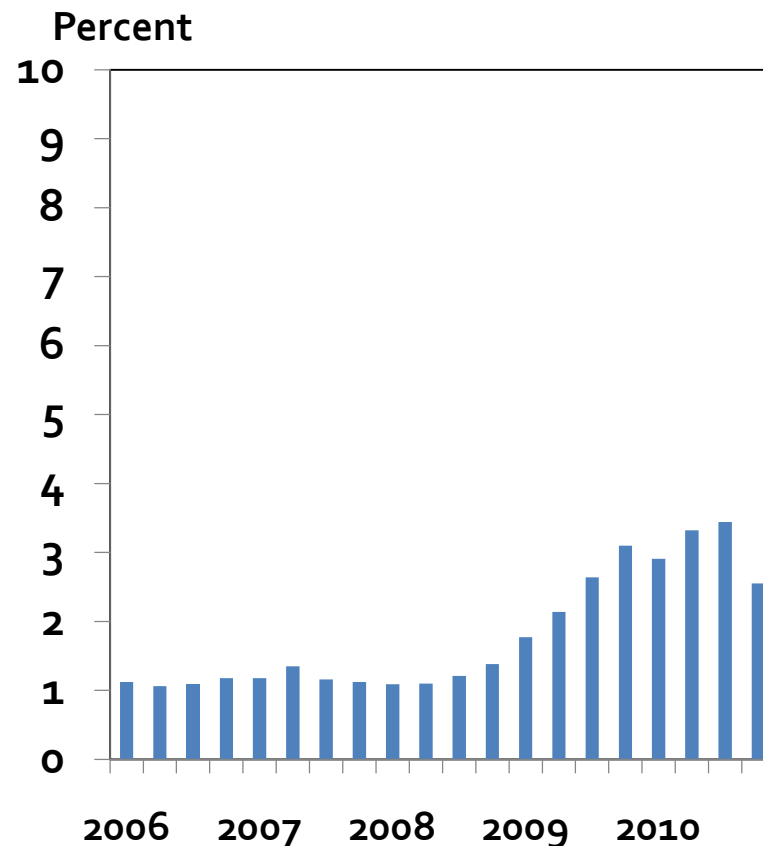


Delinquency rates on commercial real estate and agricultural loans have eased.

Delinquency Rate on Commercial Real Estate Loans



Delinquency Rate on Agricultural Loans

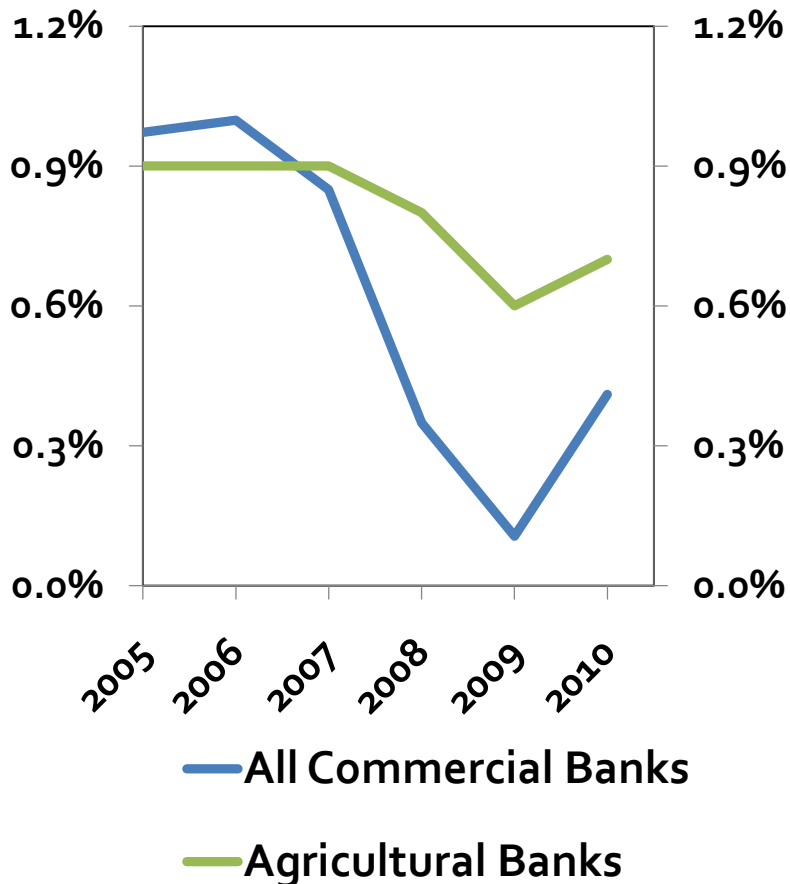


Source: Federal Reserve Board of Governors



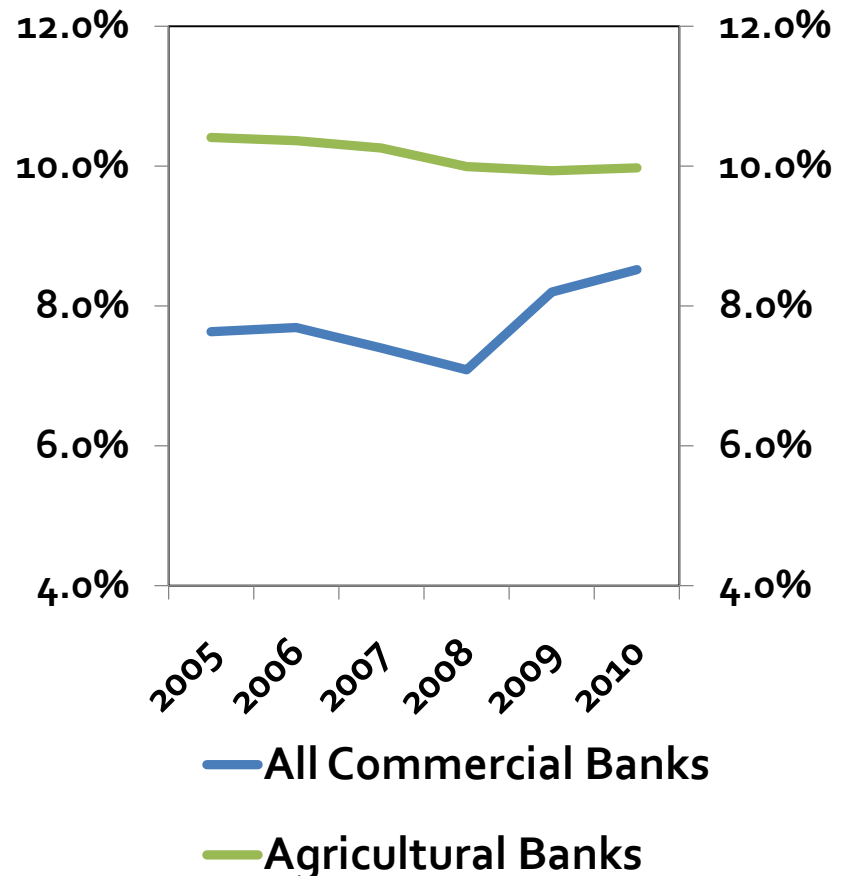
Bank profit margins have rebounded, and capital levels have risen.

