

# **SELECT READINGS IN ECONOMICS**



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# **1. MICRO ECIONOMICS**

## **1.1 INTRODUCTION TO ECONOMICS**

In Western civilization wealth was the primary and original concern of economics, and in economics the questions about wealth concerned the means of acquiring, maintaining, and increasing it. Wealth was seen by Aristotle not as an end, but as a means of achieving ethical and political ends. Whereas the treatment of wealth in the non economic fields of religion, history, politics, and the like focused mostly on its distribution and its effect on affluence, poverty, and the state, the approach of the economists was to focus on the means to wealth.

The economic problem or the objective of the economic arrangement, be it in a primitive hunting and gathering society or in the most sophisticated modern industrial society, is that of provision—how to use scarce resources to produce goods and services and how to appropriately distribute the product. This problem has remained basically unchanged in human history. Over time, what has differed or changed are the modes of economic organization that correspond to the cultural arrangements in human societies. But the existence of the economic problem is different from an analysis of the economic problem. Organized economic systems existed in ancient Egypt, the great African empires of Western Sudan, the Aztec and Incan civilizations of the Americas, and the Assyrian and Babylonian theocracies. But according to Joseph Schumpeter, there is no trace of analytic effort until Greece. Even the beginning of the analytic effort did not become systematic until the eighteenth century. Hence, as a field of study, economics is relatively young, and only emerged as a full-fledged separate discipline following the publication of Adam Smith's *The Wealth of Nations* in 1776.

The term *economics*, from the Greek *oikonomika*, means a science or art of managing the household. In modern usage, it refers to the efficient allocation of scarce resources in the production, distribution, and consumption of goods and services to satisfy various desires. As a branch of knowledge, economics or economic science is the study of how to efficiently use limited resources—natural resources (land), capital, labor, entrepreneurship, and information—to achieve maximum satisfaction of human material wants. Like other social sciences, economics studies human behavior but focuses on maximizing satisfaction or benefit as efficiently as possible or at minimum cost in the production, distribution, and consumption of goods and services. Hence, economics deals with decision making, theory, and management of the economy or economic systems. The decision makers or economic units of the economic system are households, businesses, and government.

Although economics originally referred to the management of the affairs of the household (*oikonomia* in Greek), its meaning evolved into political economy—"The financial branch of the art or business of government" (Milgate) then into how to make a country wealthy, and finally into a social science that studies the production, distribution, and consumption of commodities.

Notable contributions to the field of economics include Richard Cantillon's *Essay on the Nature of Commerce* (1755), Adam Smith's *Wealth of Nations* (1776), Karl Marx's *Das Capital* (1867), Thorstein Veblen's *The Theory of the Leisure Class* (1899), and John Maynard Keynes's *General Theory of Employment, Interest, and Money* (1936). Before the publication of the *Wealth of Nations*, there were other schools of thought whose main preoccupation was wealth creation and the organization of the economy, most prominently, mercantilism and physiocracy.

The study of economics is divided into two parts.

1. Micro Economics and 2. Macro Economics

### **Micro Economics**

The word micro means a millionth part. Microeconomics is the study of the small part or component of the whole economy that we are analyzing. It deals with individual or specific economic units such as an individual industry, firm, or household and their interactions. For example we may be studying an individual firm or in any particular industry. In Microeconomics

we study of the price of the particular product or particular factor of the production. In 1817, David Ricardo (1772–1823) wrote on the forces that determine the functional distribution of income and the theories of value and price, and it was from these theories that microeconomic theory originated. Microeconomics in the early twenty-first century includes the theory of consumer behavior, theory of production, and the theory of markets. It deals with such topics as prices of a specific product, the number of workers employed in a specific firm, the revenue or income of a particular firm or household, and the expenditures of a specific firm, government entity, or family. Microeconomic analysis focuses mostly on optimization and equilibrium analysis.

## Macro Economics

Macro economics is the study of behavior of the economy as a whole. It deals with the aggregate economy and the behavior of its major units—households, businesses, Government, and the foreign sector.

Macroeconomics is concerned with aggregate and average of entire economy. e.g. In Macro economics we study about forest not about tree. In other words in macro economics study how these aggregates and averages of economy as whole are determined and what causes fluctuation in them. For making of useful economic policies for the nation macroeconomics is necessary.

Developed in the 1930s, macroeconomics was practically invented by the English economist John Maynard Keynes (1883–1946) in his attempt to develop an answer to the Great Depression. Keynes argued that the Great Depression was a problem of insufficient aggregate demand and that if the private economy could not generate sufficient demand, it was the government's responsibility to do so. Macroeconomics focuses on such issues as growth, recessions, inflation, unemployment, and government policy and deals with such topics as total output or gross domestic product (GDP), total employment, total income, aggregate expenditure, and general level of prices.

## Mercantilism or bullionism.

Mercantilism or bullionism is a loose economic school of thought whose basic belief is that a nation's wealth originated from gold and silver bullion and other forms of treasure. The mercantilist ideas were spread in an uncoordinated three-hundred-year effort, mostly through the English pamphlet writers of the seventeenth and eighteenth centuries, a period marked by significant shortages of gold and silver bullion in Europe. Mercantilism believed in trade regulation, industrial promotion, and imposition of protective duties on imports of manufactures, encouragement of exports, population growth, and low wages. This belief in regulating wealth was grounded in the conviction that favorable balance of trade leads to national prosperity.

Mercantilists assumed that the total wealth of the world was fixed and reasoned that trade would lead to a zero-sum game. Consequently, they surmised that any increase in the wealth and economic power of one nation was necessarily at the expense of other nations. Hence, they emphasized balance of trade as a means of increasing the wealth and power of a nation.

## Physiocracy:

The term Physiocracy (the order or rule of nature) developed for less than two decades as a reaction against the doctrines and restrictive policies of mercantilism. Founded on a doctrine of noninterference, the physiocratic ideas were first enunciated by the Frenchman François Quesnay (1694–1774). Quesnay argued that only agriculture can produce net output (produit net). According to Physiocracy, the farmers and landowners were considered to be the productive classes whereas the merchants and industrialists were not. The Physiocrats believed in natural laws, the free enterprise system, and the free operation of the natural order of things. Quesnay also developed the famous Tableau Economique (economic table) in an attempt to establish a general equilibrium through a basic input-output model. The main ideas of Physiocracy that were promoted by the intellectual disciples of Quesnay—a group of French social reformers—came

directly or indirectly from his *Tableau Economique*. Another important contributor to Physiocracy is Anne-Robert-Jacques Turgot (1727–1781), whose *Reflections on the Formation and the Distribution of Wealth* (1769–1770) was one of the most important general treatises on political economy written before Smith's *Wealth of Nations*.

## Major Theories

The study of economics is driven by theories of economic behavior and economic performance, which have developed along the lines of the classical ideas, the Marxist idea, or a combination of both. In the process, various models were developed, each trying to explain such economic phenomena as wealth creation, value, prices, and growth from a separate intellectual and cultural setting, each considering certain variables and relationships more important than others. Within the aforementioned historical framework, economics has followed a trajectory that is characterized by a multiplicity of doctrines and schools of thought, usually identifiable with a thinker or thinkers whose ideas and theories form the foundation of the doctrine.

### Classical Economics.

Classical economic doctrine descended from Adam Smith and developed in the nineteenth century. It asserts that the power of the market system, if left alone, will ensure full employment of economic resources. Classical economists believed that although occasional deviations from full employment result from economic and political events, automatic adjustments in market prices, wages, and interest rates will restore the economy to full employment. The philosophical foundation of classical economics was provided by John Locke's (1632–1704) conception of the natural order, while the economic foundation was based on Adam Smith's theory of self-interest and Jean-Baptiste Say's (1767–1832) law of the equality of market demand and supply.

Classical economic theory is founded on two maxims. First, it presupposes that each individual maximizes his or her preference function under some constraints, where preferences and constraints are considered as given. Second, it presupposes the existence of interdependencies—expressed in the markets—between the actions of all individuals. Under the assumption of perfect and pure competition, these two features will determine resource allocation and income distribution. That is, they will regulate demand and supply, allocation of production, and the optimization of social organization.

Led by Adam Smith and David Ricardo with the support of Jean-Baptiste Say and Thomas Robert Malthus (1766–1834), the classical economists believed in Smith's invisible hand, self-interest, and a self-regulating economic system, as well as in the development of monetary institutions, capital accumulation based on surplus production, and free trade. They also believed in division of labor, the law of diminishing returns, and the ability of the economy to self-adjust in a *laissez-faire* system devoid of government intervention. The circular flow of the classical model indicates that wages may deviate, but will eventually return to their natural rate of subsistence.

### Marxist Economics.

Because of the social cost of capitalism as proposed by classical economics and the industrial revolution, socialist thought emerged within the classical liberal thought. To address the problems of classical capitalist economics, especially what he perceived as the neglect of history, Karl Marx (1818–1883), a German economic, social, and political philosopher, in his famous book titled *Das Kapital* or *Capital* (1867–1894) advanced his doctrine of dialectical materialism. Marx's dialectics was a dynamic system in which societies would evolve from primitive society to feudalism to capitalism to socialism and to communism. The basis of Marx's dialectical materialism was the application of history derived from Georg Wilhelm Friedrich Hegel (1770–1831), which maintained that history proceeds linearly by the triad of forces or dialectics called thesis, antithesis, and synthesis. This transition, in Marx's view, will result from changes in the ruling and the oppressed classes and their relationship with each other. He then envisaged conflict between forces of production, organization of production, relations of production, and societal thinking and ideology.

