

Public Affairs 854
**Macroeconomic Policy and
International Financial Regulation**
Lectures 2-3

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Outline

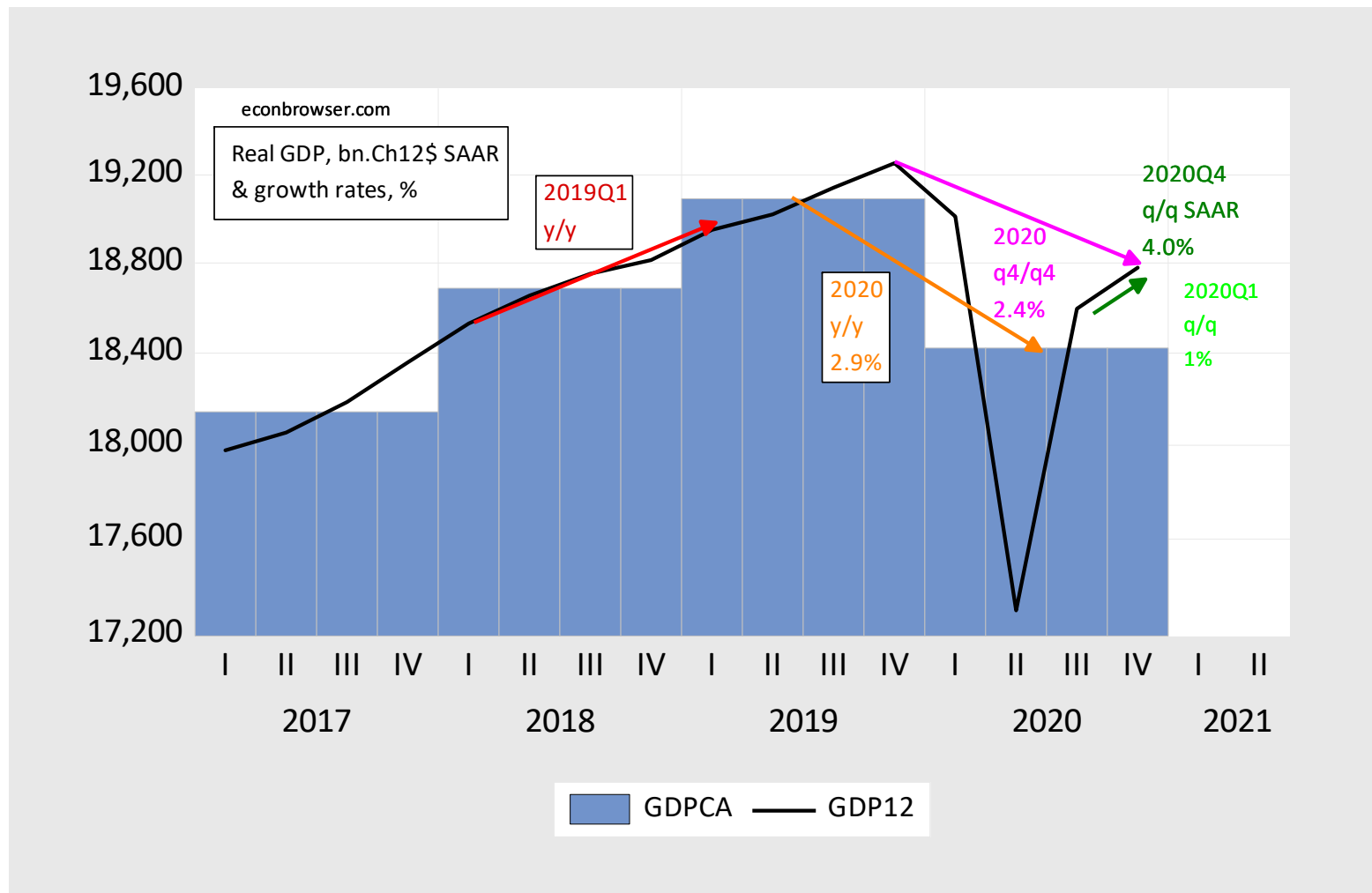
- GDP in Brief
- Macroeconomic Indicators
- Real versus nominal
- Price level, inflation
- National Income Accounting

GDP in Brief

GDP

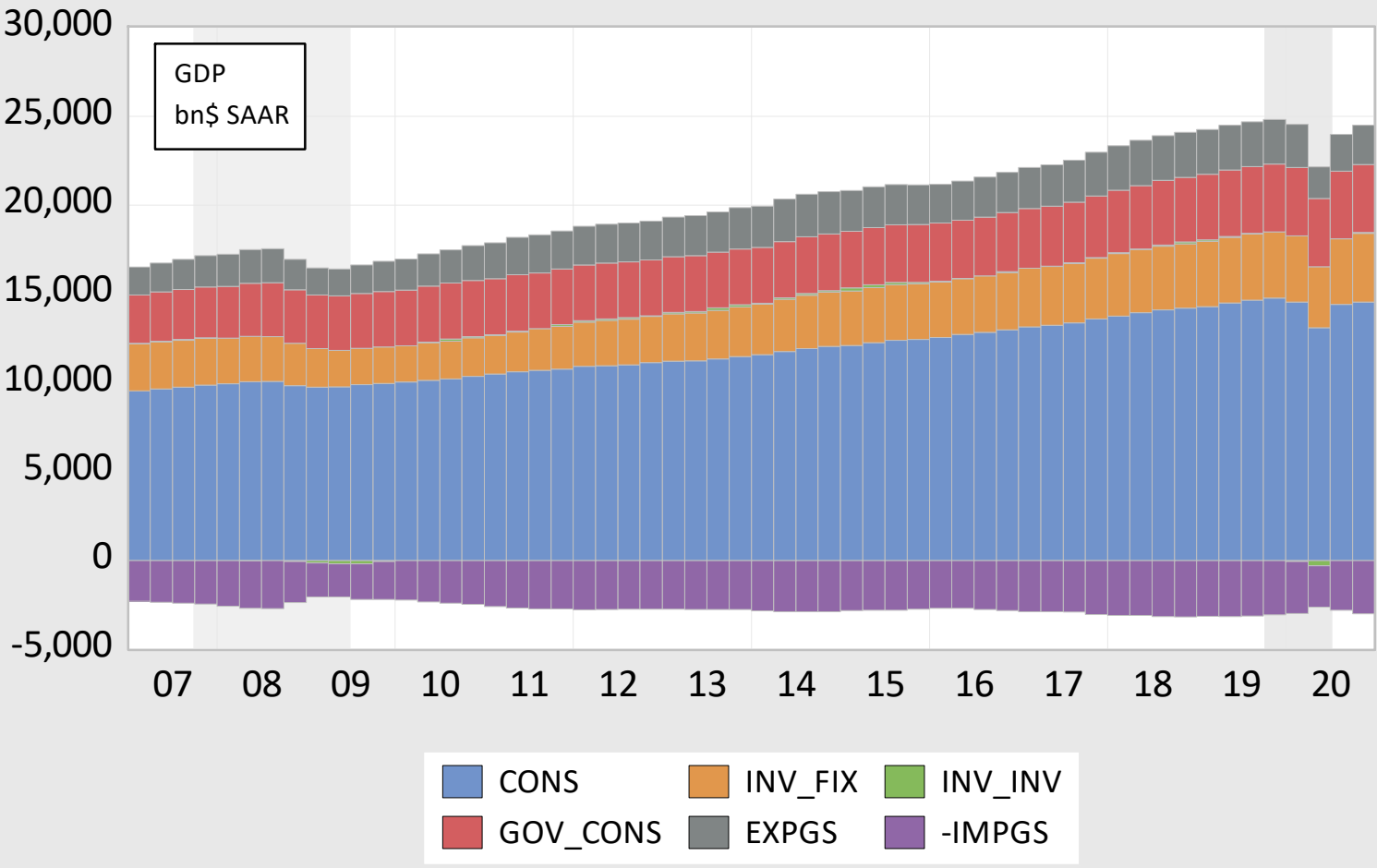
- Sum of value of all final goods and services produced within a given time period (usually a year or a quarter) within borders
- If quarterly, usually adjusted up to yearly rates *if US data* (**S**easonally **A**ddjusted at **A**nnual **R**ates, SAAR) (Europeans do not)
- $GDP = C + I + G + (Ex - Im)$
- All these are “final” goods and services

