Monetary Theory and Policy

Chapter 21： The Monetary Policy and Aggregate Demand Curves

The Federal Reserve and Monetary Policy

- The Fed of the United States conducts monetary policy by setting the federal funds rate—the interest rate at which banks lend to each other.
- When the Federal Reserve lowers the federal funds rate, real interest rates fall.
- When the Federal Reserve raises the federal funds rate, real interest rates rise.

The Monetary Policy Curve

- The monetary policy (MP) curve shows how monetary policy, measured by the real interest rate, reacts to the inflation rate, π:

$$r = \bar{r} + \lambda\pi$$

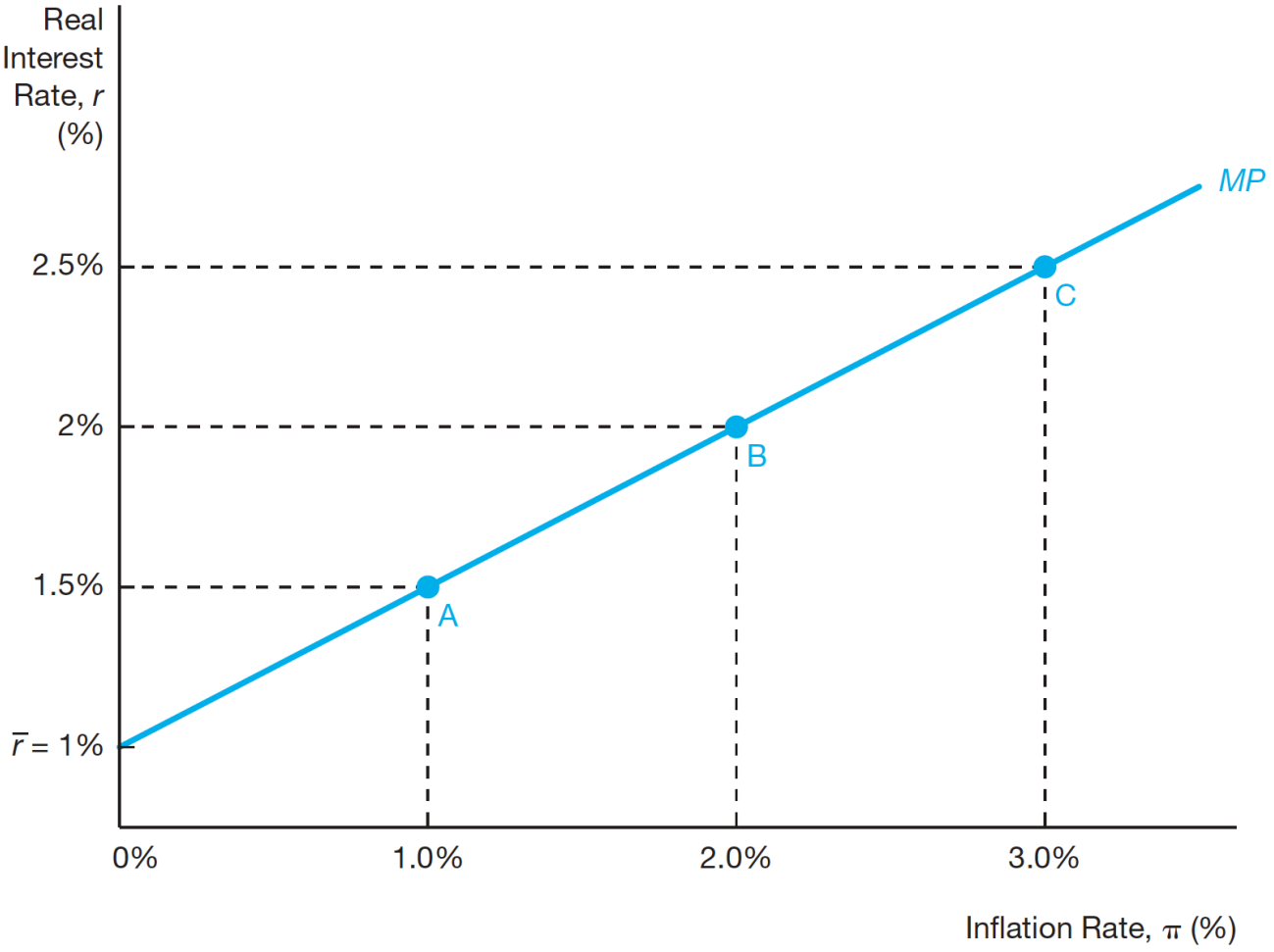
where

$\bar{r}$ = autonomous component of r

λ = responsiveness of r to inflation

- The MP curve is upward sloping. Real interest rates rise when the inflation rate rises.

