
Food Prices and Inflation

Daniel Sullivan
Federal Reserve Bank of Chicago
October 2, 2008

Why Should The Fed Care About Food Prices?

- **Agriculture is a significant part of the economy**
 - E.g., in our district
- **Food prices and inflation**
 - Food prices make up a significant share (~15%) of consumers' budgets
 - In an arithmetic sense, food price increases have raised overall inflation recently:
 - ◆ Last 12 months: 0.2%
 - ◆ Last 60 months: 0.1%

Do Food Prices Really Matter For Inflation?

■ In the long run, **NO!**

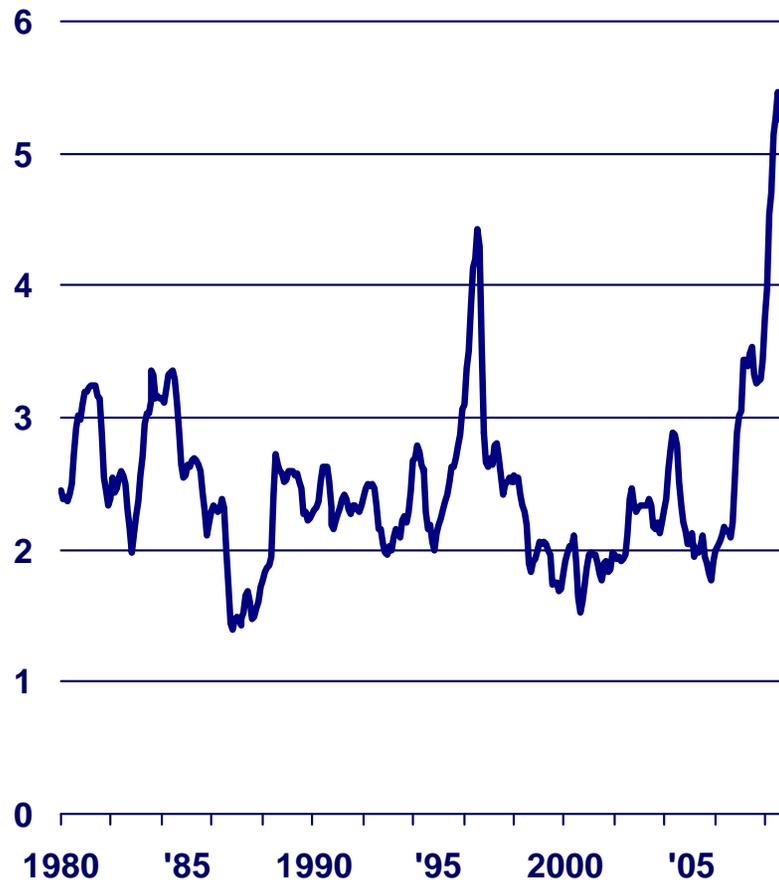
- Overall inflation is the responsibility of the Federal Reserve
- Monetary policy can achieve goals for price stability regardless of what happens to the **relative price** of food
- Or any other relative price