GDP Levels, Growth Rates



Note: US reports SAAR, almost every other country reports SA, not AR

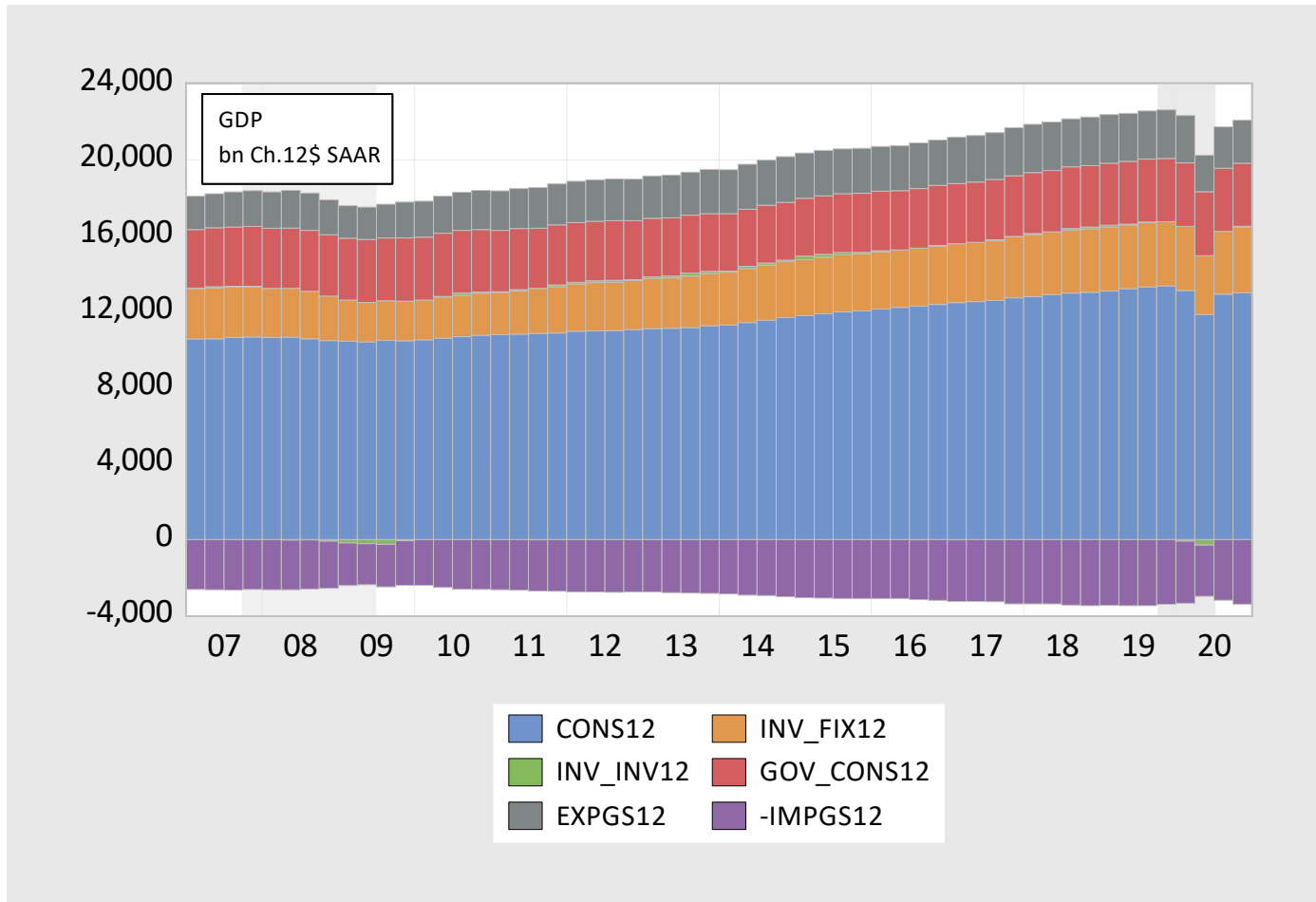
GDP Components



Nominal GDP. BEA, 2020Q4 1st release

Note: Real components don't sum to real GDP

Real GDP Components



Nominal GDP. BEA, 2020Q4 1st release

Note: Real components don't sum to real GDP

GDP Limitations

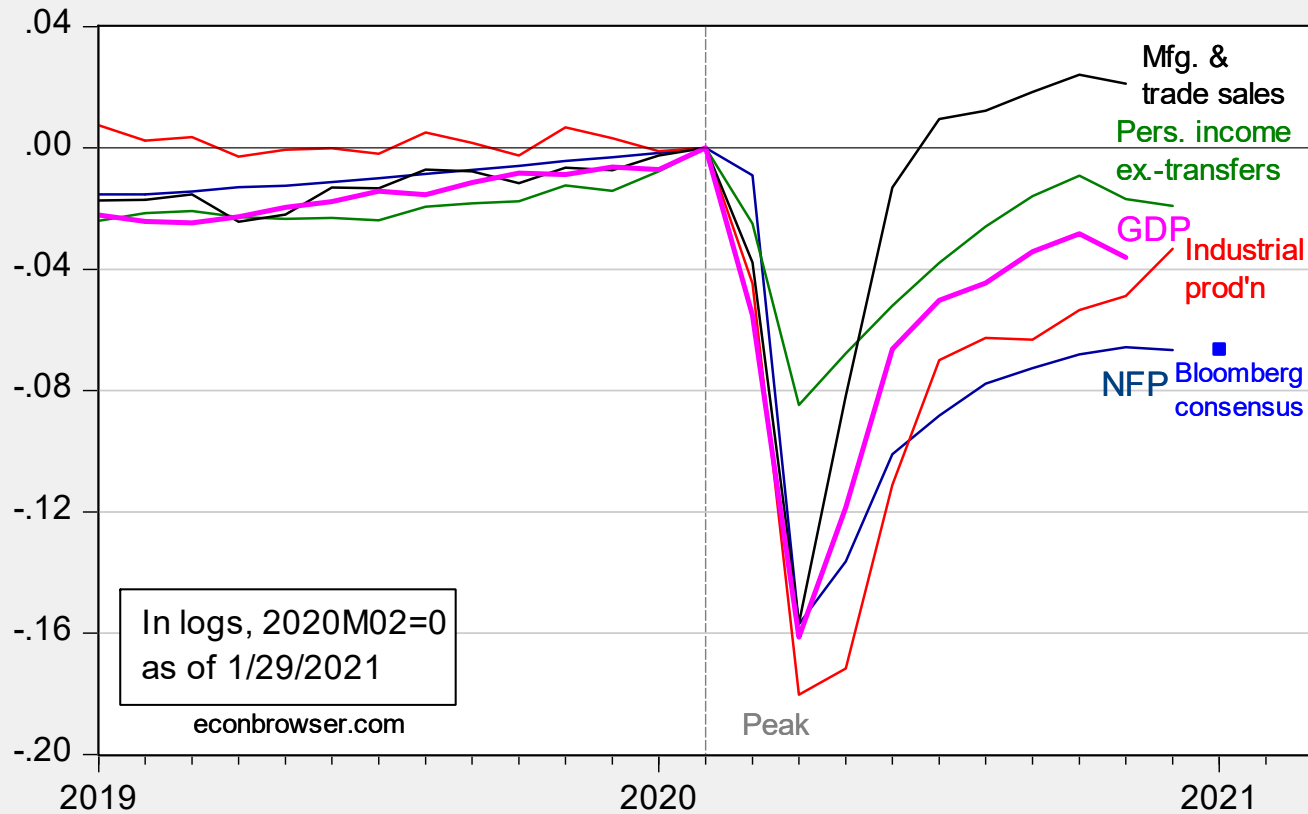
- In principle, only market mediated goods and services
- Hence, doesn't include household work, leisure
- Does not include spillovers, either bad or good – i.e., negative & positive externalities
- Does not include depreciation of natural resources
- “Measure of Economic Welfare” does
- **See** <https://www.imf.org/en/Publications/Policy-Papers/Issues/2020/05/18/Measuring-Economic-Welfare-What-and-How-49438>