Return on Assets



Source: FDIC and Agricultural Finance Databook

Tier 1 Capital Ratio



Source: FDIC



Today's Roadmap

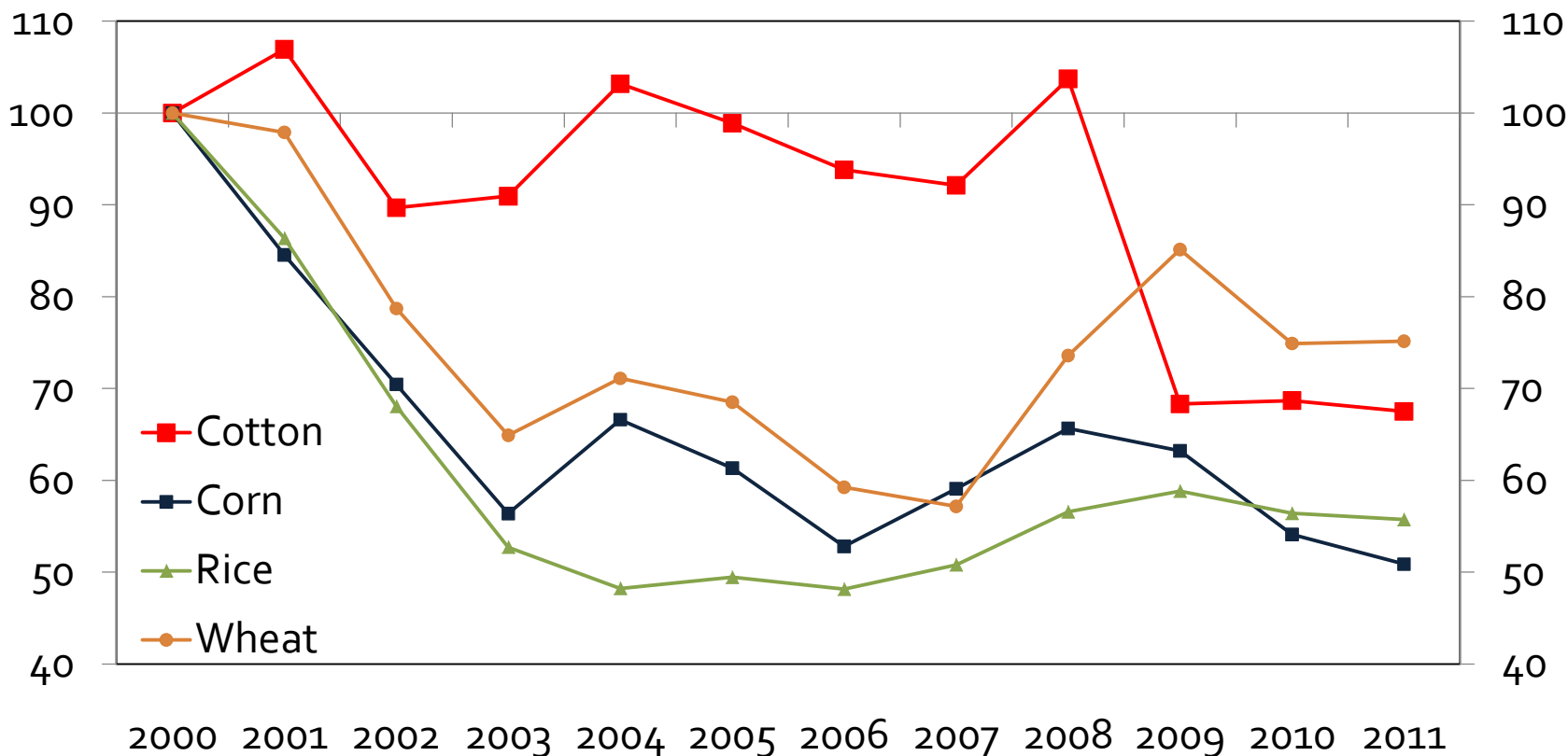
- **Financial and credit conditions**
- **Agricultural supply and demand conditions**



World grain and cotton supplies shrink with weather concerns.

Global Crop Inventories

Ending stocks as a percent of annual use (2000=100)



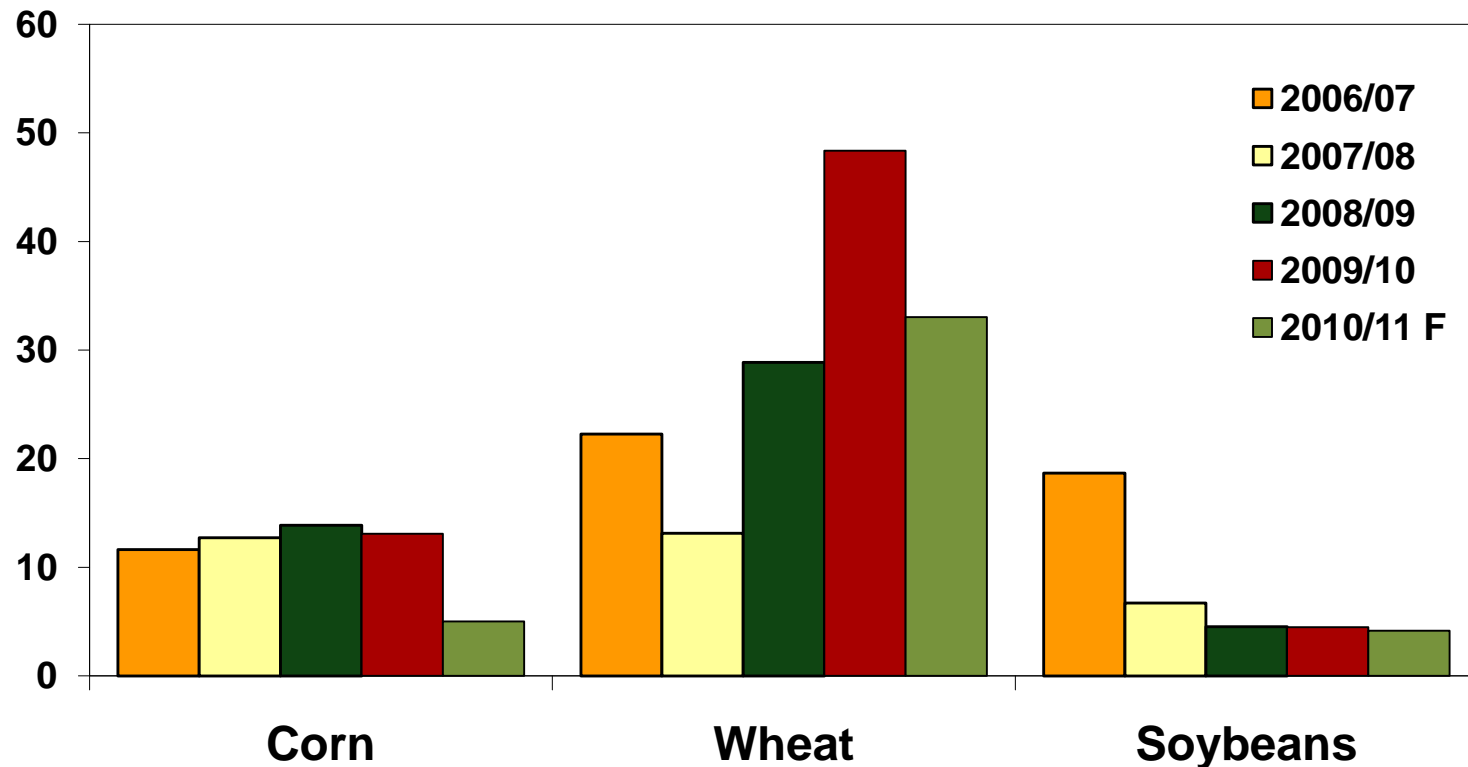
Source: USDA



U.S. crop inventories have fallen.