■ In the short run, **YES!**

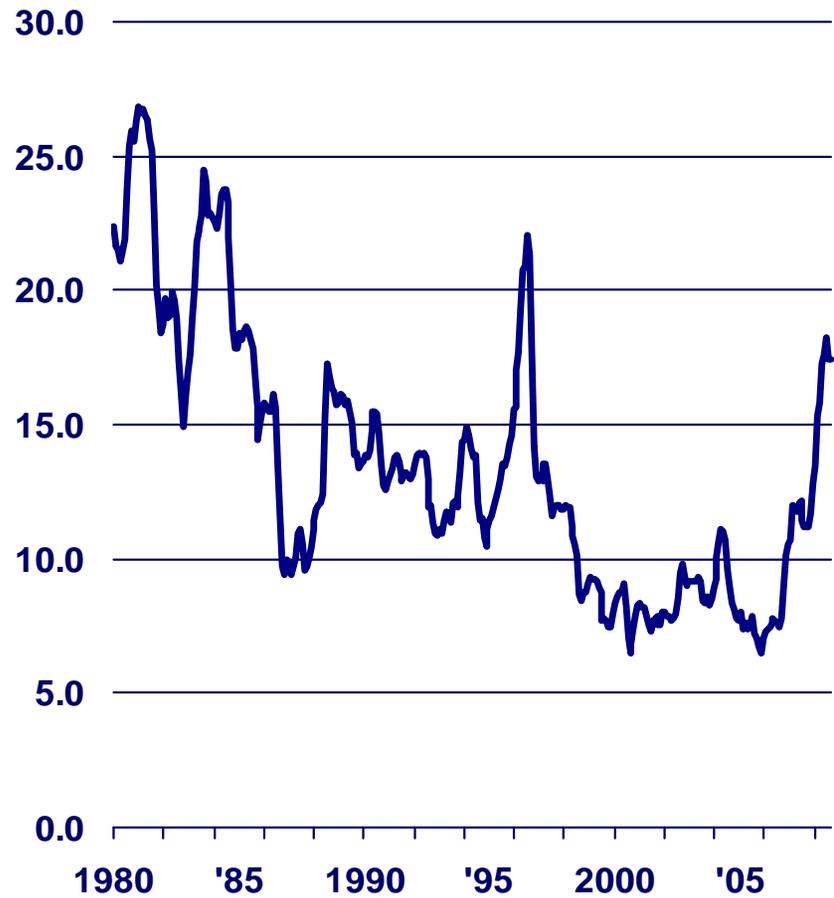
- The Fed has little ability to adjust policy quickly enough to offset year-to-year movements in the prices of food, energy, or other commodities
- Monetary policy works with a lag
- In order to keep prices stable, large increases in the relative price of one good, might imply price decreases for many goods
- Easiest adjustment may entail a one time increase in price level

Nominal and Real Corn Prices

Nominal Price of Corn
(\$/Bushel)



Real Corn Price in terms of Minutes Worked
