Bilkent University
Department of Economics

AD/AS, Policy Making and Tradeoffs

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3. **International trade effect**: $P \uparrow \Rightarrow$ domestic goods relatively expensive $\Rightarrow NX$ **falls**.

Key: This is *not* substitution between goods (Micro 101). Here the entire economy's quantity demanded falls when P rises, because of real balance, credit, and trade channels.
* The wealth and trade effects carry most of the weight.

SRAS: Profit Maximization & Markup

Firm's problem:

$TR = P \cdot Y, \qquad TC = W \cdot L + r \cdot K + P_m \cdot M \qquad P_m$: Input prices (Commodities etc.)

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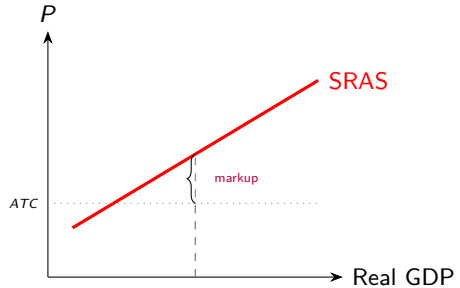
Why does SRAS slope up?

- In the short run, input prices (W, P_m, contracts) are **sticky**.
- If $P \uparrow$ but input costs don't adjust $\Rightarrow$ markup **rises** $\Rightarrow$ firms produce more.



What Shifts SRAS?

Anything that changes **production costs** at a given output level shifts SRAS through ATC:

Change	**Effect on ATC**	**SRAS shift**
$W \uparrow$ (wages)	$\uparrow$	$\leftarrow$
$P_m \uparrow$ (input/material prices)	$\uparrow$	$\leftarrow$
Technology improves	$\downarrow$	$\rightarrow$
Regulation tightens	$\uparrow$	$\leftarrow$

Rule of thumb: Cost $\uparrow \Rightarrow ATC \uparrow \Rightarrow$ markup squeezed at any given $P \Rightarrow$ SRAS shifts **left**.

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Credibility channel:

- If the central bank is credible $\Rightarrow$ π^e anchored $\Rightarrow$ SRAS stable.
- If not credible $\Rightarrow$ π^e drifts up $\Rightarrow$ SRAS keeps shifting left.

Türkiye, 2021–2023:

- CBRT cut rates despite rising π^e.
- Expectations de-anchored.
- SRAS shifted left repeatedly.
- Self-fulfilling inflation spiral.
- Mid-2023: policy reversal, rates hiked to re-anchor π^e.

Why LRAS Is Vertical

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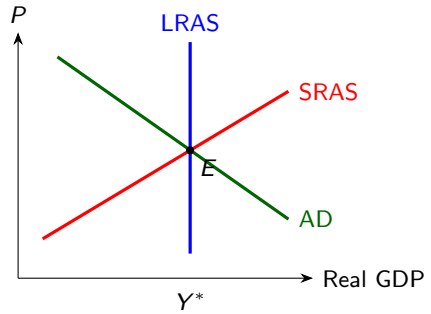

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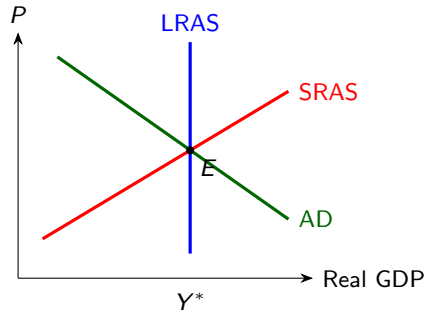

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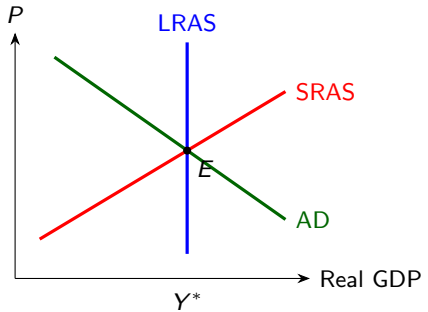

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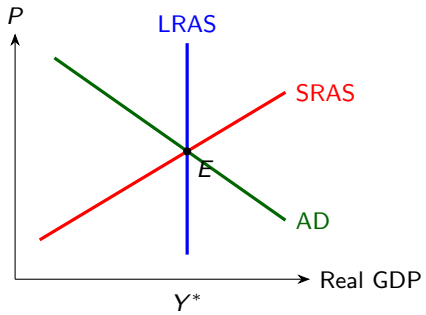
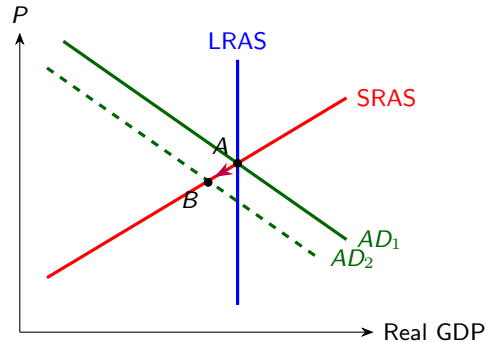
Implication: In the long run, monetary/fiscal policy can change P but *not* Y. Do you think policies do not affect productivity?



