

**PART I: Multiple Choice Questions: 13 points (26 questions, each worth 1/2 points)**

1. Which of the following statements is NOT true?
- a) Nominal GDP is always less than Real GDP.
  - b) Nominal GDP measures the current value of production.
  - c) Real GDP takes price changes into account.
  - d) If real GDP decreases from 2008 to 2009, we can conclude that production levels are lower in 2009.

Answer: A

2. If in the U.S., an increase in government spending of \$100 billion causes the equilibrium income level to increase by \$150 billion, the government spending multiplier is \_\_\_\_\_ and the tax multiplier is \_\_\_\_\_.
- a) 1.5 ; -0.5
  - b) 1.5; -1
  - c) 0.67; -2
  - d) 0.67; -1.5

Answer: A

3. An increase in the required reserve ratio will
- a) Increase the value of the money multiplier.
  - b) Increase the amount of excess reserves.
  - c) Reduce the money supply.
  - d) Increase the demand for money balances.

Answer: C

4. Suppose the U.S. is experiencing a period of hyper-inflation. In order to solve this problem, the Federal Reserve should \_\_\_\_\_ the money supply by engaging in \_\_\_\_\_.
- a) Increase; open market sales of securities or by decreasing the discount rate
  - b) Increase; open market purchase of securities or by decreasing the discount rate
  - c) Decrease; open market sales of securities or by increasing the discount rate
  - d) Decrease; open market purchase of securities or by increasing the discount rate

Answer: C

5. Which of the following processes is the best and most complete description of how the crowding-out effect works?
- a) Government spending increases → Output increases → Interest rate increases → Investment decreases → Output decreases
  - b) Government spending increases → Output increases → Money demand increases → Interest rate increases → Investment decreases → Output decreases
  - c) Government spending increases → Output increases → Money demand decreases → Interest rate increases → Investment decreases → Output decreases
  - d) Government spending increases → Output increases → Money demand increases → Interest rate decreases → Investment increases → Output increases

Answer: B

6. For the short-run aggregate supply curve to have a positive slope,
- a) Changes in the overall price level must be fully anticipated.
  - b) Input price changes must be fully anticipated
  - c) Changes in the overall price level must lag behind input price changes.
  - d) Input price changes must lag behind changes in the overall price level.
  - e) All of the above

Answer: D

7. In the long-run, the aggregate supply curve is \_\_\_\_\_, and \_\_\_\_\_ have an effect on the aggregate output.
- a) Horizontal; sometimes monetary and/or fiscal policy (i.e. it depends)
  - b) Upward sloping; monetary policy does but fiscal policy does not
  - c) Upward sloping, monetary policy does not but fiscal policy does
  - d) Vertical, neither monetary policy nor fiscal policy
  - e) None of the above

Answer: D

8. The portion of unemployment that is due to the normal working of the labor market is known as
- a) Structural unemployment
  - b) Frictional unemployment
  - c) Natural unemployment
  - d) Cyclical unemployment

Answer: B

9. If the economy is operating on the steep portion of the aggregate supply curve, and the Fed acts to decrease interest rates then
- Output and the price level increase, but most of the response comes from increased output
  - Output and the price level increase, but most of the response comes from an increased price level
  - Output and the price level decrease, but most of the response comes from a decreased price level
  - Output decreases by less than the price level increases
  - None of the above

Answer: B

10. Payments received by a stockholder from a company's profits are known as
- Dividends
  - Capital gains
  - Realized capital gains
  - Index funds

Answer: A

11. Which of the following countries has experienced the highest growth rate in real GDP between 1986 and 2004?
- U.S.
  - South Africa
  - China
  - Japan
  - Great Britain

Answer: C

Refer to the following table to answer the next two questions. The table shows the possible output levels of cars and wheat from one day of labor input in Country A and Country B.

	Country A	Country B
Number of Cars	12 per day of labor	4 per day of labor
Bushels of Wheat	6 per day of labor	3 per day of labor

12. Which statement is *true*?
- Country A has absolute advantage in producing wheat.
  - Country B has comparative advantage in producing wheat.

- c) Country A has absolute advantage in producing cars.
- d) Country A and B can both gain from free trade.
- e) All of the above
- f) None of the above

Answer: E

13. The opportunity cost of one bushel of wheat in Country A is:

- a) 0.5 cars
- b) 2 cars
- c) 12 cars
- d) 6 cars

Answer: B

14. Which of the following arguments is NOT used against free trade?

- a) There will be loss of jobs in certain sectors without comparative advantage.
- b) Infant industries need support until they become productive enough to compete.
- c) Since developing countries do not have strict environmental standards, there may be more pollution.
- d) Foreign competition will be inefficient for the global economy.