(\$/Bushel corn price deflated by AHE multiplied by 60)



Fed Policy And Relative Commodity Prices

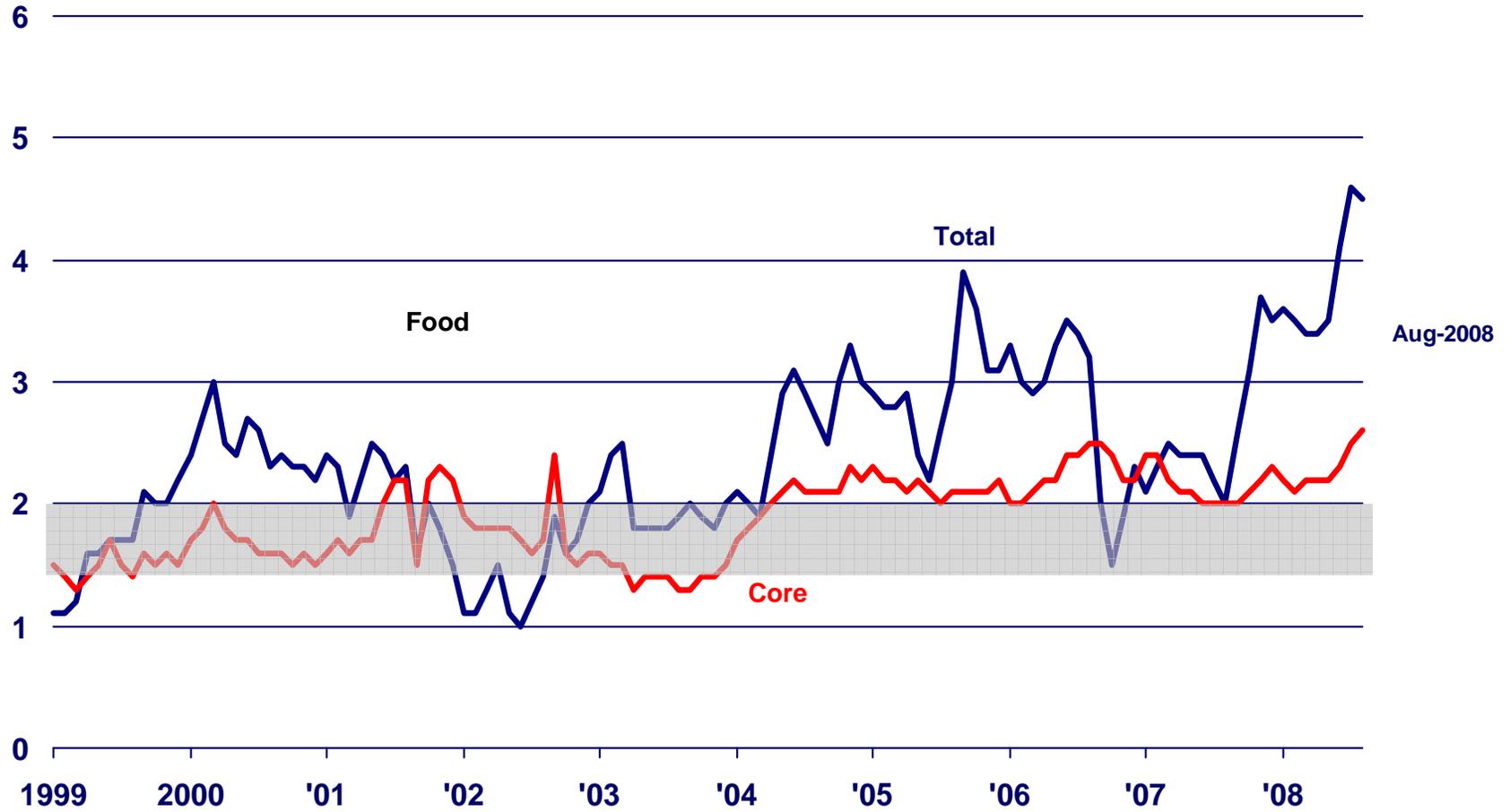
- **Did the Fed make food and energy prices rise?**
- **Dollar depreciation implies a small effect on dollar prices of commodities**
- **Lower real short-term interest rates decrease the costs of holding inventories**
 - Could allow “speculators” to take more commodities off market
 - Could raise relative price of commodities
- **But,**
 - Inventories not particularly high
 - Price increases for commodities without futures markets

