ECONOMICS II
MACROECONOMICS

BMEGT30A101
BMEGT30A103
Monday: 8.15–9.45 (QA240)

SHORT-RUN AGGREGATE SUPPLY
– Phillips curve –
CH 14

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Gazdaság- és Társadalomtudományi Kar • Közgazdaságtan Tanszék
közgazdaságtan tanszék

CONTENTS

1. INTRUDUCTION

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 and unemployment
  - 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

INPUTS

EXOGENOUS VARIABLES

ΔG, ΔM

Short run, sticky prices
Business cycles
SRAS=AD ←IS-LM

ENDOGENOUS VARIABLES

Y, i, P=$\overline{P}$, L

Long run, flexible prices
Classical dichotomy
Monetary neutrality
LRAS = AD=Y=MV/P

ENDOGENOUS VARIABLES

Y=$\overline{Y}$, i, P, L

- 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)

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

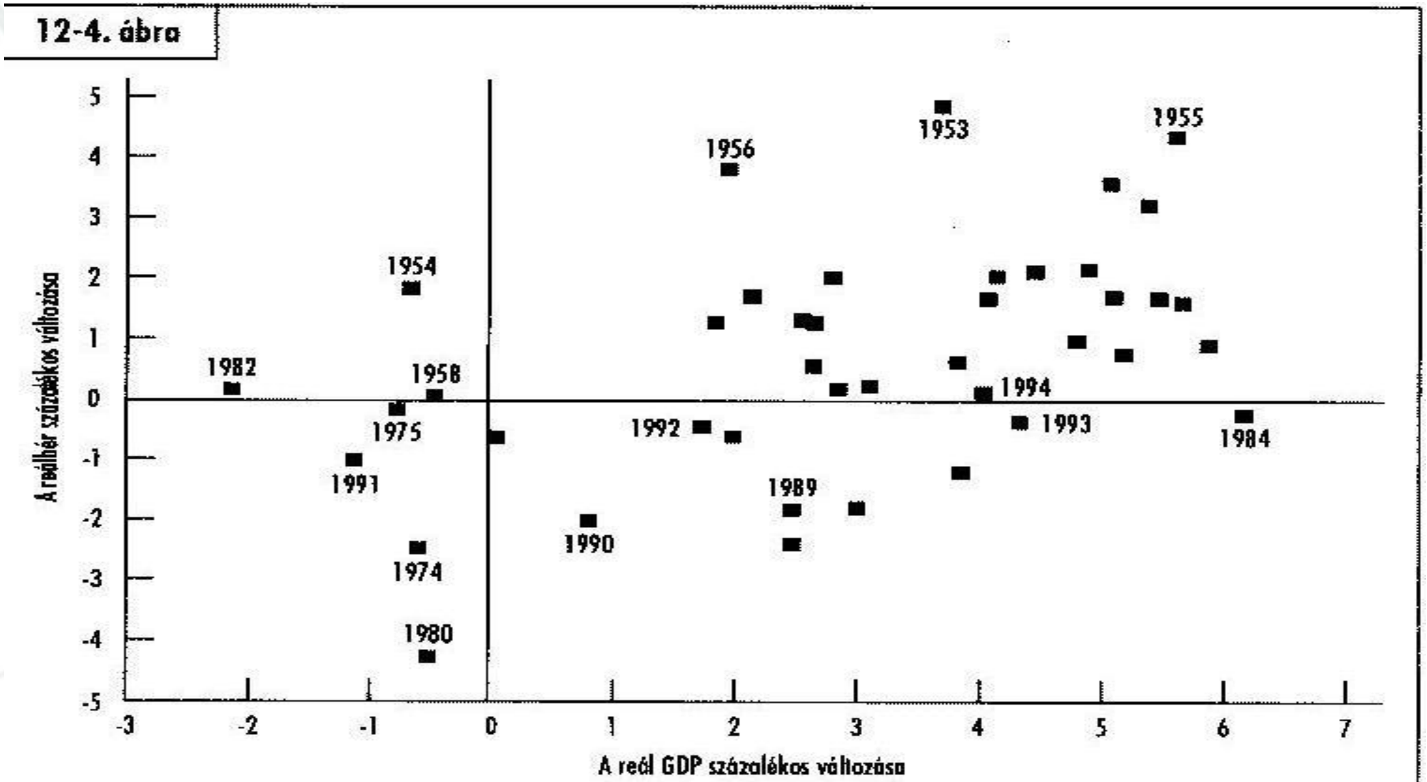
	Market will not clear	Market will clear
Labor market	1. Sticky wages	2. The worker misperception
Market of goods	3. Sticky prices	4. Imperfect-information

1. Sticky wages

- Real wage and output are contra cyclical

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

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**: $E(Y^e)=Y^*$ ➔ $p=P^e$;

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 ΔY^D ➔ ΔP is big (SRAS is steep)

If <u>Y ↓</u> ➔ L^D ↓ (curve shifts)➔ W ↓ (***s*** big➔P=const.) ➔ <u>(W/P) ↓</u>

4. Imperfect-information

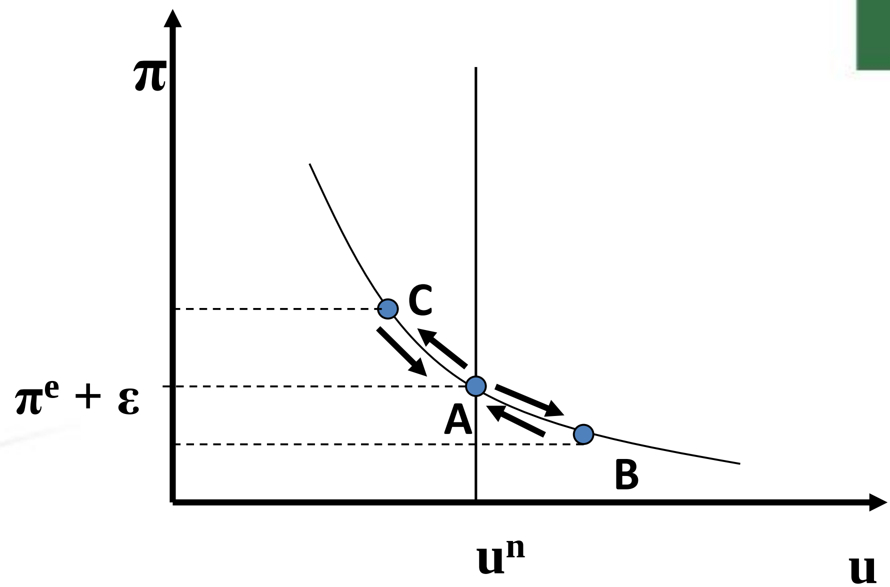
Robert Lucas's model: Relative price ←→ own price

If for all producer **i**: P_i ↑ > P^e ➔ <u>Y_i</u> ↑ ➔ L^D ↑ ➔ workers work more only if real wage increases, if W/P goes up ➔only if W ↑↑, thus <u>(W/P) ↑</u> ➔ L^S ↑ ➔ 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**/$\Delta u = 4$ ←→ Δ**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)