Monetary Economics (EPOS)

Lecture 3
The pro–market counterattack: Powerless economic policies

SAPIENZA
UNIVERSITÀ DI ROMA

Giovanni Di Bartolomeo

"The Great Depression, like most other periods of severe unemployment, was produced by government mismanagement rather than by any inherent instability of the private economy."

Milton Friedman

In this class

- The stagflation era
- The natural rates
- Expectations–augmented Phillips curve
- Monetarism and Friedman
- The conquest of the American inflation
- Lucas and the RE revolution
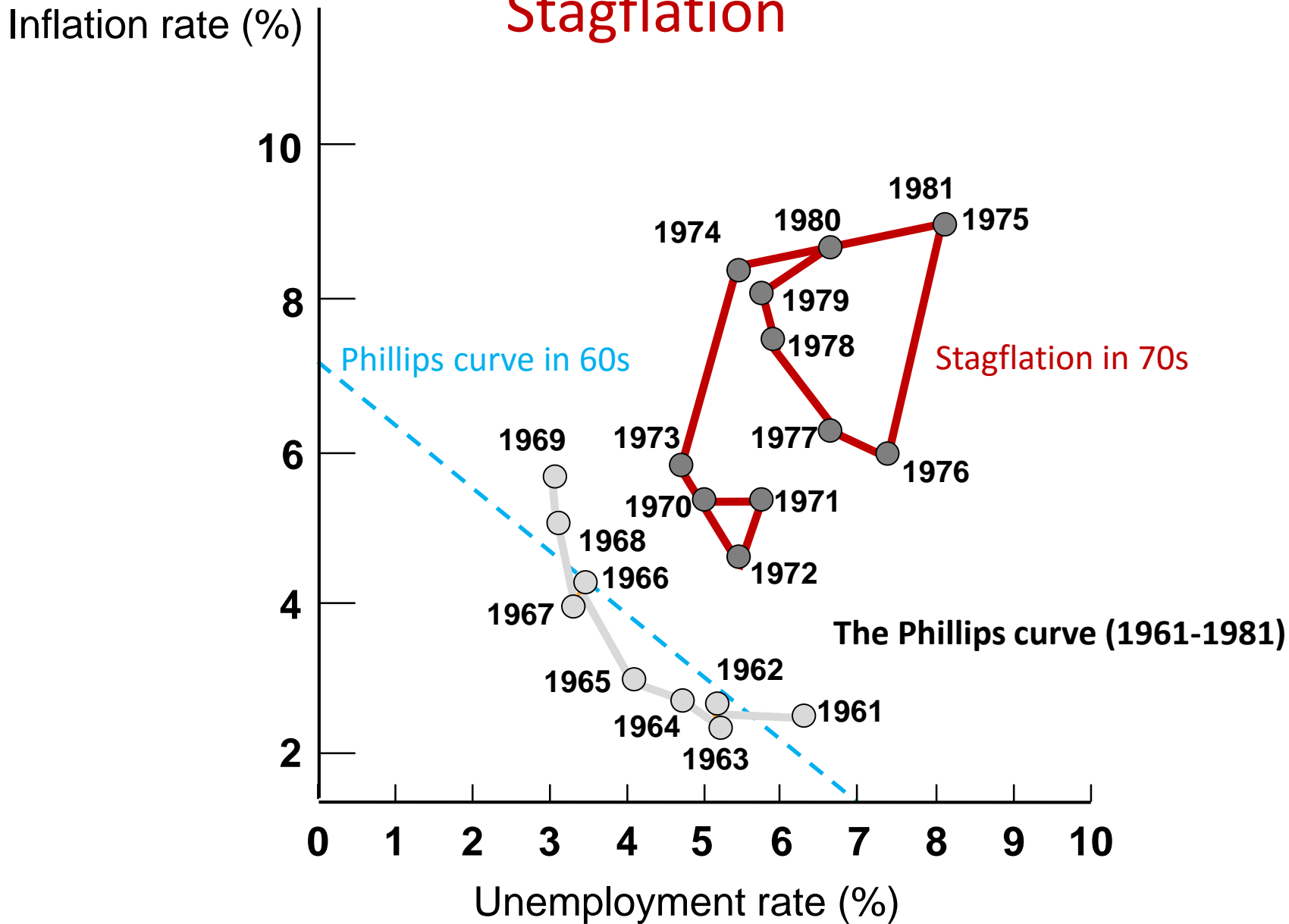- The Chicago School & the Washington Consensus

