Econ. 244: International Finance **Final Exam**
Professor Canzoneri **Spring, 2009**

Take time to read each question carefully and think before answering. Note that there are more questions on the back side. Good luck! And, have a great summer break.

Question I: Suppose an American bond trader observes that $R_{\$} < R_{€} + (E^{e}_{\$/€} - E_{\$/€})/E_{\$/€}$, and suppose that the Fed and the ECB are holding their money supplies fixed.

Part A: What would the bond trader do, and why? How would her actions (along with other bond traders' actions) affect $R_{\$}$, $R_{€}$, and $E_{\$/€}$ in the financial markets, and why? (assuming that Y is not yet affected).

Part B: Do the traders' actions bring the expected returns on the two bonds back into equality? Justify your answer.

Question II: Looking ahead to when the banks are again lending and the economy is recovering, inflation may once again be on the rise.

Part A: As banks begin lending again, M1 will rise. Explain why?

Part B: Suppose the Federal Reserve decides to increase interest rates. Use the AA-DD diagram for the US economy to analyze the effects of this interest rate rise. Label all axes and curves, and be sure to explain why you shift any curve. In particular, explain what exactly the Fed has to do to raise interest rates. Label the impact effect (if there is one), and show the path of adjustment to the new short run equilibrium.

Part C: Going behind the AA and DD curves, explain the "story" of what is happening in goods and financial markets. Where is the effect first felt? What causes the impact effect, if there is one. What are the forces of supply and demand that cause any movements in interest rates, exchange rates, output and the current account.

Part D: Suppose the Obama administration is forced to increase taxes to finance the recovery program. Use the AA-DD diagram for the US economy to analyze the *simultaneous effects* of the tax increase (do not worry about the increase in G) and the Fed's actions. Label all axes and curves, and be sure to explain why you shift any curve. Label the impact effect (if there is one), and show the path of adjustment to the new short run equilibrium.

Question III: Here you will analyze the effectiveness of fiscal policy under different assumptions about monetary policy.

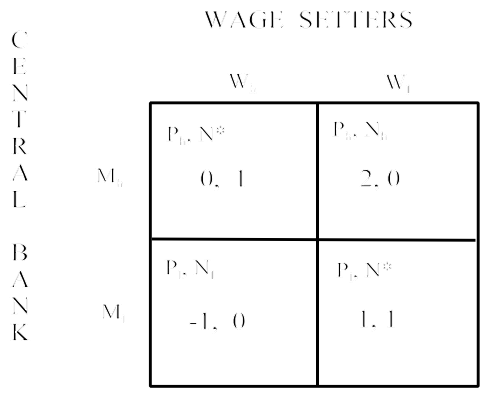
Part A: Suppose G is increased by, say, 10 billion. Is the effect on output greater under fixed exchange rates or under flexible rates. Justify your answer with diagrams.

Part B: Give an intuitive explanation (involving the market forces of supply and demand) for your result in Part A.

Part C: Why were some countries unwilling to devalue against the DM in 1992? How does your answer relate to the Barro Gordon model? Limit your answer to one blue book page.

Question III: Recall Able and Bernanke's version of Barro & Gordon's Credibility Model:

Point Assignments		
	W Setters	CB
N*	1	0
N_h	0	2
N_l	0	-2
P_h	0	0
P_l	0	1



Part A: Define "Nash Solution." And find the Nash solution(s?) in this game

Part B: The top right box gives the Central Bank the highest score of all the boxes. Suppose the CB makes a promise to play M_h. Suppose the promise is credible; that is, the Central Bank can not renege. Will the Central Bank get it's 2 points? Why, or why not?

Question V: International Debt and the Financial Crisis –

1. The TED spread and to Libor-OIS spread are two different measures risk in the banking sector. Explain what the TED spread is, and what Libor and OIS are. Explain each spread measures a different kind. Use no more than two blue book pages.
2. US household saving is beginning to rise, and US business investment is down. Use the national income accounting identities to show how these two factors (in isolation) will decrease our need to borrow from foreigners. Explain the result intuitively. Use no more than one blue book page.
3. The three month Treasury bill rate has essentially been driven to zero. What risk factors account for this. Use no more than one blue book page.

Question VI: Quickies (Choose the best (one) answer.)

1. Sterilized interventions
   A. have no effect on the exchange rate if bonds are 'perfect substitutes'.
   B. have no effect on the supply of domestic bonds.
   C. have no effect on the domestic money supply.
   D. A and C are both correct**.**

2. Seigniorage is
   A. The profits that the Federal Reserve gives to Treasury at the end of the year.
   B. The portion of the deficit that is monetized.
   C. The value of the coins that the Fed issues each year.
   D. The interest payments Treasury has to pay on the debt each year.

3. If we modified our model so that investment depended on interest rates,
   A. monetary policy would have a bigger effect on output.
   B. monetary policy would have a smaller effect on output.
   C. fiscal policy would have no effect on exchange rates.
   D. fiscal policy would have no effect on output.

