

# Farm Sector Income & Finances 2016 Outlook

By Ryan Kuhns and Kevin Patrick

March 16, 2016



# Background

The Economic Research Service forecasts the farm sector's income statement and balance sheet

Last released February 9<sup>th</sup>

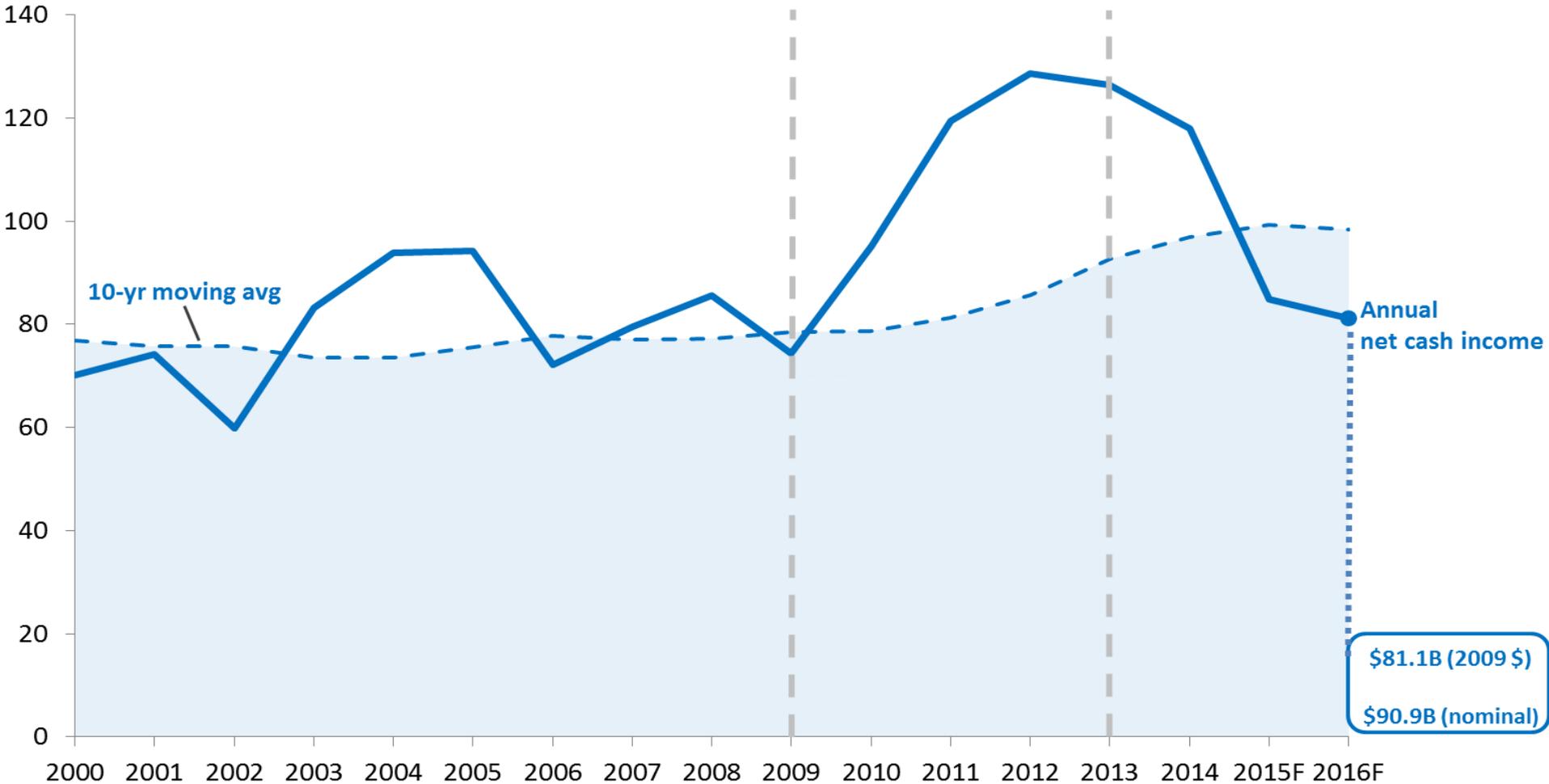
Includes 2015 and 2016 forecasts of:

- Income statement
- Balance sheet
- Financial metrics
- Farm business-level outlook



# Net cash income (NCI) forecast down 2.5% in 2016

\$Billion (2009 Dollars)

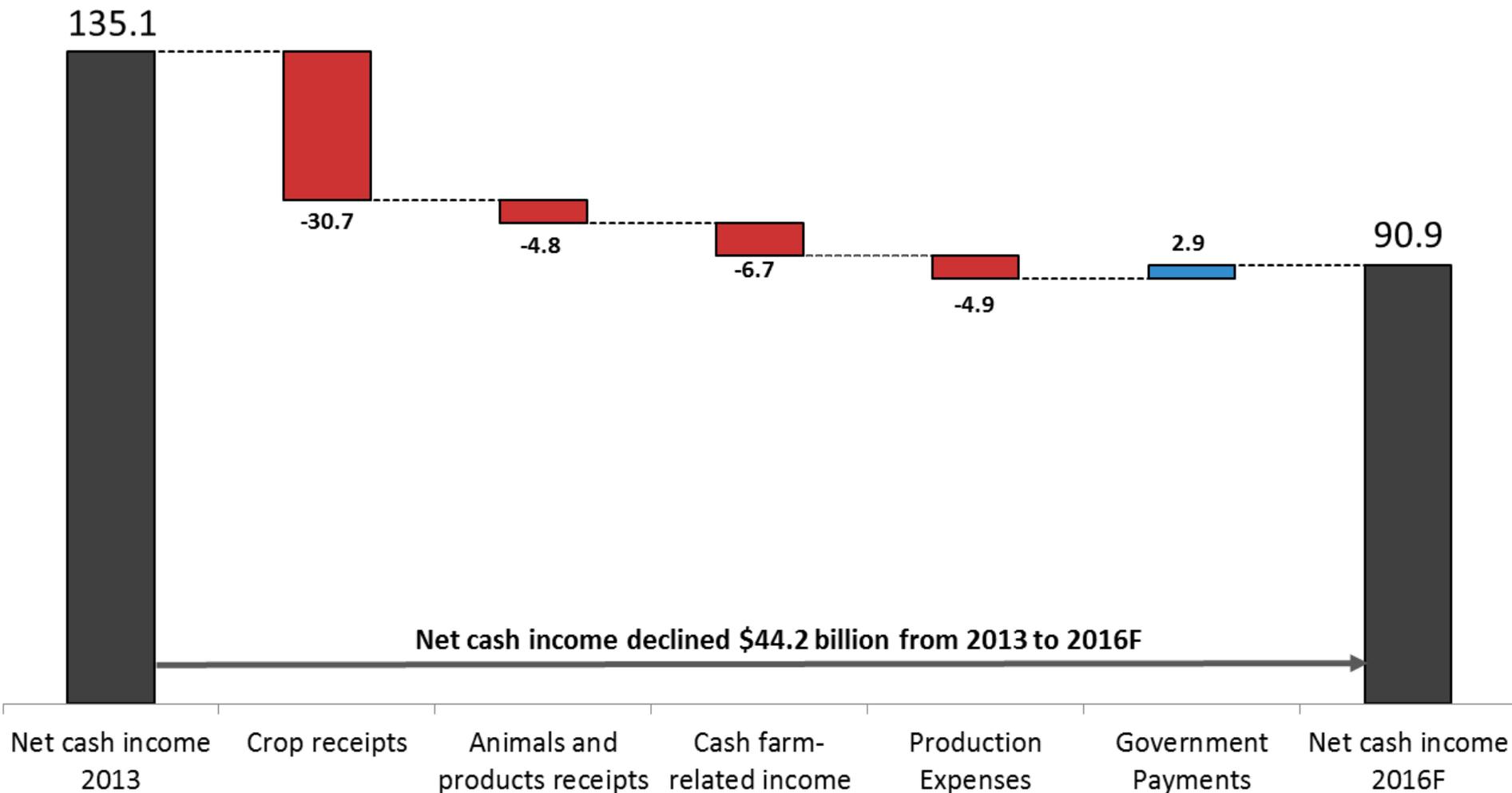


**\$81.1B (2009 \$)**  
**\$90.9B (nominal)**

F=forecast  
The GDP chain-type price index is used to convert the current-dollar statistics to real (inflation adjusted) amounts (2009=100)  
Source: USDA, Economic Research Service, Farm Income and Wealth Statistics. Data as of February 9, 2016.



# Crop receipts drive the expected decline in NCI from 2013 to 2016

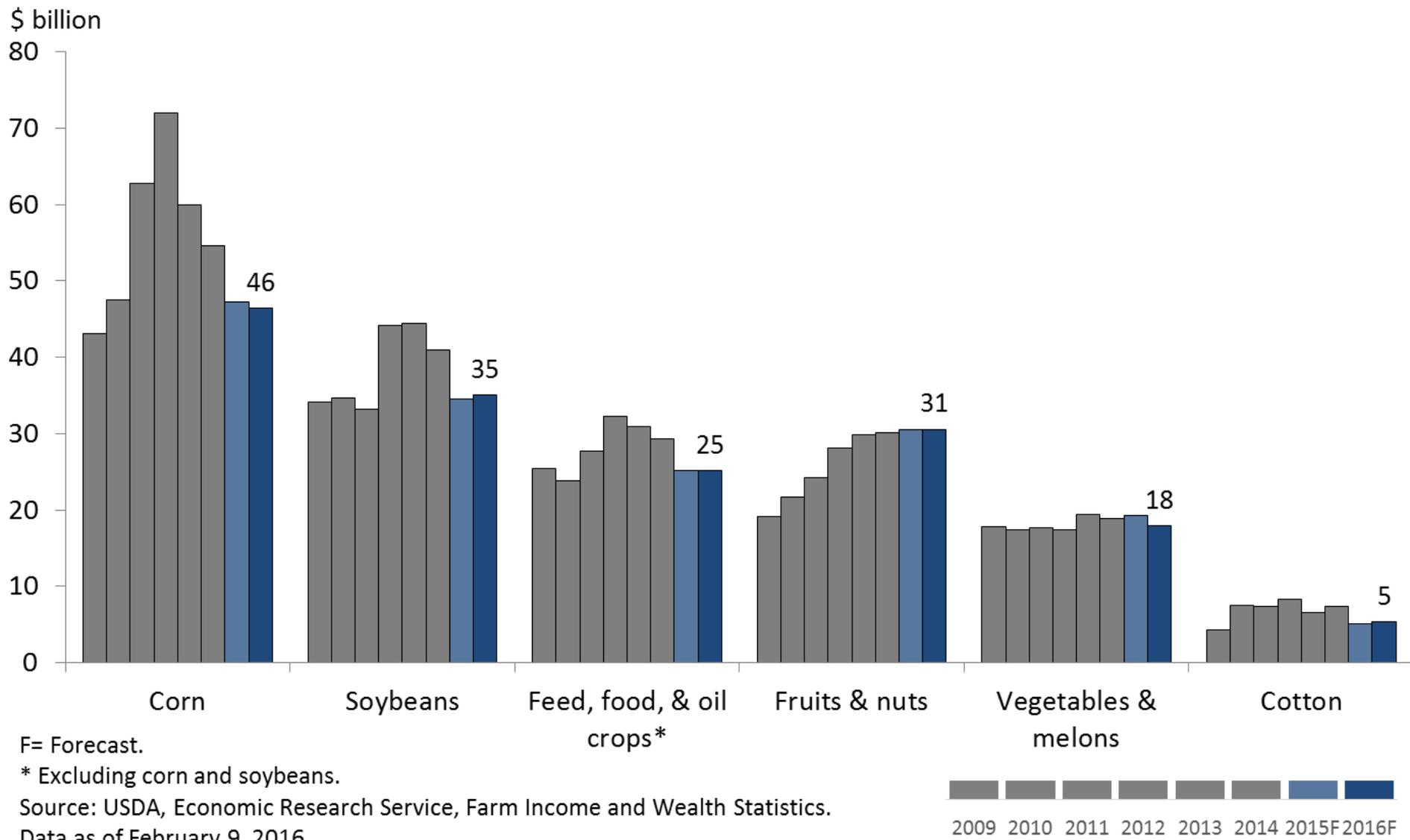


All figures are in \$ Billion

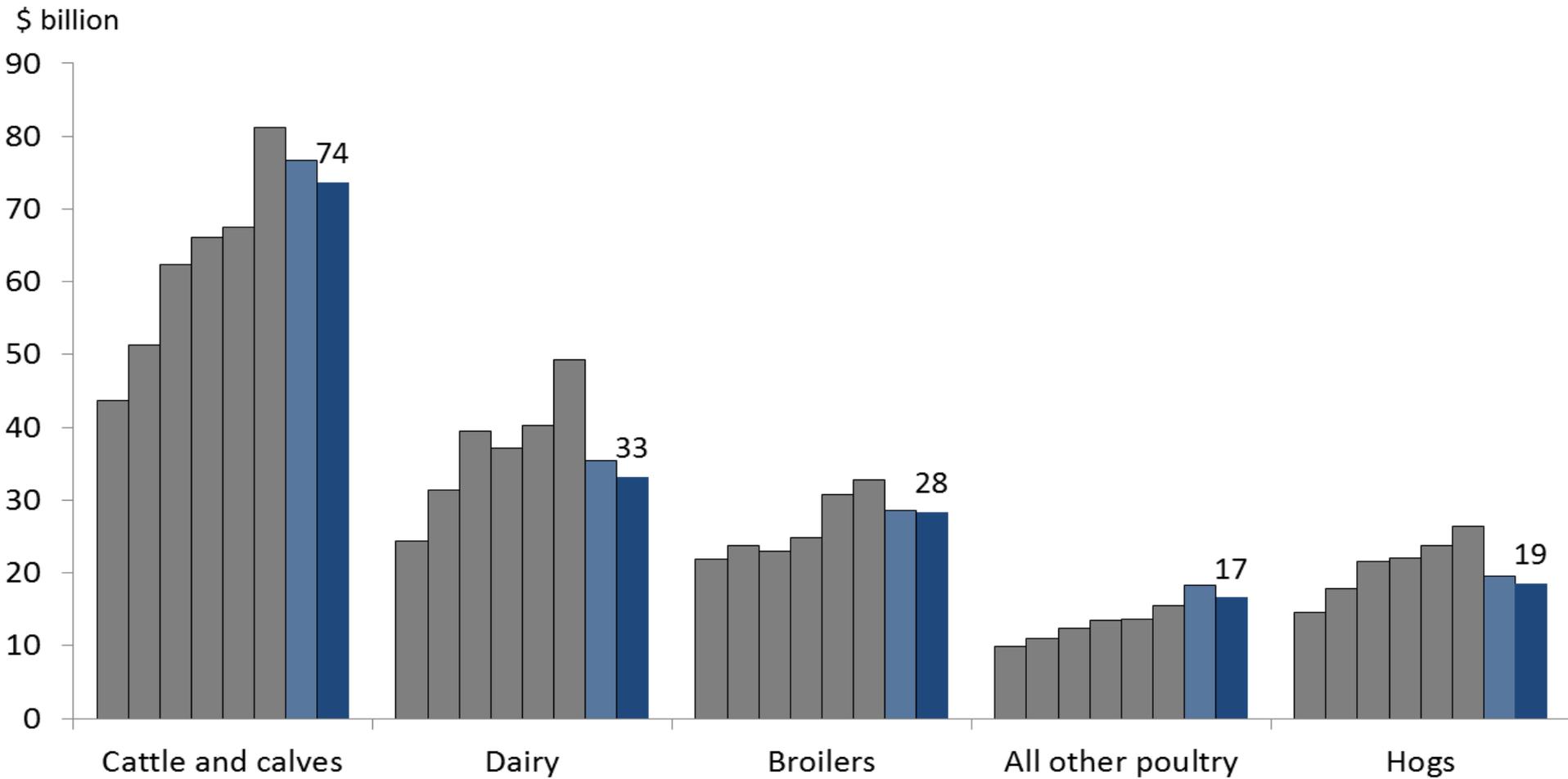
Source: USDA, Economic Research Service, Farm Income and Wealth Statistics. Data as of February 9, 2016.