People in this class
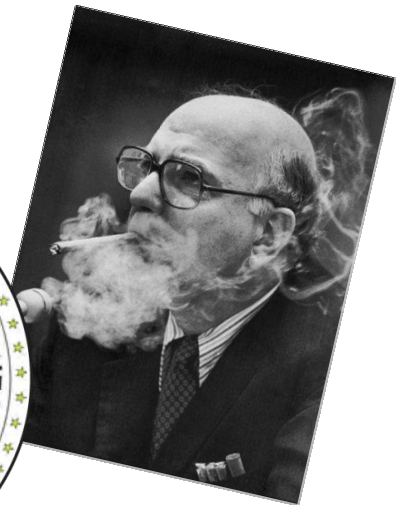
The stagflation age

- The term had been coined in 1965 by a British politician, Iain Macleod, who said: "We now have the worst of both worlds – not just inflation on the one side or stagnation on the other, but both of them together. We have a sort of stagflation situation. And history, in modern terms, is indeed being made"
- Simultaneously, high inflation and high unemployment, which cannot be explained by the Phillips curve

Stagflation

Inflation rate (%)

Phillips curve in 60s

Stagflation in 70s

1981
1975
1974
1980
1979
1978
1969
1973
1977
1970
1971
1976
1968
1966
1972
1967
The Phillips curve (1961-1981)
1965
1962
1964
1961
1963

Unemployment rate (%)

Friedman's natural rates

- The *natural interest rate*: the equilibrium price between the demand for capital (investment) and the supply of capital (saving)

- The *natural rate of unemployment*: the rate at which the number of job vacancies is in equilibrium with the number of unemployed, denoting a broad balance between supply and demand for labor, such as would tend to keep the growth in wages constant

Edmund Phelps & Milton Friedman

- Edmund Phelps and Milton Friedman independently argued that well-informed, rational employers and workers would pay attention only to real wages—the inflation-adjusted purchasing power of money wages

- In their view, real wages would adjust to make the supply of labor equal to the demand for labor, and the unemployment rate would then stand at a level uniquely associated with that real wage—the natural rate of unemployment

A formal derivation

Phillips Curve

$$p - p_e = -\phi u + \delta - \gamma + \mu \Longleftarrow$$

Labor market

$$\begin{cases} p = w - \gamma + \mu & \text{Price equation} \\ w - p_e = \delta - \phi u & \text{Wage equation} \end{cases}$$

$$p = p_e - \phi\left(u - u^N\right) \quad \text{where} \quad u^N = \frac{\delta - \gamma + \mu}{\phi}$$

Natural rate of unemployment

or

$$u = \frac{1}{\phi}\left(p_e - p\right) + u^N \longrightarrow \text{long run} \quad p_e = p \Rightarrow u = u^N$$

Expectations–augmented Phillips curve

- The key point of macro theory becomes how expectations are formed

- Friedman assumed an adaptive scheme. Then the Phillips curve can be written as

$$\begin{cases} u = \dfrac{1}{\phi}\left(p_e - p\right) + u^N \\[2em] p_e = p_{-1} \end{cases}$$

- A set of (short–run) Phillips curves, each with a different value for expected inflation

Inflation dynamics

Inflation rate (%)

