

Solutions

Exam 11/01/2018

Macroeconomics (L0271)

ISCTE-IUL

Vivaldo Mendes

Group 1

1. $\text{PIB nominal } 2010 = 14.000$
 $\text{PIB nominal } 2011 = 16550$
growth rate = 18.2%

2. Base - 2010 3 (10)
 $\text{PIB real } 2010 = 14.000$
 $\text{PIB real } 2011 = 16600$ } $g_{10} = 18.5\%$

Base - 2011
 $\text{PIB real } 2010 = 14000$
 $\text{PIB real } 2011 = 16.550$ } $g_{11} = 18.2\%$

4. Real GDP chained 2011 prices

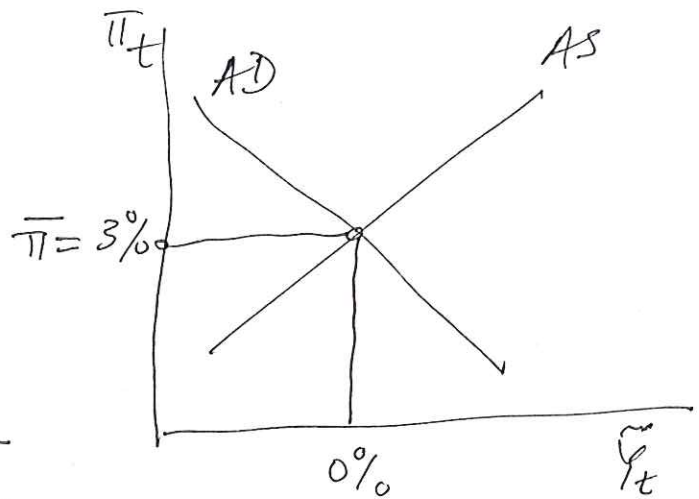
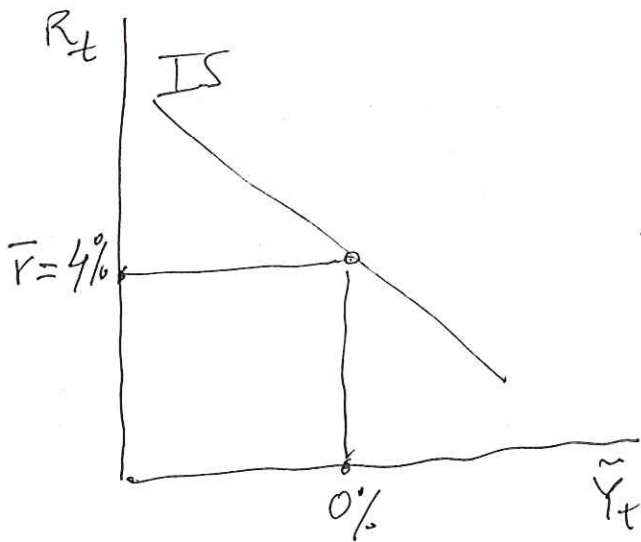
(10) $\text{PIB } 2010 = 16550 / 1.1839 = 13978.9$
 $\text{PIB } 2011 = 16550$
 $g^c = 18.39\%$