# 2016F crop receipts significantly lower than 2013, but flat from 2015



# Animal receipts are also expected to fall for most categories in 2016



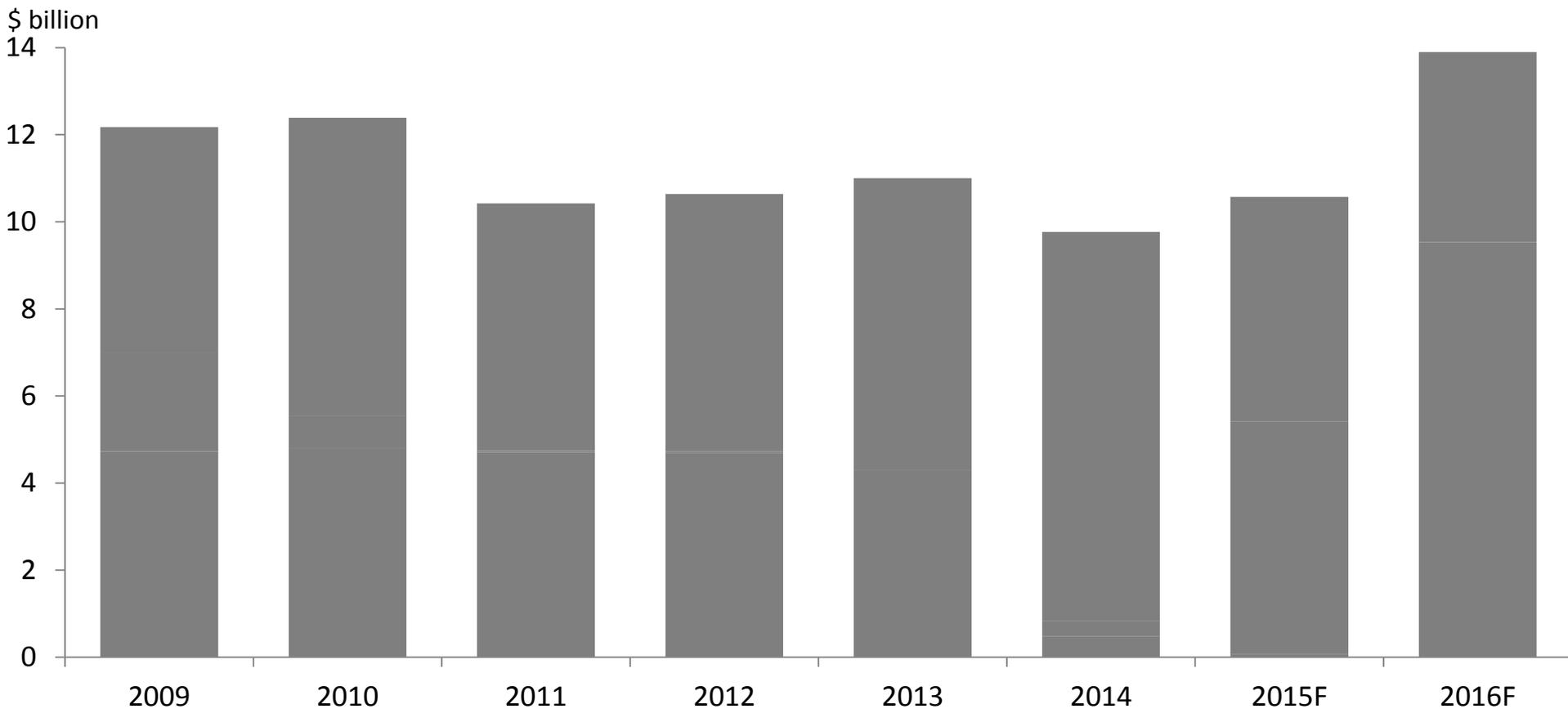
F= Forecast

Source: USDA, Economic Research Service, Farm Income and Wealth Statistics.

Data as of February 9th, 2016.



# Government payments are forecast to rise over 30 percent in 2016



F= Forecast.

Source: USDA, Economic Research Service, Farm Income and Wealth Statistics using FSA, NRCS, and CCC data. Data as of February 9, 2016.

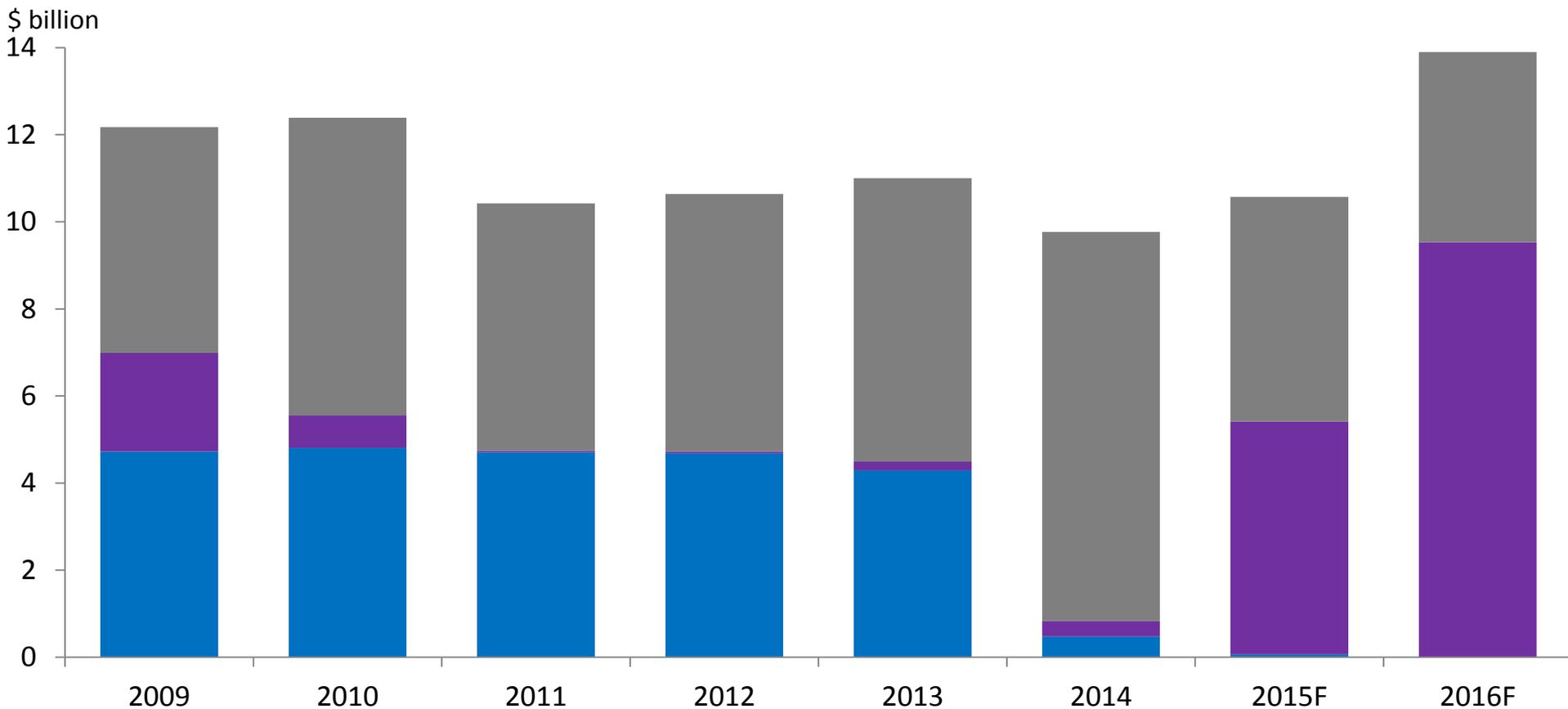


**Economic Research Service**

[www.ers.usda.gov](http://www.ers.usda.gov)



# Government payments based on price are a larger share in 2016



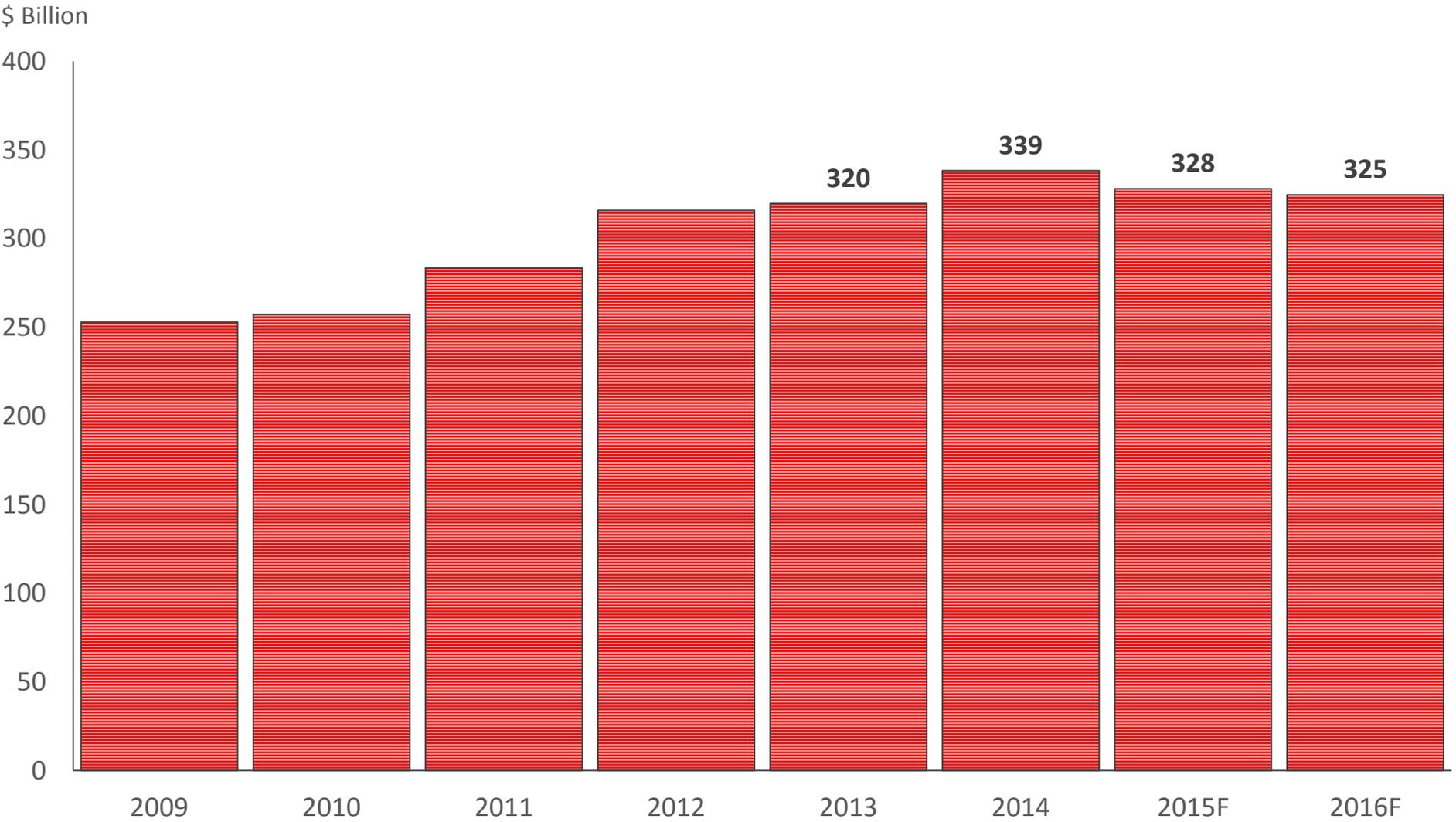
F= Forecast.

Source: USDA, Economic Research Service, Farm Income and Wealth Statistics using FSA, NRCS, and CCC data. Data as of February 9, 2016.

Fixed payments	Crop price based payments	All other payments
Fixed direct payments and cotton transition payments.	PLC, ARC, ACRE, counter-cyclical payments, and other programs where payments vary with market prices.	Disaster relief payments, tobacco transition payments, dairy program payments, and conservation payments.



