Introduction to Macroeconomics · 2017-18
Problem Set 3 · Multiple choice questions

1. From which value to which value the dollar depreciates with respect to the euro?
(a) From 4 $/€ to 2 €/$
(b) From 2 $/€ to 2 €/$
(c) From 2 €/$ to 0.5 $/€
(d) From 2 €/$ to 4 $/€

2. Depreciation and devaluation differ from each other in
(a) absolutely nothing.
(b) that depreciation is the decision of some public authority, whereas devaluation is determined by the currency market.
(c) that depreciation is a reduction of the exchange rate and devaluation is an increase.
(d) None of the above

3. Reus is an independent country with the reuro as home currency. What action by the Central Bank of Reus would not cause an appreciation of the reuro versus the euro?
(a) A contractionary open market operation
(b) An increase in reserve requirements
(c) The purchase of euros (paid with reuros)
(d) The purchase of reuros (paid with euros)

4. What is the foreseeable effect on the exchange rate $/€ of the purchase by the European Central Bank of financial assets?
(a) Appreciation of the euro against the dollar
(b) Depreciation of the dollar against the euro
(c) There is no imaginable connection between the liquidity market and the currency market
(d) None of the above

5. What could explain the depreciation of the euro with respect to the dollar?
(a) A fall in the eurozone general price level
(b) An increase in the eurozone interest rate
(c) A decrease in the US interest rate
(d) A fall in the US general price level

6. Let the real exchange rate be expressed as foreign baskets/domestic basket. How does an increase in the foreign CPI affect the real exchange rate, with the rest of variables determining the real exchange rate held fixed?
(a) Causes a rise in the real exchange rate
(b) Causes a reduction in the real exchange rate
(c) Does not affect the real exchange rate
(d) None of the above

7. What could not explain the depreciation of the euro with respect to the dollar?
(a) A fall in the eurozone prices
(b) An increase in the Eurozone interest rate
(c) A decrease in the US interest rate
(d) None of the above

8. If the nominal exchange rate is 2 $/€, the eurozone CPI is 200 and the US CPI is 100,
(a) the euro is overvalued with respect to its purchasing power parity value.
(b) the euro is undervalued with respect to its purchasing power parity value.
(c) the euro is at its purchasing power parity level.
(d) None of the above

9. The Federal Reserve (Fed) has decided to intervene in the currency market to make the dollar appreciate with respect to the euro. Which measure is appropriate to reach that goal?
(a) According to the impossible trinity, no such measure exists.
(b) The Fed buys euros in the currency market.
(c) The Fed buys dollars in the currency market.
(d) The Fed sells dollars in the currency market.

10. If $P = 100$, $P^* = 50$ and $e = 1$ $/€, then, according to PPP, the euro is
(a) overvalued.
(b) undervalued.
(c) at parity level.
(d) None of the above

11. Using proper technical terms, the euro appreciates against the dollar if
(a) the US government time ago set a fixed exchange rate at 2 €/$ and now changes that fixed rate to 2 $/€.
(b) there is a floating exchange rate regime between the two currencies and the equilibrium exchange rate in the currency market goes from 2 €/$ to 2 $/€.
(c) there is a floating exchange rate regime between the two currencies and the equilibrium exchange rate in the currency market goes from 2 $/€ to 2 €/$.
(d) the US government time ago set a fixed exchange rate at 2 $/€ and now changes that fixed rate to 2 €/$.

12. The euro is likely to depreciate with respect to the dollar in the currency market if
(a) the US real GDP increases.
(b) the US nominal interest rate falls.
(c) the eurozone inflation rate goes up.
(d) None of the above

13. In passing from 2 $/€ to 2 €/$,
(a) the euro appreciates with respect to the dollar.
(b) the dollar appreciates with respect to the euro.
(c) the dollar depreciates with respect to the euro.
(d) None of the above

14. If the European Central Bank conducts a contractionary monetary policy, it is likely that, in the currency market,
(a) the euro will appreciate against the dollar.
(b) the dollar will appreciate against the euro.
(c) the supply of euros will shift to the right.
(d) None of the above

