

Macroeconomic and Agricultural Outlook

K-State Ag Profitability Conference
Oakley, KS
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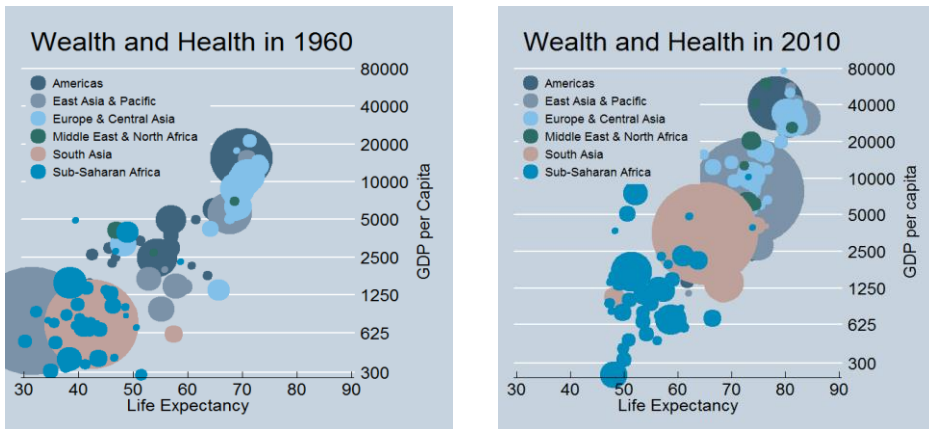
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What does 2014 hold for U.S. agriculture?

- Over the last few years, producers have enjoyed sizable profits...especially crop farmers
- Why?
 - Growing global economies and demand
 - Biofuels demand
 - Weather shocks
- What has been the response?
 - Surging global supplies
 - Rising input costs
 - Elevated farmland values
- What does 2014 hold?
 - Profit margins will likely be tighter
 - Volatility
 - While interest rates are very unlikely to rise, they will at some point...are you prepared?

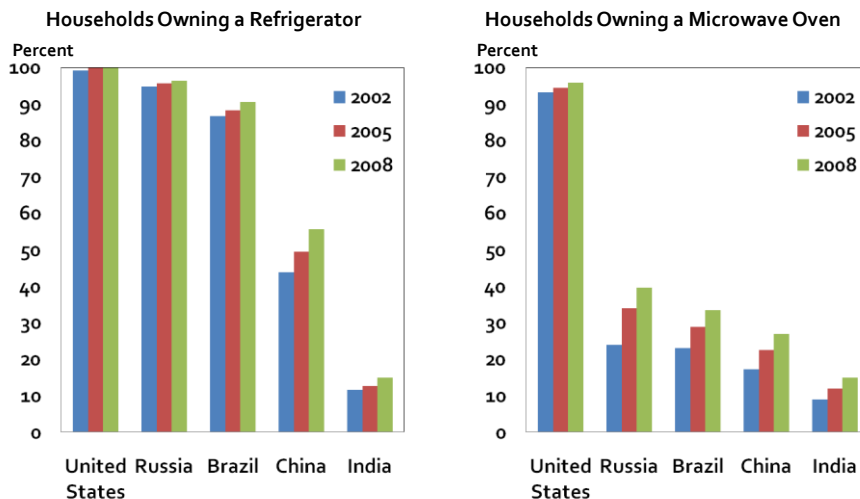
World population is rising, projected to top 9 billion in 2050 but, wealth and health are rising, too.



Source: World Bank and Penn World Table



A growing world population boosts international food demand, but what will they eat?

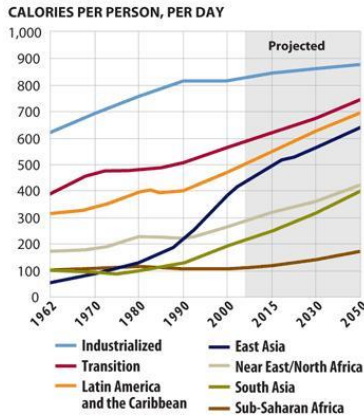


Source: USDA, Euromonitor



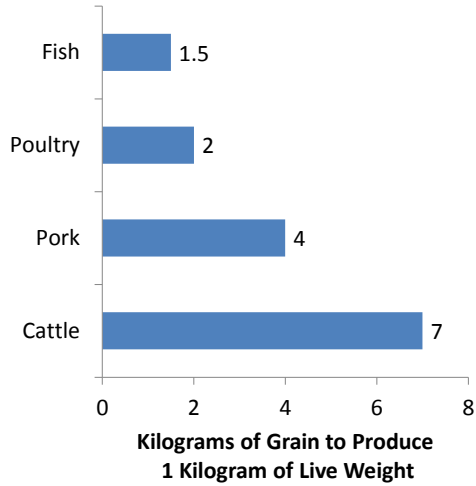
Global trends in consumption of livestock

