Macroeconomics
Instructor: Mark Tomass
Answer Key to Homework 1

1. The model would assume that increases in interest rates decrease the net gain from borrowing. Less borrowing means less spending, which will reduce the gain possible from producing more goods. As this occurs national production would fall. To test the hypothesis that increases in interest rates decrease national production you would have to find support for it based on observation of the relationship between changes in production and changes in interest rates, other things being equal.

2. The other things being equal qualifier is not being met when car prices and income change together. Income as well as prices of cars affect the amount purchased. Because other things are not equal the observation does not refute the theory.

3. Economic models concentrate on the relationships of cause and effect among only a few variables while taking other variables as given. The model abstract from reality by only considering certain aspects of relationships between variables while ignoring all the details and complexity of the real world. Models with unrealistic assumptions must be evaluated on the basis of their ability to explain economic phenomena. If the model predicts well it will be useful.

4. A common behavioral assumption is that owners of business firms seek to maximize profits. Behavioral assumptions establish cause and effect relationships among economic variables.

5. If a criminal weighs the marginal benefit of actions for achieving an objective (no matter how weird the objective) against the marginal cost, the person is rational.

6. A person who makes decisions by habit is not rational unless he adjusts his habits to changes in marginal benefits or marginal costs.

7. The marginal benefit of the suit falls short of its marginal cost which is its price. If you are rational you will not buy another suit this year.

8. A drop in the price of discs to $9.99 reduces the marginal cost. You will buy more until the marginal benefit falls to equal the now lower marginal cost.

9. Jill will buy three pairs per year. If she were to purchase a fourth pair the marginal benefit will fall below the marginal cost when the price is $29.99. If the price increases to $39.99 Jill will reduce purchases to only two pair per year because the marginal cost of the third pair now exceeds the marginal benefit of $30.

10. Joe will buy four pairs of shoes per year. At that level of purchase the marginal benefit is $40 which exceeds the $29.99 price. If Joe were to buy 5 pair per year, the marginal benefit would fall to $20 which is below the $29.99 marginal cost of the fifth pair.

Macroeconomics
Instructor: Mark Tomass
Answer Key to Homework 2

1. Scarcity prevails in rich and poor nations alike because no matter what the quantity or quality of economic resources in a nation the more resources devoted to one use the less available for other uses. The imbalance between resources and desires for the use remains no matter how wealthy a nation might be.

2. Tables, kitchen facilities, ovens, land and a building, cooks, waiters, and other labor are necessary to operate a restaurant. The entrepreneur is the person who conceives of the idea of the restaurant and opens it. The number of meals that can be served per day varies with such economic resources as the number of tables and number of waiters and cooks. The technology influences the speed at which meals of given quality can be cooked and served.

3. The gift of new machines will shift the production possibilities curve outward and the intercept on both axes will be twice as far out from the origin as previously.

4. The new production possibilities curve will look similar to the one drawn in Box 6. The intercept on the food axis will be twice as far out as before after the gift, but there will be no change for the intercept on the clothing axis.

5. The war that destroys economic resources will cause a nation's production possibilities curve to shift inward.

6. If the production possibilities curve has constant slope the law of increasing costs does not hold because the opportunity cost of each extra unit of any one good will always be the same. If this were the case it would imply that economic resources used to produce cars and trucks are not specialized in the production of either of these goods. In other words, labor, capital, and other resources used in the factory are equally suited to produce either cars or trucks.

7. By working a 40 hour week you forgo $400 labor income on your next best job. If you are only earning $300 per week profit, staying in business costs you more than you earn. If you are rational you will close down your business eventually and get a job with someone else.

8. Your current orders correspond to a point inside your existing production possibilities curve that prevails given your current plant size and labor force. By laying off workers you can reduce costs. With a smaller labor force your production possibilities curve will shrink inward toward the origin. You can lay off workers until your current level of production for 1000 yard of flannel and 1000 yards of corduroy correspond to a point on the new production possibilities curve.

