Economics 102
Introduction to Macroeconomics
Prof. Alan Deardorff
Midterm Exam 2

March 22, 1999

PART A: Multiple Choice
(3 points each: 48 points total)

A1. Which of the following is one of the reasons given in the assigned Wall Street Journal article for the increase in productivity in the United States in 1998?

(a) Increased unemployment is causing workers to work harder, in fear of losing their jobs.
(b) Producers made wider use of computers.
(c) Reduced inflation increased the real value of goods that were produced.
(d) Record high U.S. savings in 1998 permitted investment in new technologies.
(e) Productivity did not in fact go up. It was an error of measurement.

A2. Which of the following does NOT contribute to a higher natural rate of unemployment?

(a) Layoffs due to a recession.
(b) Minimum wage laws.
(c) Union bargaining over wages.
(d) Efficiency wages.
(e) Rapid technological change.

A3. According to recent assigned articles in the Wall Street Journal:

(a) Unemployment among young blacks today is higher than it has ever been.
(b) A shortage of workers is causing most employers to fill jobs with the first who apply, rather than waiting for those more qualified.
(c) To attract workers, some employers are promising not to withhold taxes.
(d) Some of the least qualified workers, who had become too discouraged to look for work, have returned to the labor force only to be rejected again.
(e) Because of the high demand for labor, young black workers are taking jobs that require longer hours and more effort than they would prefer.

A4. Suppose that in 1997 the velocity of money was 6.0 and real GDP in the economy was equal to $6 billion. The money supply was $2 million in 1997.

Assuming that the quantity theory of money holds, if the money supply increase to $3 million throughout 1998 and real GDP does not change, then we would expect the rate of inflation to be:

(a) 10%
(b) 20%
(c) 25%
(d) 50%
(e) 100%

A5. Which of the following is NOT a function of a central bank:

(a) Regulate the banking system.
(b) Act as a lender of last resort for commercial banks.
(c) Formulate and execute monetary policy.
(d) Facilitate check clearing between commercial banks.
(e) Manage the government's budget.

A6. Suppose that Total Demand Deposits in an economy are equal to $2000 and the required reserve ratio is 25%. If no individuals hold any cash and banks hold no excess reserves then a decrease in the required reserve ratio to 20% will cause Total Loans to _________ and Total Reserves to _________.

(a) Increase by $100; Remain unchanged.
(b) Increase by $100; Decrease by $100.
(c) Increase by $100; Increase by $100.
(d) Increase by $500; Remain unchanged.
(e) Increase by $500; Decrease by $100.

A7. All of the following are true EXCEPT:

(a) The neutrality of money means that changes in the nominal money supply will imply changes in the price level.
(b) "Menu costs" are the costs associated with wasted time and energy from frequent price changes.
(c) An increase in the price level increases the quantity of money demanded.
(d) The growth in money demand has fallen in recent years, in part because of the popularity of automatic teller machines.
(e) According to the quantity theory of money, an increase in the velocity of money implies that there must be an increase in output.

A8. Which of the following will cause the nominal money supply to DECREASE?:

(a) A decrease in the price level.
(b) Congress finances extra defense spending by selling bonds to the public.
(c) Microsoft finances its legal expenses by selling bonds to the public.
(d) Widespread acceptance of debit cards decreases the public's desire to hold cash.
(e) Volatility in the stock market causes banks to hold more reserves than are required by the Fed.

A9. Given the following information, which of the following transactions will have the smallest impact on the nominal money supply?

There are 1000 $1 bill in the economy and the reserve ratio is 10%. Unless otherwise specified, assume that no one holds cash and banks lend to their limit (i.e. hold no excess reserves).

(a) Alick takes $10 from his bank account and puts it in his wallet
(b) Commercial banks decide to hold an additional 2.5% of deposits in excess reserves.
(c) Phil takes $10 from his wallet and burns it.
(d) Alan buys a $10 corporate bond from GM.
(e) Jim uses a $10 bill to buy a souvenir from a Russian vendor in Moscow, and the vendor then places the money under a mattress in Russia.

A10. Which of the following statements is TRUE?

(a) There will be a higher inflation rate from a given increase in the money supply, the more responsive is money demand to changes in the price level.
(b) There will be more unemployment created by minimum wage laws, the less responsive is labor demand to the wage rate.
(c) There will be a larger change in the real exchange rate from an increase in the government budget deficit, the more responsive is net foreign investment to the real interest rate.
(d) There will be a larger change in the equilibrium level of investment following an increase in the public's desire to save, the less responsive is investment to changes in the real rate of interest.
(e) None of the above statements are true.

A11. According to Lindsey's article that was assigned for you to read from the web, which of the following accounts in part for the U.S. government's budget surplus that has emerged over the last year or two?

(a) The Congress made the "tough decisions" to cut spending on large items like national defense.
(b) With few workers engaged in production, there was little for the government to buy.
(c) The booming U.S. economy has made it possible for the government to increase spending without causing inflation.
(d) The Clinton administration increased tax rates on all but the very poor in 1998 above what they had been in previous years.
(e) Taxes were paid on capital gains earned by those who owned shares in the booming stock market.