Long-run Phillips curve

E

D

B

C

A

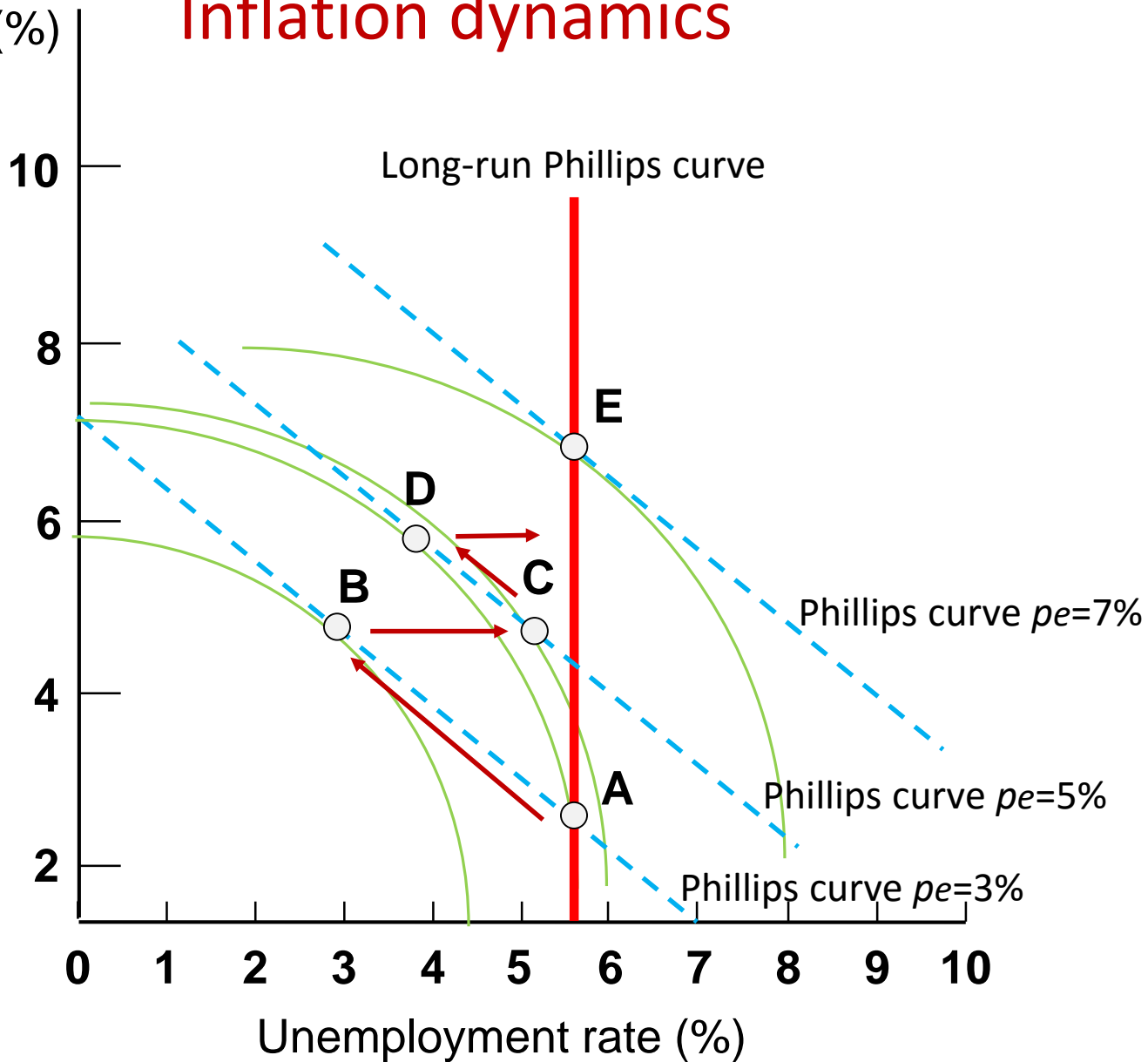Phillips curve pe=7%

Phillips curve pe=5%

Phillips curve pe=3%

Unemployment rate (%)

The conquest of (American) inflation

- The policy implications of the monetarist theoretical evolution were very clear by the end of the 1960s
- These were adopted by Germany after the first oil shock in 1974, where the Bundesbank introduced monetary targets
- Few years later in some Anglo–Saxon countries
- In the US, the Fed, under the leadership of Paul Volcker, undertook decisive contractionary action to reduce inflation in 1978

Volker's disinflation

- In the US, inflation was 7.7% after the 1973 oil shock (11.3% in 1979 and 13.5% in 1981), it was only 3.2% on average in the post–war period
- The Fed Funds Rate, which had averaged 11.2% in 1979, was raised to a peak of 20% in June 1981
- Inflation declines to 3.2% by 1983 as a result of the Volker policies
- The US policy regime was characterized by loose fiscal policy (Reagan) and tight money

