Introduction to Macroeconomics · 22 May 2018 · M4

Final mark you believe you deserve ⟶

ID Number ______________________ Surnames____ Name ____________________________

WRITE YOUR ANSWERS TO QUESTIONS 1 TO 30 IN THE TABLE BELOW

Questions 1 to 22 [16.5%]: correct answer, +3/4; incorrect answer, –3/4; no answer, –3/8.
Questions 23 to 26 [4%]: correct answer, +1; incorrect answer, –1/3; no answer, –1/6.
Questions 27 to 30 [6%]: correct answer, +3/2; incorrect answer, –3/10; no answer, –3/20.

Write down 'V' if you believe the sentence to be true and 'F' if false																													
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

1. Every financial asset is a monetary aggregate.

2. Banks participate in the M1 creation model providing loans, accepting deposits and retaining part of those deposits as reserves.

3. In the liquidity market model, the indirect supply of liquidity is represented by the purchase of financial assets.

4. Financial asset A differs from financial asset B only in two properties, risk and liquidity. If A is less risky than B, then the most likely event is that B is less liquid than A.

5. A contractionary open market operation changes the interest rate in the same direction as a reduction in the minimum (or legal) reserves.

6. Whenever an economy experiences inflation, the central bank tends to apply a contractionary fiscal policy.

7. The deposit facility is a financial asset that banks offer in the most favourable conditions to preferential clients.

8. The dollar does not depreciate against the euro when the exchange rate moves from 3 $/€ to ½ €/$.

9. In the currency market model that establishes the exchange rate between dollar and euro, the demand for euros is not equivalent to the demand for dollars and, specifically, a rise in one does not necessarily imply a rise in the other.

10. In a floating (or flexible) exchange rate regime an increase in the exchange rate is called revaluation.

11. In a fixed exchange rate regime a fall in the fixed exchange rate is called depreciation.

12. The central bank can cause a depreciation of the home currency purchasing foreign currency in the currency market.

13. The open economy trilemma does not assert that it is not possible to have a lot of competitiveness, a low trade deficit and a high public deficit.

14. Supply-side policies are policy measures that only central banks can apply.

15. As determined by the Phillips curve, a macroeconomic equilibrium specifies a value for the unemployment rate and a value for GDP.

16. The Laffer curve holds that the higher the interest rate, the lower the price of financial assets (and of T-bills, in particular).

17. The aggregate supply and demand model cannot be used to ascertain the effect on the exchange rate of a GDP change.

18. A disinflation typically begins as a deflation, turns into an inflation, is transformed into a reflation and could end up as a stagflation when the hyperinflation becomes negative.

19. The Fisher effect asserts that the real interest rate is constant.

20. Taylor's rule is an example of a fiscal policy rule.

21. The crowding-out effect identifies an unexpected effect of monetary policy, namely, that a contractionary monetary policy tends to crowd banks out of the banking system.

22. Since 2008 the public deficit in all the EU member states, as a percentage of GDP, has continuosuly increased every year.

23. Which sentence is not false?
(a) CPI, GDP deflator, nominal GDP and interest rate are all price indices.
(b) If the GDP deflator falls while real GDP goes up, then it is impossible for nominal GDP to remain constant.
(c) According to the *post hoc ergo propter hoc* fallacy what is true at a certain level or scale is not necessarily true at higher level or scale.
(d) Okun's law does not establish an inverse relationship between the unemployment rate and the inflation rate.