# Cash expenses are expected to decline for the second consecutive year

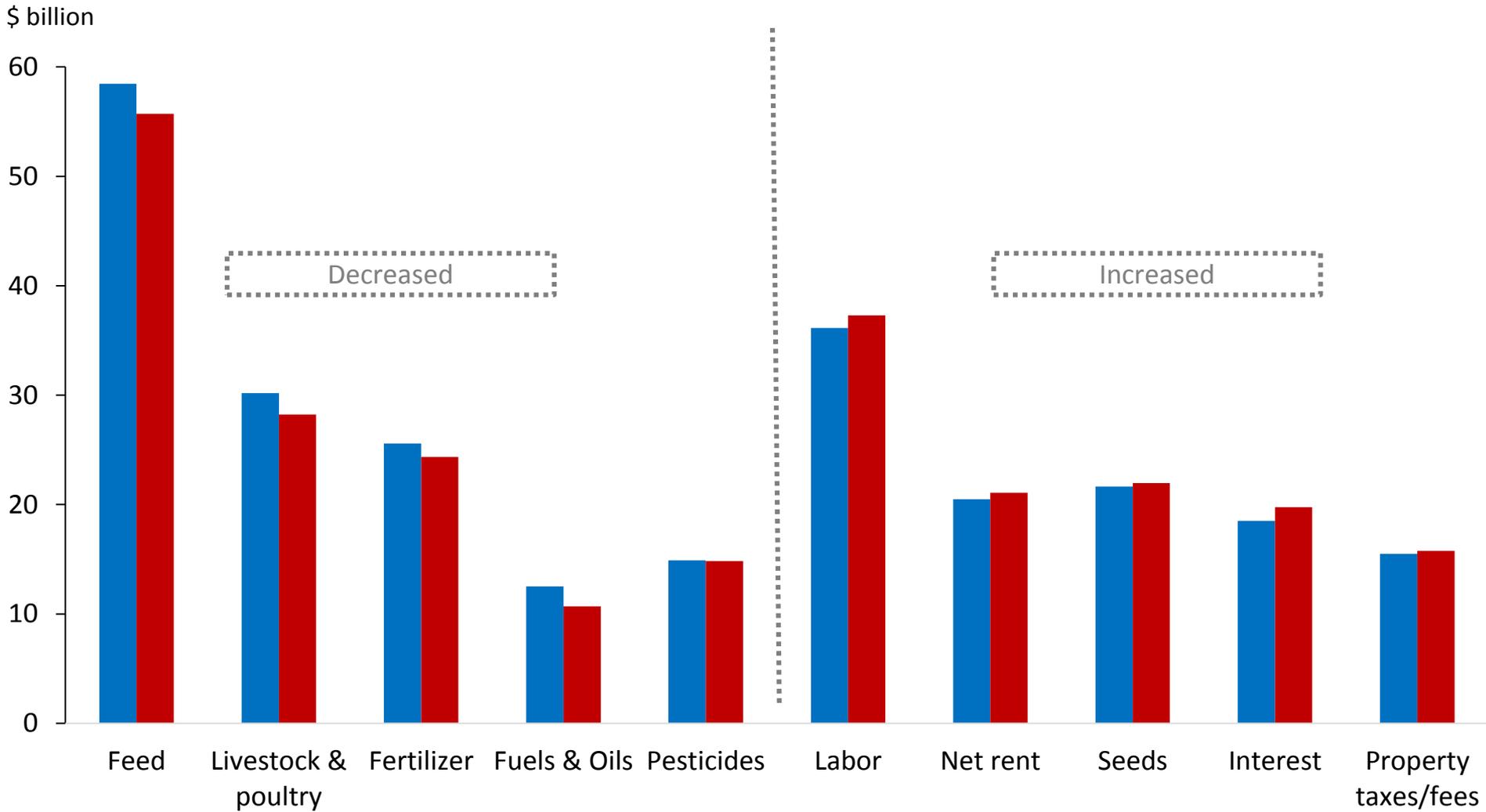


F = forecast.

Source: USDA, Economic Research Service, Farm Income and Wealth Statistics. Data as of February 9, 2016.



# Feed, fuel, fertilizer, and livestock expenses drive decline in 2016



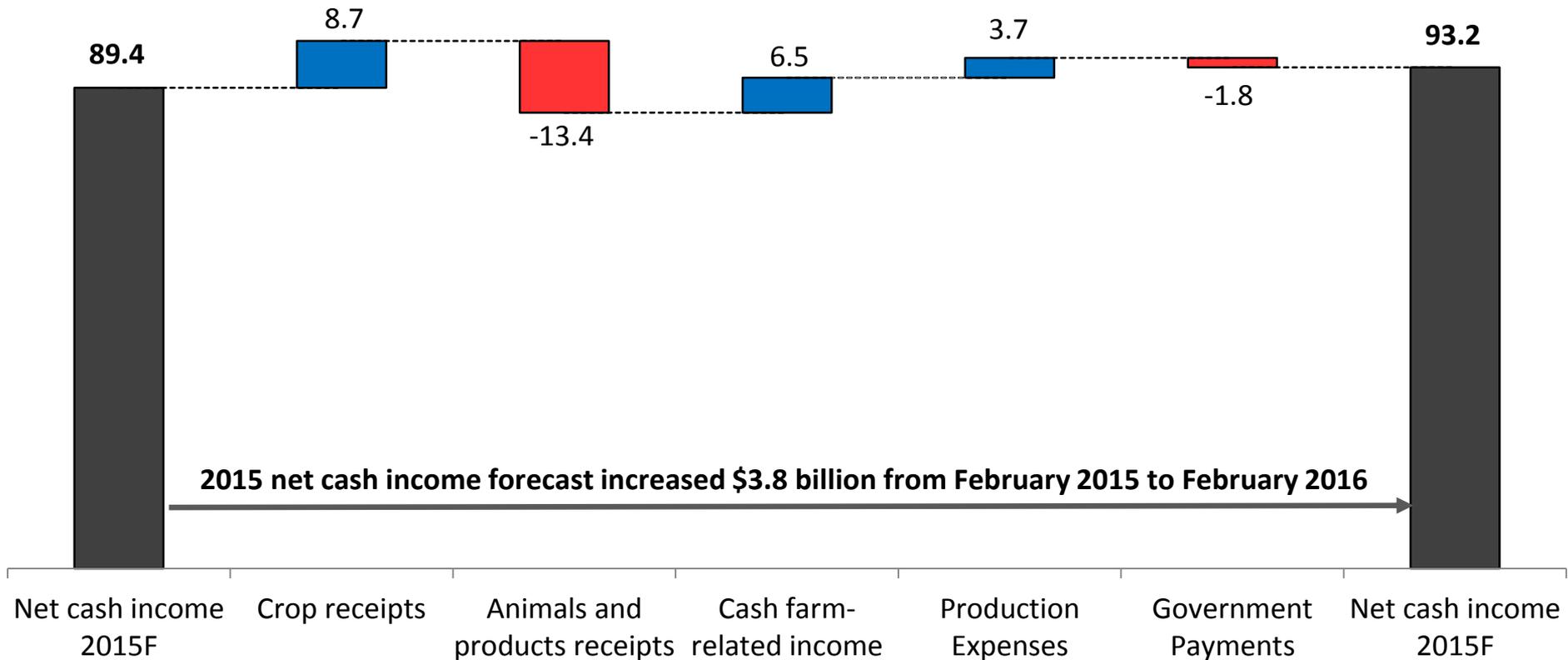
F = forecast

Source: USDA, Economic Research Service, Farm Income and Wealth Statistics. Data as of February 9, 2016.

■ 2015F ■ 2016F



# Since our first 2015 forecast the outlook for crop receipts improved, and animal and product receipts declined

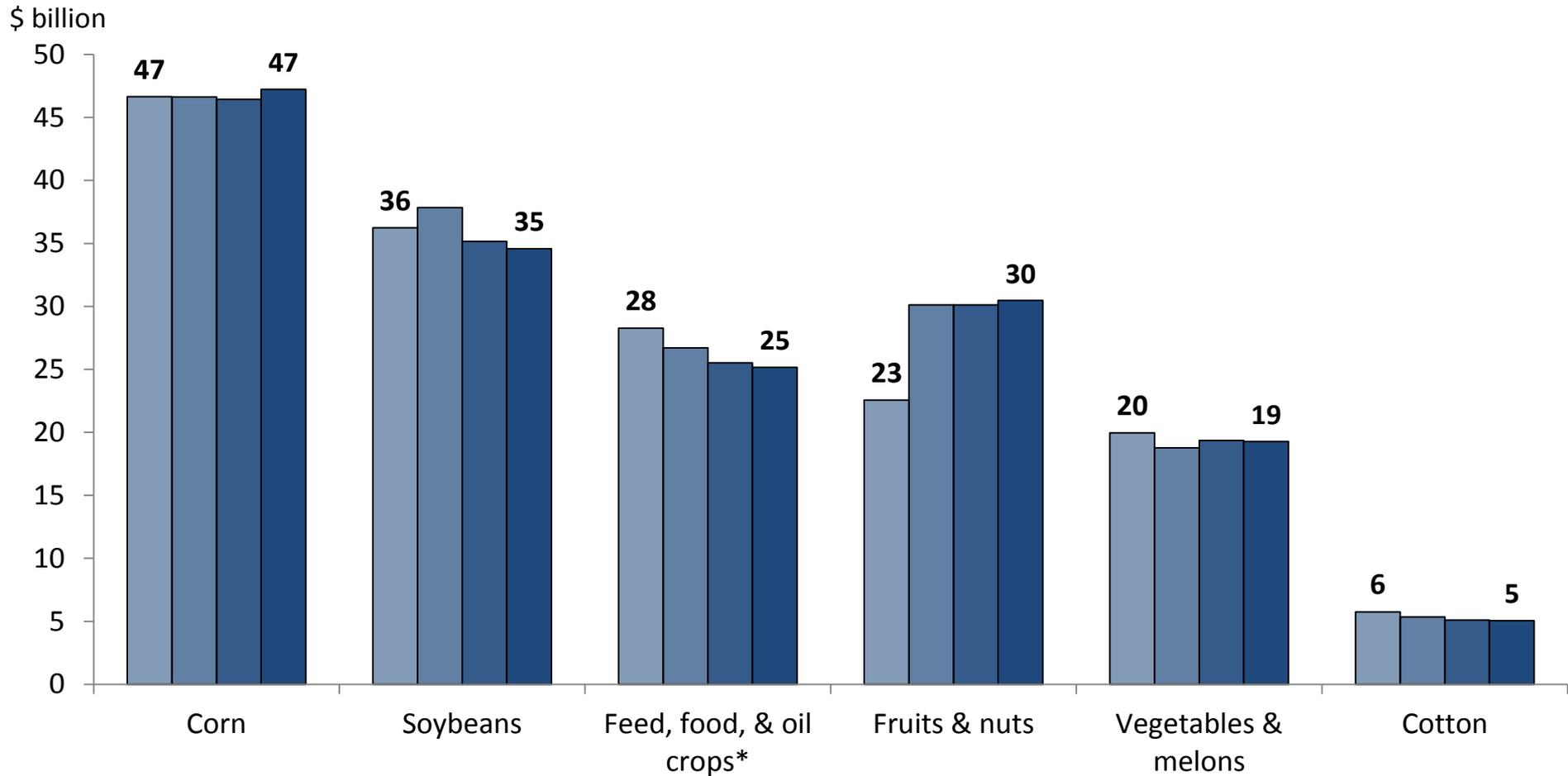


All figures are in \$ Billion

Source: USDA, Economic Research Service, Farm Income and Wealth Statistics. Data as of February 9, 2016.



# Improvement in 2015 crop receipt forecasts largely due to fruits/nuts

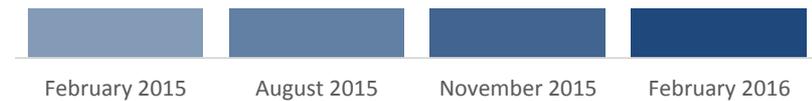


F= Forecast.

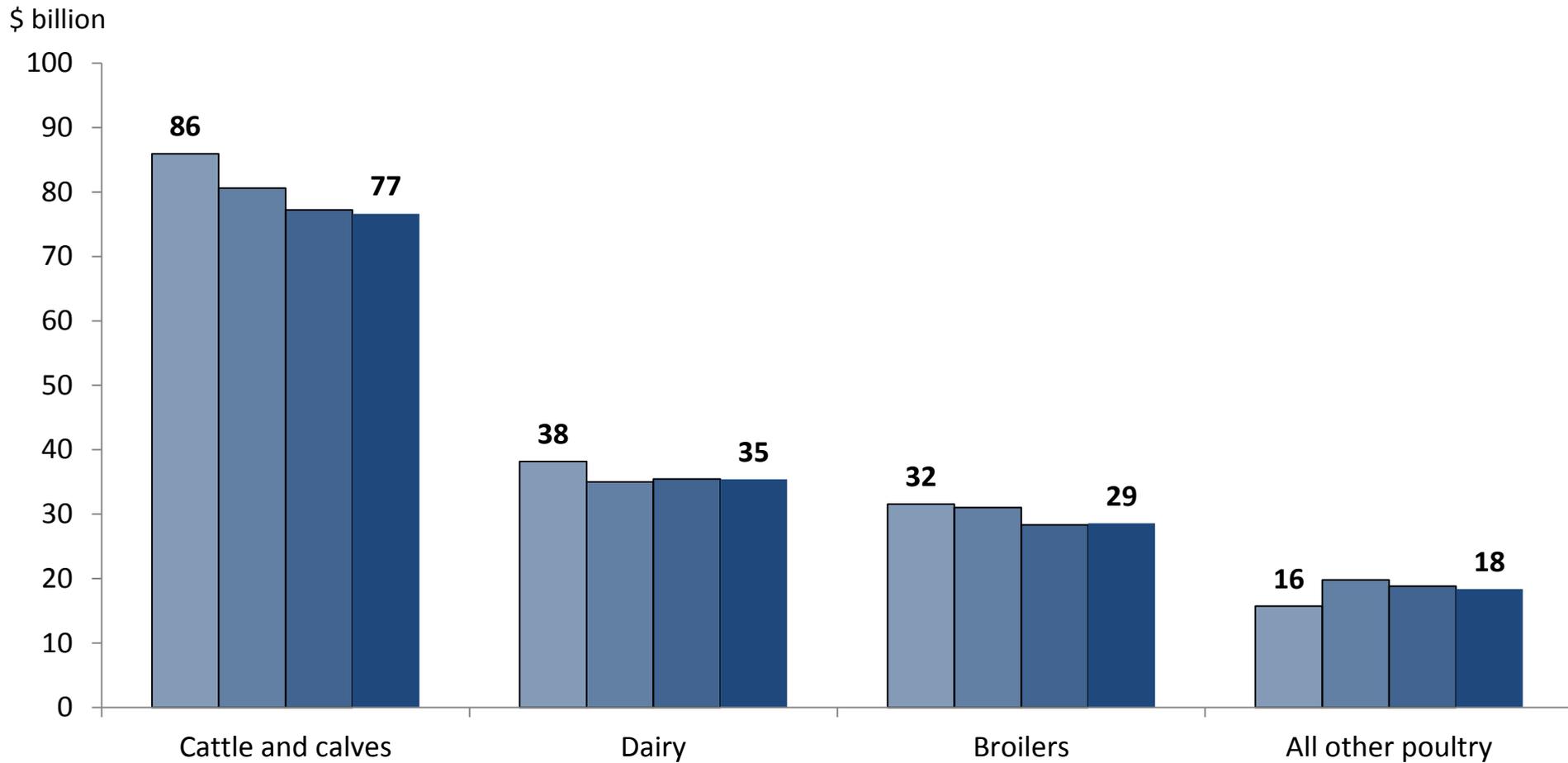
\* Excluding corn and soybeans.