As incomes rise worldwide, people eat more meat, poultry, eggs, milk, and other dairy products – an upward trend that’s especially evident in East Asia, Latin America, and the “transition” countries of Eastern Europe and the former Soviet republics. An FAO report predicts meat production will hit 465 million tons yearly by 2050, more than double its 2000 level.



Notes: Consumption excludes butter; time scale is not proportional. Source: FAO (2006) SCOTT WALLACE – STAFF

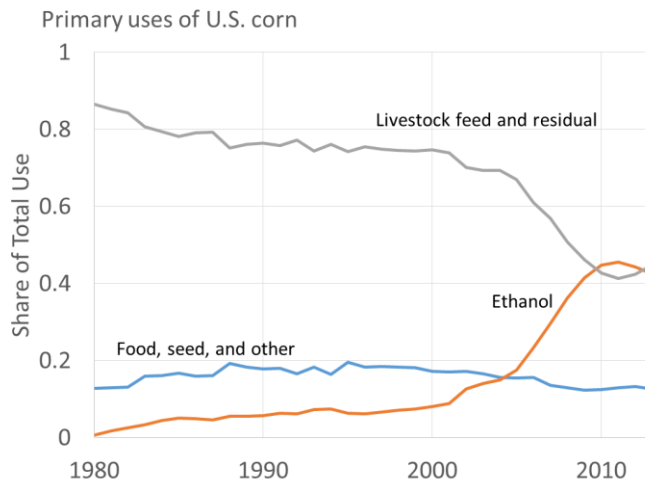
Feed-to-Live Weight Gain (U.S. Efficiencies)



Source: USDA ERS



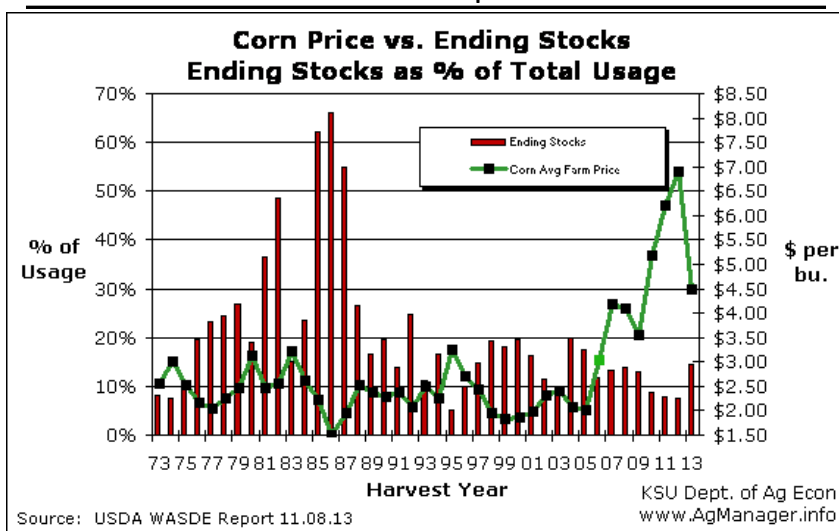
Biofuels has been another source of demand.



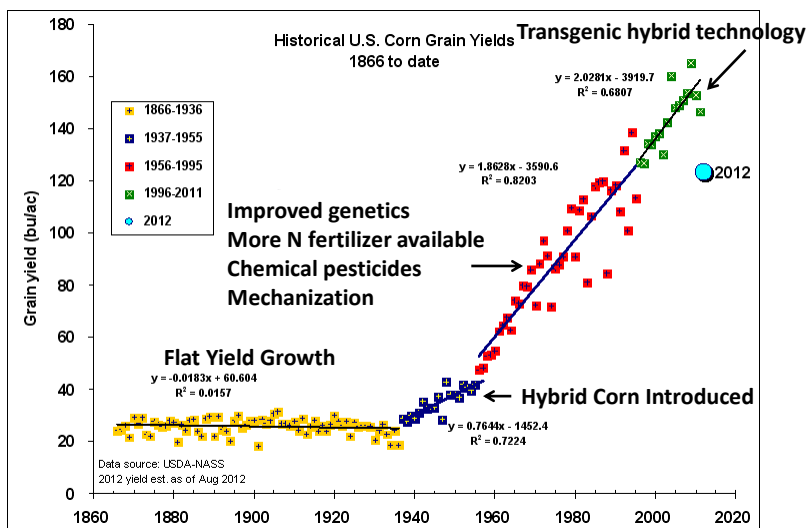
Source: USDA ERS



The 2013 crop helped boost supplies, and prices came off their supply shock highs. What happens to price with the 2014 crop?



