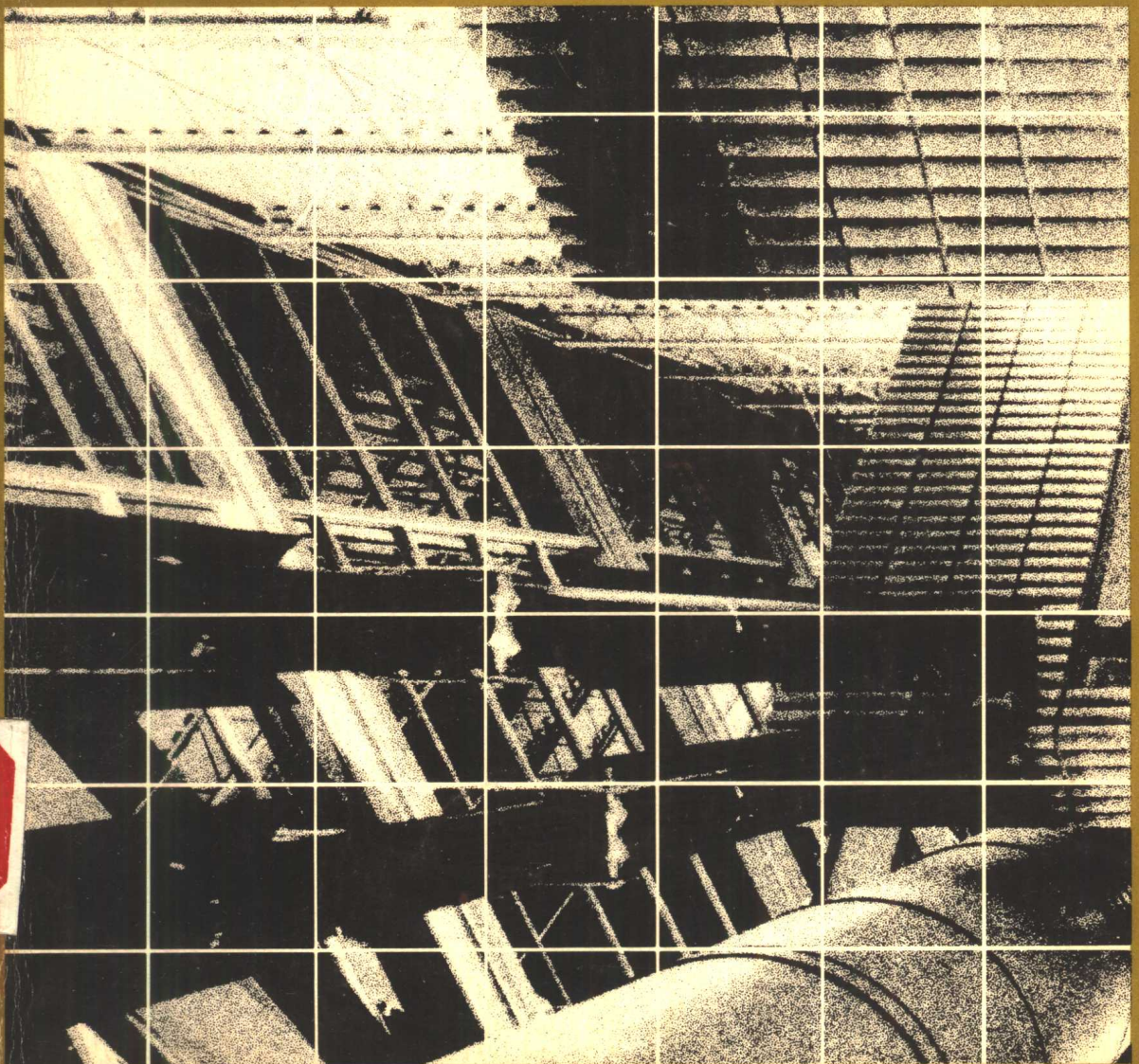


Study Guide for Maisel

MACROECONOMICS

Burton A. Abrams



Study Guide to Accompany
Maisel's *Macroeconomics*

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W·W·Norton & Company
NEW YORK LONDON

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Published simultaneously in Canada by George J. McLeod Limited, Toronto.

