

Problem Sets 9 : Chapter 7. ADAS Model

Please submit at the BE office, 5th floor department of Economics building.

**Deadline of submission** : May 15, 2017, before 15.00 hrs. **Late submission will not be accepted.**

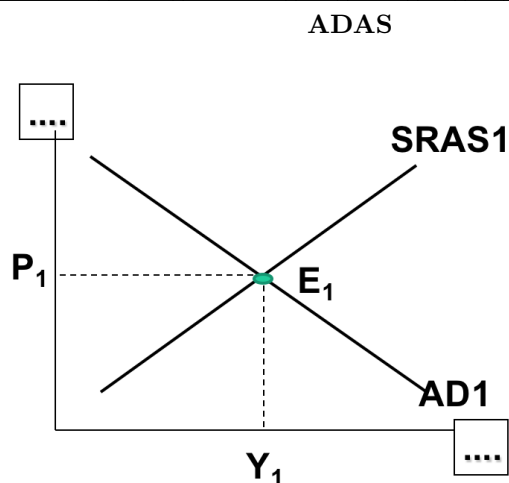
**Instruction** : Complete the graph. Draw additional graph(es) necessary. Indicate all points relevant to the analysis. Fill all the blanks to answer the question. Do anything necessary to completely answer the question.

I do apologize if there is any mistake. Please correct it(them) if any.

1. In short run

- (a) If there is a big drought in agricultural production area in the northeastern part of Thailand, holding other things being equal what would be the effects on the economy overall price and national income based on the ADAS model analysis?
- (b) If central bank of the country wants to **restore the original price level** (before the big drought), explain possible monetary policy tools (measures) that can stabilize the economy in terms of price level. Show the effect of Policy on the ADAS graph.

Answer (The graphes are used for (a) and (b)).



- Initially, the economy is at ADAS model equilibrium. Price is at  $P_1$ . Output is at  $Y_1$ . Interest rate is at  $r_1$ . Money market and Good market are in equilibrium at  $E_1$ .

Answer to question (a)

- There is a big drought in agricultural production area in the northeastern part of Thailand. The big drought is **negative supply shock**. This will make the aggregate production function of the country rotates downward. Aggregate ..... (Demand or Supply) shifts to the ..... (left, right). [Add the new AS or AD graph to the ADAS graph.]
- Overall price level ..... (increases, decreases) from  $P_1$  to  $P_2$ . National Income ..... (increases, decreases) from  $Y_1$  to  $Y_2$ . \*\*\* [Indicate  $P_2$  and  $Y_2$  on the ADAS graph.]
- New equilibrium is at  $E_2$ . [Indicate  $E_2$  on the graph.]
- This is situation is called .....

Answer to question (b)

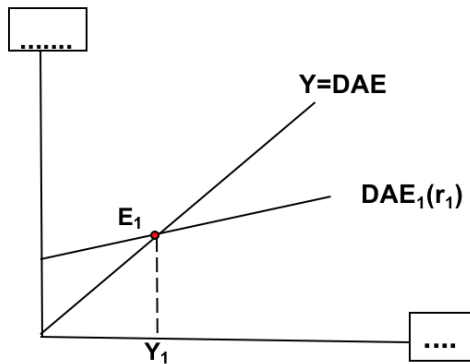
- From question (a), the price level ..... (increases, decreases).
- If central bank of the country wants to restore the original price level (before the big drought), central bank needs to ..... (increase, decrease) money supply by implementing ..... (an expansionary, a contractionary) monetary policy.
- This can be done by using these following monetary policy tools (measures);
  - \* Open Market Operation : Central Bank ..... (buys, sells) government securities.
  - \* Rediscount rate : Central Bank ..... (increases, decreases) the rediscount rate.

- \* Legal reserve requirement ratio : Central Bank ..... (increases, decreases) the legal reserve requirement ratio.
- Money supply ..... (increases, decreases) from MS1 to MS2.
- Real money supply .....(increases, decreases) for all levels of price.
- .....(IS or LM) curve shifts to ..... (left, right).
- Output ..... (increases, decreases) for all levels of price.
- ..... (AD or AS) shifts to the ..... (right, left). [Add the new AD or AS graph to the ADAS graph]
- Price level .....(increases, decreases) from P2 to P1, back to the original price level. Price level is restored.
- Output .....(increases, decreases) from Y2 to Y3. [Indicate Y3 on the ADAS graph].
- The new equilibrium is at E3. [Indicate E3 on the graph.]
- In conclusion, price level is restored. Output problem ..... (gets better , gets even worse, remains the same, else-specify).

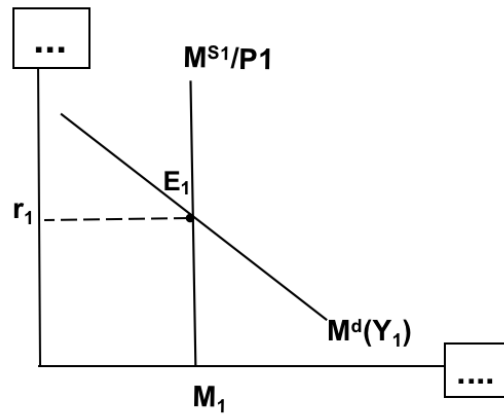
**Note that to answer a question with many parts, please indicate clearly the answer for each part of the question.**

2. In case of **stagflation**, suppose central bank of the country wants to **solve the inflation problem**. Should the central bank increase or decrease money supply? Use ISLM ADAS model to explain your answer.