Source: USDA, Economic Research Service, Farm Income and Wealth Statistics.

Data as of February 9, 2016.



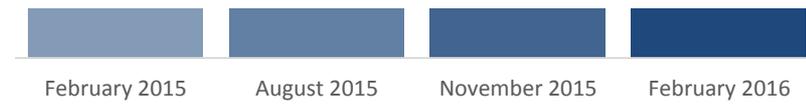
# Decline in 2015 animal and product receipt forecasts broad based, but largely due to cattle/calves



F= Forecast

Source: USDA, Economic Research Service, Farm Income and Wealth Statistics.

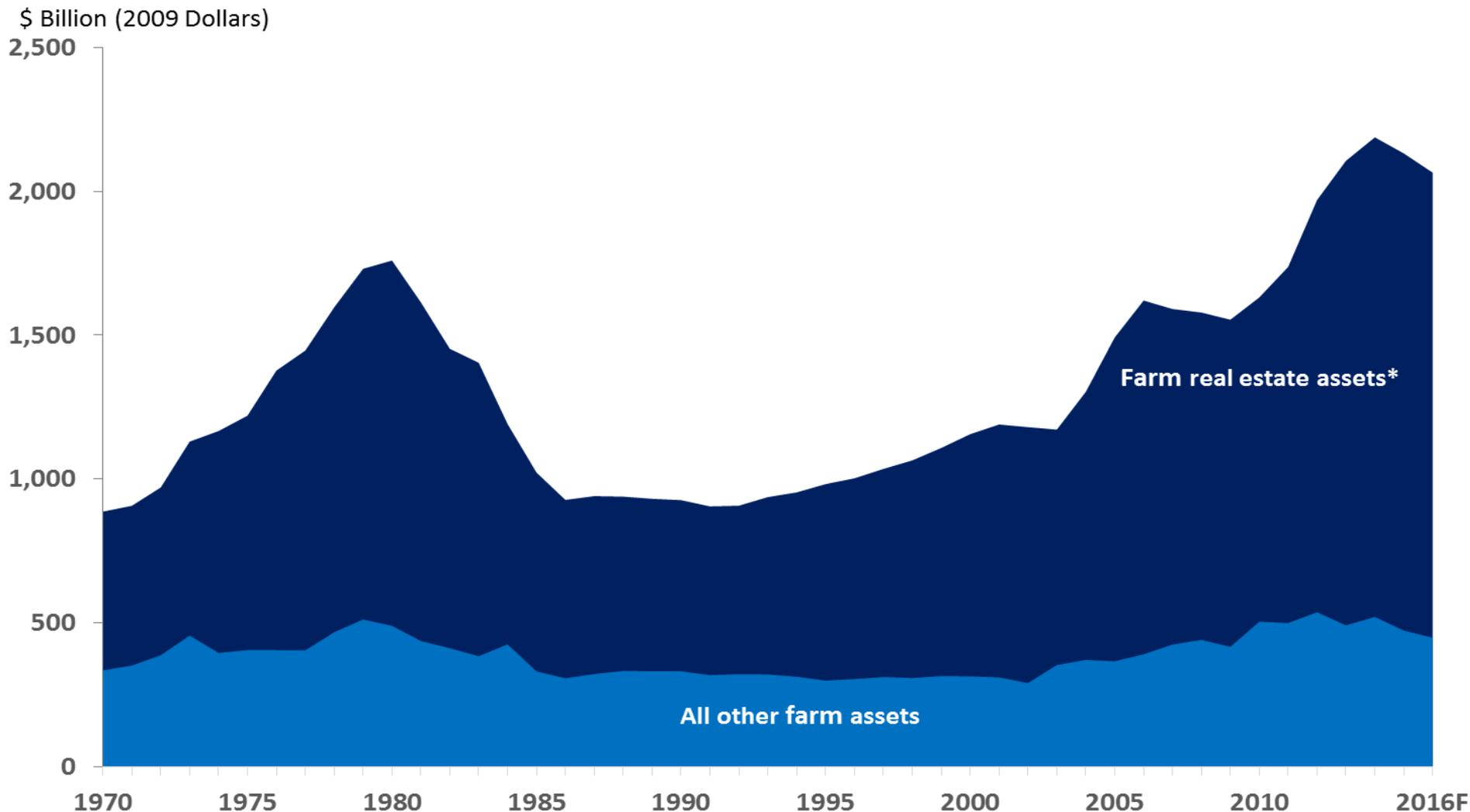
Data as of February 9th, 2016.



# Farm Sector Balance Sheet Outlook



# Farm real estate\* represents the majority of the sector's assets



F= Forecast. Values are adjusted using the chain-type GDP deflator, 2009=100.

\*Real estate includes the value of land and buildings

Source: USDA, Economic Research Service, Farm Income and Wealth Statistics. Data as of February 9, 2016.

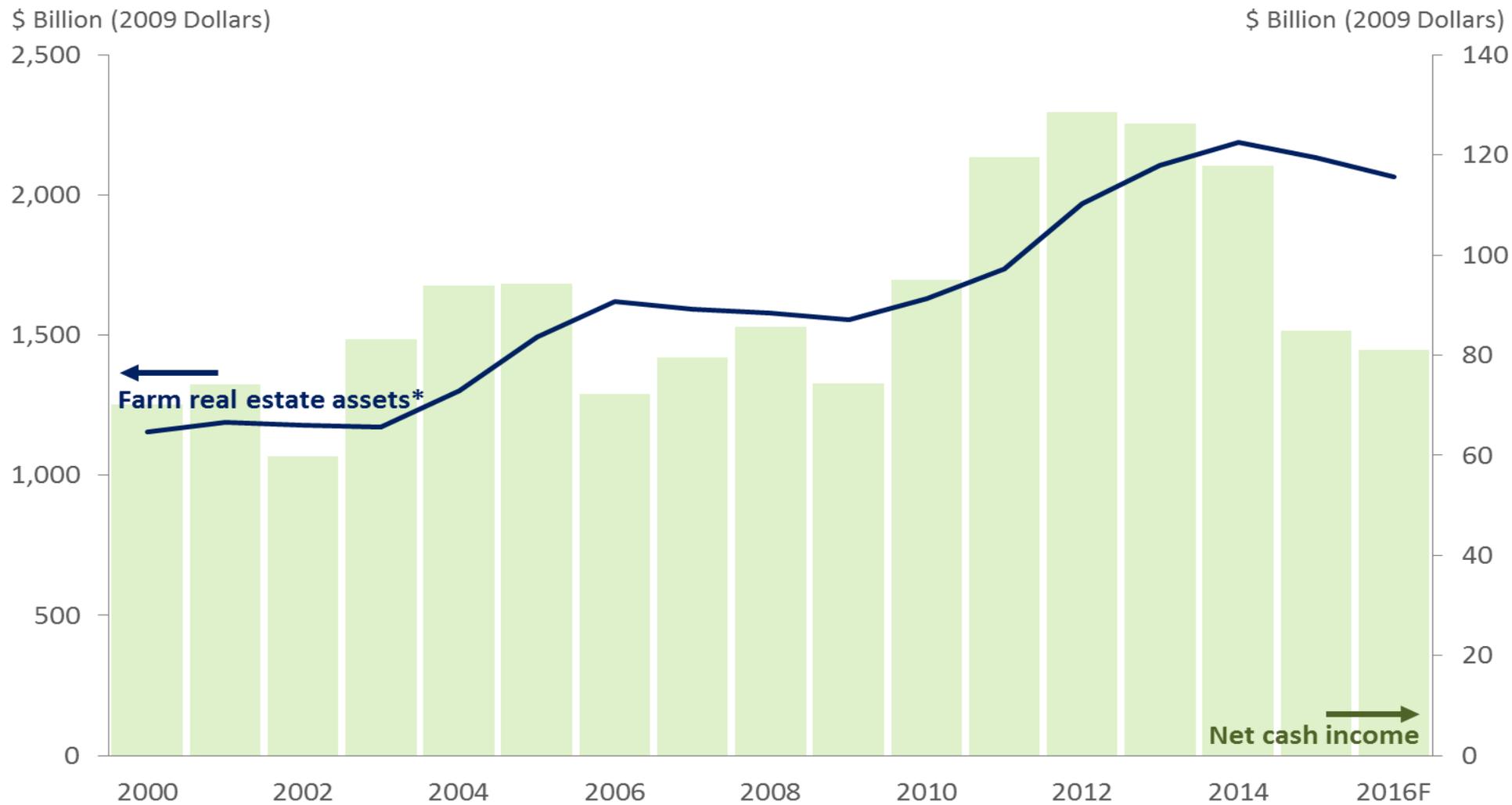


**Economic Research Service**

[www.ers.usda.gov](http://www.ers.usda.gov)



# Forecast drop in net cash income drives lower farm real estate values\*



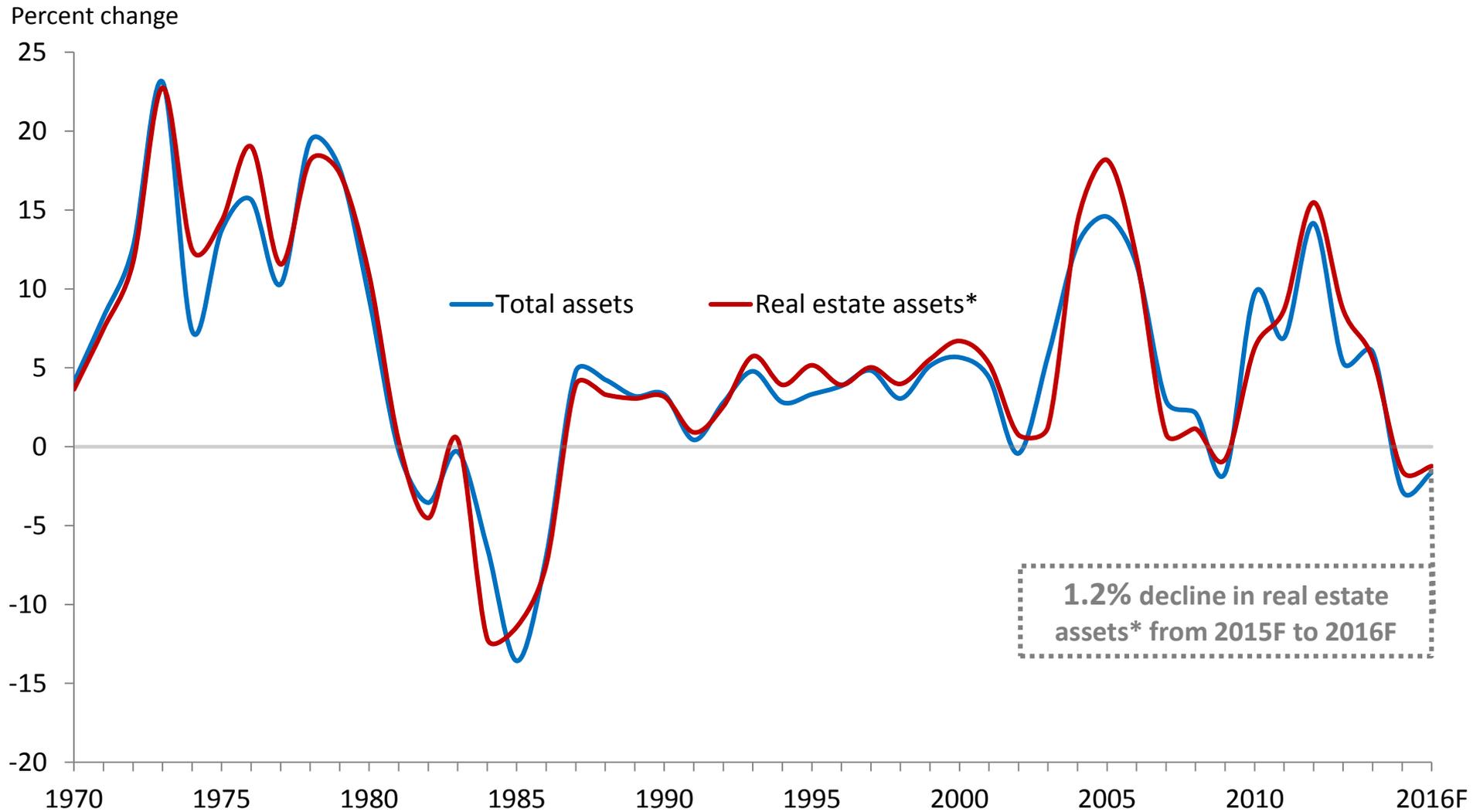
F= Forecast. Values are adjusted using the chain-type GDP deflator, 2009=100.

\*Real estate includes the value of land and buildings

Source: USDA, Economic Research Service, Farm Income and Wealth Statistics. Data as of February 9, 2016.



