Department of Economics 3/2/06
University of California, Berkeley Economics 182

Problem Set 3

Due in class on Thursday, March 16.
To be handed at the beginning of lecture to your GSI.
Please write your name, GSI name, and section time in your problem set.

Question 1 – Fiscal policy under balanced budget in AA/DD framework

Imagine that Congress passes a constitutional amendment requiring the U.S. government to maintain a balanced budget at all times. Thus, if the government wishes to change government spending, it must change taxes by the same amount, that is, $\Delta G = \Delta T$ always.

(a) Suppose that the government has a balanced budget and decides to cut government expenditures and simultaneously cut taxes by the same amount.
(i) Using the model of determination of output in the short run, explain whether aggregate demand increased or decreased.
(ii) Using the AA - DD diagram, discuss what happens to the exchange rate and output.
(b) Suppose instead that the government decides to finance a tax cut by printing extra money while keeping government expenditures unchanged. What will happen to the exchange rate and the output level in this case?

Question 2 – Modification of AA/DD diagram

How would you draw the DD-AA diagram when the current account's response to the exchange rate follows a J-curve? Use this modified diagram to examine the effects of *both temporary and permanent* (i) monetary expansion and (ii) fiscal expansion.

Question 3 – Fixed exchange rates and central bank intervention

Oil prices have recently reached \$60 a barrel. Suppose you are a member of the monetary policy committee of a small open economy, dependent on oil imports, which also wants to maintain a currency peg to the dollar.

(a) Describe the pressures that the currency would face due to the increase in oil prices? (Hint: think about the effects of the higher oil prices on the domestic price level as well as the current account). How would the central bank have to respond

in order to maintain the currency peg? Will this response by the central bank increase or decrease foreign reserves?
(b) Describe the impact of the Central Bank actions on the money supply, output, and domestic interest rates. If the economy is in a mild recession or below potential output, describe the dilemma that policymakers face.
(c) Suppose the central bank decides to *sterilize* its foreign-exchange intervention. Answer questions a. and b. once more. This time, will the central bank's domestic assets increase or decrease?
(d) Many Asian central banks peg their currencies to the dollar and hold US treasury bills as foreign assets. Supposing these central banks have to undertake the intervention in part a., discuss what effect this intervention could have on the US economy. Highlight the effect (if any) on US deficits, exchange rate and interest rate.

Question 4 – Policies under fixed exchange rates

In preparation for membership in the European Monetary Union (EMU), countries had to participate for 2 years in the European Monetary System (EMS). The EMS served to ensure that potential member-countries are able to maintain stability of their exchange rates relative to one another before they join the EMU and they effectively give up their currency. The German currency, the Deutsche Mark (DM), was considered the benchmark currency due to Bundesbank's (Germany's central bank) reputation in maintaining low inflation and a strong, stable currency.

(a) In 1996 Italy entered (for a second try) the EMS. What kind of constraints did this impose on macroeconomic stabilization policies in Italy? Were there similar constraints for Germany?
(b) Italy at that time had a fixed exchange rate against the DM, but a floating rate against the dollar. Which framework is appropriate for analyzing Italy's economy – floating or fixed? Why?

Question 5 – Speculative attacks

This problem will take you through the speculative attack on the forint (the Hungarian currency) in January 2003.

(a) During 2001 and 2002, Hungary posted an outstanding economic performance. Explain why this created upwards pressure on Hungarian wages and prices [Hint: Remember that Hungary is a transition country that is converging to West European income levels]. What does this imply about real exchange rates?
(b) In order to stabilize prices, the central bank committed itself to an inflation target. At the same time, Hungary was aspiring to membership in the European

Monetary Union, and was following an exchange rate band with the euro (preparing itself for the Exchange Rate Mechanism II). Explain why these two objectives – an inflation target and an exchange rate band – might be conflicting.
(c) The head of the Hungarian central bank, Mr. Zsigmond Jarai, made several announcements in the later months of 2002 showing a strong commitment to the disinflation process (and thus to the inflation target). If you were a speculator on the market for forint/Euro at that time, what would you expect regarding monetary policy in Hungary? What actions would you take?
(d) In December 2002, the Hungarian Central Bank cut interest rates in order to tame the appreciation of the forint. At that time, it was successful in stopping capital inflows. However, on 15-16th January 2003, foreign commercial banks launched a massive speculative attack on the forint – they bought forint in expectation of an interest rate increase and/or a revaluation of the band, in accordance with meeting the inflation target. This brought the forint to its strong (lower) end of the band. If you were Mr. Jarai, what action would you take? What are the risks?
(e) It turns out that the Hungarian Central Bank was successful in fighting this speculative attack. What message did the Hungarian central bank send through its action in this speculative episode?

Question 6 – True/False/Uncertain questions from old midterm exams

Explain briefly your answer in a few sentences, and cite the relevant theories, when applicable.

(a) An increase in domestic output is always associated with a nominal appreciation of the domestic currency;
(b) Countries like China have the best of both worlds: they simultaneously run large current account surpluses and attract foreign private capital;
(c) According to the theory of Purchasing Power Parity, countries with high domestic inflation rates should experience a high rate of real depreciation of their nominal exchange rate relative to the currency of countries with lower inflation rates.
(d) You read in the press: ‘The strength of the dollar comes from the faster growth of the US economy.’
(e) Fiscal policy is less effective in more open economies with flexible exchange rates.
(f) Uncovered interest parity states that countries with high interest rates will see their currency appreciate over time, as they offer more attractive returns than foreign assets.

Question 7 - The Clinton-Greenspan 1992 package[1]

After taking office in 1992, the Clinton administration was confronted with growing budget deficits that required a fiscal tightening through a combination of tax increases and curbs on government expenditures.

(a) Starting from full employment point, describe the effects of this contractionary fiscal policy on output, exchange rates and the current account.
(b) The US economy however was just coming out of the 1991 recession. In this case, what would happen to the US economy and trade balance under this program of fiscal austerity?
(c) Suppose that you are the White House economic counsel. What policy, if any, would you like the Federal Reserve to adopt? (Hint: the goal is to reach full employment equilibrium.) Describe how your proposed policy - together with the fiscal tightening - would affect domestic output, interest rates, real and nominal exchange rates and the trade balance.
(d) At the 1993 State of Union address, the chairman of the US Federal Reserve was sitting next to First Lady Hillary Clinton. This was widely interpreted as a signal that the Federal Reserve was standing behind the program of fiscal reforms of the White House. Given what you know of the limitations of fiscal and monetary policy, explain why the Federal Reserve might have been initially reluctant to adopt this particular policy mix.
(e) When the Bush administration started in January 2001, one of its first policy proposals were massive tax cuts for the wealthy. Chairman Greenspan then abruptly changed his mind over this policy – although he previously sided with the Democrats in opposing these tax cuts, he now supported Bush's tax cuts. Given that at that time the US had budget surpluses and falling federal outstanding debt, can you think of reasons Chairman Greenspan might have wanted to tax cuts? (Hint: Can the Fed do open-market operations if the Federal debt is 0?)

[1] This problem is an adaptation of a problem from 182 Midterm in Fall 2005. The problem was worth 45 points out of a total of 180.