Econ. 244: International Finance **Final Exam**
Professor Canzoneri **Spring, 2006**
ANSWER KEY

Question I: (5 points, each part) Suppose an American bond trader observes that $R_{\$} < R_{€} + (E^{e}_{\$/€} - E_{\$/€})/E_{\$/€}$, and suppose that the Fed and the ECB are holding their money supplies fixed.

Part A: What would she do, and why? How would her actions (along with other bond traders' actions) affect $R_{\$}$, $R_{€}$, and $E_{\$/€}$ in the financial markets, and why? (assuming Y is not yet affected).

Part B: Do the traders' actions bring the expected returns on the two bonds back into equality? Justify your answer.

ANSWER –

Part A: $R_{\$} < R_{€} + (E^{e}_{\$/€} - E_{\$/€})/E_{\$/€} \Rightarrow$ expected return on dollar bonds is lower than on euro bonds, so traders sell dollars and buy euro, making the euro appreciate (or the dollar depreciate). $E_{\$/€} \uparrow$; $R_{\$}$, $R_{€}$ are unaffected since the supply and demand for money are unaffected.

Part B: Yes. $R_{\$} < R_{€} + (E^{e}_{\$/€} - E_{\$/€})/E_{\$/€} = R_{€} + (E^{e}_{\$/€}/E_{\$/€}) - 1$. So, $E_{\$/€} \uparrow$ lowers the RHS until we have equality and the arbitrage profits are eliminated.

Question II: Looking ahead to when the banks are again lending and the economy is recovering, inflation may once again be on the rise.

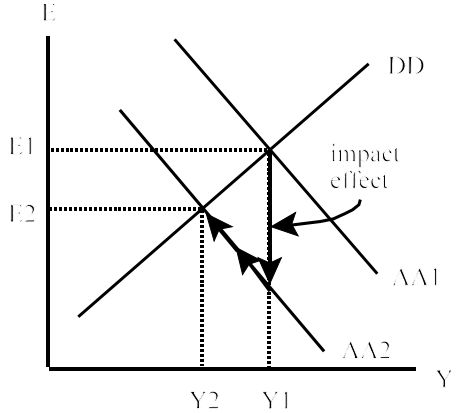
Part A: (5 points) As banks begin lending again, M1 will rise. Explain why?

ANSWER –

M1 = money mult * (currency + bank reserves), but if banks aren't lending the multiplier process does not work; as banks start lending it does, and M1 rises

Part B: (10 points) Suppose the Federal Reserve decides to increase interest rates. Use the AA-DD diagram for the US economy to analyze the effects of this interest rate rise. Label all axes and curves, and be sure to explain why you shift any curve. In particular, explain what exactly the Fed has to do to raise interest rates. Label the impact effect (if there is one), and show the path of adjustment to the new short run equilibrium. .

ANSWER –



The Fed would have to sell bonds (decreasing the money supply) to raise R; this would shift the AA curve down.

The impact effect and the path of adjustment are shown.

Part C: (10 points) Going behind the AA and DD

curves, explain the "story" of what is happening in goods and financial markets. Where is the effect first felt? What causes the impact effect, if there is one. What are the forces of supply and demand that cause any movements in interest rates, exchange rates, output and the current account.

ANSWER –

initial effect is in financial markets (5 points)

$M^s\downarrow \rightarrow$ excess demand for M $\rightarrow$ R$\uparrow \rightarrow$ ED for B $\rightarrow$ E$\downarrow$ as traders move from Euro to dollars

E appreciates immediately to shift AA2 up (the impact effect).

spills over to goods market (5 points)

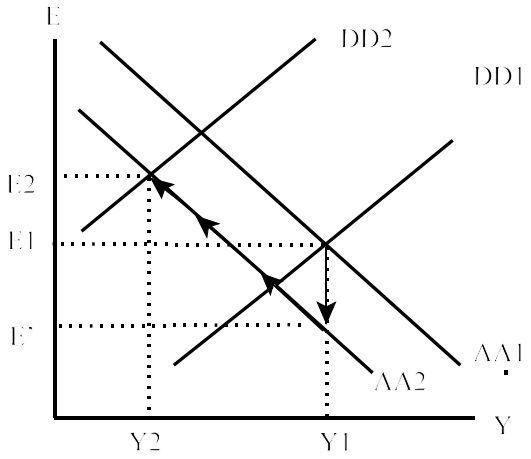
E$\downarrow \rightarrow$ EP*/P$\downarrow$, the relative price of foreign goods falls $\rightarrow$ Y$\downarrow$ (slowly)

effect on CA is ambiguous, Y effect increases CA while E effect decreases it.

Part D: (10 points) Suppose the Obama administration is forced to increase taxes to finance the recovery program. Use the AA-DD diagram for the US economy to analyze the *simultaneous effects* of the tax increase (do not worry about the increase in G) and the Fed's actions. Label all axes and curves, and be sure to explain why you shift any curve. Label the impact effect (if there is one), and show the path of adjustment to the new short run equilibrium.