U.S. Crop Inventories

Ending stocks as a percent of total annual use



Source: USDA

F denotes February 2011 forecast

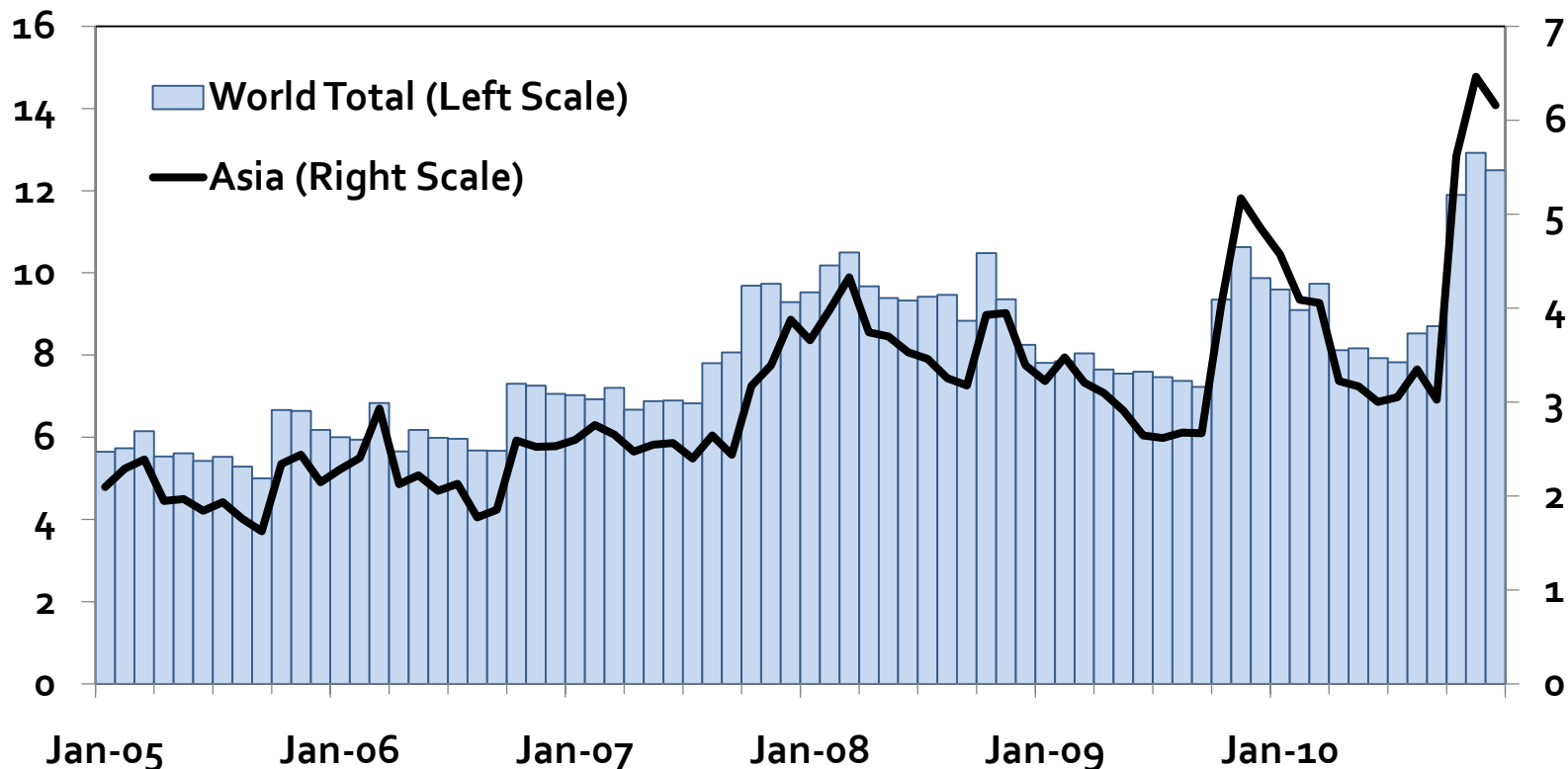


Agricultural exports have surged led by exports to Asia.

Real U.S. Agricultural Exports

Billions of dollars (constant 2010 dollars)

Billions of dollars (constant 2010 dollars)



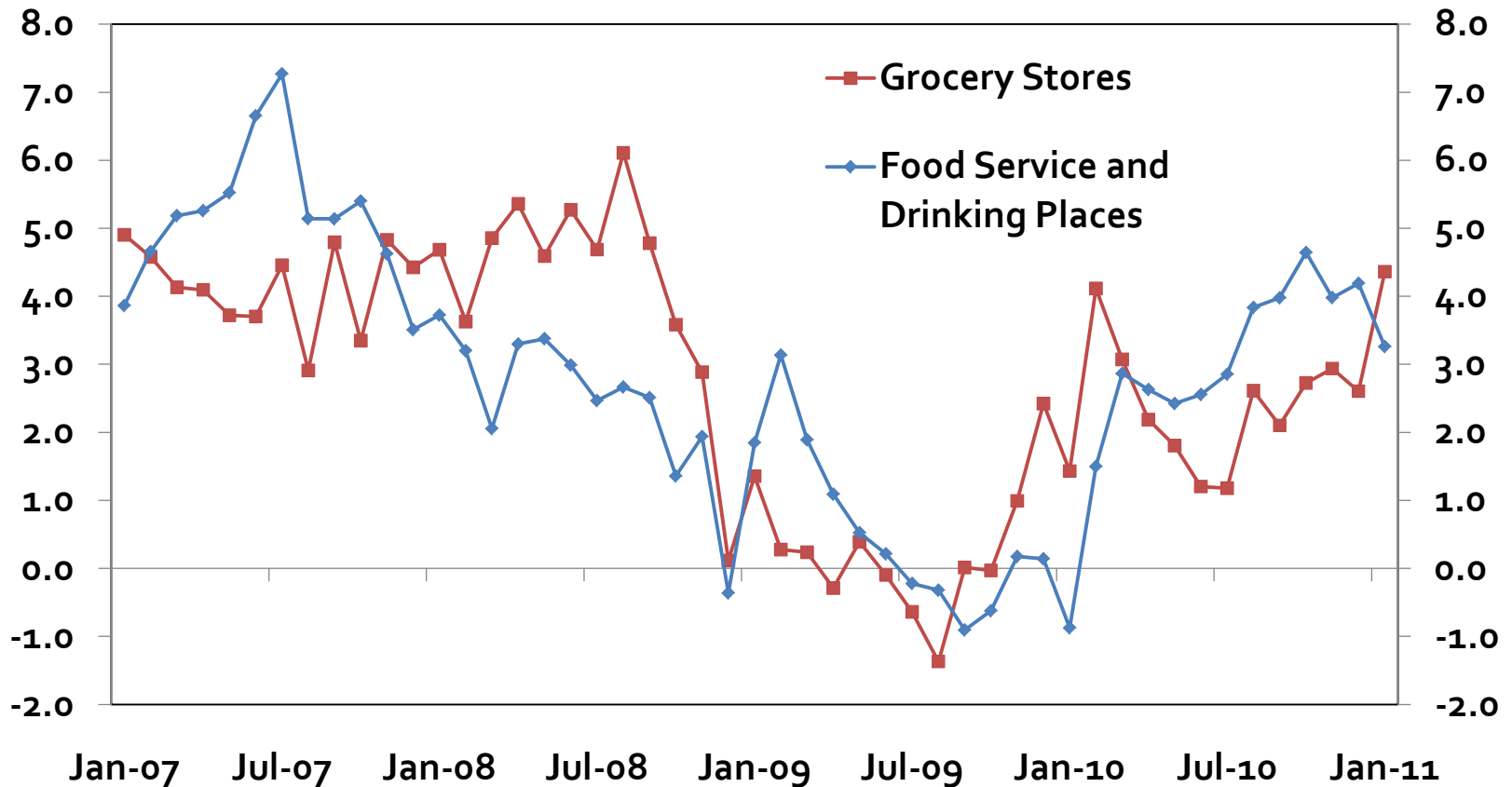
Source: USDA



U.S. food expenditures have rebounded.

