

Economics 442
Macroeconomic Policy

Lecture 2

1/23/2017

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UW Madison

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Concepts/Definitions

- GDP
- Real versus nominal
- Price level, inflation
- Money
- Interest rates

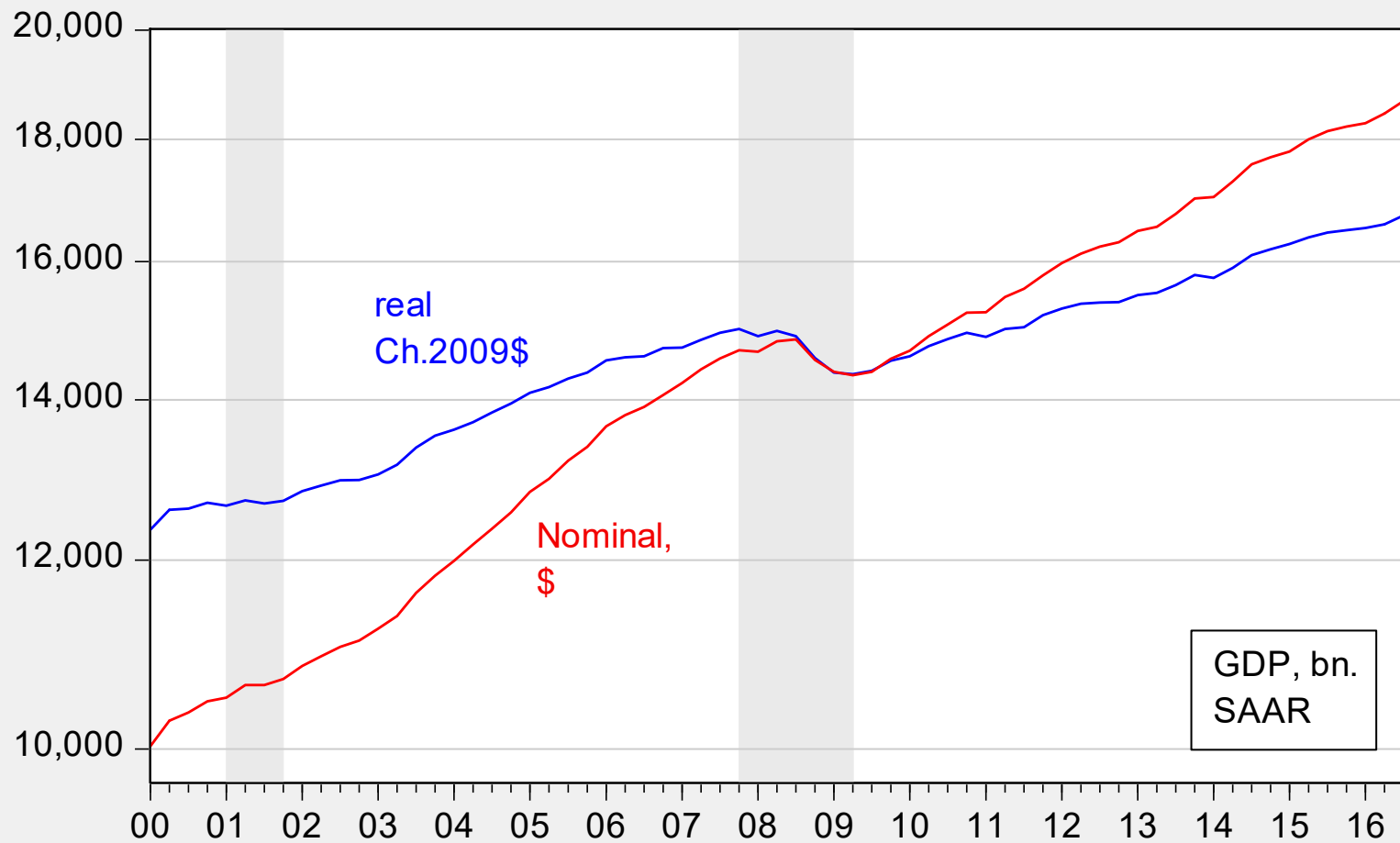
GDP

- Sum of value of all goods and services produced within a given time period (usually a year or a quarter)
- If quarterly, usually adjusted up to yearly rates
- $GDP = C + I + G + (Ex - Im)$
- All these are “final” goods and services

