Ministry of Higher Education and Scientific Research

Hassiba Ben Bouali University - Chlef

Faculty of Economic, Commercial and Management Sciences

Department of Economic Sciences

Pedagogical Handout for the Course :

Development Economics

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Intented for *:Second Year Master's Students*

Sector *:Economi Sciences*

Specializatin *:Economics and Management of Enterprises*

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General Introduction to the Course

Development is a phenomenon that has existed since the dawn of humanity ; However, it did not gain significant theoretical and research importance until after World War II (1939-1945), when its core problematic centered around a fundamental question: 'Why have some nations become wealthy while others remain poor**?'**

Consequently, development has emerged as a crucial subject, garnering immense interest from researchers across various fields: economic, social, political, cultural, and environmental. International organizations, led by the United Nations, have recognized development as an established right for all nations, particularly developing countries, to enable them to bridge the gap with developed nations.

Economic development is considered the most vital branch of the broader development field. Initially, the primary focus of development efforts was—and remains—the attainment of economic progress. It has been established as a strategic goal pursued by maintaining appropriate development rates across all sectors. The long-term objective is to ensure sustained increases in real national income growth rates. Most notably, economic development entails a radical transformation within society to eliminate the root causes of underdevelopment and poverty.

The concept of economic development was initially interpreted in terms of output growth over time, and then in terms of per capita output. The terms growth and development were used interchangeably. During the 1950s and 1960s, many developing countries achieved their economic growth goals, but people's living standards did not change. In fact, widespread poverty, illiteracy, and poor health continued to plague developing countries. This implicitly means that there is something wrong with this definition of economic development. Most economists have called for removing Gross National Product (GNP) from the definition of development in terms of eliminating poverty, illiteracy, and disease, and changes in the composition of inputs and outputs, and increasing per capita output of material goods. An increase in output of goods and services and income does not mean an improvement in people's living standards because GDP is a narrow indicator of

economic development that does not include non-economic indicators such as leisure time, access to health care, education, the environment, freedom, or social justice. Therefore, the concept of economic development no longer depends on the economic growth indicator but extends beyond that to other aspects.

- **Development Economics or Economic Development?:** Some economists differentiate between the terms "development economics" and "economic development," but according to most of the major references on the subject, there is no difference between them; they are two sides of the same coin.
- **Development Economics as a Branch of Economics:** Despite the significant progress in the field of development economics, some still doubt its status as an independent branch of economics, unlike microeconomics, macroeconomics, international economics, and others. They consider development economics a combination of various traditional branches of economics, used to address underdevelopment and the processes of development in developing economies.

This view is somewhat extreme and detached from the reality of the developments in economics and other sciences. Development economics relies on specific principles and ideas independent of other branches of economics, both traditional and modern. It is not a combination of these branches, but rather an independent field. It can be defined as "a branch of economics that studies development models in different countries around the world. It includes not only the economic processes of development but also the study of its political and social dimensions." Its importance: The importance of studying development economics lies in its ability to help us better understand and gain a broader and deeper perspective on the situation of most developing countries and others. It also helps us formulate appropriate economic strategies and policies for the economies of countries, especially developing ones, to implement development processes.

To cover the course, we have divided it into the following sections:

- **Axis I**: A Conceptual Introduction to Development EconomicsP ;
- **Axis II**: Theories of Economic Development and Underdevelopment ;
- **Axis III**: Economic Development Strategies and Economic Growth Models ;
- **Axis IV**: Sustainable Development ;
- **Axis V**: Economic Development from an Islamic Perspective.

Axis I:

Conceptual Introduction to Development Economics

Axis I:
Conceptual Introduction to Development Economics

Before examining the theories, strategies, and models of economic development and growth, it is essential to clarify certain terms and expressions frequently used in development economics. This is necessary to avoid conceptual confusion and to ensure that each term is applied in its proper context. Consequently, this axis highlights the key concepts of development economics, such as underdevelopment, development, and growth, while delineating the distinctions between them.

1. The Concept of Economic Underdevelopment and Related Notions

1.1. Definition of Economic Underdevelopment : It is extremely difficult to provide a universally agreed-upon and precise definition of economic underdevelopment because the problem is complex and multifaceted, interconnected with numerous economic, political, and social aspects. Given the differing perspectives, each individual approaches it from a particular angle.

Some define an underdeveloped country as one lacking the potential and prospects for economic growth. Others see it as one suffering from a scarcity of capital, though the mere presence of capital is insufficient to overcome underdevelopment. Still others define it as one suffering from a scarcity of economic resources, resource mismanagement, or both. Some argue that an underdeveloped country is one where primary production dominates the national product, with a low proportion of manufacturing in the GDP. However, there are agricultural countries that are nonetheless advanced, such as Australia and New Zealand. Some also define an underdeveloped country as one that is technologically backward, which is closer to the truth, as technological backwardness is a consequence or manifestation of underdevelopment. And so on, with the various definitions and viewpoints.

From all of the above, we conclude that each definition focuses on a specific aspect of underdevelopment, but ultimately they all indicate that underdeveloped countries are those suffering from low income and living standards for the vast majority of their populations. It should also be noted that focusing solely on underdevelopment is a limited and incomplete view, and that previous definitions focused on the consequences of underdevelopment rather than its causes.

Modern thought, however, views underdevelopment as a multidimensional phenomenon—economically, socially, and politically—and from this perspective, it has three dimensions: poverty, unemployment, and inequality.

Humanitarian, political, and economic factors have significantly influenced the use of various terms to describe underdeveloped countries, the most prominent of which, in chronological order, are the following:

- **Backward Countries**: This term contrasts with developed countries. While it clarifies the difference between them, it is criticized for not only implying economic and technological backwardness but also cultural and social stagnation. Therefore, its use has been offensive to the governments and people of these countries, especially those that were the cradles of ancient civilizations and carried the torch of progress and civilization for centuries, such as Egypt, Iraq, China, India, and others.
- **Underdeveloped Countries**: This term, as previously discussed, is criticized for failing to distinguish between different degrees of underdevelopment. It doesn't differentiate between countries that have achieved some growth and those that remain in a state of complete or near-complete stagnation. Despite this, the term continues to be used today.
- **Least Developed Countries**: This term, contrasted with the more developed countries, is preferred by developing nations as it highlights

the relativity of progress and underdevelopment. However, it is also criticized for implying that all countries experience varying degrees of progress, which is inaccurate, as some countries are experiencing stagnation while others are regressing.

- **Developing Countries**: While this term may satisfy the sentiments of people suffering from underdevelopment, as it suggests that these countries are on a path to growth, it is criticized for not accurately reflecting the reality in many countries that are stagnant or inert. Furthermore, this characteristic of growth is not exclusive to underdeveloped countries, as developed countries also grow, often at higher rates. Therefore, this term is perhaps more indicative of the conditions in developed countries than in most underdeveloped countries.
- **Poor Countries**: This is contrasted with the other side, rich countries. Some believe that this term is characterized by scientific neutrality because it focuses on the material and economic aspect (without the social and cultural aspect) of these countries. However, it is criticized for including countries rich in their natural resources (such as oil-producing countries) within the group of developed countries, and this is incorrect.
- **The Third World**: This term is more political than economic, referring to a group of countries that rank third after the advanced capitalist countries (first) and the socialist countries (second).
- Other terms have also been used, such as: **countries of the periphery and countries of the Global South.**

"According to United Nations data, there are 159 underdeveloped or developing countries, located across Africa, Asia, and Latin America. These nations are classified into four primary groups:

- Newly Industrialized Countries (NICs): 11 countries ;
- Rich Developing Countries (OPEC members): 13 countries ;

- Middle-Income Countries (MICs): 72 countries ;
- Low-Income Countries (LICs): 63 countries.

Despite the various definitions and terminology used to describe underdevelopment, there is general agreement that it is not solely an economic phenomenon but a multifaceted one, encompassing economic, social, and human dimensions. Underdevelopment, therefore, means poverty, unemployment, and inequality.

Economic underdevelopment, on the other hand, « is a component of the overall phenomenon of underdevelopment. It signifies low income and living standards, a lack of prosperity for the majority of a country, and low levels of production and manufacturing ».

1.2. The Economic Underdevelopment Gap : There is a gap separating underdeveloped (poor) countries from developed (rich) countries, called the underdevelopment gap or development gap. This gap is measured using several criteria, most notably income. Differences in average real per capita income are called the income gap, which distinguishes countries based on their development trajectories. This gap changes as these trajectories change.

The underdevelopment gap widens among underdeveloped countries as their growth rates increase. The lower the growth rates achieved by underdeveloped countries compared to developed countries, the wider the underdevelopment gap becomes, and vice versa.

The underdevelopment gap between underdeveloped and developing countries is measured scientifically by the ratio of per capita income in the second group (developed countries) to per capita income in the first group (underdeveloped countries). The size of the gap is calculated by how many times the average income in developed countries exceeds that in underdeveloped countries.

- **Example**: For instance, the gap for the years 1955, 1980, and 1999 was as follows:
  - **1955** = 4940/160 = 31 times

- **1980**: 10610/260 = 41 times
- **1999**: 25730/410 = 62 times

Countries that rely on the United Nations and use the tripartite classification system—that is, classifying countries according to income level into low-income, middle-income, and high-income countries—can observe the following income distribution pattern among the world's population:

- **Low-income countries**: Representing 60% of the population, they receive only 6% of total global income.
- **Middle-income countries**: Representing 15% of the world's population, they receive 17% of total global income.
- **High-income countries**: Representing 25% of the world's population, they receive 77% of total global income.

From the above indicators, there is a significant and wide disparity in income distribution patterns among different countries, with a minority of the population receiving a disproportionate share of the income, while the vast majority receives only a very small share of total global income.

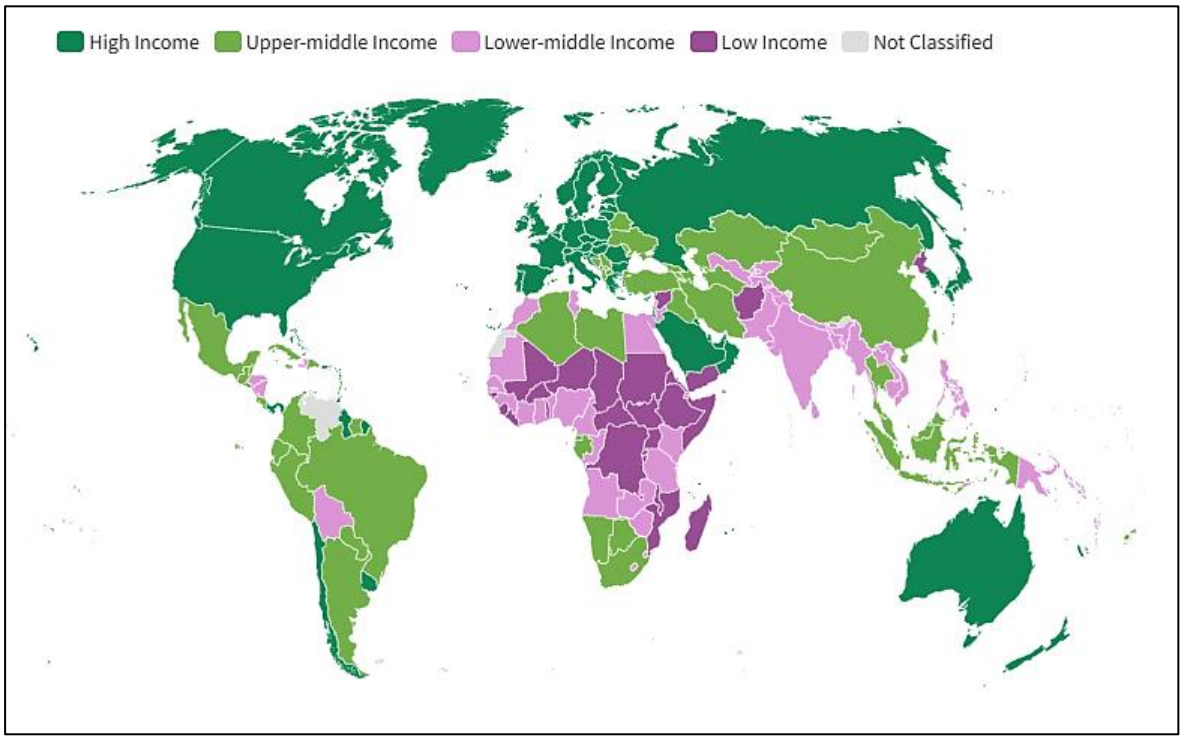
1.3. Criteria of Underdevelopment : It is extremely difficult to define precise criteria for the phenomenon of economic underdevelopment, given the complex and multifaceted nature of the problem. Therefore, there is no universally agreed-upon, comprehensive criterion encompassing all its characteristics, although several criteria describe this phenomenon. The most prominent of these are:

- The contribution of different economic sectors to the gross domestic product (GDP), i.e., the structure of the economy;
- The ratio of industrial production to total output. However, a high ratio is a consequence, not a cause, of economic prosperity, and thus this criterion is not accepted by many economists;

- Per capita capital share. However, a low share is not a criterion for underdevelopment either, as capital is necessary but not sufficient for progress;
- Per capita access to educational and health services, etc.

Nevertheless, income is the most commonly used criterion to indicate a country's progress or underdevelopment. A country where the average real per capita income is above a certain threshold is considered developed and wealthy, while a country where the real per capita income is below that threshold is considered underdeveloped. The World Bank Group classifies the world's economies into four income groups: low-income countries, lower-middle-income countries, upper-middle-income countries, and high-income countries. This classification is updated annually, and the following map shows the distribution of these groups across the world.

World Bank country classifications by income level for 2025-2026



1.4. Characteristics of Underdevelopment : Developing countries share many characteristics that distinguish them from others. Some of these characteristics are related to a distorted economic structure, while others are merely superficial. Some categorize these characteristics into several groups, including economic, demographic, political, cultural, and technological factors, among others. Among the most important characteristics falling under the economic category are the following:

1.4.1. Specialization in Primary Production: Developing countries are characterized by their specialization in primary products, such as agriculture and extractive industries (gas, oil, raw coal, iron ore, phosphates, etc.), without extending the production process to include subsequent stages.

1.4.2. Imbalanced Export Structure: Due to the imbalanced production structure in developing countries, these countries suffer from an imbalanced export structure. Exports are typically concentrated on a single commodity or a limited number of primary commodities, while imports are diversified. It is well known that heavy reliance on one or two commodities for export leads to significant fluctuations in export revenues (as happened to Algeria in 1986 when oil prices plummeted), thus making their development dependent on volatile and unstable resources.

1.4.3. Dual Economy: An economy based on two separate/different economic systems existing together in the same geographical location. This duality exists in many developing countries, where some parts of the country resemble the economies of developed countries, while other parts resemble traditional economies, with cycles of production and exchange.

1.4.4. Low Per Capita Capital: Developing countries suffer from a shortage of capital stock, which is reflected in a low per capita share of capital and poor capital quality. This leads to low productivity levels and, consequently, low income and savings.

The aforementioned factors only pertain to economic aspects, as there are other demographic, political, cultural, technological and other aspects that are not worth mentioning here.

2. Economic Growth and Economic Development: Definitions and Key Differences

The emergence of economic growth can be traced back to historical factors and phenomena stemming from the system of property rights and capitalism, originating in the classical school represented by Adam Smith and David Ricardo. This was followed by Keynesian theory, articulated by Harrod and Domar in their growth model. However, the new or current approach to explaining economic growth is usually linked to Solow's model and the models that followed it, most of which can be connected to it.

Most studies that have attempted to explain economic growth, particularly economic growth models, have considered capital as one of its main determinants. This is because output generally depends on two main factors: labor and capital. Based on this understanding of the importance of capital in achieving economic growth, new economic theories and ideas have emerged. These theories attribute low or negative growth rates in developing countries to a shortage of capital and financing for economic development in those countries. This necessitates their reliance on foreign capital to bridge the domestic financing gap and implement their economic development plans and programs.

2.1. The Concept of Economic Growth :

Economic growth has emerged as one of the most important economic topics, considered a key indicator of economic development, especially with the shift in economic analysis from the micro to the macro level. This shift has led to increased focus on studying the various relationships and interactions at the macroeconomic level. Despite the numerous studies, research, and models presented on economic growth, economists are still re-evaluating their understanding of the concept and how to formulate economic policies in the absence of reliable models.

Understanding the concept of economic growth requires understanding the various definitions of the term, its components, characteristics, and the distinction between it and economic development.

2.1.1. Defining Economic Growth: Defining economic growth requires identifying the variable upon which it is measured, as well as the period over which we wish to define and measure this variable.

Several definitions have been offered for the term "economic growth," and we will list the most important ones below:

- **Economic growth is defined as**: "Spontaneous, unintentional economic expansion that does not require a change in the economic structure of society, and is measured by the magnitude of the quantitative change in economic indicators of national production: national income, etc."
- Economic growth can also be defined as: "A continuous and rapid increase in real national income or output over time, allowing for an increase in the average per capita income during a specific period."
- Economic growth has also been defined as: "The increase in a country's ability to offer a diverse range of economic goods to its population. This growing increase in productive capacity is based on technological advancements and the necessary institutional and ideological adjustments."
- Some believe that economic growth is linked to the growth in the standard of living for individuals and society, and therefore defines it as: "A percentage increase in real gross national product or GDP per capita over a long period. This is an incomplete measure of the percentage increase in the standard of living." Economic growth refers to a mere quantitative increase in average real per capita income that is not necessarily linked to structural economic or social changes. The

opposite of economic growth is economic recession or depression.

After reviewing these definitions of economic growth, we can understand it as the increase in Gross Domestic Product (GDP) or Gross National Income (GNI), resulting in an increase in average per capita real income. A closer examination of the preceding definitions leads us to emphasize the following:

- The increase in GDP must be accompanied by an increase in per capita income. This is only achieved if the increase in GDP exceeds the population growth rate;
- The rate of increase in GDP or per capita income must be real, not nominal;
- This increase must be sustainable, not temporary.

2.1.2. Characteristics of Economic Growth: Simon Kuznets identified six (6) characteristics of economic growth observed in most nations, particularly developed ones :

- **High rates of both per capita GDP and population growth**: All currently developed countries, throughout their historical experience with economic growth from 1770 to the present, have achieved high rates of both per capita GDP and population increase.
- **High rates of total factor productivity**: This is the second characteristic of economic growth. World Bank studies have confirmed Kuznets' conclusion that total factor productivity is the primary determinant of growth in developing countries.
- **High rates of structural transformation of the economy**: This structural change is characterized by the gradual shift from agricultural to non-agricultural activities, and more recently, the

shift from the industrial to the service sector. This transformation is accompanied by fundamental changes in the size of production units, and finally, a similar shift in the occupational status of the workforce from rural and agricultural activities to urban areas and industrial and service activities.

- **High rates of ideological and social transformation**: Changes in the economic structure of any society are usually accompanied by changes in attitudes, institutions, and ideologies. This process of urban transformation is known as modernization. Myrdal, in his article on economic backwardness, outlined a list of modernization criteria that included: rationality, economic planning, socioeconomic equilibrium and equality, and improved attitudes and institutions.
- **International economic expansion**: This means that one characteristic of economic growth, particularly in developed countries, is that these countries tend to control primary products, raw materials, and cheap labor internationally, as well as access profitable markets for their manufactured goods.
- **Limited diffusion of economic growth**: Despite the massive increase in global output over the past two centuries, the expansion of modern economic growth remains limited to less than a quarter of the world's population.

It should be noted that the first two of the above characteristics combine economic variables, while the third and fourth characteristics represent structural transformation variables, and the fifth and sixth characteristics explain the effect of the global spread of growth.

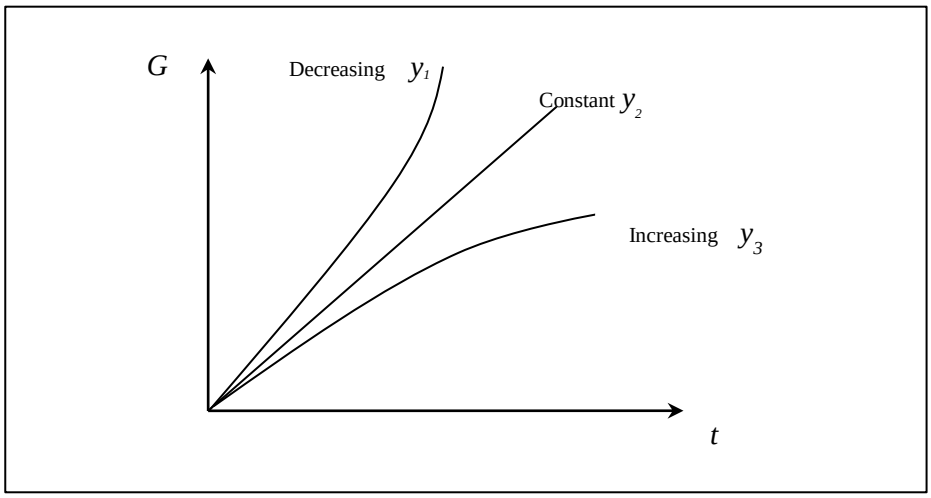
2.1.3. Types of economic growth: Since economic growth is characterized by several features in terms of its speed and slowness, its increase and decrease, the factors involved in determining it, etc., it makes us distinguish between several types of growth based on different criteria.

a. Growth according to its rate: We distinguish between three types:

- Increasing growth: This occurs at an increasing rate.
- Constant growth: This occurs when the calculated rate is constant, meaning it increases by a constant amount.
- Decreasing growth: This occurs when growth increases at a decreasing rate.

The curves for these three types are as follows:

Types of economic growth according to its speed



B. Economic Growth According to Its Nature and Source: We distinguish between:

- **Exponential Growth**: where output changes according to a geometric progression.
- **Intensive Growth**: This refers to an increase in production resulting from the optimal use of factors of production. This growth is characterized by income growth exceeding population growth, thus leading to an increase in per capita income.
- **Expansive Growth**: This is characterized by an increase in production resulting from an increase in factors of production. It is also seen as a situation where income grows at the same rate as population growth, meaning per capita income remains stagnant.

- **Free (Liberal) Growth**: This results from market forces, prices, and all exchanges governed by the law of supply and demand.
- **Interventionist Economic Growth**: This is the opposite of free economic growth, where governments intervene to regulate it.

c. Balanced and Unbalanced Growth: Here, we distinguish between these two types based on the balance in the growth of the sectors comprising the economy. Balanced growth ensures the equitable development of all sectors, while unbalanced economic growth is characterized by the growth and development of some sectors at the expense of others.

Furthermore, balanced growth can be identified by four indicators: increased output, increased employment, the absence of inflationary pressures, and adherence to external balances. This is known as Kaldor's Magic Square.

D. Economic Growth: External, Internal, and Semi-Internal: We distinguish between these three types based on the nature of the factors controlling economic growth: internal, external, or semi-internal.

- **External Economic Growth**: This type is controlled by external factors that cannot be controlled. Neoclassical growth models, particularly Solow's model, are considered external models of economic growth because they view technological development and population growth as external determinants of economic growth.
- **Internal Economic Growth**: This type results from internal factors that can be controlled. It is the subject of modern economic growth models, whose fundamental principle is to explain all differences in growth rates between countries and the observed high growth rates, thus explaining the factors that determine the size and rate of economic growth.
- **Semi-Internal Economic Growth**: This type of growth is characterized by the ability to control some of the factors

involved in determining it, while others remain uncontrolled. Therefore, it is called semi-internal growth.