# Drop in 2016F farm real estate assets drive change in total assets



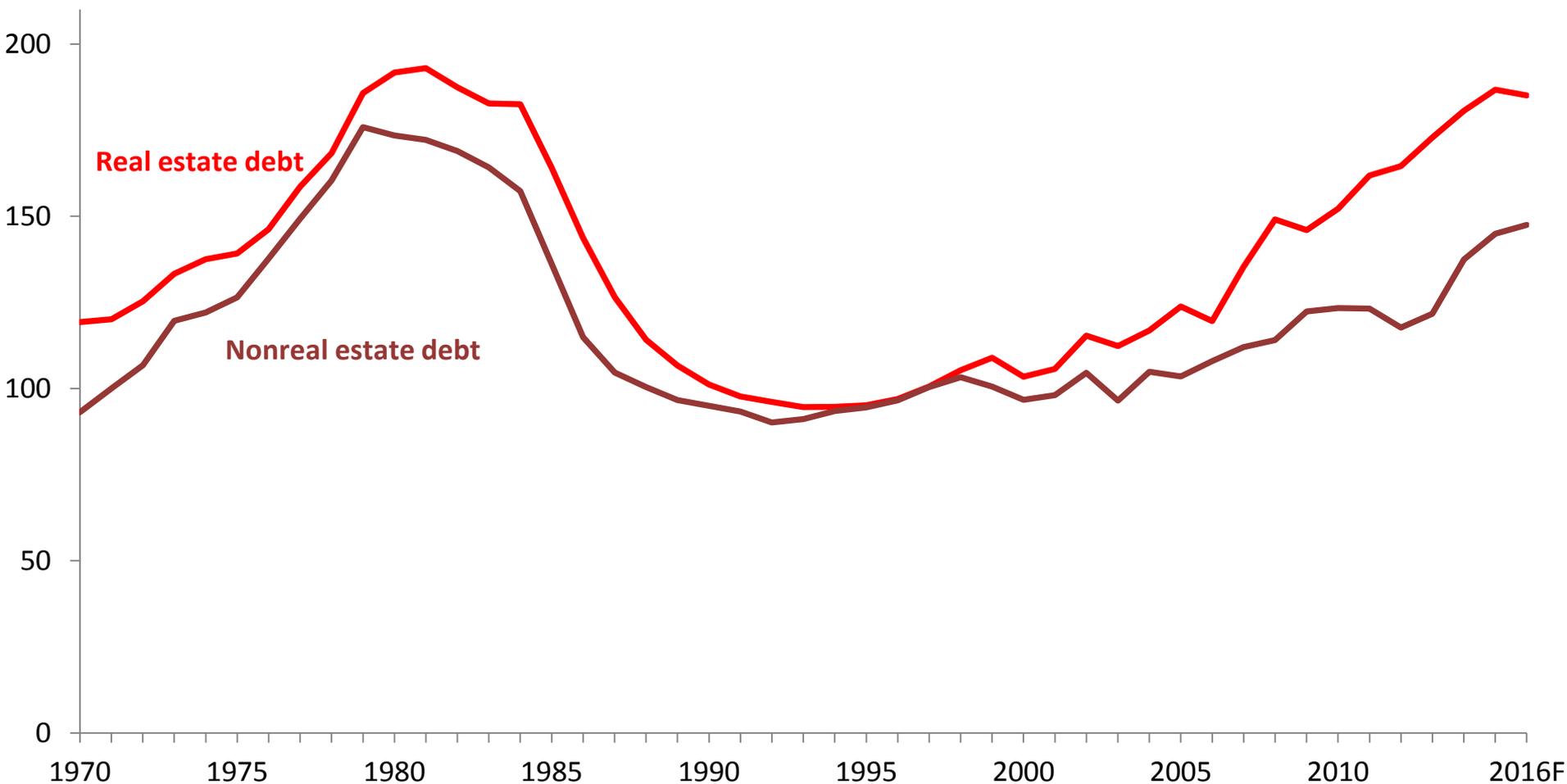
F= Forecast. \*Real estate includes the value of land and buildings

Source: USDA, Economic Research Service, Farm Income and Wealth Statistics. Data as of February 9, 2016.



# Farm real estate and nonreal estate debt approaching historic levels

\$ billion (2009 Dollars)



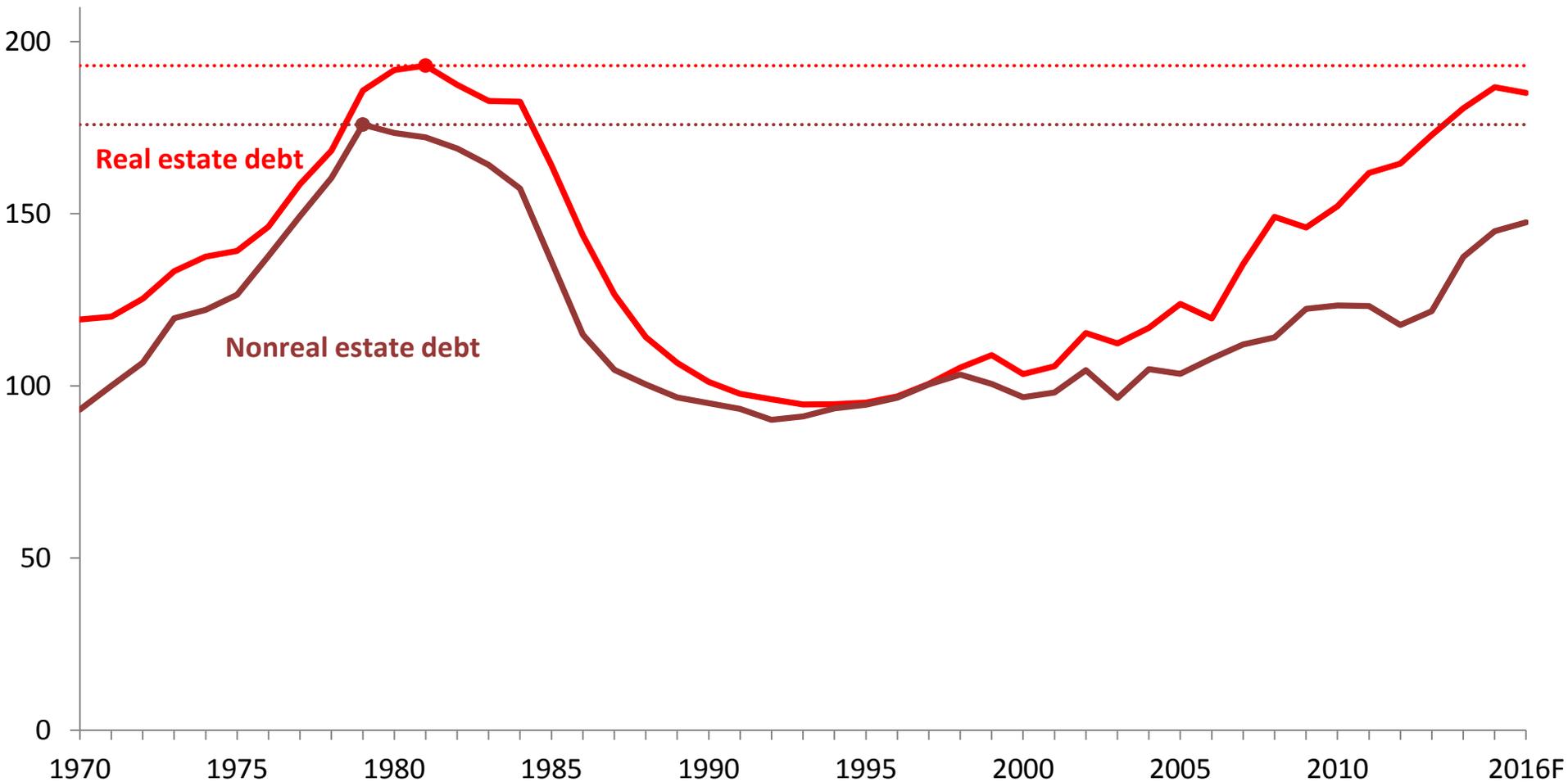
F= Forecast. Values are adjusted using the chain-type GDP deflator, 2009=100.

Source: USDA, Economic Research Service, Farm Income and Wealth Statistics. Data as of February 9, 2016.



# But below the late '70s – early '80s peak in inflation-adjusted terms

\$ billion (2009 Dollars)



F= Forecast. Values are adjusted using the chain-type GDP deflator, 2009=100.

Source: USDA, Economic Research Service, Farm Income and Wealth Statistics. Data as of February 9, 2016.

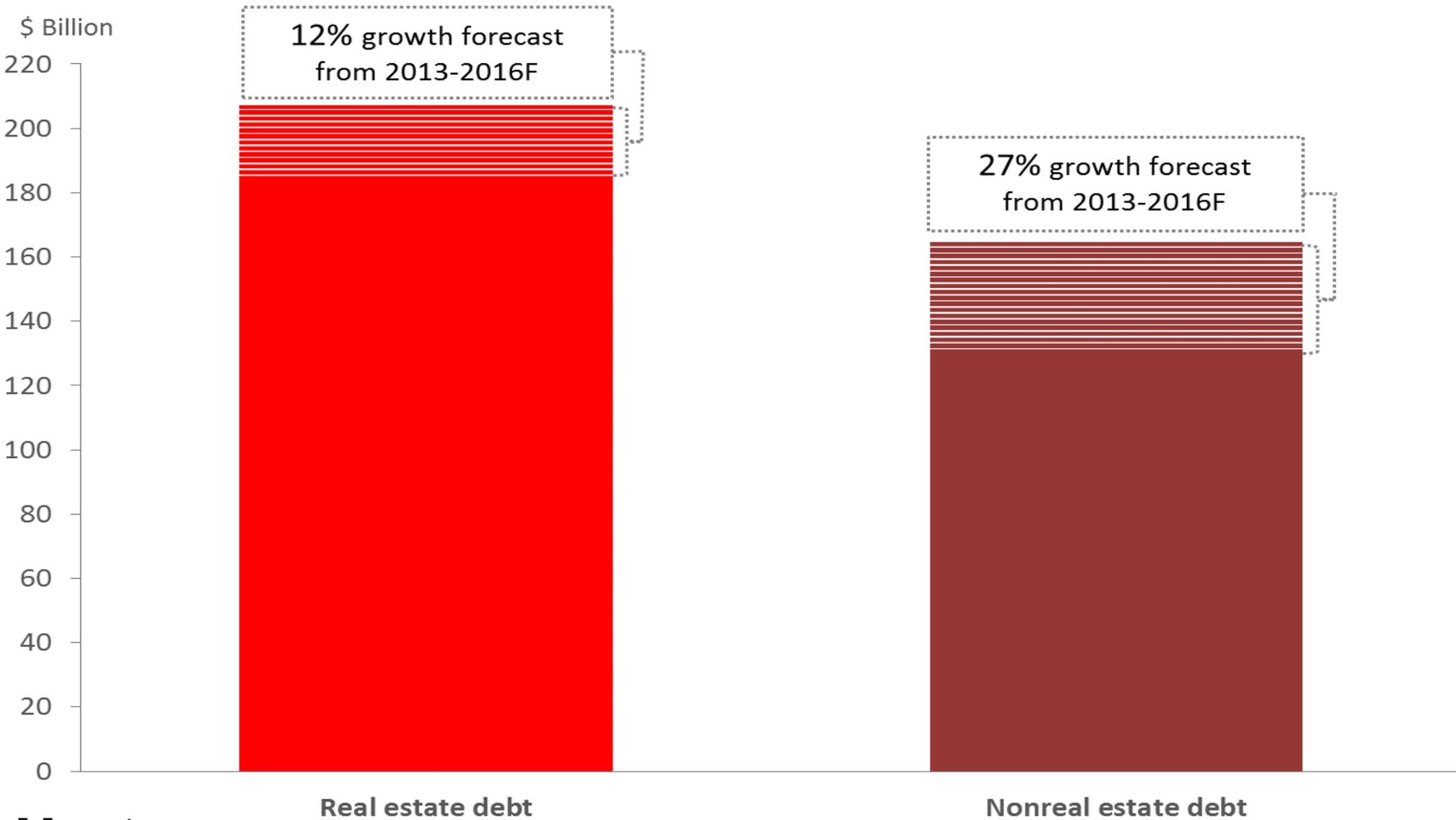


**Economic Research Service**

[www.ers.usda.gov](http://www.ers.usda.gov)



# Farm debt is forecast to grow rapidly from 2013 to 2016



Real estate debt

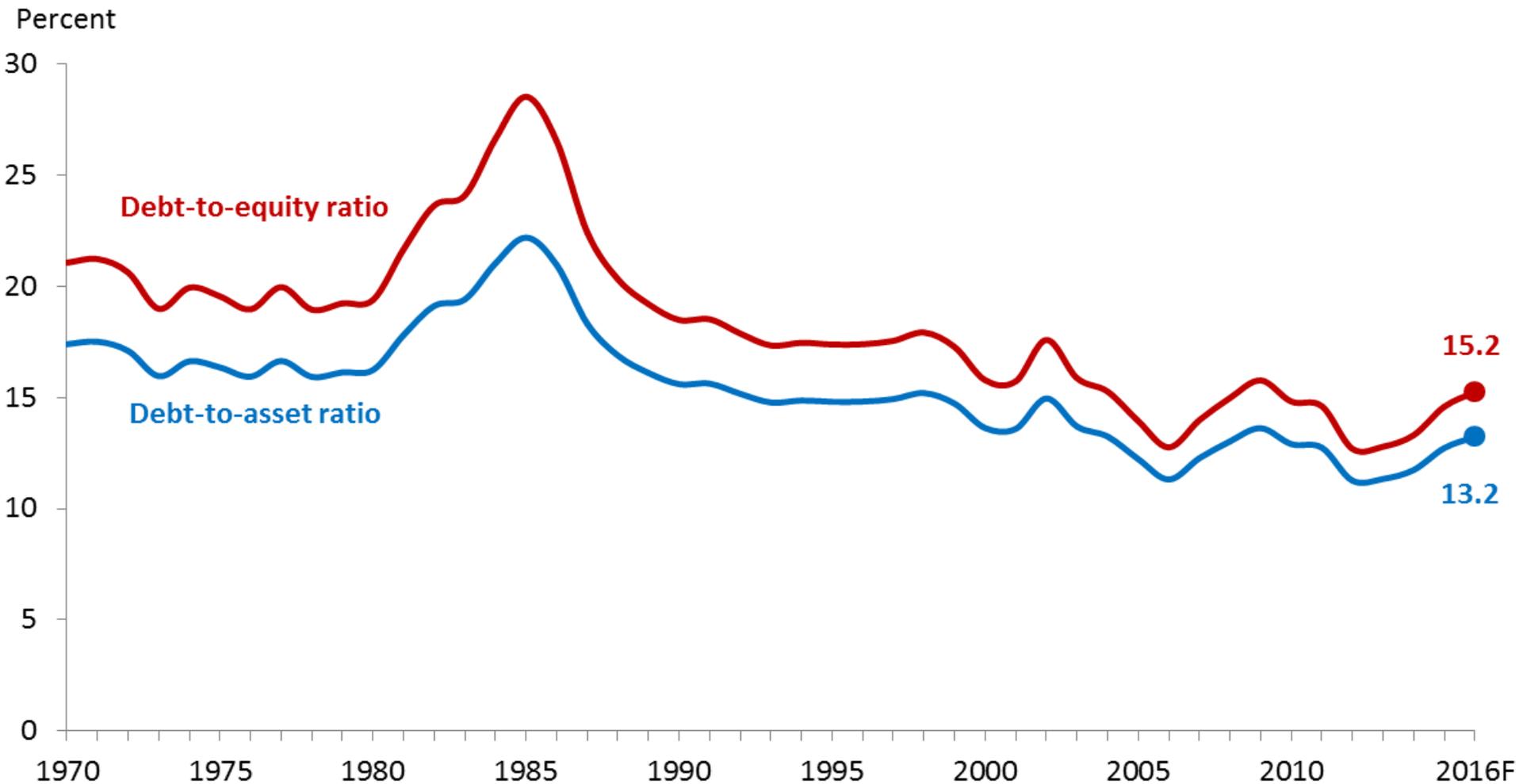
Nonreal estate debt

F=Forecast

Source: USDA, Economic Research Service, Farm Income and Wealth Statistics. Data as of February 9, 2016.