ANSWER –

As before, the Fed would sell bonds $\Rightarrow$ M$\downarrow$, shifting AA as already explained.



DD shifts left as T$\uparrow$ stifles consumer spending.

Impact effect takes E to E', then it rises along AA2 as Y falls.

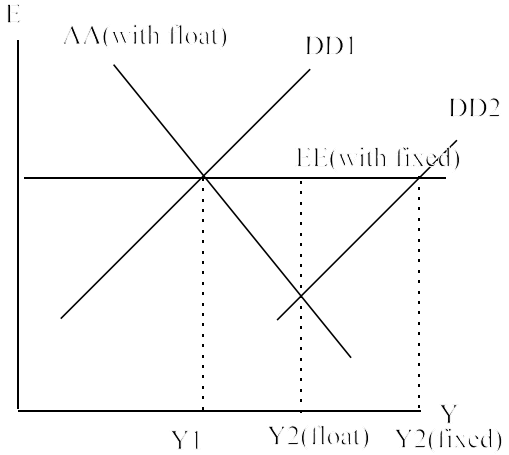
Since output falls, job creation is likely to be curtailed.

Question III: Here you will analyze the effectiveness of fiscal policy under different assumptions about monetary policy.

Part A: (5 points) Suppose G is increased by, say, 10 billion. Is the effect on output greater under fixed exchange rates or under flexible rates. Justify your answer with diagrams.

ANSWER –

In either case, the DD curve shifts right by the same amount (DD1 to DD2), but:



So, the effect on Y is greater under fixed rates.

Part B: (5 points) Give an intuitive explanation (involving the market forces of supply and demand) for your result in Part A.

ANSWER –

With flexible rates, the exchange rate appreciates, making $EP^*/P\downarrow$. This lowers the relative price of the foreign good, increasing the demand for it relative to the home good. So, the net increase in demand for the home good is less under flexible rates.

Part C: (5 points) Why were some countries unwilling to devalue against the DM in 1992? How does your answer relate to the Barro Gordon model? Limit your answer to one blue book page.

ANSWER –

As discussed many times in class, they had their inflation credibility – for Topic 1 type reasons – tied up with their exchange rate peg with the DM. Full credit should explain this more fully.

Question III: Recall Able and Bernanke's version of Barro & Gordon's Credibility Model:

Point Assignments

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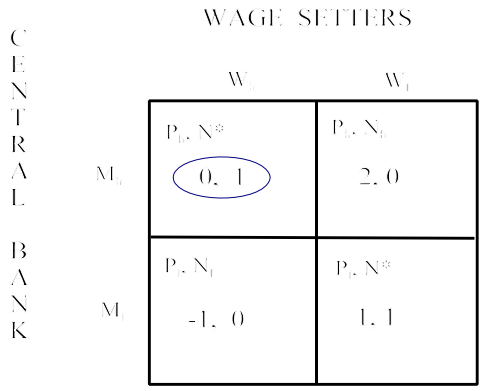

Part A: (5 points) Define "Nash Solution." And find the Nash solution(s?) in this game

ANSWER –

In a Nash solution, each player is doing the best he/she can do given what the other player is doing. The only Nash solution is the NW box.

Part B: (5 points) The top right box gives the Central Bank the highest score of all the boxes. Suppose the CB makes a promise to play M_h. Suppose the promise is credible; that is, the Central Bank can not renege. Will the Central Bank get it's 2 points? Why, or why not?

ANSWER –

No. The promise is credible, but if the wage setters think the CB will play M_h, they will play W_h, resulting in the NW box. The CB gets 0 points.

Question V: International Debt and the Financial Crisis –

1. (10 points) The TED spread and to Libor-OIS spread are two different measures risk in the banking sector. Explain what the TED spread is, and what Libor and OIS are. Explain each spread measures a different kind. Use no more than two blue book pages.

ANSWER –

TED spread = Libor - (T-bill rate)

They should define Libor and OIS

Government is the safest, or least risky, borrower; so TED shows risk premium on bank debt (or private debt) relative to the safest borrower.

Lending Libor risks principle and interest, OIS only risks interest spreads; so, spread measures counter party risk on principle.

2. (8 points) US household saving is beginning to rise, and US business investment is down. Use the national income accounting identities to show how these two factors (in isolation) will decrease our need to borrow from foreigners. Explain the result intuitively. Use no more than one blue book page.

ANSWER –

We used the accounting identities to show that: $-CA = S_{household} - I - (G - T)$

- CA is the borrowing from foreigners. Now there is more domestic savings to finance domestic borrowers, I and G - T, and I is also down; so, less needed from foreigners.

3. (5 points) The three month Treasury bill rate have essentially been driven to zero. What risk factors account for this.

ANSWER –

Since lending to banks or other financial entities is now risky, investors demand the safest asset, driving its price us and its return down.

Question VI: (2 points each) Quickies –

1. Sterilized interventions (Choose the best (one) answer.)
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2. Seigniorage is (Choose the best (one) answer)
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