9. The budget line is linear with slope -4 if movie admission is plotted on the horizontal axis and ice cream cones are plotted on the vertical axis. The opportunity cost of each movie is 4 ice cream cones. There is no change in opportunity cost of a movie if both prices double.

   a. An increase in the weekly allowance will shift the budget line outward parallel to itself; no changes in opportunity cost.

   b. A decrease in the weekly allowance to $12 will shift the budget line inward parallel to itself; no changes in opportunity cost.

   c. A reduction in movie prices to $2 will swivel the budget line outward to a larger intercept on the horizontal axis; the opportunity cost of a movie admission falls from 4 to 2 ice cream cones. Each ice cream cone now costs one half of a movie admission.

   d. An increase in the price of ice cream to $2 halves the intercept on the vertical axis of the budget line. Each movie admission now has an opportunity cost of 2 ice cream cones and each ice cream cone will now cost one half of a movie admission.

10. Japan has the comparative advantage in the production of cameras while the U.S. has the comparative advantage in the production of beef. Plotting beef on the horizontal axis and cameras on the vertical axis, the slope of the production possibilities curve for the U.S. would lie above its production possibilities curve and be steeper because the opportunity cost of a camera in terms of beef sacrificed would fall if it were obtained by specializing in the production of beef and trading beef for cameras. Similarly, the opportunity cost of beef in terms of cameras sacrificed would fall for Japan through international trade.

Macroeconomics
Instructor: Mark Tomass
Answer Key to Homework 3

1. The report will act to decrease the demand for eggs. The new schedule and curve will have half as much quantity demanded associated with each price as compared with the initial schedule and curve.

2. The new supply curve will have twice as much quantity supplied associated with each price as the old schedule and curve.

3. The new equilibrium price will be 25 cents per dozen and the new equilibrium quantity will be 4000 dozen per week.

4. The early freeze will decrease the supply of coffee, putting upward pressure on the price.

5. A decline in the market rate of interest will make credit less expensive. This will increase the number of persons willing and able to afford a car, resulting in an increase in the demand for cars. The increase in the demand for cars will increase the price and quantity supplied.

6. If there is a shortage of the disc players the current price is below the market equilibrium price.

7. If the price were $3 per loaf or greater it would not be necessary for the government to buy bread because all would be purchased by private buyers in the market.

8. If the market price of bread exceeds $3 the government would not buy any bread.

9. The market is not in equilibrium because there is a shortage. Market price will rise.

10. The surplus will put downward pressure on price. As this occurs, quantity demanded will increase while quantity supplied will decrease, causing the surplus to be eliminated.

Macroeconomics
Instructor: Mark Tomass
Answer Key to Homework 4

1. There will be chaos as there will be no price to ration the albums. If you value your time and wish to avoid possible scuffles with other fans you are likely to be better off waiting until Monday.

2. As the demand of residents in the rest of the world is added to the demand of island residents the price of coconuts will become positive.

3. Improvements in technology increased supply, which lowered market price and increased quality demanded.

4. The increased supply of accountants will lower salaries and increase the number of accountants demanded.

5. The decrease in the demand for the chemical engineers will decrease their salaries and decrease the quantity of labor supplied by the engineers.

6. The decrease in the demand for loanable funds will put downward pressure on interest rates. As interest rates fall the quantity of credit demanded by business firms and consumers will increase.

7. At first the ceiling has no effect because the ceiling rent is equal to the market equilibrium rent. As the demand for housing increases and rents are prevented from rising above the ceiling a shortage of housing will develop.

8. A number of nonprice rationing techniques can be used including use of rationing stamps.

9. Minimum wages benefit many middle-income groups and do increase the incomes of some of the working poor, which explains the political support that this government program receives.

10. Elimination of price floors will eliminate the shortages. The students should draw a graph similar to the one in box 11 to show the impact of the price floors. If the price floors were to be phased out, the consumers and taxpayers would gain while farmers would lose.