Real vs. Nominal

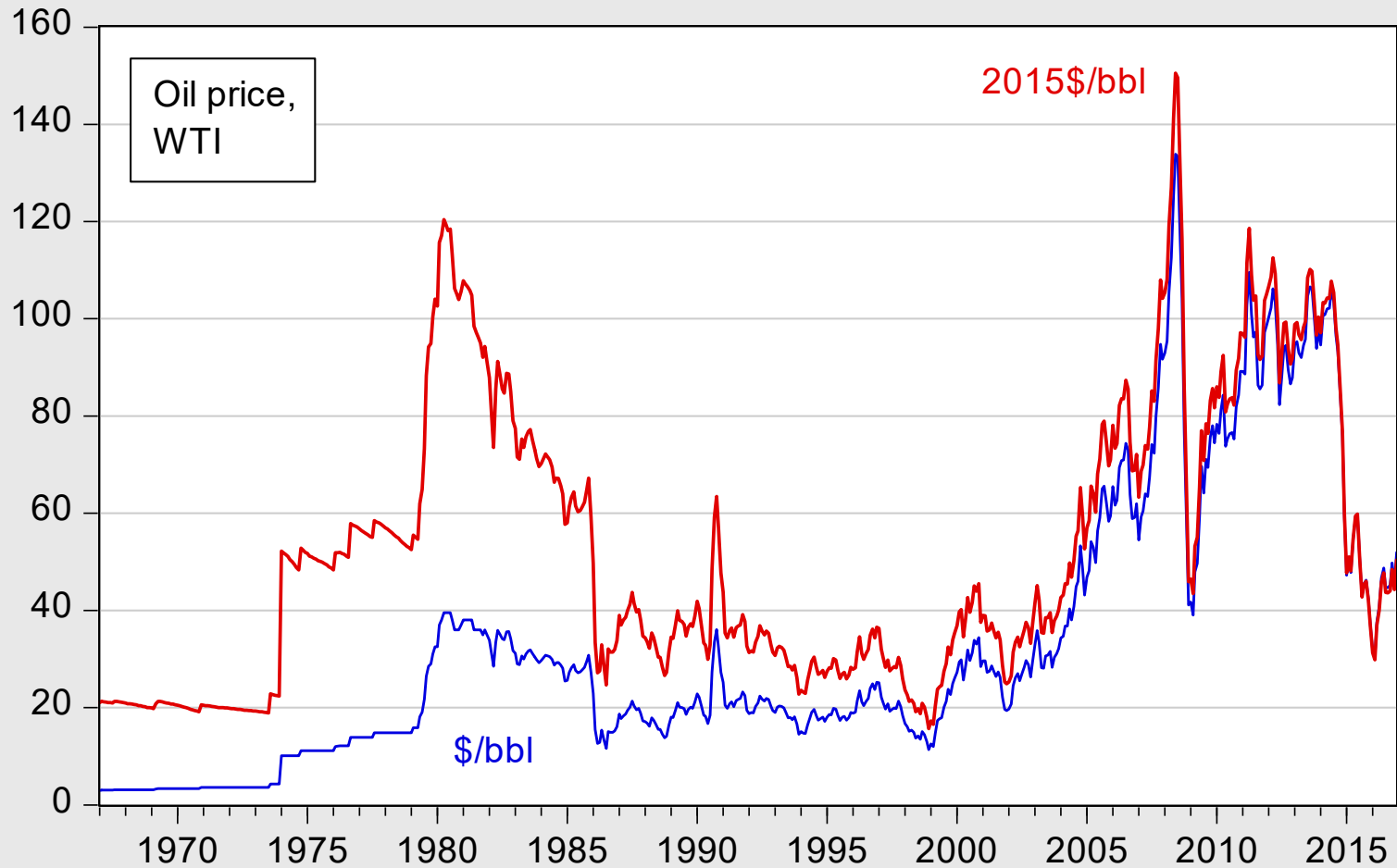
- Nominal values are expressed at values recorded. GDP is just all the values of items spent on, added up.
- Real values control for the general price level, to get in principle “quantities”.
- $\text{Nominal Value/Price index} = \text{Real Quantity}$
- $\text{Nominal Price/Price index} = \text{Relative Price}$