Macroeconomic Indicators

Macroeconomic Indicators

- GDP is broadest measure of activity
- Has to be estimated, so subject to error, comes with lags, is revised many times over
- Hence, we generally look at more variables that come in at higher frequency

Macroeconomic Indicators



NBER on Recessions

- A recession is a significant decline in economic activity spread across the economy, normally visible in production, employment, and other indicators. A recession begins when the economy reaches a peak of economic activity and ends when the economy reaches its trough. Between trough and peak, the economy is in an expansion.
- Because a recession is a broad contraction of the economy, not confined to one sector, the committee emphasizes economy-wide indicators of economic activity. The committee believes that domestic production and employment are the primary conceptual measures of economic activity.

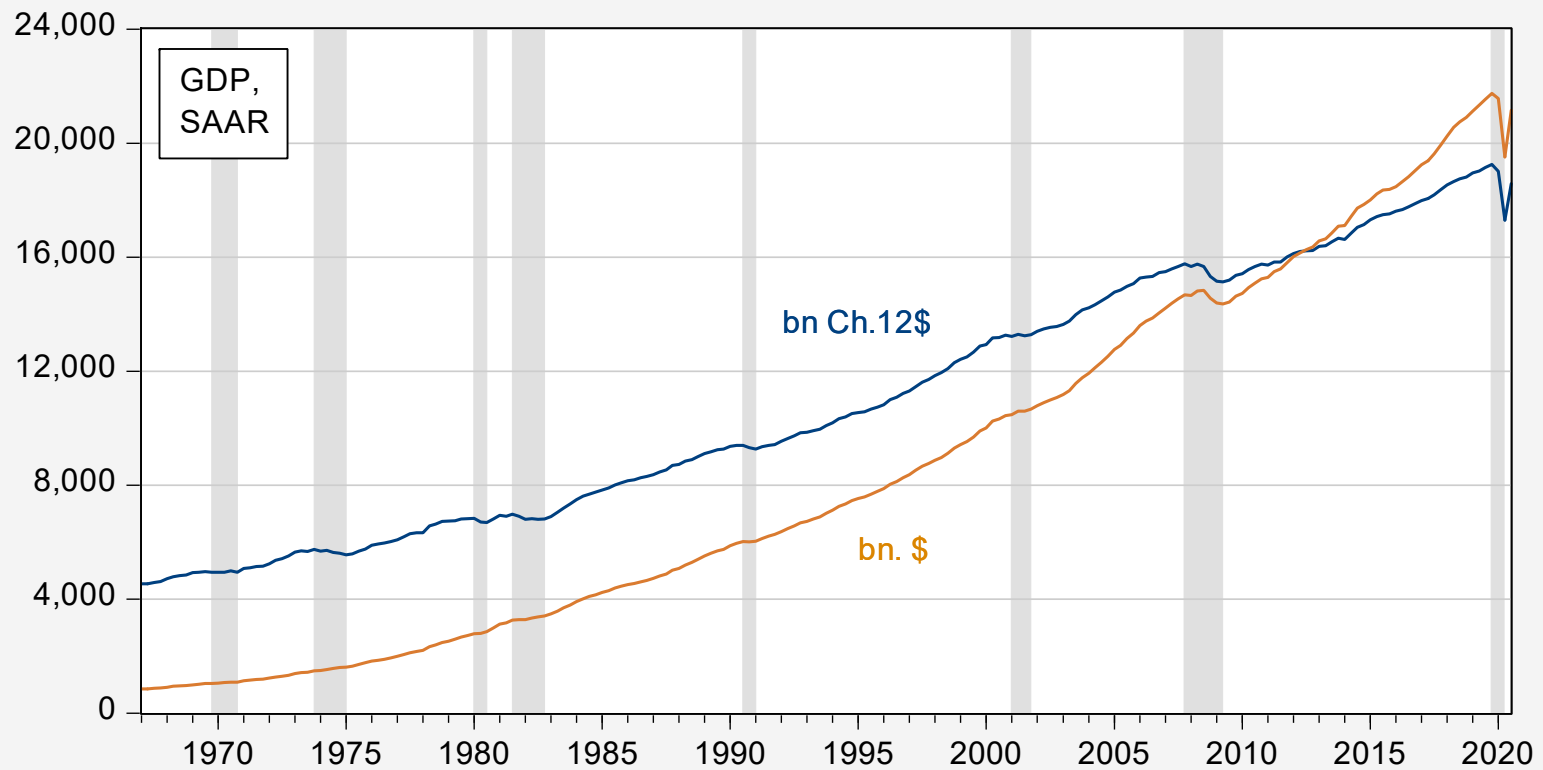
<http://www2.nber.org/cycles/june2020.html>