Macroeconomics
Instructor: Mark Tomass
Answer Key to Homework 5

1. New businesses are likely to enter the market as your competitors. As this occurs supply will increase and price will fall, other things being equal. The lower prices will eventually reduce your profits.

2. Because the marginal benefit of TVS exceeds their marginal cost a net gain is possible from producing more. For example, at current output sellers of TVS can receive $100 to be compensated for all their costs and efforts in making another TV. Because buyers are willing to pay $200 there is the possibility of a $100 net gain to sellers. Alternatively sellers would be no worse off if they received $100 and buyers would enjoy a $100 net gain. As more TVS are made available net gains like this will be possible until the marginal benefit falls to equal the marginal cost, which will rise as more TVS are produced.

3. The changes in demand will raise the price of recreational vehicles and decrease the price of passenger cars. This will increase the quantity of recreational vehicles supplied while decreasing the quantity of passenger cars supplied.

4. The automobile companies reacted to the increase in the relative price of small cars by producing more small cars and fewer large cars. A decrease in the price of gasoline is likely to increase the demand for and quantity supplied of large cars.

5. A decrease in the price of electronic components is likely to decrease costs of producing goods that use these components. This will increase profit opportunities for making those goods available. As a result supply will increase and quantity of electronic goods demanded will increase as

price falls. Production techniques will shift to greater use of computers and other electronic devices.

6. The transaction costs of establishing property rights to air space are too high to enforce for individual households and current law does not give them the property right to charge for use of air space.

7. The transaction costs include the costs of advertising and the value of the time you must use to communicate with prospective buyers. If the transaction costs exceed the $100 you would like to get for the bike you are better off to give it away.

8. There is a negative externality because the price system does not charge the manufacturer for the right to dump wastes.

9. Both the average and marginal tax rates are 20%. To evaluate equity you would have to make a judgment about the way the tax affects the distribution of income. The tax is proportional with respect to income.

10.

Income	Average tax rate (percent)
$ 4000	0
$29,000	13
$70,000	20

The tax is progressive.

Macroeconomics
Instructor: Mark Tomass
Answers Key to Homework 6
GDP and the Performance of the National Economy

1.

Item	**Market Value (Millions of Dollars)**
Cars	10,000
Clothing	500
Food	20
Dwelling services	8,000
Attorneys services	20
Medical services	60
GDP =	**$18,600**

2. You would have to know changes in the prices as well before you can conclude that real GDP increased. Aggregate production, income, and job opportunities will have increased if real GDP went up.

3. The value of intermediate products would be counted twice -- first by themselves and then in the value of final products.

4. Value added = $4,000 billion = GDP.

5. Gross private domestic investment = $4,500 billion - $4,000 billion = $500 billion.

6. Government purchases do not include transfers. Social Security pensions are examples of transfer payments.

7. Whether or not GDP declines depends on how consumption behaves during the year. However, because consumption is unlikely to rise markedly it is likely that real GDP will decline. Disposable income is the main determinant of consumption and when I, G, and NE declines it is likely that DI will also decline causing consumption to fall as well.

8. The effect on GDP will also depend on what happens to consumption. However, because the declines indicated will decrease disposable income, it is likely that real GDP will decline.

9. National saving is $700 billion. The net inflow of foreign saving must be $200 billion to preserve the identity between gross private domestic investment and total saving in the United States.

10. Net exports are -$500 billion. An increase in the government budget deficit can add to gross domestic purchases which stimulates imports thereby contributing to a balance of trade deficit.

Macroeconomics
Instructor: Mark Tomass
Answer Key to Homework 7
Business Cycles, Unemployment, and Economic Growth

1. To calculate real GDP for each quarter students must multiply the quarterly GDP figures provided by 4 to get real GDP at the annual rate. After they trace a curve through the points they will discover that there was a recession between the first and fourth quarter of year 1 because real

GDP declined for three consecutive quarters over the period. To calculate the long-term growth trend one must calculate the average rate of growth of real GDP for the quarters at an annual rate.

