Phillips Curve and Supply Shocks

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Outline: Unit V, Section SF6

I. Phillips Curve

II. Supply Shocks

   A. SRAS curve shifts

   B. π and μ in the 1970s

I. Phillips Curve

Phillips Curve = Trade-off between level of inflation (π) and unemployment (μ)

- SR vs LR
  - SR Phillips Curve => Trade-off exists
    - Phillips, Samuelson, Solow, (1960)
  - LR Phillips Curve => No trade-off exists in LR
    - "The Role of Monetary Policy," Friedman, 1968, Phelps

AD/AS Diagram: One-Time Monetary Injection

SR and LR Phillips Curve: One-Time Monetary Injection

Relationship between π and μ

- SRPC: Fed has a menu of (μ, π) combinations to choose from
  - $M^S\uparrow$: Lower μ, higher π
- LRPC: Over time, $E[P]\uparrow$ => $w\uparrow$, $P\uparrow$

=> μ eventually returns to μ^{LR}, but with higher π

  - SRPC shifts out, or up
  - Worse (μ, π) combinations
  - Monetary neutrality

Central Bank Independence

Brief Fed History:

- 1913 US Treasury and OCC on the Fed Board of Governors
- WWII (1939-45) Fed lowered interest rates to help finance war
- 1951 Treasury-Fed Accord. More independence, consulted with Treasury
- 1977 Federal Reserve Act. Dual mandate of full employment (μ) and stable prices (π) => Central bank independence
- 2015 Politicians want to evaluate monetary policy

II.A. Shifts in SRAS

Factors that shift SRAS inwards

- Real variables: A,K,L,N ↓
- P_{inputs} ↑, e.g. oil shocks
- E[P] ↑

- Consider an oil price shock as in the 70s

- What choices does the Fed have?
  1. Maintain full employment, μ. "Doves"
  2. Maintain stable prices, π. "Hawks"
  3. Do nothing

Doves: Expansionary Monetary Policy

Hawks: Contractionary Monetary Policy

Do Nothing

Do Nothing: Wage-price spirals

Consider Sticky-wage theory

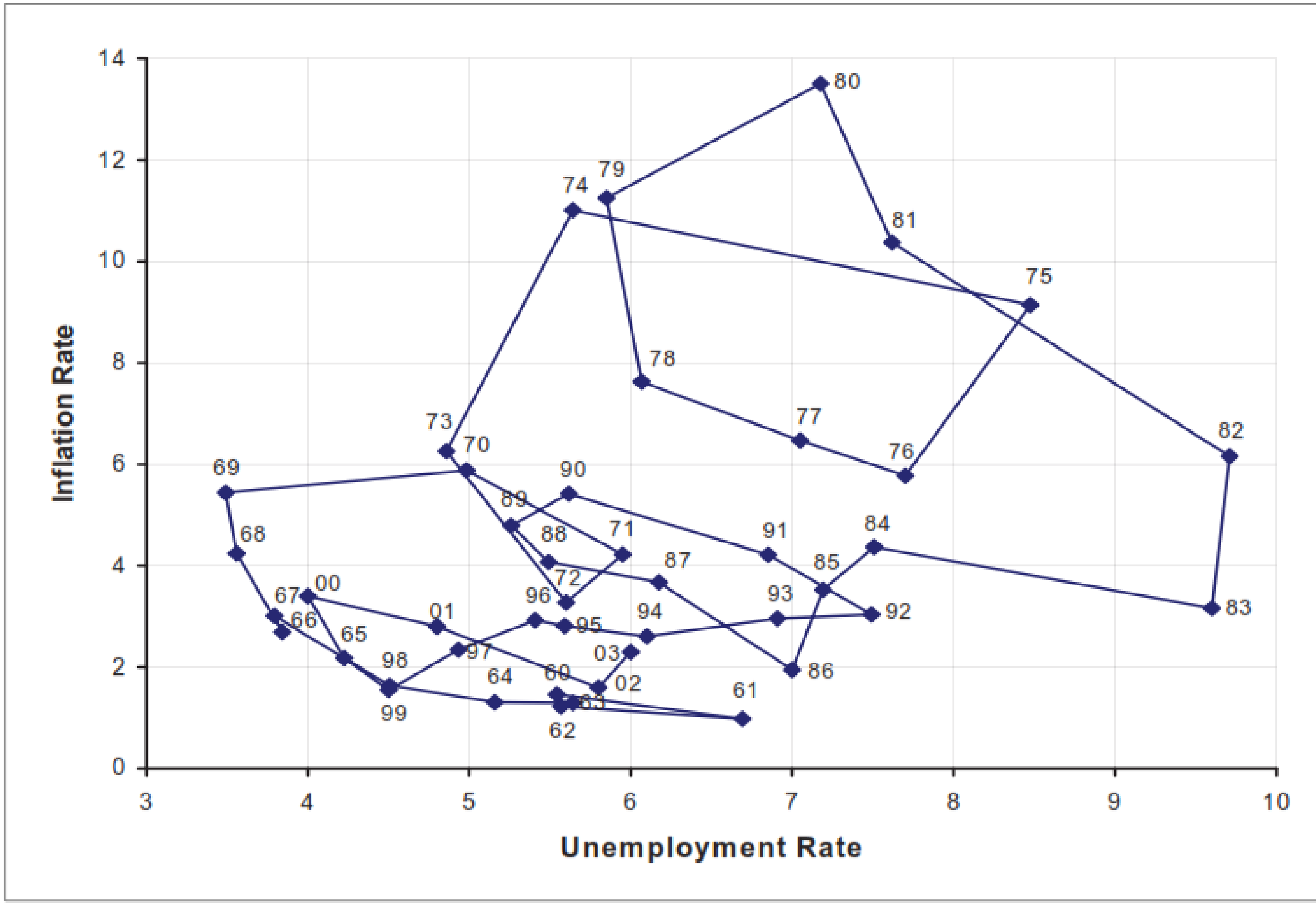
- Initially, Wage-price spiral
  - E[P] ↑ => w ↑ in LT contracts => P↑ => w↑ => …
  - Worsens SR recessionary gap
- Eventually, μ^{SR} >> NAIRU
  - Very slack labor markets:

    w ↓ in LT contracts => P↓ => w↓ => …
  - Return to LRAS

II.B. Brief Fed History 70s

- 73-74 OPEC oil price shock => Stagflation
  - Newly documented economic phenomenon (AD/AS)
  - High μ and π
- 74-75 Fed combats π with tight monetary policy
  - π decreases but μ increases
- 79 OPEC oil price shock… Fed hawks
  - Paul Volker (79-87)

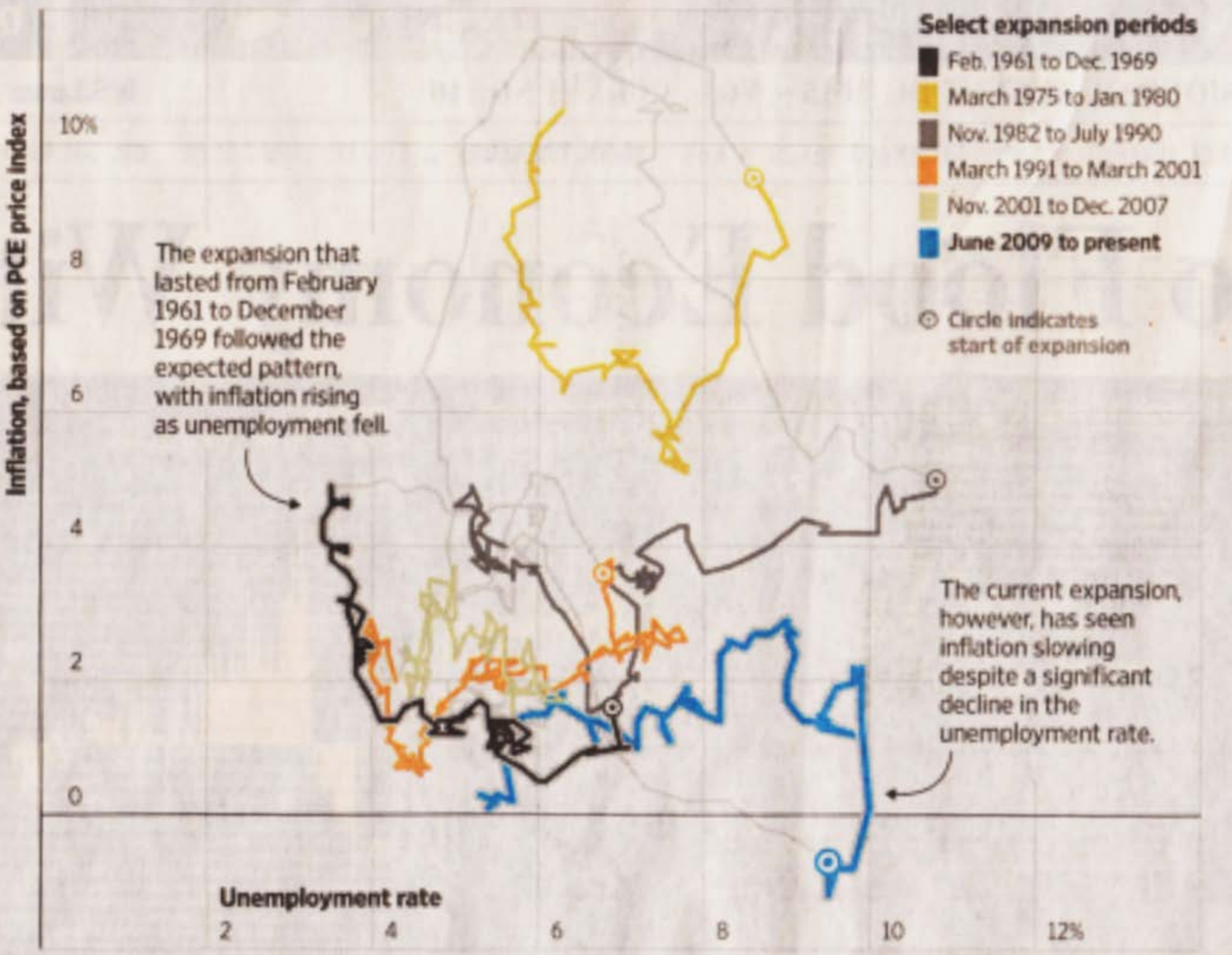
THE PHILLIPS CURVE, 1960-2003



Sources: Federal Reserve Economic Data (FRED); Bureau of Labor Statistics CPI-U;

Throwing a Curve

In theory, lower unemployment generates higher inflation, a relationship described by the Phillips curve. But the link has been unsteady over the past half-century.



Note: All data are seasonally adjusted.
Sources: Labor and Commerce Departments via Federal Reserve Bank of St. Louis (unemployment, PCE); National Bureau of Economic Research (expansion dates)

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