Nominal vs. Real



Source: BEA, 2016Q3 final release

Relative Price (of Oil)

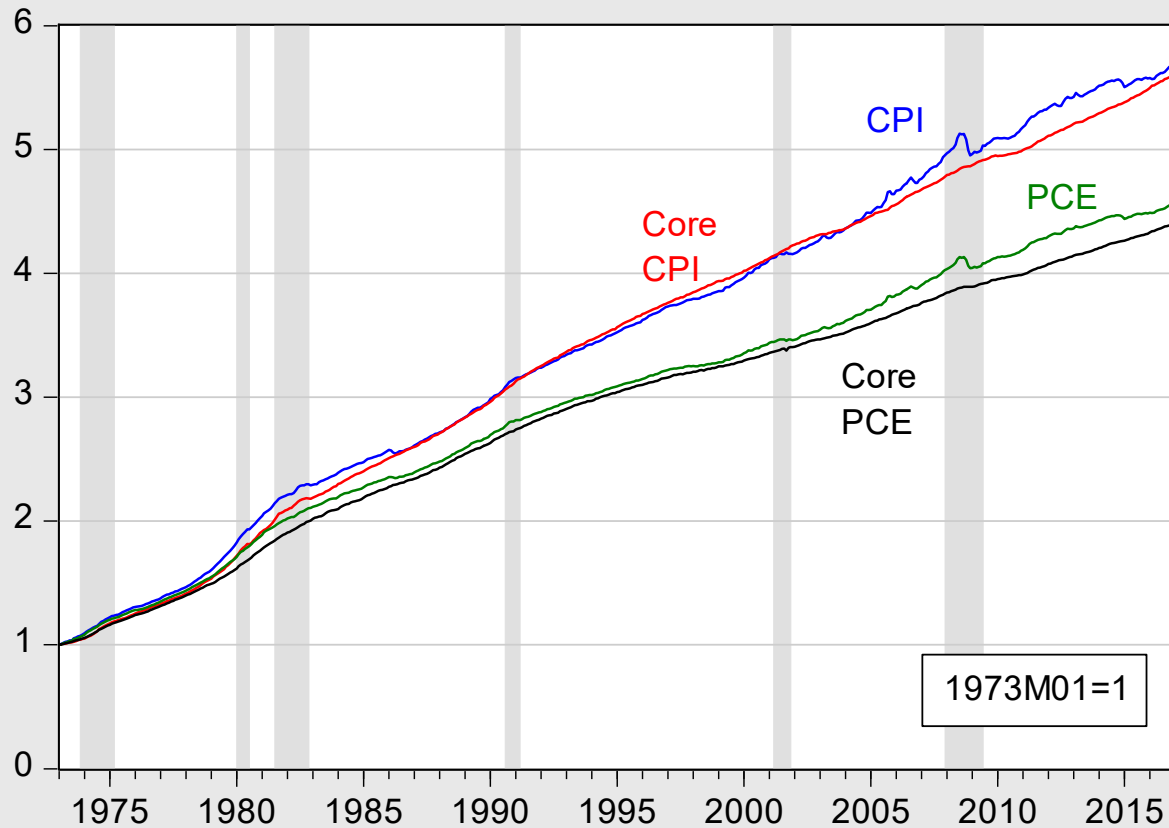


— OILPRICE
— OILPRICE/(CPILFESL/242.2472)