2. Because a recession is usually defined as a decline in real GDP for at least two consecutive quarters a decline in real GDP for only one quarter would not be considered a recession by most economists. When real GDP declines, cyclical unemployment increases.

3. The unemployment rate is 3.3%.

4. The official unemployment rate does not count discouraged workers who have dropped out of the labor force among the ranks of the unemployed. This makes the labor force appear too small and also reduces the number of unemployed, which tends to understate the unemployment rate if discouraged workers are more accurately considered unemployed workers.

5. It is natural for frictional and structural unemployment to exist as some workers are always between jobs because of quitting, reentering the labor force, or because of changes in the pattern of demand in the economy that cause expansion and contraction in individual industries.

6. Potential Real GDP = ($20)(320 billion) = $6,400 billion.

7. Cyclical unemployment is 1% of the labor force.

8. As the economy contracts layoffs increase and quits decline while the opposite for each holds when the economy expands.

9. Living standards are generally correlated with output per capita. If the rate of growth of real GDP falls below the rate of growth of population, output per capita, and therefore future living standards will fall.

10. Productivity growth is correlated with the development of new technology and the rate at which the capital stock grows. If savings rates decline so will the supply of loanable funds thereby increasing interest rates and discouraging investment. Declines in the rate of investment will decrease the rate at which technology advances and decrease the rate of growth of capital per worker thereby decreasing the rate of productivity growth.

Macroeconomics

Instructor: Mark Tomass

Answer Key to Homework 8

The Price Level and Inflation

1. A CPI of 200 means that the market basket of goods and services that cost $100 on average between 1982-1984 would cost $200 in 1995.

2. Real income in 1995 is $50,000/(200/100) = $25,000 which means that real income has decreased since the 1982-1984 period.

3. Not all prices will increase when the rate of inflation is 5%. To determine the rate of inflation for the goods you purchase you would have to construct your own price index based on weights that measure the percentage of your income spent on each good. Shifts in supply and demand cause change in relative prices of individual goods.

4. In year 1 the real wage is $10/(300/100) = $3.33. In year 2 the real wage is $11/(310/100) = $3.56. The real wage has risen between the two years.

5. Wages generally increase more rapidly than inflation over a period of years. When in a particular year inflation exceeds the rate of increase of wages real wages will fall, which benefits employers but decreases real hourly compensation to workers. When this occurs there is a redistribution of income from workers to their employers.

6. The outstanding balance of the loan in 1990 measured in base period is $7,692.31 = $10,000/1.3. In effect, inflation has “paid off” some of the loan balance for the debtor.

7. Inflation decreases the real value of the outstanding balance of the federal debt which in turn decreases the burden of taxes in real terms necessary to repay that balance.

8. The real interest rate is 3%. Because the actual inflation is less than anticipated, depositors earn more real interest than they expected while banks earn less.

9. Because anticipated inflation exceeds the maximum nominal interest allowed the real interest rate anticipated will be negative and lenders will be unwilling to extend credit.

10. Your real wage will be higher in the job that paid weekly because you could spend your earnings more quickly before they were eroded by inflation.

Macroeconomics
Instructor: Mark Tomass
Answers to Homework 9
Aggregate Demand and Aggregate Supply

1. The increase in aggregate demand will have little effect on the price level while increasing real GDP if current equilibrium real GDP is well below potential real GDP.

2. The increase in export demand is likely to overheat the economy contributing to an inflationary process as the price level rises and real GDP increases above potential real GDP.

3. The aggregate demand curve would be vertical.

4. The resulting decrease in aggregate supply would put upward pressure on the price level and decrease equilibrium real GDP.

5. The increase in nominal wages will decrease aggregate supply. This will decrease equilibrium real GDP and increase the price level. Labor earnings will decline if widespread unemployment results.

