Solutions

Mid-Term Test

Macroeconomics (L0236)

November, 15 – 2017

Group A (40)

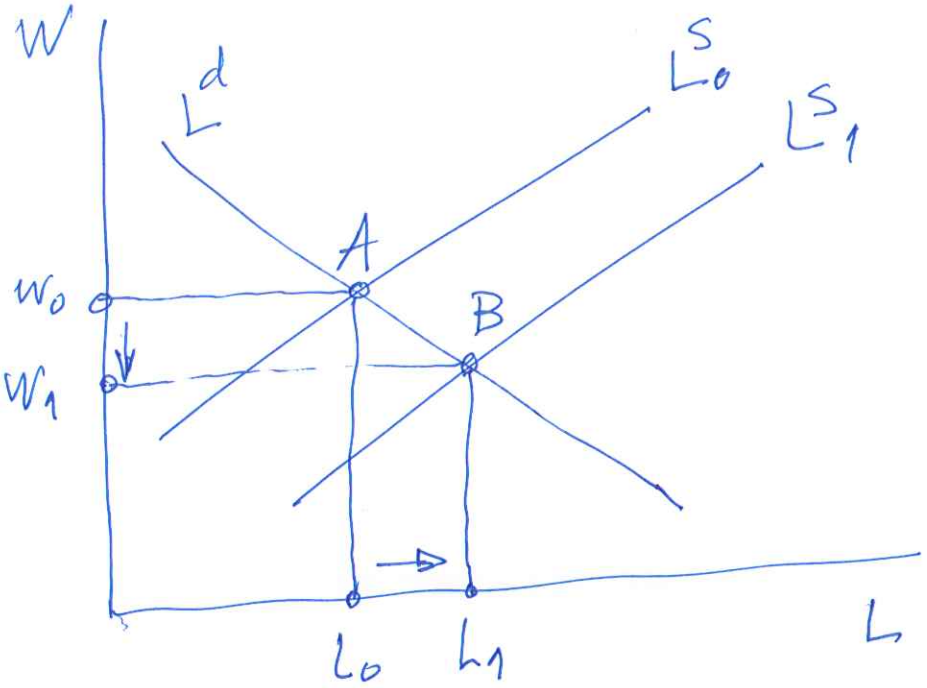
1. The endogenous variables are

$$L^d, L^s, w.$$

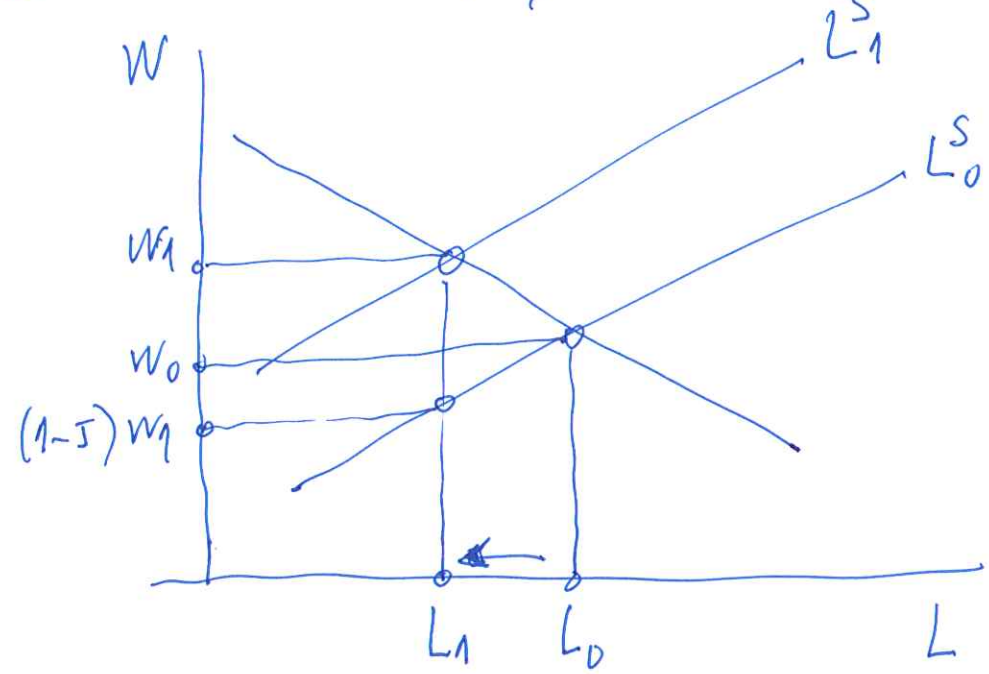
2. The model is solved by imposing the condition $L^d = L^s$. Then

$$w^* = \frac{\bar{f} - \bar{l}}{\bar{a} + g} \quad \text{and} \quad L^* = \bar{f} - \frac{\bar{f} - \bar{l}}{\bar{a} + g}.$$

3. If $\bar{l}$ increases, then the quantity of labor services will increase, shifting the L^s to the right and leading to an increase in employment (L) and a decrease in the wage rate (w), as can be seen in the next figure.