U.S. productivity gains have been phenomenal.

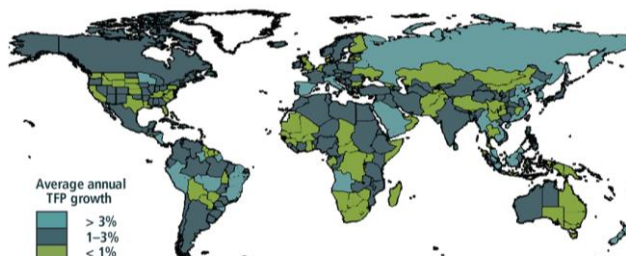


Source: R.L. (Bob) Nielsen, <http://www.agry.purdue.edu/ext/corn/news/timeless/YieldTrends.html>



Global productivity gains have been stronger around the globe...

FIGURE 7 Average growth rate in agricultural productivity since the mid-1990s



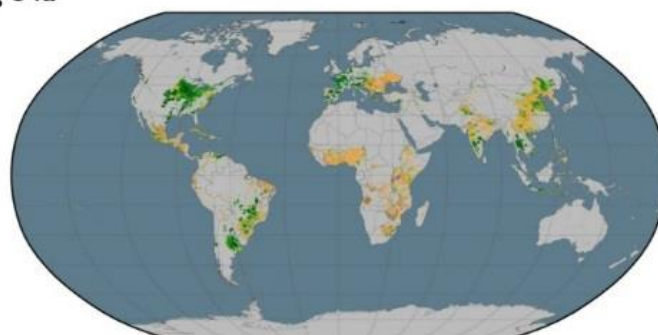
Source: K. Fuglie, "Productivity Growth and Technology Capital in the Global Agricultural Economy," in *Productivity Growth in Agriculture: An International Perspective*, ed. K. Fuglie, S. L. Wang, and V. Eldon Ball (Oxfordshire, England: CAB International, 2012). Note: Growth rates are annual averages from 1995 to 2007 or 2009, depending on data availability.

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...there is more room for improvement.