6. The aggregate supply curve will shift out, increasing equilibrium real GDP and decreasing the equilibrium price level.

7. Real GDP could increase without increases in the price level if the aggregate supply curve were flat. This would imply that a decrease in aggregate demand would decrease real GDP with no effect on the price level.

8. Because the economy is operating in the flat portion of its aggregate supply curve during a recession an increase in aggregate demand is likely to increase real GDP with little effect on the price level.

9. The drought will increase the price of agricultural commodities which are inputs into the product of food. As a result aggregate supply will decrease which is likely to increase the inflation rate for the year. Equilibrium real GDP will also fall and because agriculture is a large sector of the economy there will likely be a recession.

10. Increases in aggregate demand increase equilibrium real GDP and the price level. The price level declines while real GDP increase when aggregate supply increases. Increases in the quantity and productivity of resources will increase aggregate supply and the allow real GDP to grow while the price level remains stable (zero inflation).

Macroeconomics
Instructor: Mark Tomass
Answer Key to Homework 10
AD-AS Analysis of Economic Fluctuations

1. The logic implies that flexible nominal wages will result in shifts in aggregate supply in response to shifts in aggregate demand so as to assure full employment. The model does not fit the facts for the U.S. economy because wages are not fully flexible in the downward direction.

2. The aggregate supply curve will be a vertical line.

3. The aggregate supply curve will shift inward. The increase in nominal wages will put upward pressure on the price level and reduce equilibrium real GDP other things being equal.

4. The long-run aggregate supply curve will shift to the right. The economy is less likely to overheat because its productive capacity expands as a result of productivity increases.

5. The more experienced labor force will result in an increase in aggregate supply that will put downward pressure on the price level and upward pressure on real GDP.

6. If policies increase aggregate demand enough to overheat the economy there will be a wage-price spiral.

7. The result of the surge in aggregate demand will be a $500 billion inflationary gap. As workers demand increases in nominal wages to keep their real wages from falling the aggregate supply curve will shift to the left reducing equilibrium real GDP to potential real GDP.

8. Aggregate supply would decrease as a result of the disruption in shipments. This will put upward pressure on the price level and decrease equilibrium real GDP resulting in a process of stagflation. Japan imports most of its petroleum products and such a supply-side shock could cause a recession in Japan.

9. The higher dollar will make our exports more expensive and will decrease the price of imported final products. As a result, aggregate demand will decrease. However, the higher dollar will decrease the price of imported inputs and intermediate products causing aggregate supply to increase. The higher dollar will therefore contribute to a lower price level (less inflation for the year) but it could either increase or decrease real GDP depending on the relative strengths of the demand and supply-side effects.

10. Increases in aggregate demand occur as income increases. Increases in aggregate supply result from increases in productivity. Outward shifts in aggregate supply put upward pressure on real GDP and moderate inflationary pressures by putting downward pressure on the price level.

Macroeconomics
Instructor: Mark Tomass
Answer Key to Homework 11
Keynesian Analysis of Aggregate Purchases

1. Autonomous consumption is $800 billion. MPC = 0.7 and MPS = 0.3.

2. C = $2900 billion when DI = $3000 billion
   C = $3600 billion when DI = $4000 billion
   C = $4300 billion when DI = $5000 billion
   C = $5000 billion when DI = $6000 billion

3. The graph will be an upward sloping line. Savings equal zero when DI = $2666.67 billion.

4. C = ($1000 billion + 0.7DI). The consumption function line will shift upward parallel to itself as a result of the increase in autonomous consumption.

5. The increase in the marginal propensity to consume will make the consumption line steeper.

6. The quantity of investment purchases will correspond to the point at which the real marginal return to investment equals the real interest rate.

7. Changes in investment demand will result of changes in expectations about shifts in aggregate demand, input and product prices, and will result from changes in current capacity utilization and change in tax treatment of investment purchases and income.