Volker's disinflation
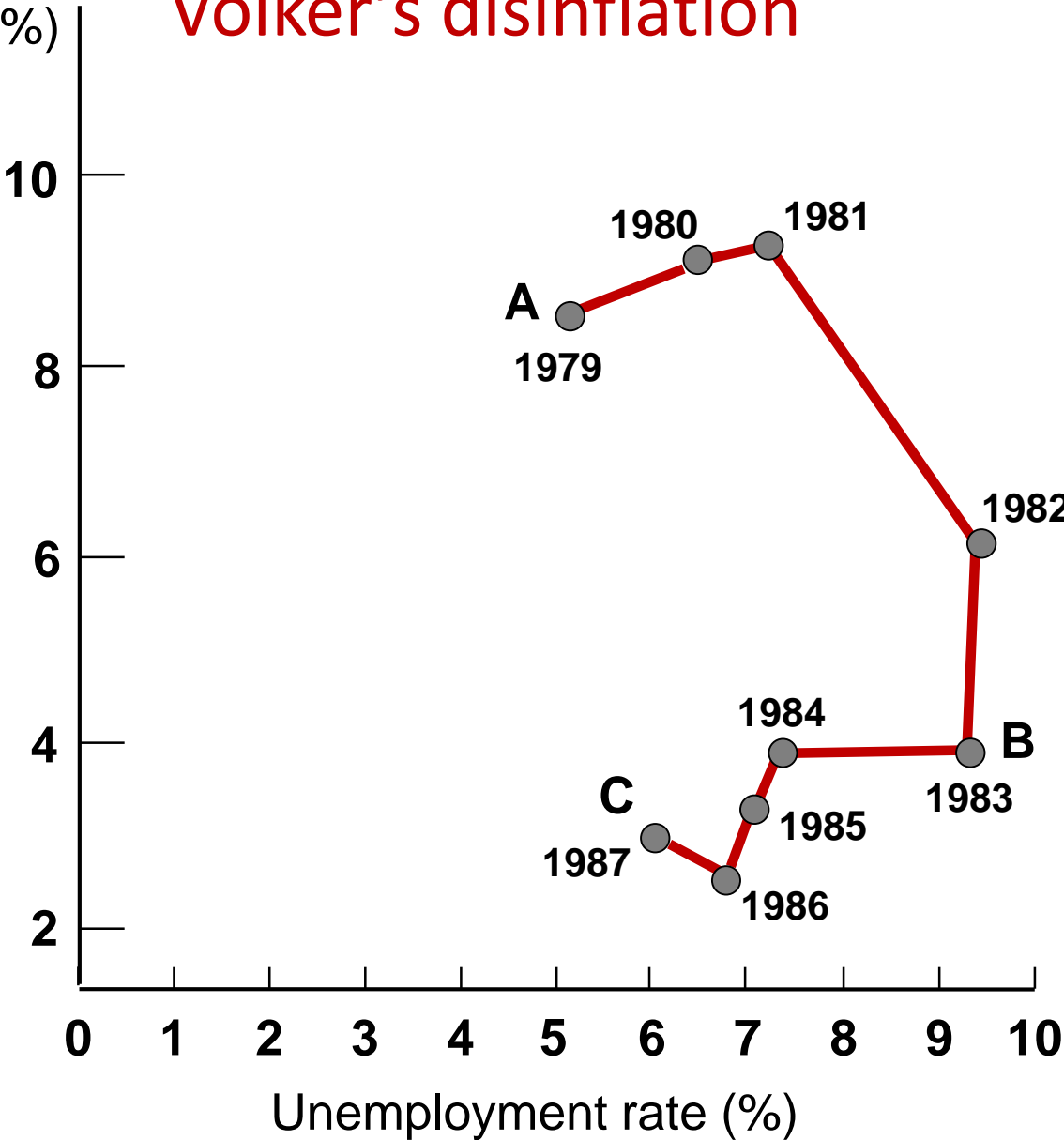
Interpretations

- As to the change in the monetary policy stance since 1979, there are two main interpretations (Sargent and Söderström, 2000):