Printed in the United States of America.

ISBN 0-393-95210-X

W·W·Norton & Company, Inc. 500 Fifth Avenue, New York, N.Y. 10110

W·W·Norton & Company Ltd. 37 Great Russell Street, London WC1B 3NU

1 2 3 4 5 6 7 8 9 0

Preface

It has been said of macroeconomics that the questions remain the same but that the answers are continuously changing. This change is particularly evident today as relatively new concepts such as rational expectations, the Laffer curve, the accelerationist hypothesis, and supply-side economics have yielded implications which challenge many of the old answers. Students who enjoy courses with pat answers will probably find macroeconomics slightly frustrating; students who enjoy a little controversy are taking macroeconomics at a good time.

This study guide for Sherman J. Maisel's *Macroeconomics* attempts to help clarify the issues of contention and test the student's knowledge of the subject matter. While questions concerning institutional arrangements and definitions are included, emphasis is placed on theoretical issues and understanding the macroeconomic models. The sections in the study guide should be worked on in the order in which they appear. The chapter *overviews*, *key concepts*, *concept reviews*, and *theory reviews* hopefully set the stage properly for the questions and problems that follow. The *completion*, *true or false*, *multiple choice*, and *problem set* sections are ordered toward increasing difficulty. I strongly recommend that students draw diagrams as often as possible to aid in answering the theory questions.

I would like to thank Sherman Maisel and an anonymous referee for their many valuable comments and suggestions, Mary Shuford for an outstanding job of editing, and Don Lamm for his unlimited enthusiasm. Needless to say, all remaining errors or ambiguities in the study guide are my responsibility alone.

B. Abrams

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CHAPTER 1 **Introduction**

Overview

Macroeconomics provides a theoretical framework to explain the determination of national output, unemployment, and prices. It seeks to determine causes of and cures for, among other things, unemployment, inflation, slow economic growth, and high interest rates. *Models* in macroeconomics necessarily simplify the workings of the economy in order to expose key economic relationships. In general, economic models are evaluated by how well they explain or predict economic events rather than by the realism of their assumptions.

Historically, the focus of macroeconomic models has depended in large part on the economic conditions that prevailed at the time of their development. Nineteenth- and early twentieth-century *classical models* downplayed unemployment and fluctuations in real output in favor of explaining movements in the price level. Following the Great Depression, early *Keynesian models* focused on explaining the unemployment-recession problem. The *stagflation* of the 1960s and 1970s has led to the development of models to explain the simultaneous existence of inflation and high unemployment. While early classical and Keynesian models emphasized demand, recent macroeconomic models differentiate themselves by also including a detailed treatment of aggregate supply. Current models highlight the interaction between *aggregate demand* and *aggregate supply* in the *process of inflation*—the sequence of events needed to produce a persistent rise in the price level.

Macroeconomic models are used in the process of developing monetary and fiscal policies which, it is hoped, will enable the economy to reach widely accepted *goals* [or *targets*] such as full employment and price stability. Today, economists disagree less about the choice of a macroeconomic model than about the types of actions the government and monetary authorities should take in order to correct economic problems. These differences in policy prescriptions arise out of differences in beliefs regarding the self-corrective nature of the economy, the ability of the government to implement timely policies, and the reliability of current data and forecasts.

Key Concepts

Macroeconomics	The study of aggregate economic variables such as the price level, unemployment, and total output.
Microeconomics	The study of particular economic units in the economy such as consumers, firms, and industries.
Economic models	Simplifications or abstractions of reality designed to clarify interrelationships between economic factors.
Nominal gross national product (nominal GNP; GNP; current-dollar GNP)	The actual dollar value of all final goods and services produced in a nation in one year.