Real vs. Nominal

Real vs. Nominal

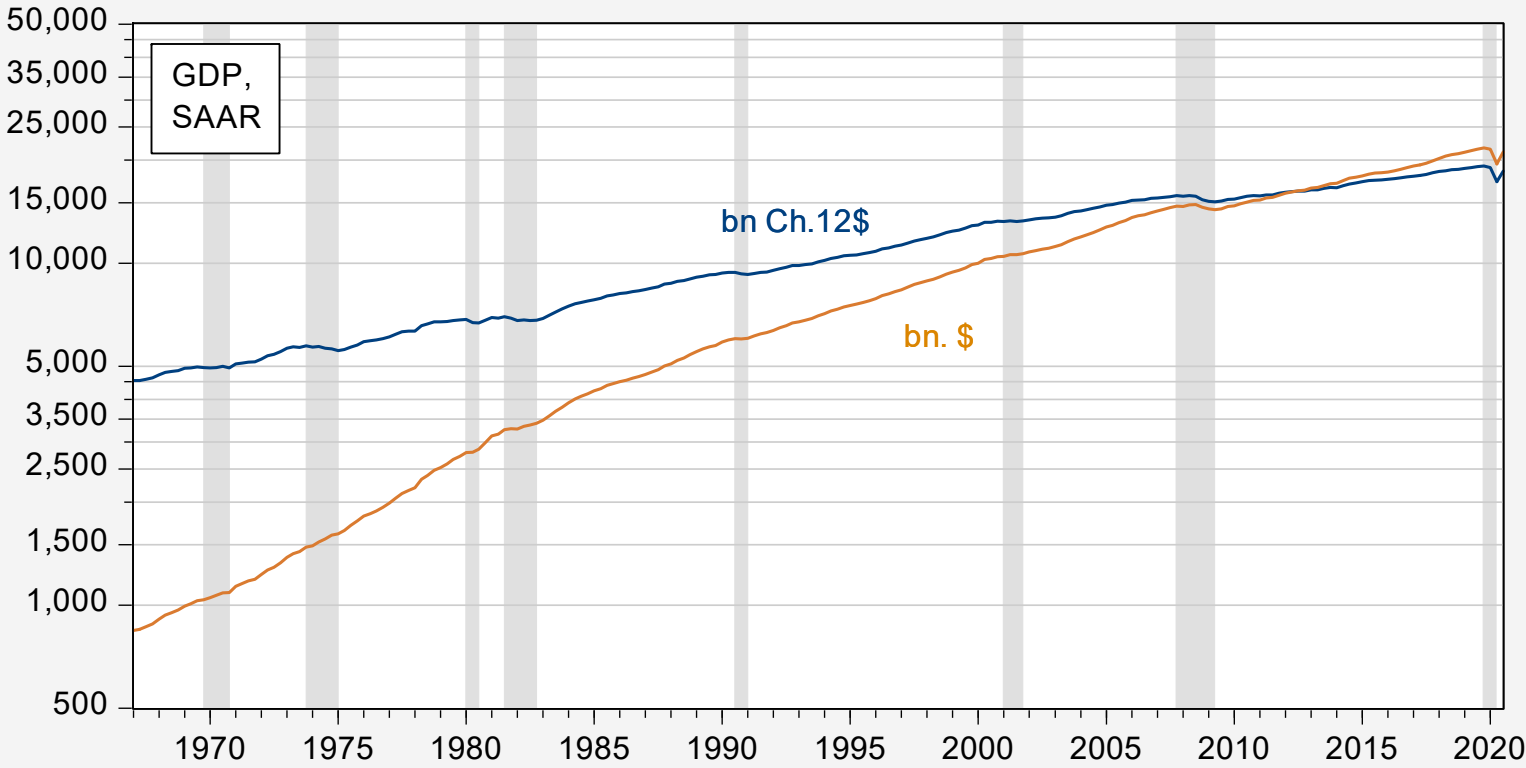
- Nominal values are expressed at values recorded. GDP is just all the values of items spent on, added up.
- Real values control for the general price level, to get in principle “quantities”.
- Nominal Value/Price index = Real Quantity
(e.g., divide consumption by consumption price level)
- Nominal Price/Price index = Relative Price
(e.g., divide oil price by consumption price level)

Nominal vs. Real



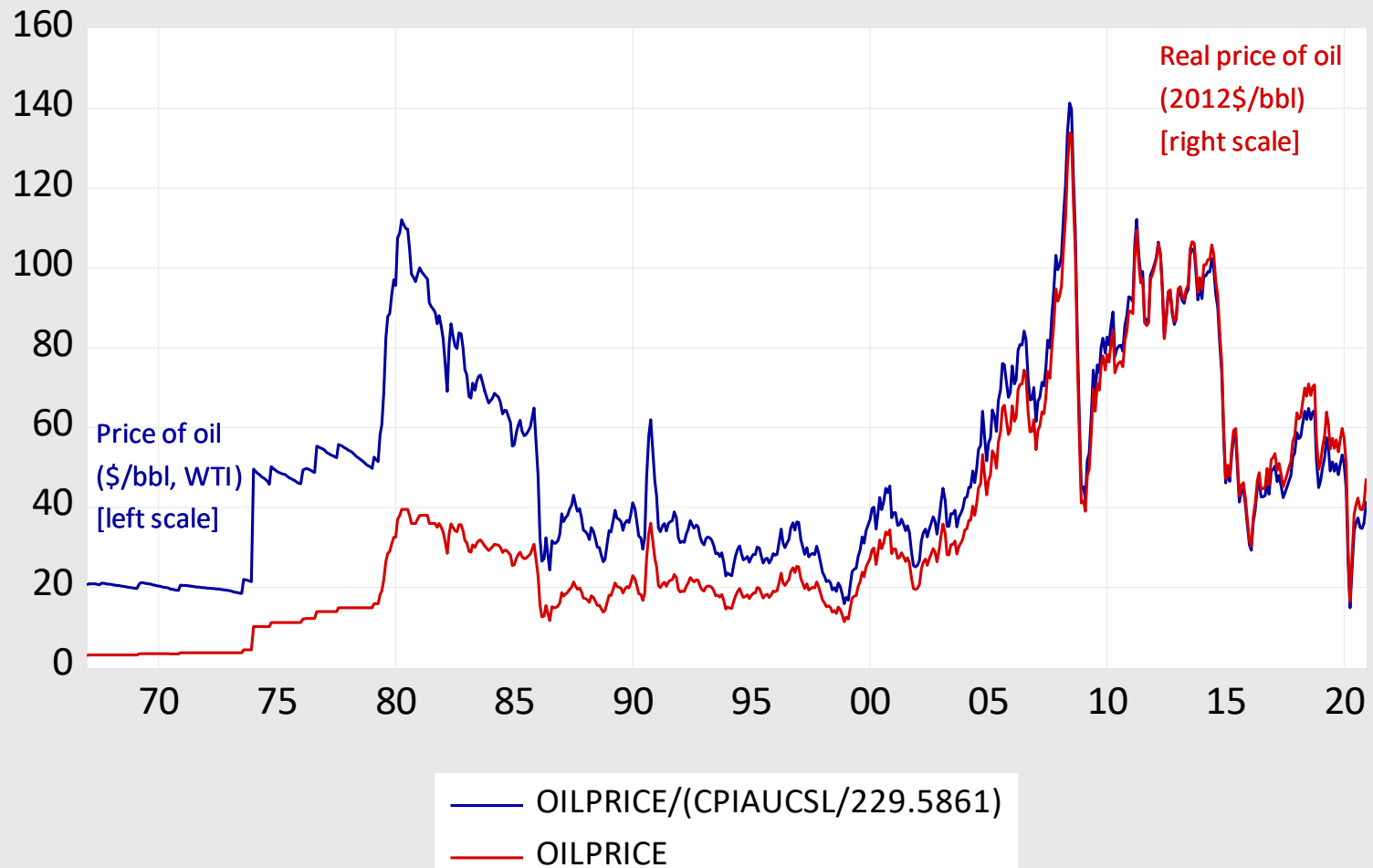
Nominal GDP. BEA, 2020Q3 2nd release

Nominal vs. Real (log scale)



Nominal GDP. BEA, 2020Q3 2nd release

Relative Price (of Oil)

