

ECON UN3265 ▪ MONEY AND BANKING ▪ SUMMER 2026 ▪ SESSION 11

CHAPTER 23

Monetary Policy Theory

Ritsu Kitagawa

Columbia Business School

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Outline

Responding to Shocks

Activism and the Problem of Lags

Inflation as a Monetary Phenomenon

The Zero Lower Bound and Nonconventional Policy

Wrap-up

Reading and objectives

- ▶ Mishkin, *The Economics of Money, Banking, and Financial Markets*, 13th ed.
- ▶ This deck: **Chapter 23** — Monetary Policy Theory.
- ▶ Chapter 22 built the machinery — the IS curve, the MP curve, and the aggregate demand and supply curves. This chapter *uses* that machinery to ask the practical question: how should monetary policy respond when the economy is hit by shocks?

Learning objectives

- 23.1** Choose policy responses to demand, temporary-supply, and permanent-supply shocks.
- 23.2** Identify the policy lags that weaken the case for activism.
- 23.3** Explain why policy can target any inflation rate, but not output, in the long run.
- 23.4** Trace the sources of inflation and policy's role in propagating it.
- 23.5** Analyze the zero lower bound and how nonconventional policy works there.

PART 1

Responding to Shocks

The objective: minimize the inflation gap

The chapter's organizing idea: good policy keeps the economy near two targets at once.

- ▶ Minimize the **inflation gap** — the distance between inflation π and the inflation target π^T .
- ▶ Minimize the **output gap** — the distance between output Y and potential Y^P .

The central question

Can policy close *both* gaps at the same time? The answer turns entirely on *which kind of shock* hit the economy. Sometimes the two objectives line up perfectly; sometimes they collide. That distinction organizes the whole first part of the chapter.

Mishkin Ch. 23, Section 23.1.

Aggregate demand shocks: the divine coincidence

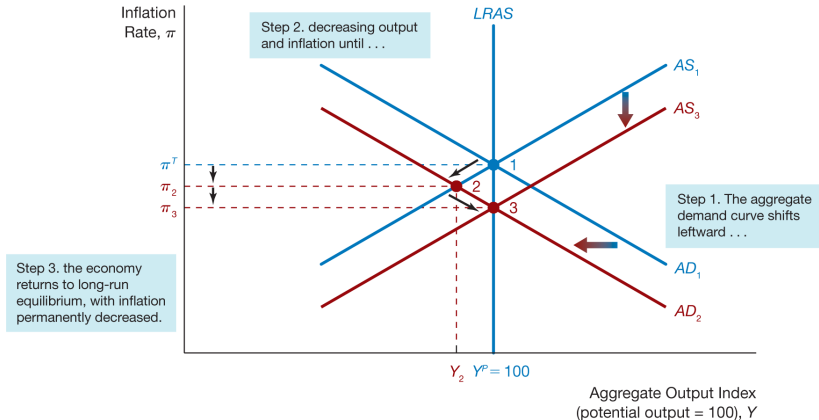
Start with a shock to aggregate demand — a collapse in autonomous spending or confidence shifts AD leftward.

- ▶ A demand shock moves inflation and output in the *same* direction — both fall.
- ▶ So the response that stabilizes inflation *also* stabilizes output. There is **no trade-off**.
- ▶ Blanchard called this the “**divine coincidence**”: with demand shocks, pursuing price stability and pursuing output stability are the *same* policy.

Policy makers have two choices: do nothing and let the economy self-correct over time, or ease policy to shift AD back and restore both targets at once in the short run.

Mishkin Ch. 23, Section 23.1.

Figure 1 — Aggregate demand shock: no policy response



Mishkin Ch. 23, Figure 1. AD shifts left; output and inflation both fall to point 2, then the self-correcting mechanism (AS shifting down) returns the economy to Y^P at a permanently lower π .

Temporary supply shocks: the dilemma

Now a **temporary supply shock** — an oil-price spike, a supply-chain snarl — shifts short-run AS *upward*.