Answer: D

15. In the closed economy of Arbez, the Marginal Propensity to Consume (MPC) is 0.5. Arbez now opens its borders to trade and finds that its Marginal Propensity to Import is 0.1. The Arbezian government increases government spending by 100. Equilibrium output will \_\_\_\_\_ and net exports will \_\_\_\_\_

- a) increase by 100; increase by 10
- b) increase by 100; decrease by 10
- c) increase by 200; increase by 20
- d) increase by 200; decrease by 20

Answer: D

16. Suppose the U.S. interest rate rises relative to that of the United Kingdom. We would expect to see the demand for

- a) U.S. securities rising, and the dollar appreciating in value.
- b) U.S. securities falling, and the dollar appreciating in value.
- c) British securities rising, and the dollar depreciating in value.
- d) British securities falling, and the dollar depreciating in value.

Answer: A

17. In an open economy, expansionary domestic fiscal policy will tend to \_\_\_\_\_ the interest rate, and causes the domestic currency to \_\_\_\_\_.
- a) increase; appreciate
  - b) increase; depreciate
  - c) decrease; appreciate
  - d) decrease; depreciate

Answer: A

18. In 2006, President Bush asked China to adjust the yuan's exchange rate with the dollar. Most likely, he requested
- a) An appreciation in the value of the yuan because this would make America's imports of Chinese goods cheaper.
  - b) An appreciation in the value of the yuan because this would make America's imports of Chinese goods more expensive.
  - c) A depreciation in the value of the yuan because this would make America's imports of Chinese goods cheaper.
  - d) A depreciation in the value of the yuan because this would make America's imports of Chinese goods more expensive.

Answer: B

19. There are two basic ways a firm can add to its capital stock. These methods are:
- a) First: plant-and-equipment investment, which are purchases by firms of additional machines, factories, or buildings within a given period. Second: inventory investment, which occurs when a firm produces less output than it sells within a given period.
  - b) First: plant-and-equipment investment, which are purchases by firms of additional machines, factories, or buildings within a given period. Second: inventory investment, which occurs when a firm produces more output than it sells within a given period.
  - c) First: plant-and-equipment investment, which are purchases by firms of additional machines, factories, or buildings within a given period. Second: stock investment, which occurs when a firm produces more output than it sells within a given period.
  - d) First: plant-and-equipment investment, which are purchases by firms of additional machines, factories, or buildings within a given period. Second: inventory investment, which occurs when a firm produces the same amount of output as it sells within a given period.

Answer: B

20. A Social Security system in which payroll taxes from workers and their employers go directly to retirees and other beneficiaries is known as

- a) A pay-as-you-go system.
- b) An individual-account system.
- c) A primary-deficit system.
- d) A social-lockbox system.

Answer: A

21. According to the Lucas supply function, positive price surprises cause firms to supply more in the short run because

- a) Firms are tricked into thinking that relative prices have changed, and that they are getting a higher price for their output.
- b) Firms have lower costs when there are price surprises, so aggregate supply increases.
- c) Firms want to gain by increasing investment during a potential economic expansion.
- d) Firms know that prices will fall in the future, so they must sell as much as they can at the current high prices.

Answer: A

22. Which of the following is NOT an argument advanced by anti-globalists against free trade?

- a) It contributes to sub-standard working conditions in poor countries.
- b) Specialization is promoted at the expense of self-sufficiency.
- c) National sovereignty is undermined by supra-national organizations.
- d) Environmental damage occurs as production is shifted to countries with lax environmental protection standards.

Answer: B

23. The US has been running a deficit on its Current Account for several years. Which of the following are NOT consistent with this?

- a) Its international debt has been growing
- b) It has consumed more goods and services in dollar terms than it has received from producing goods and services
- c) Credits have amounted to less than debits in the Capital Account
- d) Sales of assets of various kinds to foreign residents have been required
- e) All of the above
- f) None of the above

Answer: C

24. Capital mobility, an important aspect of globalization, is *best* described as:

- a) The ability to carry large sums of money through customs.
- b) The development of light-weight, portable machinery.
- c) The ability of capitalists to relocate facilities in search of maximum profits.
- d) The rapid and free flow of financial capital to its best use, regardless of location.