24. The euro does not tend to appreciate against the dollar if
(a) the eurozone inflation rate declines.
(b) the US interest rate increases.
(c) European investors owning US financial assets decide to sell all those assets to acquire European financial assets.
(d) None of the above

25. In the liquidity market model, the interest rate
(a) does not rise if new T-bills are massively issued.
(b) could remain constant if more banks are established and more firms created.
(c) does not diminish if the central bank purchases financial assets.
(d) None of the above

26. What could cause a stagflation in the aggregate supply and demand model?
(a) A contractionary fiscal policy that is combined with a supply-side policy.
(b) An expansionary fiscal policy that is combined with a contractionary monetary policy.
(c) A supply-side policy that is combined with an expansionary demand-side policy.
(d) None of the above

27. In which case is the first sentence not true and the second one not false?

(a) If the interest rate is zero, then the discount factor is smaller than 1. If the price of a T-bill with face value 1000 is 500, then the interest rate is 50%.
(b) Public deficit and trade balance cannot add up to zero. A supply-side policy could neutralize the effect on the inflation rate of a contractionay monetary policy.
(c) No previous option satisfies the two conditions of the initial question. Some previous option satisfies the two conditions of the initial question.
(d) Real interest rate plus real exchange rate is always a constant sum. The immediately preceding sentence is false.
(e) The crowding-out effect is related to fiscal policy. If net exports are 50 and the public deficit −30, investment is 20.
(f) During bank runs, central banks conduct contractionary fiscal policies. The real interest rate equals the discount factor minus the inflation rate.

28. If a deflation occurs,

(a) its effect on the inflation rate could be neutralized, at least in the short run, by applying supply-side policies.
(b) its effect on the inflation rate could be neutralized, at least in the short run, by applying a contractionary fiscal policy.
(c) its effect on the inflation rate could be not be offset in the short run by applying an expansionary monetary policy.
(d) it is almost always followed by either a hyperinflation or the failure of the savings identity.
(e) and it is a cost-push deflation, then its effect on GDP could not be neutralized, in the short run, by conducting an expansionary fiscal policy.
(f) None of the above

29. Which option lists no monetary policy instrument and, simultaneously, includes exactly one fiscal policy instrument?

(a) Phillips curve, savings identity, public expenditure, open market operation, transfers
(b) Fisher equation, real interest rate, real exchange rate, money multiplier, standing facilities
(c) Fisher effect, net exports, tax rate, **M1**, central bank, public expenditure
(d) Transfers, liquidity ratio, expenditure multiplier, Laffer curve, trade surplus, bank deposits, legal (or minumum) reserves
(e) Okun’s law, foreign balance, public deficit, deflation, business cycle, interest rates set by the central bank
(f) None of the above

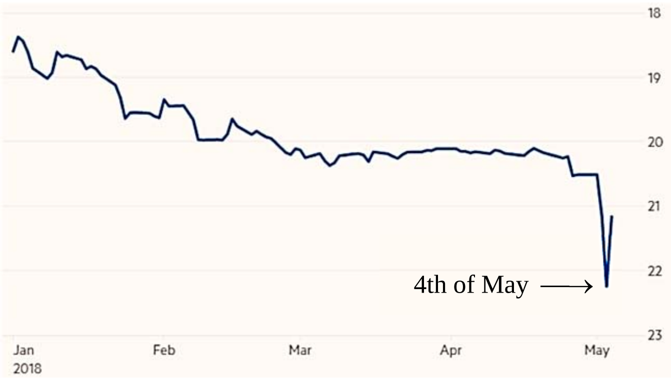
30. Which sentence is not true?

(a) Austerity economics is not a set of economic policy recommendations that attribute some eventual expansionary effect to a contractionary monetary policy.
(b) Neoliberalism is not the doctrine according to which the real exchange rate must be kept at its purchasing power parity value.
(c) It is not possible to have, at the same time, a positive public deficit and a negative trade balance when net private savings are positive.
(d) A reflation arises when a stagflation becomes a disinflation.
(e) The effect on the macroeconomic equilibrium of a supply-side policy is not the opposite effect of a contractionary monetary policy.
(f) The business cycle refers to the oscillations in the general level of economic activity, in general identified with the oscillations of real GDP.

31. [10%] Concerning the news “Iran and the US bring the price of oil to it maximum level in 3 years and a half: the Brent barrel exceeds $80,” SANTI (on 17 May 2018, 12:36) made the following comment: “**Expensive oil = less GDP, more unemployment, higher inflation**.” http://www.eleconomista.es/materias-primas/noticias/9142035/05/18/El-petroleo-cotiza-en-maximos-de-tres-anos-y-medio-el-barril-de-Brent-roza-los-80-dolares.html Use a graphical representation of the AS-AD model to justify or contradict the above comment. Explain the reasons that justify or contradict the comment.	