Fig S4a

maize yield attainment



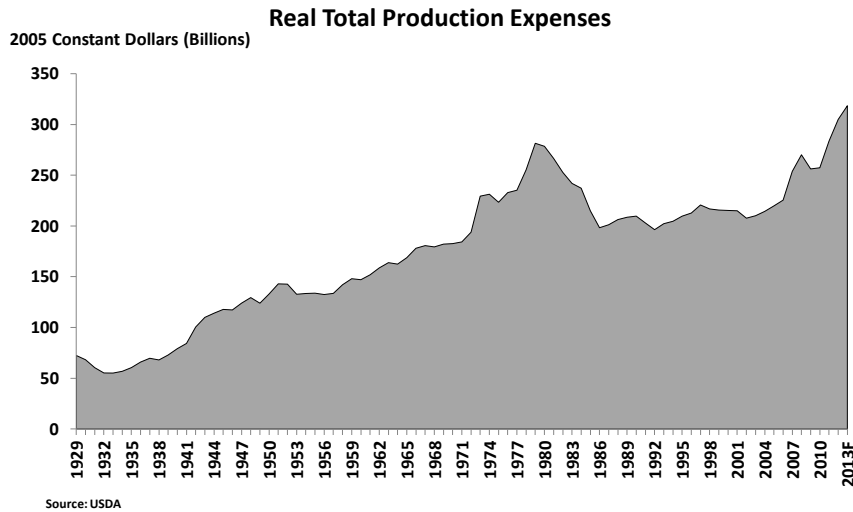
percent of potential yield attained

0% 20% 40% 60% 80% 100%

Source: Foley, J.A. et al. 2011. "Solutions for a Cultivated Planet." *Nature*

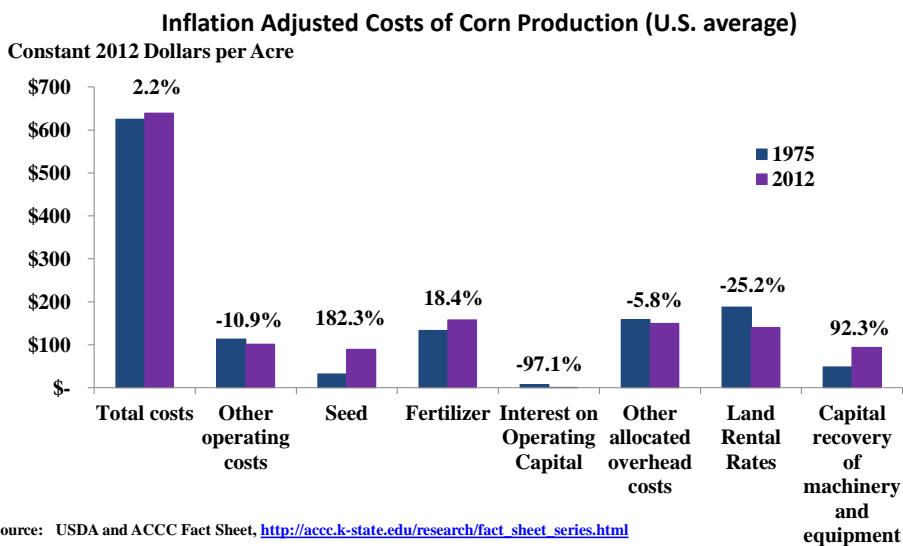
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Rising input and energy prices are pushing up the costs of production agriculture.



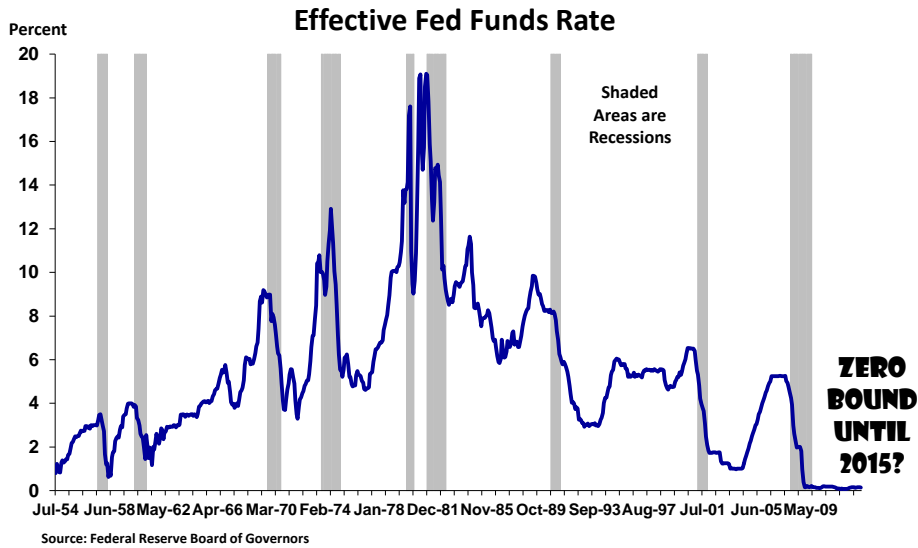
3. Profit Margin Squeeze ACCC

Relative to 1975, technology and equipment costs have risen significantly today.

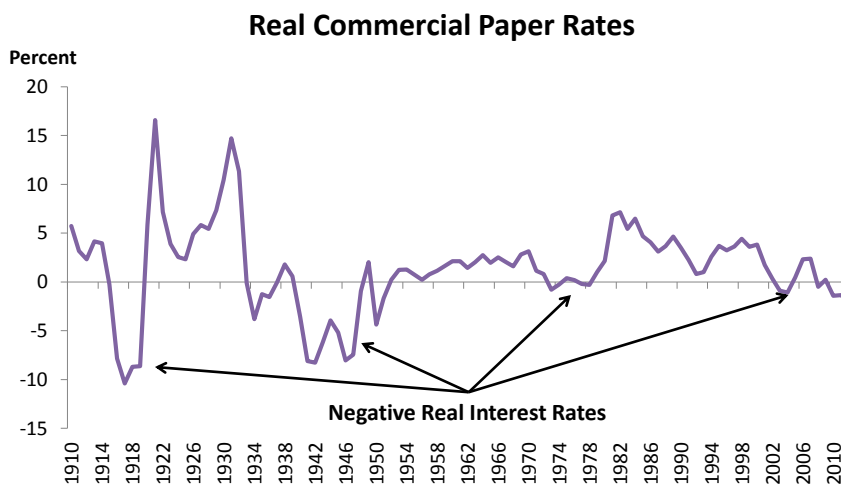


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With the economy still in a sluggish recovery, the Fed has kept interest rates near zero.