# Leverage increased since 2012, but remains low relative to historic levels



F= Forecast.

Source: USDA, Economic Research Service, Farm Income and Wealth Statistics. Data as of February 9, 2016

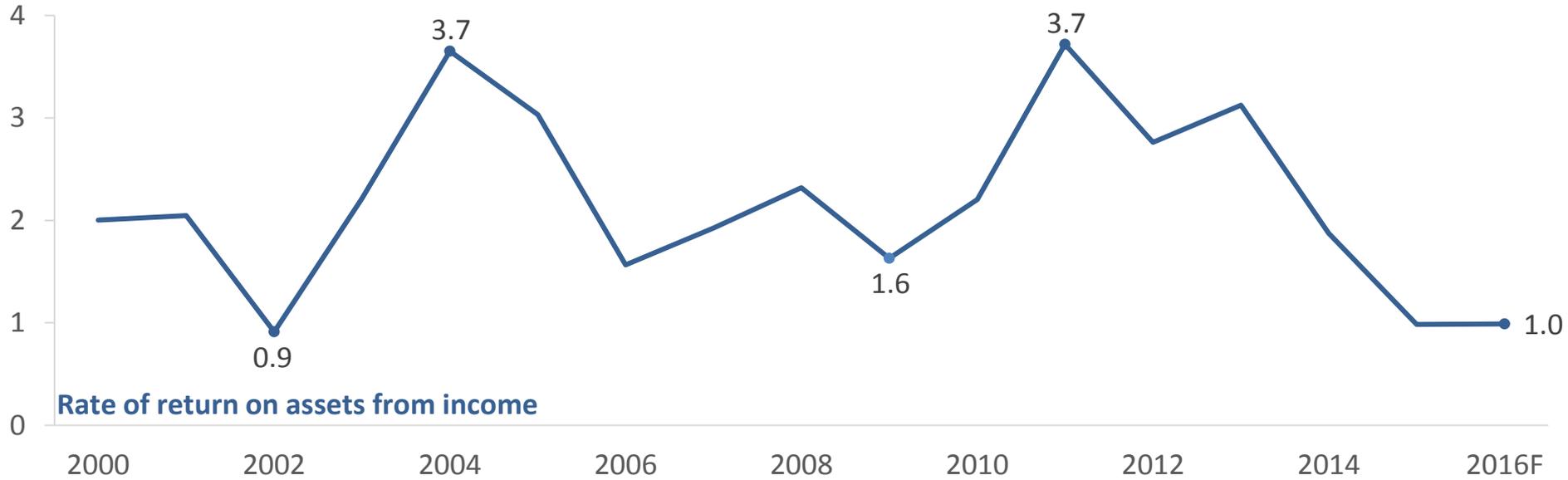


**Economic Research Service**

[www.ers.usda.gov](http://www.ers.usda.gov)



# Rate of return on farm assets (ROA) expected to remain flat in 2016



F = forecast.

Source: USDA, Economic Research Service, Farm Income and Wealth Statistics. Data as of February 9, 2016.



# Rate of return on farm assets (ROA) expected to remain flat in 2016



F = forecast.

Source: USDA, Economic Research Service, Farm Income and Wealth Statistics. Data as of February 9, 2016.

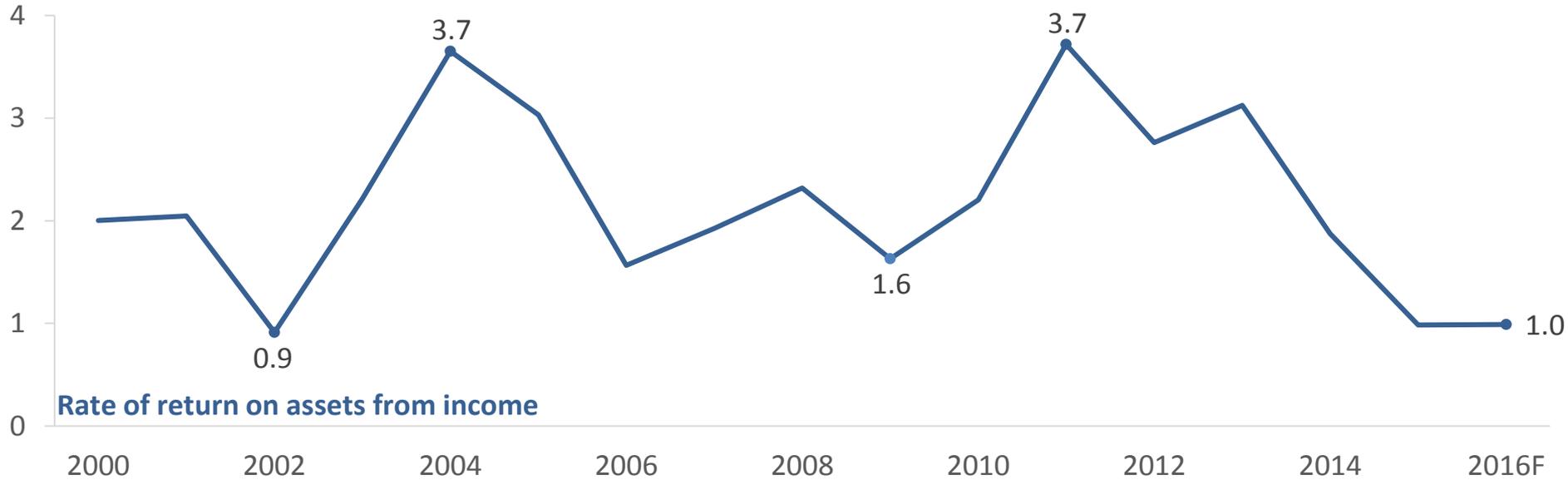
## Decomposing the rate of return on farm assets (ROA)

$$ROA = \text{Asset Turnover Ratio}$$

Value of production  
that assets generate



# Rate of return on farm assets (ROA) expected to remain flat in 2016



F = forecast.

Source: USDA, Economic Research Service, Farm Income and Wealth Statistics. Data as of February 9, 2016.

## Decomposing the rate of return on farm assets (ROA)

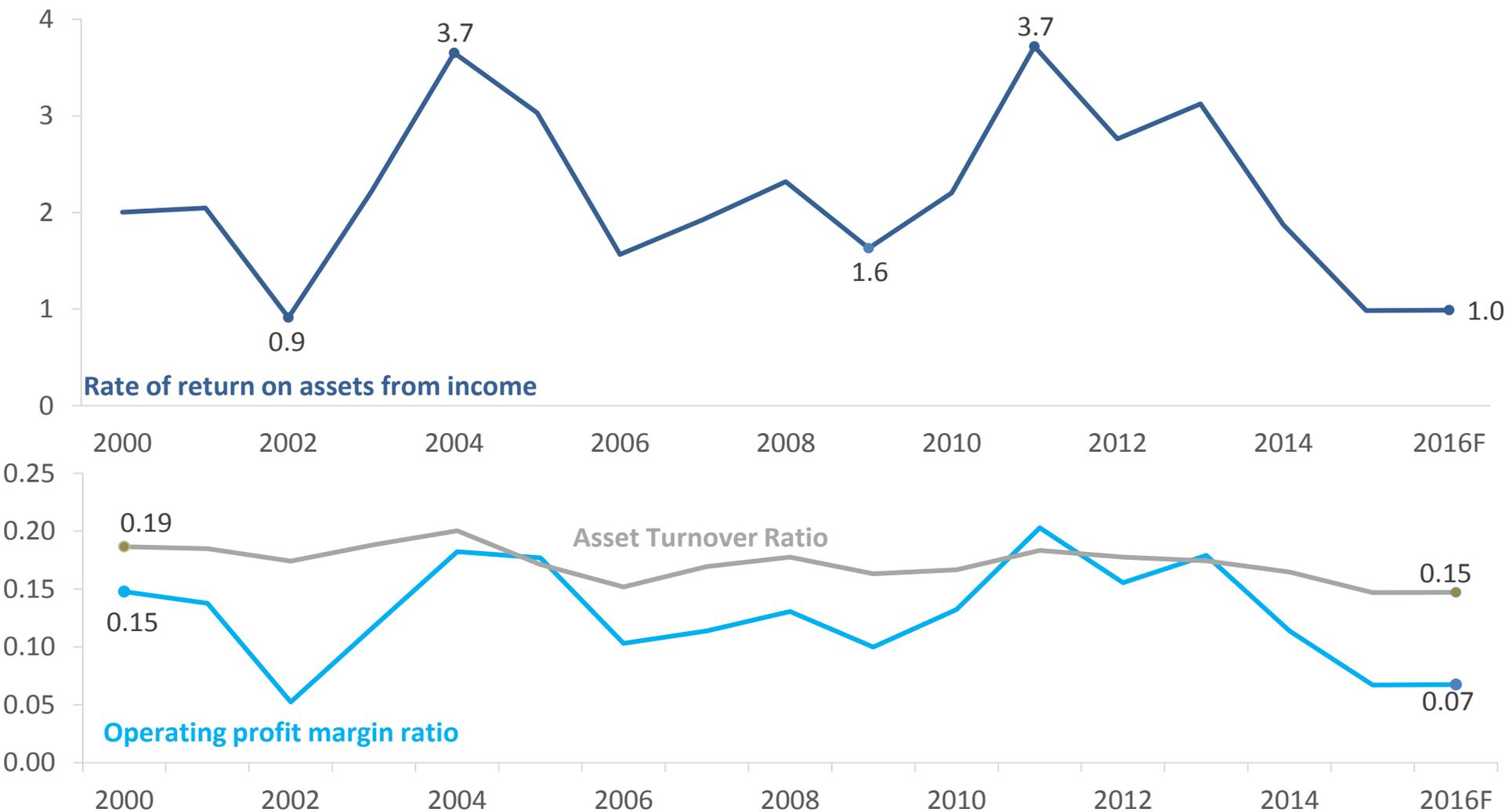
$$ROA = \text{Asset Turnover Ratio} * \text{Profit Margin Ratio}$$

Value of production  
that assets generate

Profit margin on  
value of production



# Lower profit margins drive decline in ROA from 2013 to 2016

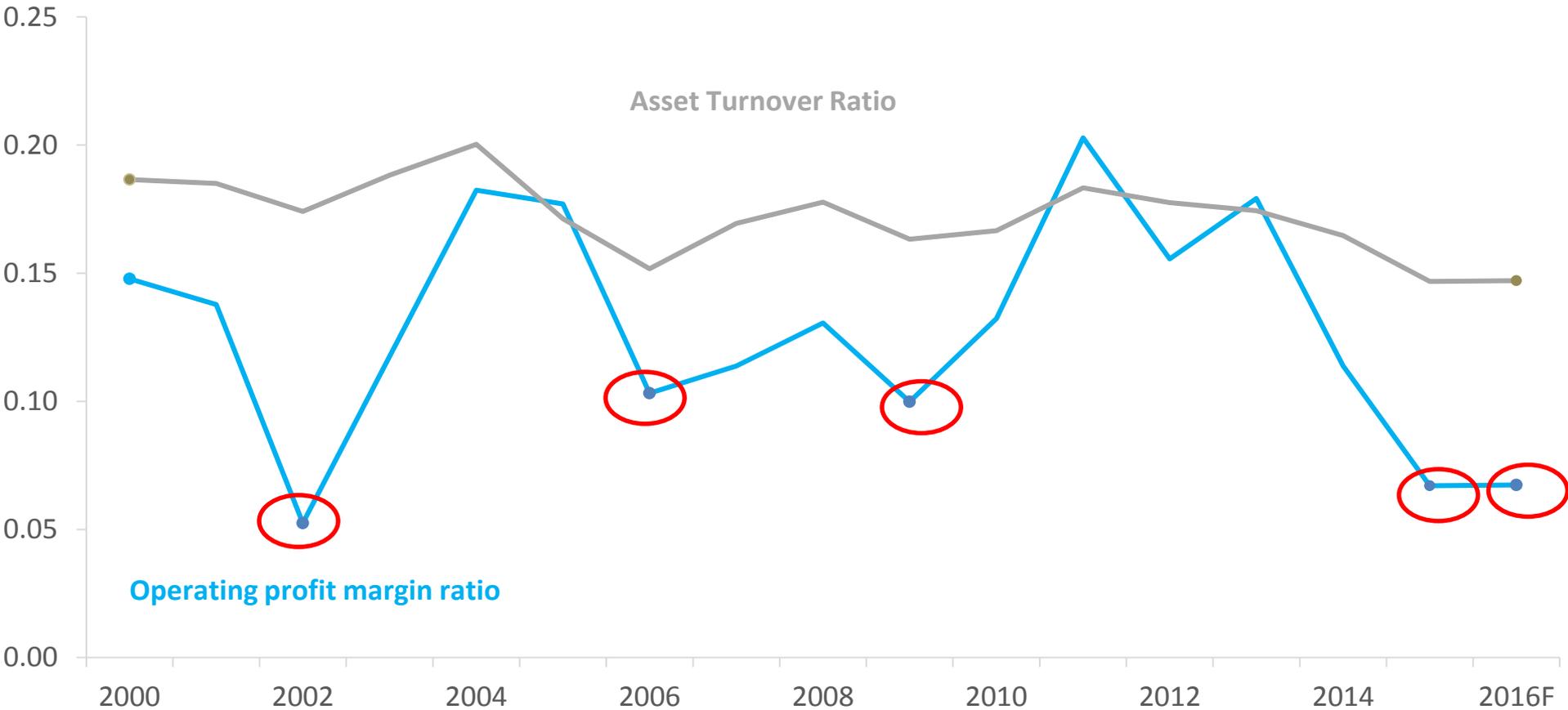


F = forecast.

Source: USDA, Economic Research Service, Farm Income and Wealth Statistics. Data as of February 9, 2016.



# Lower profit margin ratio in 2015 and 2016 consistent with other low income years



F = forecast.

