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# Food Prices and Inflation

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# Why Should The Fed Care About Food Prices?

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- **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?

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## ■ 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

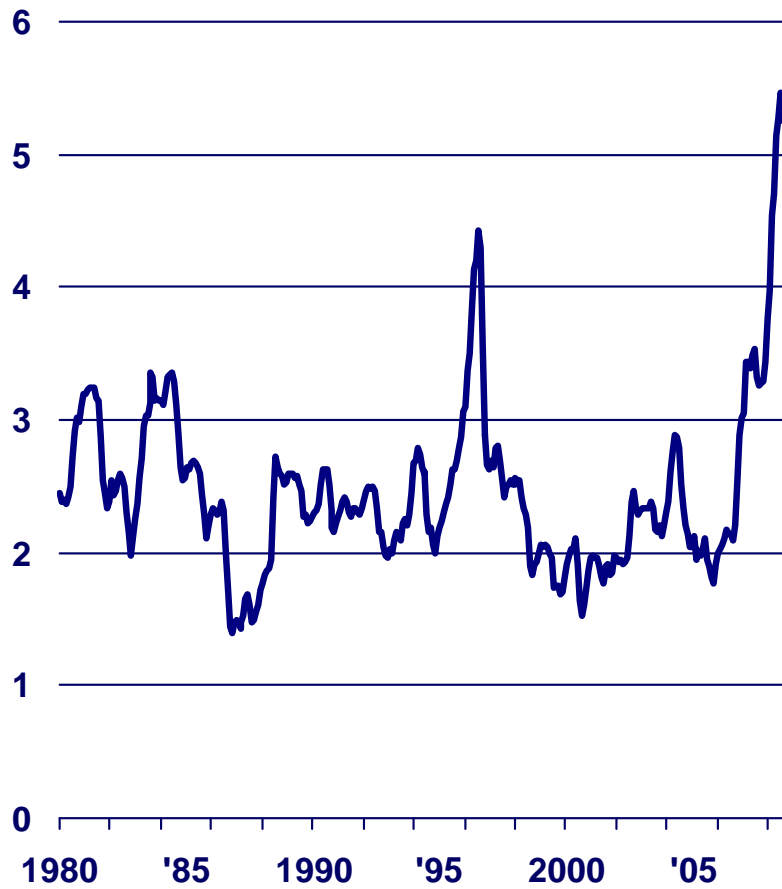
## ■ In the short run, **YES!**

- 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

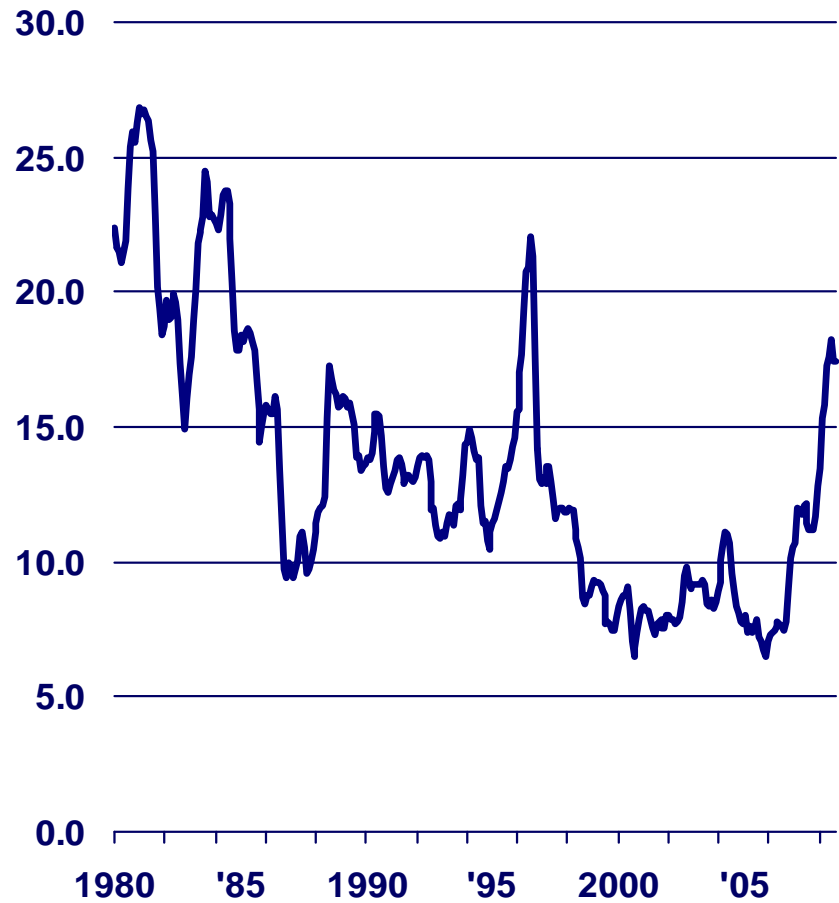
# Nominal and Real Corn Prices

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**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