8. An increase in the real rate of interest will move the economy upward along its investment demand curve causing a decrease in the equilibrium quantity of investment purchases.

9. Import purchases will decline as a result of the decrease in disposable income caused by the recession which will contribute to making net exports positive.

10. The aggregate purchases line will lie below the line corresponding to the sum of consumption, planned investment, and government purchases when net exports are negative.

Macroeconomics
Instructor: Mark Tomass
Answer Key to Homework 12
Keynesian Analysis of Macroeconomic Equilibrium

1. Real GDP will decline by more than $300 billion.

2. If planned investment were to double to $1200 billion equilibrium real GDP will increase to $8000 billion.

3. If autonomous consumption were to fall by $400 billion equilibrium real GDP would fall to $3000 billion at which consumption purchases would be $2400 billion and planned investment would be $600 billion.

4. An increase in saving at each possible level of real GDP implies a reduction in autonomous consumption, which will result in a decrease in equilibrium real GDP.

5. If MPC = 0.9 the multiplier will be 10 and a $300 billion increase in planned investment would increase equilibrium real GDP by $3000 billion.

6. The marginal propensity to consume overstates the marginal respending rate because some additional income is used to pay taxes and purchase imports.

7. The prognosis looks bad -- a contraction is on the way.

8. The decline in the value of the dollar increases the price of the yen, which makes Japanese exports more expensive and decreases the net export demand for Japanese goods. A recession in Japan would decrease real income in that nation, which would reduce Japanese demand for U.S. exports.

9. A decrease in the price level will increase real wealth and shift the aggregate purchases line upward putting upward pressure on equilibrium real GDP.

10. An inflationary GDP gap prevails when equilibrium real GDP exceeds potential real GDP. An increase in the price level will then decrease real wealth, shifting the aggregate purchases line down and reducing equilibrium real GDP.

Macroeconomics
Instructor: Mark Tomass
Answer Key to Homework 12
Keynesian Analysis of Macroeconomic Equilibrium

11. Real GDP will decline by more than $300 billion.

12. If planned investment were to double to $1200 billion equilibrium real GDP will increase to $8000 billion.

13. If autonomous consumption were to fall by $400 billion equilibrium real GDP would fall to $3000 billion at which consumption purchases would be $2400 billion and planned investment would be $600 billion.

14. An increase in saving at each possible level of real GDP implies a reduction in autonomous consumption, which will result in a decrease in equilibrium real GDP.

15. If MPC = 0.9 the multiplier will be 10 and a $300 billion increase in planned investment would increase equilibrium real GDP by $3000 billion.

16. The marginal propensity to consume overstates the marginal respending rate because some additional income is used to pay taxes and purchase imports.

17. The prognosis looks bad -- a contraction is on the way.

18. The decline in the value of the dollar increases the price of the yen, which makes Japanese exports more expensive and decreases the net export demand for Japanese goods. A recession in Japan would decrease real income in that nation, which would reduce Japanese demand for U.S. exports.

19. A decrease in the price level will increase real wealth and shift the aggregate purchases line upward putting upward pressure on equilibrium real GDP.

20. An inflationary GDP gap prevails when equilibrium real GDP exceeds potential real GDP. An increase in the price level will then decrease real wealth, shifting the aggregate purchases line down and reducing equilibrium real GDP.

Macroeconomics
Instructor: Mark Tomass
Answer Key to Homework 14
The Banking System

1. The maximum amount of deposits that can be supported would be $25 million. Bank reserves are largely held as deposits at the Federal Reserve Banks but they are also held as vault cash and as deposits at other banks. There is a constant inflow and outflow of deposits and the two tend to balance.

2. Bank liabilities will go up by the $3000 in deposits and its assets will go up as $3000 in reserves. The excess reserves will be $2700 which is the maximum amount this bank can loan out. However the $3000 increase in the reserves for the banking system could support a maximum of ten times that amount of deposits because of the redeposit of reserves within the banking system.

