

Key Macroeconomics Models and Assorted Perspectives

Dr. Suman Luthra

Associate Professor

S. A. Jain (PG) College

Ambala City, Haryana, India

E-mail : sumanluthra67@gmail.com

Abstract

Macroeconomics is a branch of economics that deals with the study of the economy as a whole, rather than the individual parts that make it up. It is concerned with issues such as inflation, unemployment, economic growth, and the balance of trade. Macroeconomists study the behavior and performance of the economy at the aggregate level, taking into account factors such as gross domestic product (GDP), interest rates, and the money supply. Macroeconomics is concerned with issues that affect the entire economy, such as recessions and booms, and the government policies that can be used to address them. It also examines the interactions between different parts of the economy, such as the relationship between the labor market and inflation, and the impact of changes in the money supply on economic activity. Macroeconomics is an important field of study for policymakers, as it provides insights into the workings of the economy and the effectiveness of different policies in promoting economic growth and stability. It is also relevant for businesses, as changes in the overall economy can have a significant impact on the operating environment and performance of individual firms.

Keywords : Macroeconomics Models, Key Perspectives with Macroeconomics

Introduction

Macroeconomic models are mathematical representations of the economy used to analyze and predict economic activity. They are used to study the behavior of aggregate variables, such as inflation, unemployment, and economic growth. There are several types of macroeconomic models, including:

Classical macroeconomic models: These models are based on the principles of classical economics and assume that the economy is always in a state of full employment. They do not take into account the role of government intervention in the economy.

Keynesian macroeconomic models: These models are based on the theories of John Maynard Keynes and focus on the role of government intervention in promoting economic growth and stability. They emphasize the importance of aggregate demand in driving economic activity and the role of government in controlling inflation and unemployment through monetary and fiscal policy.

New Classical macroeconomic models: These models incorporate elements of both classical and Keynesian macroeconomic models. They assume that the economy is self-correcting and that the government can only have a temporary impact on the economy.

New Keynesian macroeconomic models: These models are similar to Keynesian models but incorporate elements of the new classical models, such as the role of rational expectations and market clearing.

Real Business Cycle (RBC) models: These models focus on the role of technology and productivity shocks in driving economic activity. They assume that the economy is self-correcting and that the government has limited ability to influence economic activity.

Each of these models has its own strengths and limitations, and macroeconomists often use a combination of models to gain a better understanding of the economy. The choice of model depends on the specific research question being addressed and the data and assumptions available.

Aggregate Demand–Aggregate Supply (AD-AS)

The AD-AS model has become the standard textbook model for explaining the macroeconomy. This model shows the price level and level of real output given the equilibrium in aggregate demand and aggregate supply. The aggregate demand curve's downward slope means that more output is demanded at lower price levels. The downward slope is the result of three effects: the Pigou or real balance effect, which states that as real prices fall, real wealth increases, resulting in higher consumer demand of goods; the Keynes or interest rate effect, which states that as prices fall, the demand for money decreases, causing interest rates to decline and borrowing for investment and consumption to increase; and the net export effect, which states that as prices rise, domestic goods become comparatively more expensive to foreign consumers, leading to a decline in exports.

In the conventional Keynesian use of the AS-AD model, the aggregate supply curve is horizontal at low levels of output and becomes inelastic near the point of potential output, which corresponds with full employment. Since the economy cannot produce beyond the potential output, any AD expansion will lead to higher price levels instead of higher output.

