

**Midterm 1**

The total time for the exam is 60 minutes, although you are given 70 minutes to complete it. Points are allocated proportionally to the time allocations.

**Part I: Multiple Choice (30 minutes)**

1. The importation of an automobile into the US will be recorded as
  - (a) a credit under merchandise trade.
  - (b) a debit under merchandise trade.
  - (c) a credit under investment income.
  - (d) a debit under investment income.
  - (e) none of the above.
  
2. In the absence of valuation effects due to exchange rate changes, a country running a current-account surplus is *necessarily*
  - (a) building up a positive net foreign asset position.
  - (b) reducing claims on foreigners.
  - (c) accumulating claims on foreigners.
  - (d) reducing its net foreign asset position.
  - (e) none of the above.
  
3. If the central bank is allowing the exchange rate to float freely, then
  - (a) they are buying and selling reserves.
  - (b) the basic balance must be zero.
  - (c) the balance of payments must be zero.
  - (d) the current account balance must be zero.
  - (e) the country can have both a current account and capital account deficit.
  
4. A revaluation occurs when
  - (a) there is a switch from fixed rates to floating rates.
  - (b) the central bank accumulates too much foreign exchange.
  - (c) a new, lower fixed exchange rate is set.
  - (d) the exchange rate is permanently increased.
  - (e) the central bank sells large amounts of domestic currency.
  
5. A US firm receiving profits from a factory built 20 years previously in Mexico leads to a credit under
  - (a) the current account.
  - (b) foreign direct investment.
  - (c) short-term capital.
  - (d) long-term capital.
  - (e) overall balance of payments.

6. In an economy with a zero marginal tax rate, if the marginal propensity to save is 0.2 and the marginal propensity to import is 0.2, then a \$100 million dollar increase in government spending will change the trade balance by what amount in the Keynesian model?

- (a) -\$250 million
- (b) -\$100 million
- (c) -\$50 million
- (d) \$50 million
- (e) \$250 million

7. Consider a Keynesian two-country, open-economy model, where both countries have a marginal propensity to import of 0.2 and a marginal propensity to save of 0.2 (the marginal tax rate is zero). An increase in government spending by \$100 million in country A leads to an increase in income of

- (a) approximately \$627 million.
- (b) \$250 million.
- (c) approximately \$313 million.
- (d) \$200 million.
- (e) \$100 million.

8. Which of the following are expenditure-switching policies?

- (a) Exchange rate devaluation.
- (b) Decreased government spending.
- (c) Import tariffs.
- (d) All of the above.
- (e) (a) and (c) only.

9. If the Marshall-Lerner condition is satisfied and we are looking at a small country then

- (a) A devaluation will necessarily improve the trade balance.
- (b) A devaluation starting from a situation where exports equal imports will improve the trade balance.
- (c) A devaluation might improve the trade balance even if the trade balance is in deficit, if the elasticities are sufficiently high and the deficit sufficiently small.
- (d) All of the above
- (e) both (b) and (c) above.

10. A country observes that it has a trade deficit and unemployment. If the goal is to shrink the trade deficit and reduce unemployment, the most appropriate combination of policies may be

- (a) devalue and cut government spending.
- (b) revalue the exchange rate and cut government spending.
- (c) revalue the exchange rate and provide incentives for decreased investment.
- (d) devalue the exchange rate and raise government spending.
- (e) revalue the exchange rate and not change government spending.

**Part II: Short Answer (30 minutes)**

1. Suppose you are given a Keynesian economy wherein equilibrium income is given by:

$$Y_0 = \bar{\alpha}[\bar{A} + \overline{EXP} - \overline{IMP}] \text{ where } \bar{\alpha} \equiv \left( \frac{1}{1 - c(1 - t) + m} \right) \text{ and } \bar{A} \equiv \overline{CO} - c\overline{TA} + \overline{IN} + \overline{GO}$$

(in other words, exports are exogenous, and imports only depend upon an autonomous component and income).

1.1 (7 minutes) Let the trade balance be defined as  $TB \equiv EX - IM$ . Show what the effect of an increase in lump sum taxes would be on trade balance (show all your work). Explain why you obtain this result, in terms of economics.

1.2 (7 minutes) Let the budget balance be defined as  $BuS \equiv T - G$ . Show what the effect of an increase in lump sum taxes would be on the budget balance (show all your work). Explain why you obtain this result, in terms of economics.

2. Suppose you are given the following model:

<u>Eq.No.</u>	<u>Equation</u>	<u>Description</u>
(1)	$Y = AD$	Output equals aggregate demand
(2)	$AD \equiv C + I + G + EX - IM$	Definition of aggregate demand
(3)	$C = \overline{CO} + c(Y - T)$	Cons'n function, $c$ is the marginal propensity to consume
(4)	$T = \overline{TA} + tY$	Tax function; $\overline{TA}$ is lump sum taxes, $t$ is tax rate.
(5)	$I = \overline{IN}$	Investment function
(6)	$G = \overline{GO}$	Government spending on goods and services
(7)	$EX = \overline{EXP} + vq$	Export spending
(8)	$IM = \overline{IMP} + mY - nq$	Import spending

Equilibrium income,  $Y_0$ , is given by:

$$(9) \quad Y_0 = \left( \frac{1}{1 - c(1 - t) + m} \right) [\bar{A} + \overline{EXP} - \overline{IMP} + (n + v)q] \text{ let } \bar{A} \equiv \overline{CO} - b\overline{TA} + \overline{IN} + \overline{GO}$$

2.1 (3 minutes) Solve for the total differential (break the change in  $Y$  into its constituent parts).

2.2 (3 minutes) Calculate the change in the trade balance given a one unit change in the real exchange rate (a one unit depreciation of the real value of the dollar). Remember: GDP responds to a change in the real exchange rate,  $q$ .

2.3 (6 minutes) Show what happens in (2.2) in an IS-LM diagram, labeling slopes. Clearly label and explain the shifts.

2.4 (4 minutes) If the marginal propensity to import rises, then what is true about the relative effectiveness of expenditure switching versus expenditure reducing as a means of reducing a trade deficit? Explain your answer in words, using either algebra and/or graphs as an aid.