Answer: D

25. Compared to Developed nations, Developing nations generally possess

- a) More labor per unit of capital.
- b) Less labor per unit of capital.
- c) Approximately the same level of labor per unit of capital.
- d) More total labor.
- e) Less total labor.

Answer: A

26. The idea that collective ownership may not provide the proper private incentives for efficiency, because individuals do not bear the full costs of their own decisions but do enjoy the full benefits is known as

- a) Capitalism
- b) Revisionist Communist Theory
- c) Market socialist economy
- d) Lack of capital formation
- e) Tragedy of the commons

Answer: E

**PART II: Short-answer questions (8 questions, 13 points total)**

1. (2 points) Suppose the government introduces a new fiscal package consisting of a \$500 billion increase in government spending and a \$400 billion increase in taxes. The Marginal Propensity to Consume (MPC) is 0.6. By how much does output increase or decrease as a result of the combined effect of this policy package?

*The increase in the government spending increases output, while the increase in taxes reduces output. The effects of the two policies on output work in opposite directions.*

*First, the effect of the rise in government spending: the government spending multiplier is  $1/(1-0.6)=1/0.4=2.5$ . Therefore, a \$500 billion increase in  $G$  increases output  $Y$  by  $2.5*\$500 \text{ billion}=\$1,250 \text{ billion}$ .*

*Second, the effect of the rise in taxes: the tax multiplier is  $-MPC/(1-MPC)=-0.6/0.4=-1.5$ . Therefore, a \$400 billion increase in taxes decreases output by  $1.5*\$400 \text{ billion}=\$600 \text{ billion}$ .*

*The combined effect is  $\$1,250 \text{ billion} - \$600 \text{ billion} = \$650 \text{ billion increase in output}$ .*

2. (2 points) Assume that the goods and money markets are in equilibrium. Suppose the Fed and the government agree to implement a policy mix of contractionary monetary policy and expansionary fiscal policy. What happens to the equilibrium values of output, the interest rate, private investment and consumption? (Hint: you do not need to show why your answers hold – it is sufficient to state whether the effect is an increase, decrease ambiguous or no change).

*The contractionary monetary policy increases the interest rate, decreases private investment, and lowers equilibrium output. The expansionary fiscal policy increases equilibrium output, increases the interest rate and decreases private investment. Altogether, the effect on equilibrium output is ambiguous, depending on the relative sizes of the counteracting policy interventions. The interest rate increases, and*



*private investment decreases. The effect on consumption is ambiguous, since consumption will move in the same direction as output.*

3. (1 point) Define sticky wages. How do sticky wages relate to unemployment?

*“Sticky wages” refers to the downward rigidity of wages as an explanation for the existence of unemployment. According to this explanation, the equilibrium wage gets “stuck” at a particular level and does not fall to the new equilibrium value when the demand for labor decreases (i.e. when the labor demand curve shifts to the left). As a result, unemployment – the wedge between the quantity of labor demanded and supplied at this wage rate – increases.*

4. (2 points) Suppose the economy is entering a recession, and leading economists announce they expect large wage and employment cuts in the near future. At the same time, the Fed decides to lower the interest rate by 1% in order to fight the recession. Discuss the implications of the bleak economic outlook *and* the lower interest rates on households’ 1) consumption; and 2) labor supply decision. (Hint: make sure to consider the income and substitution effects of future expectations *and* lower interest rates).

*The effects of bleak future expectations: a bad economic outlook has a negative income effect, causing households to consume less, and work more today.*

*The effects of lower interest rates: the interest rate is the return on saving. The substitution effect of lower interest rate causes households to save less and consume more. The income effect causes consumers to feel poorer and therefore consume and save less, and work more today.*

5. (2 points) Suppose the world consists of two countries: Chile and Germany. There are two goods: wheat and wine. Both countries produce both goods. The following table describes the production possibilities of the two countries:

	Chile	Germany
Wheat (millions of bushels per day)	4	6
Wine (millions of barrels per day)	2	4

Which country has the absolute advantage in producing both goods? Which country has the comparative advantage in producing wheat? Can these countries benefit from trading which each other?

