Overview of the discussion

- What "Street" economists do
- How we do economics differently

Economics on Wall Street

- Non-financial business
  - Only limited interest in macroeconomic trends
  - More interest in microeconomics

- Financial business
  - Very interested in macroeconomics
    - All asset classes affected
    - Extreme case: macro hedge funds

Macroeconomics and asset prices

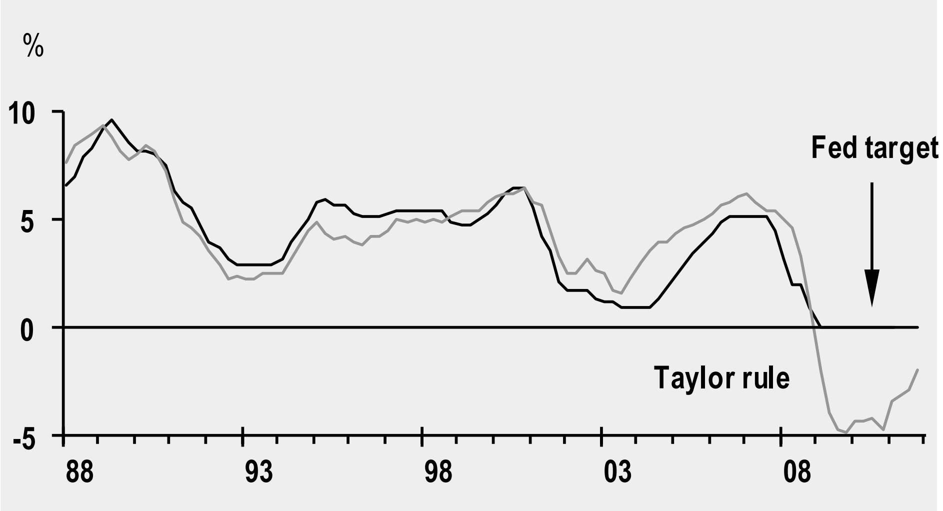
- In general, any asset price is the product of:
  - an expected future payoff (for example, a coupon or a dividend) and
  - how that future payoff is valued in today's terms (that is, the interest rate used for discounting).

- Macroeconomic forces influence both the asset's payoff and the discounting factor, or interest rate.

Interest rates and macroeconomics

- Simplest asset: Treasury security (no risk*, no embedded options).
- Payoff is simple, what's interesting is the discounting: the interest rate.
- Long term interest rates = expected average short term interest rate + term premium.
- Shortest-term interest rate set by the central bank.
  - Central bank sets short term rate following news on growth and inflation.
- Thus, Treasury rates are expectations of central bank action on growth and inflation.
- Very long term rate (30 years) the influence of current economic developments is limited. Shorter duration (2 years) more influenced by current economy.

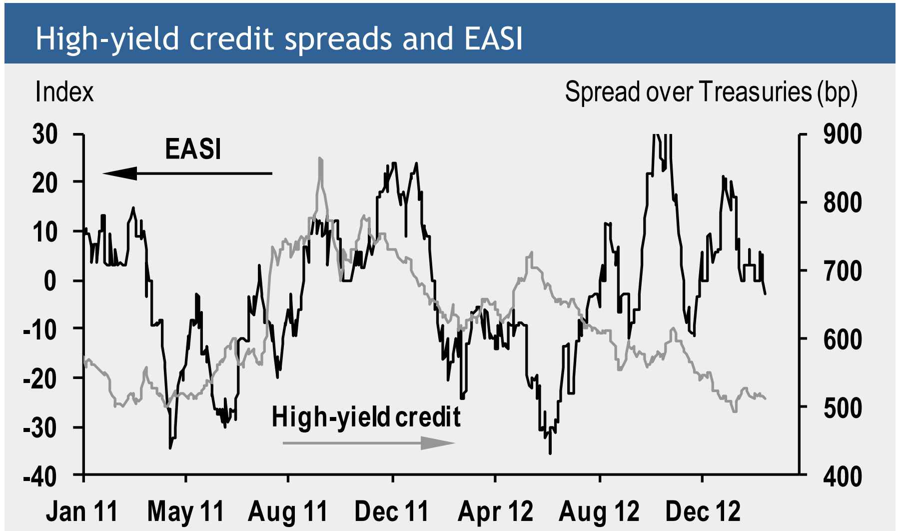
Taylor rule and target federal funds rate



Taylor rule: rough formula that describes how a central bank should set short-term interest rates. From the rule, short-term rates rise with inflation and fall with the unemployment gap.

Credit and macroeconomics

- Credit: a claim on corporations operating income.
- Credit returns are commonly cited as a spread over comparable Treasury returns.
- Credit spreads a reflection of default risk, and investors appetite for that risk.
    - Stronger growth -> lower default risk.

