Short Run: Understanding Policy and Reality

T. Kam

File: 05-cycles_ispcmp_apps.tex Read: Mishkin, Ch. 12



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Outline of Talk

Objectives

2 Background



- Applications
- 1980s Volcker disinflation policy
- 1970s Stagflation



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• To test our understanding of how the IS-PC-MP model works

- "If you know how to apply it, then you know how it works".
- We use IS-PC-MP to study two historical episodes in the data:
 - A disinflation monetary policy experiment
 - Interpreting the 1970's episode of "stagflation"



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Monetary Policy 1970s style



- Two major oil shocks in the 1970s coupled with slowdown/stagnation in productivity
 - Ied perception that there was recession
- Policymakers engaged in *loose (or expansionary)* monetary and fiscal policy:
 - increased money supply/reduced interest rate
 - led to greater inflation in price level



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Market sector, 1998 = 100, log scale



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• By end of the 1970s high inflation and high unemployment

- Phillips curve inflation-unemployment empirical fact and trade-off disappeared!
- an era that coined the new phrase "stagflation"



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• Appointed Chairman of the Fed's Board of Governors in 1979.

- Entrusted with job of bringing inflation back down.
- Implemented a tight monetary policy.
 - reduced money supply; raised interest rate
 - by mid-1980s, inflation had gone down



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Two episodes in U.S. Inflation: Oil crises 1974 and 1979. Volcker disinflation, early 1980s.

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IS-PC-MP: Understanding 1980s disinflation



• Let's go backward in time:

- use IS-PC-MP to help us understand how Volcker's policy worked
- how that resulted in terms of short run outcomes



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IS-PC-MP: Understanding 1970s stagflation



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 use IS-PC-MP to help us understand how could this episode have existed



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IS-MP-PC: Two Applications



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1980s Volcker disinflation



• Reducing the level of inflation requires a sharp reduction in the rate of money growth

a tight monetary policy.



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1980s Volcker disinflation

Because of the stickiness of inflation

- The classical dichotomy is unlikely to hold exactly in the short run—i.e. short-run monetary non-neutrality
- Just a reduction in the rate of money growth may not slow inflation immediately.

• Thus, the real interest rate must increase to induce a recession.

- This is exacted through the MP curve and adaptive-expectation-Fisher equation: r_t = i_t - π_{t-1}, and
- the **IS curve** via the investment demand response: $Y_t = \bar{a} - \bar{b} \cdot r_t$.



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1980s Volcker disinflation

• The recession causes inflation to become negative.

- As demand falls firms raise their prices less aggressively to sell more.
- We can see this through the **PC curve**:

$$\pi_t = \pi_{t-1} + \gamma (Y_t - \bar{Y}_t) + \rho_t$$

This shows that in order to reduce inflation, actual output must be reduced below potential temporarily, all else constant.



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Checkpoint!

In a nutshell, what we just said using the IS-PC-MP to interpret the Volcker disinflation effect:

$$\begin{array}{ll} \mathsf{MP:} & \uparrow i_t \Longrightarrow \uparrow r_t \\ \mathsf{IS:} & \uparrow r_t \Longrightarrow \downarrow \tilde{Y}_t \\ \mathsf{PC:} & \downarrow \tilde{Y}_t \Longrightarrow \downarrow \Delta \pi_t \end{array}$$



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1980s Volcker disinflation

So a Volcker-style disinflation policy can

- keep the real interest rate high
- Lower the inflation rate
 - Tradeoff:
 - * create the cost of a slumping economy
 - * High unemployment (recall Okun's law?) and lost output



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Once inflation has declined sufficiently

- \bullet Real interest rate can be raised back to long-run MPK, \bar{r}
- Allowing output to rise back to potential



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1980s Volcker disinflation: dynamics

• The IS-PC-MP diagrams display a static snapshot of the dynamic short run economy.

- We can try to visualise how our Volcker disinflation policy and resulting economic outcomes look like dynamically.
 - use a stylised time path diagram ...



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1980s Volcker disinflation: dynamics

Exercise

Explain the IS-PC-MP story told through the figure above in words.

- Detail how the policy began and how it transmits to inflation through the MP, IS and PC curves.
- What happened to actual output and unemployment during the disinflation policy window?



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1970s Stagflation





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We next ask:

- Why did Paul Volcker have such a tough job at the start of the 1980s?
- What led to high inflation despite unemployment (*output*) being high (*low relative to potential*) in the 1970s?
- Why did policymakers in the 1970s fail to exploit/utilize the Phillips curve trade-off?



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- OPEC coordinated oil price increases. Shortage of food, high prices. Structural changes in labor markets and pricing regulations.
- In Monetary policy was too loose.
- In Monetary policymakers did not have perfect information.



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1970s High Inflation: Reason 1

• Focus on OPEC coordinated oil price increases ...

- Oil shock, ρ , as shown in the model for PC
- ▶ in our PC model, this shifts the (equivalent) AS vertically upward in (Y, π)-space.

* recall previous lecture on PC!



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1970s High Inflation: Reason 2

• Monetary policy was too loose.

- The conventional wisdom then was that reducing inflation required permanent increases in employment.
- ▶ In reality, disinflation requires only a temporary recession.
- ▶ in our MP model, the MP curve was set too low.



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1970s High Inflation: Reason 3

• Monetary policymakers did not have perfect information.

- Thought the productivity slowdown was a recession
 * It was actually a change in potential output.
- The Fed lowered interest rates in response to what they perceived was a demand shock.
 - Which increased output above potential, generating more inflation. Why? (See AS!)



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1970s stagflation

Exercise

Explain the 1970s stagflation story and its resulting loose monetary policy response using the IS-PC-MP framework.

Draw relevant changes in the IS-MP diagram in (Y, r)-space.
Draw relevant changes in the AS diagram in (Y, π)-space.



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1970s stagflation: what the Fed thought and how they reacted (IS-MP)



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1970s stagflation: what actually happened (IS-MP)



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1970s stagflation: how this affects inflation (AS or PC)



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• The short-run model

- IS curve
- MP curve
- Phillips Curve
- Central banks set the nominal interest rate.
- The IS-MP diagram allows us to study
 - the consequences of monetary policy, and,
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We looked at two famous case studies from two distinct decades

 \ldots one that brought us disco (and Stagflation) and the other plastic jewellery (Recession) \ldots

1970s Stagflation

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Three important causes contributed to the Great Inflation of the 1970s:

The oil shocks of 1974 and 1979

- The mistaken view that reducing inflation required a permanent reduction in output
- The fact that the productivity slowdown was initially interpreted as a recession



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- The mistaken view that reducing inflation required a permanent reduction in output
- The fact that the productivity slowdown was initially interpreted as a recession



• Combining IS-MP as in an even more convenient representation: AD curve

- PC as an AS curve
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... with your loved ones over dinner tonight

Key words:

- monetary policy
- disinflation, productivity slowdown; stagflation
- IS-MP-PC
- disco



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