U.S. Retail Sales at Grocery Stores and Restaurants

Percent change from year ago



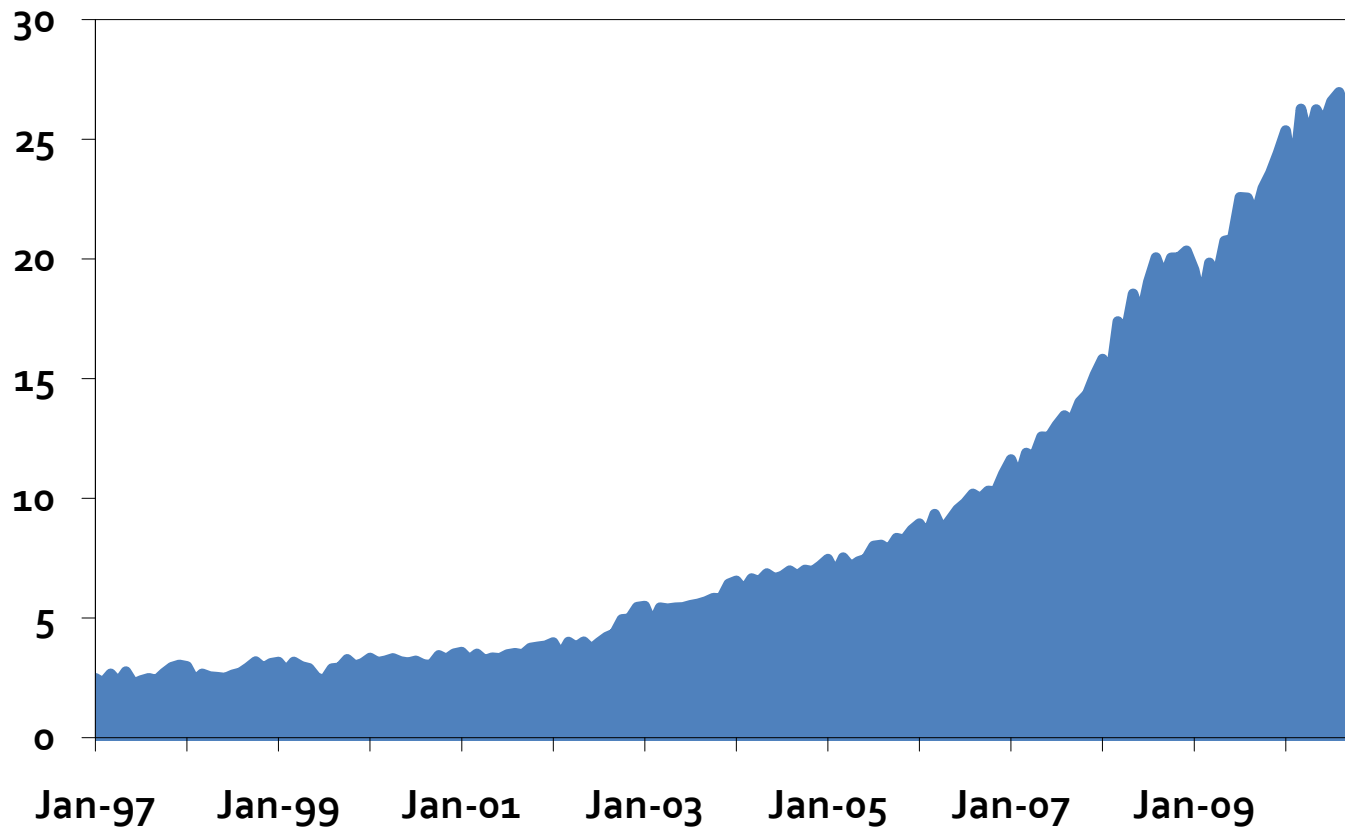
Source: Census Bureau



Ethanol production has surged.

U.S. Ethanol Production

Million barrels



Source: Energy Information Administration



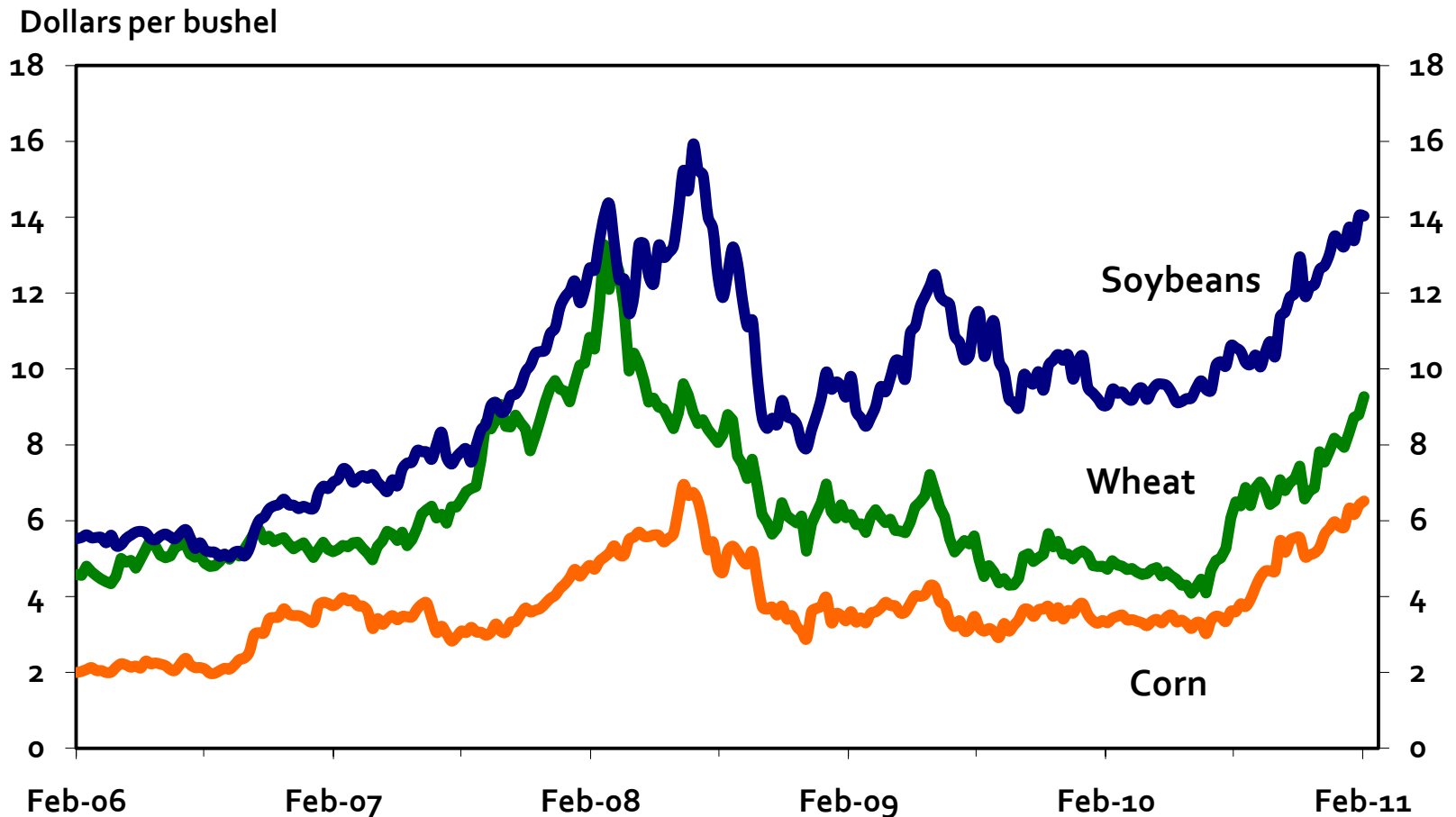
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Crop prices have risen significantly, but so has volatility.