  1. The most popular among economists is that this was the triumph of the natural rate theory

  2. A second explanation was "the vindication of the econometric policy evaluation"

The failure of monetary targeting

Money velocity (M1) and its trend (based on pre-1980s data) in the US

M1 —— Poli. (tend) – –
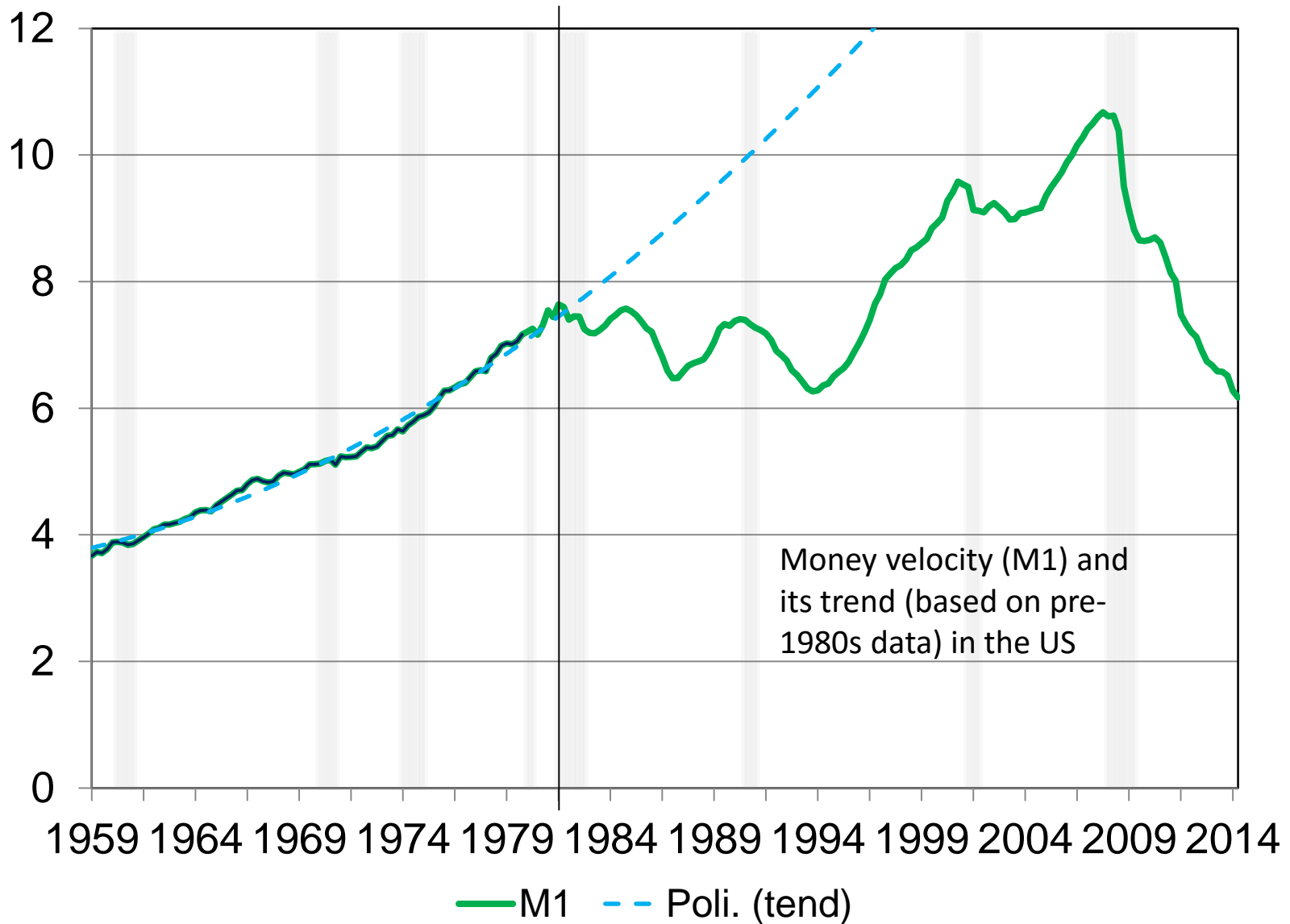
Lucas and the rational expectations revolution

- Friedman's view of the operation of the private economic system and government action is carried to its extreme by the second–generation monetarists, the theorists of the New Classical Macroeconomics

- Formally, Lucas assumes that agents form their expectations rationally in the sense that they use all the available information

Lucas and the rational expectations revolution

- A rational prediction will be correct on average:

$$p_e = E(p)$$

- where $E(\cdot)$ is the mathematical expectation operator

  - The agent can make errors, but these will be random, not systematic

  - The presence of systematic errors is excluded by the rational expectations (RE) hypothesis