15. What cannot explain a depreciation of the euro against the dollar?
(a) A rise in the US interest rate.
(b) A rise in the eurozone inflation rate.
(c) A fall in the eurozone GDP.
(d) None of the above

16. The competitiveness of an economy improves
(a) when **M1** is larger than **M0**.
(b) when its central bank buys the domestic currency in the currency market.
(c) when the real exchange rate falls (a real depreciation occurs).
(d) None of the above

17. In which case does the dollar appreciate against the euro?
(a) In passing from 2 $/€ to 4 $/€
(b) In passing from 2 $/€ to 2 €/$
(c) In passing from 2 $/€ to ½ €/$
(d) None of the above

18. Letting P designate the eurozone price index, the competitiveness of the eurozone cannot improve
(a) when P remains constant, e (expressed in $/€ units) doubles, and P^* rises.
(b) in passing from $e = ¼$ €/$, $P = 100$, and $P^* = 400$ to $e = 2$ $/€ and $P = P^* = 400$.
(c) when P^* remains constant, e (expressed in $/€ units) falls, and P doubles.
(d) when e remains constant, P^* increases, and P decreases but less than P^* increases.

19. The competitiveness of the eurozone improves when, other things being equal,
(a) the euro depreciates against the dollar.
(b) the eurozone CPI rises.
(c) the US CPI falls.
(d) None of the above

20. The euro has depreciated against the dollar. A possible explanation is
(a) that the US interest rate went down.
(b) that the eurozone inflation rate went up.
(c) that the US real GDP has grown.
(d) None of the above

21. The ECB adopts a fixed exchange rate regime in which the value of the euro is held fixed against the dollar. When a shift to the right in the supply of euros function moves the exchange rate away from its fixed rate, the ECB should
(a) necessarily increase its demand for dollars.
(b) sell dollars thereby raising its dollar reserves.
(c) sell dollars thereby lowering its dollar reserves.
(d) never intervene in the currency market.

22. Letting the real exchange rate represent a measure of the competitiveness of an economy, the eurozone becomes less competitive if
(a) the eurozone general price level falls.
(b) the US general price level rises.
(c) the dollar appreciates against the euro.
(d) None of the above

23. Assuming a floating (or flexible) exchange rate between euro and dollar, the US government places a tax on the sale of dollars by American citizens in the currency market: for each dollar sold by American citizens, they should pay 0.5 dollars to the US government. What is the likely effect of this tax?
(a) A shift to the left of the supply of dollars function and, accordingly, an appreciation of the euro against the dollar.
(b) A shift to the right of the demand for dollars function and, accordingly, a devaluation of the euro with respect to the dollar.
(c) A shift to the left of the supply of dollars function and, accordingly, both a shift to the left of the demand for euros function and a depreciation of the euro against the dollar.
(d) A shift to the right of the supply of dollars function and, accordingly, both a shift to the left of the demand for euros function and a revaluation of the euro against the dollar.

24. Under a floating exchange rate regime
(a) an increase in the value of the home currency against foreign currencies is an appreciation.
(b) the government buys the home currency to sustain the exchange rate.
(c) an increase in the value of the home currency against foreign currencies is a devaluation.
(d) an increase in the value of the home currency against foreign currencies is a revaluation.

25. If the US CPI is $P^* = 800$ and the eurozone CPI is $P = 400$, then the purchasing power parity exchange rate is
(a) 2 €/$.
(b) 1 €/$.
(c) ½ €/$.
(d) 1 $/€.

26. In which case is the euro undervalued (with respect to its purchasing power parity value) against the dollar?
(a) $e = 1$ $/€, $P = 200$ i $P^* = 400$
(b) $e = ½$ €/$ and $P = P^* = 200$
(c) $e = 2$ €/$ and $e_{PPP} = ¼$ $/€
(d) None of the above

27. What intervention by the Federal Reserve in the currency market would tend to appreciate the dollar against the euro?
(a) The purchase of dollars and the sale of euros
(b) The sale of dollars and the purchase of euros
(c) An expansionary monetary policy
(d) None of the above