U.S. Crop Prices

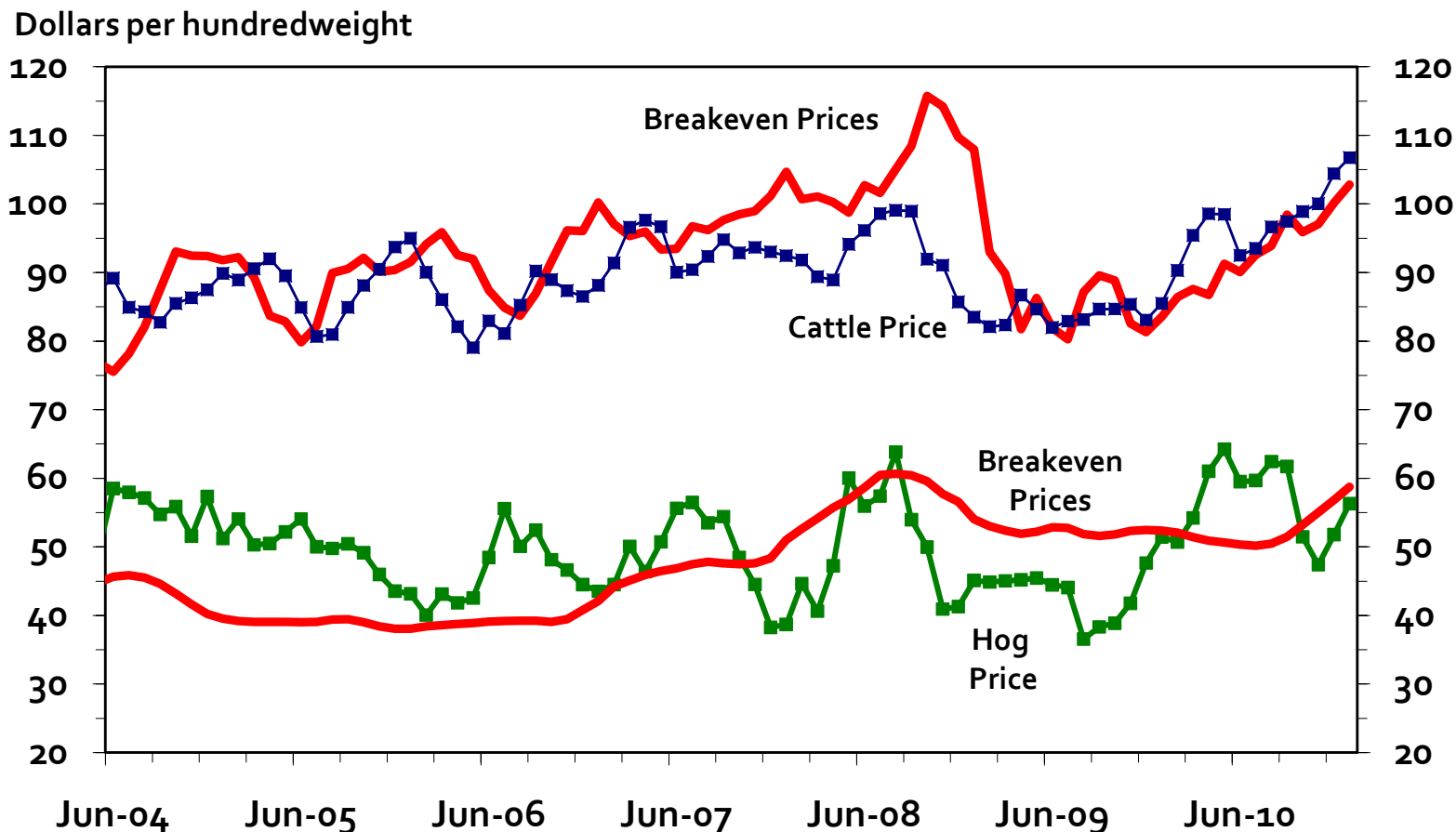


Source: Commodity Research Bureau



Livestock prices are keeping pace with rising feed costs, especially in cattle.

Livestock Costs and Prices



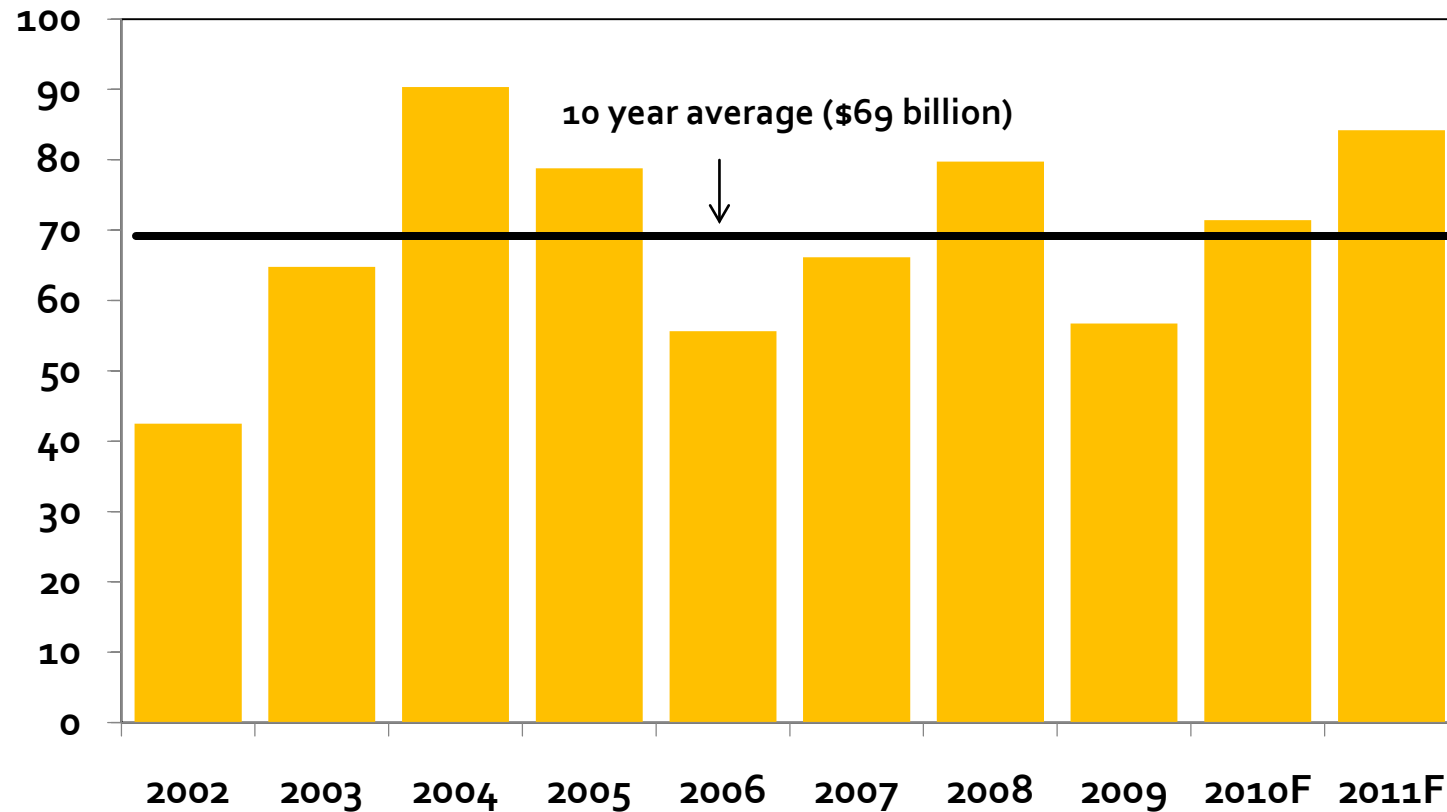
Source: USDA, Iowa State University, and California Department of Food and Agriculture