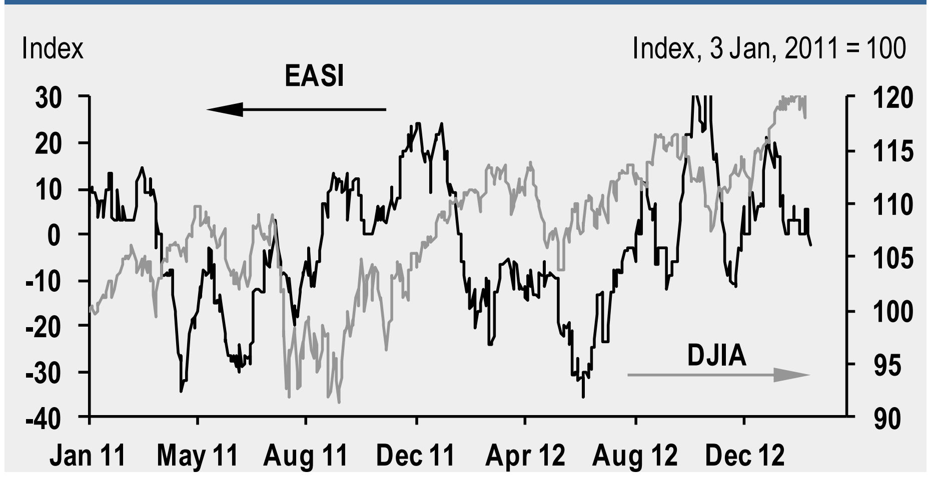


EASI: Economic Activity Surprise Index. A measure of the degree to which economic indicators were surprisingly strong (+) or weak (-).

Equities and macroeconomics

- Equity asset pricing: discounted stream of future corporate earnings.
- Discount factor is interest rates
  - Strong growth, higher inflation -> higher interest rate -> lower equity prices.
- Corporate earnings: revenue less expenses. Revenue growth tied to economic growth.
  - Strong growth -> higher earnings -> higher equity prices.

DJIA and the EASI



Unlike interest rates, equity prices don't have a simple relation to macroeconomic variables. Equities like growth, but not so much growth that the central bank raises interest rates.

Currencies and macroeconomics

Two broad frameworks for thinking about currencies and macroeconomics.

- PPP (purchasing power parity): useful in the long run, or thinking about currencies in high-inflation countries.

- Interest rate parity: probably more useful in shorter-run analysis or with pairs of low inflation countries.

- In interest rate parity framework, all of the earlier cited impacts of macroeconomics on interest rates apply, times two.

Dollar and EASI

Note: no framework works very well, currency behavior remains somewhat of a mystery.