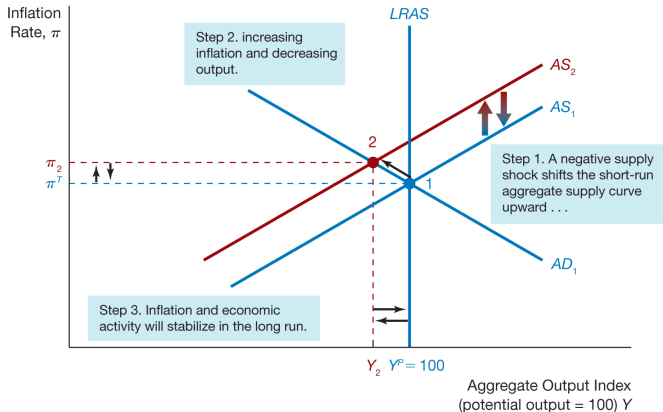
- ▶ Inflation *rises* while output *falls* — they move in *opposite* directions.
- ▶ Now there is a genuine **short-run trade-off**. Policy can stabilize inflation, *or* stabilize output, but **not both**.

Three possible responses

(1) Do nothing — let the self-correcting mechanism work. (2) Tighten to hold inflation at π^T — at the cost of a deeper output loss. (3) Ease to hold output at Y^P — at the cost of higher inflation. This dilemma is exactly what makes a *dual mandate* hard.

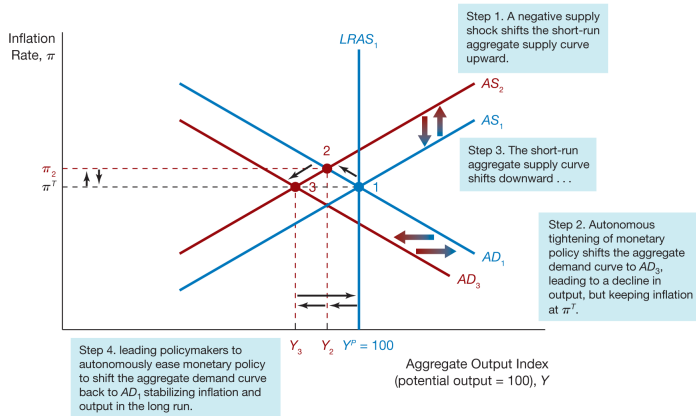
Mishkin Ch. 23, Section 23.1.

Figure 2 — Supply shock: no policy response



Mishkin Ch. 23, Figure 3. A negative supply shock pushes AS up; the economy moves to point 2 with higher inflation and lower output, then self-corrects back to point 1 over time.

Figure 3 — Supply shock: short-run inflation stabilization



Mishkin Ch. 23, Figure 4. To hold inflation at π^T , policy tightens and shifts AD left — inflation stays anchored, but output falls further. The price of price stability is a deeper recession.

The bottom line on shocks

Two clean conclusions fall out of the analysis:

1. If most shocks are **demand** shocks, then a policy that stabilizes inflation *also* stabilizes output — even in the short run. The divine coincidence holds; there is nothing to trade off.
2. If most shocks are **supply** shocks, the central bank must *choose* between its two stabilization objectives in the short run. There is no escaping the dilemma.

Why this matters for mandate design

This is the deep reason the dual-mandate debate from Chapter 16 is live. If the world were all demand shocks, the mandate wouldn't matter — both goals point the same way. It is supply shocks that force a central bank to reveal its priorities.

Mishkin Ch. 23, Section 23.1.

PART 2

Activism and the Problem of Lags

How actively should policy lean against shocks?

Economists share the *goals* — high employment, price stability — yet split on the *approach*.

- ▶ **Activists** see slow wage–price adjustment, so they favor active policy to push the economy back to potential quickly.
- ▶ **Nonactivists** trust the self-correcting mechanism and worry that activist policy, badly timed, makes things *worse*.

The crux of the disagreement

It is not about whether the economy self-corrects — both sides agree it eventually does. It is about *how fast*, and whether policy makers can act quickly and accurately enough to beat the self-correction. That empirical question is settled largely by the **lags**.

Mishkin Ch. 23, Section 23.2.

The five policy lags

Policy cannot shift the AD curve instantly. Five lags stand in the way:

1. **Data lag** — time to obtain data on what the economy is doing.
2. **Recognition lag** — time to be sure what the data are signaling.
3. **Legislative lag** — time to pass legislation (binds *fiscal* policy especially).
4. **Implementation lag** — time to change the instruments once a decision is made.
5. **Effectiveness lag** — time for the policy to actually move the economy.

Why lags favor caution

Long, variable lags mean an activist move calibrated to today's data may land after the economy has already turned — adding to a boom or deepening a bust. The longer the lags, the stronger the nonactivist case. Monetary policy, free of the *legislative* lag, is nimbler than fiscal policy — one reason it carries the stabilization burden.