Real gross national product (real GNP; constant-dollar GNP)	The dollar value of all final goods and services produced in a nation in one year using the prices of a base year.
Current dollars	The actual dollar value.
Constant dollars	The dollar value obtained by correcting for price changes from a base year.
Unemployment	The number of workers in the labor force who are unsuccessful in obtaining a job.
Full employment	The maximum practical level of employment consistent with a stable economy. Employment above this level would be associated with an acceleration in inflation.
Natural rate of unemployment	The percent of the labor force that would be unemployed at <i>full employment</i> (see definition above).
Potential output	The level of output produced at full employment.
Inflation	Persistent increases in the price level.
Discomfort index	A measure of macroeconomic ill-health calculated by adding the unemployment rate and the inflation rate.
Stagflation	A term used to describe the performance of the economy when there is little or no growth (stagnation) and inflation.
Goals	In macroeconomics, various objectives sought for the economy such as price stability, full employment, and growth.
Monetary policy	Actions taken by the Federal Reserve System (Fed) to affect the supply of money and credit in the economy.
Fiscal policy	Actions taken by the federal government, such as changes in federal spending or taxes, in order to affect overall economic activity.
Aggregate demand curve (<i>AD</i>)	A schedule that depicts the level of demand for real GNP goods that would occur at each possible price level.
Aggregate supply curve (<i>AS</i>)	A schedule that indicates the real output that would occur at each possible price level.
Phillips curve (inflation curve)	A schedule that relates rates of inflation to the unemployment rate (or some other measure of utilization of resources).
Classical economists	Eighteenth- and nineteenth-century economists who focused their attention on the benefits of free markets and the role of money as a cause of inflation.

Neo-Keynesian economists	Present-day economists who can trace their intellectual roots to John Maynard Keynes. They emphasize the role of aggregate demand in determining output and the need to develop policies to correct what they believe to be the economy's tendency toward underemployment.
Equilibrium	In an economic model, a situation when no forces exist to cause further change in variables.
Monetarist economists	The present-day economists who argue that changes in the money supply are primarily responsible for inflation and changes in nominal GNP.
New classical economists	The present-day economists who focus their attention on the determinants of aggregate supply and/or assume that the public's expectations about future economic events are formed rationally—that is, without persistent bias.

Completion Questions

1. High unemployment combined with inflation is called _____.
2. The level of minimum unemployment below which inflation tends to accelerate is called _____ or _____.
3. The Phillips curve relates the level of unemployment to _____.
4. Actions by the Federal Reserve which produce changes in the money supply fall under the heading of _____ policy.
5. A decrease in taxes would be an example of _____ policy.
6. The schedule which indicates the desired level of real purchases for final goods and services at every price level is called _____.
7. When current-dollar GNP is converted into prices that prevailed during some base year, the resulting amount is called _____.
8. A measure of macroeconomic ill-health that is constructed by adding the unemployment rate and the inflation rate is the _____.
9. The schedule which indicates the average price of goods (the price level) that producers require at every level of real GNP is called _____.
10. In economic models, the situation where no forces exist to produce additional change is called the _____.

True or False

- _____ 1. If the inflation rate is 10 percent this year and remains at 10 percent next year, we would say that the rate of inflation is accelerating.
- _____ 2. A decrease in federal income tax rates would be an example of monetary policy.
- _____ 3. The aggregate supply curve indicates the specific quantities of real goods and services that would be supplied in a given period at different price levels.
- _____ 4. A change in the tastes or preferences of consumers would be likely to alter the shape or position of the aggregate supply curve.
- _____ 5. Classical economists paid less attention to income determination than did Keynes and the neo-Keynesians.
- _____ 6. Classical economists emphasized the link between the amount of money that existed in a society and the prices of goods and services.
- _____ 7. Early Keynesian models emphasized the stability of the economic system.
- _____ 8. Economic models are evaluated and tested by the realism of their assumptions.
- _____ 9. During the 1970s the U.S. was one of only a very few countries in the world to experience an inflation problem.
- _____ 10. The current models of income determination place far greater emphasis on factors influencing supply than did early Keynesian models.

Multiple Choice

- 1. Which of the following is the commonly used measure of labor productivity?
 - a. the total output produced by all workers in one year.
 - b. the amount of output produced by an hour of work.
 - c. the participation rate for working-age persons.
 - d. the education level of the average worker.
 - e. none of the above.
- 2. Which of the following is *not* considered to be a transfer payment or does *not* provide transfer payments?
 - a. social-security payments.
 - b. interest on the national debt.
 - c. government purchases of military weapons.
 - d. the food-stamp program.
 - e. the welfare program.
- 3. Economists frequently disagree in their policy recommendations because
 - a. their macroeconomic goals may differ.
 - b. their trust in models and forecasts may vary.
 - c. they have differing views on the ability of government to implement corrective programs quickly and satisfactorily.
 - d. they disagree over the inherent stability of the economy.
 - e. all of the above.