E. Actual and Potential (Potential) Economic Growth: Every economy strives to reach full employment, a state where resources are fully utilized and not idle. However, economic reality demonstrates that full employment is an exceptional condition, leading us to distinguish between two types of growth:

- **Actual Economic Growth**: This refers to the actual relative change in a country's Gross Domestic Product (GDP) during a year, reflecting the actual performance of the economy.
- **Potential (Potential) Economic Growth**: Potential output in an economy is defined as the lowest possible level of output that can be achieved under conditions of constant inflation. In other words, if all capacities were utilized, this is the potential growth that can be achieved. It is considered theoretical and not achievable in practice.

2.1.4. Methods of measuring economic growth: According to the definition of economic growth, which requires an increase in the gross domestic product and in the average per capita income, this growth is measured by measuring the growth of the gross domestic product and the growth of per capita income.

2.1.4.1. Real Gross Domestic Product (Y): is a measure of the output of productive activity. Its growth rate is what is commonly referred to as the economic growth rate. Real GDP is calculated by taking the output achieved in a country*, but at constant prices, i.e., using nominal prices adjusted for inflation. This is done using the price index, which allows for correction of price changes and then comparison with the results of the previous period to determine its growth rate. In other words: Gross Domestic Product (GDP) in period t minus GDP in period t-1, divided by GDP in period t-1. It is calculated using the following formula:

Gross Domestic Product (GDP) in period "t" minus GDP in period "t-1", divided by GDP in period "t-1". It is calculated using the following formula:

$$T \cdot C_Y = \frac{PIB_t - PIB_{t-1}}{PIB_{t-1}} \cdot 100\%$$

A single international currency—most commonly the US Dollar—is often used to evaluate the total output of different countries to facilitate comparison between growth rates. Generally, the Gross Domestic Product (GDP) consists of the elements shown in the following equation:

$$PIB = C + I + G + (X - M)$$

That is, Gross Domestic Product (GDP) includes the output of the following four sectors:

- (**C**) : Consumer Expenditure Sector ;
- (**I**): Investment Expenditure Sector ;
- (**G**): Government Expenditure Sector ;
- (**X - M**): Net Exports (The External Sector).

However, although the measurement of Gross Domestic Product (GDP) is clear in terms of its constituent elements, there are problems related to identifying these elements. Obtaining a true and representative value for GDP is crucial because it is used to calculate the economic growth rate. What we want to point out here is that there are difficulties in calculating GDP in its true and complete value. The most important of these difficulties are:

- The lack of accurate statistical information and data for all economic sectors;
- The problem of double-counting of some products, which leads to GDP inflation;
- The difficulty of measuring the value of goods and services consumed by their owners, as these goods do not pass through the market and are therefore not included in the calculations;

- The difficulty of estimating the rents of owner-occupied homes. Therefore, the value of these rents and rents must be estimated and added to GDP calculations;
- The problem of calculating transfer payments*, which should be excluded from GDP calculations because these amounts are paid without any corresponding production. - The difficulty in calculating the value of old and used goods, as they should be included in the current year's GDP calculations, given that some goods are produced in previous years and used for several years;
- The exclusion of a significant portion of the workforce from GDP calculations, namely the work of housewives who are not considered employees and do not receive any wages. This work should be included in GDP calculations;
- The buying and selling of bonds, stocks, and various financial assets, which merely represent a transfer of ownership and do not constitute new production, should be excluded from calculations;
- The fluctuation and volatility of price levels from year to year, leading to variations in GDP and its rates.

2.1.4.2. Individual income (individual output) "y*": This measure is considered more efficient than the previous aggregate because it provides a concrete measure of growth, specifically measuring the increase in spending per individual, which reflects the development of the average standard of living for individuals in society.

Given the difficulty of calculating this aggregate, it is represented by the per capita income given by the following relationship:

$$Y_t \frac{PIB}{P_t} \quad \text{or} \quad Y_t = \frac{Y_t}{P_t}$$

* Lowercase letters are often used to denote individual variables.

Where P_t: represents the population size at time « t »
Consequently, the growth rate of per capita output can be expressed as:

$$T.C_y = \frac{y_t - y_{t-1}}{y_{t-1}} \approx \log(y_t)$$

From it:

$$\log(y_t) = \log(y_t) - \log(p_t) \Rightarrow T \cdot C_y = T \cdot C_y - T \cdot C_p$$

In other words, the per capita output growth rate is the difference between the gross output growth rate and the population growth rate. To achieve a positive economic growth rate, the growth of gross output must exceed the rate of population growth, as follows:

$$T \cdot C_y > T \cdot C_p$$

Therefore, the per capita GDP growth rate is of particular importance as it allows us to understand the relationship between total output and population size development.

On the other hand, growth may be determined by measuring the purchasing power of one dollar in a country, for example, and comparing it to the purchasing power of the same amount – i.e., one dollar – in other countries, and then ranking the most developed countries according to the greatest purchasing power.

2.1.5. Determinants of Economic Growth: The growth rate of gross domestic product (GDP) as a measure of economic growth varies from country to country. This variation is due to differences in the levels and methods of using the elements involved in determining this economic growth, which are mainly labor, capital, and the technology used. Combining them in different rational ratios ensures different levels of production according to the conditions of dynamic equilibrium and different degrees of

economic efficiency. These are variables of the following aggregate production function:

$$Y\ (t) = F\left\{K\ (t), A\ (t), L\ (t)\right\}$$

Where:

Y : is the quantity of real output;

L : is the Labor volume;

K : is the Capital volume

A : is the level of technology

All are composite over time « *t* ».

2.1.5.1. The Capital: This primarily refers to capital accumulation, which includes new investments in land, physical equipment, and human resources. This accumulation occurs when a portion of current income is allocated as savings to be invested, thereby increasing future income and output.

All of this necessitates an alternation between current and future consumption. Reducing current consumption—that is, increasing savings and investment—leads to increased future consumption.

Capital accumulation does not only refer to physical capital, but also to human capital. Investing in and improving the quality of human capital impacts the volume of production. The concept of investing in human resources to build human capital is analogous to the concept of improving the quality and productivity of agricultural land and physical capital through investment.

2.1.5.2. The Labor: The labor factor is linked to the growth of the workforce, i.e., population growth. It is defined as the sum of the physical and intellectual capabilities that humans possess to be used in producing the goods and services necessary to meet their

needs. The labor factor is also a major influence on the production process in two ways:

First: The impact of population growth, which increases the size of the active workforce and the labor force. An increase in the latter means an increase in the number of productive workers.

Second: The impact of the hourly workload. The greater the hourly workload, the greater the output, by increasing the marginal productivity of the labor factor .

However, in recent years, and especially in the second half of the twentieth century, there has been a trend towards reducing the hourly workload. What has strengthened the contribution of the labor factor to the output is the increased participation of women in the workforce, which has raised the size of the active workforce.

A study by the OECD revealed that labor utilization increases in countries experiencing high per capita GDP growth, while growth is low in countries experiencing stagnation and declining employment.

If productivity measures the quality of the workforce, it develops based on three individual characteristics of the workforce: skill level, age, and gender. The education and training sector is a source of the quality and level of skills acquired by the workforce. Productivity is inversely related to age, while practical experience has shown that women's productivity is lower than men's.

2.1.5.3. The Technology: Technological progress is currently considered the most important element of economic growth. It encompasses the set of systems, techniques, and modern methods used in production to optimize the use of production factors. Therefore, even if the quantities of production factors (labor and capital)

remain at the same level, technological progress will lead to increased production and economic growth. The volume of production increases not only as a result of an increase in the quantities of labor and capital, but also due to the development of the technological factor, which contributes to the volume of output through what is called the total factor productivity.

This refers to the volume of output that is not explained by either labor or capital. It is the result of the research of economist Robert Solow and is known as Solow's residual.

There are three basic classifications of technological progress: labor-saving technological progress, neutral technological progress, and technological progress that explains capital. These three classifications can be explained as follows:

- **Neutral Technological Progress:** This occurs when we achieve high levels of production with the same quantity and combination of input factors. According to the analysis of the production possibilities curve, a neutral technological change that doubles total output is conceptually equivalent to doubling all input factors.
- **Capital-Saving Technological Progress**: This is a rarer phenomenon, as most global scientific and technological research is conducted by developed countries, which prioritize labor over capital. However, in developing countries, where labor is readily available and capital is scarce, the focus is on capital-saving technological progress.
- **Labor-Saving Technological Progress**: This occurs when the quality, skills, and strength of the workforce are improved. For example, this can happen when videotapes, television, and other communication technologies are used in classrooms and education in general.

2.1.5.4. Other Determinants: In addition to the main determinants of production and economic growth, there are other factors and determinants that generally affect the production process and determine the extent of economic growth by influencing the factors of production. These factors are as follows:

- **The Financial System**: The financial system plays a crucial role in the economic growth process, as it is key to capital accumulation and a foundation for technological development. The financial system mobilizes savings and provides liquidity to the national economy, thus contributing to the development of domestic investment, which positively impacts economic growth.
- **The Political Situation**: This is another factor that influences the economic growth process, affecting the economic situation in two ways:
  - It affects the effectiveness of economic decisions, as political instability leads to prioritizing personal and private interests over the economic and public interest;
  - It affects the confidence of economic actors and the overall investment climate.
- **Property Rights**: The existence of regulations and laws that guarantee producers' intellectual and production rights generally encourages investment and its increase. It also encourages technological development and the emergence of new inventions and discoveries, which positively impacts economic growth.
- **Inflation**: Considering the price mechanism as efficient in achieving equilibrium in the goods and services market, and considering inflation as a tax on investment,

a rise in the inflation rate necessarily leads to an increase in the nominal interest rate, as Fisher argues. This affects investment and, consequently, economic growth.

- **The Public Sector**: The public sector plays a significant role in the economic growth process, as it constitutes a fundamental addition to effective demand. The debate is no longer about the necessity of state intervention in the economy, but rather about the size of the public sector. Through the state's fiscal policy, the public sector contributes to improving economic performance by raising growth rates.
- **Trade openness**: This indicator shows the degree of openness of an economy to the outside world in terms of various trade exchanges, whether at the level of exports or imports. The larger the volume of exports and imports, the more open the economy is*. Hence, the strong link between the national economy and foreign trade becomes clear, as does the weak integration and interdependence of economic branches within the country, which makes such economies vulnerable to external shocks; Numerous studies have demonstrated a strong correlation between the degree of trade openness and economic growth. A study by the International Monetary Fund (IMF) found that countries most open to the outside world achieved relatively high growth rates. Therefore, the IMF is one of the international institutions advocating for liberalization policies. It attempts to justify the effectiveness of this policy through historical experience, acknowledging strong evidence from the period following World War II demonstrating a close link between free trade systems and economic prosperity. The liberalization of trade in

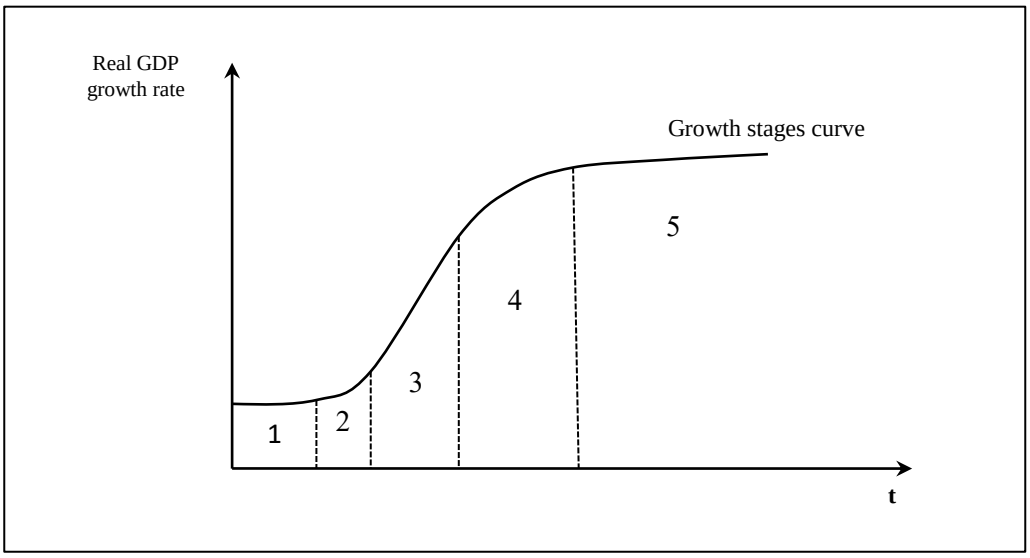
manufactured goods among industrialized nations was a major driver of rapid growth in global production during the 1950s and 1960s. Similarly, the increasing number of developing countries that liberalized their foreign trade aimed to enhance their competitiveness and overcome external debt and budget deficits. Thus, an open economy is a global trend capable of supporting economic growth by fostering international competition, strengthening domestic industries, and enabling these industries to benefit from the comparative advantages of the economy.

- Foreign Direct Investment: The role of foreign direct investment has grown globally, as it has become one of the most important sources of financing for the economies of developing countries. It can be said that the importance of the advantages and burdens associated with foreign direct investment is a matter that is still subject to much debate. However, there is a general view that adopts its positive impact, as investment affects the structure of the economy of the host country. As a result, it affects the level of employment and the composition of factors of production, including technology and human capital, as well as the nature of competition in local markets, and the balance of foreign trade of the host country, etc. All these effects are sufficient to have a positive impact on economic growth. This relationship between foreign direct investment and economic growth will be explained further in the third section of this chapter.

2.1.6. Stages of Economic Growth: The transition from underdevelopment to development can be described as a series of stages or steps that all countries must pass through. These stages are not simply development

and growth in modern societies, but rather they possess an internal and continuous logic that ultimately constitutes a theory of the stages of economic growth. This theory was introduced by the American economic historian Walter W. Rostow in his book "The Stages of Economic Growth," and it includes five stages of economic growth: traditional society, pre-takeoff, takeoff, surge, maturity, and finally, mass consumption. These are illustrated in the following figure:

Rostow's Linear-Stages-of-Growth Model



The aforementioned stages of economic growth, as described by Walt W. Rostow, are discussed in detail. However, some economists have summarized these stages as follows:

2.1.6.1. The Traditional Society Stage: This stage is characterized by the majority of the population working in agriculture or by landowners holding power. Environmental and natural conditions are unclear, production is low, and customs and traditions are rigid, making social change difficult.

2.1.6.2. The Stage of Preparation for Take-Off: This stage is characterized by significant changes in industry, trade, and agriculture. Numerous new ideas and trends emerge alongside these economic changes, and the initial use of technology begins in this stage.

2.1.6.3. The Take-Off Stage: This stage focuses on eliminating obstacles to economic growth and bringing about radical changes in the means of production through technological means. It encourages workers and innovation and resembles the Industrial Revolution. Rostow believed that in this stage, the investment rate would increase from 5% to 10% of GDP. 4.6.1. The Stage of Growth Towards Maturity: This stage is characterized by increased production and investment, and a strengthening of the industrial sector. It is relatively longer, with investments ranging from 10% to 40% of the national product. The labor force structure changes, skilled workers enter the workforce, foreign trade develops, the use of modern technology increases, and the economy becomes more globally competitive.

2.1.6.4. The Stage of Mass Consumption: Individual incomes rise, consumption rates increase, and societal well-being emerges. Many basic needs are met, leading individuals to spend on luxury goods. The urban population surpasses the rural population in this stage.

Despite the importance of Rostow's study, it was heavily criticized by some economists, such as Kaber-Nixon. Kaber-Nixon asserted that Rostow's analysis relied on social factors, considering them the primary determinants of economic factors. However, he failed to demonstrate how these factors change, who drives the change, or the distinctions between the stages, making it impossible to separate them.

2.1.7. Some theories explaining economic growth: Writings on economic growth are as old as economics itself. Traditional economists in the eighteenth and nineteenth centuries wrote about the forces that determine the progress of nations, and many different theories have emerged in the field of economic growth. We will address the most important of them through this requirement.

2.1.7.1. Adam Smith's Economic Growth: Adam Smith's work, "A Study of the Nature and Causes of the Wealth of Nations," can be considered an expression of his interest in the problem of economic growth and development. He explores the causes of economic growth and the factors that hinder it. This means he did not develop a specific theory of economic growth and development as an independent subject, but rather laid out a set of fundamental ideas that reveal his perspective on the topic. These ideas include his views on natural law, the division of labor, and the accumulation of capital.

2.1.7.1.1. Adam Smith's idea of economic growth: Adam Smith believed that the foundation of economic growth lies in the "division of labor," whose primary importance stems from its ability to reduce the marginal productivity of factors of production. The division of labor also represents a form of management and organization within the production process, which is considered a positive factor. Smith viewed economic growth as a cumulative process, basing his argument on the dynamic analysis of equilibrium. The accumulation of productive capital, considered a surplus in production, increases the volume of new investments. He thus considered the secret to economic progress to be the surplus savings that are subsequently invested. Classical economists advocated for rationalizing consumption to maintain a high level of savings that contributes to investment.

According to Adam Smith, labor is the sole measure of value, while the production process is based on three main elements: land, labor, and capital. Therefore, his production function is as follows:

$$Y = F(K, L, N)$$

Y : Production;

L : is the Labor volume;

K : is the Capital volume ;

N : Land ;

Adam Smith argues that the annual growth rate of the national economy's output is the sum of the marginal productivity of all factors of production, and this can be achieved by differentiating the previous equation with respect to time "t" as follows:

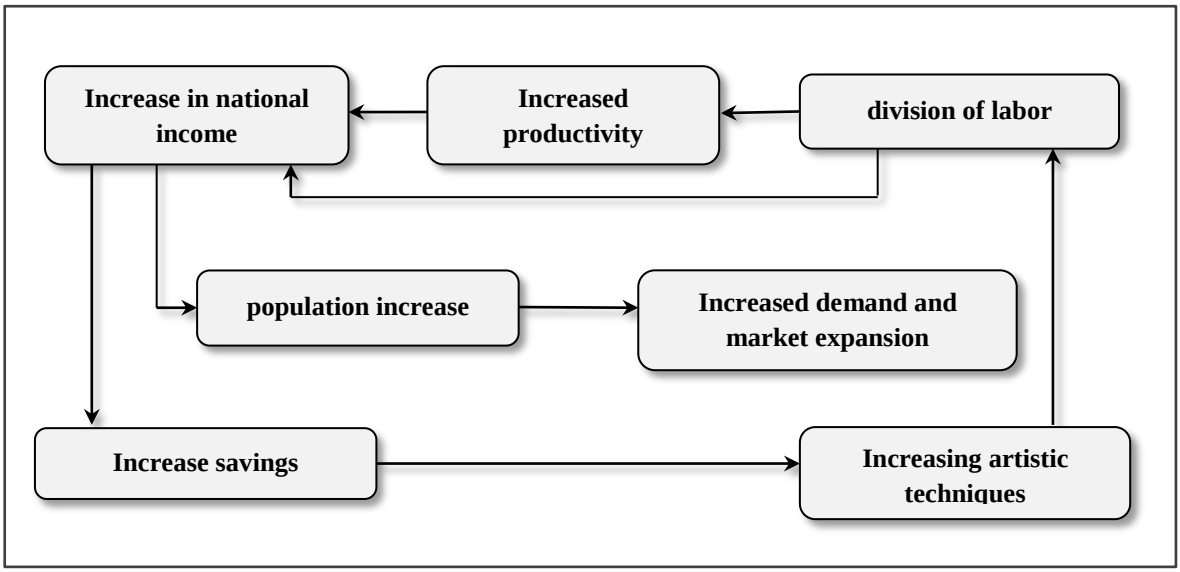
$$\frac{dY}{dt} = \frac{dF}{dL}.\frac{dL}{dt} + \frac{dF}{dK}.\frac{dK}{dt} + \frac{dF}{dN}.\frac{dN}{dt}$$

Where :

- $\frac{dy}{dt}$: Annual Output Growth Rate ;
- $\frac{dF}{dK}$: Marginal Productivity of Capital ;
- $\frac{dF}{dL}$: Marginal Productivity of Labor ;
- $\frac{dF}{dN}$: Marginal Productivity of Land ;

Smith indicates that the issue of the accumulation of economic growth is that, as a result of the division of labor, productivity increases for all factors of production, especially when there is sufficient demand and an appropriate amount of capital. Adam Smith's perceptions and ideas about growth can be summarized as follows:

Adam Smith's views on economic growth



The economist Adam Smith concluded that the "problem of economic growth" is a cumulative issue. The division of labor leads to increased productivity in light of the availability of a certain amount of effective demand. This leads to an increase in national income, which is an incentive for population growth, as the population variable is a means of increasing demand. He also concluded that saving leads to the accumulation necessary to achieve technological progress and the division of labor, and this in turn leads to market expansion, and a balance of growth is achieved through interdependence between farmers, traders, and producers.

2.1.7.1.2. Criticisms of Smith's Ideas on Economic Growth: Adam Smith's ideas have been subject to numerous criticisms, the most important of which are:

- He based his ideas on a sharp class division of society, splitting it into two classes: the first comprising landowners and capitalists, and the second comprising workers, neglecting the middle class;

- Consequently, this first idea led to the neglect of the savings of the neglected class, which accumulate in credit institutions;
- He treated competition and free trade as established facts, when in fact they are merely theoretical constructs;
- His ideas are limited for developing countries with extensive state intervention, low per capita income, and a high marginal propensity to consume.

2.1.7.2. Economic Growth According to David Ricardo: Ricardo is considered one of the most prominent writers of the classical school, and his name has been associated with many opinions and ideas, including rent, wages, and foreign trade. As with Smith, Ricardo did not develop a clear theory of economic growth, but he put forward a set of important ideas in his famous book, "Principles of Political Economy and Taxation," about capital accumulation and economic growth.

2.1.7.2.1 Ricardo's Idea of Economic Growth and its Sources: Ricardo considered land to be the foundation of any economic growth. Based on this, he viewed the agricultural sector as the most important economic activity, as it serves as the pillar that provides the means of subsistence for the population.

Ricardo also considered income distribution to be the decisive factor determining the nature of economic growth. He analyzed the growth process by dividing society into three groups: capitalists, agricultural workers, and landowners.

According to Ricardo, capitalists play the main role in the overall economic growth process, as they are responsible for seeking out large markets and increasing profits. This positively impacts economic growth through the reinvestment of these profits in new projects. Workers are the tools and means by which the production process takes place, while landowners are

important because they provide the foundation of the production process mentioned earlier: the land. Ricardo divided national income into three parts: the profits of capitalists, the wages of workers, and the rents of landowners. Since profits are higher than wages, Ricardo focused on capitalists, arguing that profit generation allows for reinvestment in the production process. This perpetuates productive expansion and increases capital accumulation.

The essence of David Ricardo's idea of economic growth lies in his view of it as a product of capital accumulation. The origin of this accumulation is the surplus available between net rent and wages, which appear as an initial and necessary cost in the production process.

2.1.7.2.1. Critique of Ricardo's Theory of Economic Growth:

Despite the importance and dynamism of Ricardo's ideas, they have been criticized as follows:

- His ideas are based on the theory of diminishing returns, which has been completely refuted by technological progress. Although he acknowledged the importance of technological development, he considered it a temporary phase, with the ultimate outcome being the dominance of the law of diminishing returns.
- Ricardo considered the state of stability that countries reach to be inevitable and automatic, contrary to what historical experience has demonstrated. Ricardo neglected the effect of the interest rate and conflated it with profit, thus failing to distinguish between financial and productive activity. He also assumed the constant coefficients of capital and labor, despite changes in both labor and capital.
- Schumpeter argues that Ricardo lacked a theory of growth but possessed a theory of distribution, specifying the share

of the final product allocated to workers, landowners, and capitalists.