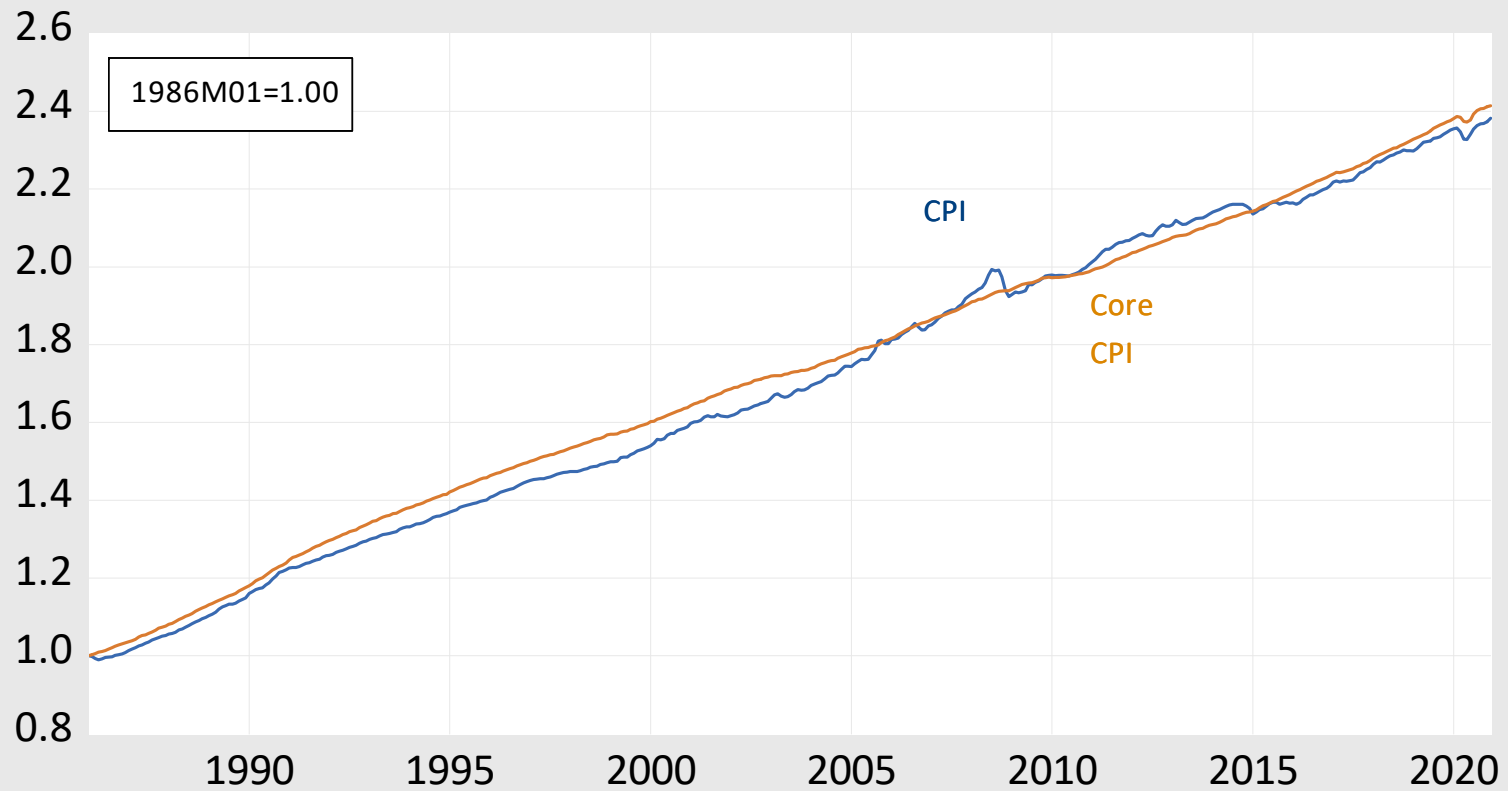


Price Level vs. Inflation

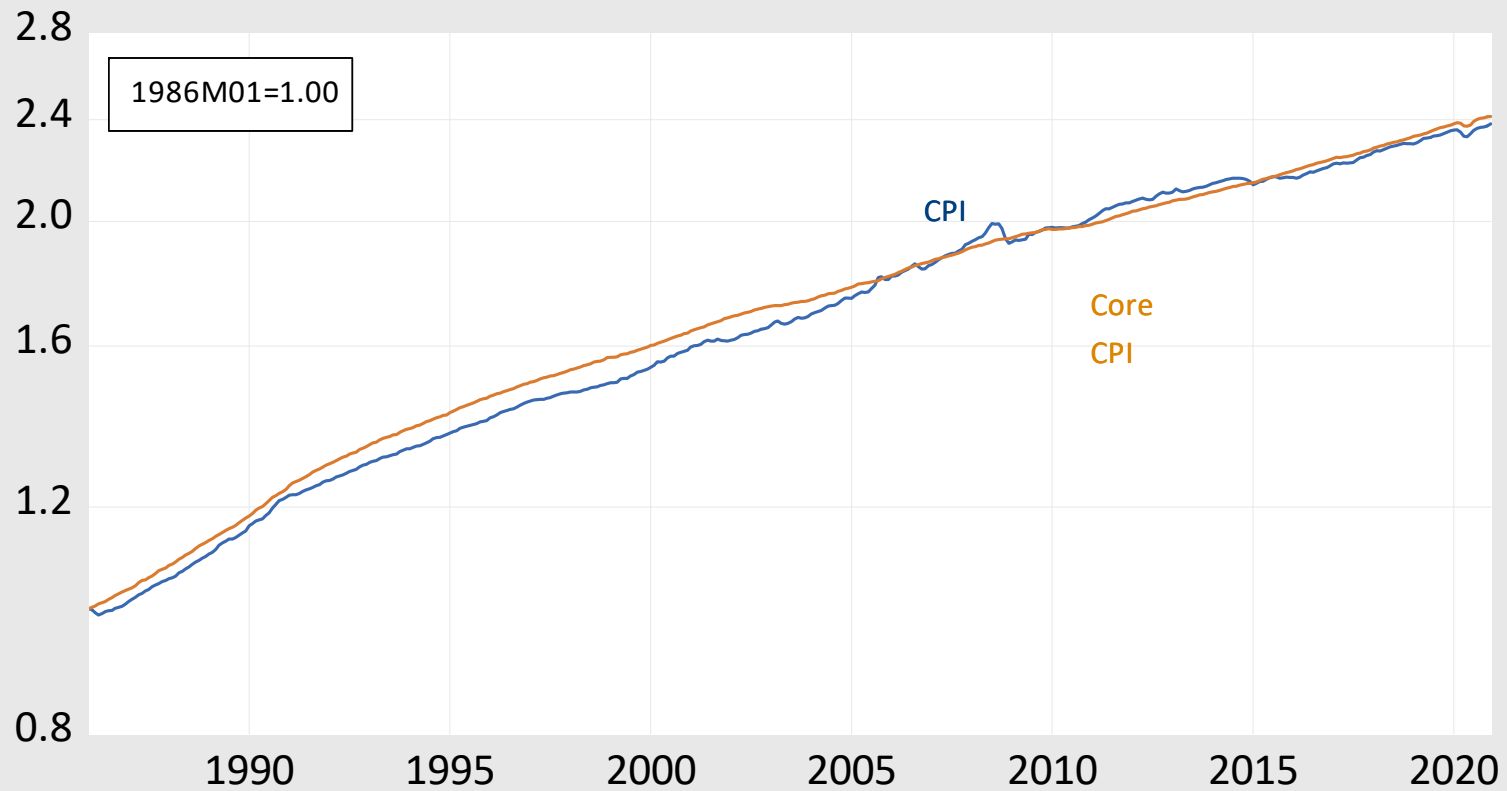
Price Level vs. Inflation

- 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