Net farm income is expected to rise in 2011.

U.S. Real Net Farm Income

Constant 2005 dollars (billions)



Source: USDA

Note: Forecast is denoted with an 'F'



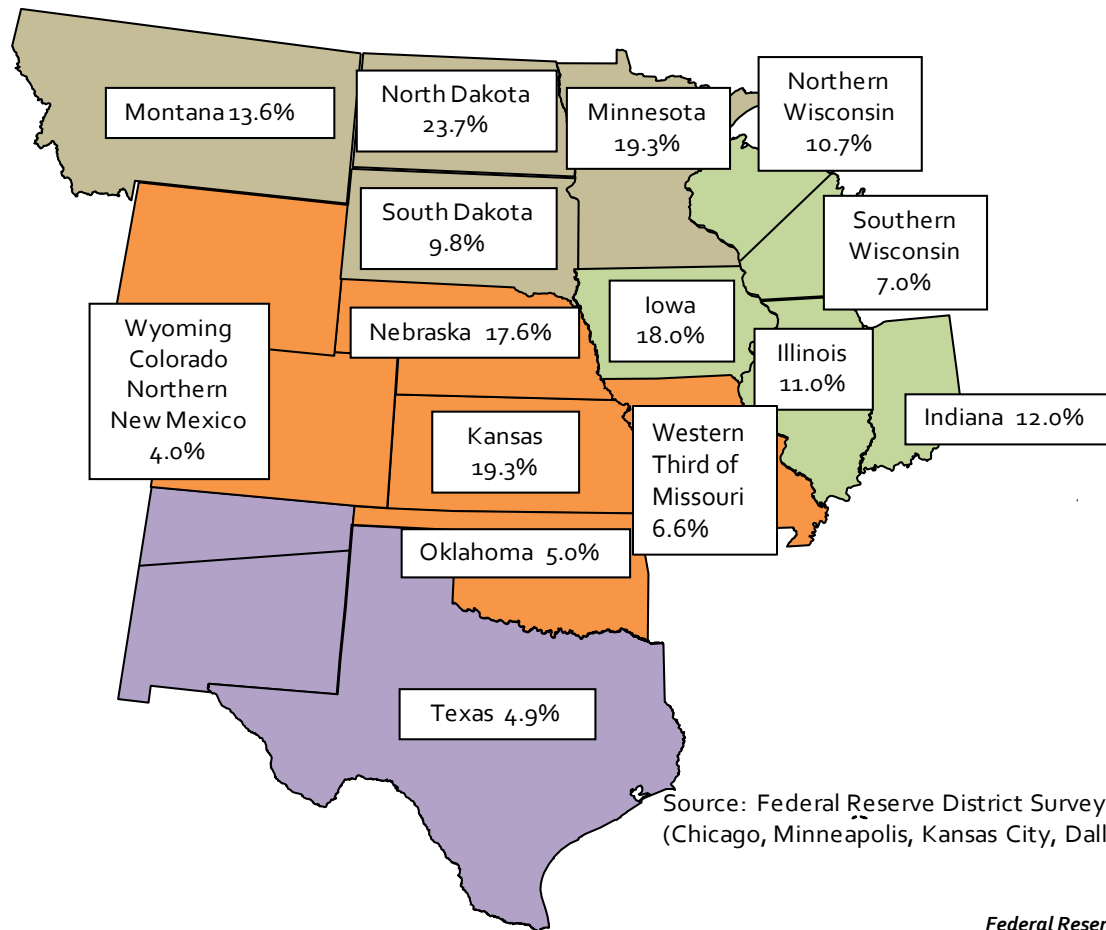
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Farmland values have surged.

Non-irrigated Cropland Values (Percent change from 2009:Q4 to 2010:Q4)