2.1.7.3. Schumpeter's Economic Growth: Joseph Schumpeter's theory of economic growth falls under the neoclassical theory of growth. He focused on the role of the innovative organizer in driving economic growth by introducing new innovations.

2.1.7.3.1. Schumpeter's Theory of Economic Growth: Schumpeter's theory of economic growth begins with the assumption of a perfectly competitive economy, but one that is in equilibrium through innovation. Innovation generates profits and motivates other organizers to do the same. According to Schumpeter, the growth trend is not continuous but quickly reaches its predetermined limits when the environment for innovative investment becomes unfavorable. Schumpeter gave significant importance to organizational and technical factors in the growth process. For him, production is a function of labor, capital, natural resources, organization, and production techniques. Organization is central to growth; the organizer is the innovator and renewer. The innovator, in his view, is not the capitalist but the organizer, who is not simply an ordinary person with managerial abilities, but someone who introduces something new.

Schumpeter's growth process comprises three elements: innovation, regulation, and bank credit. He placed great importance on the latter in the field of investment financing, distinguishing two types:

- **First, spontaneous investment:** determined by factors independent of economic activity;
- **Second, dependent investment:** considered a function of the size of economic activity.

Dependent or stimulated investment is determined by profit, interest, and the size of the existing capital. Schumpeter, however, considers spontaneous investment the primary determinant of long-term growth, unrelated to changes in economic activity but rather determined by innovation and renewal.

2.1.7.3.2. Critique of Schumpeter's Theory of Economic Growth: Despite the analyses he presented, which were admired by a few economists, Schumpeter's theory faced several criticisms, including:

- According to him, all growth is based on the innovative organizer, whom he considered an ideal individual. However, the function of innovation has become the responsibility of industries, as the organizer's role has changed, rendering Schumpeter's theory unsuitable for the current situation. Furthermore, industries now invest in research and development, which involves less risk.
- He focused solely on innovation in the development process, neglecting the necessary social and economic changes to achieve it.
- He placed excessive emphasis on bank credit, failing to recognize that in the long run, other sources of funding, such as issuing shares, become essential, especially when bank credit is insufficient.

2.1.7.4. Nurkse-Rodan's Balanced Growth Theory: Nurkse formulated the core of the "strong push" concept, which Rodan later presented in a modern form known as the Balanced Growth Theory.

2.1.7.4.1. Introducing the Balanced Growth Theory: Nurkse focuses on the vicious cycle of poverty resulting from low income levels and, consequently, a small market size. He

emphasizes that breaking this cycle can only be achieved by expanding the market size. This expansion requires broad consumer investment and the simultaneous development of all sectors, ensuring that all sectors grow at the same time. He stresses the importance of achieving a balance between the industrial and agricultural sectors to prevent agricultural underdevelopment from hindering industrial progress.

The Balanced Growth Theory necessitates achieving equilibrium between various consumer industries and between them and capital industries, as well as between the domestic and foreign sectors, ultimately leading to a balance between supply and demand. It is important to note that balanced growth does not mean all industries should grow at the same rate, but rather at different rates so that supply equals demand. There are two approaches to this growth. Balanced Growth:

- **The first,** refers to the path development takes and the investment pattern necessary for the smooth functioning of the economy;
- **The second**, refers to the amount of investment needed to overcome the fragmentation of the production process.

Nurkse's original interpretation of balanced growth tends to encompass both approaches, while Rodan emphasizes the need for a strong push to overcome fragmentation.

2.1.7.4.1. Critique of the Balanced Growth Theory: This theory has faced several criticisms, including the high cost of large-scale investment and the limited financial capacity of developing countries to achieve this qualitative developmental leap. Other criticisms can be summarized as follows:

- Establishing all industries simultaneously may lead to increased production costs, making them unprofitable for operation;
- Economist A. Hirshman argues that implementing the balanced growth theory will result in imposing a fully integrated, modern industrial economy on top of a stagnant, traditional economy, with no interdependence between the two;
- Some consider it unrealistic because implementing its programs requires enormous resources, which are unavailable in developing countries;
- Some believe that applying this theory will encourage inflationary pressures because it requires substantial resources that are not available in many countries;
- Some assert that the concept of balanced growth is more applicable to developed countries than to developing countries; Finally, economist Paul Streeten argues that scarcity and bottlenecks encourage growth. Historically, growth has not been balanced; rather, the scarcity and bottlenecks that spurred invention are what developed England. These inventions, in turn, created new scarcity and bottlenecks.
- Finally, economist Paul Streeten says that scarcity and bottlenecks encourage growth, and that from a historical point of view, growth was not balanced, but rather the scarcity and bottlenecks that provided the incentive for inventions are what developed England, and the inventions in turn created new scarcity and bottlenecks.

Therefore, the idea of balanced growth is not inherently flawed, as some might consider it, but it is premature. It is applicable in later stages of sustainable growth but unsuitable for

overcoming the stagnation that characterizes developing countries.

2.1.7.5. Albert Hirshman's Unbalanced Growth Theory: This theory is associated with the well-known economist Albert Hirshman, although the economist F. Penox presented it under the name "Growth Centers Theory."

2.1.7.5.1. Introducing the Idea of the Unbalanced Growth Theory: Based on his criticism of the balanced growth theory, which he believes requires extensive investments beyond the capacity of developing countries and is suitable for addressing the problems of developed countries, Hirshman presented his theory of economic growth, which he called the unbalanced growth theory.

According to this theory, investments should be allocated to specific sectors instead of being distributed across all sectors of the national economy. These imbalances create more incentives for new investments, which in turn create a new equilibrium. Hirshman advocated adopting a plan that implements intentional and planned imbalances as the best way to achieve economic growth in developing countries, since growth flows from leading sectors to dependent sectors. Hirshman emphasizes that imbalances represent the driving force of growth, and this occurs through two paths:

- **First**, imbalances in the relationship between the social capital sector and the sectors that perform direct production;
- **Second**, imbalances within the sectors that perform With direct production, the imbalance between the two sectors takes two forms:
  - An imbalance favoring the direct production sectors, leaving the social capital sector lagging behind in growth. This creates a bottleneck in the supply of

social capital services and a surplus in the direct production sector;

- An imbalance favoring social capital, leaving the direct production sector lagging behind.

In conclusion, Hirshman proposes that the best way to achieve growth is to deliberately create an imbalance in the economy according to a predetermined strategy. This is achieved through a large-scale push into industries in strategic sectors that generate economies of scale greater than their profitability.

2.1.7.5.2. Critique of the Unbalanced Growth Theory: Like previous theories, this theory has been subject to several criticisms, including the possibility of inflationary waves and the suppression of the development process. Additionally:

- It neglects the resistance that may arise in the economy as a result of imbalance, focusing solely on the drivers of development.
- It does not give sufficient attention to the structure, direction, and timing of unbalanced growth. The problem lies in prioritizing investment in leading activities.

2.1.7.6. Summary of the most important theories explaining economic growth: The previous theories, as well as other theories not discussed, can be summarized and compared in the following table:

Summary of the most important theories explaining economic growth.

Theories explaining growth	Source of growth	Characteristics of growth
Adam Smith " 1776 "	division of labor	Unlimited growth.
Robert Malthus"1798 "	Reinvesting surplus.	Limited growth due to the law of population increase.
David Ricardo" 1817 "	Reinvesting surplus	Limited growth due to decreasing land yields.
Karl Marx" 1867 "	Capital accumulation.	Limited growth in the capitalist production model due to the declining rate of profit.
Josheph Schumpeter " 1939 – 1911 "	A series of technological	Unstable growth: a theory explaining long-term cycles.
"Rodan-Nurkse"	innovations. Balancing growth across all sectors while maintaining a strong impetus.	Limited growth due to insufficient resources to develop all necessary sectors.
"Albert Hirshman"	Disrupting sectoral growth.	Unstable growth: the problem lies in identifying, determining, and assessing the extent of imbalances.
"F. Pernox"	Growth catalysts.	Limited growth due to the structural effects of the mechanisms and dynamics of growth poles.

2.2. The Concept of Economic Development: Economic development is defined as: "Progress to society through the development of new and better production methods and raising production levels, by developing human skills and capabilities and creating better organizations." It is the process through which we try to increase the average per capita share of the gross national product over a specific period by raising the average individual productivity and using available resources to increase production during that period. Many attempts have been made to define the concept of development, to the point that it has become a common concept among individuals and organizations. This is after its definitions multiplied to such an extent that it caused some confusion with other concepts such as evolution, progress, and economic growth. The economist Schumpeter was the first to attempt to distinguish between economic growth and development. Growth usually occurs due to the

growth of population, wealth, and savings, while development results from technological progress and innovation. Growth is represented by quantitative changes in some economic variables, while development involves qualitative changes in these variables. It is clear from this that economic growth precedes development and is a phenomenon that occurs in the short term, while development only occurs in the long term and cannot be judged except after a relatively long period of time.

Therefore We conclude that growth is a continuous, steady, and slow process of spontaneous increase and gradual development occurring in a specific aspect of life. Development, on the other hand, is a deliberate and sustained process of achieving cumulative growth over a period of time, requiring a strong impetus through organized efforts to move society from a state of stagnation and underdevelopment to one of progress and growth. The United Nations report indicates that the problem for developing countries is not merely their need for growth, but rather their need for development, both social and economic, in a qualitative and quantitative manner.

The United Nations, in its 1956 definition, stated that development is the process by which the efforts of citizens and government are united to improve the economic, social, and cultural conditions of local communities, helping them integrate into the life of the nation and contribute to its progress to the fullest extent possible. Meanwhile, Seltz and W. Rostow agree that development occurs when underdeveloped societies abandon their prevailing traditional characteristics and adopt the characteristics prevalent in advanced societies.

Meier states that development is an interactive process during which a country's real income increases over a specific period. Baldwin concurs, but adds that achieving development requires high rates of growth in other economic, social, and political sectors. Sayed Awais points out that community development occurs when community members themselves participate in efforts to improve the standard of living in their environment

after being provided with the necessary services and assistance in a way that encourages initiative, self-reliance, and positive participation. This necessitates a high degree of cooperation among them. Atef Ghaith adds another definition of development, viewing it as a planned, scientific movement of a set of social and economic processes, guided by a specific ideology, to achieve targeted change and transition from an undesirable state to a desirable one.

Nettle and Robertson, on the other hand, defined development as "the process by which national groups successfully strive to reduce the decline in their nation's standing and move towards achieving parity with other nations that occupy a prominent position."

From the above, we can conclude that the concept of development is comprised of "planned and directed processes in multiple fields that bring about change in society to improve its conditions and the conditions of its members by addressing societal problems, removing obstacles, and achieving optimal utilization of potential and resources, thereby achieving progress and growth for society and well-being and happiness for individuals." In general, economic development is defined as "the process through which the transition from a state of backwardness to a state of progress is made, and this requires bringing about a change in economic structures. Thus, it is directed towards increasing the productive capacity of economic resources. Economic development is also considered as a process to raise the level of national income, so that this results in a rise in the average per capita income. It also includes raising the productivity of existing production branches, especially in Third World countries, such as the agricultural sector and the primary resources sector."

2.3. The Difference Between Economic Growth and Economic Development: The economist Schumpeter was the first to attempt to distinguish between economic growth and development. Growth usually occurs due to the increase in population, wealth, and savings, while development results from technological progress and innovation. Works

on economic development often begin by differentiating between development and growth, and each author strives to add further distinctions between the two concepts. However, they agree that economic growth refers to the quantitative increase in both national income and national output. This concept is also used to refer to developed countries. The concept of economic development, on the other hand, includes, in addition to quantitative growth, a set of structural changes in the social and economic fabric. Furthermore, the occurrence of economic growth is not a complete or sufficient indicator of development in the broad sense. This can be explained as follows:

- Economic growth refers solely to the quantitative increase in average real per capita income, which is not necessarily linked to structural economic or social changes. Economic development, however, is a complex phenomenon that can include economic growth as one of its important components.
- It is possible to achieve rapid economic growth while the development process slows down due to the incomplete implementation of the fundamental transformations that accompany development. Rapid economic growth can occur without development when an imbalance arises between economic development and societal needs, manifested in increasing disparities in economic and social spheres.
- Rapid economic growth can also occur without development when it is accompanied by reduced public participation in political, social, and economic decision-making, suppression of freedoms, and infringement upon citizens' civil rights. Economic development, on the other hand, requires the broadest possible participation of citizens in national and local policymaking.
- Development cannot be achieved even when real per capita income rises rapidly if this growth is accompanied or followed by increased dependence on foreign entities and exacerbated economic

dependency. Development requires severing ties with this system and liberating oneself from the constraints of dependency.

- Economic growth is spontaneous and automatic, while development is a deliberate effort, requiring guidance and intervention by the state and the people. Growth does not necessitate the development of various strategic programs and plans, unlike economic development. Economic growth occurs even under occupation or colonialism, but development cannot take place under such conditions because occupation comes to destroy, not to build; it takes, not to give.
- Despite the differences or distinctions between economic development and growth, some argue that there is no difference between the two concepts, and that economic growth is synonymous with economic development. This view is weak and not widely supported by economists. However, our perspective on this issue is that there is a difference between economic growth and economic development, and we support the aforementioned points of distinction to differentiate the two concepts.

Axis II:

Theories of Economic Development and Underdevelopment

Axis II:
Theories of Economic Development and Underdevelopment

This section highlights the most important theories explaining the economic development process, and we also discuss theories of economic backwardness.

1. **Theories of Economic Development:** In this point we will address the most important theories of economic development, but not all of them, which are as follows: The Classical Theory, Rostow's Stages Theory, Schumpeter's Theory, the Theory of Balanced and Unbalanced Growth, Keynesian Theory, and some modern theories of economic development.

   1.1. The Classical Theory (Classical Analysis) of Economic Development: Classical thought emerged in the late eighteenth and early nineteenth centuries (i.e., the period of the Industrial Revolution in Europe). Smith, Malthus, Ricardo, and Marx are considered among its most important pioneers who were concerned with issues of growth at the macro level and issues of income distribution between wages and profits.

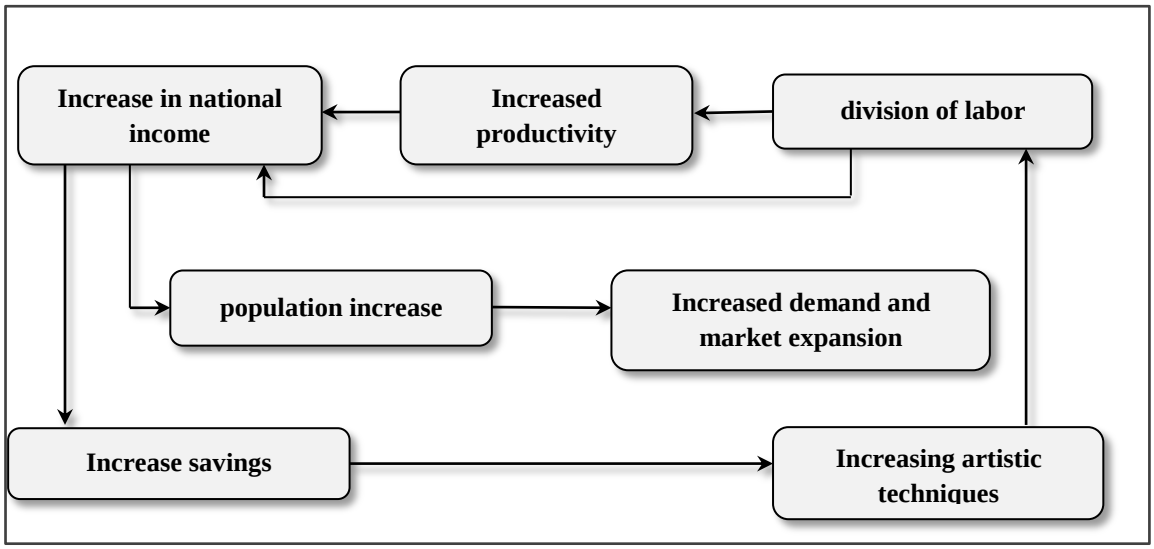
   1.1.1. Adam Smith (1723-1790): Smith was the first to address the topic of economic development in his book, *The Wealth of Nations*, which marked the beginning of a new phase of economic analysis. This phase was characterized by its detachment from personal and moral motivations and its reliance on logical analytical tools. Smith compared the process of economic development across the three continents of the developing world: Africa, Latin America, and Asia. His aim was to understand how economic growth occurs and what factors and policies hinder it. Smith's economic analysis is based on the concept of the "invisible hand," meaning that the economic system is capable of achieving equilibrium automatically without government intervention, which could impede economic growth. This principle advocates for a policy of economic freedom.

   Smith emphasized the importance of the division of labor as the foundation for increased productivity. Specializing workers in specific

productive activities, rather than performing multiple tasks, allows them to produce more with the same effort. Since the expansion of the division of labor only occurs when workers can utilize specialized equipment and machinery, the national economy requires capital accumulation.

Smith considered development to be a self-renewing process (an optimistic view). Under the conditions of capital accumulation and sufficient market availability, the division of labor and specialization take place, leading to an increase in income, and then an increase in savings and investment (a greater division of labor), and thus an even greater increase in income, and so on. In his view, an increase in industrial activities is achieved, and a decrease in returns is achieved in agricultural activities. However, he clarified that the scarcity of natural resources stops this cumulative process of development, and then the incomes of capital owners decrease, until the incentives for the accumulation of new capital disappear, and the economy reaches a state of stagnation. Regarding foreign trade between countries, Smith explained the importance of free trade in increasing the wealth of society. He also explained the principle of absolute costs in trade between countries, where each country specializes in producing the good that it can produce at the lowest cost (absolute advantage) and exchanges it for another good from another country.

Adam Smith's views on economic growth



The economist Adam Smith concluded that the "problem of economic growth" is a cumulative issue. The division of labor leads to increased productivity in light of the availability of a certain amount of effective demand. This leads to an increase in national income, which is an incentive for population growth, as the population variable is a means of increasing demand. He also concluded that saving leads to the accumulation necessary to achieve technological progress and the division of labor, and this in turn leads to market expansion, and a balance of growth is achieved through interdependence between farmers, traders, and producers.

- **Criticisms of Smith's Ideas on Economic Development:** Adam Smith's ideas have been subject to numerous criticisms, the most important of which are:

  – He based his ideas on a sharp class division of society, splitting it into two classes: the first comprising landowners and capitalists, and the second comprising workers, neglecting the middle class;

  – Consequently, this first idea led to the neglect of the savings of the neglected class, which accumulate in credit institutions;

  – He treated competition and free trade as established facts, when in fact they are merely theoretical constructs;

- His ideas are limited for developing countries with extensive state intervention, low per capita income, and a high marginal propensity to consume.

1.1.2. David Ricardo (1772-1823): Ricardo considered agriculture to be one of the most important economic activities, as he viewed land as the foundation of economic growth. In his view, there are three main economic groups in the development model: capitalists, workers, and landowners.

In his book, « Principles of Political Economy and Taxation », Ricardo agreed with Smith that development is a self-renewing process. It depends on capital accumulation, which in turn depends on profit generation. Therefore, for this process to begin, the rate of profit must be positive, incentivizing capitalists to save a portion of their income and expand production by increasing the number of workers and equipment. This drives real wages above the natural level, leading to a decrease in mortality rates (due to improved nutrition and health). Consequently, the size of the labor force increases, resulting in further capital accumulation, and so on. Therefore, capitalists play a major and effective role in the development process, and there is no need for state intervention in economic activity. However, he clarified that as agricultural yields decline and development continues, it becomes increasingly difficult to feed the growing population, ultimately leading to a halt in development and a state of stagnation. Thus, economic development is a race between technological progress and population growth.

The law of real wages is considered one of Ricardo's important contributions to the growth process. This law states that workers' real wages will not exceed the level required for subsistence. Even if workers' wages occasionally exceed this level, it is a temporary phenomenon and they quickly return to the subsistence level. Regarding foreign trade, Ricardo introduced the theory of comparative

advantage. He explained that a country can specialize in producing goods at relatively lower costs than other countries and export them, while importing goods in which other countries have a comparative advantage.

- **Critique of Ricardo's Theory of Economic Development:** Despite the importance and dynamism of Ricardo's ideas, they have been criticized as follows:
  - His ideas are based on the theory of diminishing returns, which has been completely refuted by technological progress. Although he acknowledged the importance of technological development, he considered it a temporary phase, with the ultimate outcome being the dominance of the law of diminishing returns.
  - Ricardo considered the state of stability that countries reach to be inevitable and automatic, contrary to what historical experience has shown.
  - Ricardo neglected the effect of the interest rate and conflated it with profit, thus ignoring the distinction between financial and productive activity. He also assumed the constant coefficients of capital and labor, despite changes in both labor and capital.
  - Schumpeter argues that Ricardo does not have a theory of economic development but rather a theory of distribution, where he determines the share of workers, landowners, and capitalists in the final product.

1.1.2. Robert Malthus (1766-1834): Malthus is famous for his "Population Theory," which posits that the population increases geometrically every quarter century, while food production, under the best of circumstances, increases arithmetically during the same period. This leads to food shortages and a decline in living standards, ultimately resulting in an inevitable economic recession. The primary cause of this recession is

decreasing productivity. These were pessimistic views regarding population growth and its negative impact on economic growth.

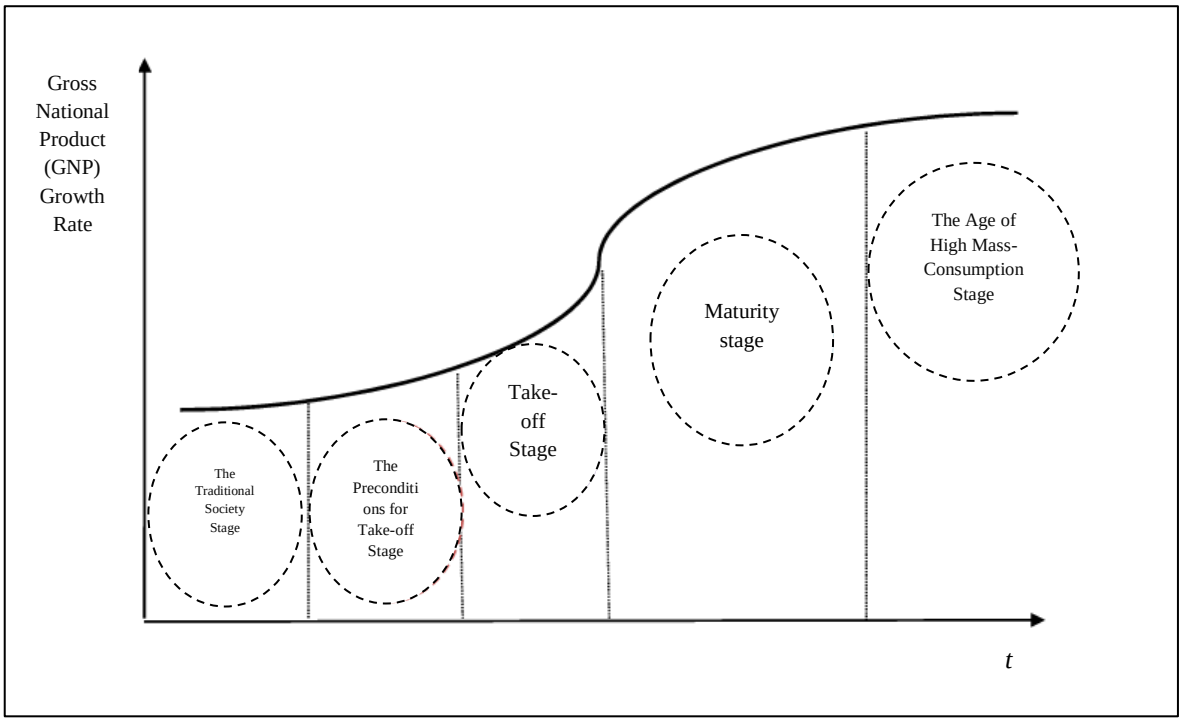
Malthus is considered one of the most important economists who addressed effective demand and its role in the development process (before Keynes). While classical economists focused on Say's Law of Markets, which states that every supply creates its own demand, Malthus argued that an imbalance between the supply of savings and planned investment by capitalists can halt development. He also highlighted the crucial role of investment in the industrial sector for achieving economic growth, asserting that increased capital accumulation in this sector is the only guarantee against the prevailing stagnation in the agricultural sector.