Marx predicts capitalist cycles that will ultimately lead to the collapse of capitalism. According to him, these cycles will be characterized by a reserve army of the unemployed, falling rate of profits, business crises, increasing concentration of industry into a few hands, and mounting misery and alienation of the proletariat. Whereas Adam Smith and David Ricardo had argued that the rational and calculating capitalists in following their self-interest promote social good, Marx argued that in rationally and purposefully pursuing their economic advantage, the capitalists will sow the seeds of their own destruction.

The economic thinking or school of economic thought that originated from Marx became known as Marxism. As the chief theorist of modern socialism and communism, Marx advocated fundamental revolution in society because of what he saw as the inherent exploitation of labor and economic injustice in the capitalist system. Marxist ideas were adopted as the political and economic systems in the former Soviet Union, China, Cuba, North Korea, and other parts of the world.

The neo-Marxist doctrines apply both the Marxist historical dimension and dialectics in their explanation of economic relationships, behavior, and outcome. For instance, the dependency theory articulates the need for the developing regions in Africa, Latin America, and Asia to rid themselves of their endemic dependence on more advanced countries. The dependency school believes that international links between developing (periphery) and industrialized (center) countries constitute a barrier to development through trade and investment.

### **Neoclassical Economics.**

The period that followed Ricardo, especially from 1870 to 1900, was full of criticism of classical economic theory and the capitalist system by humanists and socialists. The period was also characterized by the questioning of the classical assumption that laissez-faire was an ideal government policy and the eventual demise of classical economic theory and the transition to neoclassical economics. This transition was neither spontaneous nor automatic, but it was critical for the professionalization of economics.

Neoclassical economics is attributed with integrating the original classical cost of production theory with utility in a bid to explain commodity and factor prices and the allocation of resources using marginal analysis. Although David Ricardo provided the methodological rudiments of neoclassical economics through his move away from contextual analysis to more abstract deductive analysis, Alfred Marshall (1842–1924) was regarded as the father of neoclassicism and was credited with introducing such concepts as supply and demand, price-elasticity of demand, marginal utility, and costs of production.

Neoclassical or marginalist economic theories emphasized use value and demand and supply as determinants of exchange value. Likewise neoclassicals, William Stanley Jevons (1835–1882) in England; Karl Menger (1840–1925) in Austria; and Léon Walras (1834–1910) in Switzerland, independently developed and highlighted the role of marginal utility (and individual utility maximization), as opposed to cost of production, as the key to the problem of exchange valuation. Neoclassical models assume that everyone has free access to information they require for decision making. This assumption made it possible to reduce decision making to a mechanical application of mathematical rules for optimization. Hence, in the neoclassical view, people's initial ability to maximize the value of output will, in turn, affect productivity and determine allocation of resources and income distribution. Neoclassical economics is grounded in the rejection of Marxist economics and on the belief that the market system will ensure a fair and just allocation of resources and income distribution.

Since its emergence, neoclassical economics has become the dominant economic doctrine in the study and teaching of economics in the West, especially in the United States. A host of economic theories have emerged from neoclassical economics: neoclassical growth theory, neoclassical trade theory, neoclassical theory of production, and so on. In the neoclassical growth theory, the determinants of output growth are technology, labor, and capital. The

neoclassical growth theory stresses the importance of savings and capital accumulation together with exogenously determined technical progress as the sources of economic growth. If savings are larger, then capital per worker will grow, leading to rising income per capita and vice versa.

Known also as the neo liberal theory, neoclassical economics asserts that free movement of goods (free trade), services, and capital unimpeded by government regulation will lead to rapid economic growth. This, in the neoclassical view, will increase global output and international efficiency because the gains from division of labor according to comparative advantage and specialization will improve overall welfare. Even modern trade models (such as the Hecksche-Ohlin) are based on the neoclassical trade theory, which assumes perfect competition and concludes that trade generally improves welfare by improving the allocation of factors of production across sectors of the economy.

## **Economics - Global Organization And Orientation**

Between the two World Wars, two important phenomena affected the organization and orientation of economics in the world. The first was the Bolshevik Revolution of 1917 and the exceptionally rapid industrialization of the Soviet Union. The second was the Great Depression of the 1930s. The former led to the development of the Marxist-Stalinist economic system and state-directed development, collectivization, and the establishment of a command economy. The Great Depression led to a declining faith in the classical (*laissez- faire*) self-regulating free market capitalism, and the emergence of Government interventionism, following the publication, by John Maynard Keynes in 1936, of *The General Theory of Money, Interest, and Employment*.

The new field of development economics was born in the 1940s and 1950s with W. Arthur Lewis providing the impetus for and being a prime mover in creating the sub discipline. The new Keynesian macroeconomics and development economics advocated widespread government intervention in the economic process. Likewise, the powerful and far -reaching movements of the developing countries in Africa, Asia, and Latin America in the 1940s gave rise to the rejection of free-market capitalism in those regions. In the 1940s and 1950s, economists advocated for a dominant role of the state and comprehensive national development planning was recommended as a way to eliminate the "vicious circle of poverty" and underdevelopment. The advocacy for dirigisme was founded on the notion of market segmentation and failures as well as on information asymmetries and resource constraints. Disappointing results after World War II forced a serious questioning and tempering of this development dirigisme.

As a social science, economics is subject to ideological manipulation. Aside from the orthodox (mainstream) and heterodox spheres, in the neoclassical intellectual tradition, there has been a split since the late nineteenth century as can be seen in the case of its liberal and conservative wings. Led by Paul Samuelson, liberal thinking is associated with advocacy for government intervention to correct market imperfections and market failures while conservatism or neoclassicism led by Milton Friedman is associated with a more pronounced advocacy for *laissez-faire*.

## **Fundamental Economic Concepts**

- 1. Human wants:**— Human wants are unlimited. When one want is satisfied, another want takes it's place.
- 2. Law of diminishing utility:** — Utility means satisfaction. The intensity of any utility, or of a man's desire for any good, tends to decline as he consumes more units of it.
- 3. The law of demand and supply:** — Every business man knows that the value or price of any article depends upon the demand for and supply of it. The law of demand tells that the price and demand are inversely related to each other. That means, a fall in price leads to a rise in demand and a rise in price leads to a fall in the demand for the good. The law of supply tells that the price and supply are directly related. That means, a rise in price leads to a rise in supply and a fall in price leads to a fall in supply.

**4. Analysis of demand:** — The desire for a commodity will not give demand to it. No matter how much a man may want an automobile, his desire can have no effect upon the prices or value of automobiles unless he has the necessary means of payment. Desire must be accompanied by the necessary purchasing power before it can become demand.

**5. Analysis of supply:** —The word supply as commonly used includes the entire stock of goods within reach of the market. But economists use it in a stricter sense. They mean supply as that portion of the entire stock which is actually offered for sale at a given price.

**6. Agricultural law of diminishing returns:**— One of the most important laws in economics was borrowed from the science of agriculture and is known as the law of diminishing returns.

This law is important because of its bearing upon the cost of production. As population increases farmers must do one of two things: (1) They must bring poorer or more distant lands into cultivation; (2) the land already tilled must be cultivated more intensively, by which is meant that more labor and capital must be applied. The result in either case is the same, namely, higher costs of production and hence higher prices of foodstuffs in the markets.

**7. Mechanism of exchange:**—The first form of exchange was that of goods or services for goods, which is termed barter. This system required coincidence of wants. Such a procedure could be used only in a primitive community where wants were few and goods were not of great variety. The inconvenience of applying this method led to the innovation of 'Money'

A very different state of affairs results after money has come into general use. Trades can now be made in terms of money with far greater ease, since everyone wants money. But many exchanges are made without the use of money. The seller is content with a promise to pay money, which serves in many respects the same purposes.

There are three stages of exchanges based on barter, money and credit.

**8. Exchange without money:**—The inconveniences of barter were largely removed by the use of money. However money has its limitations. Many of the objections raised against the use of money in larger transactions due to bulk and weight of the coin, have been removed by the introduction of paper money. Credit made the bulk transactions possible. Men buy and sell without possessing money and sometimes without owning property. The buyer gives instead of money, the promise to pay money. But the promise to pay money is not of necessity redeemed in money itself. This promise may be, and generally is, satisfied by the transfer of money's equivalent.

**9. Credit:** — The term credit is used in so many different senses, both in everyday life and in the business affairs. The common expression that a man is given credit for something means in mercantile life, that he enjoys the confidence of the community and has the ability to borrow. This is the personal side of credit. The Modern Business Text on "Credit and the Credit Man" will deal extensively with this personal aspect of credit.

**10. Kinds of credit:** — All credit arises in the process of exchange, either the exchange of credit for goods, credit for money, or credit for credit. If A buys goods of B, he may offer the price of the goods in gold or in bank notes, he may give his promissory note or he may give nothing but his simple promise to pay. When payment is made in gold no credit is involved.