A simple macroeconomic framework

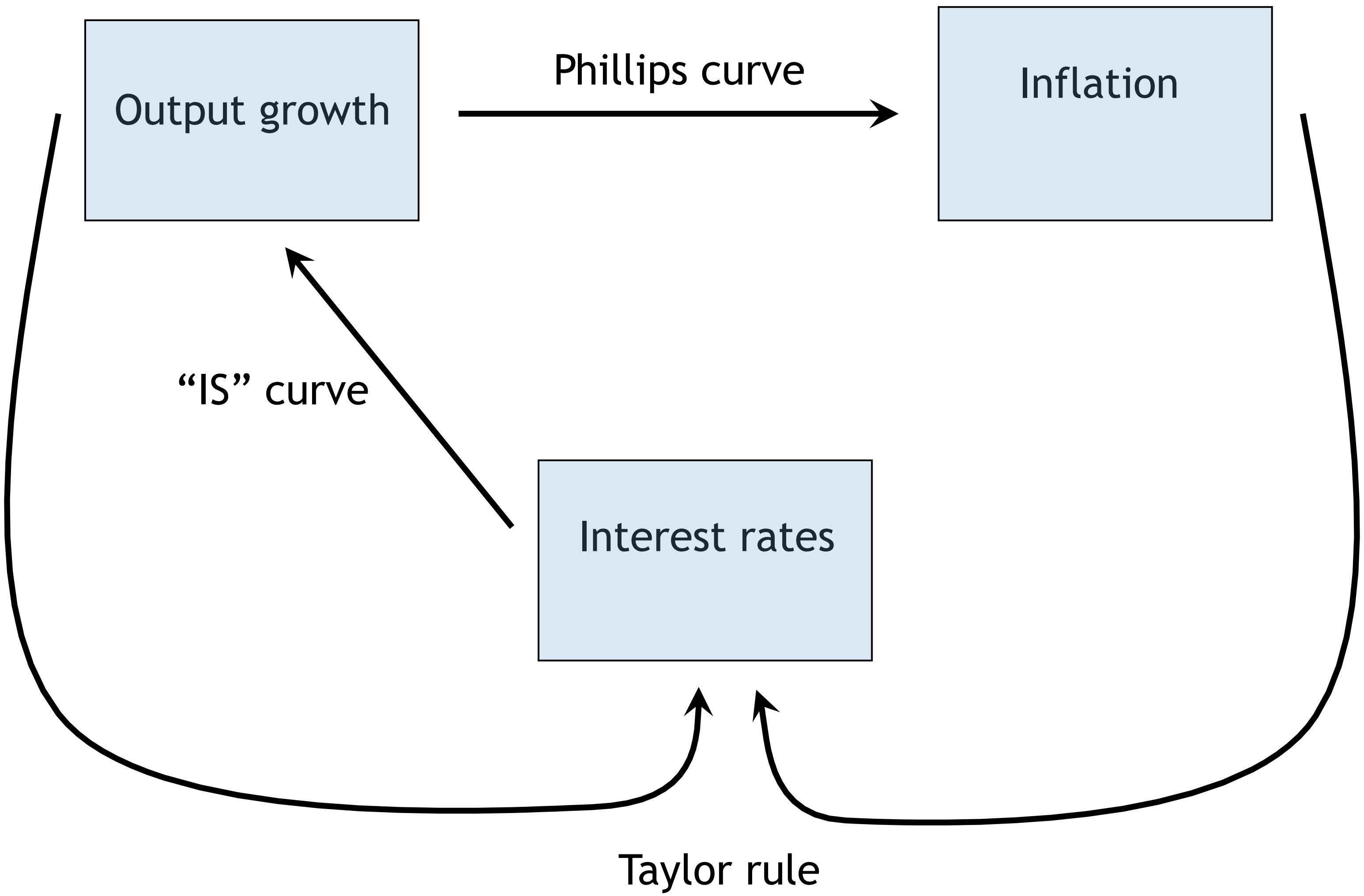
The main variables of interest:

- Output growth, or GDP growth, or just simply growth
- Inflation
- Interest rates

The main relations:

- Output growth is a function of interest rates, plus “other stuff” (changes in tax policy, natural disasters, etc.)
- Inflation is a function of output growth, relative to potential output growth, plus “other stuff” (import prices, energy prices, etc)
- The interest rate set by the Fed is a function of inflation and output growth and “other stuff” (credibility, financial crises, etc)

A simple macroeconomic framework



Data watching growth

GDP, the central focus in assessing growth, is defined as the market value of all final goods and services produced in a country in a given period.

Three ways of measuring GDP which are equivalent (in principle):

- **The expenditure measure**. Output is measured by the type of final purchase: consumption, investment, government spending and net exports. This is the preferred measure in the most countries.
- **The industry output measure**. The sum of value added across industries. This is the preferred measure in fewer countries.
- **The income measure.** The costs incurred and income earned in producing output; often divided into labor compensation, several components of capital income, and some other small technical categories. This is a subsidiary measure of output in most countries.

Importance of GDP

- **Traditional reason.** The usual stuff: determines employment, inflation pressures -> interest rates

- **Consistency of thought reason**
  - Example: Residential investment is in the I in Y=C+I+G+NX
  - Is residential construction employment a spillover?

- **Data watching reason.** Disciplines an economic view: you can choose your friends but you can't choose your GDP
  - Financial markets unconvinced of macro forecasting models

GDP as a check on biases

http://www.isigrp.com/isia/spdf.jsp;02-11emme.pdf?f=02-11emme.pdf&c=112163&y=2013 - Windows Internet Explorer provided by JPMor

ISI INTERNATIONAL STRATEGY & INVESTMENT

Weekly Economic Report

Mon Feb 11 2013

Ed Hyman, Nancy Lazar, Dick Rippe, Karina Mayer, Jaewoo Nakajima, Chris Menzenski, CFA, Arif Haque

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"Good News"	"Bad News"
U.S. jobless claims edge down to 366,000	The average retail price of a gallon of regular gas stood at $3.54 on Feb. 4, its highest level since October.
Cash continues to surge into stock mutual funds	Democrats and Republicans warned of the potential damage of Pentagon budget cuts due to hit March 1 but remained split over how to avoid them.
The CBO projected that the deficit will narrow	A Fed official pointed to signs of overheating in some corners of the credit markets
Dell touted a $24.4 billion deal to take itself private	U.S. productivity sinks 2% in fourth quarter
U.S. Trade Deficit Shrinks	Tax Holiday Ends, Consumers Scrimp
Long-term jobless outlook brightens	Factory Orders Weak In Dec
January retail chain store sales strong	German auto sales dropped 8.5% in Jan. vs. a year earlier
Young Executives More Upbeat	
China's Services Industries Expand as Retailing Aids Recovery	
China trade, loan surge boosts economy	
Japan's stock market is staging its biggest rally in years amid optimism stoked by the faltering yen and eco-	
Japan's core machinery orders unexpectedly rose 2.8% in Dec.	