In summary, profit is the primary driver of economic growth in the classical growth model. They acknowledged the inevitability of reaching a limit, and their most significant contribution was proposing methods to delay this limitation. Their proposals relied on minimal government intervention.

It can be argued that classical analysis was overly pessimistic regarding the law of diminishing returns, a concept often referred to as "classical pessimism." It failed to predict the extent and power of the technological revolution, which overcame the problem of diminishing returns, particularly in developed countries and developing countries that experienced the Green Revolution.

1.2. Rostow's Theory of Stages: Rostow identifies five stages of societal development, corresponding to the stages of economic growth, as follows:

Rostow's Stages of Development



- **Traditional Society:** This definition encompasses the entire world prior to Newton's era, from primitive societies to some modern societies. It is characterized by a lack of the vast potential offered by science and technology, or by an inability to utilize them systematically and efficiently for production.
- **Conditions for the Take-Off Stage:** The transition from traditional society to the take-off stage presents complex challenges and requires specific conditions. From a purely economic perspective, the rate of investment must lead to an increase in production that clearly exceeds population growth. However, this is insufficient; an economic infrastructure must be established, which can only be achieved through a willing political authority. The social and psychological changes that allow for the transition from traditional society occur (as Rostow states) "under the influence of a clear nationalist movement, as exemplified by the Meiji Restoration in Japan and the Junkers in Germany."

- **The Launch Stage:** This stage is inseparable from what the theorist called the "entrepreneurial spirit" of a group of people capable of directing the majority of income towards productive sectors with rapid growth potential (e.g., the cotton industry in Britain, the timber industry in Sweden, and the arms industry in Russia, Japan, and Germany).
- **The Stage of Maturity:** Rostow believed that three generations must have lived through a period of growth to reach this stage, characterized by increasing economic complexity, rising exports, decreasing imports, and the optimal utilization of technology. Britain reached this stage in 1840, the United States in 1900, Germany and France in 1910, Japan in 1940, and Russia and Canada in 1950. Rostow identified the most significant changes occurring in this stage as follows:
    - The shift of the population from rural to urban areas, and the transformation of rural areas themselves into more urbanized forms.
    - A rise in the proportion of highly skilled technicians and workers. - The transfer of leadership from the hands of entrepreneurs and capitalists to a class of executive trainers.
    - Viewing the state, under conditions of a high degree of material well-being and individualism, as responsible for providing an increasing level of social and economic security for its citizens.
- **The Stage of Mass Consumption:** In this stage, the state strives for greatness and power, providing maximum security and safety for all, and increasing the purchasing power of the population. Consumer goods are readily available and, along with the service sector, constitute the main sectors of production.

1.3. Schumpeter's Theory: Joseph Schumpeter's theory of economic development (economic growth) falls under the neoclassical development theories. He

focused on the role of the innovative organizer in driving economic development by introducing new innovations.

- **Schumpeter's Theory of Economic Development:** Schumpeter's theory of economic development begins with a focus on economic growth and the assumption of a perfectly competitive economy that is in equilibrium through innovation. Innovation generates profits and motivates other organizers to do the same. According to Schumpeter, the growth trend is not continuous but quickly reaches its predetermined limits when the environment for innovative investment becomes unfavorable. Schumpeter gave significant importance to organizational and technical factors in the growth process. For him, production is a function of labor, capital, natural resources, organization, and production techniques. Organization is central to growth; the organizer is the innovator and renewer. The innovator, in his view, is not the capitalist but the organizer, who is not an ordinary person with managerial abilities but someone who introduces something new.

  Schumpeter's theory of growth comprises three elements: innovation, the organizer, and bank credit. He placed great importance on the latter in the field of investment financing, distinguishing two types:

  - **First**, spontaneous investment: determined by factors independent of economic activity;
  - **Second**, dependent investment: considered a function of the size of economic activity.

  Dependent or stimulated investment is determined by profit, interest, and the size of existing capital. Schumpeter, however, considered spontaneous investment the primary determinant of long-term growth, unrelated to changes in economic activity but rather determined by innovation and renewal.

- **Critique of Schumpeter's Theory of Economic Development:** Despite the analyses he presented, which were admired by some economists, they were few, Schumpeter's theory faced several criticisms, including:
  - That all development, according to him, is based on economic growth, which he considered to be the responsibility of the innovative organizer, whom he idealized. However, the function of innovation has become the responsibility of industries, as the role of the organizer has changed, thus rendering it unsuitable for the current situation. Furthermore, industries now invest in research and development, which involves less risk.
  - The development process focuses solely on innovation, neglecting the necessary social and economic changes to achieve it;
  - It places great emphasis on bank credit, failing to recognize that in the long run, other sources, such as issuing shares, become essential, especially when bank credit is insufficient.

1.4. Equilibrium Growth Theory and Unequilibrium Growth Theory:

1.4.1. Nurkse-Rodan's Equilibrium Growth Theory: Nurkse formulated the core of the "strong push" concept, which Rodan later developed into a modern version known as the Balanced Growth Theory.

- **The theory of balanced growth** focuses on the vicious cycle of poverty resulting from low income levels and, consequently, a small market size (as illustrated in the figure below). Nurkse argues that breaking this cycle requires expanding the market size through broad consumer investment and the simultaneous development of all sectors, ensuring that all sectors grow at the same time. He emphasizes the importance of achieving a balance between

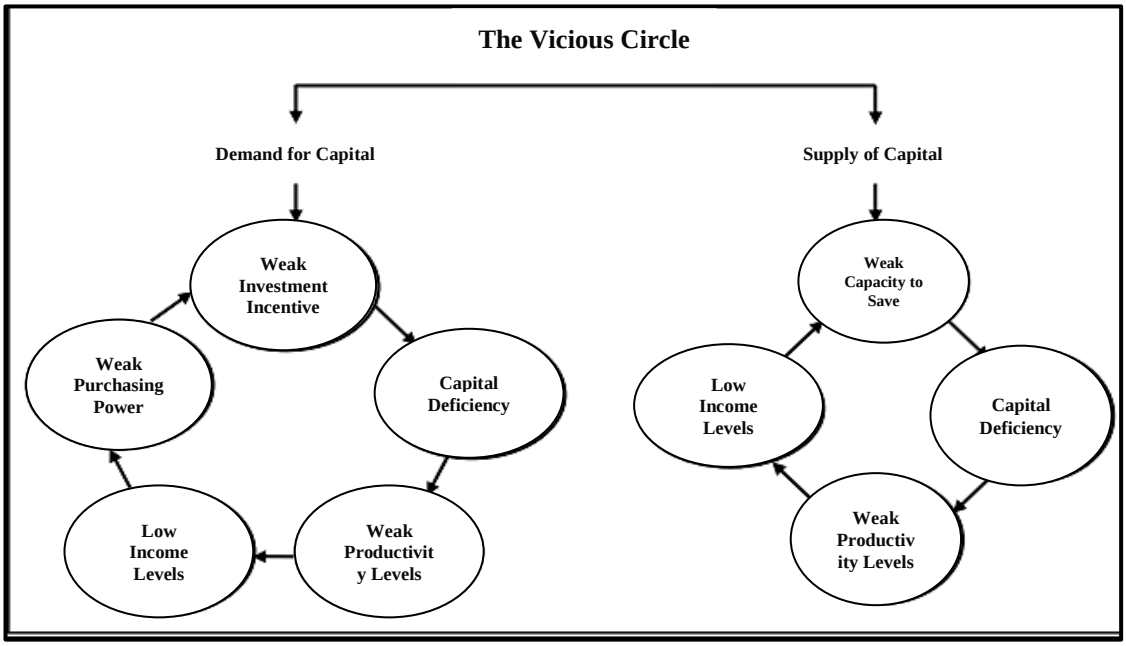
the industrial and agricultural sectors to prevent agricultural underdevelopment from hindering industrial progress.

The Balanced Growth Theory necessitates achieving equilibrium among various consumer industries, between them and capital industries, and between the domestic and foreign sectors. Ultimately, it aims to achieve a balance between supply and demand. It is important to note that balanced growth does not mean all industries should grow at the same rate, but rather at different rates, ensuring that supply equals demand.

– **There are two approaches to balanced growth:**

- **The first,** refers to the path development should take and the investment pattern necessary for the smooth functioning of the economy;
- **The second,** refers to the amount of investment needed to overcome the fragmentation of the production process.

Nurkse's original interpretation of balanced growth tends to encompass both approaches, while Rodan emphasizes the need for a strong push to overcome fragmentation.



- **Critique of the Balanced Growth Theory:** This theory has faced several criticisms, including the high cost of large-scale investment and the limited financial capacity of developing countries to achieve such a qualitative developmental leap. Other criticisms can be summarized as follows:
  - Establishing all industries simultaneously may lead to increased production costs, making them unprofitable for operation;
  - Economist A. Hirshman argues that implementing the balanced growth theory will result in imposing a fully integrated, modern industrial economy on top of a stagnant, traditional economy, with no interdependence between the two;
  - Some consider it unrealistic because implementing its programs requires enormous resources, which are unavailable in developing countries;
  - Some believe that applying this theory will encourage inflationary pressures because it requires significant resources that are not available in many countries;

- Some assert that the concept of balanced growth is more applicable to developed countries than to developing countries; Finally, economist Paul Streeten argues that scarcity and bottlenecks encourage growth. Historically, growth has not been balanced; rather, the scarcity and bottlenecks that spurred invention are what developed England. These inventions, in turn, created new scarcity and bottlenecks.

Therefore, the idea of balanced growth is not inherently flawed, as some might consider it, but it is premature. It is applicable in later stages of sustainable growth but unsuitable for overcoming the stagnation that characterizes developing countries.

1. 4.2. **Albert Hirshman's Unequilibrium Growth Theory:** This theory is associated with the renowned economist Albert Hirshman, although the economist F. Penox had previously presented this idea under the name "Growth Centers Theory."

– **The Unbalanced Growth Theory was introduced based** on Hirshman's criticisms of the balanced growth theory, which he believed required massive investments beyond the capacity of developing countries and was more suitable for addressing the problems of developed nations. Hirshman presented his theory of economic growth, known as the unbalanced growth theory.

According to this theory, investments should be allocated to specific sectors rather than distributed across all sectors of the national economy. These imbalances, he argued, create further incentives for new investments, which in turn create a new equilibrium. Hirshman advocated adopting a plan that implements intentional and planned imbalances as the best way to achieve economic

growth in developing countries, as growth flows from leading sectors to dependent sectors. Hirshman asserts that imbalances represent the driving force of growth, and this occurs through two pathways:

- **First**, the imbalance in the relationship between the social capital sector and the sectors engaged in direct production;
- Second, the imbalance within the sectors engaged in direct production. This imbalance manifests in two ways:
  - An imbalance favoring the direct production sectors, leaving the social capital sector lagging behind in growth, resulting in a bottleneck in the supply of social capital services and a surplus in the direct production sector;
  - An imbalance favoring social capital, leaving the direct production sector behind.

In conclusion, Hirshman proposes that the best way to achieve growth is to deliberately create an imbalance in the economy according to a predetermined strategy. This involves a large-scale push into industries within strategic sectors that generate economies of scale greater than their actual profitability.

– **Critique of the Unbalanced Growth Theory:** Like previous theories, this theory has been subject to several criticisms, including the possibility of inflationary waves and the suppression of development, in addition to:

- It neglects the resistance that may arise in the economy as a result of imbalances, focusing solely on the drivers of growth.

- It does not give sufficient attention to the structure, direction, and timing of unbalanced growth, as the problem lies in prioritizing investment in key activities.

1.5. Keynesian Theory: John Maynard Keynes (1883-1946) is considered the founder of the Keynesian school. Keynes began developing his theory (in his book, *The General Theory of Employment, Interest and Money*, published in 1936) under conditions different from those under which previous theories were developed. The most important of these conditions was the Great Depression (the global economic crisis) that struck the world in 1929, the manifestations of which included:

- A significant decline in the supply of goods and services (supply exceeding demand);
- A halt in production, and consequently, a halt in economic growth;
- High levels of unemployment;
- A decline in price levels.

- **Keynesian Assumptions:**
  - The economy cannot spontaneously reach equilibrium; if it does, it will be in the long run and at a high social cost;
  - The state must intervene to restore or maintain economic equilibrium;
  - Demand creates its corresponding supply, not the other way around;

Keynesian theory focused more on the economics of development in advanced countries than on developing countries. Keynes argued that:

- Total income is a function of the level of employment in any country; the higher the level of employment, the higher the total income;
- Unemployment occurs due to a lack of effective demand, and Keynes believed that to eliminate it, spending on either consumption or investment should increase;

- The marginal efficiency of capital is a key determinant of the investment rate, and there is an inverse relationship between investment and the marginal efficiency of capital;
- The interest rate is the second determinant of investment, and its role is determined by liquidity preference and the money supply;
- The investment multiplier (the increase in national income resulting from each increase in investment) in advanced capitalist countries is approximately 3. In summary: Keynesian theory focused on explaining economic development in developed countries, and Keynes focused his analysis on how to address the global recession crisis, and also focused on macroeconomic variables such as investment, interest rates, aggregate demand and aggregate supply.

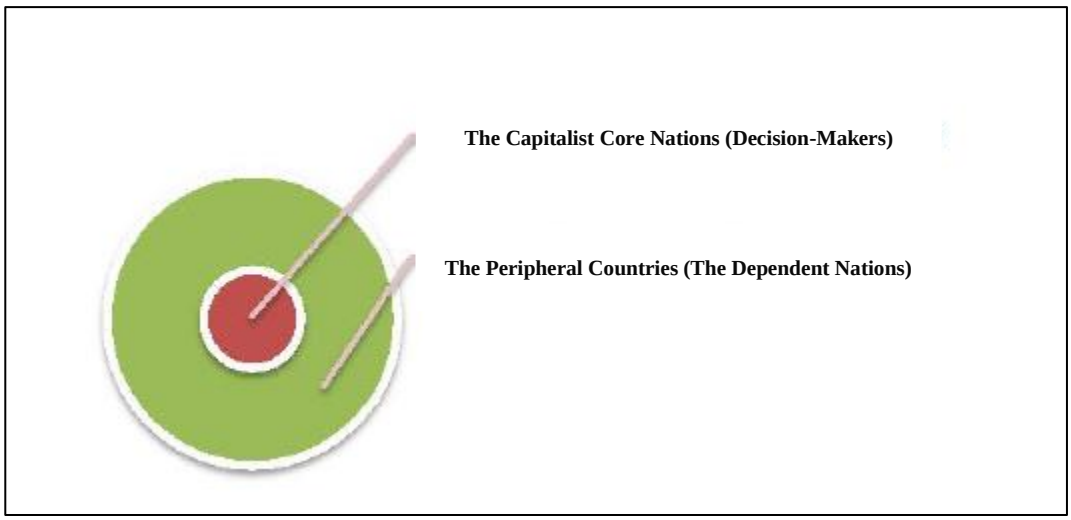
2. Theories of Economic Underdevelopment:

2.1. The Center-Periphery Theory: This theory was promoted in the 1970s by several Third World economists, such as Rosa Luxemburg, Barbich, and Samir Amin. Its premise is that newly independent states, having gained political independence, remained linked to the former colonial center. Consequently, they were unable to build a market economy and remained in a state of dependency (imperial colonialism). This made them even more dependent, both quantitatively and qualitatively, than before political independence. This was due to the colonial powers imposing an economic model on the peripheral states, particularly in the division of labor and specialization in production. The colonial powers specialized in producing capital goods and technology, while the dependent states specialized in raw materials and agricultural products, which were in high demand by the core countries.

Thus, according to Rosa Luxemburg, control manifests itself in a system of dependency on the center, which consists of Western capitalism and North America. The rest of the Third World consists of dependent states orbiting the capitalist center, as Frank calls them, or peripheral states, as Samir Amin calls them, which are subject to and follow the center. Economic dependence

and capitalist exploitation (by the center) of peripheral or surrounding states constitute the root cause of underdevelopment. Thus, they consider that colonialism has not ended and that the external factor is the cause of underdevelopment even after underdeveloped states achieve their political independence.

Central and peripheral countries



This theory began to lose its luster with the emergence of developments, globalization and the single global market, economic openness, but there are still those who believe in this theory because of the lack of justice and equality, the imposition of types of specialization, and the lack of equality of abilities and capabilities.

2.2. Rostow's Stages Theory: We previously presented this theory in the section on economic development theories. It is based on five stages of development, which some consider to be the other side of the coin of the stages of underdevelopment and the path to recovery. Therefore, it is classified as a theory of economic underdevelopment. The proponent of this theory argues that the economic underdevelopment of many developing countries reflects the stage of growth and development they are undergoing, and that underdevelopment here is merely a temporal delay. Rostow posits that countries pass through five stages on their path from underdevelopment to progress: the traditional society stage, the stage of preparation for takeoff, the

takeoff stage, the stage of moving towards economic maturity, and the stage of abundant and widespread consumption.

– **Critique of the Theory:** One of the criticisms leveled against this theory of economic underdevelopment is that it is extremely superficial in explaining underdevelopment. Rostow omitted the concept of a socio-economic system from his analysis, retaining only capitalism. Furthermore, he failed to consider the global and local forces that hinder the growth of productive forces. Some also criticized Rostow's analytical approach for its mechanistic and static relationship to variables. Therefore, Rostow's theory of stages cannot be considered a convincing explanation of economic underdevelopment, as developing countries cannot be considered as a whole as backward regions across the board. Some of them experienced periods of economic, social, and cultural prosperity and development before entering a phase of economic stagnation.

2.3. The Vicious Cycle Theory: This theory focuses on the role of internal factors (although these are not isolated from external factors). Proponents of this theory, most notably Nerks, argue that underdevelopment is both a consequence and a cause of poverty. They describe the vicious cycle of poverty as a set of cyclical forces that drive action and reaction, perpetuating a state of poverty in a poor country. Based on these cyclical forces and relationships, the characteristics of underdevelopment can be viewed as both a result and a cause of poverty.

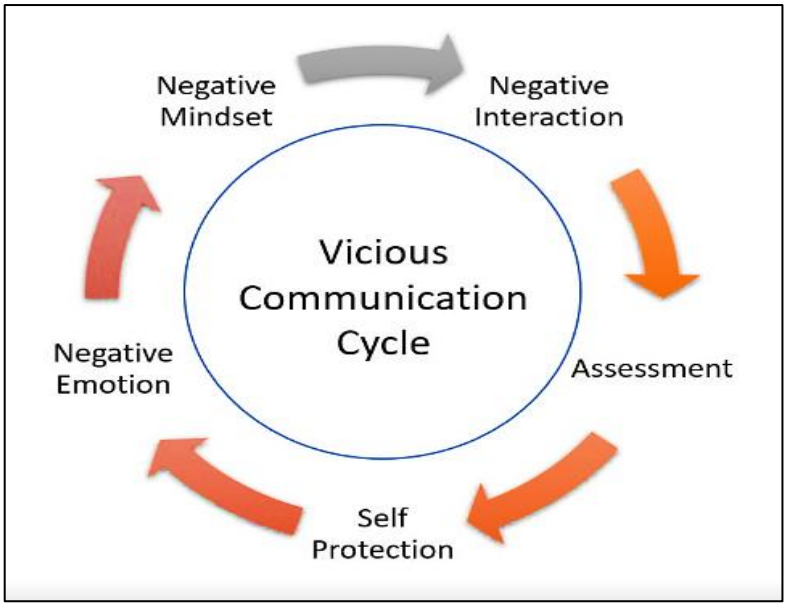
According to this theory, underdevelopment is explained by the fact that countries are trapped in vicious cycles of poverty, keeping their economies confined and unable to break free. This perpetuates underdevelopment in these countries. These vicious cycles are numerous and illustrate the difficulties hindering development in these societies, or the factors that interact to maintain poverty as a defining characteristic. For example, the vicious cycle of poverty stems from the fact that low productivity in economically underdeveloped countries is due to capital

scarcity and underdeveloped markets, given that the level of capital accumulation is a crucial factor in determining the growth rate.

In this regard, Nerks points to two cycles of poverty related to capital scarcity in developing countries: one on the supply side and the other on the demand side. The level of investment depends on both the supply of savings and the incentive to invest :

- **From the supply side**: A decrease in income leads to a decrease in savings, which in turn leads to a decrease in individual investment. This results in a decrease in productivity, which further reduces income, creating a vicious cycle.
- **From the demand side**: A decrease in the incentive to invest stems from a smaller market size. This, in turn, is due to weak purchasing power, which is caused by a decrease in individual income. This decrease in purchasing power is caused by a decrease in productive efficiency, which in turn is caused by a decrease in individual investment. This decrease in purchasing power is caused by a decrease in the incentive to invest.

An Embodiment of the Vicious Circle Theory



In fact, the vicious cycle theory of poverty fails to provide a convincing and profound explanation for the phenomenon of underdevelopment for the following reasons:

- It considers the scarcity of capital in developing countries as an independent variable and underdevelopment as a dependent variable. That is, it explains the existence of underdevelopment solely through the scarcity of capital, neglecting the historical dimension of the capital problem and its resulting underdevelopment. In this explanation, colonial domination is considered the independent variable, the cause, while the scarcity of capital is the dependent variable, the consequence.
- The variables identified by the vicious cycle theory of poverty are merely general manifestations of underdevelopment and are not, in themselves, the phenomenon of underdevelopment. Low income, low savings, and low investment are simply general characteristics accompanying underdevelopment. It cannot be said that low income and low savings are the cause of underdevelopment; rather, they are its symptoms. The problem of underdevelopment is complex and multifaceted.
- The causal relationship between the various variables is neither as simple nor as direct as the vicious cycle theory presents it. For example, low income leads to low savings, and low savings are a consequence of low income. In reality, the decline in savings is not solely or entirely due to a decrease in income. Rather, it is influenced by and controlled by numerous conditions and variables, such as the pattern of national income distribution, the nature of the income-generating groups, consumer behavior, values, customs, and different social classes, and the lack of institutions capable of mobilizing savings, among others.
- The use of simple causality in explaining underdevelopment, by focusing on a single element as both cause and effect, is problematic. However, underdevelopment is a complex problem with multiple dimensions, and its explanation is better provided by what is called

complex causality, where a range of factors contribute and interact, all of which are essential in the development of a particular situation or the emergence of a specific phenomenon.