4. The U.S. failed to end inflation in the 1970s because
 - a. most economists could not agree even on the cause or causes of inflation.
 - b. despite rigorous governmental policies to halt inflation, the problem persisted.
 - c. various factors prevented the monetary or fiscal policy actions needed to curb inflation.
 - d. nonmonetary causes of inflation made monetary policy useless.
5. Which of the following was a primary area of concern for the classical economists?
 - a. determinants of the unemployment rate.
 - b. the link between money and the price level.
 - c. the perceived instability in the economy.
 - d. none of the above.
6. Economists who are considered to be monetarists would generally hold the view that
 - a. growth in the money supply is the chief cause of inflation.
 - b. the economy would do quite well on its own if not subject to disturbances caused by the government or Federal Reserve (the monetary authorities).
 - c. financial markets are highly inefficient.
 - d. the overall economy is inherently unstable.
 - e. both a and b.
7. The level of output beyond which the rate of inflation accelerates is called
 - a. potential output.
 - b. full-employment output.
 - c. the level of output consistent with the natural rate of unemployment.
 - d. all of the above.

Discussion Questions

1. Use of a discomfort index has been growing in popularity in recent years. The unemployment rate and the inflation rate are usually added into the index with equal weight.
 - a. Should unemployment and inflation receive equal weight?
 - b. If the economy experienced deflation (i.e., a *negative* inflation), should this lower the discomfort index?
2. Under which set of circumstances would “discomfort” be worse? Why?
 - a. a 10 percent inflation when the public anticipated no inflation.
 - b. a 10 percent inflation when the public anticipated a 10 percent inflation.
3. Briefly explain the different emphases associated with classical, Keynesian, and present-day (eclectic) models.

Answers

Completion Questions

1. stagflation
2. full employment or the natural rate of unemployment
3. the rate of inflation
4. monetary
5. fiscal
6. the aggregate demand curve
7. real GNP or constant-dollar GNP
8. discomfort index
9. the aggregate supply curve
10. equilibrium

True or False

1. False
2. False
3. True
4. False
5. True
6. True
7. False
8. False
9. False
10. True

Multiple Choice

1. b
2. c
3. e
4. c
5. b
6. e
7. d

CHAPTER 2 **Measures of the Aggregate Economy**

Overview

This chapter focuses on national income accounting and price indexes and their uses. Perhaps the most important relationship in national income accounting is that the dollar value of all final goods and services produced (GNP) must equal *gross national income*—the total incomes of all factors of production plus indirect business taxes and depreciation. Every \$1 in GNP goods produced provides \$1 in wages, salaries, rent, interest, or profit to some member or members of society (think of indirect business taxes and depreciation as merely income payments to the government and businesses respectively). So, in the macroeconomic models that are developed, output and income are equivalent.

Each dollar worth of GNP goods *must* be included in one or more of the following four major expenditure categories: consumption (C), investment (I), government spending (G), and net exports ($X - IM$). GNP goods are either acquired by consumers, businesses, the government, or foreigners. The investment category ensures that the relationship holds. If goods are produced and not desired by potential buyers, they show up as business inventory accumulation. Inventory additions are included in the definition of investment (along with residential construction and business purchases of plant and equipment).

Our discussion of national income accounting is summarized by the following equation:

$$Q \equiv Y \equiv C + I + G + (X - IM)$$

GNP (Q) must equal gross national income (Y) which must equal the sum of consumption, investment, government spending and net exports. The identity sign (\equiv) replaces the equals sign ($=$) because the relationship is an *identity*—it must hold true due to the definitions of the various terms.

Comparison of GNP from one year to the next is subject to substantial distortion caused by general price-level changes. Economists have constructed price indexes in order to measure changes in the average price of goods and also to adjust GNP (nominal) figures in order to make them comparable from year to year. The *consumer price index* (CPI) is a weighted index of price changes using a fixed or market-basket weighting system. The *implicit price deflator* is calculated by dividing nominal GNP (current GNP) by the value of GNP using base-year prices (constant-dollar GNP). Since the relative quantities of various goods shifts from year to year, the implicit price deflator avoids the possible biases associated with requiring a fixed weighting system.