Recession: Setting Up the Problem

Story: A wave of pessimism hits. $C \downarrow$, $I \downarrow \Rightarrow$ AD shifts **left**.



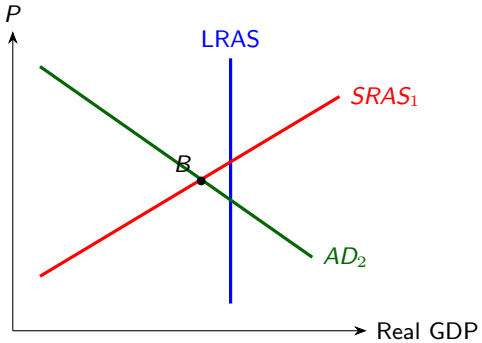
At B: $Y < Y^*$, $P \downarrow$, unemployment $\uparrow$.

Three possible responses:

1. Self-correction (do nothing)
2. Monetary policy (CB acts)
3. Fiscal policy (government acts)

Let's compare them.

Option 1: Self-Correction



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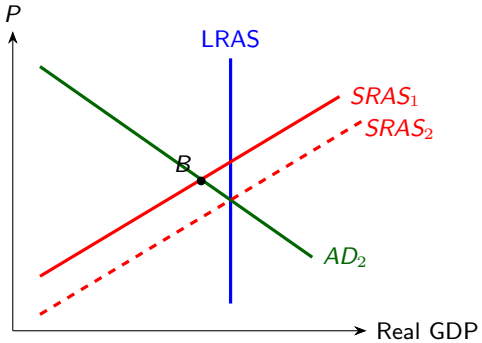

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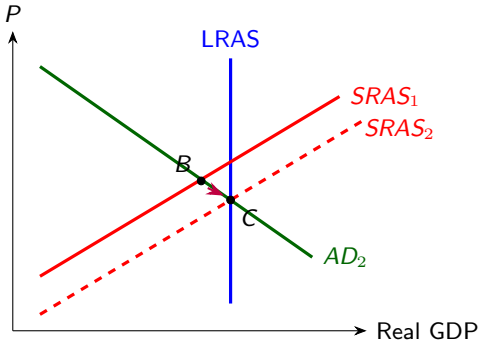

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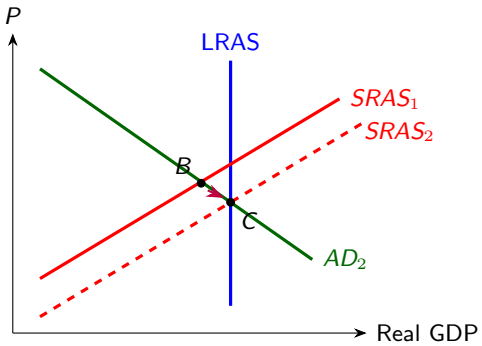

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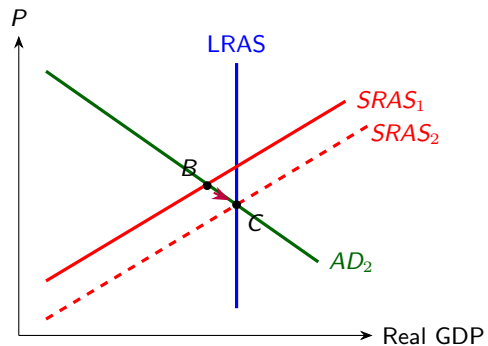

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Option 2: Monetary Policy

Recap: What Is a Central Bank?

Balance sheet:

Assets	**Liabilities**
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Other roles:

- **Lender of last resort:** prevents bank runs by providing emergency liquidity.
- **Independence:** insulated from the political cycle $\Rightarrow$ credible commitment to price stability.

Credibility ties back to slide on π^e: if agents believe the CB will act, expectations stay anchored, and SRAS doesn't shift preemptively.

Central Banking Is About Managing Expectations

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Credible CB:

- Announces rate path $\Rightarrow$ markets adjust immediately.
- π^e anchors $\Rightarrow$ SRAS stable.
- Policy works through *expectations channel* before the rate even bites.