Axis III:

Economic Development Strategies and Economic Growth Models

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Addressing the development process requires a long-term strategy comprised of developmental mechanisms and policies that tackle the imbalances hindering societal progress. This begins with diagnosing the nature of the problems by understanding and tracing the historical formation that led to the cycle of underdevelopment, the social structure of the society, and the international context within which development takes place. This understanding serves as the basis for selecting a development strategy that suits the specific characteristics of the society and aligns with the international reality. This process often revolves around three or four main strategies.

In this section, we highlight the most important strategies employed in achieving economic development, and we also examine the most significant models of economic growth.

1. **Economic Development Strategies:** Economic development strategies refer to the approach a state adopts in formulating development policy and transitioning society from a state of stagnation to one of self-sustaining economic growth. This approach necessarily varies from one country to another depending on the economic, social, and political circumstances, as well as the role the state plays in managing economic activity and the desired objectives of the development process.

   In this section, we will discuss some of the most important economic development strategies, though not all of them. Among the most important are: import substitution strategies, export substitution strategies, manufacturing strategies, and sustainable development strategies, etc.

   1.1. Import Substitution Industrialization (ISI) Strategy: Most industrialization efforts in developing countries have focused on import substitution strategies to develop the industrial sector, thereby diversifying

the national economy, raising living standards, increasing national output, and reducing dependence on foreign goods.

1.1.1. The Concept of Import Substitution Strategy: Import substitution means that a country produces what it previously imported. Some economists, such as Gordon Bruton, defined it as "producing domestically what we previously imported, or producing domestically what we would otherwise have to import."

The success of this policy requires providing adequate protection for these industries by imposing high tariffs on imported goods to prevent domestic products from facing intense competition from similar foreign industries in the local market.

From the above, we can conclude that the concept of import substitution strategy includes three main points:

- Replacing certain imported goods with domestic production;
- Changes in consumption patterns by moving away from some imported goods;
- Changes in the composition of imports of manufactured goods, such that the share of manufactured goods in the import structure decreases.

1.1.2. Stages of the Import Substitution Strategy: The import substitution strategy consists of two main stages, which we will briefly outline below:

- **Stage One**: Import restrictions are imposed on industrial consumer goods. This stage is characterized by import substitution for consumer goods industries, such as food, clothing, and others.
- **Stage Two:** After the first stage, when domestic production reaches saturation and there are surpluses that require export, the country begins implementing a substitution policy for capital and production goods, such as machinery, equipment, and vehicles.

Implementing the import substitution strategy in stages will give local industries sufficient time to mature and become capable of competing with imported goods.

1.1.3. Objectives of Implementing this Strategy: Among its most important objectives are the following:

- Increasing savings and investment rates by ensuring that the protection provided to substitutional industries allows for high profit margins, which incentivize investors in other sectors to shift to substitutional industries, thus increasing incomes in this sector and consequently raising savings and investment rates;
- Establishing a diversified industrial base;
- Providing foreign currency to facilitate the import of intermediate and capital goods.

1.1.4. Criticisms of this Strategy: The application of this strategy in some developing countries has led to several drawbacks that have been criticized by economic experts. These drawbacks include:

- Poor quality of local products due to the lack of foreign competition, which would otherwise incentivize improvement in local products;
- Stimulation of domestic demand without external demand, as the country was unable to compete;
- Increased production costs, wasted resources, and inefficient use of available production capacities;
- Increased dependence of developing countries on developed countries due to their high levels of debt, which have kept them trapped in a cycle of indebtedness, in addition to the conditions and programs imposed upon them by international institutions;
- The focus on producing consumer goods has led to a broadening and diversification of consumer industries without a corresponding technological integration necessary for transitioning to intermediate and capital goods.

1.2. Export-Oriented Industrialization Strategy (EOI): Following the failure of import substitution strategies in many developing countries that implemented them, due to their negative consequences, a call began to circulate for a new economic development strategy focused on manufacturing for foreign markets.

1.2.1. The Concept of Export Substitution Strategy: "Export manufacturing strategy means establishing industries whose majority of production is dedicated to exporting abroad in order to obtain the foreign currency necessary to finance imports of food commodities and production inputs." The essence of this strategy lies in resorting to foreign markets to find outlets for domestic production by competing with foreign producers. According to this strategy, production is not intended to meet the needs of the domestic market but rather to be sold in foreign markets.

The success of this strategy depends on the size of the markets available to the country's exports, the availability of foreign demand for these exports, and the availability of goods and products that meet the specifications and tastes required in foreign markets. This, in turn, depends on the comparative and competitive advantages that the country possesses in these products and on the effective utilization of these advantages in a way that enables it to penetrate foreign markets efficiently.

1.2.2. Motives for Adopting an Export Substitution Strategy: The motives and justifications for adopting an export substitution strategy stem from several reasons, including the following:

- **Increasing the country's foreign currency reserves:** This results from exporting its products abroad, which helps it meet its foreign currency needs to finance imports of production inputs;
- **Leveraging the comparative or competitive advantages enjoyed by some countries:** Some countries attempt to capitalize on their relative abundance of certain resources, whether raw materials (such as fuels, cotton, cocoa, rubber, etc.) or low-wage labor, and establish industries that rely on these abundant economic resources, with their production dedicated to export to ensure continuous demand for these products;

- **The limited size of the domestic market:** Most developing countries suffer from a limited domestic market, which is one of the most significant obstacles to industrial growth. Therefore, they adopt an export-oriented manufacturing strategy and subsequently expand the market for their products by exporting abroad; - Overcoming some of the problems of the industrial sector: such as the increasing needs for intermediate and investment goods that are imported from abroad, which reveals the idle capacities in the industrial sector. Also, as a result of the protection imposed in favor of substitution industries, these industries have deteriorated in terms of quality or the final form of the goods, which has led consumers to turn away from them and seek to buy the equivalent foreign product.

1.2.3. Criticisms of this Strategy: This strategy, for which developing countries allocated a significant package of legal measures to encourage local and foreign investment, along with substantial resources, has encountered a number of practical difficulties that have been criticized by economists. Some of these criticisms are outlined below:

- The inability of national products to compete in international markets due to international trade conditions and the practices of multinational corporations, which has negatively impacted developing countries' foreign currency earnings.
- The imbalance in the economic structure and the emergence of duality, where a technologically advanced sector (the export sector) and a backward sector (the domestic consumption sector) exist. This means that the growth achieved in the advanced sector does not extend to the other sectors, thus hindering the economy's ability to take off.
- The technological dependence of developing countries on developed countries, which consistently adopt more advanced technologies than those they export.
- The dependence of these industries' production on fluctuations in demand for their products in foreign economies.

- Financing through external loans and the resulting increase in debt. - Falling into the inflation trap: Developing countries resorted to devaluing their national currencies to increase exports. It is well known that this measure is only effective if the exported goods have high demand elasticity.
- This policy relies on the active participation of multinational corporations that have established industries with low added value and high pollution levels. These corporations benefit from abundant energy, raw materials, and cheap labor, while simultaneously distributing technology in stages across several countries. Consequently, developing countries only benefit from a single technological link.

1.3. Industrializing Industries Strategy

1.3.1. The Concept of the Manufacturing Industries Strategy: The core of this strategy is prioritizing heavy industries. This strategy was developed by J.D. Debrennis based on the theory of growth poles, which posits the necessity of relying on manufacturing industries as growth poles. These industries are capable of supplying other sectors with the necessary equipment, thereby increasing labor productivity and leading to economic restructuring. Debrennis identifies these industries as follows:

- Branches that provide capital goods to other branches ;
- Large branches of the chemical industries ;
- Energy production (petrochemical industries).

1.3.2. The obstacles that hindered the implementation of this strategy: While this strategy aimed to build self-sustaining production capacity in developing countries and achieve long-term economic integration, its results, like those of previous strategies, were modest due to several obstacles, including:

- The reliance of such industries on capital-intensive technologies necessitates substantial capital investment, which developing countries lack. Furthermore, the inflexible relationship between investment absorption and labor means that these industries drain their financial resources while unemployment rates remain high.

- This strategy requires a highly skilled workforce for implementation, management, and maintenance. This necessitates accompanying investments in training personnel. Before this can be achieved, developing countries must rely on foreign expertise, which increases the financial burden.

1.3.3. Evaluation of the Manufacturing Strategies: The adoption of these strategies by developing countries resulted in the following:

- They fell short of the aspirations of developing countries because they combined several contradictions, such as the desire to eliminate dependency while resorting to imports, reliance on capital-intensive technologies amidst widespread unemployment, and high equipment and supplies costs coupled with a lack of necessary capital.
- They created an industrial base in these countries entirely dependent on foreign sources, placing the burden of most projects on these countries.
- They increased government spending, making it difficult for these countries to control their budgets, and this led to widespread high inflation rates.
- They increased internal migration from rural to urban areas, negatively impacting the agricultural sector and exacerbating social problems in cities due to overcrowding.

2. Economic Growth Models.

Quantification has found its way into economic growth theories. Economists have developed mathematical models to support their analyses and explain their conclusions about the determinants and mechanisms of economic growth. Many models explaining economic growth have been formulated, preceded by earlier theories and explanations of economic growth by pioneering economists. Here, we will discuss the most important models explaining economic growth.

2.1. The Harrod-Domar Model ; (One of the traditional growth models): Roy Harrod[*] and David Domar[**] focused on studying economic growth rates and attempting to identify the role of investment in achieving GDP growth rates.

2.1.1. Assumptions of the Harrod-Domar Model: The model's core idea is the dual effect of investment spending, which increases the productive capacity of society—concerning both the supply and income sides (demand side)—while simultaneously absorbing the available labor force. This model was primarily designed for developing countries and countries where the investment necessary to achieve a desired economic growth rate is low.

Harrod and Domar worked independently on the study of economic growth, but it was later discovered that their studies were very similar, leading to the formulation of a single model called the Harrod-Domar model. Each of them based their model on a set of assumptions that can be summarized as follows:

- The economy is closed, there is no foreign trade, and there is no government intervention in the economy;
- The assumption of achieving full productive efficiency of investment spending, with full employment at the level of income equilibrium (equilibrium of the goods and services market and the labor market).
- The general price level, interest rate, capital coefficient, and the capital-labor ratio of production inputs are all constant;
- Goods have an infinite lifespan and a single mode of production;
- Savings and investment accounts are based on the income earned in the same year.
- The fundamental assumption of the model is that production depends on the quantity of capital (K) and that the rate of growth of output...

[*] **R.F Harrod**: An English economist (1900-1978), a colleague of Keynes, studied at Oxford and Cambridge, developed a famous model of economic growth, was interested in money and inflation, and at the end of his life was interested in memory and knowledge.

[**] **E.D. Domar**: An American economist (of Polish origin) "1914 - 1997", studied at Harvard and Michigan. He is famous for his economic model of growth. He has several studies, including: expansion and employment, the problem of capital accumulation, and the effect of foreign direct investment on the balance of payments.

$\frac{\Delta y}{y}$:It depends on the marginal propensity to save $\frac{\Delta s}{\Delta y}$, As well as $\frac{K}{Y}$.

2.1.2. Presenting and formulating the Harrod-Domar model: As we mentioned earlier, the model, before being named as such, consisted of two separate studies by Harrod and Domar. Therefore, we will try to present each model separately and then the combined model.

2.1.2.1. Harrod's Model (1939): In its analysis of growth, Harrod's model distinguishes between three rates of economic growth:

a. The actual growth rate "g_y" : where: $g_y = \frac{s}{\upsilon}$ This rate is the actual growth of both the output or total income, which is the ratio of savings to the capital factor, where it is extracted assuming a state of general equilibrium, i.e., equality between total investment and total savings, i.e: $I = S$

b. Guaranteed growth rate (g_w): where: $g_w^* = \frac{s}{\upsilon^*}$, is the desired growth rate and the use of the entire stock of capital, which achieves the provision of the necessary investments to guarantee the target growth rate.

c. The natural growth rate (g_n): is defined as the sum of the growth rate of the labor supply n and the growth rate of labor productivity. Since the model assumes that labor productivity is constant ($\gamma = 0$), the natural growth rate is the growth rate of the labor supply i.e. ($g_n = n$). In the long run, the natural growth rate is considered the maximum rate associated with the growth of the active population. The condition for balanced growth at full employment is: $g = g_n = n$

- **The overall equilibrium of the "Harrod" model:** To ensure equilibrium through full employment of capital and labor, the

actual growth rate g_y must equal the guaranteed growth g_w rate and the natural growth rate " n ", i.e.:

$$g_y = g_w = n \Rightarrow \frac{s}{\upsilon} = \frac{s}{\upsilon^*} = n$$

On the other hand, the model assumes that output does not grow faster than the labor supply $g_y < n$, meaning that there is no shortage of labor that could hinder growth. Since the variables n, s, υ , υ^* and are external (uncontrollable) variables, equilibrium only occurs by chance. The economy is either in equilibrium or in disequilibrium, and the latter results in imbalances in the economy.

2.1.2.2. Domar's Model (1949): Domar based his model of economic growth on the following problem:

Since investment increases productive capacity and simultaneously increases income, what is the required rate of increase in investment to equal the increase in income so that full employment in society is maintained? According to Domar, this will depend on the size of the investment multiplier and the productivity of new investments, as reflected in the capital factor.

Domar argues that an increase in aggregate savings above the initial investment level is necessary. However, this condition for short-term equilibrium does not guarantee balanced growth, because investments have two effects:

- The income effect, or Keynesian effect, emphasizes the importance of the multiplier $\Delta I = \frac{1}{S}$ This means that the income effect is an inverse function of the marginal rate of saving "S " and a direct function of changes in investment.
- The capacity effect(δ), where (δ) is the marginal productivity of new capital, is defined as: $\delta = \frac{\Delta Y}{\Delta K}$ Therefore, the product of

investment (δ) and measures (I) the increase in output $(\delta \cdot I)$, or the capacity effect.

- The equilibrium condition in the market is when the new income resulting from increased investment covers the additional output produced as a result of increased capacity. This means that the capacity effect equals the income effect.

$$\frac{\Delta I}{S} = I \cdot \delta \Rightarrow \frac{\Delta I}{I} = S \cdot \delta$$

This condition can be written as follows: $\frac{\Delta I}{I} = \frac{S}{\nu}$ where $\nu = \frac{\Delta K}{\Delta Y} = \frac{1}{\delta}$, And " ν ": the marginal coefficient of capital.

In order to achieve balance, it is necessary that: $S \cdot \delta = \frac{S}{\nu}$

Imbalances can occur as follows:

- **Inflationary imbalance**: This occurs when the effect of income is greater than the effect of goods, i.e $\frac{\Delta I}{I} > S \cdot \delta$.
- **Deflationary imbalance**: This occurs when the effect of goods is greater than the effect of income, and this is the more likely and common scenario.

2.1.2.3. The "Harrod-Domar" Model: As a result of the convergence of the dynamic analysis of "Harrod" and "Domar," and based on all the criticisms directed at each model, a number of economists developed a more applicable model called the "Harrod-Domar" model, which we present as follows:

- The production function of the form "Leontief*" is given by: Where: :

L : Labor ; K :Capital ; u :Unit of Labor ; ν :Unit of Capital.

The savings function at equilibrium in the goods market is: $S_t = S \cdot Y_t$

We have: $I = \frac{dK_t}{dt}$

Assume the entire capital stock is utilized, i.e. $\frac{dY_t}{dt} = \frac{1}{\nu} \cdot \frac{dK_t}{dt} = \frac{1}{\nu} \cdot I_t$

And increased demand: $Y_t = \frac{1}{s} \cdot I_t \Rightarrow \frac{dY_t}{dt} = \frac{1}{s} \cdot \frac{dI_t}{dt}$

Guaranteed growth rate (supply = demand):

$\frac{1}{v} \cdot I_t = \frac{1}{s} \cdot \frac{dI_t}{dt} \Rightarrow \frac{1}{I_t} \cdot \frac{dI_t}{dt} = \frac{s}{v}$

$g_w = \frac{1}{Y_t} \cdot \frac{dY_t}{dt} = \frac{s}{v}$

Growth in the labor supply means: $N_t = N_\circ \cdot e^{nt} \Rightarrow n = \frac{1}{N} \cdot \frac{dN_t}{dt}$

n: Harrod defines it as the natural growth rate. The Harrod-Dommar condition stipulates that the growth rate of output and the supply of labor must equal each other for full employment to be achieved. $\frac{1}{Y_t} \cdot \frac{dY_t}{dt} = \frac{1}{N_t} \cdot \frac{dN_t}{dt} = n$

For equilibrium in the labor and production markets to be achieved, the following conditions must be met: $n = \frac{s}{v}$

Where: n Natural growth rate; s :Average propensity to save; v :Capital coefficient.

2.1.3. Summary of the Harrod-Domar Model and its Results: The model is based on the assumption of the constancy of a large number of factors s , v and n which is difficult for many to imagine, such as the constancy of a single production technology that achieves the same output. Harrod and Domar identified two reasons for the instability of growth:

- **The inequality between the real and natural growth rates**: Because the probability of the two rates being equal is very low, this means that the economy is either in a state of unemployment or underutilization of capital. In order for the real and natural growth rates to be equal, the marginal propensity to save or the capital coefficient must be adjusted.
- **The instability of the equilibrium rate**: Harrod argues that even if the real growth rate equals the natural rate (i.e., equilibrium growth), economic development remains unstable. Harrod also believes that equilibrium growth means that institutions invest according to market

conditions, i.e., that investments are proportional to the labor force in the economy.

Harrod and Domar argue that an imbalance occurs between the actual growth rate and the natural growth rate, such that the actual growth rate of the economy rises but remains lower than the natural growth rate, and this leads to long-term growth with a certain percentage of unemployment.

2.2. Solow's Model ; (One of the neoclassical growth models).

Due to the weaknesses that emerged in the Harrod-Domar model, many economists attempted to build new, more complex theories and models that allowed for changes in wages and interest rates, and thus for the exchange and substitution of labor and capital. Robert Solow was one of the most prominent of these economists.

2.2.1. Solow's Assumptions: The neoclassical model of economic growth, "Solow," is based on a set of assumptions that can be summarized as follows:

- The existence of a single, homogeneous product consumed by all countries; and the existence of perfect competition;
- The technological element is an external variable that increases at a constant rate; represented by a neoclassical production function
- Net saving (S) and net investment (I) represent a fixed part of output (Y). This means that saving is a behavioral variable used in economic policy. In other words, the savings rate (S) in Solow's model is an exogenous variable, and therefore aggregate consumption is given as follows:

$$\begin{cases} Y = C + S \\ C = cY \\ S = sY \end{cases} \Leftrightarrow \begin{cases} c = (1-S)Y \\ s = (1-C)y \end{cases}$$

- The level of employment in an economy is constant, meaning that an increase in population by « n » leads to an increase in employment by the same proportion.
- The marginal productivity of factors decreases and approaches zero as factors approach infinity, and vice versa.

2.2.1.1. Presentation of the Solow Model: The Solow model differs from the basic model, so we will first briefly discuss the basic Solow model, and then present the Solow model incorporating technological development.

a. The Basic Solow Model (without technological development): The basic Solow model consists of two fundamental equations, one concerning the production function and the other concerning capital accumulation:

$y = k^{\alpha}$ ..... (1)*

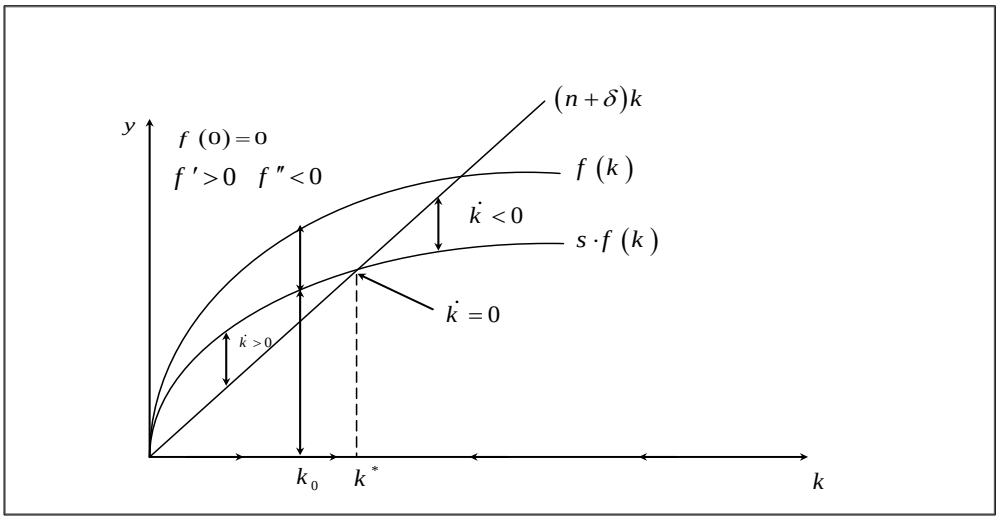
$$k \equiv \frac{K}{L} \Rightarrow \frac{\dot{k}}{k} = sy \cdot \frac{1}{k} - (n+\delta) \Rightarrow k = sy - (n+\delta)k \text{..... (2)}$$

Where: ***k*** is individual capital, ***θ*** is the depreciation coefficient, ***n*** is the population growth rate, ***s*** is the savings coefficient, and ***y*** is income.

These two basic equations mentioned above in the Solow model allow us to interpret and analyze the growth and development of the gross domestic product per individual (worker) from one period to another. To interpret this, we need to create a "Solo" diagram, which consists of three graphs: the individual production function curve $y = k^{\alpha}$; the investment function curve per individual (sy) , which is a curve with the same shape as the individual production function curve but pulled downwards by the savings rate (s) ; and the curve of the amount of investment required to keep individual capital constant $((n+\delta)k)$.

* $Y = K^{\alpha}L^{1-\alpha} \Rightarrow \frac{Y}{L} = \frac{K^{\alpha}L^{1-\alpha}}{L} \Rightarrow y = \frac{K^{\alpha}}{L^{\alpha}} \cdot \frac{L^{1-\alpha}}{L^{1-\alpha}} \Rightarrow y = k^{\alpha}.$

Equilibrium diagram of the basic Solo model.



Let's assume that a country's economy starts from a primary stock of capital (k_0) as shown on the axis of the diagram. At this point, we observe that the level of investment per person $(sy = sf(k_0))$ is greater than the level of investment necessary to keep the capital component per person constant, and that the consumption of each person at this point is the vertical difference between the two curves $sf(k_0)$ and $f(k_0)$, and over time it increases "k_0" until it reaches the level k^* , which is the level at which the capital component per person becomes constant. This is known in growth theory as the "regular state of growth." In the opposite case, if a country's economy starts from a level of primary individual capital k_0 that is greater than the equilibrium level, the Solow model shows that the level of investment per person $sy = sf(k_1)$ is less than the level necessary to keep the individual capital component constant, and therefore this component must decrease until it reaches the level of stability k^* .