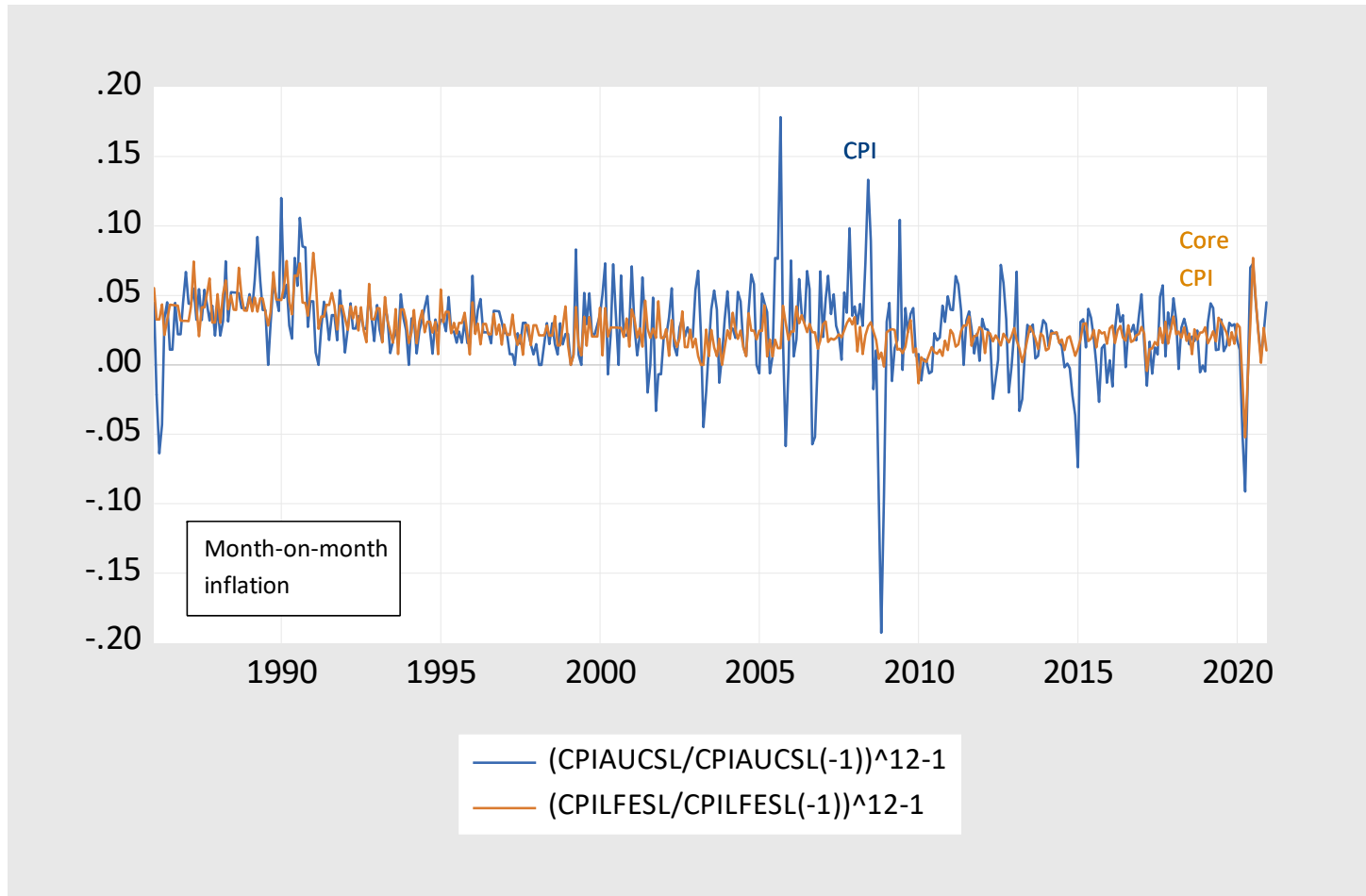
Price Levels, Normalized



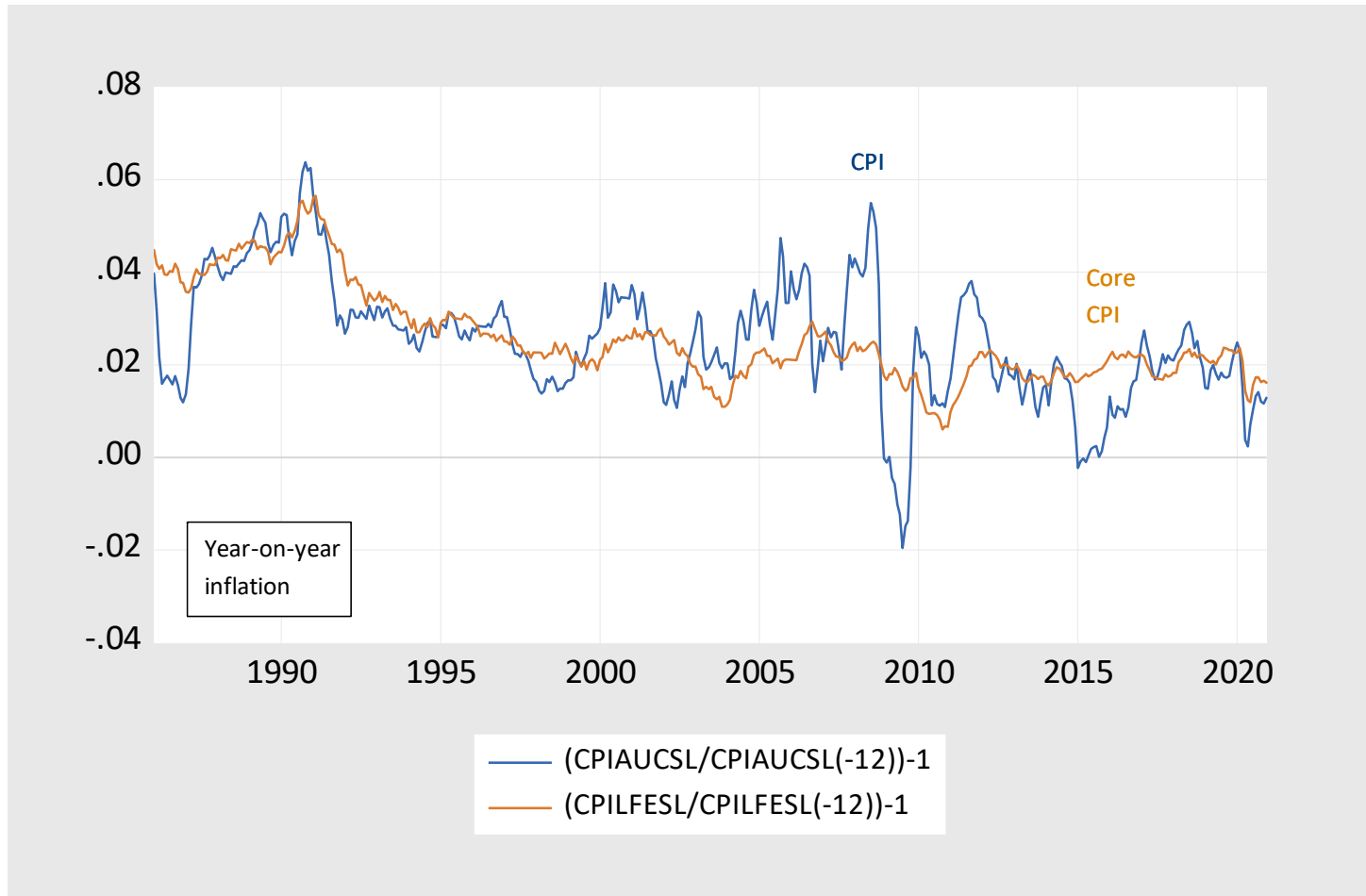
Price Levels, Normalized, Logs



Inflation: Month-on-month (annualized)