**11. Commercial credit:** —The borrowing on bonds and mortgages naturally suggests a contrast to ordinary commercial credit. When a dealer purchases goods on credit he hopes to have sold these goods again before the expiration of the credit period and to be in a position to meet his obligation from the proceeds of the sale. By such action he expects to gain in addition a profit for himself. This illustrates what Mill had in mind when he defined credit as per-mission to use another's capital.



Similarly, when a manufacturer buys materials on credit or borrows money on his note to pay wages, he hopes to meet such obligations from the sale of his product. There is in these cases a confident expectation that the whole amount borrowed will be replaced, as it were, by a single transaction. When money is borrowed for longer terms the replacement of the capital is only gradual.

The distinction between borrowing for investment purposes and borrowing for operating expenses is very important, although it is not always observed either by those who seek or by those who grant credit accommodations.

**12. Cost of credit:—** Credit is an economic good and like other economic goods must be paid for by those who use it. In the case of bonds and certain long term notes the price is expressed as interest. In the case of notes discounted at the bank, the price of credit appears as discount.

The rate of interest is determined by the condition of the credit market. Rates of interest on bonds and other long-term obligations appear to be fairly fixed, although they vary somewhat with the demand for, and the supply of, such investments. These variations, in the case of bonds and similar securities, are more likely to find expression in the price of issue than in the interest rate.

**13. What credit does:—** Credit is a relation between individuals, a question which concerns not the aggregate of wealth but its distribution among individuals. The chief function of credit in the world of production is to distribute capital. Through its agency the active, energetic men of the world are enabled to secure control of the capital needed in their enterprises. Credit does not increase wealth but it increases capital greatly.

**14. Money:—** The word money is used so frequently in daily speech that its significance might well be deemed a matter of course, but in fact the word money is used so loosely that it means many things. To the banker money is the medium of ex-change that serves as the basis of commercial obligations. To some people the word money means anything which buys products. another person may say that it is only the gold coin of the monetary standard.

Horace White declares, "Money is anything that serves as 'a common medium of exchange and measure of value.'" Money is the valuable thing or economic good which possesses in any country or community universal acceptability as a medium of exchange or means of payment.

**15. Bank notes:—**The methods pursued by the banks in different countries in loaning money vary. In some countries credit is extended chiefly through the use of bank notes. The applicant for a loan receives its proceeds in the notes of the bank, which he uses as money for the payments that he has to make. Such notes are simply the promissory notes of the bank. People are willing to accept them because in form they are similar to money, and because the bank is known generally to be solvent. This solvency is maintained by holding in the bank a reserve of standard money with which to redeem the notes on presentation. Such notes are always payable on demand. The reserve of money held against them is either fixed by law or dictated by experience, but the reserve is only a fraction of the amount of the notes issued. With a reserve of 20%, for example, the potency of money to effect exchanges is multiplied five times as long as the bank holds it in reserve for the redemption of notes issued against it.

The amount of gold held and the amount of notes issued against it varies with the demand for capital.

In dull times it is curtailed, and in easy times it increases in amount. These changes are brought about by the issue and the redemption of the notes. If notes are in excess of needs they flow back into the banks. In common speech such bank notes are usually spoken of as money, but the economist recognizes the important credit element which enters into them and calls them as credit money.

**16. Demand for money:** — The demand for money differs from the desire for wealth. The demand for money is simply the work that money is required to do.

**17. Population and the money demand:**— Other things being equal, the demand for money grows with the volume of business. The growth of population, independently of any other factors, has created a far larger demand for money. Business activity does not depend upon population alone; China with its teeming millions is not a business force comparable to other nations with much smaller numbers.

**18. Supply of money:** — The supply of money is the quantity of standard money in existence. The supply of money in any given country is employed as money is automatically regulated through international trade.

**19. Functions of money:** — As a matter of convenience the functions performed by money may be divided into: (1) Primary, (2) Secondary, and (3) contingent. The primary functions include : Money acting as a medium of exchange and a standard of value. The secondary functions tells about money as a standard of deferred payments, transfer values from one person to another, and act also as a store of value.

**20. Token money:**— When the bullion value of the coins is not equal to the nominal value they are called tokens or token coins. Such coins circulate because there is a big demand for them in order to meet the ordinary trade requirements. This offsets the fact that their value is less than the amount for which they circulate.

**21. Paper money:**— Paper currency was a by-product of Chinese block-printing. It started in Tang but not until Song dynasty that it became institutionalized as a governmental policy. It had two main advantages over money made out of silver, gold, copper or iron: It was easier to carry around and the copper and iron could be saved for use in everyday objects. Names and seals were printed and written on paper money by the government officials who issued it. Unfortunately no written documents exist today which enable us to know how this system of paper currency actually functioned prior to the Yuan period. When Marco Polo traveled to China in the 13th century, he was so impressed by paper money that he described how it was made, used and valued.

Paper money was not used in Europe until the 17th century.-----ECONOMICS (FC)

Paper money began with the "flying cash" of the Tang (618-907) dynasty around 800. The Tang government considering the inconvenience of shipping cash to distant areas where government purchases were made, paid local merchants with money certificates called "flying cash", because of its tendency to blow away. These certificates bearing different amounts of money could be converted into hard cash on demand at the capital. Since they were transferable, they were exchanged among merchants almost like currency.

"Flying cash" was not meant to be currency and its circulation was rather limited. Real paper currency was not introduced until early in the Song (960 -1279) dynasty, when it was utilized by a group of rich merchants and financiers in Szechuan, the same province where the art of printing had been invented. Each banknote they issued had printed on it pictures of houses, trees, and people. Red and black inks were intermittently applied; the seals of the issuing banks were affixed; and confidential marks were made on each bill. All these devices made counterfeiting extremely difficult. These banknotes could be converted into hard cash at any time in any of the issuing banks. Widely circulated, they were readily accepted for the payment in debt and other financial obligations. In 1023 these banknotes were withdrawn and only official notes printed by the government were allowed. This new adopted governmental policy was successful at first for two reasons: First, for each issue of paper notes to be put into circulation, the government provided a cash backing. Second, paper notes and standard coins were interchangeable. Moreover, a citizen could buy salt or liquor with his paper notes from the government-owned stores. In short, paper notes were as good as coined money.

After Chin (1115 -1234) occupied the north China, it followed Song's practice. In 1154 it established a Bureau of Paper Currency in Kaifeng as the central agency in charge of all issues.

Two kinds of paper currency were issued, one of large denominations, consisting of one to ten strings (each string was worth 1000 standard coins) and another of small denominations, bearing the amounts of one to seven hundred standard coins. The validity of each issue was limited to seven years. However little thought was given to backing the currency issue and inflation soared during the 12th century. Even though counterfeiting of paper currency was punishable by death, there were few attempts. In 1183, a printer, who had produced 2600 fake notes in 6 months was arrested and sentenced to death.

Soon after the Mongols took over China and established Yuan (1264 -1368) dynasty, it followed the example of its predecessors, Tang, Song and Chin, in using paper currency. The first paper currency issued in Yuan dynasty was in 1260. Various denominations were printed, ranging from a face value of two standard coins to the highest denomination of two strings. Excessive printing year after year soon flooded the market with depreciated paper money until the face value of each certificate bore no relation whatsoever to its counterpart in silver. In 1272 a series of new issues was put in circulation and the old issues were converted into the new ones at the ratio of five to one. The new issues were printed with copper plates instead of wood blocks, as had been the case before. In 1309 another conversion became necessary. In fifty years from 1260 to 1309 Yuan's paper money was depreciated by 1000 percent. To make the situation worse, the government often refused to exchange for new issues old certificates that had been worn out through a long period of circulation.

Paper money went westward when the Mongols printed Chinese-style notes in Iran in 1291 and led to the usual inflation. The earliest European paper money was printed in Sweden in 1601. It is possible that Europeans learned the art of printing and paper currency through the examination of Chinese paper money which were either obtained in Western Asia during the Yuan dynasty or had been brought back from China by travelling Europeans.

**22. Prices of commodities:** — Changes in the prices of commodities take place due either to changes which affect the commodity or due to changes which take place in the value of money. Change in price may therefore arise from a change in (1) the demand for, or (2) the supply of the commodity. Changes of this nature are reflected in the price of one commodity as compared with another; their positions in the price scale change.

A change in the demand for money will change prices. If the demand increases without change of supply an increased burden is placed on each money unit. There are more exchanges to be made but there is the same money with which to make them. Hence units of money must command larger quantities of commodities; prices fall and this indicates the increased value of money. Conversely, when the demand for money decreases, prices rise and the value of money falls.

Changes in the supply of money work similar results in prices. If the supply diminishes prices fall and the value of money increases. If the supply of money increases, the prices of commodities rise and the value of money falls.

It may be noted that when prices change by reason of differences in the demand for and supply of commodities, some commodities may rise in price, while others fall. Such readjustments in prices of commodities are constantly taking place.