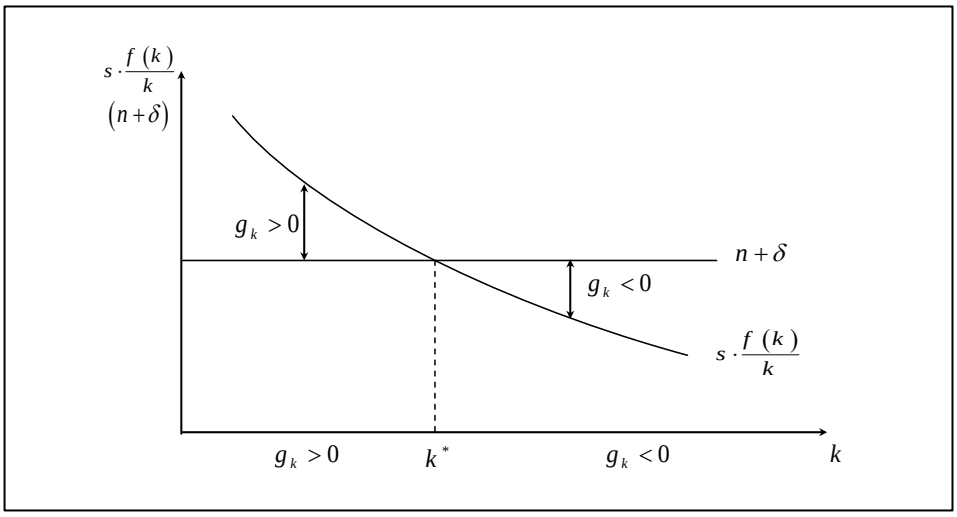
In other words, Solow's basic model shows that the growth of GDP per capita in any economy, regardless of the element of initial capital from which it originates, approaches equilibrium. Therefore, the model also demonstrates that the growth rate approaches a uniform

state even if the population growth rate (n) or the savings rate changes (s).

From the above, we can conclude that the stabilization of growth is achieved because: $\dot{k} = 0$ From this we obtain $k^* = \left(\frac{s}{n+\delta}\right)^{1/1-\alpha}$ and Solow demonstrated the dynamics of growth and its orientation towards a state of long-term stability. If we divide the two terms of the last equation by k , we obtain: $g_k = \frac{\dot{k}}{k} = \frac{sy}{k} - (n+\delta)$

This latter is called the rate of growth of individual capital, which shows that the growth rate of the variable k is the difference between the two terms $\left(\frac{sy}{k}\right)$ and $(n+\delta)$ represented in the following diagram:

Transitional dynamics in the Solow model



If the level from which the economy starts is: $(k_0 < k^*)$ then the growth rate k is positive and increases until it reaches the level k^*. This also means that the growth rate of individual output (y) is a positive rate and increases until the level y^* reaches the equilibrium state, and the opposite is true if the economy starts from $k_0 > k^*$.

b. Solow's model with technological development: Solow introduced the element of technological development into the production equation for basic growth given previously in the equation, so that it takes the following form:

$$Y(t) = K(t)^{\alpha} \cdot \left[A(t) \cdot L(t)\right]^{1-\alpha} \quad , \quad 0 < \alpha < 1 \quad \ldots\ldots\ldots\ldots (3)$$

Solow adopted the product of $(A) \cdot (L)$, which is termed "neutrality" in the Harwood concept. This means that technological development increases the efficiency of the labor factor. From a purely theoretical standpoint, the technological development factor can be included in the neoclassical Cobb-Douglas production function in three forms without this affecting the function, as follows:

- $Y = F(K, AL)$:Harrod production function;
- $Y = F(AK, L)$:Solo production function, meaning the production function per individual does not change if wages change (w) ;
- $Y = AF(K, L)$:Hicks production function, meaning that technological development increases the efficiency of both labor and capital.

Equation (3) takes the individual form as follows:

$$y = k^{\alpha} A^{1-\alpha} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (4)$$

The equation for individual capital accumulation under technological development takes the same form as the equation for individual accumulation in the basic model:

$$\dot{k} = sy - (n + \delta)k \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots (5)$$

$$g_k = \frac{\dot{k}}{k} \Rightarrow g_k \equiv s.\frac{y}{k} - (n + \delta) \quad \ldots\ldots\ldots (6)$$

By applying the logarithm to the following individual production equation $y = k^{\alpha} A^{1-\alpha}$, we find:

$$\frac{\dot{y}}{y} = \alpha \frac{\dot{k}}{k} + (1 - \alpha)\frac{\dot{A}}{A} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots (7)$$

Equation (7) can be written in terms of the growth equation (γ) as follows:

$$g_y = \frac{\dot{y}}{y} \Rightarrow g_y = \alpha g_k + (1-\alpha)\gamma \quad \text{……..... (8)}$$

The last equation (8) means that the growth rate of an individual capital (g_k) component is constant only if the ratio is $\left(y/k\right)$ constant because (δ) it is constant, in which case it becomes:

$$g_k = g_y \quad \text{…….....…. (9)}$$

Substituting equation (9) into equation (8), we find :

$$g_k = g_y \Rightarrow \alpha g_y + (1-\alpha)\gamma$$
$$\Rightarrow (1-\alpha)\, g_y = (1-\alpha)\gamma$$
$$\Rightarrow g_y = g_k = \gamma$$

This means that individual output increases in the long run at the same rate as the technological development of the economy, because we saw in the baseline model without technological development that the growth of individual output tends to be zero in the long run $g_y = g_k$.

2.2.1.2. Summary of the Solow Model: The Solow model and its results can be summarized in the following points:

- The Solow model is based on the elasticity of prices and wages, and considers market equilibrium to be inevitable;
- The Solow model also relies on a neoclassical production function with its characteristics, where the marginal productivity of factors decreases and approaches zero if the factors approach infinity, and vice versa;
- The model considers the existence of an inevitable state of equilibrium, which the economy must reach thanks to the transitional dynamics that characterize the model. The rate of growth of individual capital increases the further we are from the

state of equilibrium, and the model considers the state of equilibrium to be stable due to the elasticity of prices and wages.

What distinguishes Solow's model of technological development from the original model is the following:

- Individual output and individual capital continue to grow at rest (equilibrium);
- The growth of variables occurs at the rate of technological development γ ;
- Also, $n+\delta = g_k = g_y$ unlike in the original model $g_k = g_y = n$;
- At rest, individual output and individual capital are zero, while total output and capital grow by the sum of the population growth rate and the rate of technological development.

Solo's model, by incorporating technological development, enables us to explain how and why countries grow in terms of living standards over time, explaining that increased technological development leads to increased per capita output and continued per capita growth and living standards.

2.3. Modern Growth Models

The poor performance of neoclassical growth models in explaining long-term economic growth led to their rejection, resulting in the emergence of other models called endogenous growth models, which are considered more acceptable and modern than their predecessors due to their ability to explain long-term growth. Perhaps the most important of these models will be discussed in this section.

2.3.1. The "AK" model (von Yeumann 1937): The distinctive feature of internal growth models (modern growth models) is the absence of diminishing returns on capital (k) , i.e., the absence of diminishing returns on capital. The absence of diminishing returns on capital is due to

human capital, and the general model of the AK model is given as follows:

$Y = A \cdot K$ ……..... (1)

Where A represents a positive constant that expresses the technological level and represents the apparent productivity of capital, and individual production is represented by individual capital by dividing equation (1) by L that which represents the quantity of labor, and therefore we obtain:

$y = A \cdot k = f(k)$ ……. (2)

Where: y and k represent, respectively, individual production and individual capital.

Both the average and marginal productivity of capital in equation (2) are constant and equal to the level of technology " AK " , which puts the properties of the production function into a model. Since the second derivative of is f zero, the marginal productivity of capital does not decrease. Secondly, since the first derivative of f is constant and equal A to, then: $\lim_{k \to \infty} f'(k) = A$ that is, the second condition of "*Inada* [*] " is not satisfied.

By substituting $\frac{f(k)}{k} = A$ into the equation $\gamma_k = s \cdot \frac{f(k)}{k} - (n + \delta)$ (Solo's model equation), we find:

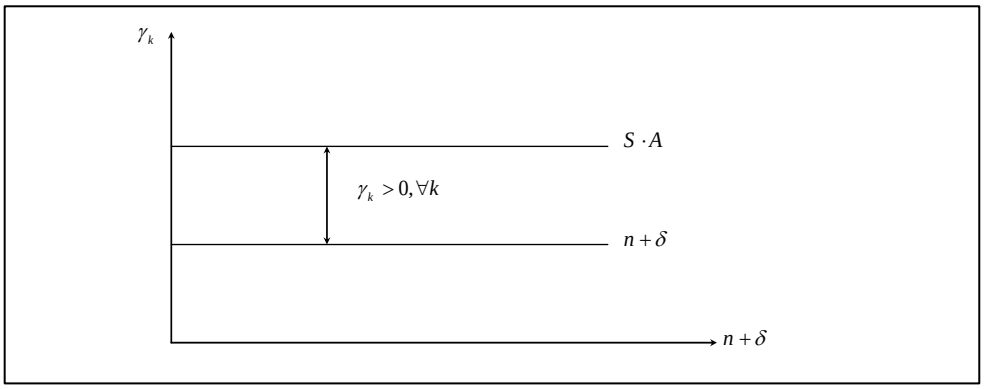
$\gamma_k = S \cdot A - (n + \delta)$ ……. (3)

This last equation gives the rate of growth of individual capital when the production function is of the form AK and Figure below represents this equation, where the curve $S \cdot f(k)/k$ in this case is horizontal and the case where the savings rate S is sufficiently high in the line SA is represented in order to be above the line $n + \delta$, to show that a positive growth rate can be obtained in the systematic case even when the growth rate of technological progress is zero. There are other cases where the

[*] The second condition of Inada is that the marginal productivity of the factors tends towards zero as the factors tend towards infinity, and vice versa; this is one of the characteristics of production functions.

savings rate is not sufficiently high, which leads to the line SA becoming below or coinciding with the line $n+\delta$, and it shows the case where $SA>(n+\delta)$ e.i $\gamma_k>0$, since the two curves are parallel, then it is γ_k constant and independent of k , and also rises to infinity in the case of systematic growth at a rate given by: $\gamma_k=SA-(n+\delta)$

Economic growth in the AK model



Therefore, the figure above is a horizontal line with a plane SA where $SA>(n+\delta)$ the growth rate k is infinite and in the absence of technological progress, given $y=Ak$ that:

γ_k is equal to γ_k^* (the growth rate of the effective factor) at every point in time, and $c=(1-s)y$ since the growth rate of *C* is equal to γ_k^* , then all individual variables in the model rise simultaneously, as illustrated by the following formula:

$\gamma=\gamma^*=s\cdot A-(n+\delta)$ ……..….... (4)

We observe that a technology-driven AK economy allows us to determine long-term growth rates without any technological advancements. Furthermore, the per capita growth rate in Equation (4) depends on the model's behavioral constants, such as the savings rate and population growth rate. For example, unlike the neoclassical model, where a higher savings rate (S) resulted in a higher per capita growth rate, a higher per capita growth rate γ^* would be achieved.

If the technological level A were to improve suddenly, thus eliminating the fluctuations caused by the influence of constant A, the long-term growth rate would increase. Changes in the savings rate δ and population growth rate *n* also have a lasting impact on the per capita growth rate.

The AK model also encountered some problems, including the problem of grouping the factors of production into one element, which is expressed as expanded capital, which includes physical capital and human capital. We know that each factor of production has its own profitability, so in order to be realistic in the study, the factors of production must be separated within certain limits.

2.3.2. Lucas's 1988 Model: In his analysis of the determinants of economic growth, Lucas relied heavily on Uzawa's 1956 model. Uzawa's analysis did not deviate from Solow's framework. Although he included human capital in the production function, he considered the marginal productivity of this factor to be decreasing. This led him to develop an exogenous growth model. However, Lucas rejected the hypothesis of decreasing marginal returns on human capital accumulation, arguing that "unlike physical capital, human capital can be increased while maintaining at least a constant marginal return, rather than a decrease, thus allowing for continuous economic growth." Lucas considered the differences in growth rates between countries to be due to differences in their levels of human capital accumulation. This model is based on a set of assumptions, which we summarize below:

- The economy consists of only two sectors: one dedicated to the production of goods and the other to the formation of human capital;
- All agents are uniform, meaning there is no variation in either educational choices or individual effort invested in studies, and their number is N;
- The accumulation of human capital (*Kh*) is governed by the following equation: $\dot{h} = \beta.(1-\mu)h$

Where μ time devoted to work, and (1-μ) time devoted to acquiring knowledge, and β the degree of effectiveness, from which we have:

$$\frac{\dot{h}}{h} = \beta.(1-\mu)$$

– The production function is of the "Cobb-Douglas" type and takes the following form: $Y = K^{\beta}(hL)^{1-\beta}$ where "h" represents individual human capital.

Human capital plays the same role in Lucas's model as technological development plays in Solow's model, but Lucas provides an explanation for the growth of human capital in his model, unlike Solow, who considered it constant. Lucas believes in his model that the more time is devoted to training (1-μ) by individuals, the more this helps to increase human capital (Kh) and thus increase economic growth, and the opposite is true in the case of neglecting training, education, and the time devoted to them.

2.3.2. Robert Barro's 1990 Model (Public Capital Accumulation): Barro proposed two models, which we will summarize as follows:

a. The first model: Assumes that public capital is pure, meaning that its use is freely available to economic actors, and that the use of public funds by any one actor does not preclude other actors from using them. Examples include funds for environmental protection and security, due to the difficulty of dividing their effects (national defense, for instance, can only be comprehensive).

Therefore, the economy consists of N firms whose production function is as follows:

$$0 \prec \alpha \prec 1 \qquad y = AK^{1-\alpha}G^{\alpha}$$

Where y represents output, G represents total public expenditure in the area under study, and K and A represent private capital and the level of technology, respectively.

It is noteworthy that from an economic perspective, G is specific, and revenues on a scale are decreasing. However, at the macro level, these revenues are uniform, and growth can be self-generating. In this case, public expenditures make a positive and effective contribution to output, i.e. $\frac{\partial Y}{\partial G} = 1$ with $Y = Ny$ To indicate the cumulative level, $\alpha = G/Y$ and according to the Cobb-Douglas function.

If we assume that this condition is met, and that public expenditures are financed by a proportional tax on production $G = ty$, then it will appear to us that the level of private revenues for investment is less than its collective level, and this is due to tax leakage from it, while the increase in private investments will lead to an increase in output, and thus an increase in tax revenue. At the macro level, an increase in collective productivity results as an effect of increased public expenditures, which means that the balanced growth rate (with a competitive situation) will be lower than the optimal growth rate. There is no doubt that the existence of a lump sum tax or on consumption will allow for the restoration of balance between the two rates.

b. The second model: Assume the possibility of injecting public services. If the services provided were less extensive, such as road construction for example, this would lead to a decrease in the productivity of the service in question. Therefore, the following formula can be proposed:

$$Y = AK\left[\frac{G}{y}\right]^{\alpha}$$

Similarly, revenues of scale or returns of scale are constant at the individual level, just as they are constant at the aggregate level, and we write: $Y = Ny = AK^{1/1+\alpha}G^{1/1+\alpha}$

Conversely, the net returns on private investment are higher at the micro level (equal to one) compared to the macro level (equal to $1/1+\alpha$). Consequently, the equilibrium growth rate is higher than the optimal growth rate. This situation, which is relatively rare in autologous growth

models, can be avoided (i.e., achieving parity between the two levels) by imposing a proportional tax on production at a rate of: $t = G/y$

The conclusion to be drawn from these two models is:

- Investments and public services make a fundamental contribution to economic growth;
- If public services are inadequate $(\alpha Y \succ G)$ in the first model, and *G* less than the required level $(\frac{\alpha Y}{1+\alpha})$ in the second model, they negatively impact the return on investment.

2.3.3. The Sala-i-Martin 1995 model: This model is close to the Barrow model in analyzing and defining economic growth, as it focuses on government intervention through public spending and its effect on economic growth. It assumes an economy financed by public spending G, which is financed by value-added taxes t, allowing us to increase production as follows:

$$G = tY \quad \text{.....} \quad (1)$$

$$Y = (AG^{1-\alpha})K^{\alpha} \quad \text{.....} \quad (2)$$

Where: *K*: private capital stock, and for the sake of simplicity, labor power (labor) is set constant and equal to one, and the utility gained is a logarithmic function of consumption *C* where:

$$u(C) = \ln C \quad \text{.....} \quad (3)$$

From equations (1) and (2), the relationship between *K* and *Y* can be deduced as follows:

$$Y = t^{\frac{1-\alpha}{\alpha}} . A^{\frac{1}{\alpha}} K \quad \text{.....} \quad (4)$$

Production is a constant return function of physical capital stock; therefore, the "*AK*" model and a small amount of *Y* yield growth with the same technological advancement.

Further analysis of the model reveals that the cost of using capital is the sum of the interest rate and the depreciation rate, and equals the marginal productivity rate after taxes, i.e.:

$$r + \delta = (1-t)\frac{\partial Y}{\partial K} = (1-t)K_t + S_t \quad \text{..... (5)}$$

As with other internal growth models, capital accumulation is dependent on saving:

$$K_{t+1} = (1-\delta)K_t + S_t \quad \text{..... (6)}$$
$$S_t = Y_t - C_t$$

By setting a constant savings rate increase but determining optimal consumption at time t, the consumer sets their consumption program (C_t, C_{t+1}.....) while maximizing their utility:

$$Max\sum_{s=0}^{\infty}(1+\rho)^{-s}u(C_{t+s}) \quad \text{..... (7)}$$

The condition for glorification is as follows:

$$\frac{(1+r)\partial u_{t+1} / \partial C_{t+1}}{\partial u_t / C_t} = 1+\rho \text{..... (8)}$$

What reveals the consumer's decision at time *t* or *t+1* is the comparison between *t* or *t+1*, and this condition provides:

$$\frac{C_{t+1}}{C_t} = \frac{1+r}{1+\rho} \quad \text{..... (9)}$$

Thus, the steady-state growth path is now clear, where Y grows at a constant rate g and the capital stock K grows at the same rate g because the output function is linear with respect to K, and so is consumption C because:

$$C_t / K_t = (Y_t - S_t)/K_t = Y_t / K_t - K_{t+1}/K_t + 1 - \delta \text{ ..... (5)}$$

The resultant C/K is therefore a constant, and in the long run r is equal to a constant.

From the above, we conclude that:

$$Y_{t+1}/Y_t = C_{t+1}/C_t$$

Therefore:

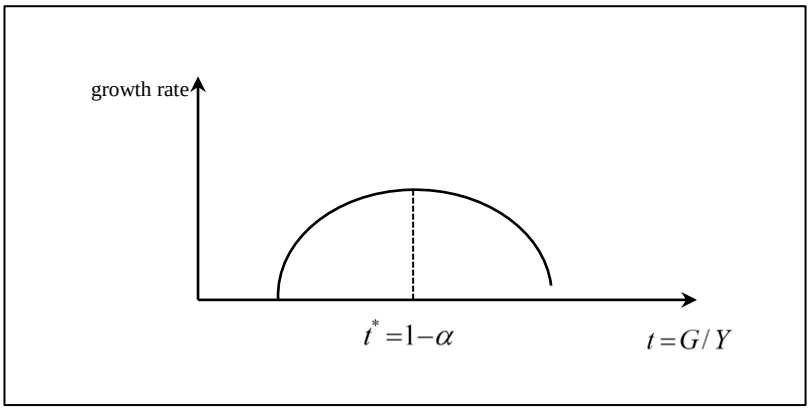
$$1+g = \frac{1+r}{1+\rho} \text{..... (10)}$$

Therefore: $g \cong r - \rho$ (in the long run they are equal), and substituting r with its value from equation (5), we find:

$$g = \frac{\dot{K}}{K} = \alpha A^{1/\alpha}(1-t)t^{\frac{1-\alpha}{\alpha}} - \delta - \rho$$

The equation shows that the relationship between the tax rate imposed t and the economic growth rate g is non-linear, which means there is an optimal tax rate t^* for public spending to play a role in raising economic growth. The following figure explains more.

Growth rate and public expenditures



Axis IV:

Sustainable Development

***Axis IV*:**
Sustainable Development

Since the 1980s, the world has been waking up to the noise of many serious environmental problems that have begun to threaten life on Earth. This was natural in light of the neglect of natural aspects in development over the past decades. It was necessary to find a new development philosophy that would help overcome these problems. International efforts resulted in a new concept of development known as sustainable development. This concept was first crystallized in the report of the World Commission on Environment and Development entitled Our Common Future, which was first published in 1987.

The following points summarize the historical development of the concept of sustainable development:

- **Core Period (Pre-1972):** This can be summarized as follows:
  - Early ideas about conserving natural resources emerged, such as the concept of "sustainable returns" in forest management.
  - Rachel Carson's book "Silent Spring," published in 1962, highlighted the environmental damage caused by pesticides and significantly contributed to raising modern environmental awareness.
  - Reports such as "The Limits to Growth," published by the Club of Rome in 1972, suggested that unlimited economic growth might be impossible given the planet's finite resources.
- **Formative Period (1972-1987): Its most important milestones are:**
  - The first United Nations Conference on the Human Environment in Stockholm in 1972: This was the first international conference to discuss the relationship between the environment and development, and it led to the establishment of the United Nations Environment Programme (UNEP).
  - In 1980, the term "sustainable development" was first used in the International Union for Conservation of Nature's (IUCN) Global Strategy for Nature Conservation, which linked conservation and development.

- **The Founding and Defining Period (1987-1992):**
  - 1987 Our Common Future (Brundtland Report): This report is a landmark, providing the most widely accepted definition of sustainable development: "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." The report also emphasized the interconnectedness of social, economic, and environmental issues.
  - 1992 Rio de Janeiro Earth Summit: This summit transformed concepts into action plans, with participating countries adopting Agenda 21, the Rio Declaration, and key agreements such as the Convention on Biological Diversity and the Framework Convention on Climate Change.
- **Development and Implementation Period (1992–Present):**
  - Millennium Development Goals (MDGs) 2000: Focused on issues such as poverty, health, and education, paving the way for a broader integration of social dimensions into the global agenda.
  - Rio+20 Conference 2012: Laid the groundwork for the Sustainable Development Goals (SDGs).
  - 2030 Agenda for Sustainable Development and Sustainable Development Goals (SDGs) 2015: Representing the culmination of this development, world leaders adopted 17 interconnected and comprehensive global goals to achieve a sustainable future for all by 2030.

1. The Concept of Sustainable Development

This is done by providing a definition of sustainable development, as well as its goals and characteristics.

1.1. Definition of sustainable development: Sustainable development has more than sixty (60) definitions. The first two definitions of sustainable development appeared in the 1987 report of the World Commission on Environment and Development. Sustainable development was defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

- Webster's Dictionary defines it as "development that uses natural resources without allowing them to be depleted or destroyed, either partially or completely."
- William Rawlss, former Director of the U.S. Environmental Protection Agency, defined it as "the process of recognizing the need for economic growth that is compatible with the environment's capacity, based on the understanding that economic development and environmental protection are complementary, not contradictory, processes."

Therefore, sustainable development can be defined as "**achieving economic development that meets the needs of the present and balances them with the requirements of the future, enabling future generations to meet their own needs**." The 1992 World Resources Report defined sustainable development in four successive stages:

- **Stage 1:** Sustainable development transitions society to an era of clean industries and technologies that use minimal energy and resources.
- **Stage 2:** This stage focuses on stabilizing population growth and reducing migration to cities to prevent overcrowding and the resulting environmental pollution by providing all necessary services to rural populations.
- **Stage 3**: Sustainable development becomes a permanent driver of human development, taking into account the capacity and potential of the ecosystem that sustains life.
- **Stage 4**: Development is characterized by the optimal management of natural resources, maximizing the benefits of economic development while preserving the quality and availability of natural resources.