32. [3.5%] Mark (☒) the box on the left of an economic policy instrument and <u>underline</u> all the monetary policy instruments of a central bank. <u>An incorrect choice cancels out a correct choice</u>.

☐ Real GDP	☐ PPP exchange rate	☐ Loans by banks	☐ Money multiplier	☐ Liquidity ratio
☐ **M2**	☐ GDP deflator	☐ Aggregate supply	☐ Discount factor	☐ Fixed exchange rate
☐ Nominal GDP	☐ Open market operations	☐ Phillips curve	☐ Fisher equation	☐ Stagflation
☐ Deposits	☐ Open economy trilemma	☐ Transfers	☐ Real interest rate	☐ Net private savings
☐ CPI	☐ Legal (or minimum) reserves	☐ Demand for dollars	☐ Net exports	☐ Savings identity
☐ Deflation	☐ Rate of return of a T-bill	☐ Unemployment rate	☐ Okun’s law	☐ Standing facilities

33. [7%] On the last 4th of May, the central bank of Argentina raised the interest rate to 40% (during the week it increased from 27.25% to 40%). https://www.ft.com/content/af31b784-4f6d-11e8-9471-a083af05aea7 Using a graphical representation of the liquidity market model, explain how a central bank could cause an increase in the interest rate and indicate which functions, and how, would be affected.	
34. [10%] The 4th of May rise in the official Argentinian interest rate to 40% aimed at stopping the depreciation against the dollar of the Argentinian peso (ARS, Arg$). Argentina is one of the countries that have suffered from capital flights caused by the recent increase in the US interest rate. https://www.ft.com/content/af31b784-4f6d-11e8-9471-a083af05aea7 Using a graphical representation of the currency market model (involving pesos and dollars), explain (justifying each function shift): (i) if, and how, a rise in the US interest rate could cause a peso depreciation; and (ii) if, and how, a rise in the Argentinian interest rate is a mesure that could appreciate the peso. (iii) The chart on the right shows the exchange rate Arg$/$: how many pesos a dollar can buy. Explain: (a) if between January and April the peso appreciates or depreciates against the dollar; (b) if the interest rate hike to 40% succeeded or failed.	

35. [1%] What is the Fisher effect?	

36. [2%] Describe the process that creates **M1**.	

37. [1.5%] What is financial arbitrage?	

38. [1.5%] State something that the real interest rate and the real exchange rate have in common and something that differentiates them.	
39. [1.5%] State something that a financial asset and the monetary base have in common and something that differentiates them.	
40. [2%] What does it mean having the nominal exchange rate equal to the purchasing power parity exchange rate?	
41. [2%] Explain if it possible to have, at the same time, a private surplus (positive net private savings), a public deficit and a foreign deficit (negative net exports).	
42. [2%] Why the does the difference IM – EX represent foreign savings?	
43. [1%] What differentiates the real from the nominal interest rate?	
44. [1%] What differentiates nominal from real GDP?	
45. [1%] What differentiates the CPI from the GDP deflator?	
46. [1%] What is the discount factor?	
47. [1%] What is the business cycle?	
48. [1.5%] State something that Okun's law and the Phillips curve have in common and something that differentiates them.	
49. [1.5%] What does Goodhart's law state?	
50. [3%] "The Spanish public debt has reached the €1.161 billion mark in March. This represents an increase of €3,371 million with respect to the previous month. The debt-to-GDP ratio is now set at 98.78%". https://www.viaempresa.cat/economia/deute-public-sostre_54035_102.html What importance has for an economy that the public debt goes up or down? And that it be high or low?	

51. [2%] The rate of change of the velocity of circulation of money equals the rate of change of real GDP. Find (justifying the answer) the approximate value of the rate of change of the money stock if the inflation rate is 2%.	