Lucas and the rational expectations revolution

- Assuming that e is a white noise shock, then:

$$E(p)=p+e$$

- Only unpredictable random changes in the monetary conduct (inflation surprises) can affect the output–inflation short–run trade–off
  - If changes to monetary policy are white noise process, policy is useless or, worse, destabilizing.
  - Similar claims apply to fiscal policy (Ricardian equivalence)

New Classical Macroeconomics: Phillips curve

- Lucas assumed an RE. Then the Phillips curve can be written as

$$\begin{cases} u = \dfrac{1}{\phi}\left(p_e - p\right) + u^N \\[2mm] p_e = E(p) = p + e \end{cases} \quad \longrightarrow \quad u - u^N = \dfrac{e}{\phi}$$

- Only unpredictable random changes in the monetary conduct (inflation surprises) can have real effects (non-neutrality)

Lucas critique: Economic policy

- The essential argument of the Lucas critique is that the behavior of the private sector depends on people's expectations of what the government is going to do

- Hence, if agents are rational, they will immediately understand, anticipate and eventually crowd out the government's policies
  - E.g., the attempt to inflate the economy to raise employment

Example: Policy neutrality in the AD/AS model
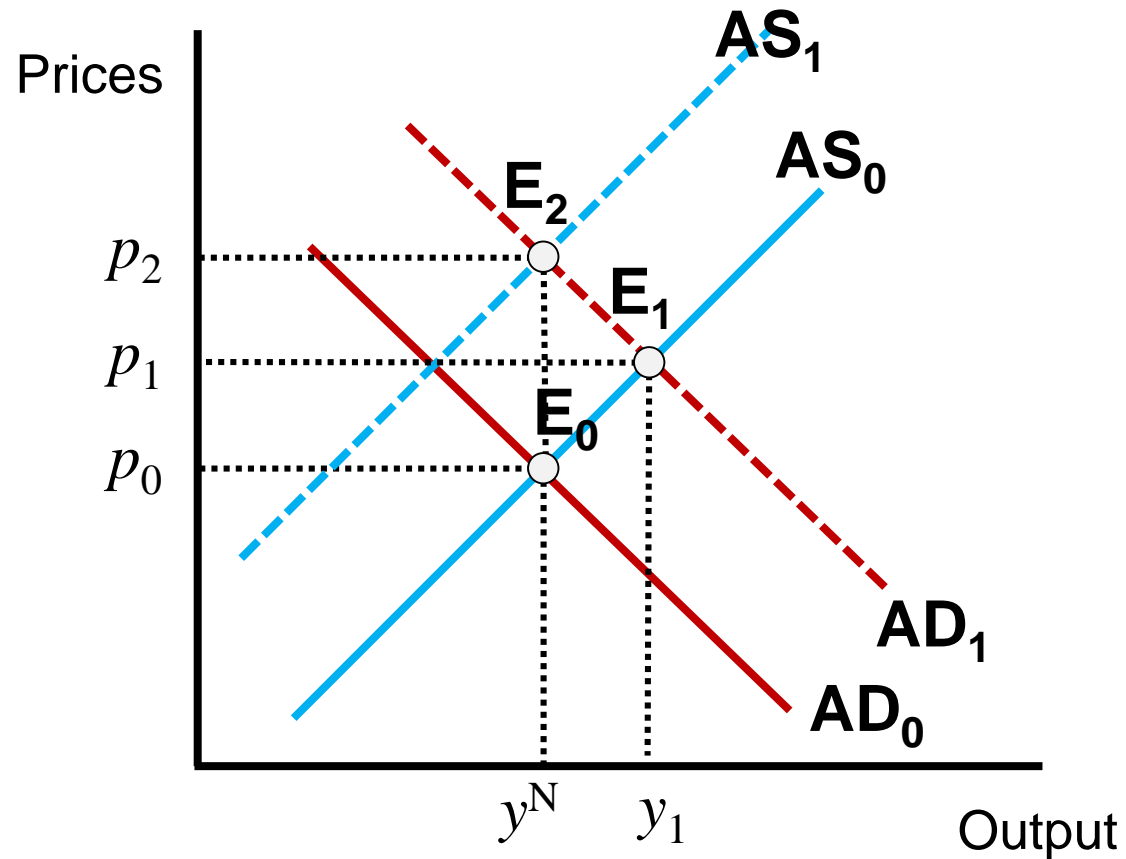
Example: Ricardian equivalence (Barro–Ricardo)

- Keynesian model with fixed investments

$$y = \frac{1}{s}g + \bar{C} + \bar{I}$$

Production   Aggregate demand

- where s is the marginal propensity to save and $1/s$ is the public consumption multiplier
  1. Keynesian deficit spending to stimulate the economy
  2. Agents anticipate tax in the future, raising savings
  3. Neutrality (Tinbergen's Golden Rule does not work!)