Based on the foregoing, it can be said that sustainability is a rational development model and an indispensable means of achieving a balance between the ecological, economic, and social systems to ensure that future generations benefit from natural resources. This is achieved by focusing on the following points:

- The rational use of natural resources;

- Protecting the environment from negative human activities and natural threats;
- Striving to achieve sustainable economic development while taking into account environmental protection.

1.2. Sustainable Development Goals: Sustainable development, through its mechanisms and content, seeks to achieve a set of objectives, which can be summarized as follows:

- **Achieving a better quality of life for people:** Sustainable development, through planning processes and the implementation of development policies, strives to improve the quality of life for the population in society—economically, socially, psychologically, and spiritually—by focusing on the qualitative aspects of growth, rather than quantitative ones, in a fair and democratically acceptable manner.
- **Respecting the natural environment:** Sustainable development focuses on the relationship between human activities and the environment and deals with natural systems and their contents in relation to human life. It is, in essence, development that understands the delicate relationship between the natural and built environments and works to develop this relationship into one of integration and harmony.
- **Raising awareness among the population about existing environmental problems:** This fosters a sense of responsibility towards these problems and encourages active participation in finding appropriate solutions through involvement in the preparation, implementation, monitoring, and evaluation of development programs and projects.
- **Achieving the rational use and exploitation of resources:** Sustainable development treats natural resources as limited, therefore preventing their depletion or destruction and working to use and utilize them rationally. - Integrating modern technology with society: Sustainable development seeks to utilize modern technology to serve societal goals by raising awareness among the population about the importance of using various modern technologies in the development field, and how to use existing and new

technologies to improve the quality of life and achieve desired goals without causing negative environmental risks or impacts, or at least ensuring that such risks and impacts are controlled through appropriate solutions.

- **Creating continuous and appropriate changes in societal needs and priorities:** This involves adapting these changes to the community's capabilities and allowing for a balance that enables economic development, addresses environmental problems, and provides suitable solutions.

In 2015, the United Nations Member States adopted the Sustainable Development Goals (SDGs) to end poverty, protect the planet, and ensure peace and prosperity for all by 2030. These seventeen goals are:

- End poverty in all its forms everywhere;
- End hunger, promote sustainable agriculture, and ensure food security;
- Ensure healthy lives and promote well-being for all at all ages;
- Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all;
- Achieve gender equality;
- Ensure access to clean water and sanitation for all;
- Ensure access to affordable, reliable, sustainable, and modern clean energy for all;
- Promote sustained, inclusive, and sustainable economic growth for all;
- Promote inclusive industrialization;
- Reduce inequalities within countries;
- Create sustainable cities and communities;
- Ensure sustainable consumption and production patterns. 13. Take urgent action to address climate change and its adverse effects;
- Protect and sustainably use oceans, seas, and marine resources for sustainable development;
- Protect terrestrial ecosystems, including forests, combat desertification, and address land degradation and biodiversity loss;

- Promote peaceful societies that respect human rights for sustainable development, ensure access to justice for all, and build effective, accountable, and inclusive institutions at all levels;
- Strengthen the foundations for a global partnership for sustainable development.

1.3. Characteristics of Sustainable Development: Based on the previously presented definitions of the concept of sustainable development, we can deduce some of its characteristics as follows:

- Sustainable development considers the needs of future generations for natural resources by ensuring intergenerational equity. This is stipulated in the Rio de Janeiro Declaration, specifically Principle 3, which states, "The realization of the right to development in a manner that fairly meets the developmental and environmental needs of present and future generations."
- Sustainable development prioritizes individuals by protecting sources of food, energy, education, and health, and by improving the quality of human life. This makes human beings the foundation and focus of this development, as it is a human right enshrined in the United Nations General Assembly's Declaration on the Right to Development, which defines development as "an integrated process with economic, social, cultural, and political dimensions aimed at achieving the well-being of individuals and through which human rights and freedoms can be realized."
- Sustainable development considers the protection of the global environment and its three elements: water, soil, and air, and calls for reducing their depletion.
- Sustainable development identifies the negative impacts of natural resource use and the necessary protection measures. Sustainable development relies on long-term planning that identifies current capabilities and anticipates future changes at the national, regional, and international levels.
- Integrating the environment into development policies is stipulated in Principle 4 of the Rio Declaration, which states that "for sustainable

development to be achieved, environmental protection must be an integral part of the development process and cannot be considered in isolation."

2. Foundations and Principles of Sustainable Development

Achieving the Sustainable Development Goals requires coordination among all technological, economic, and social policies within a comprehensive development plan. This plan should utilize all human and natural resources rationally to achieve sustainable economic growth aimed at improving the quality of life and preserving the environment for future generations. Therefore, sustainable development is based on several principles, which we will explain below:

2.1. The Principle of Intergenerational Equity: This principle emphasizes the necessity of leaving natural resources for future generations in the same quantity as current generations have received them. It also stresses the importance of achieving equity within the current generation through the fair distribution of wealth, while ensuring the basic needs of all segments of society are met.

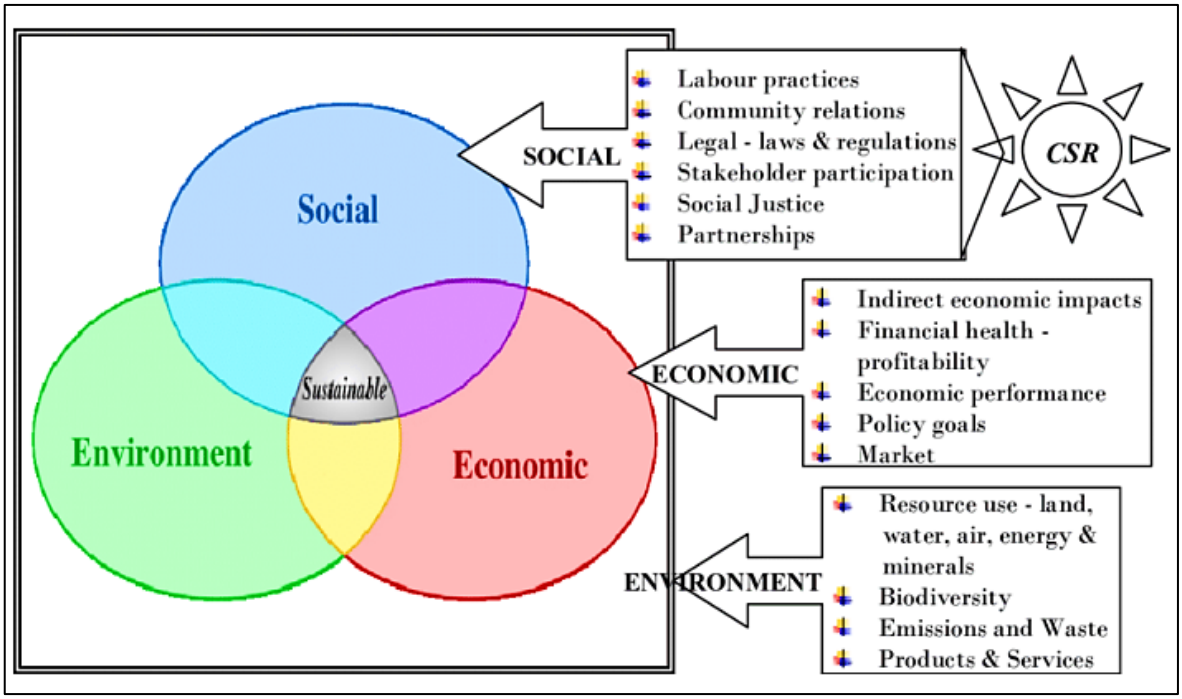
2.2. Reconciling Development Requirements with Environmental Protection: Reconciling the requirements of development with the necessities of protecting the Earth's environment transforms the concept of development from its traditional meaning to that of sustainable development. The environment is considered a dimension of sustainable development, creating a balance between the needs of developing countries and industrialized countries that pollute the environment. Achieving this balance requires both economic growth and the rational exploitation of environmental resources, on the one hand, and efficiency in resource use, on the other.

2.3. The Principle of Participatory Decision-Making: Achieving sustainable development requires beneficiaries to feel a shared responsibility towards the environment and to combat all pressures on natural resources. Therefore, involving all segments of society in this endeavor is crucial, especially when making decisions and developing environmental plans at both the local and national levels.

2.4. The Principle of the Common Heritage of Humanity: The concept of the common heritage of humanity is relatively new and has several applications in public international law. For example, the natural resources of the seabed and the high seas are considered part of the international maritime domain and are considered the common heritage of humanity. Similarly, the resources of the moon and the South Pole are considered the common heritage of humanity, in addition to other shared world heritage sites. Given that international and national law considers environmental regulations to be aimed at protecting the public interest, we can describe the environment as a common heritage that must be preserved and valued.

3. Dimensions of Sustainable Development: It can be said that sustainable development seeks to reconcile the dimensions that have a direct impact on economic, social, environmental and technological development, as established by the Portland Report 1987, where these dimensions overlap and complement each other, as illustrated in the following figure:

Dimensions of Sustainable Development



3.1. The Economic Dimension: Economic development aims to achieve an equal share of natural resource consumption per capita, especially given the significant disparity in consumption between developing and developed

countries. Therefore, sustainable development also aims to improve the availability of environmentally friendly energy sources and move towards a blue economy based on marine activities such as fishing, or a green economy to mitigate the risks of environmental pollution and reduce greenhouse gas emissions. Furthermore, it seeks to hold industrialized nations accountable for pollution and ensure their commitment to addressing its harmful effects. Thus, the economic dimension primarily aims to protect natural systems and provide a means of achieving a degree of equality in access to economic opportunities.

3.2. The Social Dimension: Social development aims to achieve social justice and provide suitable living conditions for all, including balanced nutrition and appropriate employment for every segment of society. It also emphasizes quality education and citizen participation in decision-making through the adoption of a participatory democratic governance model, which is the foundation of sustainable human development. This model will inevitably guarantee justice, equity, and equality by considering the interests of future generations while ensuring fairness for the present generation.

3.3. The Environmental Dimension: This dimension aims to work diligently to reduce the harmful effects of production activities on the Earth's environment and to promote the rational use of energy and natural resources, especially water and non-renewable natural resources such as oil, gas, and minerals. It also emphasizes the continuous development of alternative energy sources, such as waste recycling and the use of environmentally friendly technologies.

3.4. The Technological Dimension: Technology, whether in the information, communication, or industrial sectors, plays a crucial role in fostering sustainable development. These technologies enhance and improve the performance of industrial sectors worldwide that utilize these advanced technologies. Environmentally friendly, clean technologies that do not pollute the environment are capable of minimizing energy and natural resource consumption, thereby reducing greenhouse gas emissions and combating overfishing.

4. Indicators and Measurement of Sustainable Development

4.1. Indicators for Measuring Sustainable Development: Sustainable development indicators should characterize the interaction between economic, social, environmental, and institutional variables. These indicators can be summarized as follows:

4.1.1. Economic Indicators: These are quantitative data and statistics that describe the economic situation of a country at a specific point in time. These indicators are summarized in two main points:

a. Economic Structure: This measures the rate of economic growth, the distribution of wealth among members of society, and the impact of economic policies on the investment of natural resources. The most important sub-indicators used to determine a country's economic structure are as follows:

- **Economic Performance**: This can be measured through the per capita national income and the investment-to-national-income ratio;
- **Foreign Trade**: This is measured by the balance of payments;
- **Financial Situation**: This is measured by the debt-to-GDP ratio and the ratio of foreign development assistance provided or received to GDP;
- Current Account Balance as a percentage of GDP;

b. Consumption and Production Patterns: The most important indicators for measuring the sustainability of production and consumption patterns are as follows:

- Material Consumption: Measured by the intensity of material use in production. Material refers to all natural raw materials.
- Energy Use: Measured by annual per capita energy consumption, the percentage of renewable energy in annual consumption, and energy use intensity.

- Waste Production and Management: Measured by the quantity of industrial and household waste produced, radioactive waste produced, and waste recycling.

4.1.2. Social Indicators: These include:

a. Social Equality: This represents the quality and standard of shared life, reflecting the application and inclusiveness of justice in resource distribution, access to health, education, and employment opportunities for all individuals, and ensuring justice for current and future generations;

b. Public Health: There is a close link between public health and achieving sustainable development, as the development of health and environmental services impacts the success or failure of sustainable development plans;

c. Education: This is a fundamental requirement for sustainable development, as education levels are linked to the social and economic development achieved in any society. The goal of the education indicator is to achieve universal primary education, which is measured by the following indicators: net enrollment rate in primary education and the literacy rate among the population aged 15 to 24 years.

d. Housing: This involves the necessity of providing decent housing for citizens and developing plans to accommodate the increasing housing needs. Housing is measured by the per capita share of built-up square meters;

c. Population growth: This is measured by finding a balance between population growth indicators and sustainable development rates. The indicator used for this measurement is the percentage of population growth.

4.1.3. Human Development Index (HDI): This includes the following:

- **Life expectancy:** This is measured by the average life expectancy at birth, ranging from 25 to 85 years.

- **Learning level:** This is measured by the adult literacy rate and school enrollment rates at different educational levels, ranging from 0% to 100%.
- **Standard of living:** This is measured by the per capita income as a percentage of real GDP, ranging from $100 to $40,000. The HDI index consists of three levels: High Human Development (80% and above), Medium Human Development (50% to 79%), and Low Human Development (below 50%). These indicators are given equal weight.

4.1.4. Environmental Indicators: These indicators measure the impact of economic growth on natural resources and the environment in all its aspects. According to the European Environment Agency, the indicators of environmental sustainability are as follows:

a. Air Pollution: Measured by nitrogen oxide emissions, sulfur dioxide, and fuel consumption by transportation.

b. **Climate Change:** Measured by emissions of carbon dioxide, methane, nitrogen gas, nitrogen oxides, and sulfur oxides.

c. **Damage to Biodiversity:** Measured by the area of damaged protected areas, agricultural intensity, deforestation, encroachment of infrastructure on forests and wooded areas, and changes in traditional land-use practices.

d**. Marine and Coastal Environment:** Measured by fishing intensity, exploitation of beaches for development projects, and the release of heavy metal and petroleum pollutants into coastal waters.

e. **Ozone Layer Depletion:** Emissions of nitrogen oxides from air conditioners, methyl bromide, and carbon chloride.

f. **Resource depletion:** measured by water consumption, energy use, rate of urbanization, land productivity, and rate of timber consumption;

S.Toxic substances: measured by rate of consumption of toxic chemicals, pesticides in agriculture, emissions of organic pollutants, and the heavy metal release index into water and air;

T. Urban environmental problems: measured by energy consumption, unrecycled municipal waste, untreated wastewater, the proportion of private vehicles, noise, and urban sprawl onto agricultural land;

K. Waste: measured by the quantity of municipal waste, including landfill and incineration, the quantity of recycled waste, recovered materials, and the quantity of waste from selected products during their life cycle;

L. Water pollution: groundwater depletion, rate of pesticide use per hectare of agricultural land, and the quantity of treated and desalinated water.

4.1.5. **Institutional Indicators:** These are based on the following sub-indicators:

a. Implementation of International Agreements: This is assessed by determining the number of countries that have ratified international environmental agreements;

b. Research and Development: This assesses the extent to which countries commit to research and development and utilize this research to serve sustainable development. It is measured by determining the percentage of GDP allocated to research and development;

c. Technological Use: This reflects the extent to which individuals use scientific technologies. It is measured by the number of radios and televisions per 1,000 people, internet users per 1,000 people, the percentage of internet subscribers to the total population, mobile phone usage per 1,000 people, the percentage of spending on scientific research, and other relevant metrics.

4.2. Measuring Sustainable Development: The process of developing sustainable development indicators at different spatial levels involves a series of stages, as follows:

- **Stage One:** Identifying the indicators used by relevant entities to assess their achievements in sustainable development.
- **Stage Two:** Determining the indicators used in the country or region and their current status.
- **Stage Three:** Selecting indicators that reflect the relationship between national priorities and the country's or region's sustainable development strategy from the list of indicators prepared by the United Nations, while ensuring the availability of data for these indicators and the possibility of collecting any currently unavailable data.

Axis V:

Economic Development from an Islamic Perspective

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Economic development from an Islamic perspective

Through this section, we attempt to place most of what has been studied in previous sections in the balance of Islamic law, and how Islamic law agrees with economic development in some of its foundations and disagrees with it in others.

1. **The concept of economic development in Islam:** Islam urges the development of the land and the investment of its resources, which is expressed in modern economic writings as economic development. However, the concept of economic development in Islamic thought has its own characteristics that distinguish it from its counterpart in developmental thought. This distinction finds its reasons in the different view of the basic pillars that define the economic problem and thus the essence of the economic development process and its dimensions. The Islamic approach differs from the positive approach in terms of the pillars of economic development and the economy as a whole in two main points as follows:

   1.1. Scarcity of Natural Resources: Positive economics posits that one of the two main causes of the economic problem is the inadequacy and scarcity of natural resources to satisfy humanity's endless needs. This necessitates a continuous struggle between humans and nature to extract its meager resources before they are depleted and can no longer meet the ever-increasing demands of humanity, given that humans are inherently selfish and driven solely by self-interest.

   However, Islam has a completely different perspective on this fundamental issue of resource scarcity. The principle in Islam is the abundance and sufficiency of resources to meet the needs of all humanity, as stated in the Quran.

   " اللَّهُ الَّذِي خَلَقَ السَّمَاوَاتِ وَالْأَرْضَ وَأَنزَلَ مِنَ السَّمَاءِ مَاءً فَأَخْرَجَ بِهِ مِنَ الثَّمَرَاتِ رِزْقًا لَّكُمْ ۖ وَسَخَّرَ لَكُمُ الْفُلْكَ لِتَجْرِيَ فِي الْبَحْرِ بِأَمْرِهِ ۖ وَسَخَّرَ لَكُمُ الْأَنْهَارَ (32) وَسَخَّرَ لَكُمُ الشَّمْسَ وَالْقَمَرَ دَائِبَيْنِ ۖ وَسَخَّرَ لَكُمُ اللَّيْلَ وَالنَّهَارَ (33) " إبراهيم 32-34، وقوله تعالى: **" أَلَمْ تَرَوْا أَنَّ اللَّهَ سَخَّرَ لَكُم مَّا فِي السَّمَاوَاتِ وَمَا فِي**

الْأَرْضِ وَأَسْبَغَ عَلَيْكُمْ نِعَمَهُ ظَاهِرَةً وَبَاطِنَةً ۗ وَمِنَ النَّاسِ مَن يُجَادِلُ فِي اللَّهِ بِغَيْرِ عِلْمٍ وَلَا هُدًى وَلَا كِتَابٍ مُّنِيرٍ"
.Luqman 20

That is, God has provided man with his sustenance through all kinds of resources found above and below the earth, because God has made this universe subservient to man and placed in it treasures and treasuries that will not perish until the Day of Resurrection.

1.2. The Infinite Needs of Individuals: Islam adopts a balanced and moderate stance regarding the human instinct to satisfy all needs. It neither leaves these needs unrestrained nor completely represses them, but rather refines and guides them towards embodying Islamic ethics and etiquette in behavior and interactions, so that individuals may be worthy and qualified for the responsibility of stewardship on Earth.

From this perspective, the economic problem, which is the primary driver of economic and sustainable development, is not rooted in the scarcity of nature, as capitalist doctrines claim, nor in the contradictions of distributional forms and relations, as socialist doctrines assert. Rather, the problem lies primarily with humanity itself, both in its relationship with nature and in its relationships with other members of its species. Human deviations, whether moral or material, are at the heart of the problem. The more a person is pious and their thoughts and behavior align with the teachings of Islamic law, the less severe the economic problem will be. The words of God Almighty, "And He gave you of all that you asked of Him. And if you should count the favors of God, you could not enumerate them. Indeed, mankind is ever unjust and ungrateful", clearly affirm that God Almighty has made this universe subservient to humankind, providing it with all possibilities and benefits and supplying sufficient resources for their sustenance.

In light of what It is clear that the essence of economic development in Islam is the development of the human being himself, and not merely the development of available economic resources to satisfy his needs. It is a moral development aimed at creating a sound human being who forms the

nucleus of a society that fears God and views material progress from the perspective of succession on earth, for which he will be held accountable before God on the Day of Resurrection.

2. **Characteristics of Economic Development in Islam:** There is no doubt that economic development in Islam has many characteristics that distinguish it from conventional economic development. This is because the behaviors, methods, and approaches of Islamic economics stem from Islamic transactions, in accordance with what God Almighty has ordained and what He has permitted and prohibited regarding harmful actions and transactions. Therefore, we will focus on some characteristics that are central to the topic, as follows:

2.1. The Human Being and His Role in Economic Development: The human being is considered the primary and overarching element in the economic development process. He is both the means and the end. God has honored him greatly, even in his physical form, and appointed him as His vicegerent on Earth for specific purposes, the most important of which is the development and cultivation of the Earth, as stated in the Quran,

"**هو أنشأكم من الأرض واستعمركم فيها**" Houd 61

God has made the sea subservient to humankind, so that ships may sail upon it at His command, and so that humankind may seek His bounty through trade and fishing. He created the heavens and the earth for humankind, making humankind the primary beings entrusted with the earth's stewardship, so that they may cultivate and develop it, and He has facilitated all means for them to do so, God has said in His Holy Book:

" **ٱللَّهُ ٱلَّذِي خَلَقَ ٱلسَّمَٰوَٰتِ وَٱلۡأَرۡضَ وَأَنزَلَ مِنَ ٱلسَّمَآءِ مَآءٗ فَأَخۡرَجَ بِهِۦ مِنَ ٱلثَّمَرَٰتِ رِزۡقٗا لَّكُمۡۖ وَسَخَّرَ لَكُمُ ٱلۡفُلۡكَ لِتَجۡرِيَ فِي ٱلۡبَحۡرِ بِأَمۡرِهِۦۖ وَسَخَّرَ لَكُمُ ٱلۡأَنۡهَٰرَ ﴿٣٢﴾ وَسَخَّرَ لَكُمُ ٱلشَّمۡسَ وَٱلۡقَمَرَ دَآئِبَيۡنِۖ وَسَخَّرَ لَكُمُ ٱلَّيۡلَ وَٱلنَّهَارَ ﴿٣٣﴾ وَءَاتَىٰكُم مِّن كُلِّ مَا سَأَلۡتُمُوهُۚ وَإِن تَعُدُّواْ نِعۡمَتَ ٱللَّهِ لَا تُحۡصُوهَآۗ إِنَّ ٱلۡإِنسَٰنَ لَظَلُومٞ كَفَّارٞ ﴿٣٤﴾**" Ibrahim 32-34.