Gruppo B

1. Inserting the MP function into the IS function we will get the AD equation:

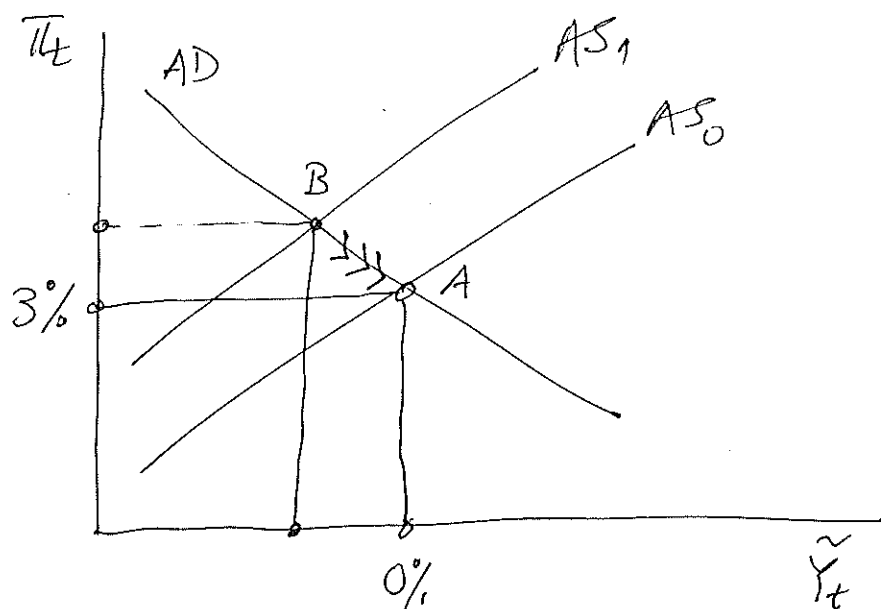
$$\tilde{Y}_t = \bar{a} - \bar{b}\bar{m}(\pi_t - \bar{\pi})$$

2. The equilibrium in this economy can be represented in both the IS/MP framework or the AS/AD framework as follows:



3. $\bar{\pi}$ increases by 5 percentage points. Then the adjustment process will be as follows:

(15)



A: initial equilibrium

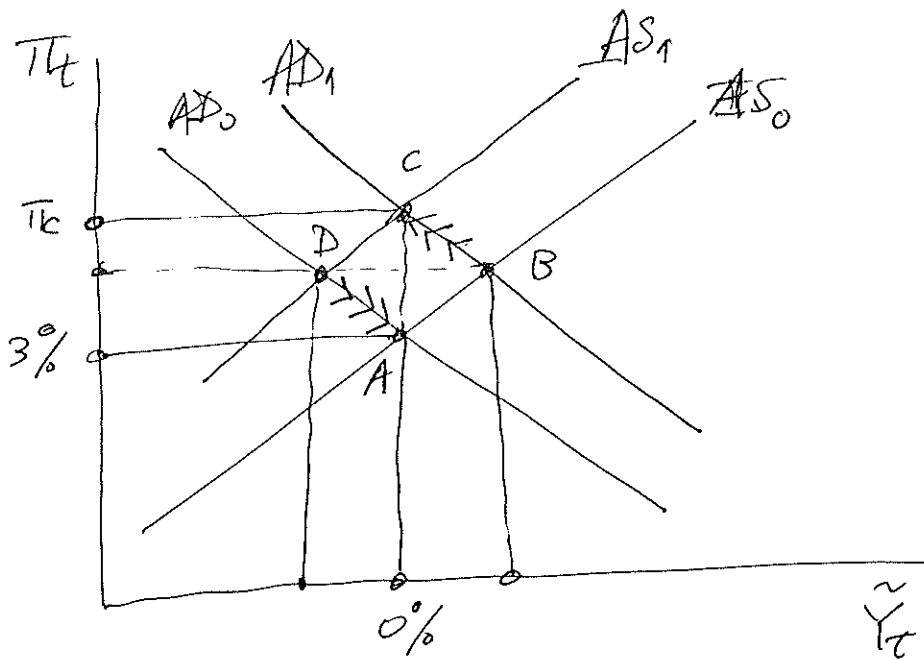
B: a point that results from an increase in $\bar{\pi}$ by 5 percentage points. This point is not an equilibrium point because the economy is in a recession.

$B \rightarrow A$: a recession at B will cause inflation to go down gradually and so the AS curve will move down gradually to point A.

A: the final equilibrium point.

4. a_{ex} increases by 2 percentage points. Then the adjustment will be as follows:

(15)



A: initial equilibrium

B: the result from a_{ex} increasing by 2 p.p. We have a boom and inflation will start to go up and, consequently, AS will move from AS_0 to AS_1 .