Inflation and Inflation Expectations

- **A one-time increase in the aggregate price level may not be a huge concern**
 - A transitory increase in measured inflation may not affect expectations about the future
- **Possible danger: Transitory inflation may become embedded in the public's expectations of future inflation**
 - That would be self-fulfilling
- **Fed **credibility** is key**
 - Public needs to have confidence that Fed will not allow a one-time price-level increase to turn into a persistent increase in average inflation

Inflation: Core and Total

PCE Price Index
(12-month percent change)



Do Fed Economists Eat?

- **Tool: Core inflation**

- Strip out volatile components
- Simplest: Remove food and energy
- Can be improved on: Median, trimmed mean, Kalman filtering

- **Goal: Low and stable overall inflation**

- Judge us over several years

- **Core inflation provides a decent/rough indication of underlying trends in overall inflation**

- May roughly capture inflation expectations

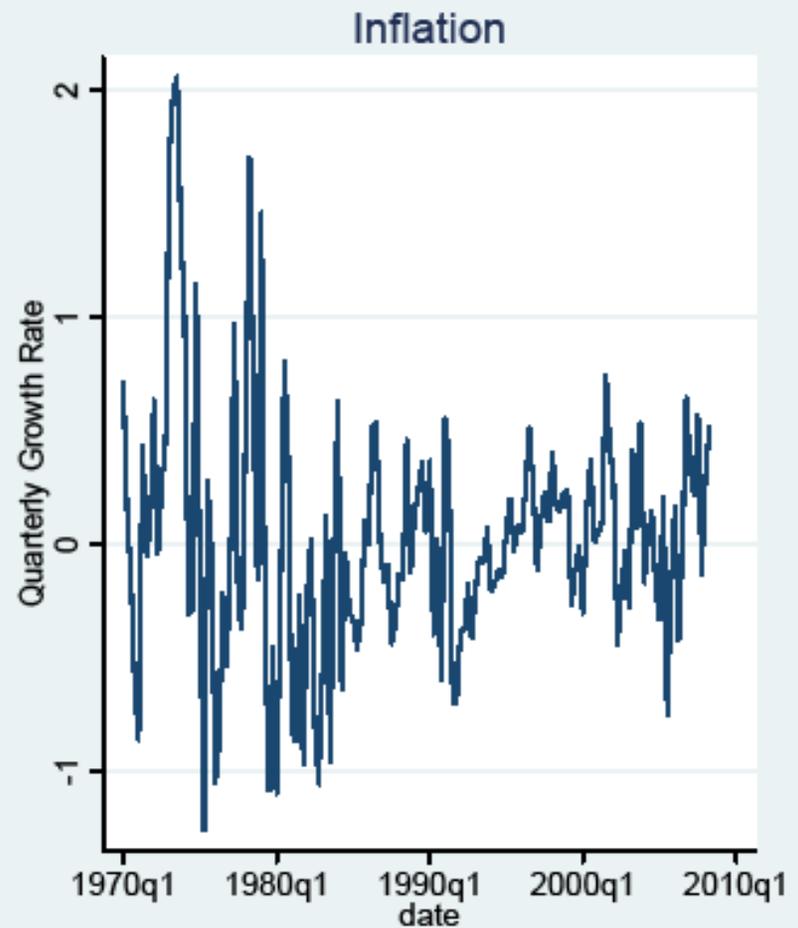
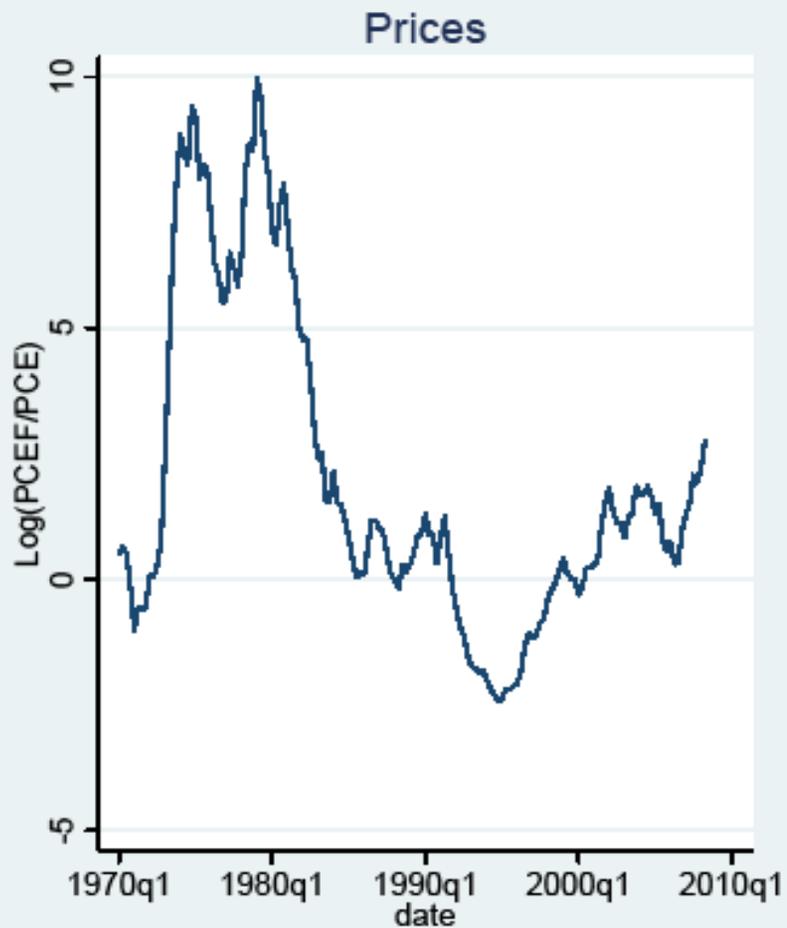
- **Recent core inflation provides a decent/rough forecast of future overall inflation**

- Better than recent overall inflation

A Danger Of Focusing On Core Inflation

- What if food price changes not only have a higher variance, but also a **higher mean**?
 - Then leaving them out of a core measure creates **bias**
- Over the last 40 years, not much difference in means
- Over the last 5 years, fairly significant difference in means
- Is it reasonable to think that **relative food prices** will rise significantly over **the next five years**?

Relative PCE Food Prices 1970-2008



Can We Forecast Relative Food Prices?

■ Pure **time series** analysis of prices

- Messrs Dickey and Fuller suggest that relative food prices are non-stationary
- Some predictive power in lags of relative price changes
- Relatively little predictive power from interest rates
- Very preliminary forecast: Relative food price increasing 0.2% per year over next several years

■ What about **supply and demand**?

- Joe?
- Dermot?