PRINCIPLES OF ECONOMICS SKILLS ASSESSMENT, MACROECONOMICS

(PESA-Macro)

LEARNING GOALS

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GENERAL GOALS

Introductory macroeconomics courses serve two distinct groups. For many students, it will be the only economics course they ever take. We expect these students to complete the course with the following general skills:

- Understand that questions involving the functioning of the economy of one country and its interaction with other countries can be addressed with formal economic models and articulate how to construct and test such economic models.

- Develop the ability to understand and work with fundamental *aggregate* market models of economic activity.

- Identify and characterize the purposes, strengths, and weaknesses of economy-wide government interventions (monetary and fiscal policy).

- Apply their knowledge and understanding of macroeconomic foundations to critically assess economic indicator and policy coverage via media (news articles, podcasts, etc.) and other outlets.

- Understand how economists approach analyzing real world situations and apply economic models to make choices, predictions, and policy recommendations.

- Apply mathematical skills to solve economic problems.

For students pursing the economics major or concentrating on an economics curriculum, this course serves, along with Introductory Microeconomics, a stepping-stone in the study of economics. In addition to the skills listed above, it provides students with economic intuition and familiarizes them with model-based approaches to examining the economy as a whole. It prepares students for higher-level economics courses, and, in particular, introduces models which are further formalized and extended in intermediate-level courses in macroeconomics.

SPECIFIC LEARNING GOALS

1. National Accounts
    a. Define Gross Domestic Product (GDP) and Gross National Product (GNP).
    b. Calculate the Gross Domestic Product (GDP) using the expenditure approach. Know what is included in personal consumption expenditures (C), gross domestic investment (I), government consumption and gross investment (G), exports (EX), and imports (IM).
    c. Distinguish gross domestic investment and net domestic investment and understand the role depreciation plays.
    d. Differentiate between nominal GDP and real GDP. Calculate real GDP using the fixed-weight procedure. Calculate and interpret the GDP deflator (Implicit GDP Deflator Index).
    e. Calculate the Consumer Price Index (CPI) as an alternative to the GDP deflator. Contrast the GDP deflator and CPI.
    f. Understand the limitations of the GDP as a measure of the economy's performance.

2. Unemployment
    a. Know the definitions of an unemployed individual and an individual not in the labor force. Be able to classify an individual as employed, unemployed, or not in the labor force given appropriate information.
    b. Understand how those employed, unemployed, or not in the labor constitute the labor force and the population.
    c. Calculate the unemployment rate. Distinguish unemployment and underemployment.
    d. Define and distinguish the three types of unemployment: frictional, structural, and cyclical. Define the natural rate of unemployment.

3. Aggregate Expenditure and Equilibrium Output
    a. Explain the role that the households play in the economy (consumption and savings) and how their behavior is described by the Keynesian consumption function. Know which factors shift the household consumption function.
    b. Define the key concepts related to the consumption function: subsistence level of consumption, marginal propensity to consume (*MPC*), average propensity to consume (*APC*).
    c. Derive the savings function from the consumption function. Understand how the marginal propensity to save (*MPS*) forms an identity with *MPC* and the average propensity to save (*APS*)

d. Define and distinguish planned investment and actual investment. Construct the aggregate desired expenditure (AE^d) function.

e. Determine the equilibrium level of aggregate output/income. Understand what comparative statics for the equilibrium output are. Calculate the changes in aggregate output using the changes in the autonomous variables and corresponding multipliers.

f. Calculate the equilibrium aggregate output using the savings function. Explain the *Paradox of Thrift* and how it depends on desired investment.

g. Calculate the equilibrium aggregate output in an open economy. Define the balanced-budget multiplier.

4. Fiscal Policy
    a. Define discretionary fiscal policy. Know the potential goals of fiscal policy.
    b. Define full employment level of GDP. Calculate the government spending and tax changes in the course of expansionary/contractionary fiscal policy.
    c. Define and distinguish between the federal budget, the federal surplus/deficit, the federal debt.

5. Demand and Supply of Money and Monetary Policy.
    a. Define money in terms of its functions: medium of exchange, store of value, unit of account. Distinguish between commodity money, fiat money, and legal tender.
    b. Describe what is included in the monetary aggregates M1 and M2.
    c. Know and describe the types of financial institutions participating in the financial markets, including the central bank.
    d. Know the structure and functions of the United States Federal Reserve.
    e. Define required, total, and excess reserves and the required reserve ratio. Understand how assets and liabilities are balanced on a bank's balance sheet (i.e., a T-Account).
    f. Explain the money creation process within the economy. Define and calculate the money multiplier.
    g. Explain how a central bank (e.g., the US Fed) controls the money supply by adjusting the required reserve ratio or discount rate or by performing open market operations.
    h. Define the supply of money. Define the demand for money. Know the factors which cause the shifts of both curves. Calculate/determine the equilibrium in the money market.
    i. Define Gresham's law.