Figure 1 The Monetary Policy Curve



The Taylor Principle: Why the Monetary Policy Curve Has an Upward Slope

- The key reason for an upward sloping *MP* curve is that central banks seek to keep inflation stable.
- **Taylor principle**: To stabilize inflation, central banks must raise nominal interest rates by more than any rise in expected inflation, so that *r* rises when π rises.
- Schematically, if a central bank allows *r* to fall when π rises, then:

$$\pi \uparrow \Rightarrow r \downarrow \Rightarrow Y^{ad} \Rightarrow \pi \uparrow \Rightarrow r \downarrow \Rightarrow Y^{ad} \Rightarrow \pi \uparrow$$

Shifts in the *MP* Curve

- Two types of monetary policy actions that affect interest rates:
  - *Automatic* (Taylor principle) changes as reflected by movements along the *MP* curve
  - Autonomous changes that shift the *MP* curve
    - Autonomous tightening of monetary policy that shifts the *MP* curve upward (in order to reduce inflation)
    - Autonomous easing of monetary policy that shifts the *MP* curve downward (in order to stimulate the economy)

Figure 2 Shifts in the Monetary Policy Curve

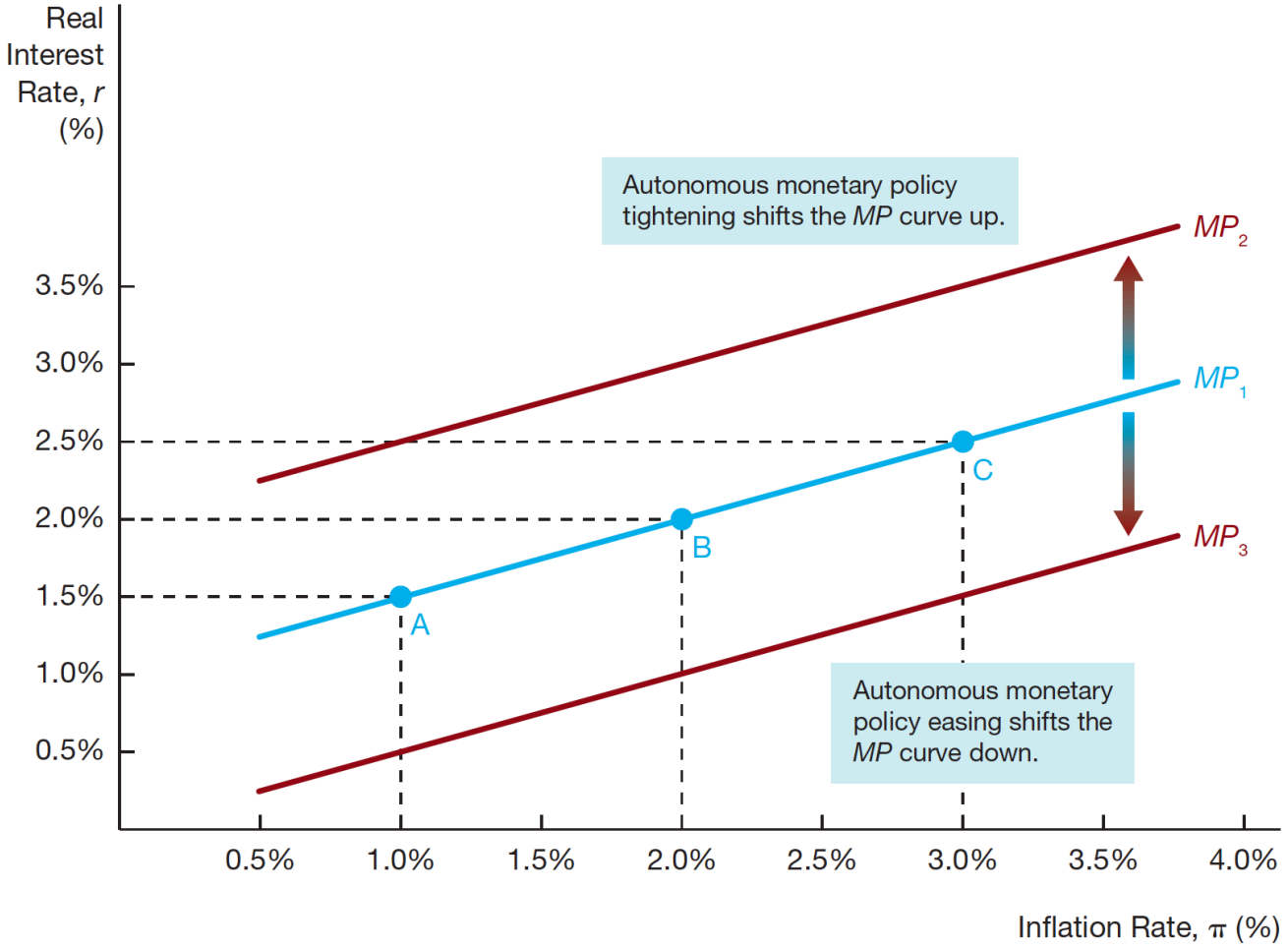
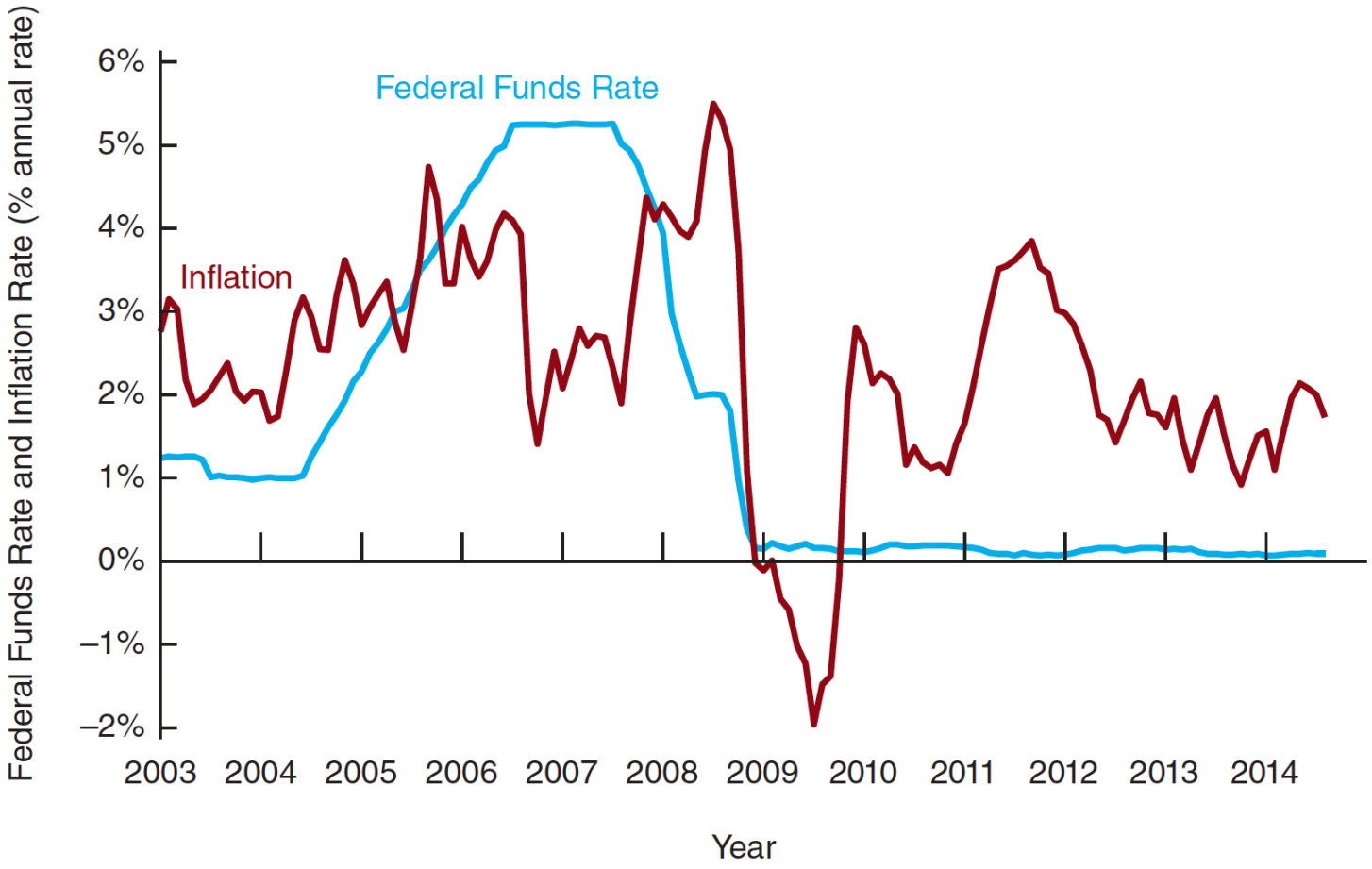