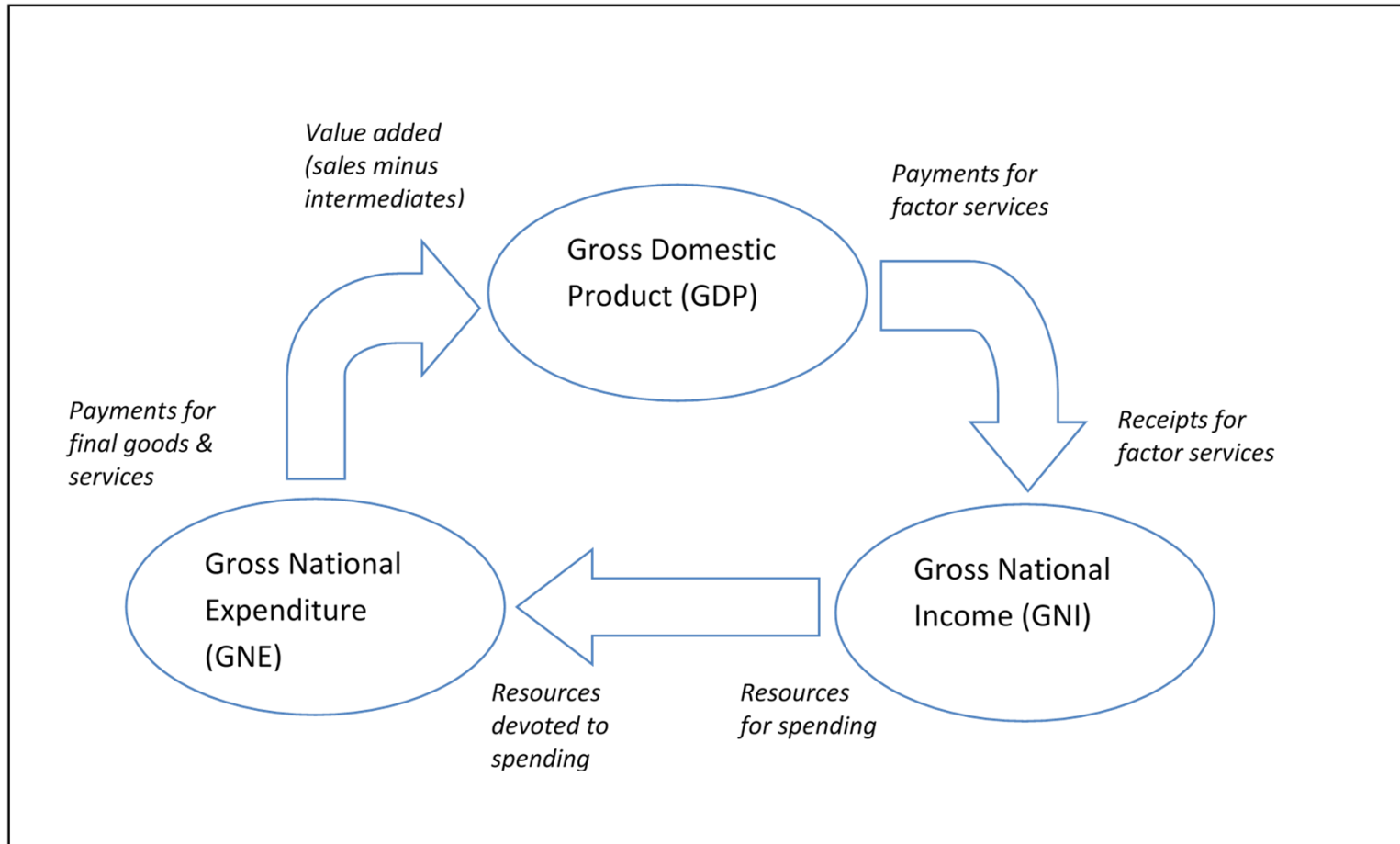


Inflation: Year-on-year



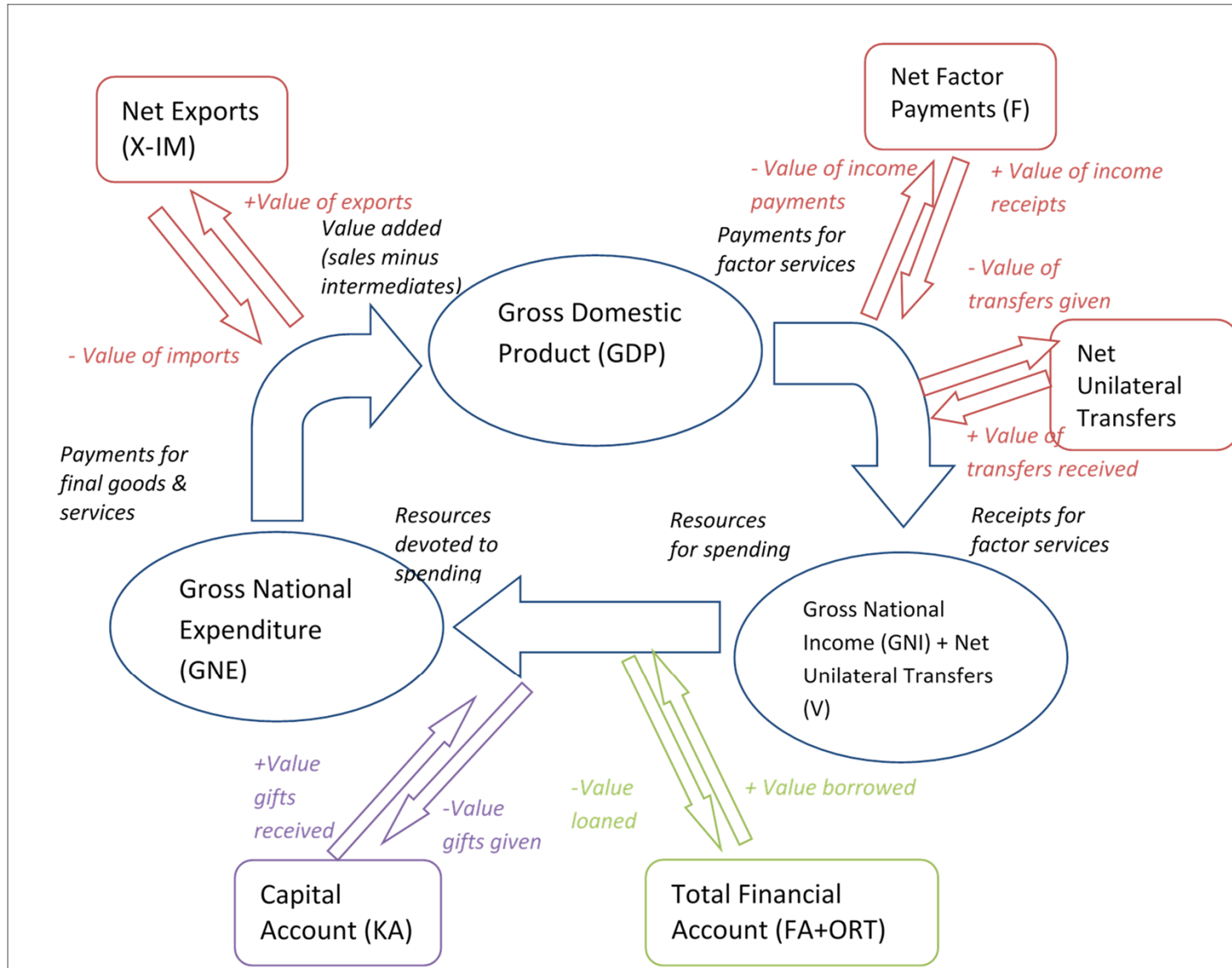
National Income Accounting

The Closed Economy



$$(11.1) \quad GNI \equiv GDP \equiv GNE \equiv C + I + G$$

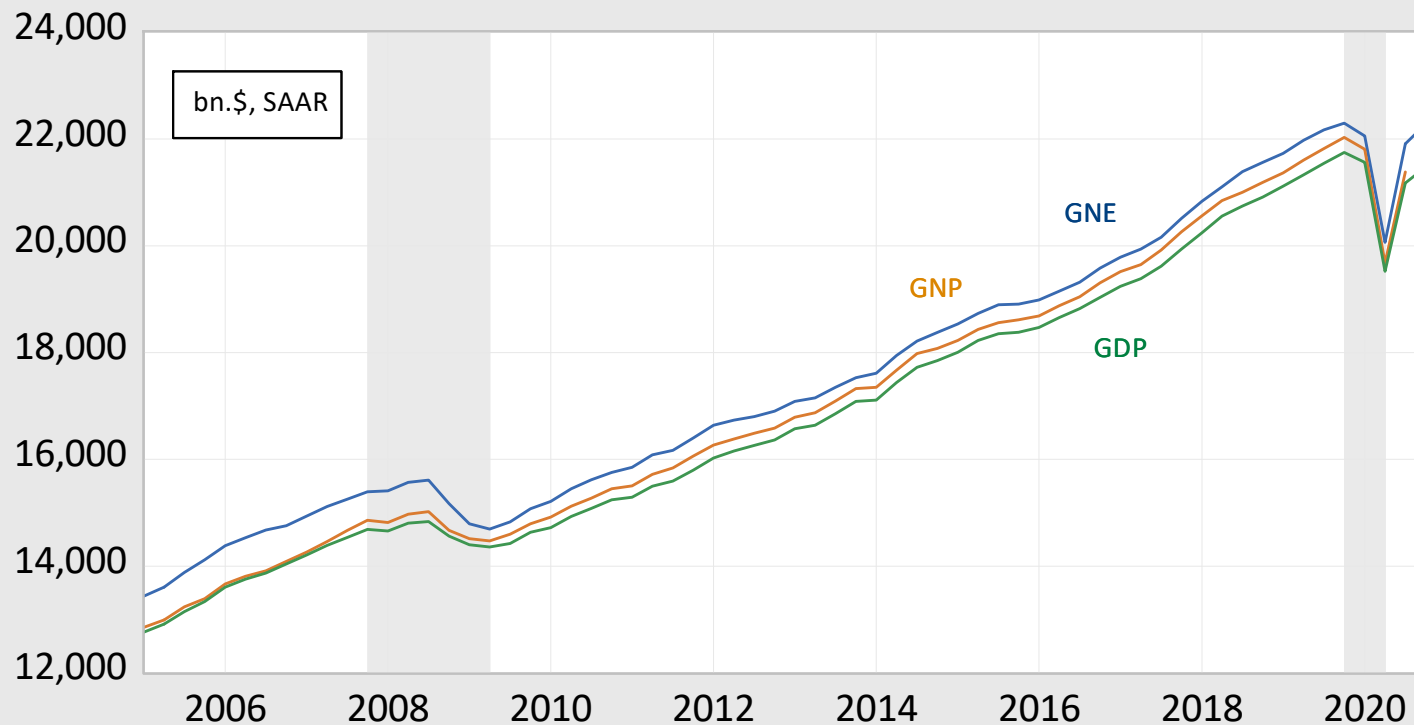
The Open Economy



The Open Economy

$$(11.2) \quad GDP \equiv C + I + G + (X - IM) \equiv C + I + G + NX$$

$$(11.3) \quad GNP \equiv GDP + F + V \equiv C + I + G + CA$$



National Saving Identity

- Ignoring depreciation, a country's saving in excess of uses must equal saving sent to rest of the world

$$(11.4) \quad Y \equiv C + I + G + CA$$

$$(11.5) \quad C + S + T \equiv Y$$

$$(11.6) \quad C + S + T \equiv C + I + G + (X - IM) + F + V$$