52. Choose one option. In case that some variable cannot be calculated, explain why. • Option 1. **[4%]** Calculate the money multiplier, the reserve ratio, the liquidity ratio, **M1** and the monetary base if deposits are 400, cash 200 and reserves 100. • Option 2. **[8%]** Find the money multiplier, the reserve ratio, the liquidity ratio, **M1**, the monetary base, deposits, cash and reserves if the money multiplier is ten times the liquidity ratio and reserves double cash.	

53. [4%] There are two periods, 1 and 2. Find (justifying the answer) the price level in period 1 if the price level in period 2 is 120, the real interest rate is 5%, the face value in period 2 of T-bills issued in 1 is 1000 and the price of T-bills when issued is 800. If it cannot calculated, explain why.	

54. Choose one option. In case that some variable cannot be found, explain why. • Option 1. **[2.5%]** Net private savings have increased by 20 units. Net exports have risen by 10 units. Imports have gone down by 20 units. Find (justifying the answer) the change in the public deficit. • Option 2. **[3%]** Exports equal taxes. Transfers equal imports. Savings are twice investment. Explain if it is possible for investment to be 10 and, simultaneously, for public expenditure to be 15.	

55. [3.5%] There are two periods, 1 and 2. (i) Find (justifying the answer) the purchasing power parity exchange rate from period 1 if the foreign inflation rate between 1 and 2 is 10%, the domestic inflation rate between 1 and 2 is 25%, the foreign price level in period 2 is 100 and the domestic price level in period 1 is 200. (ii) Using (i), compute (justifying the answer) the real exchange rate if the nominal rate is ½ €/$.	

56. [2%] Find the discount factor if the real interest rate is 20% and the inflation rate is 30%.	

57. [2.5%] Find, justifying the answer, by how much should the nominal exchange rate vary for competitiveness (as measured by the real exchange rate) to fall by 1% if the domestic inflation rate is two percent points higher than the foreign inflation rate.	

58. [2.5%] There are two countries, A and B. Ascertain which country has a higher inflation rate if: the rate of change of the velocity of circulation of money is the same in A and B; the rate of growth of the money stock is 3% in A and 2% in B; the rate of growth of real GDP in B is negative; and the rate of growth of real GDP in A duplicates B's rate of growth.	

59. [10%] On the last 8th of May, president Trump announced the breakdown of the nuclear pact between the US and Iran and the imposition of sanctions to companies that would maintain commercial relations with Iran. Maersk Line, the world largest shipping company, declared on the 17th of May the acceptance of the terms dictated by the US. On the 16th, the French oil company Total decided to abandon the Iranian natural gas field project South Pars 11 (South Pars-North Dome is the world's largest natural gas field). http://www.economiahoy.mx/empresas-eAm-mexico/noticias/9144811/05/18/Maersk-la-naviera-mas-grande-del-mundo-adoptara-las-reglas-de-Estados-Unidos-sobre-Iran.html https://www.americaeconomia.com/negocios-industrias/tras-sanciones-de-eeuu-iran-pide-compradores-chinos-que-mantengan-importaciones Using a graphical representation of the currency market model, with the currencies being the Iranian rial (IRR) and the Chinese yuan (CNY), explain (justifying every shift of the functions) if the rial would tend to appreciate or depreciate against the yuan in each of the following cases: (i) foreign investors (the Chinese included) liquidate massively their investments in Iran; (ii) the Chinese no longer import oil from Iran.	

60. [7%] Denoting by i the interest rate, the supply of liquidity function is $q^s = 2 \cdot i$ and the demand for liquidity function is: $q^d = 12 - i$, if i is equal or smaller than 12; and $q^d = 0$, if i is larger than 12.

(i) Represent both functions graphically, compute the market equilibrium and identify the equilibrium on the graphical representation.

(ii) If, by means of an open market operation, the central bank would like to set the equilibrium interest rate at value 3, should the open market operation be expansionary or contractionary? Calculate the amount of liquidity that the central bank must inject or absorb.