宏观经济学（A卷）  
Principles of Macroeconomics (Paper A)  
  
Instructions: You have two hours to complete the test. Full marks are 100 points. Write your answers on the answer sheet. You can answer your questions either in English or Chinese. Read the questions carefully before answering them. Be precise and to the point. Good luck!  
  
1. （10 points）True or False? Explain your answer completely but briefly.  
（1） The government expenditures on the Social Security benefit to the elderly and the salary of government employees should be included in the “government purchase” component of the GDP.  
（2） The long-run economic growth depends on the quantity of labor force, the stock of physical and human capital, the level of technology, natural resources, fiscal policy and monetary policy.  
（3） An economy contains 2000 1*bills*.*Ifpeopleholdequalamountsofcurrencyanddemanddepositsandbanksmaintainareserveratioof*10*percent*,*thequantityofmoneyis*11000.  
（4） People worry always about the inflation in the long run because it lowers the purchase power of money, so that a fall in purchase power is the important cost of inflation.   
（5） The purchasing-power parity theory is one of the most important long-run theories of exchange rate. it is based on the law of one price. The law tells us that a good must sell for the same price in all locations eventually.  
  
  
2. （10 points）In an open economy, suppose GDP is 10*trillion*,*taxesare*2.5 trillion, private saving is 1.5*trillion*,*andpublicsavingis*0.5 trillion, net capital outflow is 1.1*trillion*.*Calculateconsumption*,*governmentpurchase*,*nationalsaving*,*investmentandnetexport*.(*Hint*:*thereisnotransferpayment*;*thebalanceofpaymentisalwayszero*)

3.(15*points*)*SupposethattheresidentsofacountryspendalloftheirincomeonA*,*B*,*andC*.*In*2009,*theybuy*100*piecesofAfor*300, 50 pieces of B for 100,*and*20*piecesofCfor*80. In 2010, they buy 150 pieces of A for 600,40*piecesofBfor*200, and 12 pieces of C for 120.(1)*Ifthebaseyearis*2009,*whatistheCPIinbothyears*?(2)*Whatistheinflationratein*2010?(3)*IftheFedwantstoreduceinflationrate*,*whichtoolsitcanchoosetousetheoretically*?*Howtousethetoolsspecifically*?(4)*Useagraphofthemoneymarkettoillustratetheeffectofmonetarypolicyof*(3).*Showtheresultingchangeintheinterestrate*.

4.(10*points*)*TheBureauofLaborStatisticsannouncedthatinMay*2009,*ofalladultAmericans*,140,570,000*wereemployed*,14,511,000*wereunemployed*,*and*80,371,000*werenotinthelaborforce*.(1)*Whatwasthelaborforce*,*thelabor*−*forceparticipationrateandtheunemploymentrate*?(2)*BetweenAprilandMayin*2009,*totalU*.*S*.*employmentdeclinedby*437,000*workers*,*butthenumbersofunemployedworkersincreasedby*787,000.*Howarethetwonumbersconsistentwitheachother*?*Why*?(3)*Whethertheunemploymentratemaybezeroinlongrun*?*Why*?

5.(10*points*)*Supposethatthisyear*′*smoneysupplyis*500 billion, nominal GDP is 12*trillion*,*andrealGDPis*6 trillion.  
(1) What is the price level? What is the velocity of money?  
(2) Suppose that velocity is constant and the economy’s total output of goods and services rises by 5 percent each year. What will happen to nominal GDP and the price level next year if the Fed keeps the money supply constant?  
(3) What money supply should the Fed set next year of it wants inflation of 3 percent?  
(4) What is the fundamental cause of inflation? Does continuing increase in fiscal spending create inflation holding money stock fixed?  
  
  
6. (15 points) Suppose that U.S. mutual funds decide to invest more in China because of the sub-prime mortgage crisis.  
(1) Use three-panel diagram discussed in textbook for an open economy to analyze the impact of the change on China’s economy. What happens to net capital outflow, national saving, and domestic investment in China?   
(2) What are the long-run effects on China’s capital stock and economic growth?  
(3) What happens to the real exchange rate of RMB to USD?   
(4) What are the influences on China’s export, import, net export, and foreign direct investment?  
  
  
7. (15 points) Suppose the government reduces taxes by 30*billion*,*thatthereisnocrowdingout*,*andtheMPC*(*marginalpropensitytoconsumer*)*is*2/5.*Answerthefollowingquestions*.(1)*Whatistheinitialeffectofthetaxreduction*?(2)*Whatadditionaleffectsfollowthisinitialeffect*?*Whatisthetotaleffectofthetaxcut*?(3)*Howdoesthetotaleffectofthis*30 billion tax cut compare to the total effect of a $30 billion increasing in government purchases? Why?

8. (15 points)Suppose the extreme weather increases the cost of producing   
food products.  
  
(1) Show the impact of such a change in both the AD-AS diagram and in the   
Phillips-curve diagram. What happens to inflation and unemployment in the   
short-run?  
  