**23. Gresham's Law:** — Sir Thomas Gresham reformulated this idea in the 16<sup>th</sup> century during Queen Elizabeth's reign. Hence, the law has been known as Gresham's Law.

The law has been put in as: "Bad money drives out good money." Thus stated, it applies to paper money as well as to metallic money.

Good money is money that shows little difference between its nominal value (i.e., the face value of the coin) and its commodity value (i.e., the actual rate at which the coins are exchanged for bullion versions of the commodity). In the original discussions of Gresham's law, money was conceived of entirely as metallic coins, so the commodity value was the market value of the

coined bullion of which the coins were made. Bad money is money that has a substantial difference between its commodity value and its market value, where market value is lower than exchange value, or the actual value is lower than the market value.

In Gresham's day, bad money included any coin that had been "debased." Debasement was often done by members of the public, cutting or scraping off some of the metal. Coinage could also be debased by the issuing body, whereby less than the officially mandated amount of precious metal is contained in an issue of coinage, usually by alloying it with base metal. Other examples of "bad" money include counterfeit coins made from base metal. In all of these examples, the market value was the supposed value of the coin in the market.

In the case of clipped, scraped or counterfeit coins, the market value has been reduced by fraud, while the exchange value remains at the higher value. On the other hand, with coinage debased by a Government issuer the market value of the coinage was often reduced quite openly, but the exchange value of the debased coins was held at the higher level by legal tender laws.

All modern money is "bad money" in this sense, since fiat money has entirely replaced the commodity money to which Gresham's law applies. This money is not redeemable for any kind of valuable commodity, relying entirely on the Government's decree for its legitimacy, and valued purely in terms of the quantity of money in circulation relative to available goods. The ubiquity of fiat money could indeed be taken as evidence for the truth of Gresham's law.

Gresham's law says that any circulating currency consisting of both "good" and "bad" money (both forms required to be accepted at equal value under legal tender law) quickly becomes dominated by the "bad" money. This is because people spending money will hand over the "bad" coins rather than the "good" ones, keeping the "good" ones for themselves.

Consider a customer purchasing an item which costs five pence, who has in their possession several silver sixpence coins. Some of these coins are more debased, while others are less so — but legally, they are all mandated to be of equal value. The customer would prefer to retain the better coins, and so offers the shopkeeper the most debased one. In turn, the shopkeeper must give one penny in change — and has every reason to give the most debased penny. Thus, the coins that circulate in the transaction will tend to be of the most debased sort available to the parties.

If "good" coins have a face value below that of their metallic content, individuals may be motivated to melt them down and sell the metal for its higher bullion value, even if such defacement is illegal. For an example of this, consider the 1965 US Half-dollars which were made from only 40% silver. The previous year the half-dollar was 90% silver. With the release of the 1965 half, which was legally required to be accepted at the same value as the previous year's 90% halves, the older 90% silver coinage of the US quickly disappeared from circulation, and the debased money was allowed to circulate in its stead. As the price of bullion silver rose above the face value of the coins, many of those old half-dollars were melted down. With the 1971 issue the government gave up on including any silver in the half dollars. A similar situation is occurred in 2007 in the United States with the rising price of copper and zinc, which led the U.S. government to ban the melting or mass exportation of one and five cent coins, respectively.

In addition to being melted down for its bullion value, money that is considered to be "good" tends to leave an economy through international trade. International traders are not bound by legal tender laws the way citizens of the country are, so they will offer higher value for good coins than bad ones, and thus higher value than can be obtained within the country. The good coins may leave their country of origin to become part of international trade. Thus, the good money is driven out of the country of issue, escaping that country's legal tender laws and leaving the "bad" money behind. This occurred in Britain during the period of the Gold Exchange Standard.

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## **1.2 THEORY OF DEMAND , SUPPLY, MARKET STRUCTURE AND ELASTICITY**

In a market economy, individual consumers make plans of consumption and individual firms make plans of production based on the changes in market prices.

Economists use the term invisible hand to describe the frequent exchanges in the market because everyone (no matter consumer or producer) takes the market price as a signal on trade and makes exchanges with private property rights (defined and protected by laws). The price system works in a market economy only if there is free choice within the market.

Supply and demand is one of the most fundamental concepts of economics and it is the backbone of a market economy. Demand refers to how much (quantity) of a product or service is desired by buyers. The quantity demanded is the amount of a product people are willing to buy at a certain price; the relationship between price and quantity demanded is known as the demand relationship. Supply represents how much the market can offer. The quantity supplied refers to the amount of a certain good producers are willing to supply when receiving a certain price. The correlation between price and how much of a good or service is supplied to the market is known as the supply relationship. Price, therefore, is a reflection of supply and demand.

The relationship between demand and supply underlie the forces behind the allocation of resources. In market economy theories, demand and supply theory will allocate resources in the most efficient way possible.

### **I. CONCEPT OF DEMAND**

In economics, the word 'demand' consists of 4 main concepts:

It refers to both the ability to pay and a willingness to buy by the consumer (s). Demand is sometimes called effective demand.

Demand can be shown by a demand schedule which shows the maximum quantity demanded (willing & able to buy) at all prices.

Demand is a flow concept. Our willingness and ability to buy is subjected to a time period. At different times, we may have different demand schedules.

There are many factors affecting our demand. In order to explore the effect of price on quantity demanded, economists like to assume other factors unchanged so as to make the analysis easier.

In Latin, the term 'ceteris paribus' means ' holding other factors constant or unchanged'.

#### **The Determinants**

The determinants of demand for a product are :

1. Price of the good
2. Taste or level of desire for the product by the buyer
3. Income of the buyer
4. Prices of related products: substitute products (directly competes with the good in the opinion of the buyer); complementary products (used with the good in the opinion of the buyer)
5. Future expectations: expected income of the buyer expected price of the good.
6. For the total market demand (rather than individual one) the number of buyers in the market is also a determinant of the amount purchased.

An individual demand refers to the quantity of a good a consumer is willing to buy and able to buy at all prices within a period of time, ceteris paribus.

## Demand Schedule & Demand Curve

A demand schedule is a table showing the quantities of a good that a consumer would buy at all different prices within a time period, ceteris paribus. The following example gives a demand schedule. In mathematics, price & quantity demanded have a functional relationship. (In a demand function, price is called the independent variable and quantity demanded the dependent variable.)

### A's Individual Demand Schedule

The demand schedule of consumer A is a table which represents the amounts demanded at different price levels by A.

Price (Rs. per unit)	Quantity Demanded
10	4
8	6
6	9
4	15
2	-

### Market Demand Schedule

It refers to a table that shows the demand for a good by all the consumers in the market, within a time period. Let us suppose that there are Two consumers (A and B) in a market. The Market demand Schedule in that case will be:

Price (Rs. per unit)	Quantity Demanded		
	A	B	Market (i.e. A + B)
10	4	6	10
8	6	8	14
6	9	10	19
4	13	12	25
2	-	-	-

### Individual demand Curve

A demand curve shows the relationship between price and quantity demanded in a graph. The individual demand curve is the graphic representation of the price and the amount demanded by an individual in a given market during a given period of time.

### Market Demand Curve

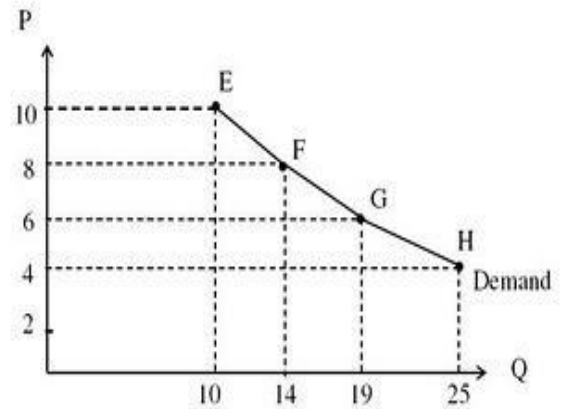
The market demand curve is the graphic representation of the price and the amount demanded by all the individuals in a given market during a given period of time.

### Law of Demand

The relationship between prices and quantity demanded is called the 'law of demand' in economics. The law of demand states that, if all other factors remain equal, the higher the price of a good, the less people will demand that good. In other words, the higher the price, the lower the quantity demanded. The amount of a good that buyers purchase at a higher price is less because

as the price of a good goes up, so does the opportunity cost of buying that good. As a result, people will naturally avoid buying a product that will force them to forgo the consumption of something else they value more.

The graph shows that the demand curve which is downward sloping. The slope implies that price and quantity demanded are inversely related, ceteris paribus. E, F, G and H are points on the demand curve. Each point on the curve reflects a direct correlation between quantities demanded (Q) and price (P). So, at point E, the quantity demanded will be 10 and the price will be Rs. 10, and so on. The demand relationship curve illustrates the negative relationship between price and quantity demanded. The higher the price of a good the lower the quantity demanded (E), and the lower the price, the more the good will be in demand (H).



(Economists argue that they have observed the reality and found that people behave as described above according to the law. Such a common behaviour is believed to be a general phenomenon of human behaviour. As a result, it is regarded as a law.)