A12. If the real rate of interest is on the vertical axis, which of the following will cause the Net Foreign Investment curve to shift to the RIGHT?

(a) An increase in domestic political stability.
(b) An increase in the supply of loanable funds.
(c) An increase in the domestic tax rate on income received from foreign investments.
(d) An increase in Net Exports.
(e) An increase in the foreign interest rate.

A13. Suppose you are given the following information about the US and Japanese economies.

Year	Nominal Exchange Rate (Yen/dollar)	US Price Level	Japanese Price Level
1996	60	100	150
1997	75	110	165

Which of the following statements is TRUE?

(a) In nominal terms the Yen has depreciated, but in real terms it has appreciated, so we would expect US exports to Japan to increase.
(b) In nominal terms the Yen has depreciated, but in real terms it has appreciated, so we would expect US exports to Japan to decrease.
(c) The Yen has appreciated in both nominal and real terms, so we would expect US exports to Japan to increase.
(d) The Yen has depreciated in both nominal and real terms, so we would expect US exports to Japan to increase.
(e) The Yen has depreciated in both nominal and real terms, so we would expect US exports to Japan to decrease.

A14. The wholesale price of U.S. apples is $100 per 100 pounds. The wholesale price of South African apples is 500 rand per 100 pounds. The bank buys and sells rand and dollars at 6 rand per dollar. The REAL exchange rate in terms of apples is:

(a) 1/30 pounds of South African apples per pound of U.S. apples.
(b) 1/6 pounds of South African apples per pound of U.S. apples.
(c) 1.2 pounds of South African apples per pound of U.S. apples.
(d) 6 pounds of South African apples per pound of U.S. apples.
(e) 30 pounds of South African apples per pound of U.S. apples.

A15. Net Foreign Investment depends negatively on the attractiveness of __________ and positively on the attractiveness of __________.

(a) domestic assets; domestic goods.
(b) foreign assets; foreign goods.
(c) foreign assets; domestic assets.
(d) foreign assets; domestic goods.
(e) domestic assets; foreign assets.

A16. The idea of Twin Deficits in the United States is best explained by which of the following?

(a) A budget deficit increases interest rates, which then increases foreign investment in the U.S., and decreases net exports.
(b) Budget deficits create political instability, which decreases net exports.
(c) Trade deficits require government involvement to fix them, which result in budget deficits.
(d) The government buys a lot from abroad, hence both budget deficits and trade deficits appear.
(e) A budget deficit results in a weak dollar, hence a fall in net exports.

PART B: Written Answer
(50 points total)

B1. Imagine an economy in which (i) the required reserve ratio is 20%; (ii) no individuals hold any money as cash and banks always lend to their limit; and (iii) the money supply is currently equal to $50,000.

(a) What is the value of the money multiplier in this economy? Interpret this number. (2 points)

(b) What is the level of Total Reserves in this economy? What is the value of Total Loans in this economy? What are Total Demand Deposits equal to? (3 points)

(c) Suppose that the Central Bank of this economy decides that it wants to use open market operations to *decrease* the Money Supply to $40,000. Will the Central Bank have to buy or sell bonds in order to achieve this change in the money supply? What is the dollar value of the bonds it should buy or sell? (3 points)

(d) If the open market operation from (c) goes ahead, what will the new level of Total Reserves be in this economy? What will be the new value of Total Loans? What is the new level of Total Demand Deposits? (3 points)

(e) Assuming that money is neutral in this economy, what would you expect the rate of inflation or deflation to be, if the only change that takes place throughout this year is the above decrease in the money supply? If the price level last year was 100, what is it this year? Draw a diagram showing the relationship between the money supply and the price level in this economy (3 points)

B2. This question is comprised of three statements. You must say whether these are true, false or uncertain and EXPLAIN WHY. Your explanation will solely determine the grade you receive. *If you simply write "true", "false", or "uncertain" without an explanation you will receive* ***NO CREDIT.***

(a) In order to achieve a given increase in the money supply through open market operations, the Central Bank must buy fewer bonds if individuals hold some fixed fraction of their money as cash than they would have to if individuals hold no cash. (7 points)

(b) The theory of Purchasing Power Parity tells us that the nominal exchange rate and the domestic/foreign price ratio will adjust so that net exports are always equal to zero. (6 points)

(c) If Congress wishes to fund new spending by issuing bonds rather than by increasing taxes, this will lead to more inflation if the bonds are bought by the Fed than it would if the bonds were bought by Professor Deardorff. (7 points)

B3. Using both words AND diagrams in the context of Mankiw's Open Economy Model, explain the effect (if any) of each of the following on the US real interest rate and the US real exchange rate. Make certain to *clearly* label all your diagrams.

(a) An increase in taxes leading to an increase in the government budget surplus. (6 points)

(b) Economic crises in Asian economies lead investors to move their capital to the US. (HINT: although it may look like NFI could end up larger here, it can't. NFI must fall, it turns out, so be careful how you draw it.) (6 points)

(c) Changes in tastes cause American consumers to buy more Japanese cars and fewer American cars. (4 points)