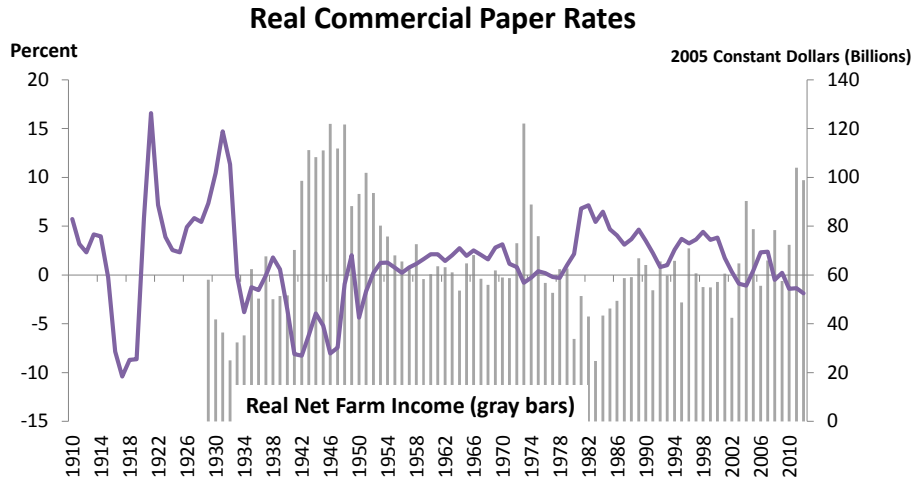


In general, low to negative real interest rates benefit U.S. agricultural incomes.



Source: Featherstone, Allen M. and Timothy G. Baker. 1987. "An Examination of Farm Sector Real Asset Dynamics: 1910 - 85." American Journal of Agricultural Economics 69(3): 532-546, and Federal Reserve Board of Governors

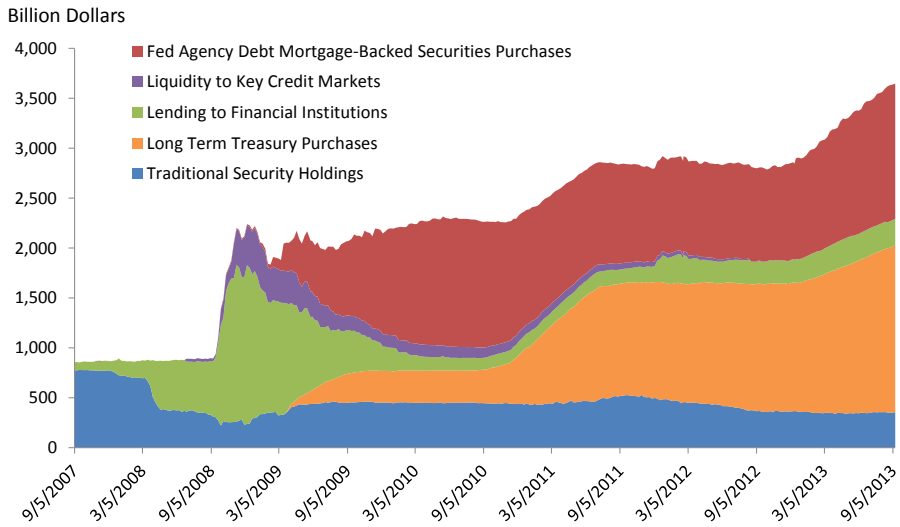
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Through quantitative easing, the Fed has pumped massive amounts of liquidity into the marketplace.

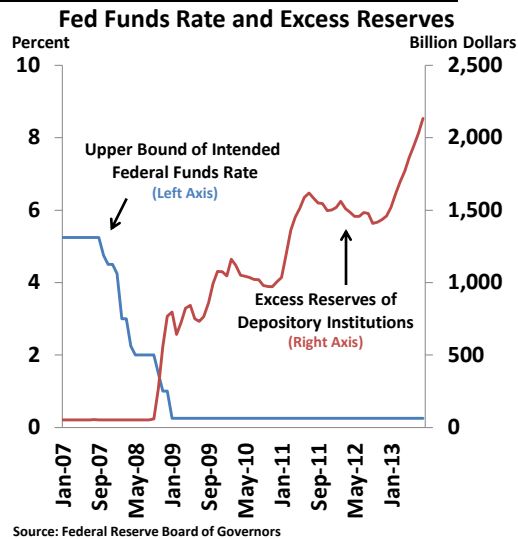


Source: Federal Reserve Bank of Cleveland



With interest rates at historically low levels, bank liquidity has surged.