Non-credible CB:

- Announces rate path $\Rightarrow$ markets don't believe it.
- π^e de-anchors $\Rightarrow$ SRAS shifts left.
- Needs much larger rate changes to achieve the same effect.
- Türkiye 2021–23: CBRT cut rates $\Rightarrow$ nobody believed disinflation $\Rightarrow$ π^e exploded.

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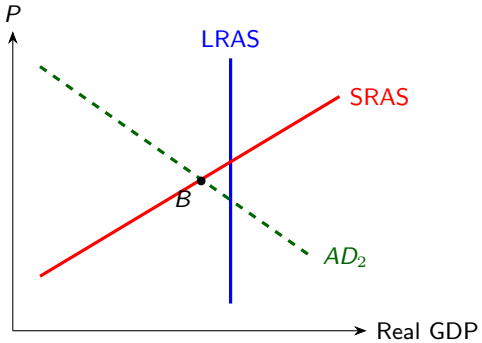

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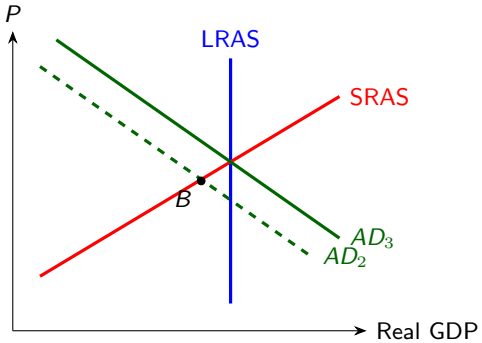

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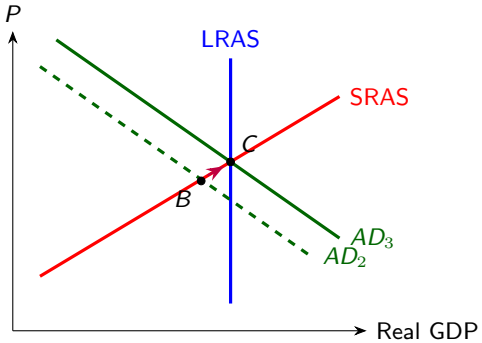

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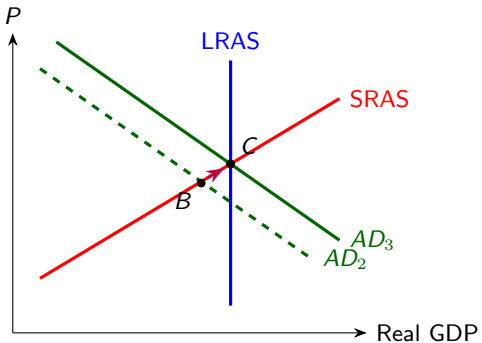

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Tradeoffs:

- **Implementation lag:** rate changes take 6–18 months to fully transmit.
- **Overshoot risk:** too much stimulus $\Rightarrow$ overheating.
- **Zero lower bound:** if rates already near zero, little room.

Option 3: Fiscal Policy

Two levers:

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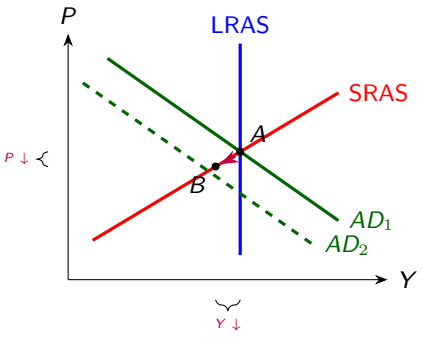
Tradeoffs:

- **Political/legislative lag:** bills take months to pass.
- **Irreversibility:** hard to cut G once programs start.
- **Debt accumulation:** fiscal deficits raise D/Y.
- **Multiplier uncertainty:** Still controversial.

Demand Shocks: The "Easy" Case

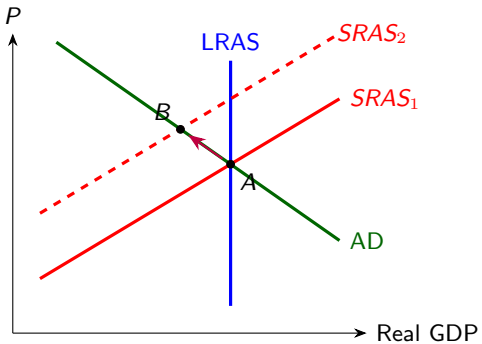


Key insight: When AD shifts, P and Y move in the **same direction**.

- AD$\leftarrow$: $Y \downarrow$, $P \downarrow$ (recession)
- AD$\rightarrow$: $Y \uparrow$, $P \uparrow$ (overheating)

No tradeoff:
Stabilising Y (push AD back) also stabilises P.
Policy is straightforward.