**Shifts vs. Movement in Demand Curve**

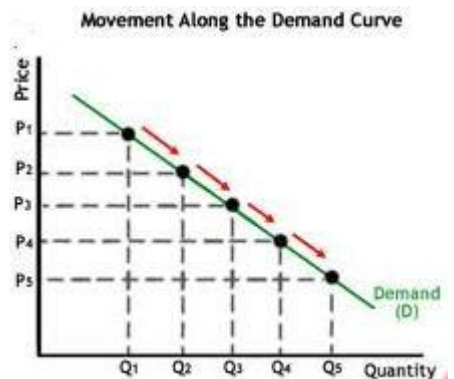
In economics, the “movements” and “shifts” in relation to the supply and demand curves represent very different market phenomena:

**Change In Demand & Quantity Demanded**

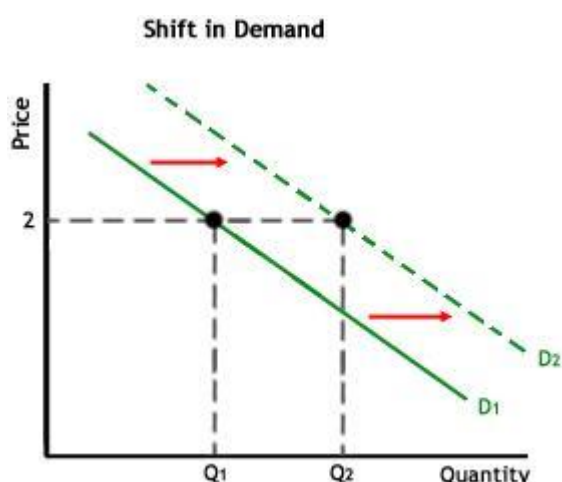
Whenever the price changes, a consumer will change its quantity demanded accordingly. According to the law of demand, when the price rises, the quantity demanded will fall. Such a change can be expressed by a movement along a demand curve.

**The Movement Along A Demand Curve: Change In Quantity Demanded**

A movement refers to a change along a curve. On the demand curve, a movement denotes a change in both price and quantity demanded from one point to another on the curve. The movement implies that the demand relationship remains consistent. Therefore, a movement along the demand curve will occur when the price of the good changes and the quantity demanded changes in accordance to the original demand relationship. In other words, a movement occurs when a change in the quantity demanded is caused only by a change in price, and vice versa.



**The Shift of A Demand Curve: Change In Demand:**



A change in demand refers to a change of the whole demand schedule, i.e. the quantity demanded ( $Q_d$ ) changes at every price. The change may be an increase or decrease.

A shift in a demand curve occurs when a good's quantity demanded or supplied changes even though price remains the same.

For instance, if the price for a good P and the quantity demanded was at Q1. If quantity demanded increased from Q1 to Q2, then there would be a shift in the demand from D2 to D1.

Conversely, the quantity demanded was Q2 when the price was P. The amount demanded will be on the demand curve D1. If, the quantity demanded decreases, then there would be a shift in the demand curve from D1 to D2.

### **Factors affecting a change in Demand: A Shift of Demand Curve**

#### **1) Prices of Related Goods**

- When the price of a good (X) rises, it does not only affect its  $Q_d$ , but also the  $Q_d$  of another related good (Y).
- If a rise in price of good X leads to a in demand of good Y, these 2 goods are called
- substitutes in economics. (There involves a movement along the demand curve of X and a shift of the demand curve of Y.)
- If a rise in price of good X leads to a fall in demand of good Y, these 2 goods are called complements or complementary goods. They are in joint demand.

#### **2) Income**

- A rise in income leads to a higher purchasing power or ability to buy of the consumers.
- (If nominal income and prices increase by the same percentage, the real income is unchanged.)
- If a rise in income leads to a rise in demand of a good by a consumer, the good is called a normal good or superior good.
- If a rise in income leads to a fall in demand of a good, the good is called an inferior
- good. "Inferior" does not refer to the quality of the good.

#### **3)Taste**

It refers to the subjective choice of consumers. It may be affected by our knowledge, friends, education, culture and advertising.

#### **4) Weather**

We may demand different goods on different seasons or weather, e.g. umbrella, heater and even food.

#### **5) Expectations of Future Price**

Consumers would change their demand if they expect the future price changes.

#### **6) Derived Demand**

An increase in demand (e.g. more number of universities) of a good or service may also lead to a demand for another good or service (e.g. more lecturers, student hostels, and other facilities). The demand for these related services is a derived demand from the university seats.

#### **7) Size of Population**

A larger population would mean more consumers. The market demand curve would shift to the right, i.e. an increase in quantity demand at all prices.

### **II. CONCEPT OF SUPPLY**

The word 'supply' refers to both the ability to sell (produce) and the willingness to sell by the producer(s). Supply implies an effective supply. Supply is also a flow concept. Time is an



important factor affecting the condition of supply. There are again many factors affecting the supply of a firm. Economics hold the ceteris paribus condition in order to analyze the relationship between price and quantity supplied by a firm or producer.

## Supply Schedule

A supply schedule is a table showing the quantities of a good that a firm or producer would produce (sell) at all different prices within a time period, ceteris paribus.

### Individual supply schedule

Individual supply schedule shows the quantity supplied at different prices by an individual firm. The following example gives a supply schedule for a good of an individual firm.

Price (Rs. per unit)	Quantity Supplied
10	2
18	4
28	6
40	8
50	10

### A Supply Schedule of A Market Consisted of Only 2 Firms (A&B)

The market supply schedule is a table that represents the quantity supplied at different firms in a market during given period of time. The example below gives a supply schedule in a market consisting of only 2 firms, A & B.

Price (Rs. per unit)	Quantity Supplied		
	A	B	Market (i.e. A + B)
10	2	3	5
18	4	5	9
28	6	8	14
40	8	10	18
50	10	11	21

## Supply Curve

A supply curve is the graphic representation of supply schedule. It shows the functional relationship between price and quantity supplied in a graph.

### Individual Supply Curve

The individual supply curve represents the quantities supplied by one individual firm in a given market during a given period of time. The supply curve will have a positive slope. The slope implies that the higher the price, the greater the quantity supplied, vice versa and ceteris paribus.

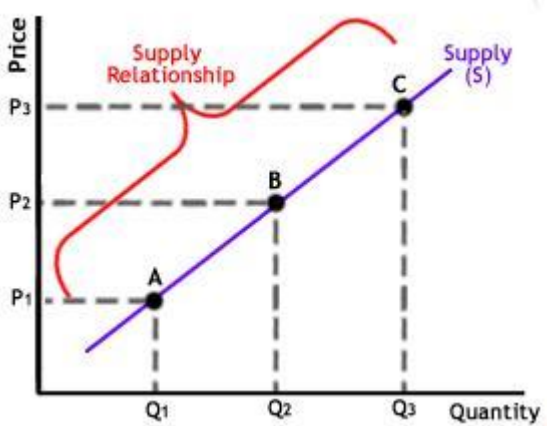
## Market Supply Curve

The individual supply curve represents the quantities supplied by all the producers or firms in a given market during a given period of time. The market supply curve is obtained by summing up the individual supply curves in the market.

## Law of Supply

The law of supply demonstrates the quantities that will be sold at a certain price. But unlike the law of demand, the supply relationship shows an upward slope. This means that the higher the price, the higher the quantity supplied. Producers supply more at a higher price because selling a higher quantity at a higher price increases revenue.

The higher the price, the greater the quantity supplied by a firm will be, *ceteris paribus*. This direct relationship between price and quantity supplied is called the law of supply.



The graph shows that the supply curve is upward sloping. The slope implies that price and quantity supplied are directly related.

A, B and C are points on the supply curve. Each point on the curve reflects a direct correlation between quantity supplied (Q) and price (P). At point B, the quantity supplied will be Q2 and the price will be P2, and so on.

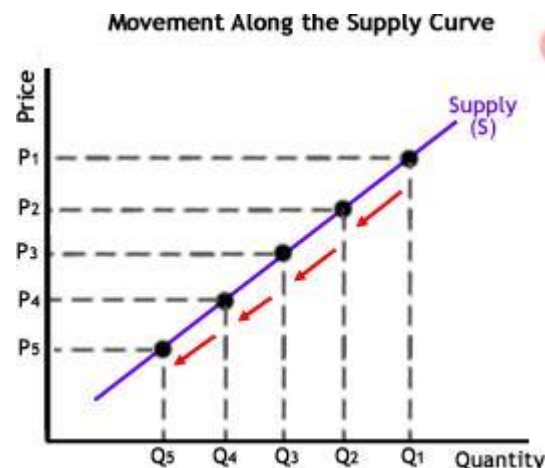
## Change In Supply & Quantity Supplied

### The Movement along Supply Curve : Change in Quantity Supplied

Whenever the market price changes, a firm or supplier will change its quantity supplied accordingly. When the price rises, the quantity supplied will rise also. It is called as movement along the supply curve.