Key Concepts

Circular flow diagram

A diagram showing the flow of funds and goods between households and firms and the connection between output and income received by factors of production.

Gross national income
(national income)

The total incomes of all factors of production plus indirect business taxes and depreciation. National income and GNP must be equal.

Gross private investment (investment spending; I)	Total purchases of plant, equipment, residential construction, and inventories.
Net exports ($X - IM$)	The value of total exports minus total imports of goods and services.
Disposable income (YD)	The amount of income households have for spending or saving. Calculated after taxes and transfers.
Consumer price index (CPI)	A measure of price change that focuses on consumer goods and uses a fixed market basket for the computation.
Implicit price deflator	A price index that provides a broader measure of price change than the CPI. Calculated by dividing current GNP by real GNP (i.e., the value of GNP using designated base-year prices).
Nominal interest rate	The actual market interest rate.
Real interest rate (expected)	The actual market rate <i>minus</i> the expected rate of inflation.
Real interest rate (ex post)	The interest rate earned in a period less the rate of inflation that occurred.
Labor participation rate	The percentage of those of working age who report that they are in the labor force and are either employed or seeking work.

Completion Questions

1. When GNP is reported in terms of current dollars, it is often referred to as _____ GNP.
2. An increase in a business' inventory is considered an _____ expenditure.
3. If the value of capital used up in producing GNP is subtracted from GNP, the resulting measure of output is called _____.
4. When current-dollar GNP is converted into dollars of a base year, it is then referred to as _____ GNP.
5. Use of fixed weights in the CPI leads to an overstating or understating of the estimate of how much money people require to maintain a standard of living. This distorting effect is called the _____.
6. The percentage of working-age persons who report that they are in the labor force and are either employed or seeking work is called the _____.
7. The level of unemployment below which there occurs an acceleration in inflation is referred to as the _____.

True or False

- _____ 1. Gross national income exactly equals the value of all final goods and services produced.
- _____ 2. Inflation can make income earned insufficient to buy all the goods and services produced.
- _____ 3. Household expenditures on durables fluctuate more widely than expenditures on food, clothing, and other nondurables.
- _____ 4. Including changes in inventories as part of expenditures ensures that expenditures equal the value of the final product.
- _____ 5. The value of a dollar, or its purchasing power in terms of a selected base year, is found by dividing the dollar by a price index.
- _____ 6. In each year, the implicit price deflator is the ratio of nominal GNP to real GNP.
- _____ 7. Evidence for the late 1970s indicates that price increases were fairly uniformly distributed across all categories of consumer goods.
- _____ 8. Estimates for inflation using the consumer price index depend on the choice of market-basket weights.
- _____ 9. The consumer price index provides a broader measure for inflation than the implicit price deflator.
- _____ 10. The real interest rate that a lender expects to obtain is calculated by subtracting the expected percentage change in prices from the nominal rate.
- _____ 11. During the 1970s, the real interest rate (ex post) on Treasury notes was frequently negative.
- _____ 12. As of 1980, over one-half of the income recipients in the U.S. have direct cost-of-living adjustments (COLA).
- _____ 13. As of 1980, the labor force participation rate for women was equal to the rate for men.
- _____ 14. The entrance of less skilled workers into the labor force in the 1970s led to an increase in the natural rate of unemployment.
- _____ 15. When the economy reaches potential output, capital goods and labor are 100 percent employed.
- _____ 16. The slow growth of potential output in the 1970s was due primarily to a slowdown in the growth of the labor force.