28. The dollar has appreciated against the euro. It is not a possible explanation that
(a) the US GDP has grown and, at the same time, the US interest rate has fallen.
(b) the eurozone GDP has grown and, simultaneously, the eurozone inflation rate has decreased.
(c) while the eurozone inflation rate went up, the US inflation rate went down.
(d) None of the above

29. Let the exchange rate e be expressed in dollars per euro. If i increases, then
(a) the euro appreciates against the dollar, while the dollar appreciates against the euro.
(b) the euro apreciates against the dollar, while the dollar depreciates against the euro.
(c) the euro depreciates against the dollar, while the dollar appreciates against the euro.
(d) None of the above

30. The denial of which sentence is not false?
(a) The dollar tends to depreciate against the euro if the European Central Bank purchases euros in the currency market.
(b) In a fixed exchange rate regime the real exchange rate is necessarily equal to 1.
(c) A rising real exchange rate (expressed as units of foreign goods divided by units of domestic goods) represents an erosion (worsening) of the domestic economy's competitiveness.
(d) If $e = 2$ €/$, the euro could be undervalued against the dollar with respect to its purchasing power parity value.

31. What could explain a reduction in the $/€ exchange rate?
(a) A fall in the US interest rate
(b) A rise in the US inflation rate
(c) Neither (a), nor (b), nor (d)
(d) A rise in the eurozone interest rate

32. In which units is the real exchange rate expressed?
(a) Current euros or in the same units as the CPI
(b) Current dollars per euros of a base year
(c) The real exchange rate does not have any units.
(d) None of the above

33. A real depreciation is a fall in
(a) the nominal exchange rate that turns out to be a very significant fall.
(b) the deposits created by the real sector of the economy.
(c) the real exchange rate.
(d) the monetary base or the money multiplier.

34. The euro depreciates against the dollar but, at the same time, appreciates against the boliviano (the Bolivian currency) if
(a) the Central Bank of Bolivia purchases bolivianos in exchange for euros and the US Federal Reserve buys dollars in exchange for euros.
(b) the Central Bank of Bolivia purchases bolivianos in exchange for dollars and the US Federal Reserve purchases dollars in exchange for bolivianos.
(c) the European Central Bank purchases dollars in exchange for euros and the Central Bank of Bolivia buys euros in exchange for bolivianos.
(d) the European Central Bank purchases euros in exchange for dollars and, simultaneously, purchases bolivianos in exchange for euros.

35. The euro would not tend to appreciate with respect to the dollar if
(a) the eurozone interest rate is pushed up.
(b) more European firms would like to establish and build factories in the US.
(c) the US interest rate diminishes.
(d) None of the above

36. The euro does not appreciate with respect to the dollar if
(a) the eurozone interest rate is pushed up.
(b) the US GDP falls.
(c) more US tourists visit the eurozone.
(d) None of the above

37. The impossible trinity
(a) refers to monetary policy, fixed exchange rates, and capital controls.
(b) states that it is not possible to have an upward sloping supply of euros function, a downward sloping demand for euros function, and an exchange rate equal to its purchasing power parity value.
(c) makes it impossible to have a fixed exchange rate, a speculative attack, and commercial arbitrage.
(d) asserts that a floating (or flexible) exchange rate implies both capital controls and the impossibility of conducting an independent monetary policy.

38. What event would for sure explain a fall in the exchange rate €/$?
(a) An increase in the US interest rate
(b) A fall in the US GDP
(c) A rise in the eurozone inflation rate
(d) None of the above

39. What event could not explain a depreciation of the exchange rate $/€?
(a) An increase in the US interest rate
(b) A fall in the US GDP
(c) A rise in the eurozone inflation rate
(d) None of the above

40. If the eurozone CPI is $P = 400$ and the US CPI is $P^* = 50$,
(a) the value of the real exchange rate is 8.
(b) the value of the nominal exchange rate is 8.
(c) the market nominal exchange rate between euro and dollar may differ from the corresponding purchasing power parity exchange rate.
(d) None of the above

41. The purchasing power parity exchange rate between dollar and euro is the exchange rate that makes equal
(a) the price of the eurozone basket of goods that defines the eurozone CPI and the price of the US basket of goods that defines the US CPI, when both prices are measured in euros.
(b) the eurozone money multiplier and the US money multiplier.
(c) the rate of return of a typical financial asset from the eurozone and the rate of return of a typical financial asset from the US.
(d) None of the above