Figure 3 The Federal Funds Rate and Inflation Rate, 2003–2014



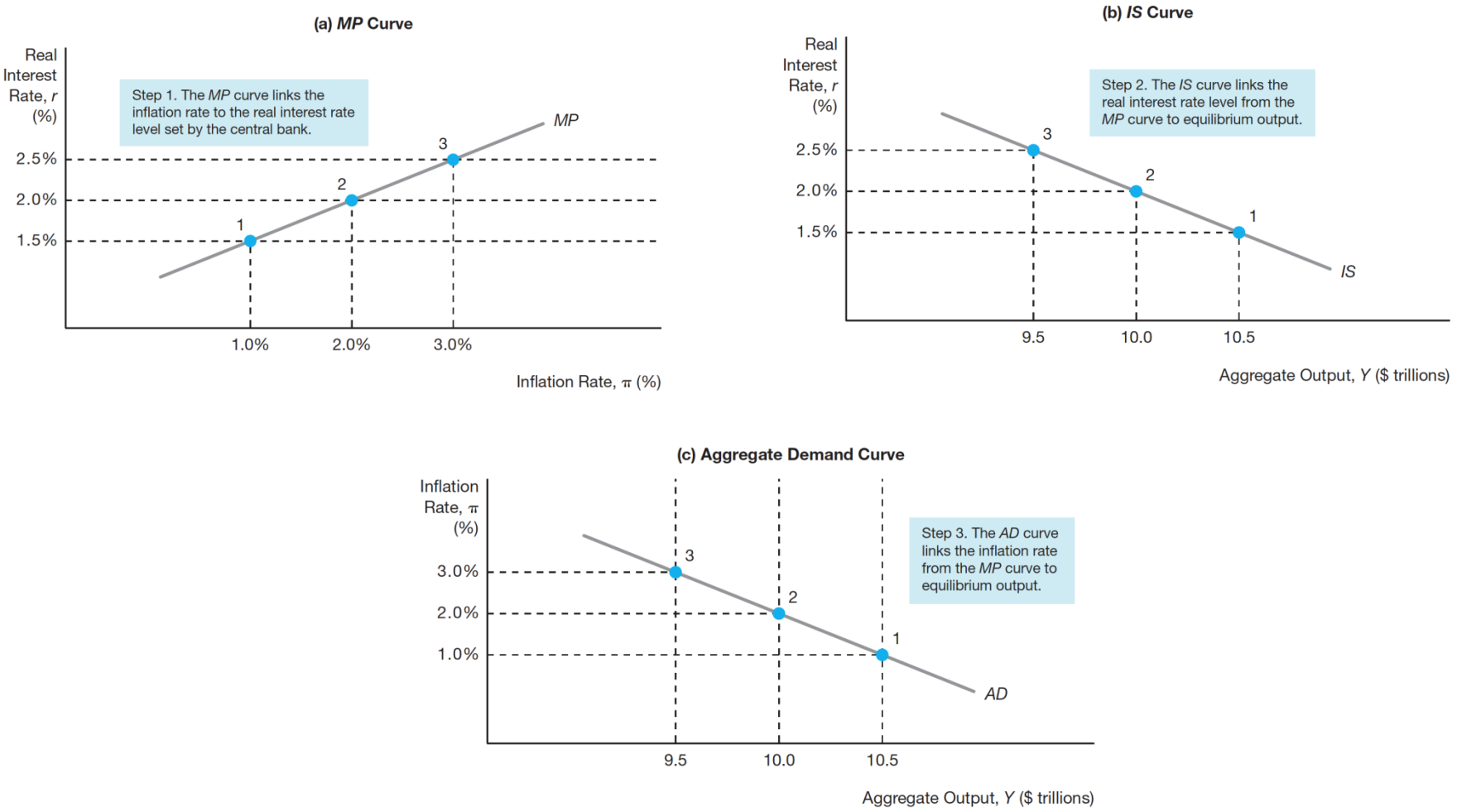
The Aggregate Demand Curve

- The aggregate demand curve represents the relationship between the inflation rate and aggregate demand when the goods market is in equilibrium.
- The aggregate demand curve is central to aggregate demand and supply analysis, which allows us to explain short-run fluctuations in both aggregate output and inflation.

Deriving the Aggregate Demand Curve Graphically

- The *AD* curve is derived from:
  - The *MP* curve
  - The *IS* curve
- The *AD* curve has a downward slope: As inflation rises, the real interest rate rises, so that spending and equilibrium aggregate output fall.