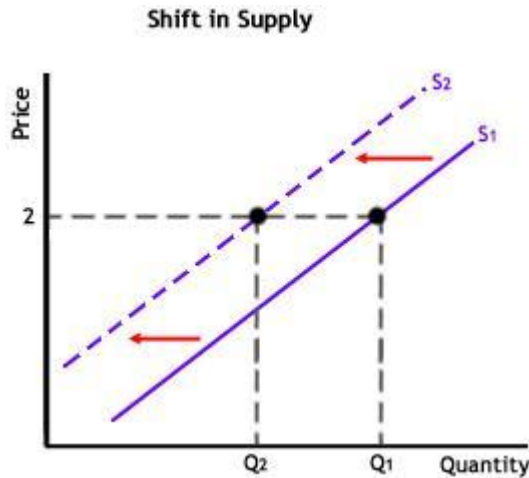
This movement shows the response of a firm (in case of an individual supply curve) or all firms in the market (in case of the market supply curve) to a change in market price, *ceteris paribus*.

A movement along the supply curve means that the supply relationship remains consistent. Therefore, a movement along the supply curve will occur when the price of the good changes and the quantity supplied changes in accordance to the original supply relationship. In other words, a movement occurs when a change in quantity supplied is caused only by a change in price, and vice versa.



## The Shift in Supply Curve : Change In Supply

A change in quantity supplied is caused by a change in market price. A change in supply is caused by some other factors besides a change in price.



A change in supply refers to a change of the whole supply schedule, i.e. the  $Q_s$  changes at every price. It may be an increase or decrease.

In the graph, supply curve shifted from  $S_1$  to  $S_2$  when the quantity supplied decreased from  $Q_1$  to  $Q_2$ .

## Factors affecting a change in Supply : A Shift of Supply Curve

### 1. Prices of Related Goods

An increase in the price of a good (X) may lead to a decrease in supply of another good (Y). Then the 2 goods are in competitive supply, e.g. residential flats and commercial flats. When the prices of residential properties rise, the developers will put more resources (e.g. cement, concrete etc.) to build the flats. As a result, the supply of these building materials for commercial flats will decrease.

An increase in the price of a good (M), may lead to an increase in supply of another good (N). Then the 2 goods are in joint supply, e.g. beef and leather.

When the price of beef rises, more beef will be supplied. At the same time, more leather is also available. A good which is a by-product of another good in general, is an example of joint supply.

### 2) Prices of Factors of Production

A change in factor prices will change the cost of production. As a result, supply is affected. A fall in factor prices would lower the production cost, leading to an increase in supply.

### 3) State of Technology

An improvement in technology would mean that a greater amount of output can be obtained from a fixed amount of factors. The supply curve would shift to the right.

### 4) Objectives of Firms

A firm based on different objectives would act differently, i.e. profit maximization or sales maximization.

### 5) Weather

Weather usually affects agricultural products or construction works.

## 6) Expectation on Future Prices

Producers would change their supply if they expect changes in the future price.

## 7) Number of Producers or Suppliers

The number of producers or suppliers also influences the supply in the market.

## 8) Time and Supply

Unlike the demand relationship, the supply relationship is a factor of time. Time is important to supply because suppliers must, but cannot always, react quickly to a change in demand or price. So it is important to try and determine whether a price change that is caused by demand will be temporary or permanent.

Let's say there's a sudden increase in the demand and price for umbrellas in an unexpected rainy season; suppliers may simply accommodate demand by using their production equipment more intensively. If, however, there is a climate change, and the population will need umbrellas year-round, the change in demand and price will be expected to be long term; suppliers will have to change their equipment and production facilities in order to meet the long-term levels of demand.

## III. DEMAND & SUPPLY ANALYSIS

### Supply and Demand Relationship

#### Concept of Market Price

With demand & supply in a market, the interaction between market demand & supply together will determine the market price of a good.

#### Determination of Equilibrium Price & Quantity In A Market

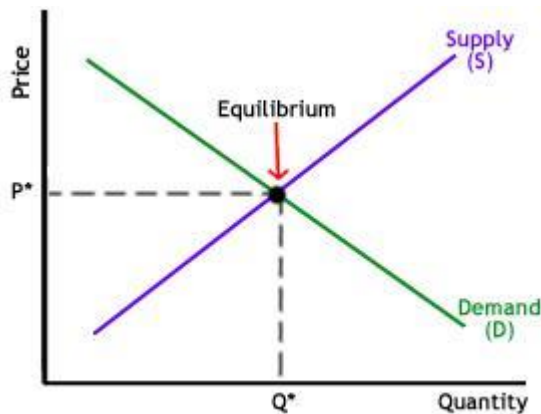
The example shows a schedule of market demand & supply for a good:

Price (Rs. per unit)	Quantity Demanded	Quantity Supplied
60	200	1100
50	400	900
40	600	700
30	800	500
20	1000	300
10	1200	100

#### Equilibrium

When supply and demand are equal (i.e. when the supply function and demand function intersect) the economy is said to be at equilibrium. At this point, the allocation of goods is at its most efficient because the amount of goods being supplied is exactly the same as the amount of goods being demanded. Thus, everyone (individuals, firms, or countries) is satisfied with the current economic condition. At the given price, suppliers are selling all the goods that they have produced and consumers are getting all the goods that they are demanding.

Equilibrium point is a point where the demand equals supply. It can be represented in the graph:



Equilibrium occurs at the intersection of the demand and supply curve. At this point, the price of the goods will be  $P^*$  and the quantity will be  $Q^*$ .

In the real market place equilibrium can only ever be reached in theory, so the prices of goods and services are constantly changing in relation to fluctuations in demand and supply.

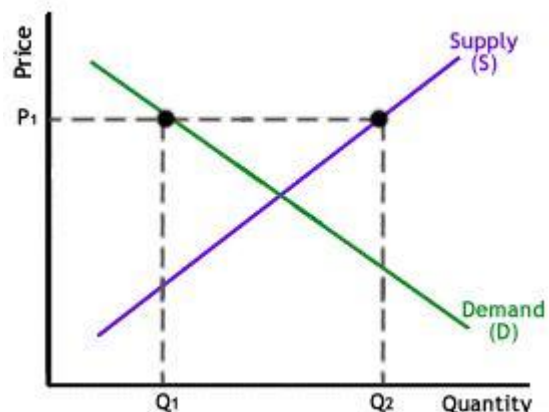
## Changes In Equilibrium

In many cases, there are factors leading to both a change in demand and a change in supply. Whenever both demand & supply increase, the quantity transacted (quantity exchanged between buyers & sellers) must be greater than before. The new equilibrium price is uncertain because it depends on the magnitude of shift of the 2 curves. Disequilibrium occurs whenever the price or quantity is not equal to  $P^*$  or  $Q^*$ .

### 1. Excess Supply

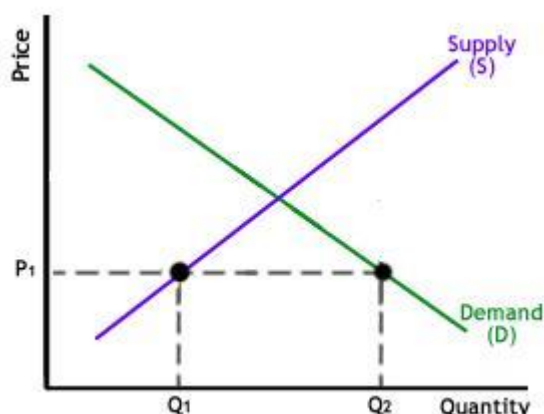
If the price is set too high, excess supply will be created within the economy and there will be allocative inefficiency.

At price  $P_1$  the quantity of goods that the producers wish to supply is indicated by  $Q_2$ . At  $P_1$ , however, the quantity that the consumers want to consume is at  $Q_1$ , a quantity much less than  $Q_2$ . Because  $Q_2$  is greater than  $Q_1$ , too much is being produced and too little is being consumed. The suppliers are trying to produce more goods, which they hope to sell to increase profits, but those consuming the goods will find the product less attractive and purchase less because the price is too high.



### 2. Excess Demand

Excess demand is created when price is set below the equilibrium price. Because the price is so low, too many consumers want the good while producers are not making enough of it.



In this situation, at price  $P_1$ , the quantity of goods demanded by consumers at this price is  $Q_2$ . Conversely, the quantity of goods that producers are willing to produce at this price is  $Q_1$ . Thus, there are too few goods being produced to satisfy the wants (demand) of the consumers. However, as consumers have to compete with one another to buy the good at this price, the demand will push the

price up, making suppliers want to supply more and bringing the price closer to its equilibrium.

#### **IV. NOMINAL PRICE & RELATIVE PRICE**

Nominal Price refers to the price of a good (or service) expressed in terms of money.

Relative price refers to the price of a good (or service) expressed in terms of another good. For example, the (nominal) price of a ballpen is Rs.20 and the (nominal) price of a ruler is Rs.10. The relative price of a ballpen is 2 rulers ( = Rs.20 / Rs.10 ).

#### **V. ELASTICITY OF DEMAND**

Elasticity of demand measures the degree of responsiveness of a change in quantity demanded of a good to a change in price.