Multiple Choice

1. According to GNP accounting, which of the following is considered investment?
 - a. the purchase of government bonds.
 - b. the purchase of common stock.
 - c. government purchase of defensive military weapons.
 - d. residential construction.
 - e. none of the above.
2. Which of the following would be included in GNP?
 - a. the sale of a used automobile.
 - b. newly manufactured goods that are stored in a warehouse because they can't be sold immediately.
 - c. the sale of newly issued common stock.
 - d. the takeover of one corporation by another.
 - e. an estimate for the value of household services.
3. Which of the following receives the greatest weight in computing the consumer price index?
 - a. medical care.
 - b. shelter.
 - c. food.
 - d. energy.
 - e. house furnishings and operations.
4. In the late 1970s, which of the following experienced the most rapid increase in prices?
 - a. energy.
 - b. food.
 - c. shelter.
 - d. medical care.
 - e. household furnishings and operations.
5. The circular flow diagram indicates
 - a. the major economic interrelationships between various sectors of the economy.
 - b. that income payments are less than the value of real productive services.
 - c. that productive services flow from business to households and that goods and services flow from households to business.
 - d. that wages, profits, and interest can sometimes exceed the dollar value of goods and services.
 - e. that stocks and bonds must be included in the flow in order to measure real output.
6. The reason *net exports* are used in the product account rather than just *exports* is that
 - a. exports only count toward GNP if they are above and beyond imports.
 - b. an increase in imports must decrease GNP.
 - c. an increase in exports matched by an equal increase in imports must leave GNP unchanged.
 - d. the dollar value of imports is included in the other accounts and must be subtracted in order to avoid overstating GNP.
 - e. none of the above.

7. Personal income is usually less than national income because
 - a. personal taxes lower personal income.
 - b. the government levies various taxes before the households receive payments for productive services.
 - c. personal savings lower personal income.
 - d. the government provides transfers and interest payments.
 - e. corporations distribute profits to their shareholders.
8. Which of the following is a commonly cited criticism of the CPI?
 - a. The weights used in constructing the index tend to become unrepresentative and distort the measure of inflation.
 - b. The measure of inflation for any year depends on the choice of weights.
 - c. A substitution bias interferes with a computation for inflation.
 - d. Housing is treated only as a consumer good with no weight given to its investment aspects.
 - e. All of the above.
9. Other things equal, *potential output* would increase if
 - a. the natural rate of unemployment falls.
 - b. labor force participation decreases.
 - c. labor productivity increases.
 - d. the average workweek is shortened.
 - e. both a and c.
10. The economy has reached *full employment* when
 - a. the unemployment rate nears zero.
 - b. capital and labor are at 100 percent capacity.
 - c. the labor participation rate is 100 percent.
 - d. it becomes physically and technologically impossible to produce more than current levels.
 - e. additional increases in output cause inflation to accelerate.
11. The relatively slow growth in potential output during the 1970s has been attributed to
 - a. a drop in the growth rate of labor productivity.
 - b. a decrease in labor productivity.
 - c. a decrease in the supply of labor.
 - d. a decrease in aggregate demand.
 - e. none of the above.

Problem Sets

I. Using 1980 as a base year and the 1980 market basket as a weight, calculate a hypothetical consumer price index for the years 1980, 1981, and 1982. Assume consumers only purchase beer, peanuts, and gasoline according to the following table.

	<u>End of 1980</u>		<u>End of 1981</u>		<u>End of 1982</u>	
	<u>Quantity</u>	<u>Price (each)</u>	<u>Quantity</u>	<u>Price (each)</u>	<u>Quantity</u>	<u>Price (each)</u>
Beer	6	\$1.00	8	\$1.00	4	\$2.00
Peanuts	12	.50	6	1.00	8	1.50
Gas	4	1.00	3	2.00	2	3.00

- (A) What is the price index for 1980? _____ 1.
1981? _____ 2.
1982? _____ 3.

How much inflation (percentage increase in the price index) occurred (see answers for hint) in 1981? _____ 4.
1982? _____ 5.
from the end of 1980 to the end of 1982? _____ 6.

- (B) If 1981 weights are used as the base, how much inflation occurred in 1981? _____ 7.
1982? _____ 8.
from the end of 1980 to the end of 1982? _____ 9.

II. Explain the discrepancy in the answers to parts (A) and (B) in I.

Discussion Questions

1. Discuss the limitations of the use of GNP to measure social well-being.
2. Economists generally agree that the Great Depression was caused by a lack of aggregate demand. Evaluate the following statement:
“Aggregate demand was inadequate during the Great Depression because peoples’ incomes were insufficient to buy all of the goods and services needed to maintain full employment.”