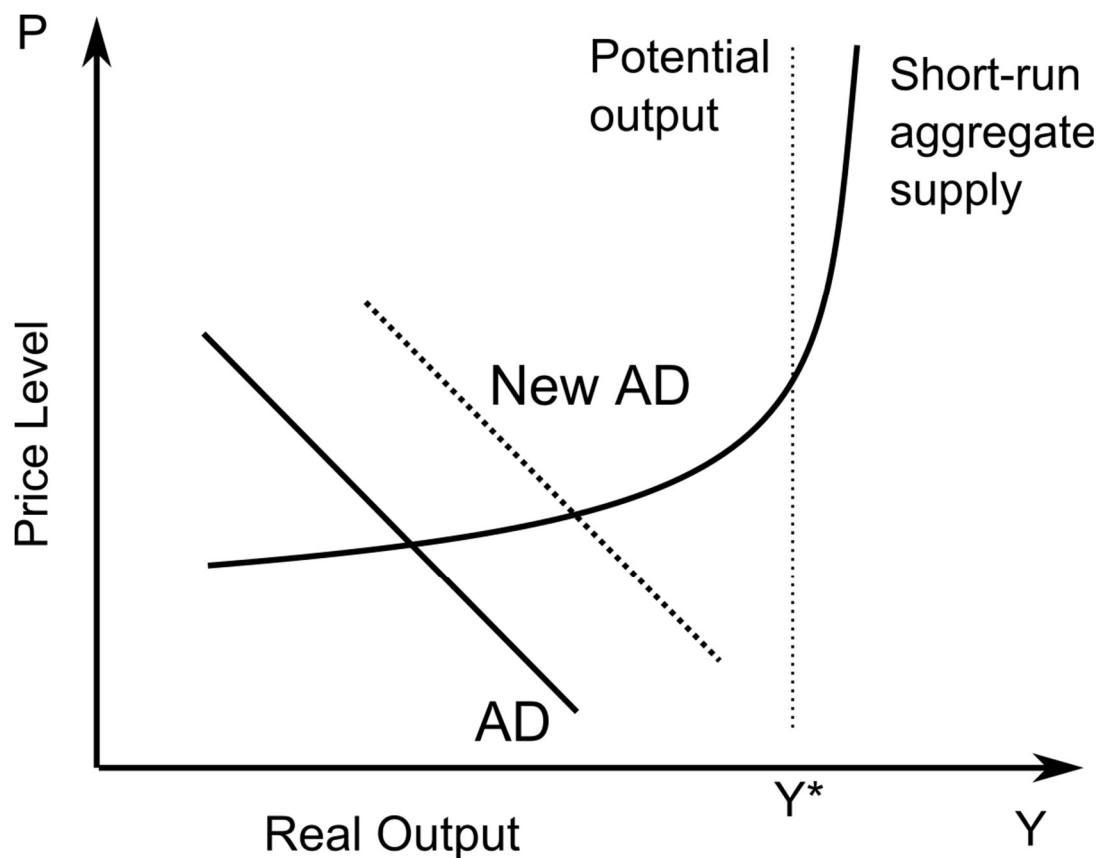


Figure 1 : AD AS Diagram

The AD-AS diagram can model a variety of macroeconomic phenomena, including inflation. Changes in the non-price level factors or determinants cause changes in

aggregate demand and shifts of the entire aggregate demand (AD) curve. When demand for goods exceeds supply, there is an inflationary gap where demand-pull inflation occurs and the AD curve shifts upward to a higher price level. When the economy faces higher costs, cost-push inflation occurs and the AS curve shifts upward to higher price levels. The AS–AD diagram is also widely used as an instructive tool to model the effects of various macroeconomic policies.

IS-LM

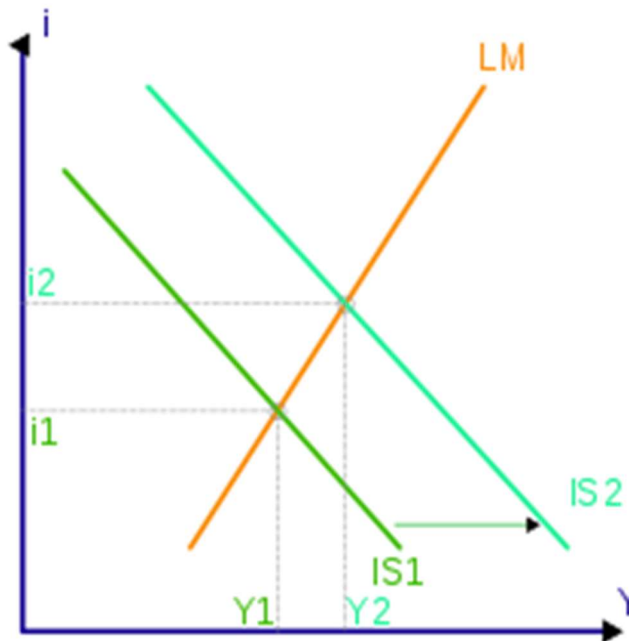


Figure 2 : IS/LM Chart

The IS–LM model gives the underpinnings of aggregate demand (itself discussed above). It answers the question "At any given price level, what is the quantity of goods demanded?". This model shows what combination of interest rates and output will ensure equilibrium in both the goods and money markets. The goods market is

modeled as giving equality between investment and public and private saving (IS), and the money market is modeled as giving equilibrium between the money supply and liquidity preference.

