ECONOMICS II
MACROECONOMICS

BMEGT30A101
BMEGT30A103
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SHORT-RUN AGGREGATE SUPPLY
– Phillips curve –
CH 14

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1. Introduction

Sources of short-run fluctuations:

- Aggregate demand **AD(P)**← **IS-LM model** = AD the policy-function
- Aggregate supply **AS(P)** ← **Phillips curve**, short-run TRADEOFF between inflation (π) and unemployment (u)
  - FRICTIONS of macroeconomics

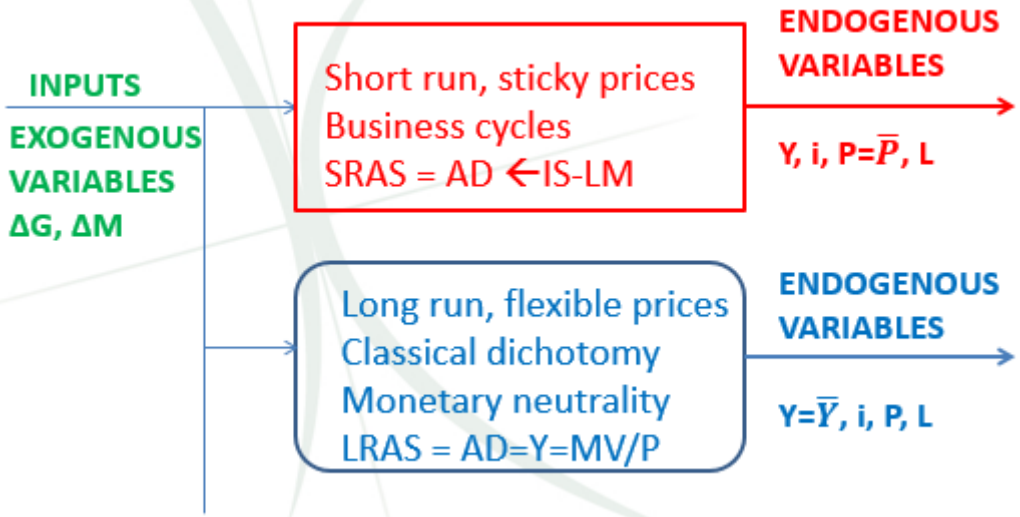
Debate

- How should government policymakers respond to the business cycle?

- If you find it difficult to fit all the pieces together, you are not alone ☺
  - there is widespread disagreement (Mankiw 2015, p431)

Schools of economic thoughts

- The validity of these predictions is only as good as the model and the forecasters' assumptions about the exogenous variables (Mankiw 2015, p535)



- Efficient market hypothesis, EMH ➔ the economy is **stable** by its nature ➔ Policies will it only destabilize
- The economy is inherently **unstable** ➔ Policies' responsibility to stabilize it

2. Top 4 models of short-run aggregate supply, SRAS

Top 4 models of Short-Run Aggregate supply AS(P)

$$Y = \bar{Y} + \alpha\left(P - P^e\right)$$

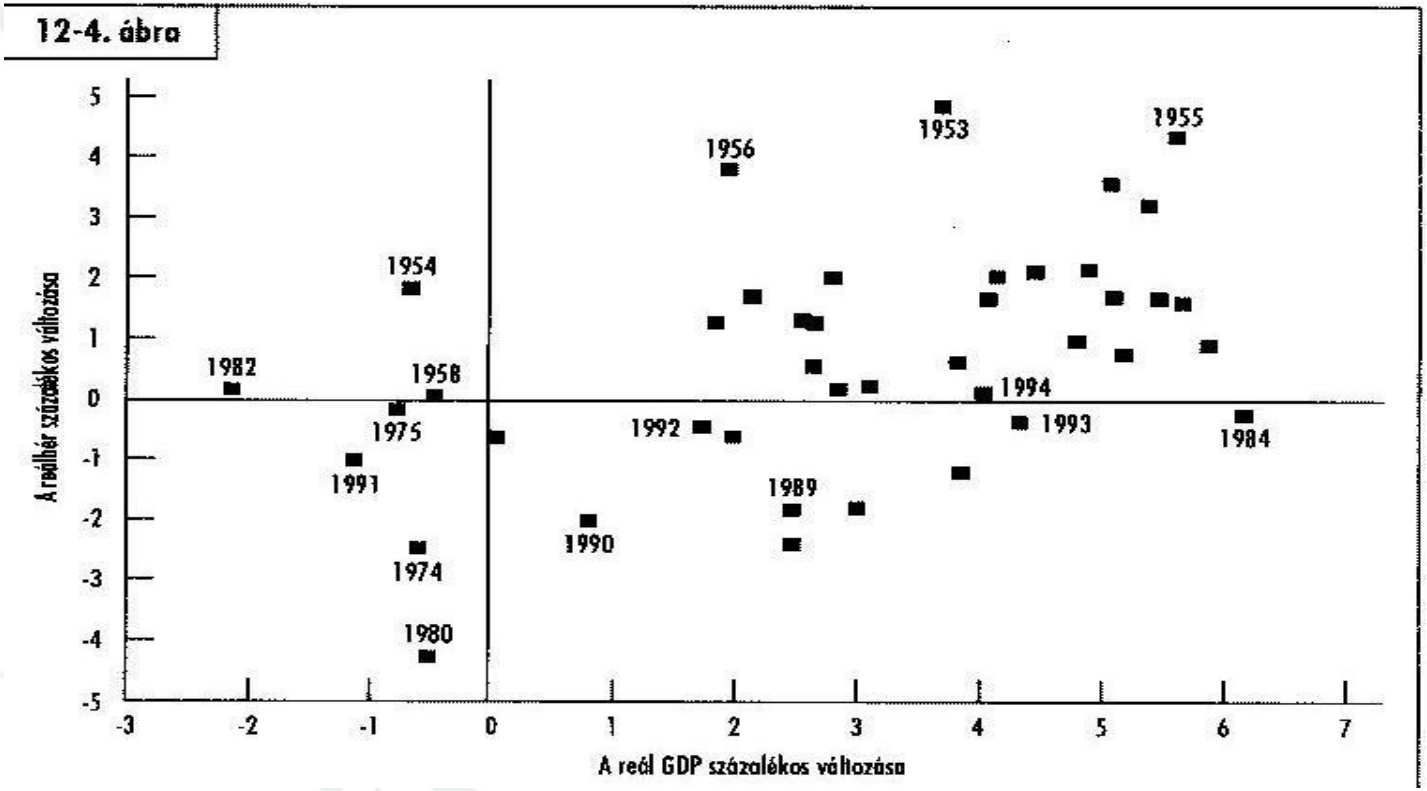
	Market will not clear	Market will clear
Labor market	1. Sticky wages	2. The worker misperception
Market of goods	3. Sticky prices	4. Imperfect-information

