



Strathmore
UNIVERSITY

STRATHMORE BUSINESS SCHOOL
MASTER OF SCIENCE IN DEVELOPMENT FINANCE
END-OF-SEMESTER EXAMINATION
MDF 8102: MICRO AND MACRO ECONOMICS

Date: Friday 1st December 2023

Time: 3 Hours

Instructions:

1. This examination consists of **FIVE** questions.
2. Answer **QUESTION ONE** and **ANY TWO** other questions.

Question 1 (30 marks) COMPULSORY

- (a) What do you consider to be the main sources of financial market failure? Why? **(6 Marks)**
- (b) How should a competition regulator such as the Competition Authority of Kenya address financial market failures? Use recent or potential cases relating to consumer protection from unfair and misleading market conduct in the financial services sector to explain your answer. **(9 Marks)**
- (c) GDP is a function of capital, labour and how productively a country uses both. Discuss any two methods of calculating GDP and explain whether it is a good measure of economic well-being for a country **(15 marks)**

Question 2 (15 marks)

Consider the following simple model of an economy operating with fixed wages, prices, and interest rates, and excess capacity (operating below the full-employment level):

$$C = 400 + 0.8Y_d \quad I = 500$$

where C is consumption, Y_d is disposable income (equal to national income, Y , in the absence of a government sector), and I is investment.

- (a) Solve for aggregate expenditures (AE) as a function of Y and calculate the equilibrium level of national income. What is the value of the multiplier? **(3 marks)**
- (b) Now, suppose we add a government sector with: $T = 100 + 0.25*Y$ and $G = 980$ where T is taxes (net of transfers) and G is government spending on goods and services. Calculate the new equilibrium level of national income. What is the new value of the multiplier? Is the government running a surplus or a deficit? **(4 marks)**

- (c) Now suppose we expand the model to include a foreign sector with: $M = 0.4Y$ and $X = 1800$ where M is imports and X is exports. Calculate the new equilibrium level of national income. What is the new value of the multiplier? Does the country have a trade surplus or deficit? (i.e., what is value of net exports? **(4 marks)**
- (d) Explain why the multiplier decreases in value through parts (a) to (c). **(4 marks)**

Question 3 (15 marks)

The COVID-19 pandemic affected nearly every aspect of daily life in the world for most people over the 2020-2022 period. In mid-March of 2020, restrictions were put in place in most countries and social distancing became the norm. This mandate resulted in reduced social interaction and increased social isolation among many groups. Psychological distress, including loneliness, related to the pandemic were reported by many studies, and the effect was more pronounced among those with lower socioeconomic status. This change in levels of social interaction and the resultant psychological effects led to increased daily stress for many and may have exacerbated behaviors such as cigarette smoking that many people report using to manage stress. Suppose we can write the demand and supply curves algebraically as follows:

$$\text{Demand: } Q = a - bP$$

$$\text{Supply: } Q = c + dP$$

- a) In 2020 during the first phase of the pandemic, Africans smoked 470 billion cigarettes, or 23.5 billion packs of cigarettes. The average retail price was \$2 per pack. Statistical studies have shown that the price elasticity of demand is -0.4, and the price elasticity of supply is 0.5. Using this information, derive linear demand and supply curves for the cigarette market **(10 Marks)**
- b) Following the spike in cigarette smoking behaviour, lockdowns were instituted in the second phase of the pandemic during which both alcohol and tobacco were considered non-essential goods, and their sales were prohibited and further restricted to certain days and timeframes. The threat of contracting COVID-19 and becoming severely ill also motivated some Africans to improve their health by quitting smoking. What would a 45-percent decline in demand do to the price of cigarettes? What would be the new price? **(5 Marks)**

Question 4 (15 Marks)

Desired consumption, desired investment, and government spending in a closed economy are given as:

$$C^d = 360 - 200r + 0.1Y$$

$$I^d = 120 - 400r$$

$$G = 120$$

- (a) Find an equation for desired national saving, S^d in terms of output Y and the real interest rate r . What value of the real interest rate clears the goods market when $Y =$

- 550? Use the goods market equilibrium condition to derive the IS curve. **(6 marks)**
- (b) In the same economy, the real money demand function is: $Md/P = 100 + 0.2Y - 2000i$. If $M = 300$, $P = 2.0$, and $\pi^e = 0$, what is the real interest rate r that clears the asset market when $Y = 550$? Use the asset market equilibrium condition to derive the LM curve. **(4 marks)**
- (c) Now suppose that the full employment (FE) level of output is $\bar{Y} = 640$. It is generally agreed that if there is no point where all three curves (i.e., FE, IS and LM curves) intersect, the economy must not be in general equilibrium. One of the assumptions of the IS-LM framework is that the price level P adjusts to restore general equilibrium. To what price level P does the economy converge in order to restore general equilibrium in this economy? During this time of price level adjustment, by how much does the actual rate of inflation exceed the expected rate of inflation, $\pi^e = 0$? **(5 marks)**

Question 5 (15 marks)

- a) Explain what happens in an economy when the financial markets limit access to capital. How does this affect economic growth and employment? **(6 Marks)**
- b) Suppose you were appointed as a Chief Government Economist in your country, what micro and macro policy advice would you provide to address factors that typically restrict access to finance and capital markets in sub-Saharan Africa? **(9 Marks)**