Price Level vs. Inflation

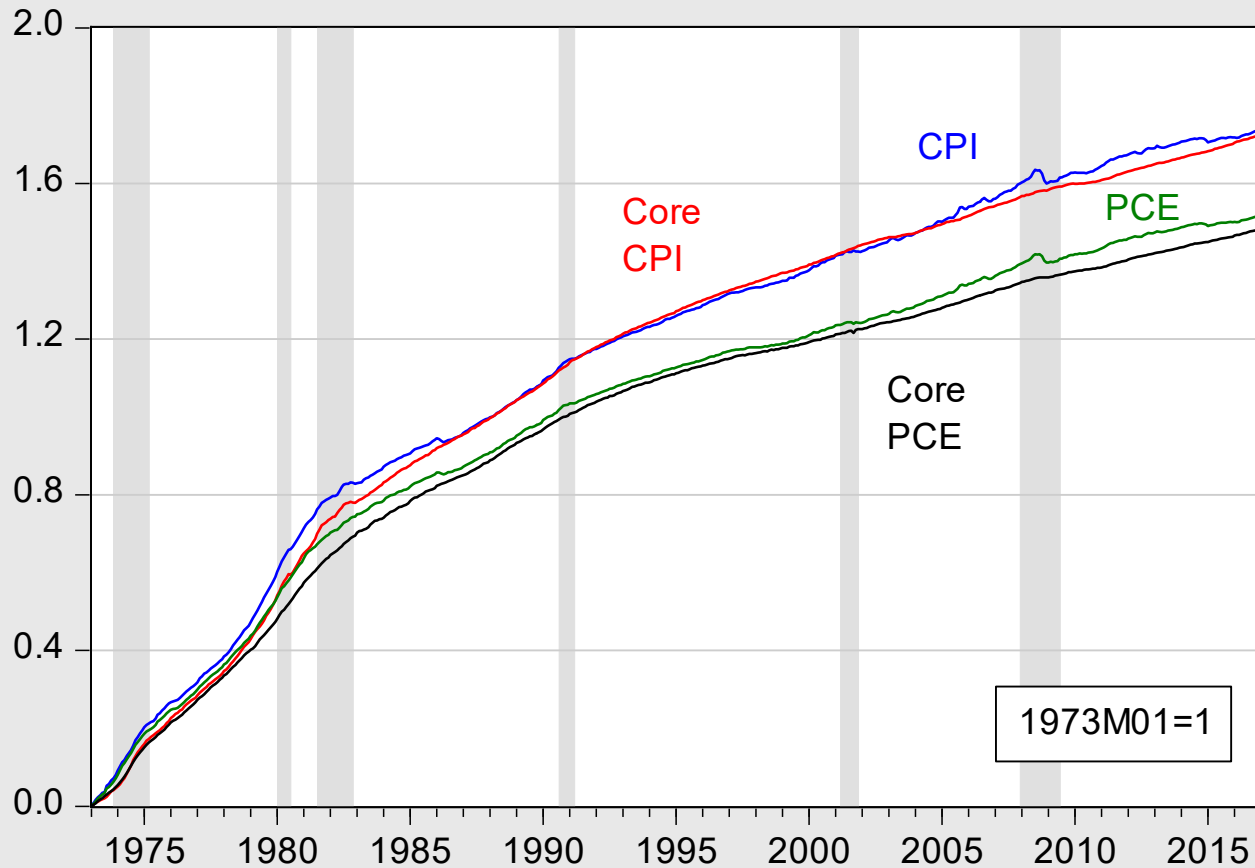
- Let P = price level
- Inflation = *percent* rate of change of price level
- Standard definition: $\pi_t = (P_t - P_{t-1})/P_{t-1}$ (on annual basis)
- Sometimes, a continuously compounded definition is used:
- $\pi_t = \ln(P_t) - \ln(P_{t-1})$
- Standard variables: CPI, core CPI, PCE