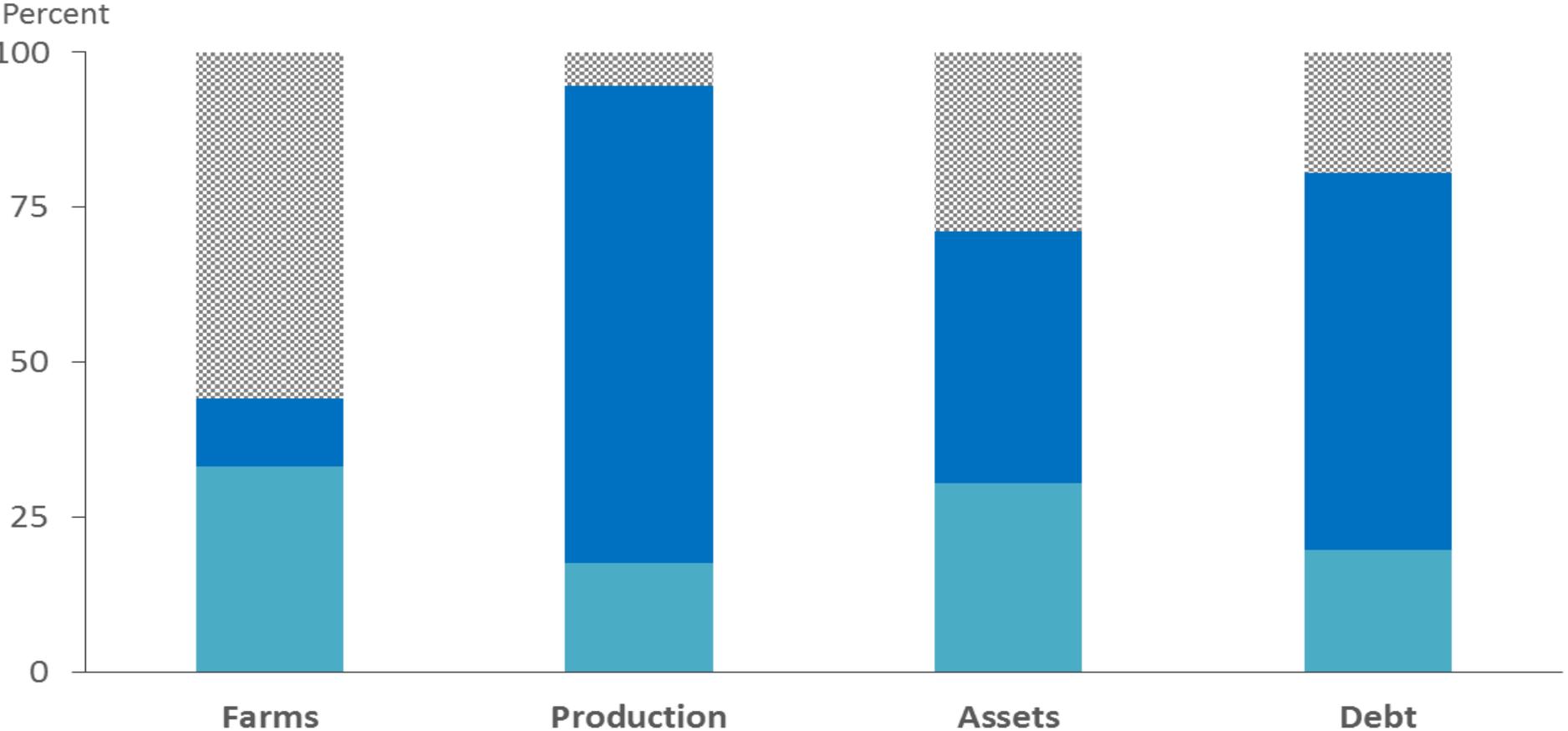
Source: USDA, Economic Research Service, Farm Income and Wealth Statistics. Data as of February 9, 2016.





Farm Business Outlook

# Farm businesses account for 45% of farms, but over 90% of production

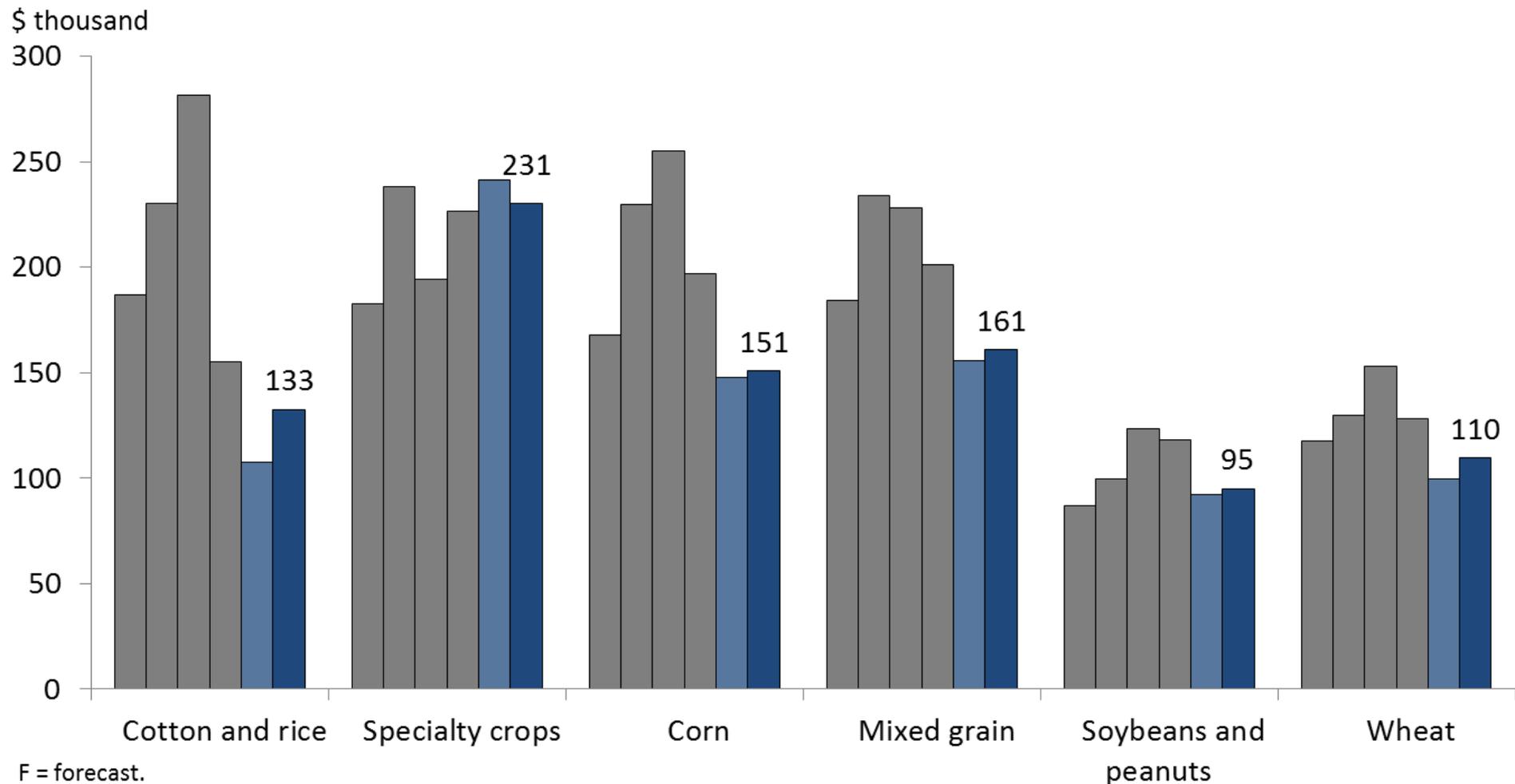


Farm Businesses		
Residence	Intermediate	Commercial
Operators report they are retired or have a major occupation other than farming.	Gross cash farm income less than \$350,000 and operators report farming as their major occupation.	Gross cash farm income greater than \$350,000 and farms organized as nonfamily corporations or cooperatives.

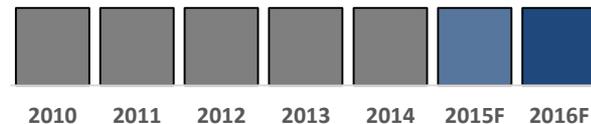


Source: 2014 Agricultural Resource Management Survey (ARMS)

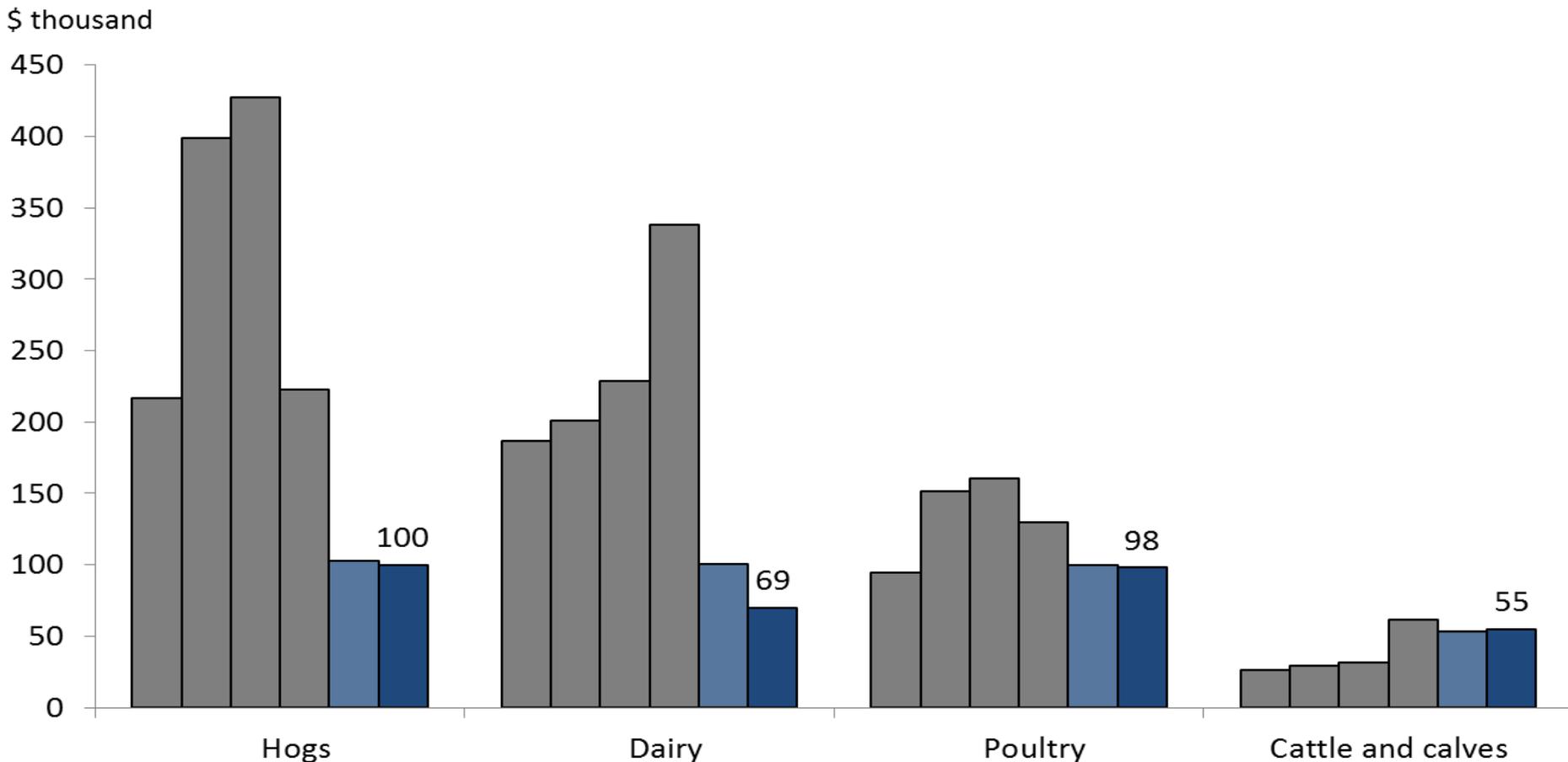
# Average net cash income up for most crop farm businesses <sup>1/</sup>



<sup>1/</sup> Farm business forecasts apply a partial budget model on the 2014 Agricultural Resource Management Survey (ARMS) using parameters from the sector forecasts. Data as of February 9, 2016.

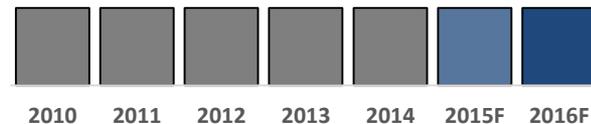


# Average net cash income expected to fall for most farm businesses specializing in animals and products <sup>1/</sup>

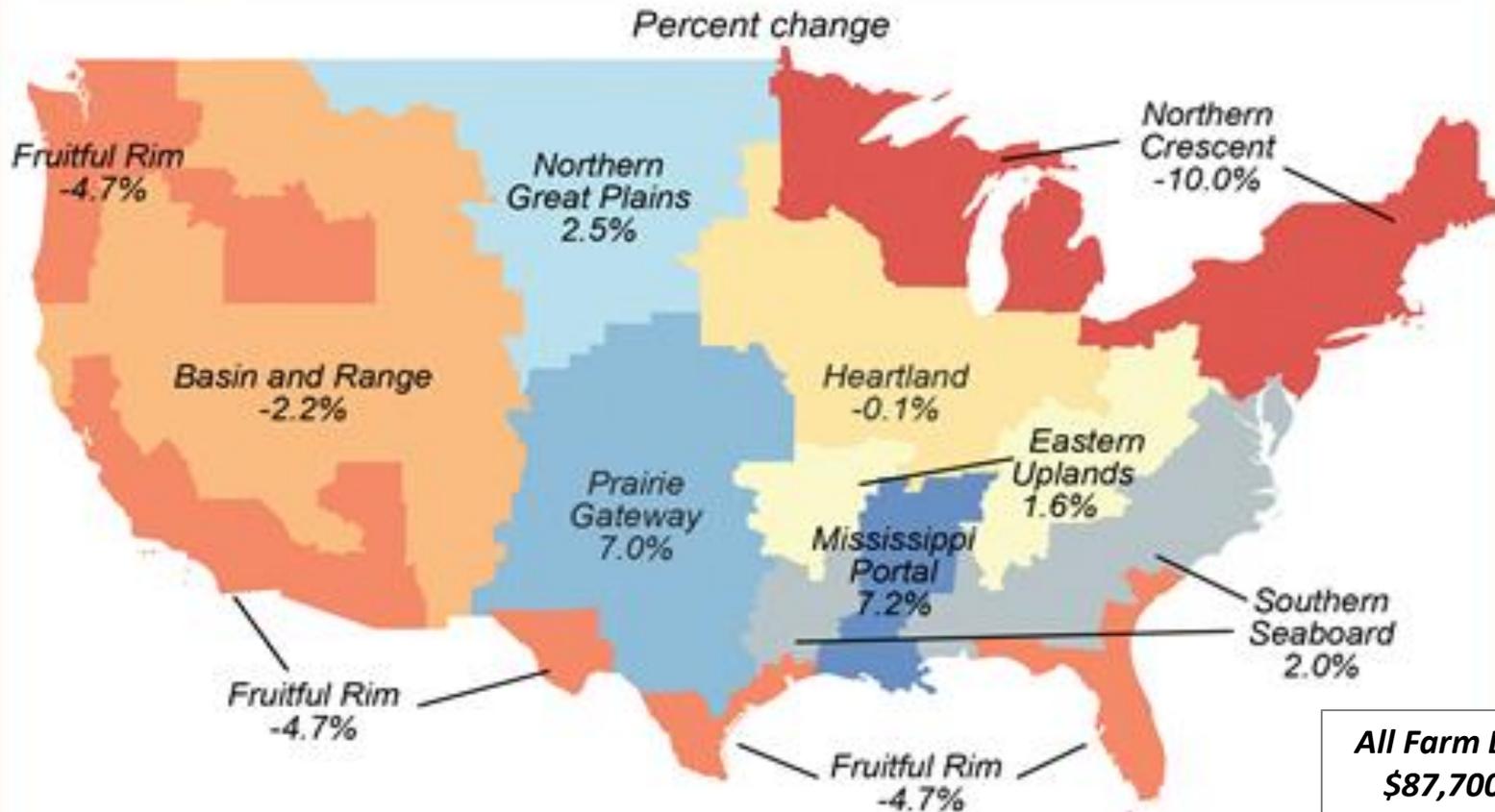


F = forecast.