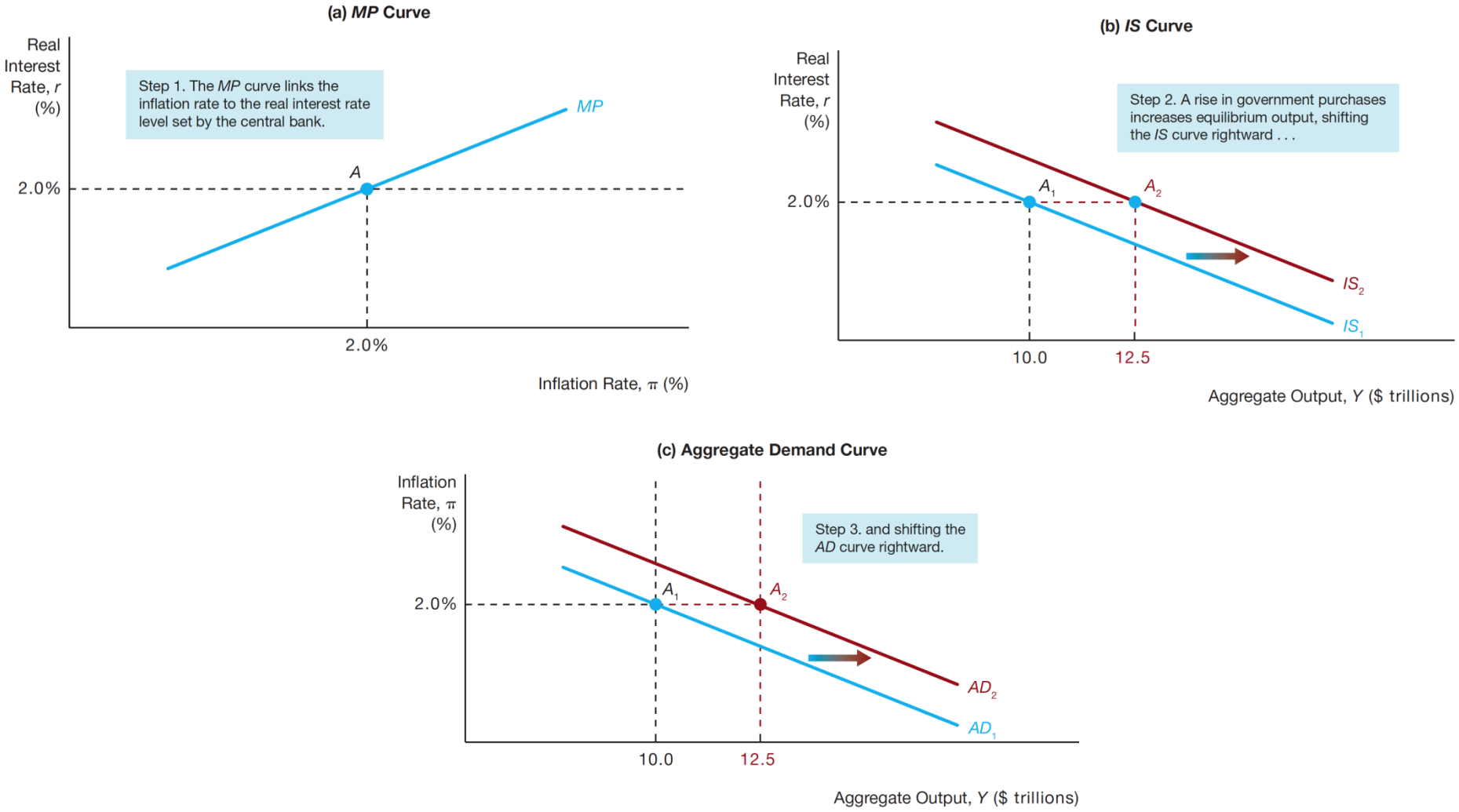
Figure 4 Deriving the *AD* Curve



Factors That Shift the Aggregate Demand Curve

- Shifts in the *IS* curve
  - Autonomous consumption expenditure
  - Autonomous investment spending
  - Government purchases
  - Taxes
  - Autonomous net exports
- Any factor that shifts the *IS* curve shifts the aggregate demand curve in the same direction.

Figure 5 Shift in the *AD* Curve From Shifts in the *IS* Curve



Factors That Shift the Aggregate Demand Curve

- Shifts in the *MP* curve
  - An autonomous tightening of monetary policy, that is a rise in real interest rate at any given inflation rate, shifts the aggregate demand curve to the left
  - Similarly, an autonomous easing of monetary policy shifts the aggregate demand curve to the right

Figure 6 Shift in the *AD* Curve from Autonomous Monetary Policy Tightening