#### **TYPES OF ELASTICITY OF DEMAND:**

1) Price Elasticity of Demand ; 2) Income Elasticity of Demand; 3) Cross Elasticity of Demand

**1) PRICE ELASTICITY OF DEMAND-** Price elasticity of demand is the ratio of the percentage change in the quantity demanded of a commodity to a percentage change in its prices. The formula for the coefficient of price elasticity of demand for a good is:

*Percentage change in quantity demanded divided by the percentage change in price:*

$$E_d = \frac{\% \text{ change in quantity demanded}}{\% \text{ change in price}} = \frac{\Delta Q_d / Q_d}{\Delta P / P} \quad (\Delta = \text{Change})$$

The above formula usually yields a negative value, due to the inverse nature of the relationship between price and quantity demanded, as described by the "law of demand". For example, if the price increases by 5% and quantity demanded decreases by 5%, then the elasticity at the initial price and quantity =  $-5\%/5\% = -1$ . The only classes of goods which have a PED of greater than 0 are Veblen and Giffen goods. Because the Price elasticity of demand is negative for the vast majority of goods and services, however, economists often refer to price elasticity of demand as a positive value (i.e., in absolute value terms).

This measure of elasticity is sometimes referred to as the *own-price* elasticity of demand for a good, i.e., the elasticity of demand with respect to the good's own price.

As the difference between the two prices or quantities increases, the accuracy of the Price elasticity of demand given by the formula above *decreases* for a combination of two reasons. First, the Price elasticity of demand for a good is not necessarily constant; it can vary at different points along the demand curve, due to its percentage nature. Elasticity is not the same thing as the slope of the demand curve, which is dependent on the units used for both price and quantity. Second, percentage changes are not symmetric; instead, the percentage change between any two values depends on which one is chosen as the starting value and which as the ending value. For example, if quantity demanded increases *from* 10 units *to* 15 units, the percentage change is 50%, i.e.,  $(15 - 10) \div 10$  (converted to a percentage). But if quantity demanded decreases *from* 15 units *to* 10 units, the percentage change is  $-33.3\%$ , i.e.,  $(15 - 10) \div 15$ .

Two alternative elasticity measures avoid or minimise these shortcomings of the basic elasticity formula: *point-price elasticity* and *arc elasticity*.

#### **Point-price elasticity:**

One way to avoid the accuracy problem is to minimize the difference between the starting and ending prices and quantities. This is the approach taken in the definition of *point-price*

elasticity, which uses differential calculus to calculate the elasticity for an insignificant change in price and quantity at any given point on the demand curve:

$$E_d = \frac{P}{Q_d} \times \frac{dQ_d}{dP}$$

In other words, it is equal to the absolute value of the first derivative of quantity with respect to price ( $dQ_d/dP$ ) multiplied by the point's price ( $P$ ) divided by its quantity ( $Q_d$ ). However, the point-price elasticity can be computed only if the formula for the demand function,  $Q_d = f(P)$ , is known so its derivative with respect to price,  $dQ_d/dP$ , can be determined.

### Arc elasticity:

A second solution to the asymmetry problem of having a PED dependent on which of the two given points on a demand curve is chosen as the "original" point and which as the "new" one is to compute the percentage change in  $P$  and  $Q$  relative to the *average* of the two prices and the *average* of the two quantities, rather than just the change relative to one point or the other. Loosely speaking, this gives an "average" elasticity for the section of the actual demand curve—i.e., the *arc* of the curve—between the two points. As a result, this measure is known as the *arc elasticity*, in this case with respect to the price of the good. The arc elasticity is defined mathematically as:

$$E_d = \frac{\frac{P_1 + P_2}{2}}{\frac{Q_{d1} + Q_{d2}}{2}} \times \frac{\Delta Q_d}{\Delta P} = \frac{P_1 + P_2}{Q_{d1} + Q_{d2}} \times \frac{\Delta Q_d}{\Delta P}$$

This method for computing the price elasticity is also known as the "midpoints formula", because the average price and average quantity are the coordinates of the midpoint of the straight line between the two given points. However, because this formula implicitly assumes the section of the demand curve between those points is linear, the greater the curvature of the actual demand curve is over that range, the worse this approximation of its elasticity will be.

## DIFFERENT METHODS OF PRICE ELASTICITY OF DEMAND

Since changes in price and quantity nearly always move in opposite directions, economists usually do not bother to put in the minus sign. The co-efficient of elasticity of demand is considered more.

**a) Perfectly Elastic Demand-** Perfectly elastic demand is one in which a little change in price will cause an infinite change in demand.

**b) Perfectly Inelastic Demand-** Perfectly inelastic demand is one in which a change in price results in no change in demand. The demand curve in this case will be vertical

**c) Unitary Elastic Demand-** Unitary elastic demand is one in which the percentage change in demand is exactly the same as the percentage change in price. A 15% rise in price would lead to a 15% contraction in demand leaving total spending by the same at each price level.

**d) Relatively Elastic Demand –** When demand responds more than proportionately to a change in price, then demand is said to be relatively elastic. For example a 20% increase in the price of a good might lead to a 30% drop in demand. The price elasticity of demand for this price change is  $-1.5$

**e) Relatively Inelastic Demand –** Demand is said to be relatively inelastic when the percentage change in demand is lesser than the percentage change in price. Producers know that the change in demand will be proportionately smaller than the percentage change in price.

When demand is inelastic – a rise in price leads to a rise in total revenue – for example a 20% rise in price might cause demand to contract by only 5% ( $EdX = -0.25$ ) When demand is elastic – a fall in price leads to a rise in total revenue - for example a 10% fall in price might cause demand to expand by only 25% ( $EdX = +2.5$ )

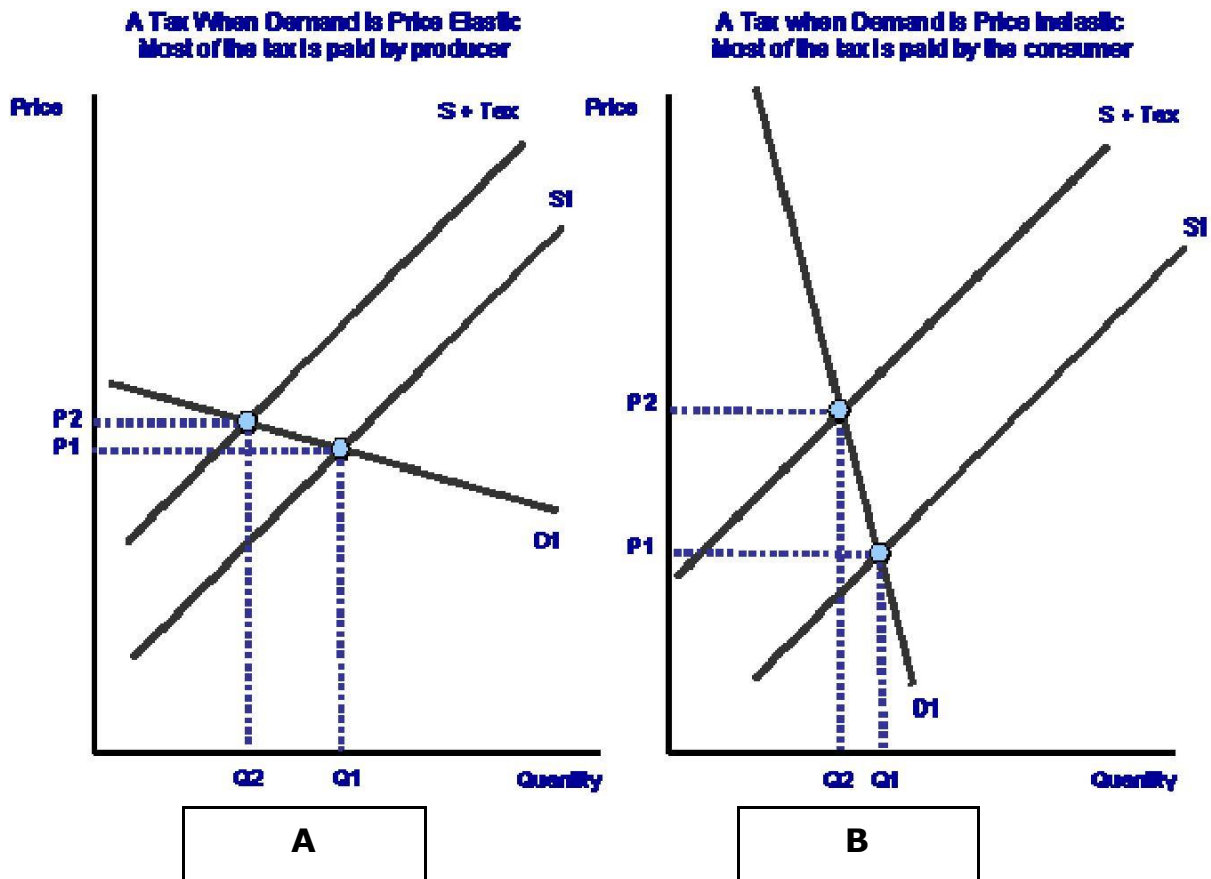
### Determinants of Price Elasticity of Demand