- To stimulate the economy, the Federal Open Market Committee (FOMC) dropped the Fed funds rate to the zero bound and pumped liquidity into the market (QE 1, 2 and 3).
- With low interest rates, large amounts of liquidity and limited to no borrowing activity, excess reserves of depository institutions held at the Fed surged.
- Ample funds are available for businesses and individuals



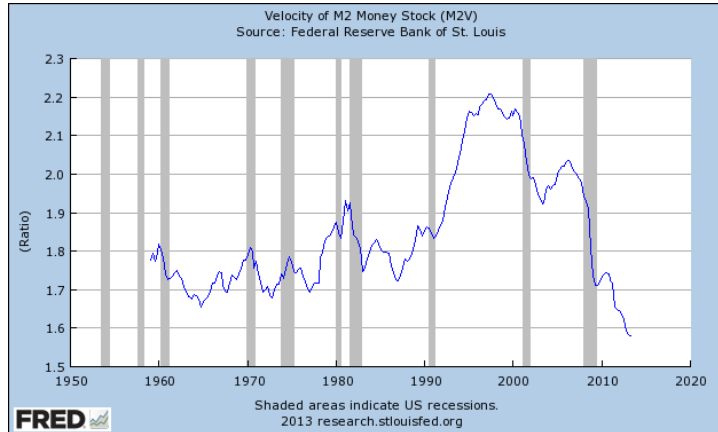
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Inflation?

- Today, monetary policy is extremely accommodative
- Bank excess reserves are large and interest rates are low
 - Liquidity effect
- However, inflation is very low today (less than 2%) and inflation expectations are well anchored
- Why is that?

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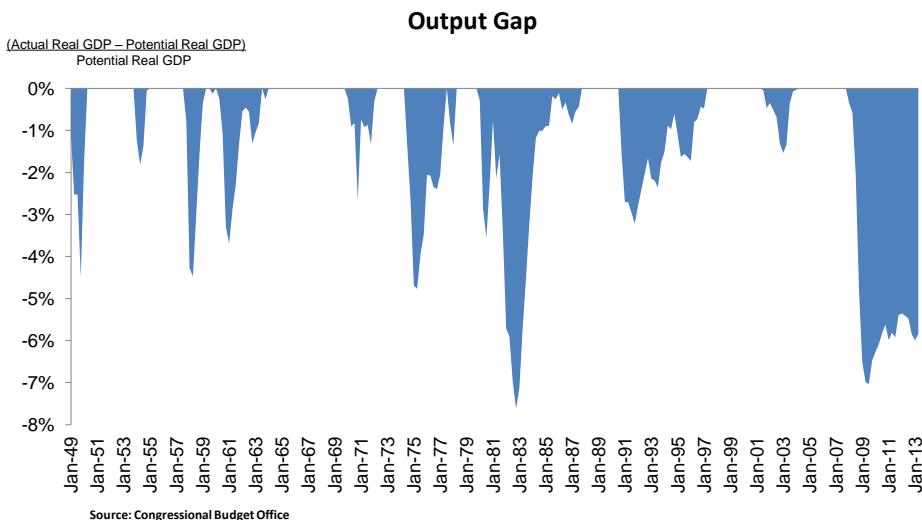
Inflation is low because velocity has plummeted.



- One way to measure velocity is by calculating the ratio of GDP to money stock (M2). This ratio is essentially a turnover ratio that illustrates how quickly money is turned into output.
- What will it take to raise velocity, and when might this happen?

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If velocity picks up, it will take the economy some time to eliminate its “slack.”




Source: Congressional Budget Office

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Concluding thoughts

- Today, agriculture has fared fairly well, but plenty of questions remain
 - Supply and demand fundamentals
 - If managed appropriately, market volatility can lead to profit opportunities...know your breakevens
 - Tighter margins puts a premium on liquidity
- The impact of ultra-low interest rates and massive amounts of liquidity have had a large impact on the U.S. economy, global economy and agriculture
 - Agriculture as an investment: commodities and farmland values
 - Lots of liquidity sitting on the sideline...inflation?
- The Fed's exit strategy is very important, and the million dollar question, when will interest rates rise?

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Thank you

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