Supply Shock: The Dilemma



At B:

- $Y \downarrow$ (stagnation)
- $P \uparrow$ (inflation)

This is **stagflation**: P and Y move in **opposite directions**.

The tradeoff:

- Stimulate (AD$\rightarrow$) $\Rightarrow$ fixes Y but worsens P.
- Tighten (AD$\leftarrow$) $\Rightarrow$ fixes P but worsens Y.

No free lunch.

Counter-Cyclical vs. Pro-Cyclical Policy

	Counter-cyclical	**Pro-cyclical**
Recession ($Y < Y^*$)	Stimulus (cut r, raise G)	Austerity
Overheating ($Y > Y^*$)	Tighten (raise r, cut G)	More stimulus
Effect	Stabilises Y around Y^*	Amplifies cycle

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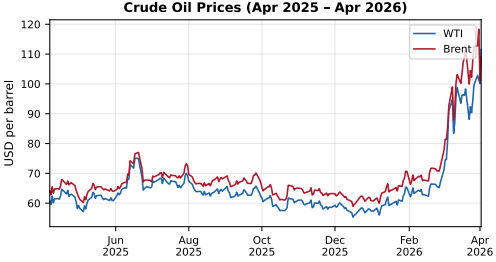
Türkiye, 2021–2023: A Case Study in Pro-cyclical Policy

- Economy overheating ($Y > Y^*$, inflation rising).
- CBRT *cut* rates (pro-cyclical) $\Rightarrow$ AD shifted further right.
- Inflation spiralled to $> 80\%$.
- Mid-2023: policy reversal to counter-cyclical tightening.

Current Oil Price Shock: What's Happening



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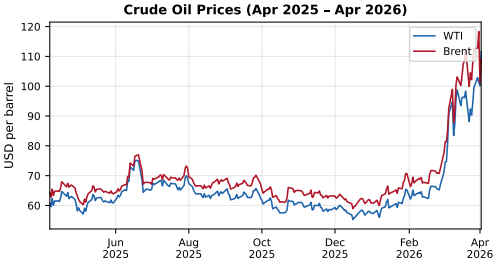

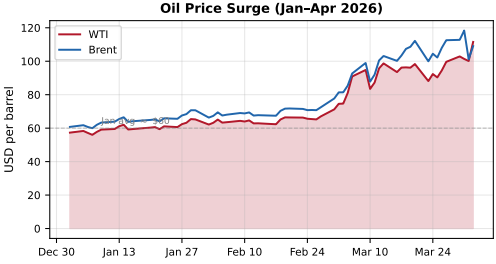

- WTI: $\sim\$60$ (Jan 2026) $\rightarrow$ $\sim\$112$ (Apr 2026).
- Brent: similar surge.
- $\sim 85\%$ increase.

This is $P_m \uparrow$: Oil is a key intermediate input for nearly every sector.

$\Rightarrow$ This is a **supply shock** in the AD/AS framework.

Oil Shock Through the Markup Lens

The chain:

$$P_m \uparrow \Rightarrow \; ATC \uparrow \Rightarrow \; (P - ATC) \downarrow$$

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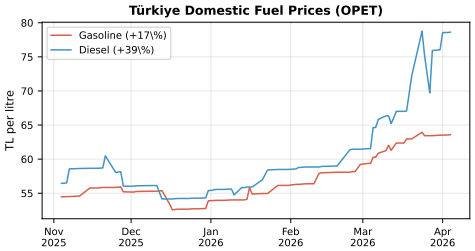
Domestic pass-through:



Diesel up 39%, gasoline up 17% since Nov 2025.

This is stagflationary:

- $P \uparrow$ (cost-push inflation)
- $Y \downarrow$ (output contracts)

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The π^e risk: If the CB accommodates, agents may update $\pi^e \uparrow$, which shifts SRAS left again. The short-run "fix" becomes a long-run trap.
Credibility is the binding constraint.

Quiz Practice: Two Scenarios from Quiz 4

Scenario A: Households become deeply pessimistic and sharply increase precautionary saving.

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- Price level: unambiguously rises (both SRAS$\leftarrow$ and AD$\rightarrow$ push P up).
- Real GDP: ambiguous (supply-side pushes Y down, demand-side pushes Y up; net depends on magnitudes).

Takeaways

1. **Demand shocks are "easy":** P and Y co-move.
   Stabilising output also stabilises prices. No tradeoff.

2. **Supply shocks are "hard":** P and Y move in opposite directions.
   Fixing one makes the other worse. Policymakers face a genuine dilemma.

3. **The shock determines the tradeoff.**
   Identify the shock first; the policy options (and their costs) follow.

4. **Expectations matter:** Credibility of the central bank determines whether a supply shock stays a one-time event or becomes an inflation spiral.