3. There will be no change in the money stock because there will be no net increase in total checkable deposits.

4. The loan increases the bank's liabilities by $2 million in the form of debt (borrowing) from the Federal Reserve Bank. It increases its assets (reserves) by $2 million. The maximum increase in the money stock that can result would be $20 million.

5. Excess reserves will fall by $10 billion and the capacity of the banking system to make loans will fall by a multiple of $10 million.

6. They will be less than $400 billion because some banks will want to hold excess reserves.

7. The bank is holding $72 million in excess reserves and can acquire that much more in securities or loans for its portfolio. A total of $720 million in additional money can be supported by the Jonesville bank's excess reserves.

8. Newly supplied excess reserves will be held by banks and not used to extend credit.

9. During recessions interest rates fall which results in an increase in the quantity of excess reserves demanded because the opportunity cost of holding the reserves declines.

10. Banks tend to be risk averse. They hold liquid assets to meet unexpected deposit withdrawals.

Macroeconomics
Instructor: Mark Tomass
Answer Key to Homework 15

1. The Fed receives neither funding nor instructions from either the executive or legislative branches of government. It is an independent corporation. The President can influence Fed policies through the appointments made to the Federal Reserve Board of Governors.

2. The Fed's main liabilities are currency and the reserves of depository institutions it holds as deposits, which is the monetary base. The money stock is the sum of checkable deposits, currency, and other items included in M1.

3. The Fed can engage in open market purchases, reduce the discount rate, lower required reserve ratios and engage in other practices that increase bank excess reserves and encourage banks to use the newly created excess reserves to extend credit.

4. The Fed will acquire $10 billion more in government securities as assets and liabilities will increase in the form of $10 billion of bank reserves which will be Fed liabilities in the form of deposits. The banking system will have assets in the form of government securities fall by $10 billion while their reserves will rise by the same amount. The Fed's operations will increase securities prices and therefore decrease interest rates on that day.

5. In this case the Fed reduces its holdings of securities by $50 billion and the effects are opposite to those discussed in question 3.

6. Open market purchases will add to bank excess reserves and lower interest rates on government securities. The lower interest rates will increase the demand for credit and make government securities a less desirable asset for banks. Given the demand for money the Fed's policies will increase money supply, putting downward pressure on interest rates.

7. The supply of money will decrease and interest rates will rise.

8. If both sales and purchases balances on a given day they will not affect interest rates. Also if the demand for money were perfectly elastic, an increase in the supply of money would not affect interest rates.

9. If the Fed acts to decrease money supply it can prevent interest rates from rising.

10. The increase in the money supply depends on the willingness of depository institutions to extend credit. If banks merely hold excess reserves, the supply of money will not increase.

Macroeconomics
Instructor: Mark Tomass
Answer Key to Homework 16

1. The Fed could engage in an expansionary monetary policy that would seek to lower real interest rates.

2. The Fed should engage in a contractionary monetary policy that will increase real interest rates and restrain aggregate demand.

3. An expansionary monetary policy increases money supply and lowers real interest rates. The decline in real interest rates increases the quantity of investment goods demanded, which increases aggregate demand. Given aggregate supply an increase in aggregate demand increases real GDP and the price level in the short run.

4. A contractionary monetary policy will increase real interest rates. This will reduce the quantity of investment goods demanded per year. As aggregate demand declines so will real GDP and there will also be downward pressure on the price level.

5. Under such circumstances money supply will not increase. Real interest rates will not fall and monetary policy will be ineffective in stimulating the economy.

6. Under such circumstances a decline in real interest rates will not increase the quantity of investment goods demanded and there will be no increase in real GDP.

7. The price level will increase by 25%.

8. The price level will increase.

9. As real GDP increases money demand typically increases as the transactions demand for money rises. Given the money stock the increase in money demand will put upward pressure on interest rates. The Fed can prevent interest rates from rising by increasing the money supply.