(2) Do the effects of this event mean there is no short-run tradeoff between   
inflation and unemployment? Why or why not?  
  
(3) Suppose the Fed pursues expansionary monetary policy to response to the   
weather change. Use the Phillips curve to show the short-run and long-run   
effects of this policy

武汉大学2009-2010学年第二学期宏观经济学期末考试  
《宏观经济学》试题参考答案（A卷）  
1. (10 points) a. △GDP= 400*b*.△*NNP*=△*GDP*−△*depreciation*=400-50=350  
  
c. △NI= △NNP - △sales taxes = 350−30 = 320*d*.△*PI*=△*NI*−△*retainedearnings*=320 - 100=220  
  
e. △PDI= △PI-△personal income tax = 220−70 =1502.(10*points*)*Toamacroeconomist*,*savingoccurswhenaperson*′*sincomeexceedshisconsumption*,*whileinvestmentoccurswhenapersonorfirmpurchasesnewcapital*,*suchasahouseorbusinessequipment*..*a*.*Whenyourfamilytakesoutamortgageandbuysanewhouse*,*thatisinvestment*,*becauseitisapurchaseofnewcapital*.*b*.*Whenyouuseyour*200 paycheck to buy stock in AT&T, that is saving, because your income of 200*isnotbeingspentonconsumptiongoods*.*c*.*Whenyourroommateearns*100 and deposits it in her account at a bank, that is saving, because the money is not spent on consumption goods.  
  
d. When you borrow $1,000 from a bank to buy a car to use in your pizza-delivery business, that is investment, because the car is a capital good.  
  
  
  
3. (10 points) All factors, that affect AD at a given price level, can be categorized to four groups according to which component of spending is most directly affect: (1)C, such as a tax cut/hike, a stock market boom/decline; (2) I, such as optimism/pessimism about the future, a fall/rise in interest rates due to an increase/decrease in money supply; (3)G, such as greater/smaller spending on defense or highway construction, (4)NX, such as a boom/recession overseas, an exchange-rate depreciation/appreciation.  
  
According to the production factors, the long-run AS may change arising from the following four sources which affect the natural rate of output: (1)K (physical capital or human capital ), such as the increase of the number of machines or that of college degrees;(2)L, such as an increase in immigration from abroad, the change of the natural rate of unemployment due to increasing minimum wage or the unemployment insurance system; (3)N (natural resources), such as a discovery of a new mineral deposit, good weather, a change in the availability of imported resources; (4)A, such as the advance of internet technology, other events that act like changes in technology.  
  
All these variables——K, L, N, A, shift the short-run AS curve too. Another important new variable that affect the short-run AS is the change of expected price level. A decrease in the expected price raises the AS in the short-run.  
  
In the short-run, the continuing increase in money can raise GDP for that there is unexpected price level. However, in the long run, the AS curve is vertical, as people adjust their expected price levels to the actual price level. so the increase of money which raise AD and price level but can not have the economy to grow continuously only by use of expansionary monetary policy.   
  
  
  
4. (15 points)   
  
e.   
  
  
  
a. If Chinese government decided it no longer wanted to buy U.S. assets, U.S. net capital outflow would increase, increasing the demand for loanable funds, as shown in the following figure. The result is a rise in U.S. interest rates, an increase in the quantity of U.S. saving (because of the higher interest rate), and lower U.S. domestic investment.  
  
b. In the market for foreign exchange, the real exchange rate declines and the balance of trade increases  
  
  
  
  
  
  
  
  
  
5. (15 points)   
  
a. When the stock market declines sharply, wealth declines, so the aggregate-demand curve shifts to the left, as shown in Figure 5a below. In the short run, the economy moves from point A to point B, as output declines and the price level declines. In the long run, the short-run aggregate-supply curve shifts to the right to restore equilibrium at point C, with unchanged output and a lower price level compared to point A.  
  
  
  
  
  
  
  
  
  
  
  
  
  
Figure 5a  
  
Figure 5b  
  
  
  
  
  
  
  
b. When the federal government increases spending on national defense, the rise in government purchases shifts the aggregate-demand curve to the right, as shown in Figure 5b above. In the short run, the economy moves from point A to point B, as output and the price level rise. In the long run, the short-run aggregate-supply curve shifts to the left to restore equilibrium at point C, with unchanged output and a higher price level compared to point A.  
  
c. When a technological improvement raises productivity, the long-run and short-run aggregate-supply curves shift to the right, as shown Figure 5c below. The economy moves from point A to point B, as output rises and the price level declines.  
  
Figure 5c  
  
d. When a recession overseas causes foreigners to buy fewer U.S. goods, net exports decline, so the aggregate-demand curve shifts to the left, as shown in Figure 5a above. The effects are similar with that in part a.  
  
e. The continuing increase in reserve ratio causes the decrease of money supply. So, the aggregate-demand curve shifts to the left, as shown in Figure 5a above. The effects are similar with that in part a..