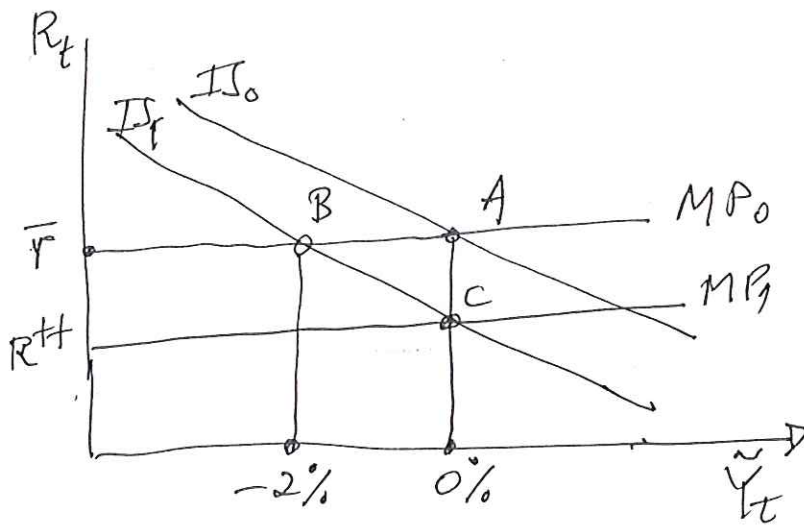
C: This point is not an equilibrium point because $\pi_c > \bar{\pi}$. So the central bank will induce a disinflationary process by increasing interest rates, which leads AD_1 to go back to AD_0 .

D \rightarrow A: at D we have a recession and inflation will go down and the AS' curve will shift downward until it reaches the new equilibrium point A.