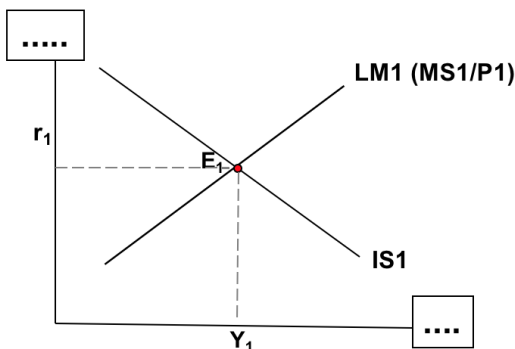
DAE Model



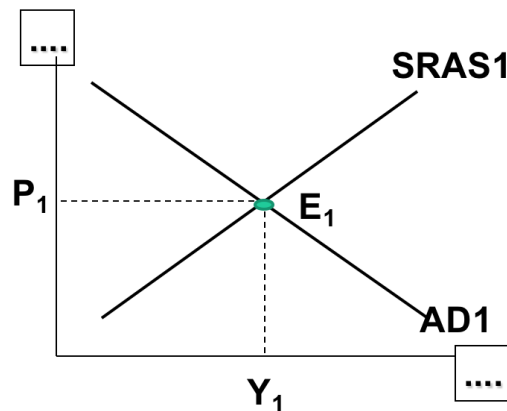
Money Market



ISLM



ADAS



- Initially, the economy is at ADAS model equilibrium. Price is at  $P_1$ . Output is at  $Y_1$ . Interest rate is at  $r_1$ . Money market and Good market are in equilibrium at E1.
- Since central bank wants to solve the inflation problem, the central bank needs to ..... (increase, decrease) money supply by implementing ..... (an expansionary, a contractionary) monetary policy.
- Money supply ..... (increases, decreases) from MS1 to MS2.
- Real money supply .....(increases, decreases) from  $\frac{MS1}{P1}$  to  $\frac{MS2}{P1}$  .
- .....(IS or LM) curve shifts to ..... (left, right). [Add the new IS2 or LM2 graph to the ISLM graph.]
- Output ..... (increases, decreases) for all levels of price.
- ..... (AD or AS) shifts to the ..... (right, left). [Add the new AD2 or AS2 graph to the ADAS graph]
- Price level .....(increases, decreases) from P1 to P2. [Indicate P2 on the ADAS graph.]
- Labor market
  - P ..... (increases, decreases) ,
    - \* real wage ..... (increases, decreases) , Labor demand ..... (increases, decreases)
    - \* Employment ..... (increases, decreases)
    - \* Y ..... (movement along AS curve) from Y1 to Y2. [Indicate Y2 on the ADAS graph.]
- In conclusion, price level is ..... (increased, decreased). Output is ..... (increased, decreased).
- Inflation problem is ..... (is solved , gets even worse, remains the same, else-specify). Output problem ..... (is solved , gets even worse, remains the same, else-specify).
- Details on the ISLM model/DAE model/ Money Market.
  - From the ADAS analysis. Price level .....(increases, decreases) from P1 to P2 and Output .....(increases, decreases) from Y1 to Y2.
  - **The ISLM model,**
    - \* as price level .....(increases, decreases) from P1 to P2, Real money supply .....(increases, decreases) from  $\frac{MS2}{P1}$  to  $\frac{MS2}{P2}$  .
    - \* ..... (IS or LM) curve shifts to the ..... (right, left) from ..... (IS2 or LM2) to ..... (IS3 or LM3). [Add the new IS3 or LM3 graph to the ISLM graph.]
    - \* This is called ..... effect.
    - \* Equilibrium output is at E2. Output is at Y2. Interest is at r2. [Indicate E2, r2 and Y2 on the ISLM graph.]
  - **The DAE model,**
    - \* the interest rate ..... (increases, decreases) from r1 to r2. Investment ..... (increases, decreases) for all levels of output.
    - \* DAE shifts ..... (upward, downward) from DAE1 to DAE2.
    - \* New equilibrium is at E2. Output is at Y2. Interest is at r2. [Indicate E2 and Y2 on the DAE graph.]
  - **The Money Market Graph.**
    - \* Real money supply .....(increases, decreases) from  $\frac{MS1}{P1}$  to  $\frac{MS2}{P2}$  .
    - \* Real money supply shifts to the ..... (left, right). [Draw  $\frac{MS2}{P2}$  on the Money Market Graph]
    - \* Output ..... (increases, decreases). Real money demand shifts to the ..... (left, right). [Draw Md(Y2) on the Money Market Graph]
    - \* Real interest rate ..... (increases, decreases) from r1 to r2.
    - \* New equilibrium is at E2. Interest is at r2. [Indicate E2 and r2 on the Money Market Graph.]