*Germany has the absolute advantage in producing both goods.*

*Chile has to give up 1/2 million barrels of wine to produce another million bushels of wheat. Germany has to give up 2/3 million barrels of wine to produce another million*

*bushels of wheat. Therefore, Chile has a lower opportunity cost of wheat production. Chile has a comparative advantage in the production of wheat, and Germany has the comparative advantage in wine production. Therefore, the two countries can benefit from trade.*

6. (2 points) Consider the currency market for Euros. Suppose the equilibrium exchange rate is currently 1.5 USD/Rupee, where USD stands for the U.S. dollar and the Rupee is the currency of India. Rumors start to spread among investors that India will soon be involved in an economic disaster due to the failure of the monsoon rains to arrive. What will happen to the USD/Rupee exchange rate as a result of these rumors? Graphically illustrate the changes in the currency market. (Hint: how will those who currently hold Rupees react to the rumors?) Will exporters of Indian rugs be happy or sad as a result of all of this?

*As a result of the rumors, the supply curve of Rupees shifts out to the right as investors try to get rid of their Rupees. The equilibrium exchange rate falls against the USD, as the Rupee depreciates. The amount of Rupees traded in the currency market increases. See graph below. Exporters in India will be happy since they now get more rupees for every dollar's worth of exports.*

7. (1 point) Immigration has played a very important role in the economic development and growth of the United States and the European Union. However, immigration remains a controversial issue on both continents. List one argument for, and one argument against free immigration.

*Argument for free immigration: the free flow of labor increases efficiency and therefore increases world output; more workers means the production possibility frontier is pushed further out.*

*Arguments against free immigration: the free flow of labor changes the skill distribution in the target country. The inflow of unskilled labor can take jobs away from low-skilled and low-income locals, increasing the unemployment rate.*

*Note – Other answers are possible and will be evaluated on their logic and relevance.*

8. (1 point) List at least four of the six requirements for a successful transition from socialism to a market-based system.

*The requirements are 1) macroeconomic stabilization, 2) deregulation of prices and liberalization of trade, 3) privatization; 4) establishment of market-supporting institutions; 5) a social safety net; and 6) external assistance.*

### **PART III: News Analysis (3 articles, 14 points total)**

1. Read the following excerpt from an article which appeared in the Economist's online edition on November 19<sup>th</sup>, 2008:

#### **Time to Re-embrace Globalization**

“There’s a dangerous tendency to resort to protectionism when things get tough. In 1929, American tariffs turned a domestic financial crisis into a global economic crisis that inflicted damage for years to come. And although we’ve learnt a lot from that mistake over 80 years, you wouldn’t know it today. If you put globalization to a vote in America, Europe—pretty much anywhere—the general public would probably vote it down. Business and government leaders must reset the debate, re-establishing why interdependent economies and healthy competition are good for the world.”

- 1.1 (1 point) Why do protectionist policies become more popular in tough economic times? Briefly discuss.

*In a recession, unemployment increases. As more and more people lose jobs domestically, policy-makers focus on the task of creating local jobs. By limiting imports through the use of tariffs and quotas, domestic producers get a chance to serve the local market as the products of foreign competitors are taxed. As a result, domestic production increases and more local jobs are created. However, this policy will also result in higher prices, decreasing people’s buying power.*

- 1.2 (2 points) Suppose that policy-makers give in to public pressure and impose tariffs on the imports of meat products from the European Union. Before the tariff is introduced, the market price of a pound of pork is \$4 in the US, and 5 million pounds are traded each day. Now the US government imposes a \$1 tax on each

pound of pork imported from the EU. Graphically illustrate the effect of this tariff on the US market for pork. (Hint: make sure to show the change in the equilibrium price of pork, the quantity traded and the revenue collected by the government).

*Before the imposition of the tariff, the equilibrium price of pork is \$4 per pound. This is below the price that would prevail if there were no imports, i.e. if only domestic producers served the market. The difference between domestic production and domestic demand at this price is the amount of imports. As the tariff is imposed, the equilibrium price rises to \$5 per pound. This allows domestic producers to also charge \$5 per pound of pork, increasing domestic production. The quantity demanded is lower at this higher price. The wedge between domestic production and consumption (i.e. the amount of imports) decreases. The government revenue is the amount collected in the form of tariffs from importers. See graph below.*

1.3 (1 point) What other methods – instead of the tariffs – can the government use to limit pork imports? Discuss one alternative protectionist policy measure.