PART 3

Inflation as a Monetary Phenomenon

Inflation is always a monetary phenomenon

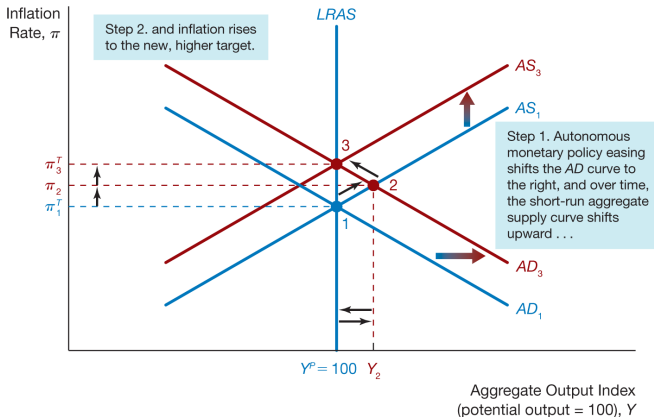
Friedman's famous adage — “*inflation is always and everywhere a monetary phenomenon*” — falls straight out of the AD–AS framework.

- ▶ In the *long run*, output returns to potential Y^P regardless of policy. Policy cannot target output in the long run.
- ▶ But policy *can* target *any* inflation rate in the long run, by setting where it parks the AD curve through **autonomous monetary policy**.

The asymmetry in one line

Sustained inflation requires **sustained** expansionary policy. A one-off cost shock raises the price level once; only a central bank that keeps shifting AD out can keep inflation high year after year. That is why the buck stops at the central bank.

Figure 4 — A rise in the inflation target



Mishkin Ch. 23, Figure 6. Autonomous easing shifts AD right; over time AS shifts up and the economy settles back at Y^P with permanently higher inflation. Output is unchanged in the long run — only π moved.

Where inflationary policy comes from

If inflation is ultimately a policy choice, why would a central bank ever choose it? Two classic channels — both rooted in an over-ambitious employment target.

- ▶ **Cost-push inflation** — arises from negative supply shocks or wage push beyond productivity. If policy accommodates each shock to protect employment, one-off price jumps become *ongoing* inflation.
- ▶ **Demand-pull inflation** — arises when policy makers chase an output target *above* potential. Pushing Y past Y^P repeatedly drags inflation up.

The common root

Both trace back to setting an employment goal *too high* — targeting an unemployment rate below the natural rate. The 1965–1982 “Great Inflation” is the textbook case: accommodative policy plus an over-optimistic view of potential output let inflation ratchet from under 2% to nearly 14%.

PART 4

The Zero Lower Bound and Nonconventional Policy

The zero lower bound

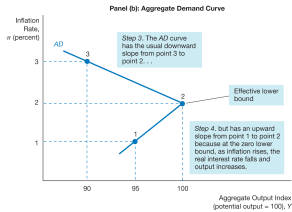
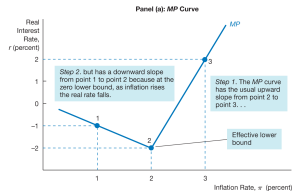
Normally the Fed eases by cutting the federal funds rate to pull down the *real* rate. But there is a floor.

- ▶ The funds rate is a *nominal* rate — and it cannot fall much below **zero** (people would just hold cash). This floor is the **zero lower bound** (ZLB), or effective lower bound.
- ▶ At the ZLB the MP curve *flips*: with the nominal rate stuck at zero, a *fall* in inflation *raises* the real rate $r = i - \pi^e$. The usual upward-sloping MP curve becomes *downward*-sloping below the bound.

The consequence

Because the MP curve kinks, so does the AD curve: below the bound, *lower* inflation means a *higher* real rate, which *lowers* output — so AD slopes the “wrong” way. That kink is what breaks the economy’s normal self-correction.

Figure 5 — Deriving the AD curve with the effective lower bound



Mishkin Ch. 23, Figure 10. Panel (a): the MP curve is upward-sloping above the bound but downward-sloping at it. Panel (b): the AD curve inherits the kink — downward-sloping above the bound, upward-sloping below it.

When self-correction fails

Above the bound, a negative shock self-corrects: slack pushes inflation down, the real rate falls, output recovers. At the ZLB that mechanism runs in *reverse*.