Price Levels



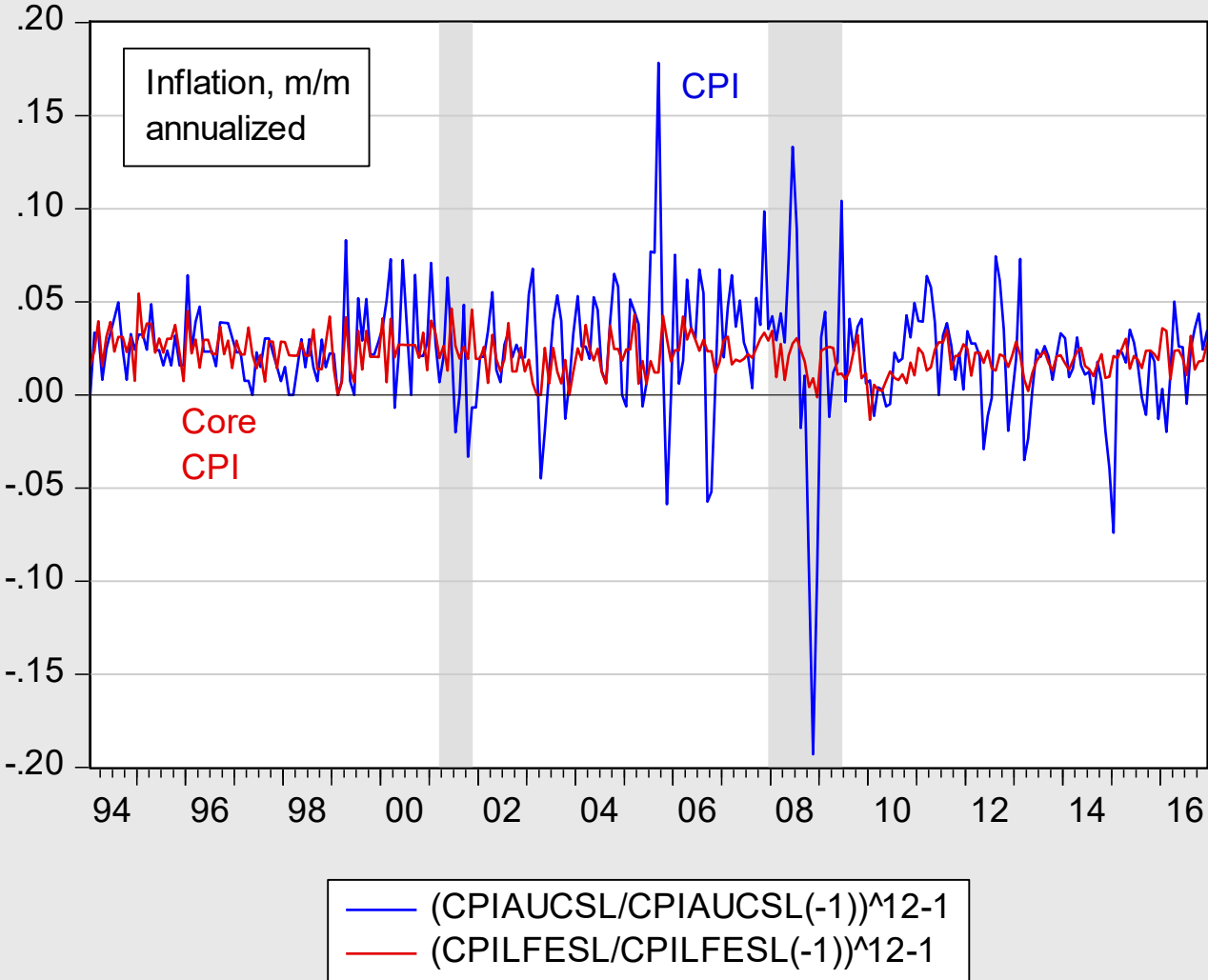
— CPIAUCSL/@ELEM(CPIAUCSL,73.01)
— CPILFESL/@ELEM(CPILFESL,73.01)
— PCEPI/@ELEM(PCEPI,73.01)
— PCEPILFE/@ELEM(PCEPILFE,73.01)