The IS curve consists of the points (combinations of income and interest rate) where investment, given the interest rate, is equal to public and private saving, given output

The IS curve is downward sloping because output and the interest rate have an inverse relationship in the goods market: as output increases, more income is saved, which means interest rates must be lower to spur enough investment to match saving.

The LM curve is upward sloping because the interest rate and output have a positive relationship in the money market: as income (identically equal to output) increases, the demand for money increases, resulting in a rise in the interest rate in order to just offset the incipient rise in money demand.

The IS-LM model is often used to demonstrate the effects of monetary and fiscal policy.

Textbooks frequently use the IS-LM model, but it does not feature the complexities of most modern macroeconomic models. Nevertheless, these models still feature similar relationships to those in IS-LM.

Growth models

The neoclassical growth model of Robert Solow has become a common textbook model for explaining economic growth in the long-run. The model begins with a production function where national output is the product of two inputs: capital and labor. The Solow model assumes that labor and capital are used at constant rates without the fluctuations in unemployment and capital utilization commonly seen in business cycles.

An increase in output, or economic growth, can only occur because of an increase in the capital stock, a larger population, or technological advancements that lead to higher productivity (total factor productivity).

An increase in the savings rate leads to a temporary increase as the economy creates more capital, which adds to output. However, eventually the depreciation rate will limit the expansion of capital: savings will be used up replacing depreciated capital, and no savings will remain to pay for an additional expansion in capital. Solow's model suggests that economic growth in terms of output per capita depends solely on technological advances that enhance productivity.

In the 1980s and 1990s endogenous growth theory arose to challenge neoclassical growth theory. This group of models explains economic growth through other factors, such as increasing returns to scale for capital and learning-by-doing, that are endogenously determined instead of the exogenous technological improvement used to explain growth in Solow's model.

The quantity theory by Russian economist Vladimir Pokrovskii explains growth as a consequence of the dynamics of three factors, among them capital service as one of independent production factors in line with labour and capital. Capital service as production factor was interpreted by Ayres and Warr as useful work of production equipment, which makes it possible to reproduce historical rates of economic growth with considerable precision. and without recourse to exogenous and unexplained technological progress, thereby overcoming the major flaw of the Solow theory of economic growth.

Mathematical models of the economy are called macroeconomic models, and they are used to study and forecast economic activity. Inflation, unemployment, and economic growth are a few examples of aggregate variables whose behaviour is studied using these methods.

The economic system is a component of the environment in the macroeconomic models of ecological economics. The cyclical flow of revenue diagram in ecological economics is replaced in this model by a more intricate flow diagram that takes into account the input of solar energy, which supports natural inputs and environmental services that are later employed as production units. Natural resources are utilised and then leave the economy as waste and pollution. An "environment's source function" is the capacity of an environment to provide goods and materials, and it gets exhausted when resources are used up or become contaminated by pollution. The "sink function" describes an environment's ability to absorb and render harmless waste and pollution: when waste output exceeds the limit of the sink function, long-term damage occurs. Some persistent pollutants, such as some organic pollutants and nuclear waste are absorbed very slowly or not at all; ecological economists emphasize minimizing "cumulative pollutants". Pollutants affect human health and the health of the ecosystem.

Conclusion

Macroeconomics is the study of an economy's overall performance and behaviour. It analyses variables including gross domestic product, unemployment, inflation, and economic expansion. Economics uses macroeconomic models as analytical tools to comprehend how the economy functions and forecast its future performance. Macroeconomic models can be computational, mathematical, or logical. Each sort of

macroeconomic model has a unique function as well as benefits and drawbacks. To test, compare, and quantify various macroeconomic theories, to produce "what if" scenarios (typically to predict the effects of changes in monetary, fiscal, or other macroeconomic policies), to produce economic forecasts, and to clarify and illustrate fundamental theoretical principles are all possible uses for macroeconomic models. Consequently, macroeconomic models are frequently utilised by international organisations, national governments, big firms, economic consultancies, and think tanks. They are also commonly employed in academia for teaching and research. Economic forecasting is brought to a level of science and organisation through the use of a macroeconomic model. Macroeconomic projections and market research are combined to produce stronger strategy planning and a greater ability to handle adverse shocks.

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