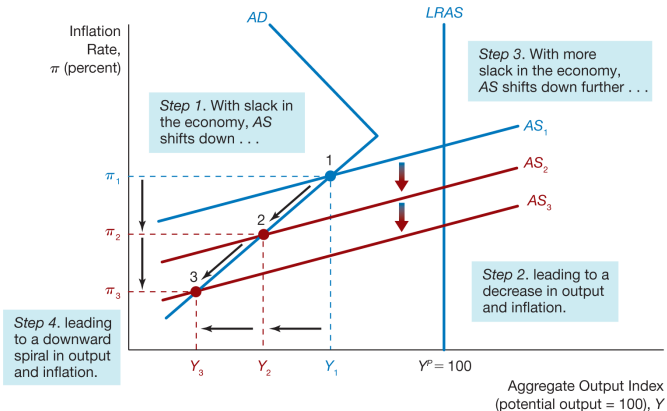
- ▶ With output below potential, inflation falls — but at the bound the nominal rate cannot follow, so the *real* rate *rises*.
- ▶ A higher real rate depresses spending *further*, output falls more, inflation falls more — a self-reinforcing **deflationary spiral**.

The policy stakes

This is why the ZLB is so dangerous. Doing nothing is no longer safe: the self-correcting mechanism that normally rescues the economy is *gone*, and inaction can let a recession feed on itself. Conventional rate cuts are exhausted — so policy must reach for other tools.

Mishkin Ch. 23, Section 23.5.

Figure 6 — The absence of the self-correcting mechanism at the ELB



Mishkin Ch. 23, Figure 11. With AD upward-sloping below the bound, slack drives AS down but output keeps falling (points $1 \rightarrow 2 \rightarrow 3$) — a downward spiral in both output and inflation, with no automatic floor.

Nonconventional monetary policy

When the ZLB binds — as after the Lehman collapse in late 2008 — the central bank turns to **nonconventional** tools that work *through financial frictions* rather than the policy rate.

1. **Liquidity provision** — expand lending facilities to impaired markets, lowering financial frictions $\bar{f}$ and so the real cost of credit.
2. **Asset purchases (quantitative easing)** — buy long-term and private assets to compress credit spreads directly.
3. **Management of expectations (forward guidance)** — commit to keeping the rate low for long, lowering long rates today and *raising* expected inflation.

How they help at the bound

Each shifts AD back to the right by cutting $\bar{f}$; forward guidance does double duty by raising expected inflation, which *lowers* the real rate even with the nominal rate pinned at zero. Raising π^e is the one lever that still bites when the funds rate cannot move.

Two real-world episodes

The framework explains both the limits and the promise of nonconventional policy.

- ▶ **The U.S., 2008–09.** The Fed deployed all three tools. They helped — but the negative demand shock was so large that QE could not shift AD all the way back, and a severe recession followed anyway. Nonconventional policy is powerful, *not* omnipotent.
- ▶ **Japan, 2013 (“Abenomics”).** The Bank of Japan doubled its inflation target *and* launched aggressive QE — a deliberate two-pronged attack to lower the real rate while *raising* inflation expectations, exactly the lever that works at the bound.

The Japanese case is the cleanest illustration of the chapter’s punchline: at the ZLB, *managing expectations of inflation* is how a central bank still moves the real interest rate.

Mishkin Ch. 23, Section 23.5; “Abenomics.”

PART 5

Wrap-up

Key terms from Chapter 23

- ▶ inflation gap; output gap
- ▶ aggregate demand shock; supply shock
- ▶ divine coincidence
- ▶ self-correcting mechanism
- ▶ activists vs. nonactivists
- ▶ data, recognition, legislative, implementation, effectiveness lags
- ▶ “inflation is always and everywhere a monetary phenomenon”
- ▶ cost-push inflation; demand-pull inflation
- ▶ the Great Inflation
- ▶ zero (effective) lower bound
- ▶ deflationary spiral
- ▶ nonconventional monetary policy; quantitative easing; forward guidance

The one idea to take away

The shock decides the dilemma; the bound decides the tools

Whether policy faces a **trade-off** depends on the shock: *demand* shocks give the divine coincidence — stabilizing inflation stabilizes output — while *supply* shocks force a choice. And whether the *conventional* lever even works depends on the **zero lower bound**: below it the self-correcting mechanism reverses into a deflationary spiral, and policy must turn to **nonconventional** tools that move the *real* rate by raising inflation expectations.

- ▶ In the long run, output returns to potential — so policy can choose the economy's inflation rate but not its output. Inflation is, ultimately, a policy choice.
- ▶ This chapter completes the course's analytical arc: from markets and institutions, through the Fed's tools and strategy (Ch 16), to a full theory of how policy and shocks move output and inflation. Next session: **course synthesis and the final exam**.