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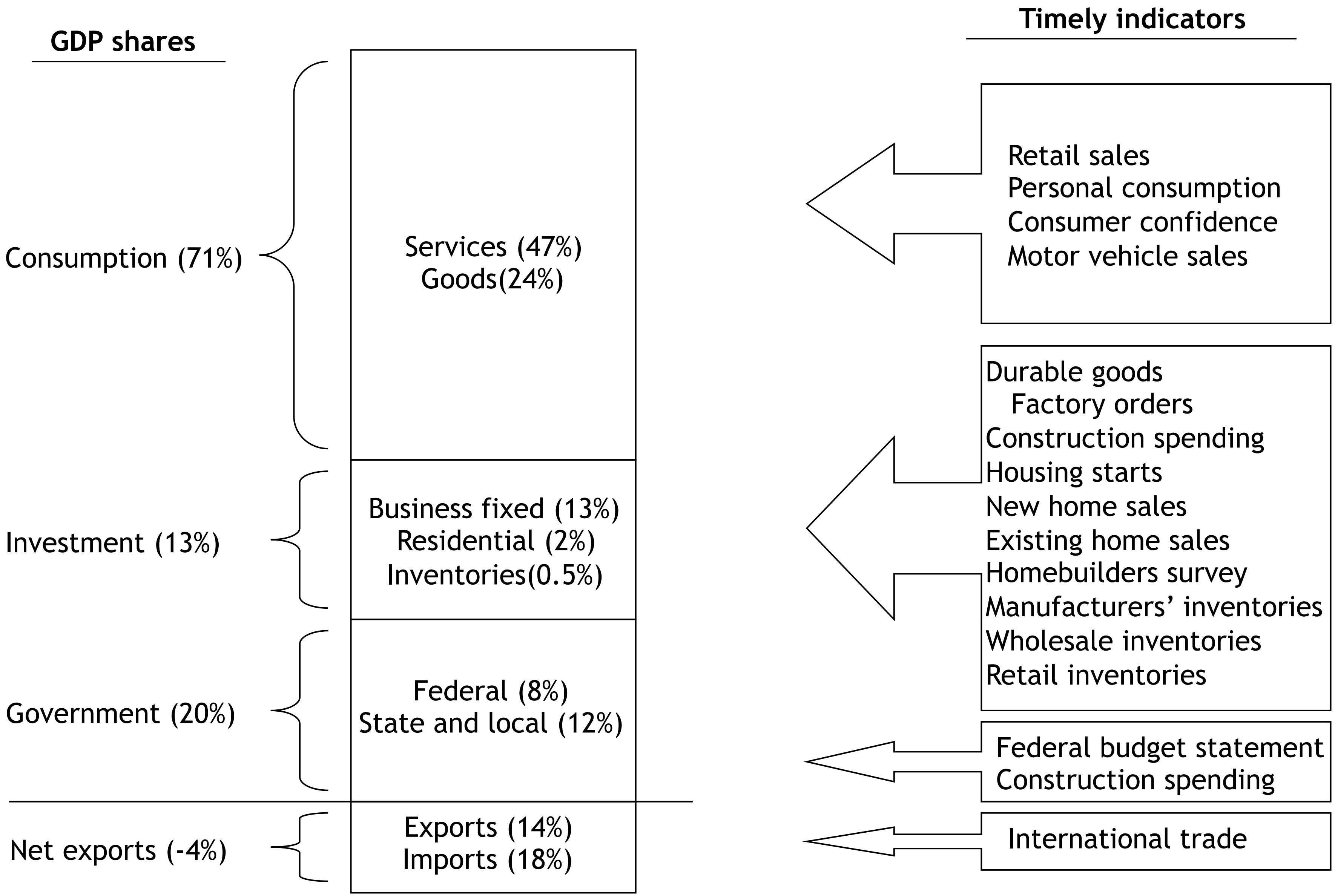
Building up expenditure-based GDP in the US