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- **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

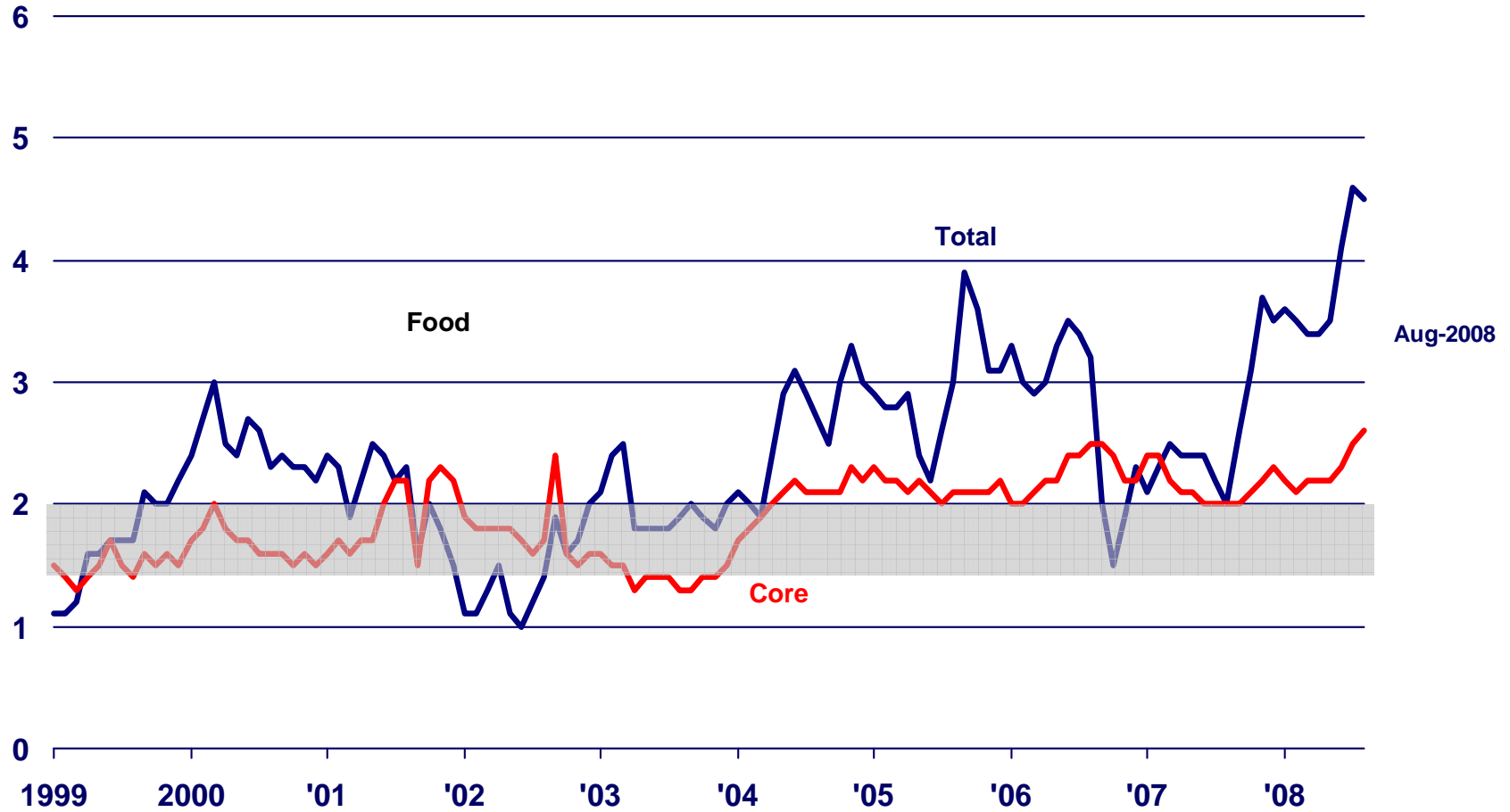
# Inflation and Inflation Expectations

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- **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?