6. AS-AD Model
    a. Define the Aggregate Demand (AD) curve. Understand how the AD curve is derived from the equilibria in money, goods, and investment markets.
    b. Know how the monetary and fiscal policy shift the Aggregate Demand (AD) curve.
    c. Define the Short-Run Aggregate Supply (SR-AS) curve.
    d. Know the factors that shift Short-Run Aggregate Supply (SR-AS) curve.

e. Calculate the short run equilibrium in the AS-AD model. Explain how monetary and fiscal policy can affect the equilibrium.
f. Define the Long-Run Aggregate Supply (LR-AS) curve.
g. Show how the economy in the AS-AD model transitions from one equilibrium to another after a shock in the long run.
h. Discuss cost-push inflation, stagflation, demand-pull inflation in the context of the AS-AD model.

7. Inflation and Employment
    a. Explain the classical view of the labor market.
    b. Explain how the introduction of downward wage rigidity (sticky wages) allows for the presence of unemployment in this framework. Describe the reasons for why wages may be sticky.
    c. Define the short-run and the long-run Phillips curves. Explain how they combine classical and Keynesian views of the market.

8. Foreign Exchange Markets
    a. Define foreign exchange, balance of payments, and current and capital accounts.
    b. Know the components of the current and capital accounts and be able to calculate them. Define trade deficit and surplus.
    c. Know the determinants of exports and imports. Explain how the trade feedback effect and price feedback effect work.
    d. Define the exchange rate. Define the demand and supply curves for a currency and know the factors that shift them. Calculate the equilibrium exchange rate in the foreign exchange market.
    e. Define purchasing power parity.

MICRO-FOUNDATIONS

Many introductory macroeconomics courses start by teaching basic concepts of microeconomics. These may include the following, and they are not tested in the PESA-Macro.

1. Big picture concepts
    a. Define economics with respect to the allocation of scarce resources.
    b. Define economics with respect to the behavior of agents and the environments in which they interact.
    c. Differentiate between microeconomics and macroeconomics.
    d. Recognize the breadth of topics studied and questions addressed by economists.
    e. Describe what it means to construct and test an economic model.

f. Describe how one evaluates the assumptions, appropriateness, and usefulness of economic models when they are applied to real world contexts.

g. Differentiate between normative and positive statements.

2. Trade-offs with one entity

    a. Understand the concept of opportunity cost and how it is measured in economic contexts.

    b. Derive and interpret the production possibility frontier (PPF).

    c. Use a PPF to describe economic options and tradeoffs when considering only one entity (e.g., one agent, one producer, one country).

3. Trade-offs with more than one entity

    a. Compare and contrast the notions of comparative advantage and absolute advantage.

    b. Apply the concepts of comparative and absolute advantage together with the production possibility frontier model to examine gains from trade.

    c. When considering more than one entity, describe the joint production possibility frontier and its connection to gains to trade.

4. Market demand

    a. Know the definition of market demand and explain the difference between the demand function and the demand curve.

    b. Understand the "law of demand" (including the fact that the "law" is a consequence of modeling assumptions used in economics).

    c. Interpret demand curves as represented by 1) a table, 2) a chart and 3) an equation.

    d. Distinguish between changes in demand and changes in quantity demanded.

    e. Identify which factors are held constant when constructing a demand curve and explain how changes in these factors affect demand.

    f. Obtain market demand from individual demand curves using horizontal summation.

5. Market supply

    a. Define market supply and explain the difference between the supply function and the supply curve.

    b. Understand the "law of supply" (including the fact that the "law" is a consequence of modeling assumptions used in economics).

c. Interpret supply curves as represented by 1) a table, 2) a chart and 3) an equation.

d. Distinguish between changes in supply and changes in quantity supplied.

e. Identify which factors are held constant when constructing a supply curve and explain how changes in these factors affect supply.

f. Obtain market supply from individual supply curves using horizontal summation.

6. Equilibrium Analysis
    a. Understand and apply the concept of equilibrium to the market model.
    b. Understand and apply surplus measures to discuss market efficiency and equity.
    c. Know the definition of an elasticity measure and be able to calculate and interpret various demand and supply elasticities.

7. Standard policy interventions
    a. Define taxes/tariffs, subsidies, price ceilings, price floors, and quotas.
    b. Evaluate the resulting changes to equilibrium quantities and prices.
    c. Evaluate the resulting changes in consumer and producer surplus.

OPTIONAL GOALS

1. The Foundations of IS-LM Model
    a. Calculate the equilibrium in model with the goods, money, and investment markets.
    b. Derive the IS-LM model from the goods, money, and investment markets and explain how the model functions.

2. Economic Growth
    a. Define economic growth and know the historic context of economic growth in countries which are currently considered developed.
    b. Define the sources of economic growth: human capital, capital deepening/formation, and technological progress. Distinguish between *invention* and *innovation*.
    c. Explain what strategies and policies may drive economic growth.