Building up expenditure-based GDP in the US

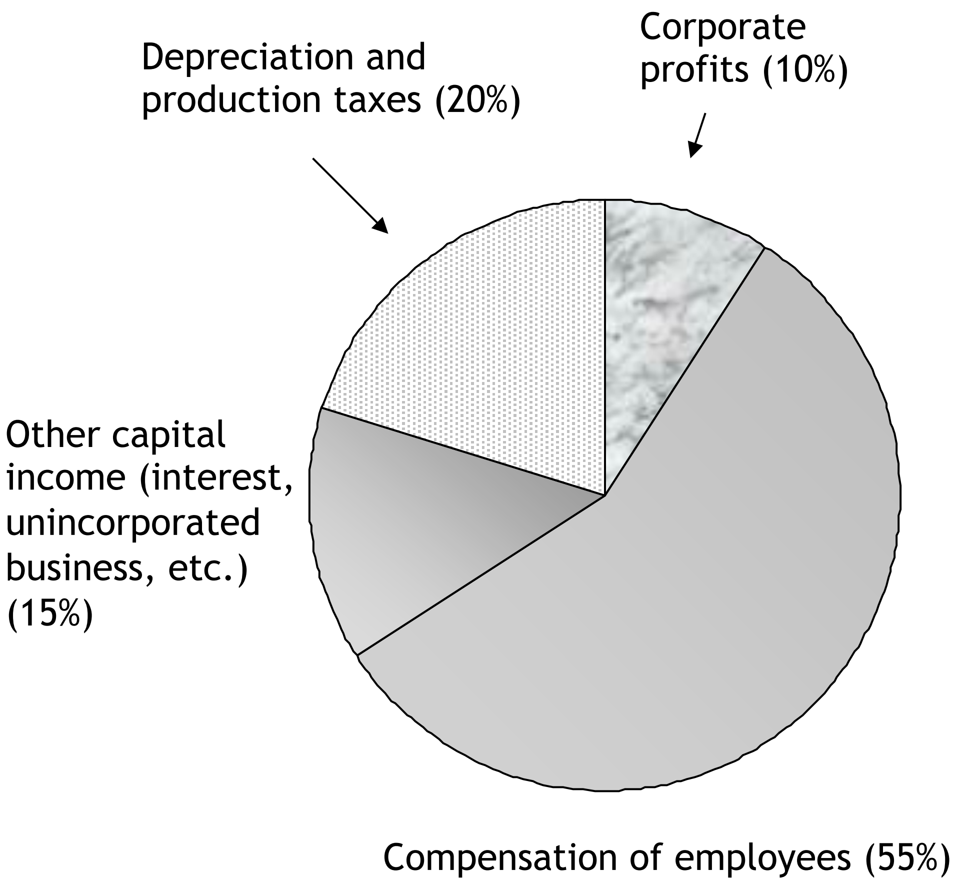
Timely indicators help to estimate how GDP growth is tracking within each quarter. Recent example of this in practice (from JPMorgan's US economic commentary):

- *(January 26)* …orders and shipments for nondefense capital goods (ex-aircraft) both increased 2.9%...Today's report leaves us on track for a 3.0% or 3.1% print on GDP in tomorrow's first look at Q4 growth, and the strength in the capital goods numbers late last quarter sets up a relatively firm trajectory for capital equipment spending heading into Q1.…

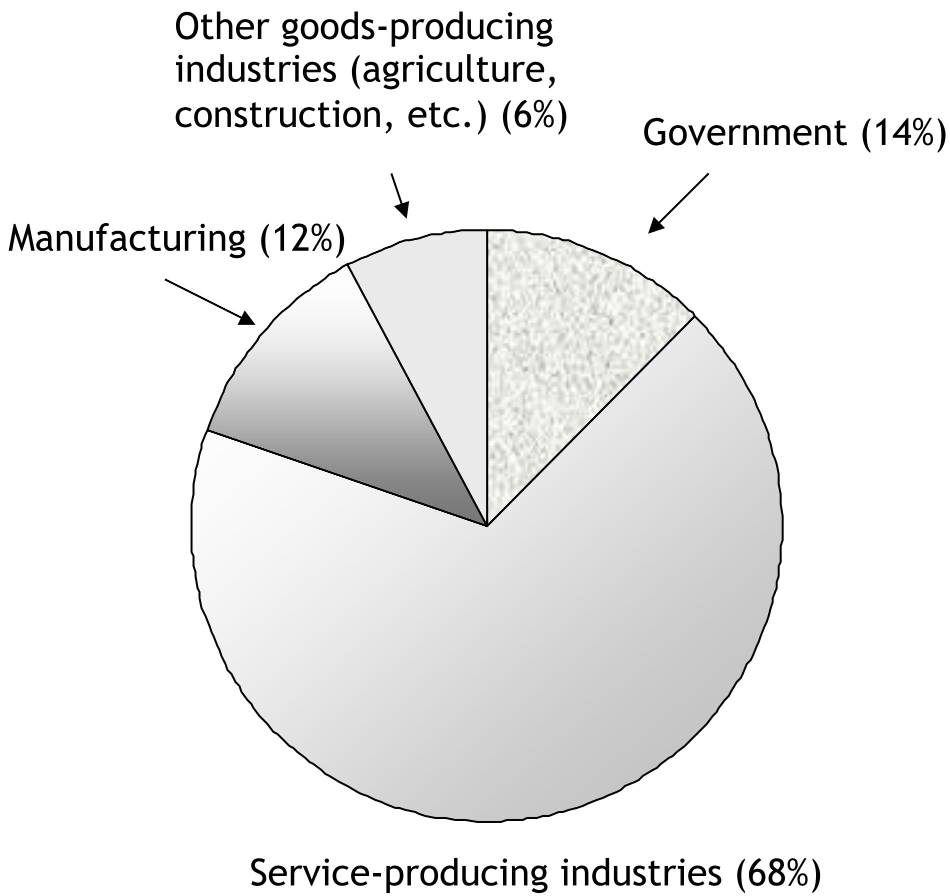
- *(November 15)* …Retail sales were solid in October, increasing 0.5%... We don't have much other hard data for the quarter yet (particularly for imports and inventories, which could be swing factors) but our best estimate is now that overall GDP growth in Q4 is also tracking close to 3.0% (our previous estimate was 2.5%).