42. Suppose there is a fixed exchange rate $\bar{e}$ between the euro and the dollar that the European Central Bank is entrusted to preserve. The equilibrium exchange rate in the currency market is initially $\bar{e}$. If the supply of euros function shifts to the right, then the European Central Bank will
(a) necessarily increase the demand for dollars.
(b) sell dollars, thereby accumulating dollars.
(c) sell dollars, thereby decumulating dollars.
(d) conduct absolutely no intervention in the currency market.

43. The competitiveness of the eurozone improves when, other things being equal,
(a) the euro depreciates against the dollar.
(b) the eurozone CPI rises.
(c) the US CPI falls.
(d) None of the above

44. What intervention in the currency market by the Bank of England will make the pound sterling tend to appreciate against the euro?
(a) Buy pounds and sell euros
(b) Sell pounds and buy euros
(c) An expansionary monetary policy
(d) None of the above

45. What could explain a fall in the exchange rate $/€?
(a) A fall in the US interest rate
(b) A rise in the US inflation rate
(c) A rise in the eurozone interest rate
(d) None of the above

46. The euro does not tend to depreciate against the dollar if
(a) the US GDP grows.
(b) the eurozone GDP increases.
(c) the eurozone inflation rate goes up.
(d) the US interest rate rises or none of the above.

47. What is the likely effect on the exchange rate e (expressed in €/$) when the US and the eurozone inflation rates both rise?
(a) None of the following
(b) e necessarily falls.
(c) e tends to rise if the inflation rate increases more in the eurozone than in the US.
(d) It is impossible for e to remain constant.

48. When $P = 200$, $P^* = 400$ and $e = 1$ $/€, the euro is, with respect to its PPP value,
(a) overvalued.
(b) undervalued.
(c) at its purchasing power parity level.
(d) None of the above

49. In a fixed exchange rate regime
(a) revaluation is impossible but devaluation is possible.
(b) the real exchange rate is one.
(c) the impossible trinity becomes possible.
(d) None of the above

50. A depreciation of the dollar with respect to the euro could not be explained by
(a) a rise in the European GDP when, in addition, the European interest rate falls and the European inflation rate goes up.
(b) a rise in the European GDP when, in addition, the European interest rate and the Euopean inflation rate both go up.
(c) a contraction in the European GDP when, in addition, the European interest rate and the Euopean inflation rate both go up.
(d) a rise in the European GDP when, in addition, the European interest rate and the Euopean inflation rate both go down.

51. The impossible trinity states that it is impossible to have
(a) a low money multiplier, a high monetary base and a low money stock.
(b) a high interest rate, a low exchange rate and a stable money multiplier.
(c) an expansionary open market operation, a falling reserve ratio and a fixed exchange rate.
(d) None of the above

52. Which variable is not a bad measure of the competitiveness of an economy?
(a) The liquidity ratio
(b) The nomimal exchange rate
(c) The nomimal interest rate
(d) None of the above

53. In which case does the second concept mean the opposite of the first?
(a) Revaluation and devaluation
(b) Real depreciation and nominal apreciation
(c) Purchase of euros and sale of dollars in the currency market in which only these two currencies are exchanged
(d) Bank deposit and liquidity ratio

54. The purchasing power parity exchange rate is
(a) not a nominal exchange rate.
(b) almost always a real exchange rate.
(c) the value of the money multiplier that makes equal the monetary base of two economies.
(d) None of the above

55. Which sentence is not true?
(a) The open economy trilemma asserts that it is impossible to have a increasing supply of euros function, a decreasing demand for euros functions and an exchange rate equal to its purchasing power parity value.
(b) With respect to its PPP value, the dollar is overvalued if the market exchange rate is 2 €/$ and the PPP value is 2 $/€.
(c) Changing the fixed exchange rate from 2 $/€ to 2 €/$ represents a devaluation of the euro.
(d) The impossible trinity asserts that having a liquidity ratio larger than the reserve ratio is not compatible with a fixed exchange rate.