<sup>1/</sup> Farm business forecasts apply a partial budget model on the 2014 Agricultural Resource Management Survey (ARMS) using parameters from the sector forecasts. Data as of February 9, 2016.



## Farm business average net cash farm income by resource region, 2016F compared with 2015F

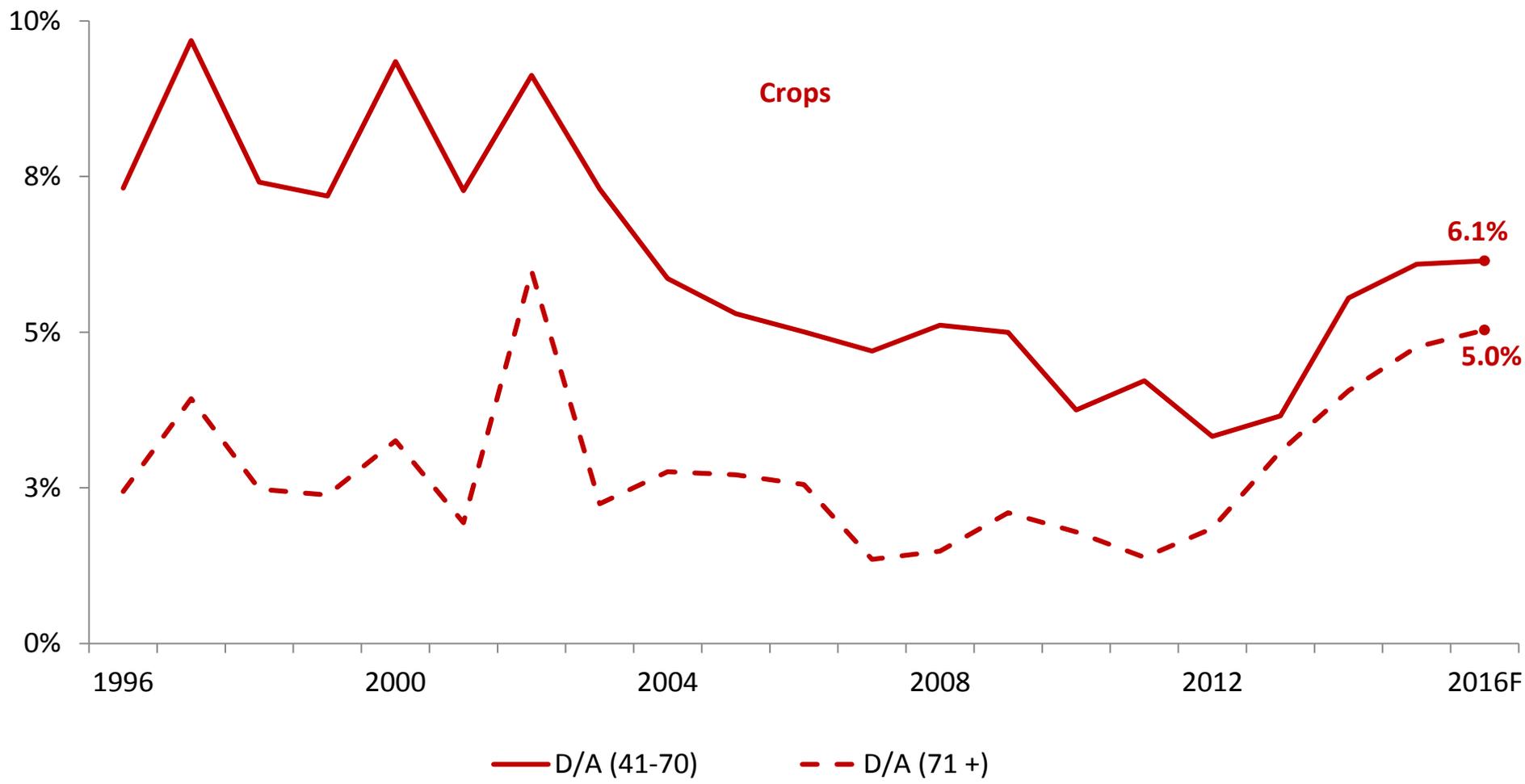


Note: F = forecast. The partial budget forecast model is based on the 2014 Agricultural Resource Management Survey (ARMS) using parameters from the sector forecasts. The model is static and does not account for changes in crop rotation, weather, and other location production impacts that occurred after the base year. Data as of February 9, 2016.  
 Source: USDA, Economic Research Service, Farm Income and Wealth Statistics.



# Share of highly leveraged crop farm businesses increased substantially since 2011

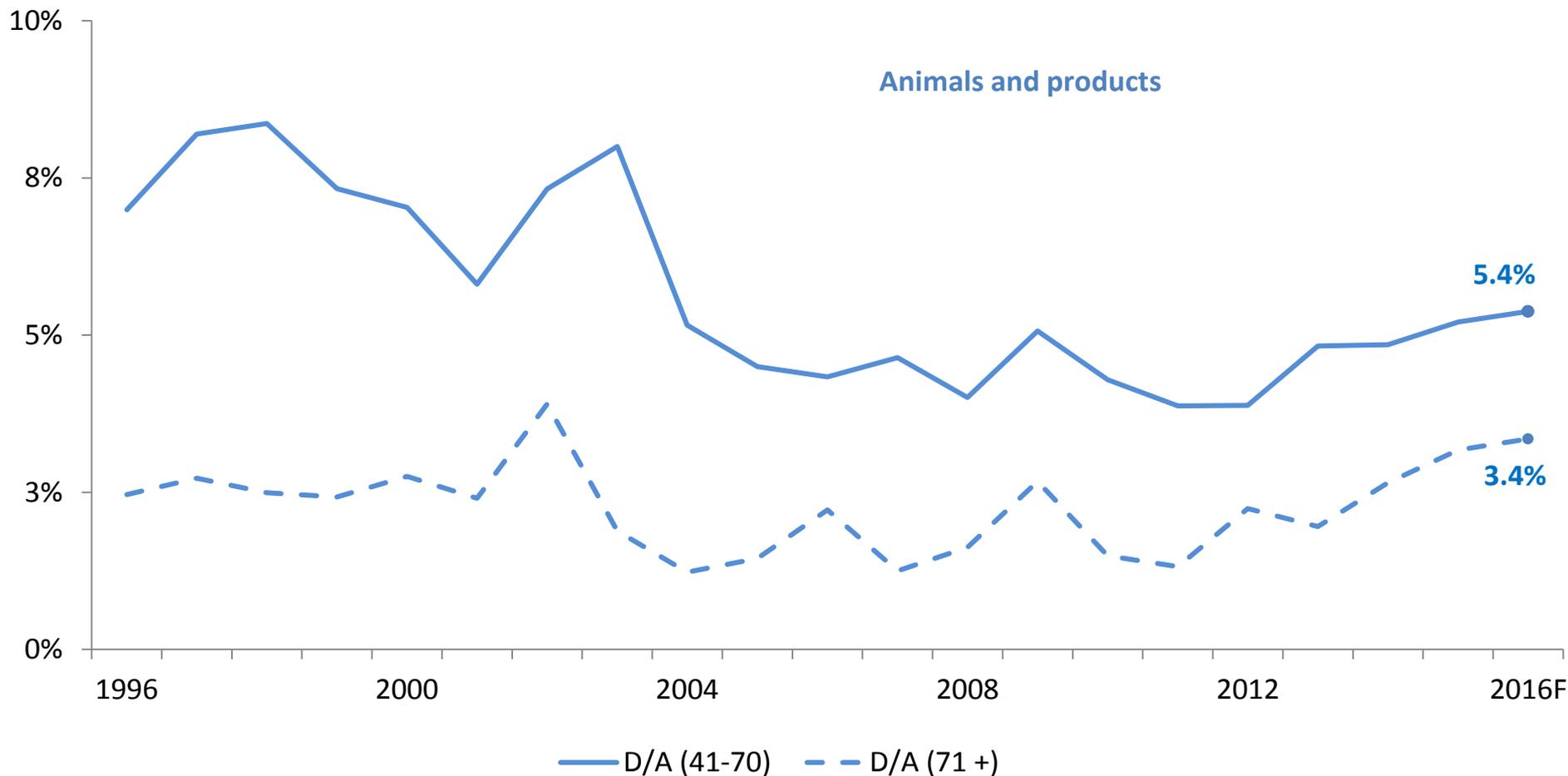
Percent of farm businesses



F = forecast.  
 Source: USDA, Economic Research Service, Farm Income and Wealth Statistics. Data as of February 9, 2016.

# Share of highly leveraged animal and product farm businesses also trending upward since 2011

Percent of farm businesses



F = forecast.

Source: USDA, Economic Research Service, Farm Income and Wealth Statistics. Data as of February 9, 2016.



# Presentation takeaways

- Net cash income expected down slightly in 2016, but relatively flat from 2015.
- Large declines in net cash income since 2013 are driven by lower crop receipts paired with increasing expenses.
- Lower income is expected to put modest downward pressure on farm real estate asset values.
  - Changes in farm real estate asset values drive changes in total farm assets.
- Farm debt, particularly nonreal estate debt, has grown rapidly since 2013.
  - Inflation-adjusted debt nearing historic highs, but remains below 1970s-1980s peak.
- Financial metrics indicate the farm sector remains in good standing.
  - An increasing but small group of farms is highly leveraged.

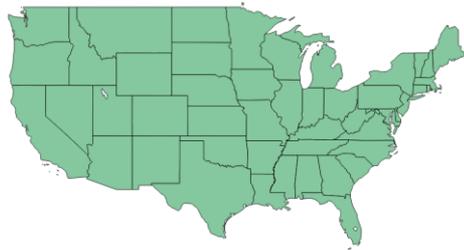


## Additional analysis and data

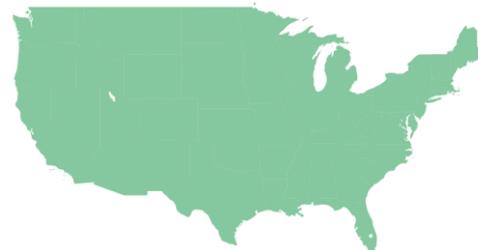
# Farm Sector Income and Wealth Statistics

Data product updated 3 times per year.

Next update: August 30th, 2016.



Historical State Estimates



Historical National Estimates



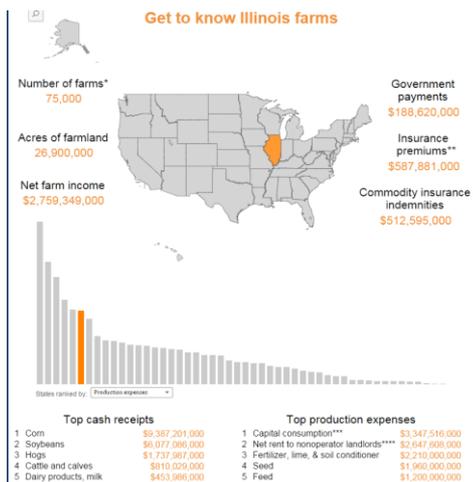
National Forecasts

<http://www.ers.usda.gov/data-products/farm-income-and-wealth-statistics.aspx>



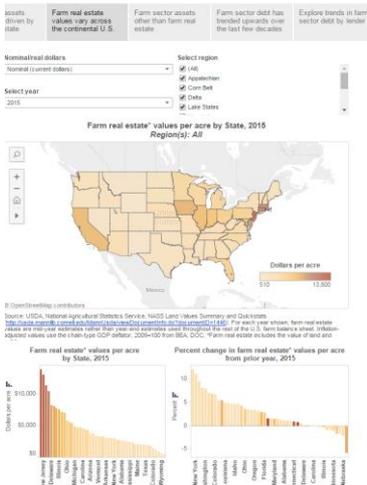
# Explore the data

Visualizations let you dive into the financials of the farm sector

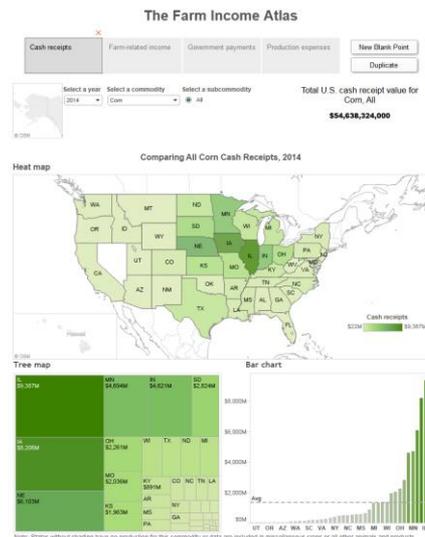


Get to Know Your State

## Digging Into the U.S. Farm Balance Sheet



Digging into the Farm Balance Sheet



Farm Income Atlas

<http://www.ers.usda.gov/data-products/farm-income-and-wealth-statistics/data-files-us-and-state-level-farm-income-and-wealth-statistics.aspx>



# QUESTIONS?

Ryan Kuhns

[RNKuhns@ers.usda.gov](mailto:RNKuhns@ers.usda.gov)

Kevin Patrick

[KTPatrick@ers.usda.gov](mailto:KTPatrick@ers.usda.gov)

Farm Income Team

[farmincometeam@ers.usda.gov](mailto:farmincometeam@ers.usda.gov)