Group B

B1

(25) Without financial frictions we have

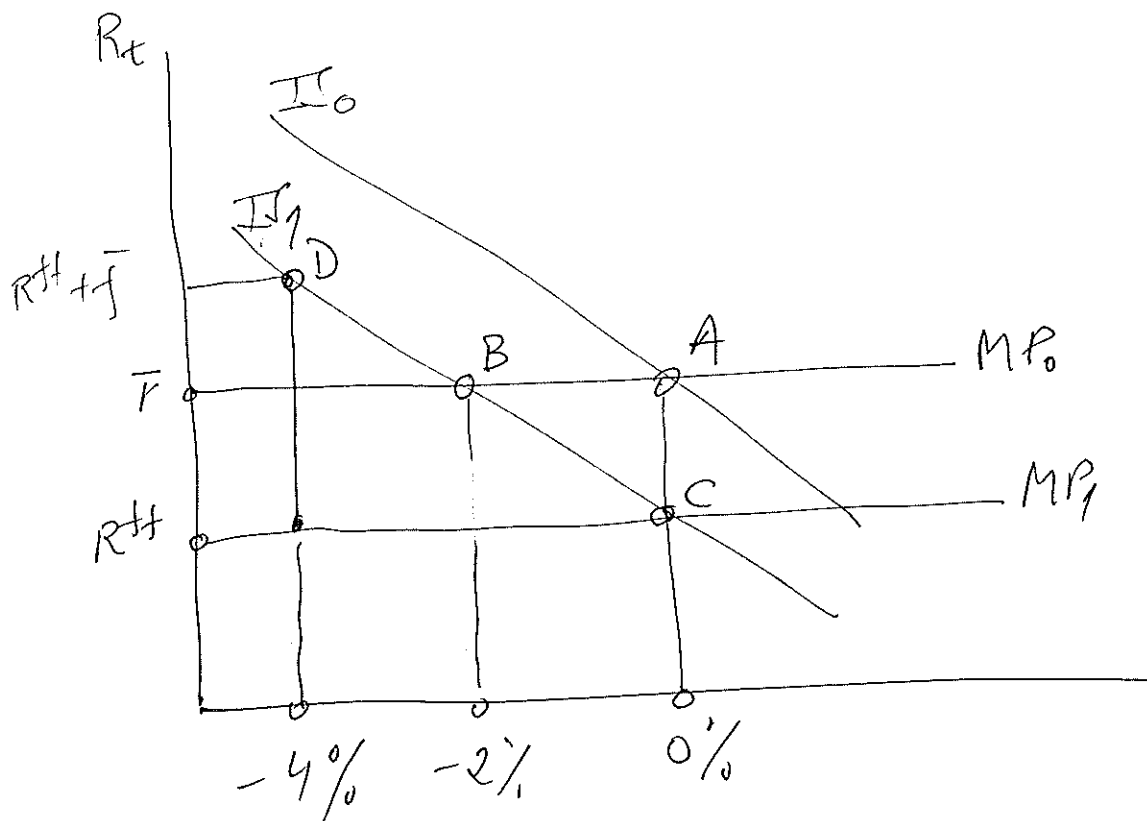


A : initial equilibrium point

B : the effect of a housing bubble burst

C : the Central Bank reduces nominal interest rates such that the new MP_1 will cross the new IS_1 at $\tilde{y}_t = 0\%$.

with financial frictions



D: the new equilibrium point

Instead of having the economy move from B to C, the economy will move to D due to a large financial friction

F.

B2.

1. The MP rule used in the textbook considers only \bar{r} and $(\pi_t - \bar{\pi})$

(05)

$$R_t = \bar{r} + m(\pi_t - \bar{\pi})$$

while the Taylor rule considers also the output gap

$$R_t = \bar{r} + m(\pi_t - \bar{\pi}) + n \tilde{y}_t$$

2. The three monetary policy instruments

(10)

are:

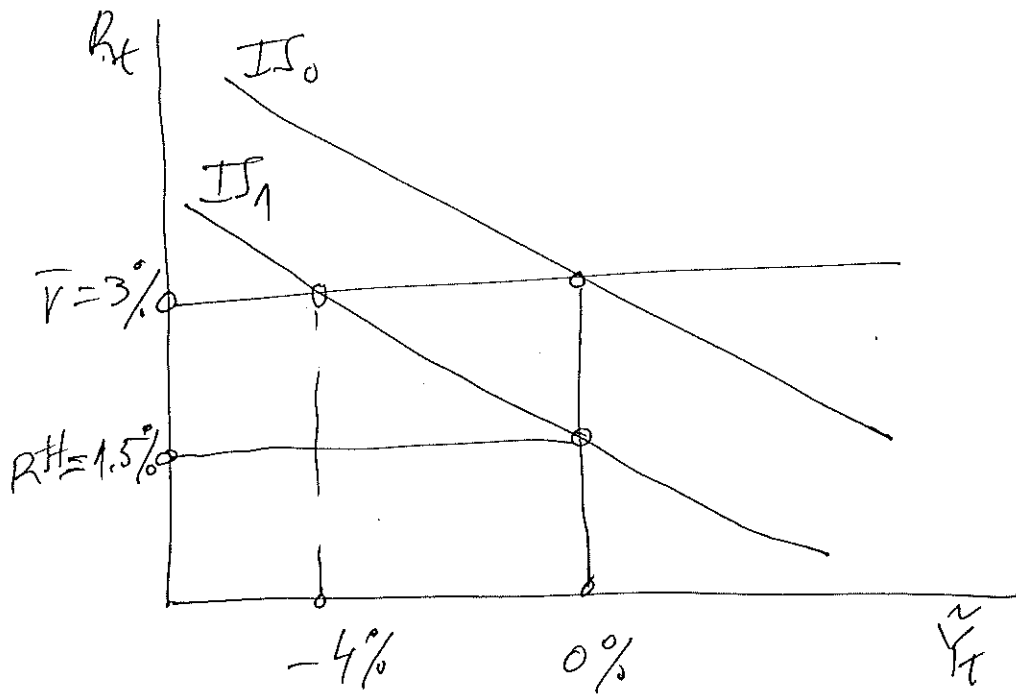
- reserve requirements (RR)
- discount rate (DR)
- open market operations (OMO)

To stimulate the economy the central bank should do as follows:

- RR reduced
- DR reduced
- OMO: buy financial assets

3. Consider this scenario at a certain point in time without no frictions:

$$R_t = 3\%, \quad \pi_t = 2\%, \quad \text{then } i_t = 5\%$$



Now suppose there is a financial friction quite large such that $f = 6\%$. In this case, the economy could be back to $\tilde{Y}_t = 0\%$ only if the central bank sets $i = -1\%$, or $i = 0\%$ and implement drastic measures in order to reduce the friction of 6% , like QE in the US and elsewhere.