Problem Set 3 · Exercises

56. Currency market. Suggest events causing the shifts of the functions stated below and specificy the effect (if not ambiguous) on the exchange rate.

(i) Supply of euros does not change, demand for euros shifts to the left.

(ii) Supply of euros shifts to the left, demand for euros to the right.

(iii) Supply of euros shifts to the right, demand for euros to the left.

(iv) Supply of euros and demand for euros both shift to the right.

57. Appreciation. The exchange rate is $e = 2$ $/€.

(i) Calculate the new exchange rate that makes the dollar appreciate a 50% with respect to the euro.

(ii) Find the exchange rate e' such that going from e' to e makes the euro appreciate with respect to the dollar a 20%.

58. Nominal exchange rate. Tables T1 and T2 below come from http://www.x-rates.com/. In T1, for instance, €1 can purchase $1.35357.

(i) Does the euro appreciate or depreciate with respect to the dollar from T1 to T2?

(ii) Find a currency with respect to which both the euro and the dollar appreciate from T1 to T2.

(iii) Pick a currency that, in passing from T1 to T2, appreciates against the dollar but depreciates with respect to the euro (or vice versa).

	USD	GBP	CAD	EUR	AUD
USD	1	0.63804	0.99588	0.73879	0.96732
GBP	1.56729	1	1.56082	1.15789	1.51607
CAD	1.00414	0.64069	1	0.74185	0.97133
EUR	1.35357	0.86364	1.34799	1	1.30933
AUD	1.03378	0.65960	1.02952	0.76375	1

T1 — Refresh in 0:38 | Feb 07, 2013 06:49 UTC

	USD	GBP	CAD	EUR	AUD
USD	1	0.72320	1.25791	0.81610	1.27923
GBP	1.38275	1	1.73938	1.12846	1.76886
CAD	0.79497	0.57492	1	0.64877	1.01695
EUR	1.22534	0.88616	1.54137	1	1.56749
AUD	0.78172	0.56534	0.98334	0.63796	1

T2 — Refresh in 0:05 | Feb 11, 2018 10:08 UTC

59. Appreciation and depreciation. In the chart below, for each foreign currency, indicate a period in which the euro: (i) appreciates with respect to the currency; (ii) depreciates with respect to the currency.

ECB Monthly Bulletin, December 2014 (S72)
www.ecb.europa.eu/pub/pdf/mobu/mb201412en.pdf

60. PPP. Calculate the purchasing power parity exchange rate (adopting the dollar as the home currency) if the nominal exchange rate is 2 €/$, the eurozone CPI is 200, and the US CPI is 100.

61. PPP. Find the purchasing power parity exchange rate (when the euro is the home currency and indirect quotation is adopted) if the nominal exchange rate is 2 €/$, the eurozone CPI is 200 and the US CPI is 600 (assuming that both CPIs are based on the same basket of goods).

62. Currency market. (i) Explain if the euro appreciates or depreciates with respect to the dollar if the US real GDP increases. Illustrate your explanation with a graphical representation of the currency market.

(ii) Address the same two questions (explain and illustrate) if the European Central Bank conducts an expansionary open market operation.

(iii) Address the same two questions if the events in (i) and (ii) occur simultaneously.

53. Currency market. Determine the effect on the equilibrium exchange rate of the following events.

1. The arrival of a significant number of immigrants from the US
2. The Federal Reserve buys government bonds
3. The Federal Reserve and the ECB purchase government bonds
4. The Federal Reserve buys government bonds and the ECB sells them
5. The reduction of the number of tourists coming from the US
6. An increase in the US GDP
7. An increase in the US GDP while the eurozone GDP decreases
8. An increase in the eurozone CPI
9. An increase in the eurozone CPI and US CPI
10. Germany or Catalonia leave the eurozone
11. The eurozone establishes capital controls on the currency markets
12. The US declares war on the eurozone

64. PPP. Reus and Tarragona are independent countries with their own currency, the reuro and the tarragollar, respectively. The exchange rate between reuro and tarragollar is 2 reuros per tarragollar. The price of French bread is 3 reuros a piece in Reus and 1 tarragollar a piece in Tarragona.