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- **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

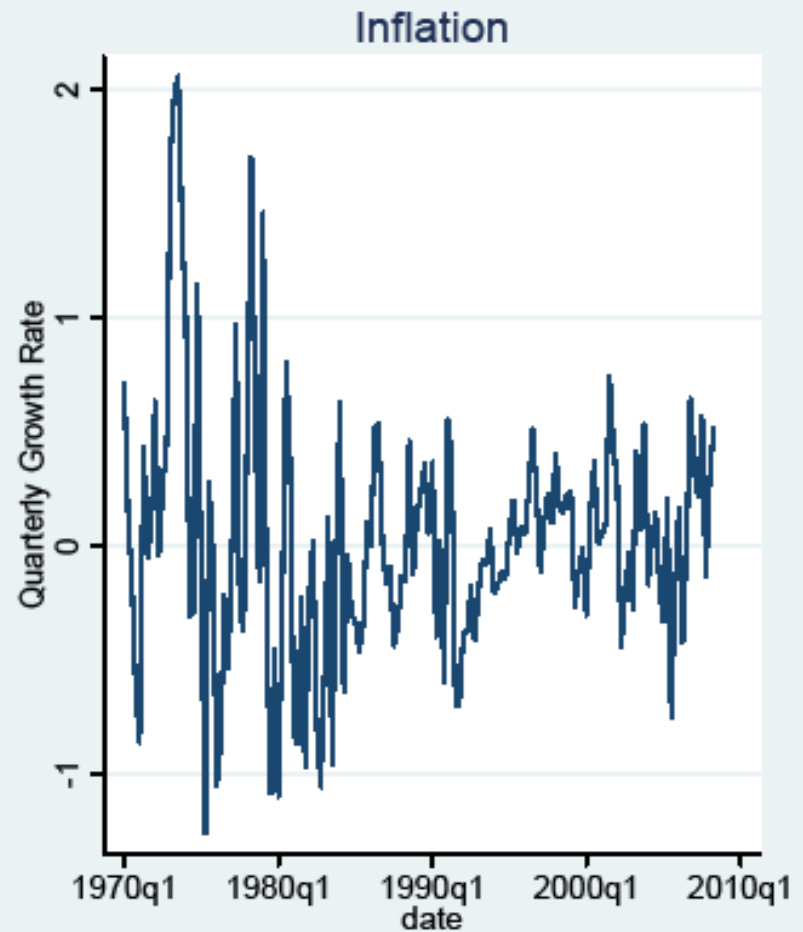
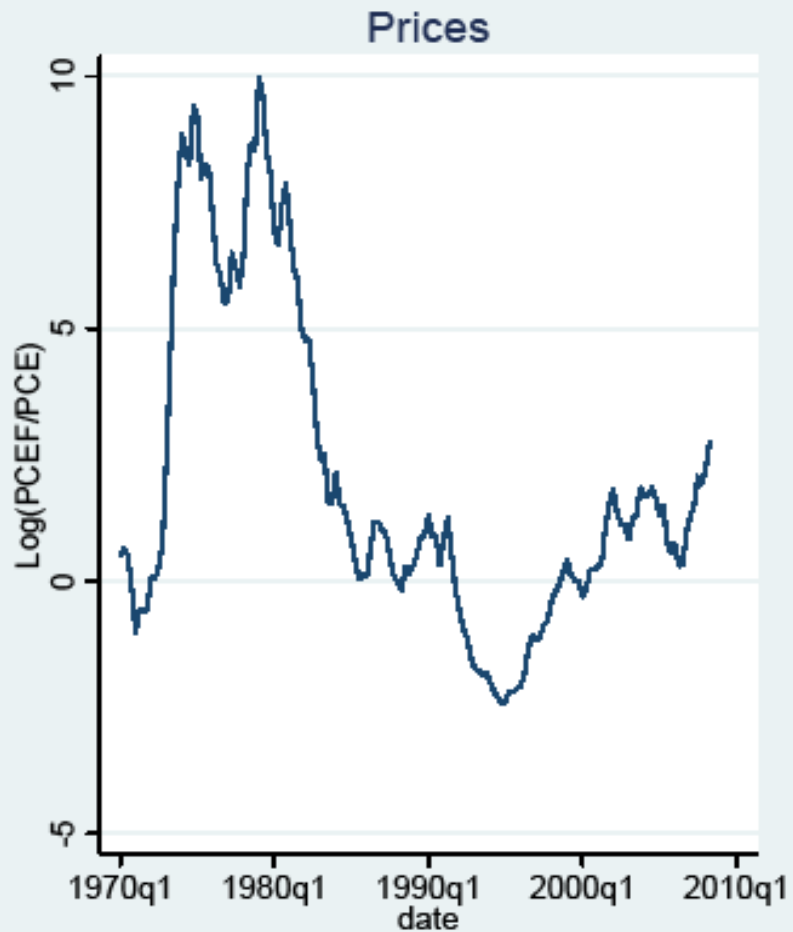


# A Danger Of Focusing On Core Inflation

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- 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?

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## ■ 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?