1. Sticky Wages

- Real wage and output are contra cyclical

$L^D(W/P)$; If P↑ ➔ $\underline{W/P \downarrow}$ ➔ $L^D \uparrow$ ➔ u ↓ ➔ $\underline{Y \uparrow}$

EMPIRICS Mankiw (2004) 365.o. 12-4. ábra



- Real wage and GDP are procyclical!
- Labor costs do not explain the low levels of employment and output in recessions.

3. Sticky Prices

Firms with **flexible prices**: $p=P^e + \alpha(Y^e - Y^*)$;

share: $0<(\boldsymbol{1-s})<1$

Firms with **sticky prices**: $E(Y^e)=Y^* \rightarrow p=P^e$;

share: $0<\boldsymbol{s}<1$

$$P=sP^e + (1-s)(P^e + \alpha(Y^e - Y^*))$$

$$P= P^e + \alpha(1-s)/s\ (Y-Y^*)$$

If ***s*** small (lot of firms with flexible prices) then if $\Delta Y^D \rightarrow \Delta P$ is big (SRAS is steep)

If $\underline{Y \downarrow} \rightarrow L^D \downarrow$ (curve shifts) $\rightarrow W \downarrow$ (***s*** big $\rightarrow$ P=const.) $\rightarrow \underline{(W/P) \downarrow}$

4. Imperfect-information

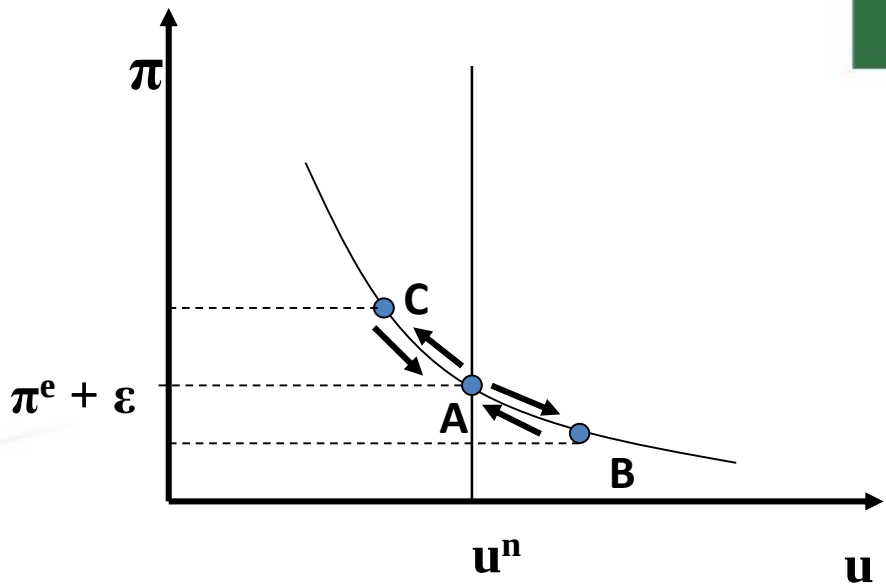
Robert Lucas's model: Relative price ←→ own price

If for all producer **i**: $P_i \uparrow > P^e$ ➔ $\underline{Y_i} \uparrow$ ➔ $L^D \uparrow$ ➔ workers work more only if real wage increases, if W/P goes up ➔only if W ↑↑, thus $\underline{(W/P) \uparrow}$ ➔ $L^S \uparrow$ ➔ u ↓

3. Phillips curve
– short-run tradeoff between: π, u –

Phillips curve

- $\pi = \pi^e - \beta(u - u^n) + \varepsilon$



- Expected inflation
- Cyclical unemployment: the deviation of u from the natural rate (u^n)
  - **NAIRU**: Non-Accelerating Inflation Rate of Unemployment (USA 6%)
- Supply shocks

Sacrifice ratio

- $\Delta Y / \Delta \pi = 5$ → cost of disinflation
- Okun: $\Delta Y / \Delta u = -2$
- Phillips: $\Delta u / \Delta \pi = -2{,}5$
- Depends on expectations!

Misery Index, **MI** – Arthur **Okun**

- Okun law: $\Delta Y/Y = 3\% - 2(u_t - u^*)$
- „Misery index” (**MI**)= $u+\pi = 5\%+5\% = 10$
  - Δ**MI**/$\Delta u = 4 \leftarrow\rightarrow \Delta$**MI**/$\Delta\pi = 1$

4. CONCLUSION

- The Phillips curve and the AS curve are two sides of the same coin (Mankiw 2015, p419)

- There is a widespread disagreement
  - about the practical importance of rational expectations (Mankiw 2015, p431)