(i) Is the reuro overvalued or undervalued with respect to its PPP value? If so, by how much?

(ii) [Optional] Assuming that there is no significant transportation cost, what changes would cause the commercial arbitrage of French bread in the exchange rate and the prices in Reus and Tarragona?

65. Currency market. Let DKK stand for "Danish crown" and SKK for "Swedish crown".

(i) Explain and analyze graphically the effect on the exchange rate DKK/SEK of a fall in the Danish GDP.

(ii) Explain and analyze graphically the effect on the exchange rate DKK/SEK of a contractionary monetary policy implemented by the central bank of Sweden, the Riksbanken (the oldest central bank of the world).

66. Peseta-dollar exchange rate. The chart below shows the peseta-dollar exchange rate (1956 to 2000) in pesetas per dollar.

(i) Select an interval during which the peseta depreciated with respect to the dollar.

(ii) Pick two years between which the peseta appreciated with respect to the dollar.

(iii) Conjecture how the graph showing the dollar-peseta exchange rate should look like.

http://www.economicswebinstitute.org/data/world exchangerates.zip
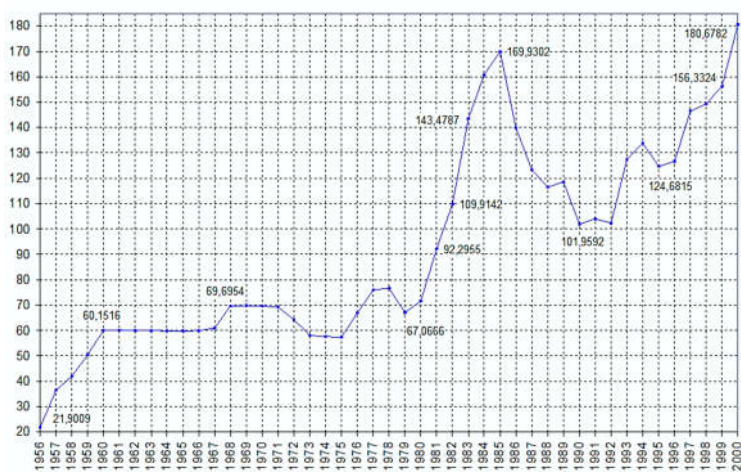
67. Over/undervaluation. By how much is the euro over or undervalued with respect to its purchasing power parity level if $e = 2$ $/€ and the US price level doubles the eurozone price level?

68. Over/undervaluation. Fill out the following table, where P is the eurozone CPI, P^* is the US CPI, e_{PPP} is the exchange rate $/€ ensuring purchasing power parity, e is the equilibrium exchange rate $/€ in the currency market and the last column is to indicate the percentage of overvaluation or undervaluation of the euro against e_{PPP}.

P	P^*	e_{PPP}	e	Overvalued/undervalued (%)
100	200		1	
100	200		2	
100	200		½	
150	150		2	

69. Real exchange rate. (i) Compute the real exchange rate and the purchasing power parity exchange rate if the nominal exchange rate in the currency market is $e = 1/4$ €/$, the US CPI is $P^* = 800$, and the eurozone CPI is $P = 400$ (specify the units of the two rates calculated).

(ii) If the purchasing power parity exchange rate differs from the nominal exchange rate in the currency market, explain if the euro is overvalued or undervalued with respect to the dollar and calculate the over/undervaluation percentage.

70. Real exchange rate. Find the real exchange rate if the nominal rate is 2 $/€, the eurozone price level is $P = 500$, and the US price level is $P^* = 250$.

71. Real exchange rate. The eurozone CPI is 50. The US CPI is 100. Compute the nominal exchange rate between the euro and the dollar that makes the real exchange rate equal to four US baskets of goods per eurozone basket of goods. Specify the units of the exchange rate calculated.