- **The State's Responsibility in Human Development:** The cultivation of the human soul is the core of development and the primary challenge facing the Muslim nation. It is the greater jihad, as the Prophet (peace

and blessings be upon him) called it. If this were achieved, human efforts in development and construction would proceed along a sound, legitimate path, based on the principle that "work is worship." Individuals would be active in earning a living without degrading themselves or being consumed by worldly desires, guided by reliance on God and moderation between seeking worldly and spiritual fulfillment. The Prophet (peace be upon him) stated regarding reliance on Allah (*Tawakkul*): "***If you were to rely on Allah with the reliance He is rightfully owed, He would provide for you just as He provides for the birds: they go out in the morning empty-bellied and return in the evening full-bellied.***" (Reported by Al-Tirmidhi, who graded it as a *Hasan* [fair] Hadith)

To achieve this human development, the Islamic state must focus on two key areas:

- **First**: Providing the necessary material resources for human development, including:
  - Establishing mosques, religious institutes, and Islamic outreach centers to strengthen religious awareness, cultivate religious consciousness in individuals, and emphasize the role of religion in society (spiritual aspect);
  - Establishing schools, institutes, universities, and centers for scientific research and vocational and technical training to develop intellectual capacities, refine skills, and enhance the productivity of workers (intellectual aspect).
- **The second matter**: Following the correct approach in raising the Islamic community, guided by the following educational methods:
  - "Setting a moral example and providing exemplary leadership for citizens in all aspects of life is essential for maintaining security and establishing justice. Such conduct incentivizes public compliance and adherence to Divine commands and prohibitions, in accordance with the Qur'anic verse:

"**لقد كان لكم في رسول الله إسوة حسنة**" 21 Alehzab

Consequently, the State is obligated to exercise prudence in selecting officials entrusted with public affairs, appointing the most competent candidates based on objective criteria—primarily competence (strength)and integrity (trustworthiness)—as guided by the Divine command."

"**إن خير من استأجرت القوي الأمين**" 22 Al-Kasas

They are role models for society, and to the extent that they are righteous, their commands are obeyed and the conditions of the people improve.

- Education through preaching, guidance, advice, and instruction, which is the Qur'anic approach, as God Almighty says:

"**هذا بيان للناس وهدى وموعظة للمتقين**",(Al Imran 138)

and likewise the approach of the Messenger of God, may God bless him and grant him peace, in calling to God in compliance with God Almighty's command,

"**ادع إلى سبيل ربك بالحكمة والموعظة الحسنة**".(An-Nahl 125)

- No leniency in imposing punishment on those who do not follow the good example and are deterred by good advice. According to the divine approach, man is the most important and highest thing in this existence, and therefore he is rightfully the main means for the development process; and at the same time he is its goal in order to be able to continuously carry out the responsibility of worship that includes all of man's actions, and at the top of it is the development of the earth according to God's law. Accordingly, the development process according to this approach is characterized by continuity derived from man's continuity in worshipping the Creator, may He be blessed and exalted.

2.2. Work and Economic Development: Islam has elevated the value of work and commanded it, whether it is work for the sake of life by producing goods and services necessary for humanity, or work for the worship of God, as God Almighty said:

"**وقل اعملوا فسيرى الله عملكم ورسوله والمؤمنون**" .(At-Tawbah 105)

Islam has also worked to ensure economic development through work and construction, as the Messenger of God, may God bless him and grant him peace, said: "***If the Hour comes while one of you has a sapling in his hand, and he is able to plant it before it comes, then let him plant it***." Narrated by Muslim and authenticated by Al-Albani. Islam also considers striving for sustenance, developing society, and serving it to be among the best forms of worship. One of the Companions wanted to seclude himself in worship and remember God, so the Messenger of God, may God bless him and grant him peace, told him: "***Do not do that, for the standing of one of you in the cause of God (i.e., in serving society and development) is better than his prayer in his house for sixty years***." This may also refer to jihad in the cause of God, which is not separate from serving society.

Production and work are acts of worship that are as important as prayer. The command to perform the Friday prayer came alongside the command to work, as God Almighty said:

" **يَا أَيُّهَا الَّذِينَ آمَنُوا إِذَا نُودِيَ لِلصَّلَاةِ مِن يَوْمِ الْجُمُعَةِ فَاسْعَوْا إِلَىٰ ذِكْرِ اللَّهِ وَذَرُوا الْبَيْعَ ۚ ذَٰلِكُمْ خَيْرٌ لَّكُمْ إِن كُنتُمْ تَعْلَمُونَ (9) فَإِذَا قُضِيَتِ الصَّلَاةُ فَانتَشِرُوا فِي الْأَرْضِ وَابْتَغُوا مِن فَضْلِ اللَّهِ وَاذْكُرُوا اللَّهَ كَثِيرًا لَّعَلَّكُمْ تُفْلِحُونَ (10)** " .Al-Jumu'ah 9-10

In this verse is a direct command from God. Glory be to God Almighty, by spreading out on earth after the prayer has ended, so that each one may take his place in his work, seeking God's favor, which is the gain or sustenance that is achieved through social activity.

We conclude from all of the above that Islam strongly urges work (work is the most important element of production and economic development), but it has linked work and production with faith, and made

it an obligation for the Muslim. Islam is useless without work, and work has no value without faith. This is why we find that the Qur'an has linked faith with righteous work in all the places where it was mentioned. Hence, we find that it has a good effect on achieving economic development, especially in the Islamic society, which is from the Third World and needs a lot of work and production.

2.3. Education, Productive and Technological Progress, and Economic Development: It is well-known that one of the most prominent characteristics of underdeveloped countries is the high rate of illiteracy and technological backwardness, resulting from technological underdevelopment, as previously mentioned. However, we find that Islam has urged learning and a thirst for knowledge. The Prophet (peace and blessings be upon him) said, "Seeking knowledge is an obligation upon every Muslim" (authenticated by Al-Albani). And God Almighty said, "Read in the name of your Lord who created..." (Surah Al-Alaq).

Given the importance of knowledge, Islam has given scholars significant importance, respect, and recognition of their worth. They are the bearers of knowledge and therefore have leadership and guidance roles in society.

It is noteworthy that the contemplation God commands us to engage in, as mentioned in numerous Quranic verses, is the foundation of scientific inquiry. The fruit of this contemplation is the scientific idea, which, when applied, becomes a powerful force. Therefore, it is not surprising that most writers who have addressed this topic have considered the presence of intellectuals and a conducive environment for scientific research to be the two most important factors influencing the advancement of productive arts. Conversely, the emigration of intellectuals or the corruption of a conducive environment for scientific research ultimately leads to the stagnation and stagnation of productive arts.

Historical experience shows us that the great scientific renaissance during the Middle Ages (5th to 15th centuries CE) was concentrated within the vast Islamic states that extended east, west, south, and north. This renaissance, acknowledged by all (Muslims and non-Muslims alike), occurred as a result of the spread of Islam and the entrenchment of its values in the hearts of individuals. Caliphs and princes generously supported science and scholars, recognizing this as part of their responsibilities. During the same period (the Middle Ages), Europe experienced a period of intellectual and scientific darkness. It was not surprising that European scientists later studied under Muslim scholars, especially in Andalusia and the scholars of the Maghreb and the Arab Islamic East. The scientific and technological progress in the Islamic countries had a significant impact on the European Renaissance after the Middle Ages. Among the most prominent contributions of Muslim scholars during that period, we mention briefly as follows:

- **Science and Innovation:**
  - **Medicine**: Description of diseases (smallpox, measles), discovery of medicines (Ibn Sina).
  - **Mathematics**: Advances in algebra and trigonometry (Al-Khwarizmi).
  - **Astronomy**: Precise instruments for determining the direction of prayer (Al-Biruni).
  - **Optics and Mechanics:** Works by Ibn al-Haytham and Al-Biruni.
  - **Chemistry and Agriculture**: Developments in alchemy and agriculture (Ibn Bassal, Ibn al-Awwam).
- **Cities and Scientific Centers:**
  - Baghdad, Cairo, Cordoba, Damascus: These were flourishing centers of civilization, housing libraries and educational institutions.
  - The House of Wisdom: In Baghdad, it collected and translated the treasures of global knowledge.

- Andalusia: Centers such as Cordoba, Seville, and Toledo served as bridges for transmitting knowledge to Europe through translation.

– **Technology and Industry**:

- Invention of scientific and industrial machines (clocks, distillation, paper, textiles, ships).
- Development of agriculture and related industries (including the use of water and wind power). While the light of the scientific renaissance was emerging in Europe, the Islamic countries began to enter dark ages, as an atmosphere of political tyranny gradually prevailed among the subjects, with some rulers taking over and fighting free thought among scholars.

In summary, Islam encourages striving on Earth through scientific research and developing livelihoods using worldly knowledge that aligns with Islamic law. This also aims to develop the Muslim community and make it strong in all fields, as God Almighty says:

"وَأَعِدُّوا لَهُم مَّا اسْتَطَعْتُم مِّن قُوَّةٍ وَمِن رِّبَاطِ الْخَيْلِ تُرْهِبُونَ بِهِ عَدُوَّ اللَّهِ وَعَدُوَّكُمْ وَآخَرِينَ مِن دُونِهِمْ لَا تَعْلَمُونَهُمُ اللَّهُ يَعْلَمُهُمْ ۚ وَمَا تُنفِقُوا مِن شَيْءٍ فِي سَبِيلِ اللَّهِ يُوَفَّ إِلَيْكُمْ وَأَنتُمْ لَا تُظْلَمُونَ﴾.(Al-Anfal 60)

Some commentators have interpreted the power mentioned in this verse as referring to the power of knowledge and all forms of preparedness that conform to Islamic law, including economic power. In our time.

2.4. Usury (Riba) and Economic Development: It is widely recognized that the availability of adequate capital formation and financing is a fundamental pillar of economic development. Currently, banks and financial institutions serve as the primary sources of such funding; however, these entities operate on the basis of interest, which is identified as Riba. Allah the Almighty has strictly prohibited Usury, as explicitly stated in the Holy Qur'an, in Surah Al-Baqarah:"

"الَّذِينَ يَأْكُلُونَ الرِّبَا لَا يَقُومُونَ إِلَّا كَمَا يَقُومُ الَّذِي يَتَخَبَّطُهُ الشَّيْطَانُ مِنَ الْمَسِّ ۚ ذَٰلِكَ بِأَنَّهُمْ قَالُوا إِنَّمَا الْبَيْعُ مِثْلُ الرِّبَا ۗ وَأَحَلَّ اللَّهُ الْبَيْعَ وَحَرَّمَ الرِّبَا ۚ فَمَن جَاءَهُ مَوْعِظَةٌ مِّن رَّبِّهِ فَانتَهَىٰ فَلَهُ مَا سَلَفَ وَأَمْرُهُ إِلَى اللَّهِ ۖ وَمَنْ عَادَ

فَأُولَٰئِكَ أَصْحَابُ النَّارِ ۖ هُمْ فِيهَا خَالِدُونَ (275) يَمْحَقُ اللَّهُ الرِّبَا وَيُرْبِي الصَّدَقَاتِ ۗ وَاللَّهُ لَا يُحِبُّ كُلَّ كَفَّارٍ أَثِيمٍ (276) إِنَّ الَّذِينَ آمَنُوا وَعَمِلُوا الصَّالِحَاتِ وَأَقَامُوا الصَّلَاةَ وَآتَوُا الزَّكَاةَ لَهُمْ أَجْرُهُمْ عِندَ رَبِّهِمْ وَلَا خَوْفٌ عَلَيْهِمْ وَلَا هُمْ يَحْزَنُونَ (277) يَا أَيُّهَا الَّذِينَ آمَنُوا اتَّقُوا اللَّهَ وَذَرُوا مَا بَقِيَ مِنَ الرِّبَا إِن كُنتُم مُّؤْمِنِينَ (278) فَإِن لَّمْ تَفْعَلُوا فَأْذَنُوا بِحَرْبٍ مِّنَ اللَّهِ وَرَسُولِهِ ۖ وَإِن تُبْتُمْ فَلَكُمْ رُءُوسُ أَمْوَالِكُمْ لَا تَظْلِمُونَ وَلَا تُظْلَمُونَ (279) وَإِن كَانَ ذُو عُسْرَةٍ فَنَظِرَةٌ إِلَىٰ مَيْسَرَةٍ ۚ وَأَن تَصَدَّقُوا خَيْرٌ لَّكُمْ ۖ إِن كُنتُمْ تَعْلَمُونَ (280) وَاتَّقُوا يَوْمًا تُرْجَعُونَ فِيهِ إِلَى اللَّهِ ۖ ثُمَّ تُوَفَّىٰ كُلُّ نَفْسٍ مَّا كَسَبَتْ وَهُمْ لَا يُظْلَمُونَ (281)" Al-Baqarah **275–281**.

If we examine the reasons for the prohibition of usury, we find various harms, including social, moral, and economic ones. Regarding the social and moral harms, usury is considered greed, avarice, and the exploitation of one human being by another in a manner abhorrent to noble morals. Islam does not accept that interpersonal relationships be based on materialism, which disregards the principles of virtuous ethics and proper conduct. Rather, it seeks to establish relationships based on human spirituality. Islam views interest-free loans with even greater value than charity.

As for the economic harms (which are the core of our discussion), we find that usury prevents money from being channeled through legitimate means such as industry, agriculture, and trade—that is, from being used in the state's productive activities to drive economic development. Instead, it is used to unjustly exploit the wealth of others and discourages the usurer or the owner of capital from working and producing.

But in the absence of interest (usury), individuals can accumulate some savings (which used to go in the form of usury), which leads to increased investment and production, increased national income, and then individual income, and thus increased consumption and savings, and thus increased economic and social development. Thus, we find that the presence of usury hinders the establishment of economic development.

2.5. Ownership and Economic Development: Ownership in Islam is dual; it is individual ownership (private sector) and collective ownership or state ownership (public sector). Islam has set rules that regulate and protect ownership. If an individual does not invest his money or spend it in his own

interest and the interest of the community, this exposes him to losing ownership. The Messenger of God, may God bless him and grant him peace, said, "Whoever revives dead land, it belongs to him." Dead land, dead land, and dead land (with the letter "m" and "w" pronounced with a fatha) are barren lands. Abu Muhammad said in Al-Mughni: It is the land that has not yet been revived. Moreover, Islam called for the exploitation of individual ownership for the benefit of society and prohibited individual ownership from being a cause of harm to society. Islam prohibited hoarding money and withholding it from production and circulation and not spending it in the way of God. God Almighty said:

"وَالَّذِينَ يَكْنِزُونَ الذَّهَبَ وَالْفِضَّةَ وَلاَ يُنفِقُونَهَا فِي سَبِيلِ اللّهِ فَبَشِّرْهُم بِعَذَابٍ أَلِيمٍ " (Surat At-Tawbah - 43).

Therefore, Islam has restricted individual ownership with many restrictions, so its owner has the right to dispose of it within limits and restrictions that he is not allowed to exceed.

The Quran has established several concepts that attribute ownership to God Almighty, or to the community, while other concepts attribute ownership to individuals. There are many verses that attribute ownership to God, including:

- "وَلِلّهِ مُلْكُ السَّمَاوَاتِ وَالأَرْضِ وَمَا بَيْنَهُمَا" (Surah Al-Ma'idah, verse 17),
- " وانفقوا مما جعلكم مستخلفين فيه" (**Surah Al–Hadid**, **verse 7**),
- " وآتوهم من مال الله الذي آتاكم" (Surah An–Nur, verse 33).

As for the verses that attribute ownership to individuals, God says:

- "ولا تأكلوا أموالكم بينكم بالباطل" (Surah Al-Baqarah, verse 188),
- "وفى أموالهم حق معلوم للسائل والمحروم" (Surah Adh-Dhariyat, verse 19).

The wisdom behind Islam attributing wealth to God, the community, and the individual is:

– That attributing ownership of wealth to the Creator ensures that wealth is directed towards the benefit of people, that is, towards achieving the goals of sustainable Islamic development. Furthermore, granting individuals ownership of wealth ensures that owners utilize their

possessions within the bounds set by God—boundaries that do not infringe upon the interests of others.

- Islam is a religion of responsibility. God Almighty says:

"كل نفس بما كسبت رهينة" (Surah Al-Muddaththir, verse 38)

Islam does not accept that human responsibility for the wealth God has provided is unlimited. Therefore, it established individual ownership, holding each individual accountable for the rights of the community and the wealth in their possession. It also made the ruler responsible for the rights of the community and the wealth of individuals.

- Islam is a religion of innate human nature, and human nature is inherently inclined towards ownership. Therefore, Islam linked wealth to individual ownership to motivate individuals to develop their resources, thereby contributing to the development of the earth and fulfilling their role as stewards of the earth.
- Achieving economic development in Islam is based on the cooperation of the individual, society, and the state, where each complements the other and none is independent of the other. Hence, Islam recognizes dual ownership (private and public). Both of them are equally responsible for the development of the earth, each in his own field, so that each complements the other.

3. The Sharia Objectives of Sustainable Development

Sustainable development is a fundamental Islamic principle that falls within the objectives of Islamic law, particularly its five essentials: the preservation of religion, life, intellect, lineage, and property. Religious texts, such as those concerning planting and agriculture, reinforce this concept by achieving a balance between the responsible use of resources and securing benefits for current and future generations. Furthermore, the goals of sustainable development align with the principles of bringing benefits and averting harm, thus establishing a legitimate framework for environmental, social, and economic sustainability.

Through this section, we aim to present the concept of sustainable development from the perspective of the objectives of Islamic law. This involves exploring the Islamic and purposive vision of this concept and emphasizing the importance of understanding these objectives. This understanding confirms that the renewal of Islamic thought and the establishment of a Sharia-based foundation for contemporary issues cannot occur in isolation from the objectives of Islamic law.

3.1. The Concept of Sustainable Development from an Islamic Perspective:

The discussion and presentation of various definitions of sustainable development previously confirmed that claiming neutrality when addressing the concept is a fallacy. It has become self-evident that any definition must stem from and be tailored to the society in which it originates. As Muslims, we must present a concept that aligns with the Islamic worldview of the universe, life, and humanity, relying on the primary sources of Islamic law. One such definition, as described by its author, Hassan Ibrahim Al-Hindawi, is consistent with the Islamic worldview of the universe, life, and humanity, and encompasses all areas of development, free from any influences foreign to Islamic teachings. This definition states: "Sustainable development, from an Islamic perspective, means a process of continuous and comprehensive development and change, as much as possible, towards continuous improvement. It encompasses human capabilities and skills, both material and moral, in fulfillment of the divine purpose of stewardship on Earth, under the guidance of those in authority, within a framework of regional cooperation and international integration, and free from any form of dependency." This definition confirms that development in the Islamic conception is a modern civilizational process, and that this process cannot be achieved... It is not a one-day process, but rather it takes a long time. It is also a process that does not stop with the current generation, but it must be preserved and more achieved for the sake of future generations. Thus, development is a continuous process towards the better and the better. The characteristic of continuity and permanence in the concept of sustainable development stems from the Islamic view of the universe, life, and man. God created man to be God's vicegerent

on earth, as God Almighty said, "And when your Lord said to the angels, 'Indeed, I will make upon the earth a successor,'" (2:30). This vicegerency is one in which there is no room for frivolity and wasting time on what is not beneficial. God Almighty said, "Does man think that he will be left neglected?" (75:36). This positive view of life is based on the Quranic conception of the creation of this universe and that it is not for frivolity, as God Almighty said :

" وَمَا خَلَقْنَا السَّمَاءَ وَالْأَرْضَ وَمَا بَيْنَهُمَا بَاطِلًا ۚ ".SAD(38:27)

Studies have proven that the only nation that has the potential to formulate sustainable, integrated and balanced development is the nation of Islam, because it alone possesses the principles of an absolute and rational methodological vision that God has bestowed upon it. This should not be understood to mean that we possess integrated development plans, for God's way in His creation has required that God Almighty provide us with the groundwork, methodologies and major goals, and leave us to search for methods and means, divide stages, establish balances, review steps, draw up policies and everything that would interact within the general framework and basic features that God has provided us with.

3.2. Teleological approach to sustainable development: Islamic law (Sharia) came to achieve the worldly and spiritual well-being of individuals and nations. It also came to reform people's affairs in this life and the hereafter, and it legislated rulings that suit the circumstances and needs of each era, taking into account the goals, prerequisites, and outcomes. Based on this, it is essential to understand the concept of the objectives of Islamic law.

- **Definition of the Objectives of Islamic Law:** It has been defined as "the noble meanings, virtuous wisdom, and good goals that the Wise Lawgiver sought to achieve and attain through the texts revealed to Him or the rulings He prescribed for His servants." For the concept of the objectives of Islamic law to have its importance and significance in the context of sustainable development, the subject of this study, it is necessary to observe the guidelines for implementing these objectives. This requires

those qualified to examine and deduce the objectives, combine specific details with general principles, weigh benefits against harms, verify the consequences of the objectives, consider the specificities and overarching rules of each field, and finally, ensure that the implementation of the objectives does not contradict the texts.

- We have already pointed out that the general purpose of Islamic law is to develop the earth, preserve the system of coexistence on it, and ensure its continued well-being and the well-being of those who are entrusted with it, and their fulfillment of what they have been entrusted with in terms of justice, uprightness, and righteousness in mind and action. Developing the earth is a comprehensive concept, and comprehensive sustainable development can be the contemporary expression of developing the earth. If this is the case, then it is natural that the concept of sustainable development among Muslims should be based on the objectives of Islamic law. In light of the comprehensive and rapid developments that humanity is experiencing in this era, issues and problems arise in development that pose many questions to the Muslim, so he looks for a way out of the civilizational crisis in which he finds himself thrust, and he turns to someone who gives him a fatwa on his religion, answers his questions, and denounces the clouds that obscure his vision of matters from an Islamic perspective, and brings him out of the circle of anxiety, confusion, and bewilderment so that he may live his life in tranquility, peace, and contentment with the rule of the Sharia. God Almighty revealed His Holy Book to His Prophet and Messenger, may God bless him and grant him peace, as a mercy to all His servants.

Some believe that basing development on the objectives of Islamic law (maqasid al-shari'ah) is a vital idea, but its effectiveness is limited given the current state of scholarly interpretations on this subject. This has led some scholars to call for a renewal of the objectives of Islamic law so that they can serve as the solid foundation upon which Islamic developmental thought can be built. However, the required renewal is not for the sake of development, but

rather to revive the objectives of Islamic law, expand their scope, and activate them in the lives of individuals and society to achieve good, righteousness, and prosperity for people in this life and the hereafter. This approach to reviving and renewing the objectives of Islamic law helps to highlight the developmental dimension of these objectives. Furthermore, engaging in development from the perspective of these objectives does not mean that merely being aware of them will make them a reality. Other conditions must be met, such as the role of the state, the level of knowledge, the civilizational and cultural will, and others. Nevertheless, building developmental thought on the objectives of Islamic law achieves great benefits, including:

- This thought responds to the needs of every era, time, and place due to the realism, balance, and validity of the objectives upon which it is based;
- A complete understanding of Islam and a clear picture of its rulings, thus distinguishing what is part of Islamic law from what is not, and what achieves the interests of people in this life and the hereafter, in accordance with Islamic legal principles;
- Recognizing that the texts and rulings of Islamic law are rational and based on reasoning and inference, which leads to the conviction of Muslims and non-Muslims alike regarding the Islamic foundation and the purposive approach to sustainable development;
- The purposive foundation ensures that developmental thinking relies on a correct understanding of Islamic texts and, consequently, their correct interpretation in practice;
- Avoiding conflicts between development programs and strategies and human nature, because the objectives and goals of Islamic law are consistent with this foundation.

In conclusion, if we seek sustainable development and the prosperity of society, we should firmly believe that Islam was a pioneer in the concepts of sustainable development, and the vision emanating from the Islamic faith is sufficient for that preservation related to the objectives, which Islamic scholars spoke about, saying that it does not necessarily mean that what has been

achieved of the objectives remains in its current state. Maintaining the situation comes after we reach the peak, and if that is not possible within the scope of human ability in this world, then there is always room for improvement, which ensures sustainability.

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