Lucas critique: Econometrics

- Econometric model:

$$Y = A\,X + e \quad \longrightarrow \quad Y = A(X)\,X + e$$

  Y targets; X instruments; A multipliers; e white noise

- If changes in X change A, model parameters are not policy invariant, i.e., $A=A(X)$. The economy *reaction* is not independent of the policy!

  - But estimation of A are conditional to a given historically observed path of X (policy regime)
  - So these estimations are useless to evaluate the effects on Y of a different policy regime

Lucas critique: Solution

- Methodological revolution based on three ingredients
  1. Micro–foundations/rationality
  2. Deep–parameter estimation (micro–econometric studies)
  3. Calibration and numerical methods to simulate the economy
- These open the road to the Real Business Cycle

Real Business Cycle (RBC)

- The RBC theorists agree that:
  - Agents optimize (representative agent model, firms and households optimize explicit objective functions, subject to resource and technology constraints, all have RE)
  - Markets clear (complete markets that continually clear, no informational asymmetries)
- Therefore, the business cycle is an equilibrium phenomenon, and is **optimal!**

Fluctuations as a real phenomenon

- The cycle is driven by an exogenous shock to productivity
  - The impact of productivity is amplified by inter–temporal substitution of leisure. The increase in productivity raises the opportunity cost of leisure, causing employment to increase
  - Agents inter–temporal substitute labor supply toward periods when real wages are higher, and vice versa
- The business cycle is thus a real phenomenon, changes in money follow change in output

The Productivity Puzzle and empirical support

- If all the important shocks are productivity shocks, then worker hours and productivity should move together

- Thus productivity should be highly positively correlated with output and hours. In the real world, the correlation is negative (if at all)

- More in general, RBC has a weak empirical support

Monetarism developments

- Monetarism I (Old Monetarism)
  - Friedman: Expectations augmented Phillips curve
- Monetarism II (New Classical Economics)
  - Lucas: RE, complete and competitive markets, surprise inflation
- Real Business Cycle
  - Kydland and Prescott: RE, complete and competitive markets, productivity shock and optimal fluctuations

Chicago School & Washington Consensus

- The Chicago School as a whole has contributed to a strong fear of, and distaste for, the state
  - Paradoxically, the weak neutrality propositions, have not removed stabilization policies from the agenda of central banks,
  - but they have fuelled an emerging neo–liberal sentiment and promoted the 1980s liberal reforms (Thatcherism, Reaganomics) and built the foundation of the Washington Consensus

Monetarism evolution

- Monetarism was initially intended as a doctrine about the linkage between money and inflation
- After, many of its supporters, including Friedman, combined (sometimes ambiguously) theoretical achievements with a more general support for free markets and government non–intervention in all the spheres of economy
- Finally, it came to be associated with measures such as privatization, deregulation, income–tax cuts and reductions in social–welfare provision

Monetarism & 1980s reforms

- The meaning of the term became loose when Margaret Thatcher implemented the so–called monetarist policies in Britain consisting of cuts in government spending
- A similar wind was blowing in the US, Reagan's policies were based on four pillars:
  - control and reduction in government spending;
  - reduction in federal income and capital gains tax;
  - de–regulation of factor markets;
  - tightening of the money supply to reduce inflation

Free to choose

- Friedman's "free to choose" liberal doctrine
  - Economic freedom was one of the most important tools to advance the libertarian goal of the shrinkage of the state.
  - The virtues of markets were presented as the only solution by using the competitive paradigm as the efficient benchmark and gave theoretical support to the pro–market policies

The Washington Consensus

- In a broad sense, *Washington Consensus* refers to the old–fashioned concept of *laissez faire*: the strong belief in the ability of the market to solve most economic and social problems
- The roots of many current problems can be traced back to the application of this credo
  - Financial liberalization/market deregulation and financial crisis of 2007
  - Labor market reforms pro flexibility and the emerging of the class of so–called working poor