72. Złoty. The chart below shows the evolution (for a few hours on 15 Jan 2016) of the exchange rate between the Polish złoty (pronounced [zw t]) and the euro after the ratings agency S&P downgraded Poland's foreign credit rating, given the agency's view that "there is potential for further erosion of the independence, credibility, and effectiveness of key institutions, especially the National Bank of Poland". Explain by means of the currency market model the connection between the downgrading of Poland's credit and the depreciation of złoty (which felt nearly a 4% during January 2016).

http://www.ft.com/fastft/2016/01/ 15/poland-downgraded-by-sp-zloty-tumbles/

73. PPP. (i) If a currency is overvalued according to its PPP value, what can be said about the associated real exchange rate? Specifically, is it greater, smaller, or equal to 1?

(ii) Assume that P^* is twice P. What is the value of the PPP exchange rate?

74. Exchange rate. (i) Suggest five events shifting the supply of euros function to the right and five the demand for euros function also to the right.

(ii) Indicate a trait that differentiates, and another having in common, appreciation and devaluation.

(iii) Explain if the real exchange rate can be lower than the nominal exchange rate and if the euro can, at the same time, appreciate against the dollar in nominal terms but depreciate in real terms.

75. Currency market. Explain and analyze in a graphical representation of the currency market model the effect on the exchange rate of removing advantages (like tax cuts) previously given to foreign investors.

76. Currency market model. (i) State some event X can could depreciate the dollar against the euro.

(ii) Explain how and why the supply of euros and the demand for euros functions are affected by X.

(iii) Show the effects of X in a graphical representation of the currency market model.

77. Currency market model. Using a graphical representation of the currency market model involving the euro and the dollar, and taking the dollar as the domestic currency, explain the effect on the exchange rate €/$ of the approval of a free trade agreement between the US and the European Union assuming that the lifting of commercial barriers is more beneficial to US consumers than to consumers from the European Union.

78. Currency market. (i) What is the effect on the exchange rate $/€ of an expansionary open market operation conducted by the US Federal Reserve?

(ii) What intervention in the currency market should the European Central Bank carry out to revert the exchange rate to its initial value?

(iii) How is the exchange rate $/€ affected by both banks conducting simultaneously contractionary open market operations?

79. Real exchange rate. Calculate the real exchange rate, adopting the dollar as the home currency, if the nominal exchange rate is 2 €/$, the eurozone CPI is 200, and the US CPI is 100.

80. Depreciation. Using the currency market model, analyze whether having a large and growing trade deficit depreciates the home currency.

81. Currency market model. Analyze graphically by means of the currency market model the impact on the exchange rate of the announcement by the government that all foreign firms settled in the country will be expropriated and nationalized.

82. Competitiveness. There are only two economies, A and B. Explain if A's competitiveness improves when the nominal exchange rate goes up, A's CPI goes down, and B's CPI increases. Explain what happens to B's competitiveness under the same circumstances.

83. Currency market model. Analyze graphically the effect on the equilibrium exchange rate in the currency market model of an increase in the taxes that European consumers must pay when they purchase American goods.

84. Currency market model. Imagine that American investors believe that Spain will be unable to pay back its public debt, that this default will destabilize the eurozone, and that this instability will be so severe that the euro will most probably collapse and disappear.

(i) Explain how this belief is likely to affect the exchange rate $/€ and illustrate graphically your explanation using the currency market model.

(ii) If the ECB aimed at neutralizing the effect on the exchange rate found in part (i), would the ECB have to purchase or sell dollars in the currency market? Which function will the ECB's intervention shift and in what direction?

(iii) If the US Federal Reserve wanted to achieve the same goal as the ECB, would the Federal Reserve have to purchase or sell dollars?

85. Exchange rate. Spain joined the eurozone with conversion rate 166.386 Pts/€. The rate when the Slovak Republic joined was 30.1260 Sk/€.

(i) Calculate the exchange rate between Spanish peseta and Slovak koruna (Slovak crown), using both direct and indirect quotation.

(ii) With conversion rate 45 Sk/€, would the value of the Spanish peseta be larger or smaller than the actual conversion rate 166.386 Pts/€?

86. Fixed exchange rate. If possible, find the amount of euros that the ECB must purchase to sustain a fixed rate of 5 $/€ if the demand for euros function is $q = 12 - e$, the supply function is $q = 2 \cdot e$ and the units of the rate e are $/€.