Watching income and industry output measures

Gross income



Value added by industry



Timely measures of income and industry output

Income

- Compensation
  - Employment report
  - ECI
  - Personal income
  - Jobless claims
- Corporate profits
  - Quarterly corporate profit report
- Depreciation, other capital income
  - Few timely measures

Industry output

- Manufacturing
  - Industrial production
  - ISM
  - Regional surveys (Philly, Empire State, etc.)
- Services
  - Non-manufacturing ISM, few other indicators (a problem for measuring US economy)

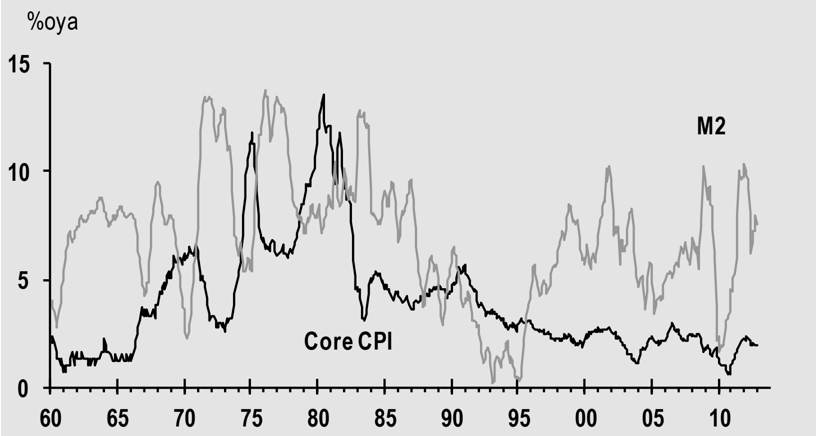
Inflation: some fundamentals

Inflation: a continued rise in the overall price level.

- Milton Friedman: inflation is always and everywhere a monetary phenomenon.

- In the US, however, the link between inflation and measure of monetary aggregates broke down decades ago.

Inflation and the money supply



Inflation: some fundamentals

After money “broke down” US economists returned to analyzing resource utilization as the main driver of the change in inflation rates.

Two approaches:

- Traditional Phillips curve. Given a natural rate of unemployment, or NAIRU, denoted u^*, inflation pressures will be determined by where the actual unemployment rate, u, is in relation to NAIRU. If $u>u^*$, inflation pressures are easing. If $u<u^*$, inflation pressures are building.

- Output gap-based Phillips curve. Given the full-employment potential output of the economy, denoted y^*, inflation pressures will be determined by where the actual output, y, is in relation to potential. If $y<y^*$ (a negative output gap), inflation pressures are easing. If $y>y^*$, (a positive output gap) inflation pressures are building.