$$(11.7) \quad (S - I) + (T - G) \equiv (X - IM) + F + V \equiv CA$$

Private saving
Investment balance

Govt budget
balance

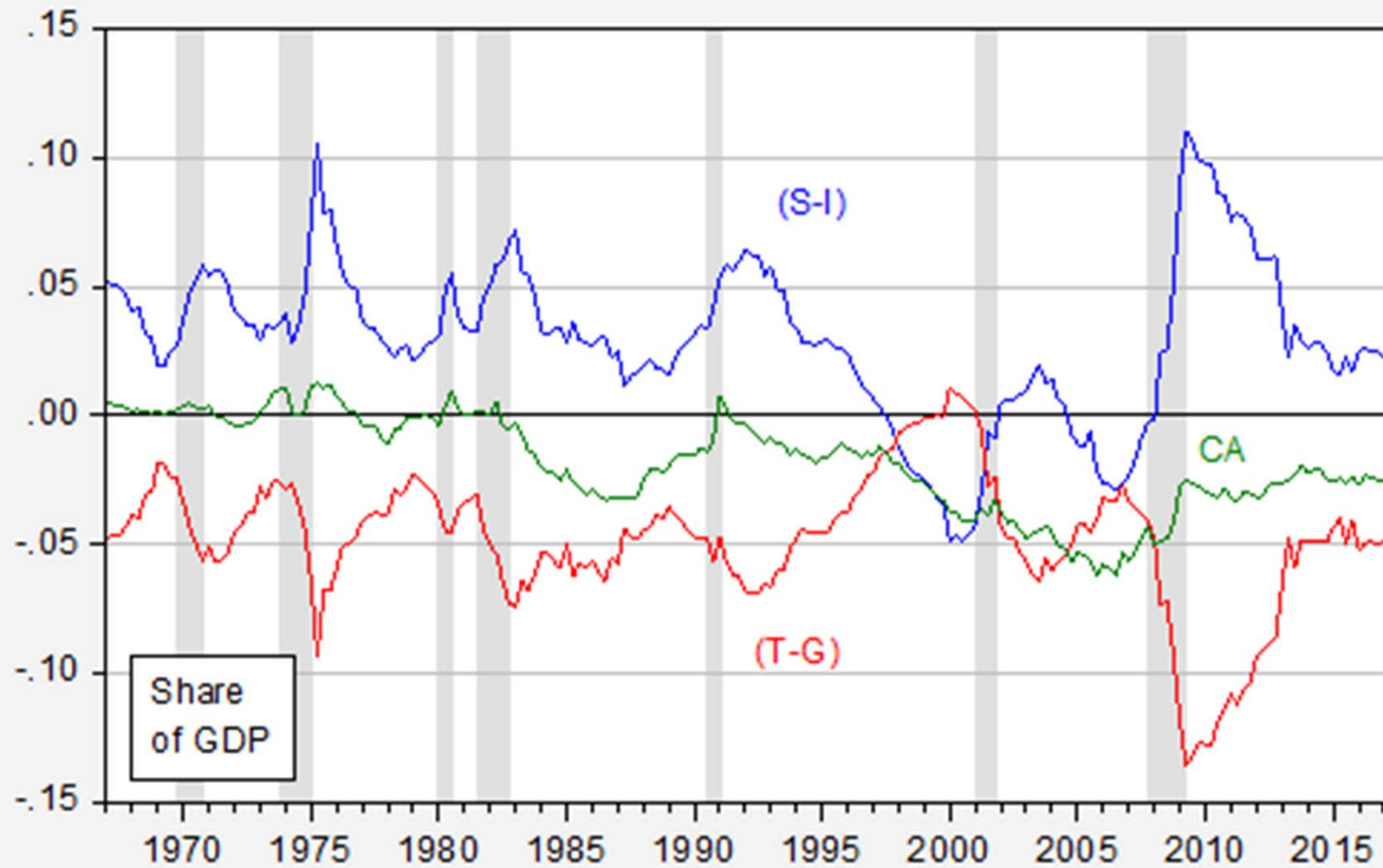
Net Exports

Net
income

Net
Transfers

Current
Account
balance

National Saving Identity



National Saving Identity

- No causality is imputed in an identity

$$(11.7) \quad (S - I) + (T - G) \equiv (X - IM) + F + V \equiv CA$$

Private saving

Investment balance

Govt budget

balance

Current
Account
balance

- In 1980's, budget deficit and current account deficit arose = "twin deficits"
- But we can't say w/o a model if (T-G) caused CA or vice versa

Next Lecture

- Balance of Payments Accounting