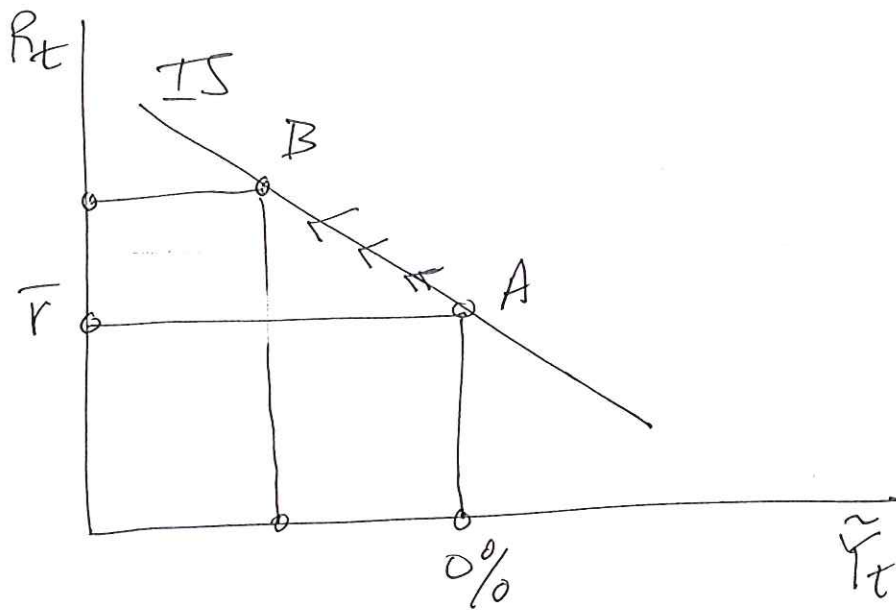
Group D

~~12~~

12
↓
≡

$\uparrow R^w \Rightarrow \downarrow E \Rightarrow \downarrow RER \Rightarrow \uparrow NX$
 $\uparrow R \Rightarrow \uparrow E \Rightarrow \uparrow RER \Rightarrow \downarrow NX$

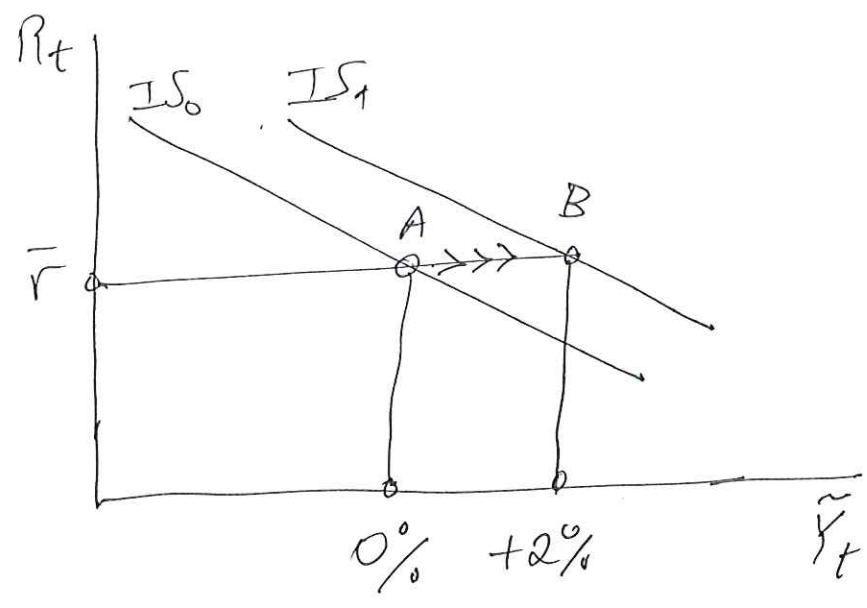
12
2.
≡



An increase in i_t leads to a recession,
if the initial point was such that
 $\tilde{Y}_t = 0\%$.

12) 3.

If the government increases public spending by 2 percentage points then



4. The results will be different, depending on the type of decision:

14)