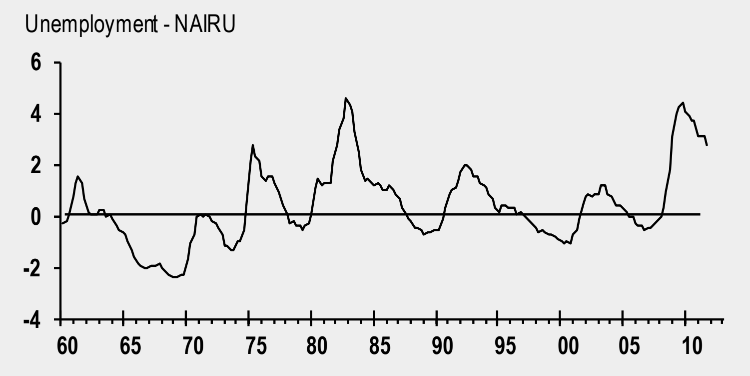
Inflation: some fundamentals

Money replaced with “gaps-based” approach: inflation pressure determined by how far economy operating from its full-capacity potential. There are two problems with practical implementation:

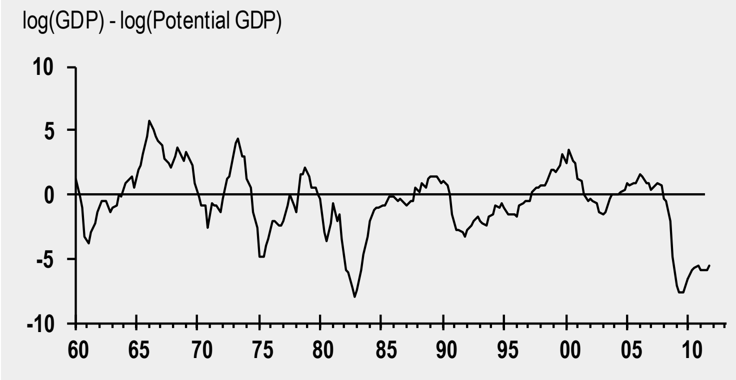
- NAIRU and potential output are unobserved. The estimates we have are often revised after several years.

- In the short-run, other factors such as supply shocks can influence inflation as well as distort the signal of true, underlying inflation