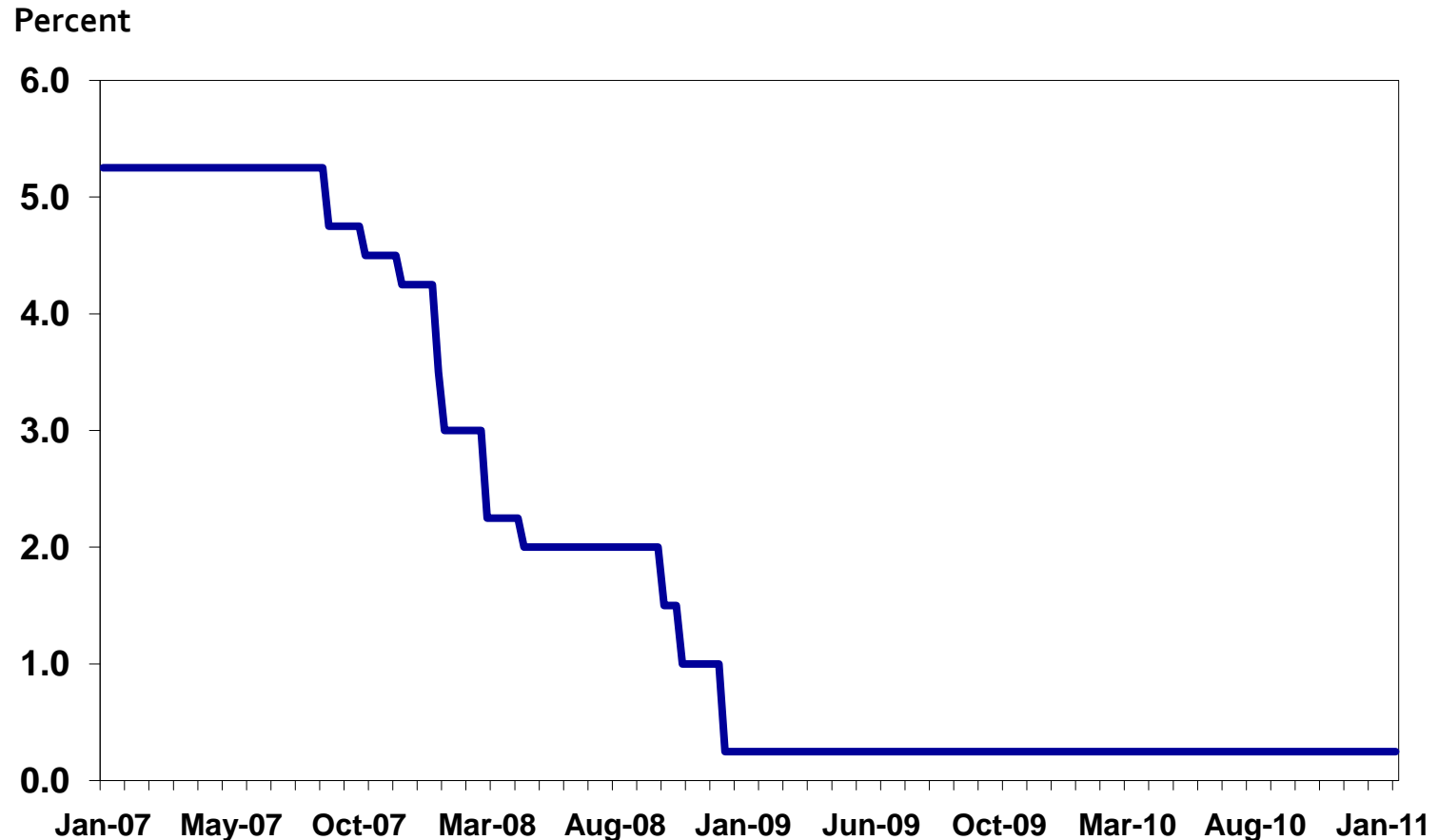


Source: Federal Reserve District Surveys
(Chicago, Minneapolis, Kansas City, Dallas)



The targeted fed funds rate remains at the zero bound.

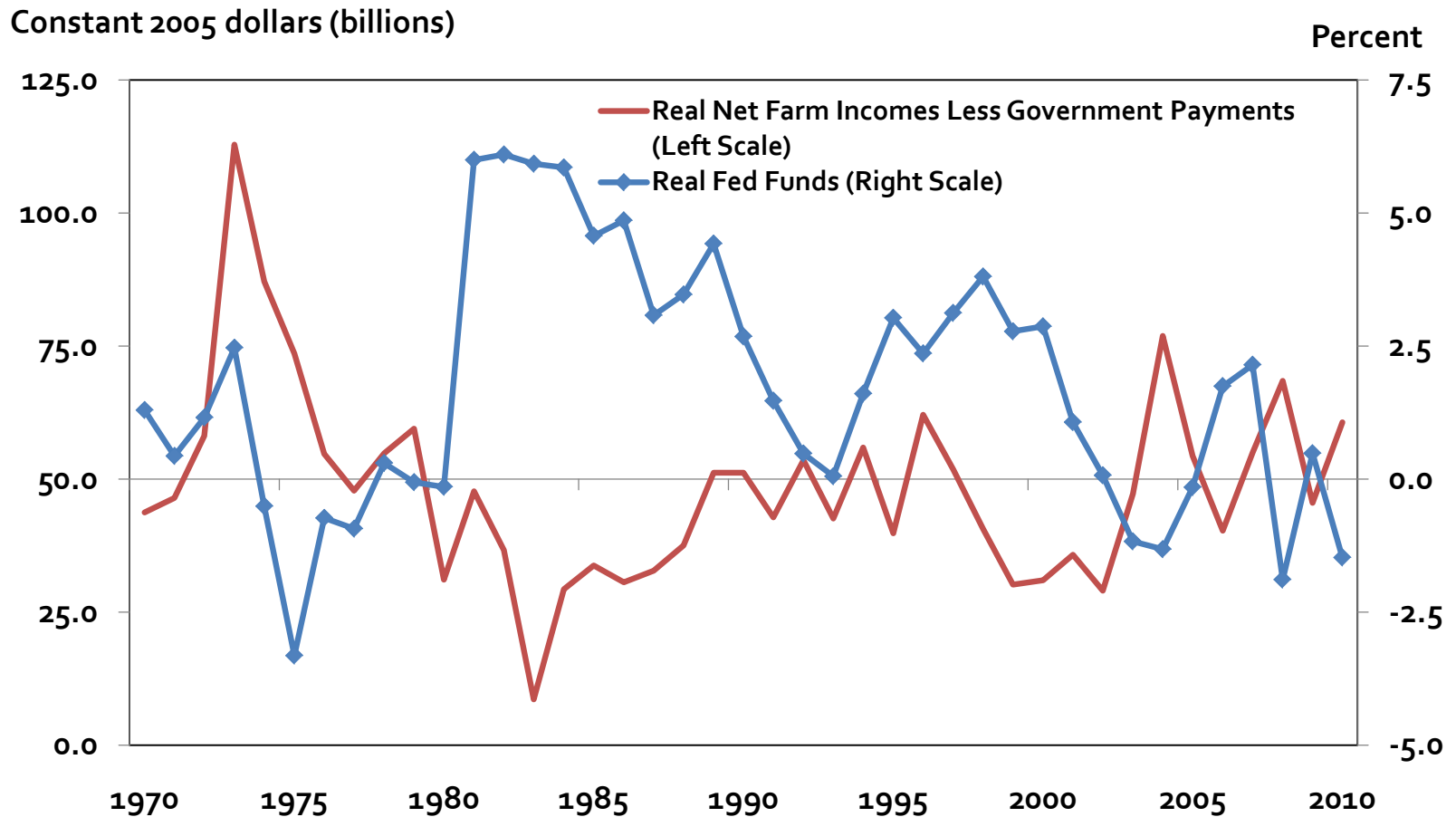
Targeted Federal Funds Rate (Upper Bound)



Source: Federal Reserve Board of Governors



Over time, the real fed funds rate and net farm income tend to move in opposite directions.



Sources: USDA , Federal Reserve, BLS



Capitalized Revenues from Corn Production

Land values should equal capitalized revenues

$$\text{Land Values} = \frac{\text{Expected Revenues}}{\text{Capitalization Rate}}$$

Assumptions:

Corn Price: \$5.00 per bushel

25% of gross revenues go to land

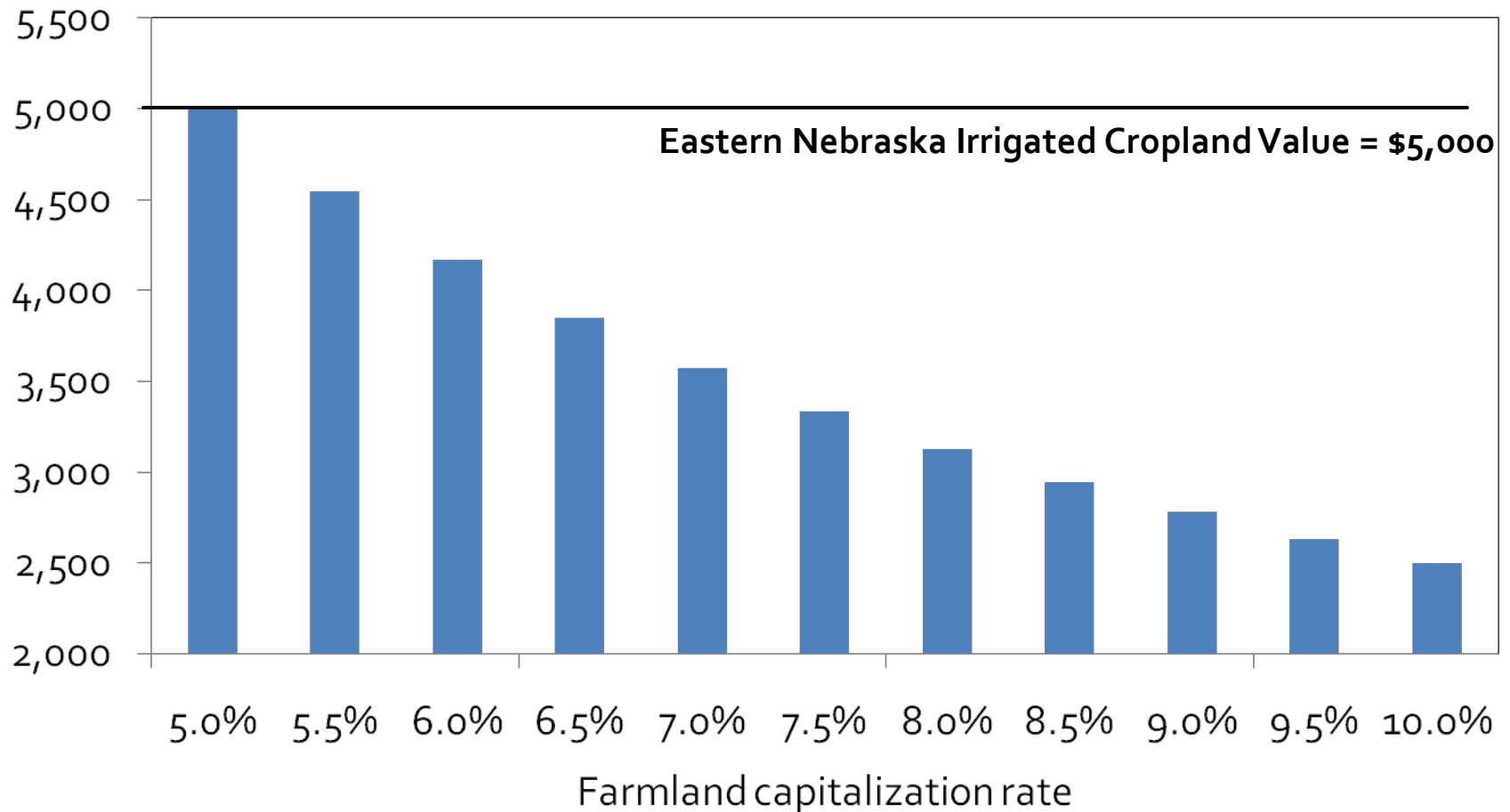
	Yield (bushel per acre)	
	150 bushels	200 bushels
Capitalization rate		
5%	3750	5000

Note: Nebraska irrigated corn yield 198 bushels per acre (2009 average)
U.S. average annual price \$5.20 per bushel (2010 average)



At \$5 per bushel corn, rising cap rates could slash cropland values.

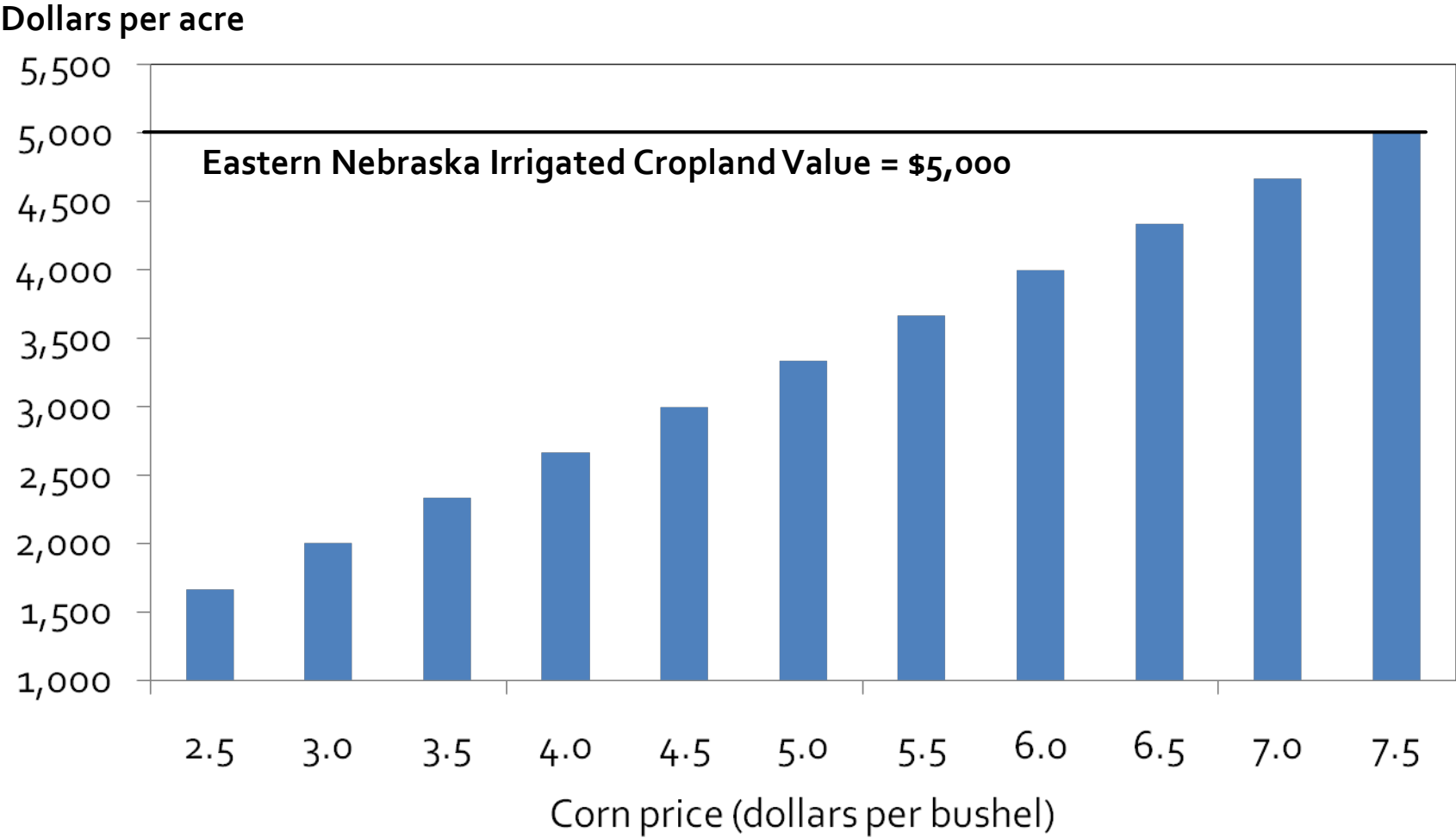
Dollars per acre



Authors' calculations assuming 200 bushels per acre and 25% of gross revenues capitalized into land.



At a historical cap rate of 7.5 percent, record high corn prices are needed to justify current cropland values.



Authors' calculations assuming 200 bushels per acre and 25% of gross revenues capitalized into land.



Questions?

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