Log Price Levels

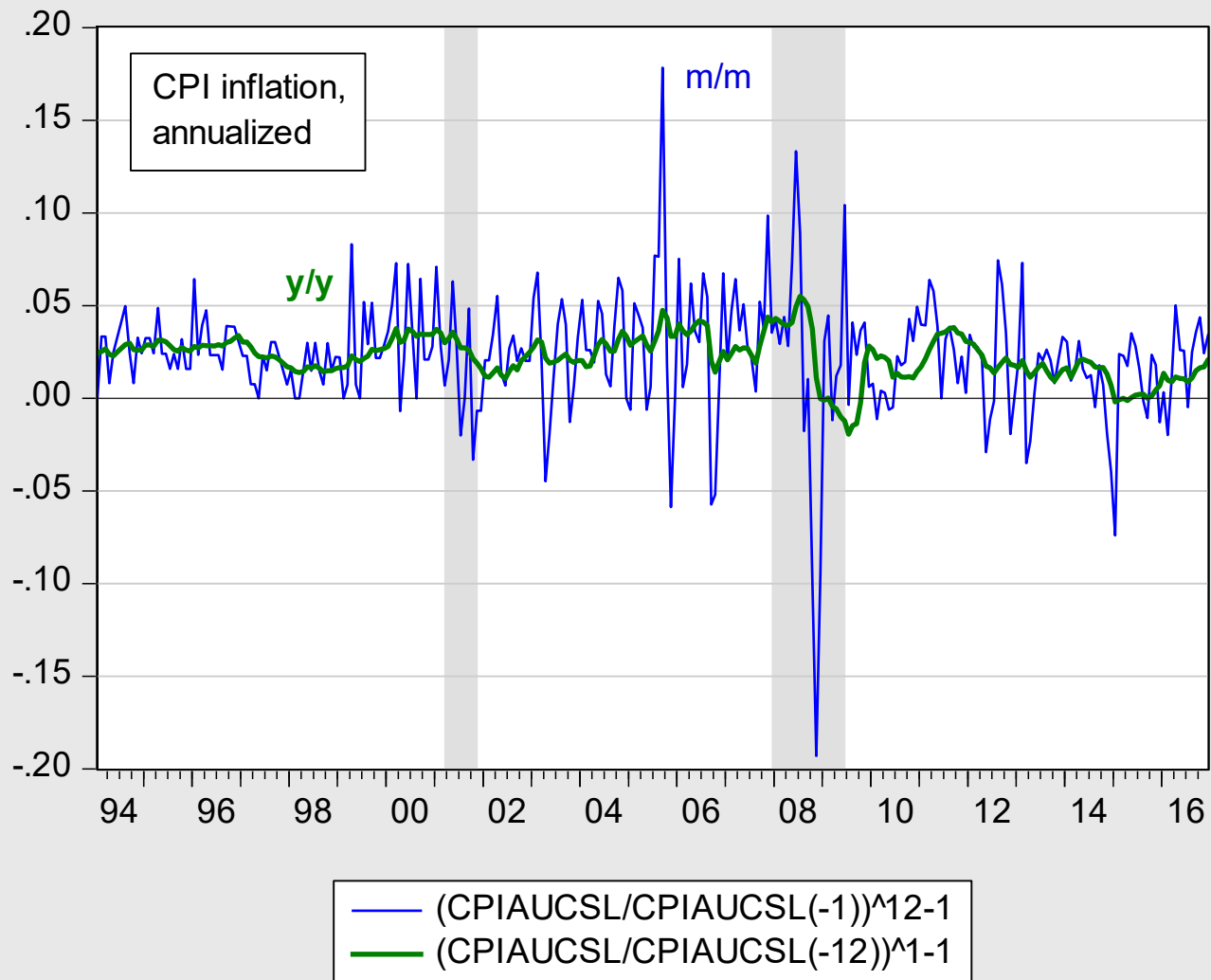


- LOG(CPIAUCSL/@ELEM(CPIAUCSL,73.01))
- LOG(CPILFESL/@ELEM(CPILFESL,73.01))
- LOG(PCEPI/@ELEM(PCEPI,73.01))
- LOG(PCEPILFE/@ELEM(PCEPILFE,73.01))