4. If a tax upon wages is imposed by the government then the L^S curve will shift to the left leading to higher wages paid by firms (W_1), lower wages received by workers [$W_1(1-T)$] and a reduction in employment from L_0 to L_1.



Group B (50)

1. $GDP_{2018} = 840$

$GDP_{2019} = 955$

growth rate = 13.7%

2. Real GDP — Base year 2018

Real $GDP_{2018} = 840$

Real $GDP_{2019} = 935$

Real GDP — Base year 2019

Real $GDP_{2018} = 855$

Real $GDP_{2019} = 955$

3. Growth rates of real GDP

Base year 2018: $g_{18} = 11.3\%$

Base year 2019: $g_{19} = 11.7\%$

4. Real GDP in chained 2018 prices

$\text{Real GDP}_{2018} = 840$

$\text{Real GDP}_{2019} = 840 \times g_c = 936.6$

$g_c = \sqrt{(1+g_{18})(1+g_{19})} = 1.115$

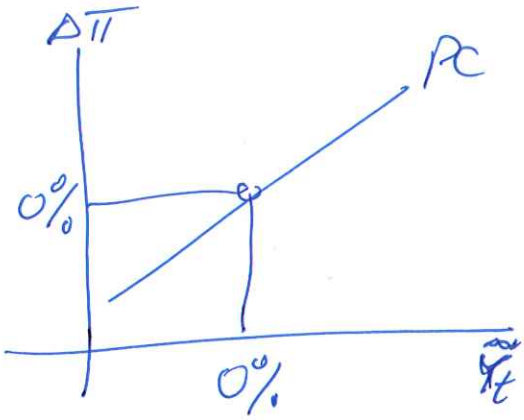
growth rate is 11.5%

5. Problems with fixed base years indices:

- Update the base year
- Rewrite the history of the economy.

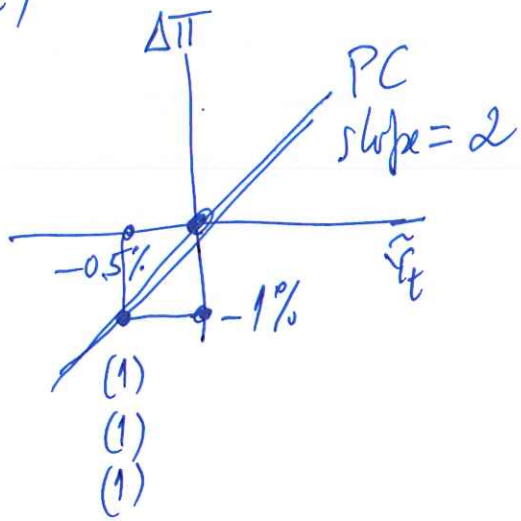
Group C (50)

1. The Phillips Curve

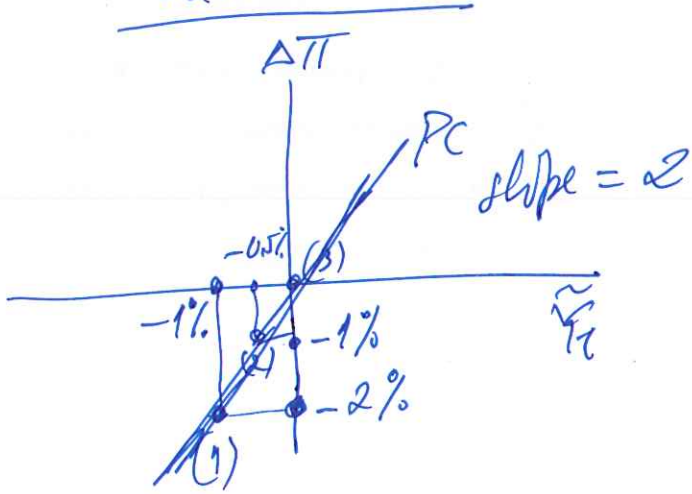


2.

(i) Scenario A



Scenario B



(ii) Scenario B is better : Lower level of accumulated inflation

(iii) Scenario B is preferable ∵ $\tilde{Y}_t = 0$ in the 3rd period

(iv) The trade-off : reducing inflation ⇒ lower output gap

Group D (60)

D1 — Real convergence is ...

Figure favours convergence because ....

D2 — The Quantity Theory of Money is:

$$M \times V = P \times Y$$

$$g_m + g_v = g_p + g_y$$

Figure supports the theory

D3 — The Okun's law is

$$\tilde{u}_t = -(1/2)\,\tilde{Y}_t$$

Figure supports the law ...