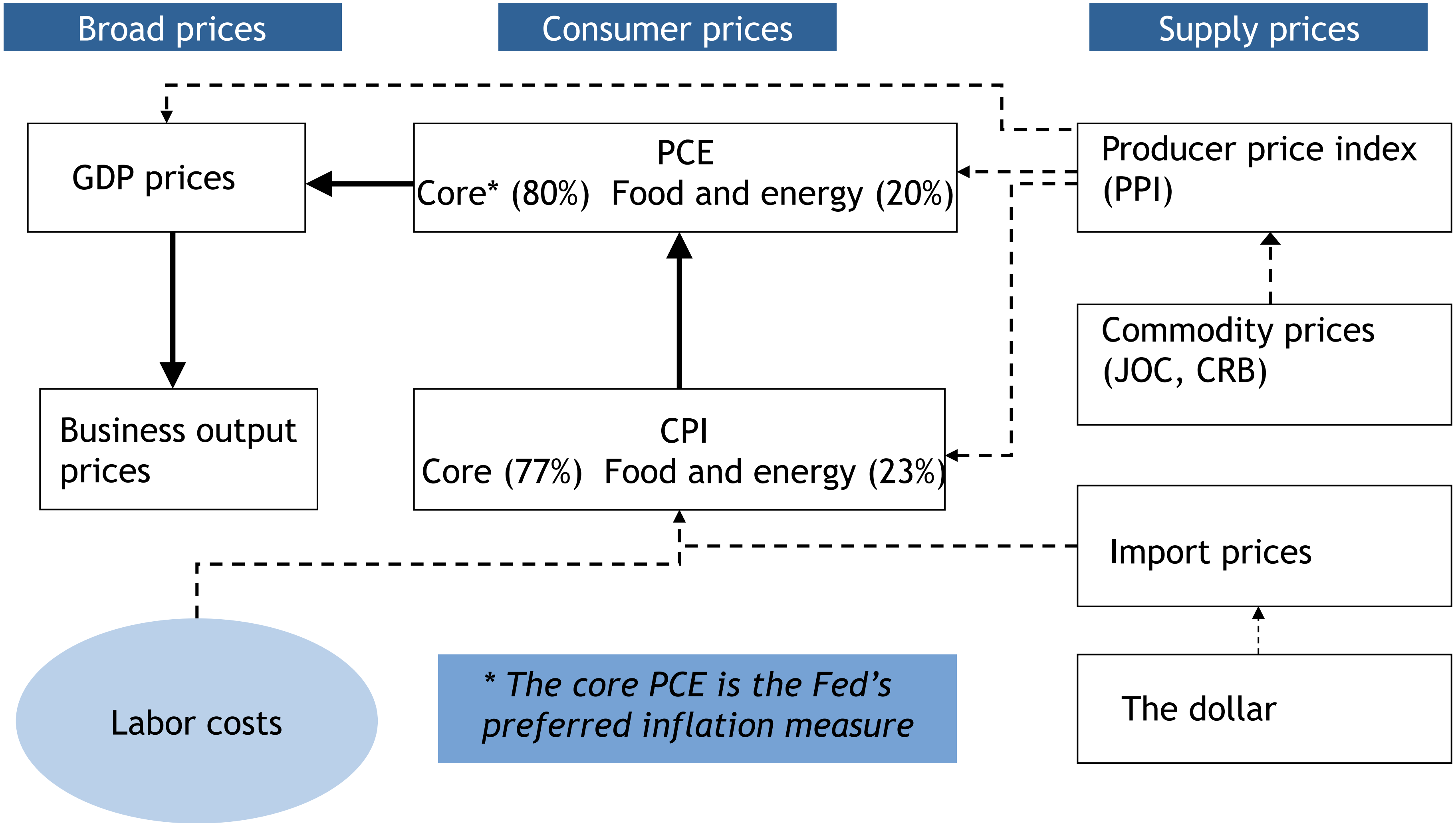
NAIRU gap



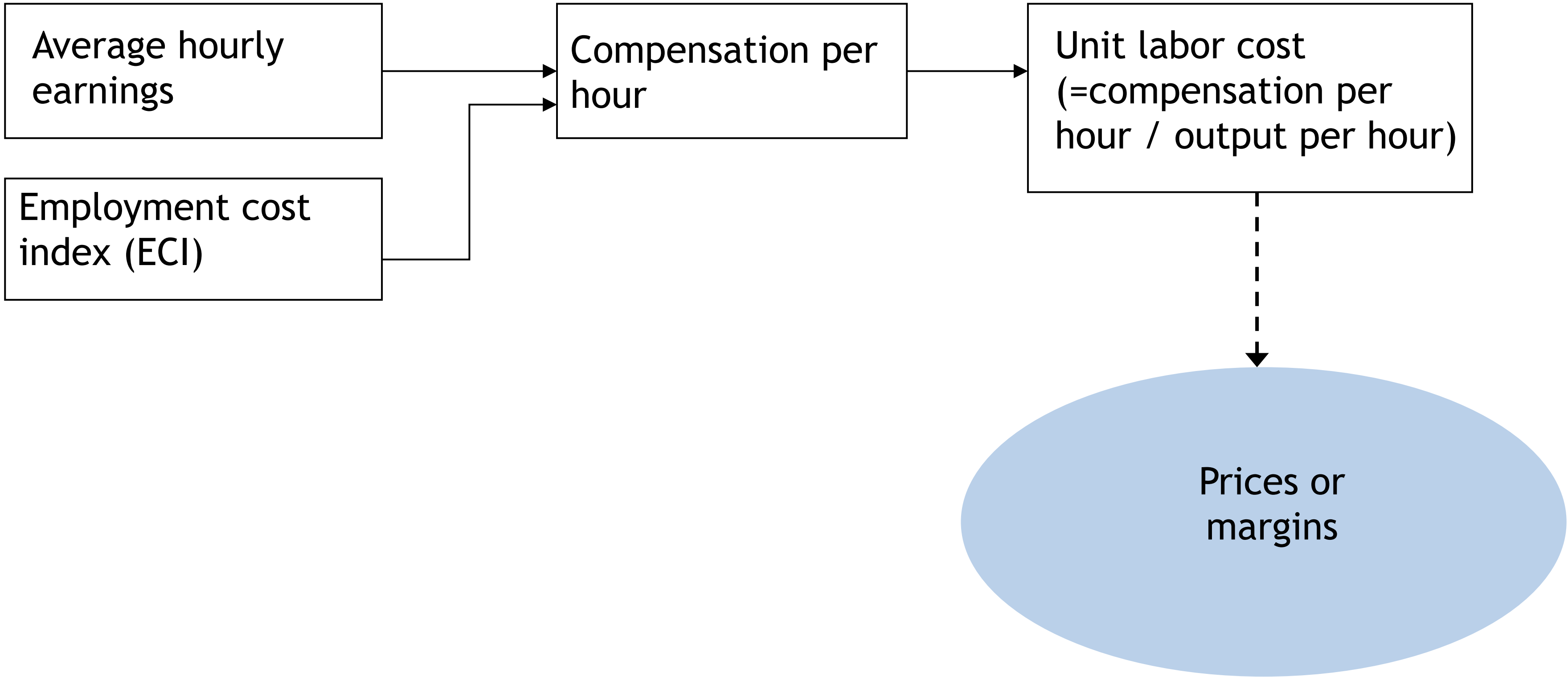
Output gap



Inflation indicators



Labor cost inflation indicators



Full circle back to the Fed…