10. In the long run the economy achieves potential real GDP and increases in the money stock can only increase the price level. Keeping interest rates pegged in a growing economy will mean that the equilibrium money stock must rise, which will put upward pressure on the price level.

Macroeconomics
Instructor: Mark Tomass
Answer Key to Homework 17

1. An expansionary fiscal policy can be used to offset the expected decline in private demand. This could be accomplished through an increase in government purchases or a decline in net taxes. Net taxes could decline if tax rates were reduced or transfers were increased.

2. The multiplier is 2.5. Because the economy is in a deep recession it is reasonable to assume that the aggregate supply curve is flat so there will be no increase in the price level during the year in response to an increase in aggregate demand that would choke off some of the multiplier effect. Under such circumstances a $400 billion increase in government purchases would be sufficient to eliminate the $1000 recessionary real GDP gap.

3. A $1 billion reduction in taxes would result in $600 billion initial increase in purchases of real GDP when the marginal respending rate is 0.6. With a multiplier of 2.5 this will result in a $1,500 billion increase in real GDP. It would take a tax cut of $666.7 billion to remove a $1000 billion recessionary GDP gap.

4. With a marginal respending rate of 0.5, a $800 billion increase in transfers will result in a $400 billion initial round increase in spending. This will increase real GDP by $800 billion because the multiplier is 2 in this case.

5. The increase in the price level will choke off some private spending so the multiplier will be less than 2.

6. A $750 billion decrease in government expenditures would reduce equilibrium real GDP by $1500 billion thereby eliminating the inflationary GDP gap.

7. The actual deficit will be large than the one projected because at the higher unemployment rate net taxes will be lower than at the 7% rate.

8. Congress would have to adjust expenditures or taxes each year depending on whether or not the economy was operating above or below potential to avoid a deficit.

9. The law would increase the net return to saving. This is likely to increase the supply of saving, putting downward pressure on real interest rates. As real interest rates fall the quantity of investment goods demanded will increase.

10. These changes removed a subsidy to investment. The reduction in the subsidy will mean that demand will decline, which, in turn, will put downward pressure on real interest rates.

Macroeconomics
Instructor: Mark Tomass
Answer Key to Homework 18

1. The surplus would be a contractionary influence on the economy that reduces aggregate demand putting downward pressure on real GDP and the price level.

2. The deposits the Fed creates for the government will be part of the monetary base. As the government spends these funds to pay for its expenses, bank deposits or currency will increase by the amount of the increase in debt. This is just like the government printing money to pay its expenses.

3. As the demand for credit increases as a result of the financing of the deficit, interest rates will rise. The increase in interest rates will increase the quantity of funds supplied as savings and reduce the quantity of funds demanded for private investment.

4. The increase in the supply of savings could offset the increase in demand for funds by the government, putting downward pressure on interest rates to keep them at their initial levels.

5. Deficit financing directly increases aggregate demand as the federal government spends its borrowed funds and then indirectly increases aggregate demand as the monetary base and private credit extended increases.

6. Under such circumstances the deficit will increase real interest rates substantially but have no effect on private investment. As a result there will be strong inflationary pressures for the economy. If the aggregate supply curve were, instead, flat the impact of the deficit would be to increase real GDP without increasing the price level.

7. The government deficit could contribute to higher interest rates, which will increase the demand for the dollar putting upward pressure on its price. This will discourage exports and encourage imports.

8. The implication is that more of the debt is external. This implies that repayment of the debt can withdraw purchasing power from the nation.

9. When the debt is internal taxes on U.S. taxpayers are transferred to the holders of the federal debt as interest payments. The burden of the debt is the reduction in well-being of future taxpayers and the possible reduction in private capital formation. The burden of the debt can be offset by government capital formation that increases productivity of workers and possible increased saving by the private sector as a result of the deficit.

10. Inflation and higher interest rates reduce the burden of repaying the debt.