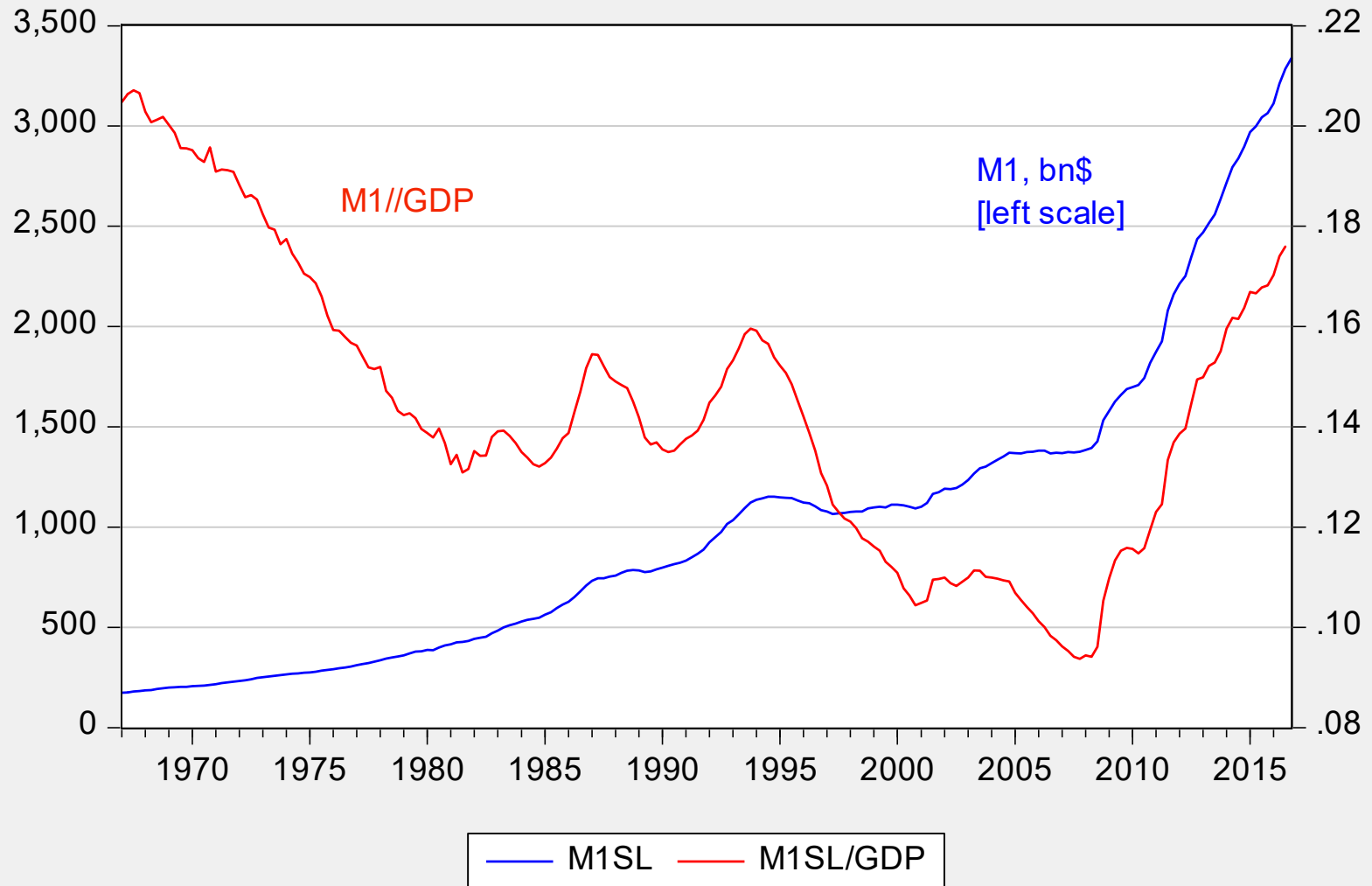
Inflation: Total vs. Core



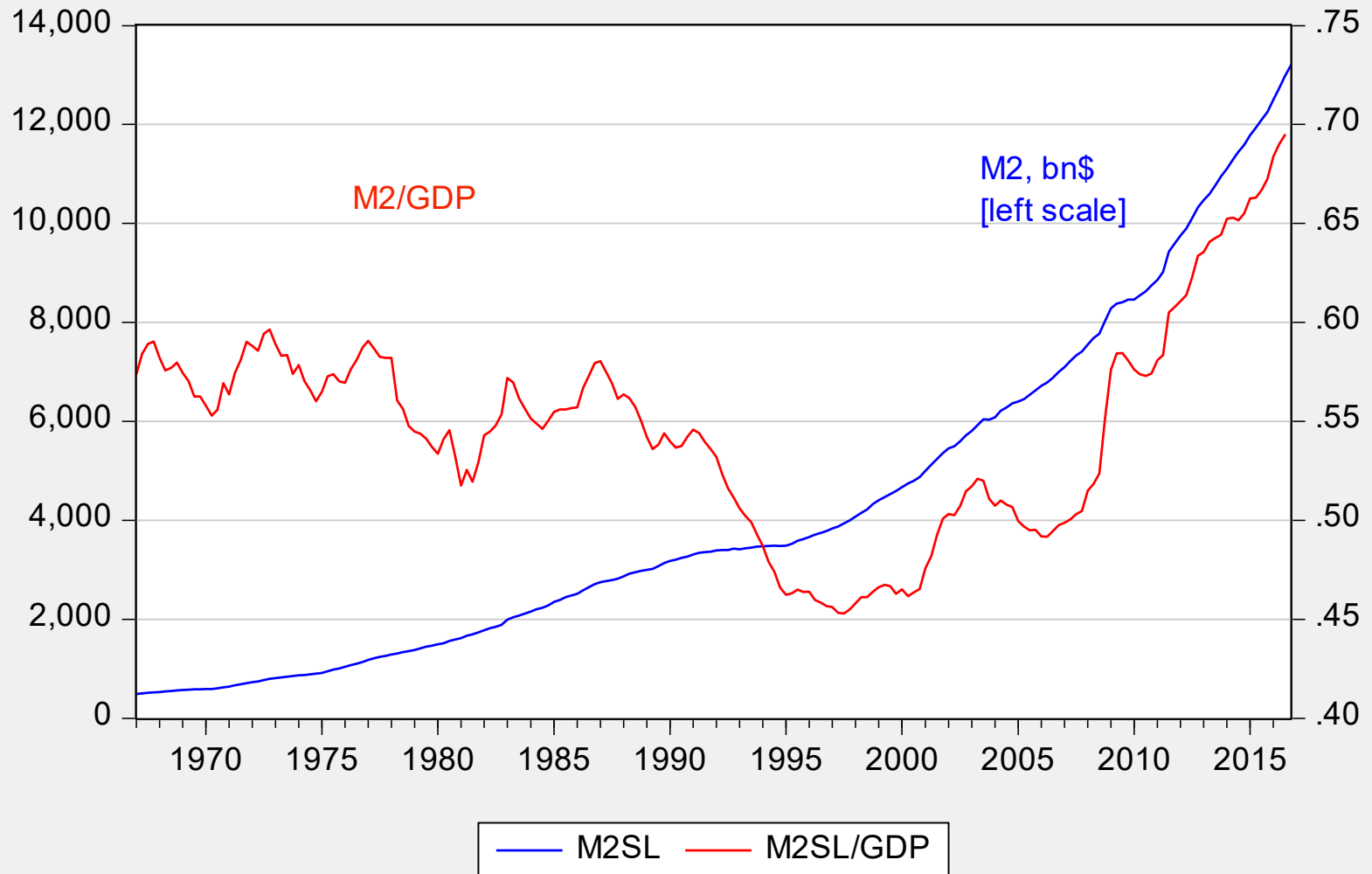
Inflation: M/M vs. Y/Y



Narrow Money



Broad Money



Interest Rates