*Quotas can also be used to limit the amount of pork imports. When a binding quota is imposed, the government determines the maximum amount of pork imports per day. If importers are not allowed to bring in enough pork to make up the difference between domestic consumption and domestic production at the current price, the market price will rise. This will then cause domestic producers to produce more at the higher price. Domestic producers benefit and domestic consumers are worse off as a result of this policy.*

2 Read the following excerpt which appeared in the Economist on December 4<sup>th</sup>, 2008:

**Plumbing the Depths**

“On December 2nd the price of a barrel [of oil] slipped below \$47, the lowest level since May 2005 and less than a third of the peak reached in July....The main reason for the slump [in oil prices] is the darkening outlook for the world economy..... Many now expect global oil demand to fall next year, and perhaps even this year—which would be the first decline since 1993. Meanwhile, several new oilfields and refineries, which were set in motion when the price seemed likely only to rise, are due to start up in the coming months, increasing supply just as demand atrophies.....The king of Saudi Arabia recently said that \$75 a barrel would be a fair price—an idea that other members of the cartel have echoed with enthusiasm.”

- 2.1 (2 points) Using the market graph for oil, illustrate the events described in the excerpt above. Make sure to indicate the effects on the quantity of oil traded and the equilibrium price.

*The recession in the world economy causes a leftward shift of the market demand curve for oil. At the same time, production increases as new fields open, and the supply curve shifts to the right. As a result, the quantity of oil decreases and the price falls. See graph below.*

- 2.2 (1 point) Now suppose that the OPEC members decide to raise the equilibrium price of oil from the current price of \$47 a barrel to \$75 a barrel. How can they achieve this goal? Illustrate on the oil market graph.

*The OPEC members can raise the price of oil by cutting production, thereby shifting the supply curve of oil to the left until the \$75 a barrel price is achieved. See graph below.*

- 2.3 (2 points) Oil is a very important input to the production of most goods. Oil demand and aggregate supply generally move together, i.e. if the level of production increases, demand for oil also rises. Now suppose we are in the short run, and the U.S government implements large-scale expansionary fiscal policy. Using the AD-AS graph and the oil market graph, show how this policy affects the price of oil in the short run.

*The expansionary fiscal policy shifts the aggregate demand curve out to the right. In the short run, the aggregate supply curve is upward sloping. Therefore, the equilibrium output and price level both increase. As equilibrium output increases, the demand curve for oil shifts out to the right. This raises the price of oil and the quantity of oil traded in the market. See graphs below.*

3. Read the following excerpt from an article which appeared on the Economist's website on December 4<sup>th</sup>, 2008:

### **Tumbling Rates**

“As European economies have weakened far more than expected, their central banks have wielded their big weapon. Thursday December 4th will go down in monetary history as the day that they made drastic cuts in interest rates to ward off a severe recession. It started with a bang when the Swedish central bank announced a far bigger reduction than expected in its policy rate.... Explaining the decision, the board said there had been an unexpectedly rapid and clear deterioration in economic activity since October. The scale of the reduction was also necessary because monetary policy was less effective than usual.”

- 3.1 (2 points) European central banks are cutting interest rates in order to boost economic activity. Using graphs, illustrate how this monetary policy tool can work to increase output.

*The expansionary monetary policy shifts the money supply curve out to the right. As a result, the interest rate decreases. The lower interest rate causes investment to increase, increasing aggregate expenditure and equilibrium output. The aggregate demand curve shifts out, and the price level increases. The aggregate supply curve does not change. See graphs below.*

- 3.2 (2 points) Assume that the US dollar/Euro equilibrium exchange rate is 1.5 US dollar/Euro. Now suppose there is a general belief among investors that the EU will be able to handle the recession better than the U.S. As a result, investors start to move their wealth away from the US dollar, into Euro-denominated assets. Using the graph for the Euro currency market, illustrate the resulting changes to the equilibrium US dollar/Euro exchange rate and the quantity of Euros traded. What is likely to happen to trade between the US and Europe?

*As a result of investors' belief that the Euro will be stronger, the demand curve for Euros shifts out to the right. As a result, the equilibrium US dollar/Euro exchange rate increases (the Euro appreciates), and the quantity of Euros traded on the currency market increases. See graph below. US exports to Europe should increase as the dollar depreciates against the Euro. European exports to the US should decrease. (This can also be stated in terms of imports)*

3.3 (1 point) Now suppose that the European Central Bank fixes the exchange rate between the US dollar and the Euro at 1.5 US dollar/Euro. In light of the changes in 3.2 above, what does the European Central Bank have to do to maintain this fixed exchange rate? (Hint: think of the demand and supply for Euros, and their effect on the equilibrium exchange rate).

*The ECB must find a way to lower the interest rate back to 1.5 USD/Euro. The ECB needs to increase the supply of Euros, shifting out the Euro supply curve and lowering the exchange rate. The ECB can shift out the Euro supply curve by using its Euro reserves to buy up US dollars (creating 'artificial' demand for US dollars). See graph below.*