- **The number of close substitutes for a good / uniqueness of the product** – The more close substitutes in the market, the more elastic is the demand for a product because consumers can more easily switch their demand if the price of one product changes **relative** to others in the market. The huge range of package holiday tours and destinations make this a highly competitive market in terms of pricing – many holiday makers are price sensitive
- **The cost of switching between different products** – There may be significant **transactions costs** involved in switching between different goods and services. In this case, demand tends to be relatively inelastic. For example, mobile phone service providers may include penalty clauses in contracts or insist on 12-month contracts being taken out
- **The degree of necessity or whether the good is a luxury** – goods and services deemed by consumers to be necessities tend to have an inelastic demand whereas luxuries will tend to have a more elastic demand because consumers can make do without luxuries when their budgets are stretched. I.e. in an economic recession we can cut back on discretionary items of spending
- **The % of a consumer's income allocated to spending on the good** – goods and services that take up a high proportion of a household's income will tend to have a more elastic demand than products where large price changes makes little or no difference to someone's ability to purchase the product.
- **The time period allowed following a price change** – demand tends to be more price elastic, the longer that we allow consumers to respond to a price change by varying their purchasing decisions. In the short run, the demand may be inelastic, because it takes time for consumers both to notice and then to respond to price fluctuations
- **Whether the good is subject to habitual consumption** – when this occurs, the consumer becomes much less sensitive to the price of the good in question. Examples such as cigarettes and alcohol and other drugs come into this category
- **Peak and off-peak demand** - demand tends to be price inelastic at peak times – a feature that suppliers can take advantage of when setting higher prices. Demand is more elastic at off-peak times, leading to lower prices for consumers. Consider for example the charges made by car rental firms during the course of a week, or the cheaper deals available at hotels at weekends and away from the high-season. Train fares are also higher on Fridays (a peak day for travelling between cities) and also at peak times during the day
- **The breadth of definition of a good or service** – if a good is broadly defined, i.e. the demand for petrol or meat, demand is often fairly inelastic. But specific brands of petrol or beef are likely to be more elastic following a price change

### Elasticity of demand and indirect taxation

Many products are subject to indirect taxation imposed by the government. Good examples include the duty on cigarettes alcohol and fuels. We consider the effects of indirect taxes on a producers costs and the importance of price elasticity of demand in determining the effects of a tax on market price and quantity.





A tax increases the costs of a business causing an inward shift in the supply curve. The vertical distance between the pre-tax and the post-tax supply curve shows the tax per unit. With an indirect tax, the supplier may be able to pass on some or all of this tax onto the consumer through a higher price. This is known as **shifting the burden of the tax** and the ability of businesses to do this depends on the price elasticity of demand and supply.

In diagram A, the demand curve is drawn as price elastic. The producer must absorb the majority of the tax itself (i.e. accept a lower profit margin on each unit sold). When demand is elastic, the effect of a tax is still to raise the price, but there is a bigger fall in equilibrium quantity. Output has fallen from  $Q_1$  to  $Q_2$  due to a contraction in demand. In diagram B, demand is drawn as price inelastic (i.e.  $E_d < 1$ ) and therefore the producer is able to pass on most of the tax to the consumer through a higher price without losing too much in the way of sales. The price rises from  $P_1$  to  $P_2$  i.e., a large rise in price leads only to a small contraction in demand from  $Q_1$  to  $Q_2$ .

### Habitual spending on cigarettes remains high but sales are falling

Sales of cigarettes are falling by the impact of higher taxes mean that smokers must spend more to finance their habits. Increases in the real value of tax on cigarettes will have little effect on demand, because demand has been inelastic.

### The usefulness of price elasticity for producers

Firms can use Price Elasticity of Demand estimates to predict:

- The effect of a change in price on the total revenue & expenditure on a product. The likely **price instability** in a market following unexpected changes in supply which is important for commodity producers who may suffer big price movements from time to time.
- The effect of a **change in a government indirect tax** on price and quantity demanded and also whether the business is able to pass on some or all of the tax onto the consumer.

- Information on the price elasticity of demand can be used by a business as part of a policy of **price discrimination** (also known as yield management). This is where a monopoly supplier decides to charge different prices for the same product to different segments of the market e.g. peak and off peak rail travel or yield management by many of our domestic and international airlines.

## 2) INCOME ELASTICITY OF DEMAND

Income elasticity of demand refers to the degree of responsiveness of change in quantity demanded to a change in income. It is calculated as the ratio of the percentage change in demand to the percentage change in income. For example, if, in response to a 10% increase in income, the demand for a good increased by 20%, the income elasticity of demand would be  $20\%/10\% = 2$ .

$$\epsilon_d = \frac{\% \text{ change in quantity demanded}}{\% \text{ change in real income}}$$

- A negative income elasticity of demand is associated with inferior goods; an increase in income will lead to a fall in the demand and may lead to changes to more luxurious substitutes.
- A positive income elasticity of demand is associated with normal goods; an increase in income will lead to a rise in demand. If income elasticity of demand of a commodity is less than 1, it is a necessity good. If the elasticity of demand is greater than 1, it is a luxury good or a superior good.
- A zero income elasticity (or inelastic) demand occurs when an increase in income is not associated with a change in the demand of a good. These would be sticky goods.

Income elasticity of demand can be used as an indicator of industry health, future consumption patterns and as a guide to firms investment decisions. For example, the "selected income elasticities" below suggest that an increasing portion of consumer's budgets will be devoted to purchasing automobiles and restaurant meals and a smaller share to tobacco and cooking oil.

Income elasticities are closely related to the population income distribution and the fraction of a product's sales attributable to buyers from different income brackets. When a buyer in a income group gets an increase in income, the demand for a good changes to match the new income level. If the income share elasticity is defined as the negative percentage change in individuals given a percentage increase in income group, then the income-elasticity, after some computation, becomes the expected value of the income-share elasticity with respect to the income distribution of purchasers of the product.

## 3) CROSS ELASTICITY OF DEMAND

Cross elasticity of demand measures the change in quantity demanded of a particular commodity due to change in the price of another commodity. In other words, it refers to the change in quantity of commodity "Y" demanded as a result of change in the prices of commodity.

The formula used to calculate the coefficient cross elasticity of demand is:

$$E_{A,B} = \frac{\% \text{ change in demand of product A}}{\% \text{ change in price of product B}}$$

With cross price elasticity we make an important distinction between substitute products and complementary goods and services

**Substitutes:** Cross price elasticity for two substitutes will be positive. Ex.: Substitute goods such as brands of cereal or washing powder, an increase in the price of one good will lead to an increase in demand for the rival product.

**Complements:** The cross price elasticity of demand for two complements is negative. Ex.: The complementary goods, such as the demand for DVD players and DVD videos, when there is a fall in the price of DVD players we expect to see more DVD players bought, leading to an expansion in market demand for DVD videos.

**The stronger the relationship between two products, the higher is the co-efficient of cross-price elasticity of demand.** For example with two close substitutes, the cross-price elasticity will be strongly positive. Likewise when there is a strong complementary relationship between two products, the cross-price elasticity will be highly negative. Unrelated products have a zero cross elasticity.

### Usefulness of the concept of cross price elasticity of demand

- **Pricing strategies for substitutes:** If a competitor cuts the price of a rival product, firms use estimates of cross-price elasticity to predict the effect on the quantity demanded and total revenue of their own product. For example, two or more airlines competing with each other on a given route will have to consider how one airline might react to its competitor's price change. Will many consumers switch? Will they have the capacity to meet an expected rise in demand? Will the other firm match a price rise? Will it follow a price fall?
- **Pricing strategies for complementary goods:** For example, popcorn, soft drinks and cinema tickets are strong complements and have a high negative value for cross elasticity. Popcorn has a high mark up i.e. pop corn costs pennies to make but sells for more than a pound. If firms have a reliable estimate for Cross elasticity they can estimate the effect, say, of a two-for-one cinema ticket offer on the demand for popcorn. The additional profit from extra popcorn sales may more than compensate for the lower cost of entry into the cinema.
- **Advertising and marketing:** In highly competitive markets where brand names carry substantial value, many businesses spend huge amounts of money every year on persuasive advertising and marketing. There are many aims behind this, including attempting to shift out the demand curve for a product (or product range) and also build consumer loyalty to a brand. When consumers become habitual purchasers of a product, the cross price elasticity of demand against rival products will decrease. This reduces the size of the substitution effect following a price change and makes demand less sensitive to price. The result is that firms may be able to charge a higher price, increase their total revenue and turn consumer surplus into higher profit.



### 1.3 MARKET FAILURE

Market failure is a concept within economic theory wherein the allocation of goods and services by a free market is not efficient. Basically market failure occurs when markets do not bring about economic efficiency. That means, there exists another conceivable outcome where a market participant may be made better-off without making someone else worse-off. Market failures can be viewed as scenarios where individuals' pursuit of pure self-interest leads to results that are not efficient – that can be improved upon from the societal point-of-view. The first known use of the term by economists was in 1958, but the concept has been traced back to the Victorian philosopher Henry Sidgwick.

Market failures are often associated with information asymmetries, non-competitive markets, principal-agent problems, externalities, or public goods. The existence of a market failure is often used as a justification for government intervention in a particular market. Economists, especially microeconomists, are often concerned with the causes of market failure, and possible means to correct such a failure when it occurs. Such analysis plays an important role in many types of public policy decisions and studies. However, some types of government policy interventions, such as taxes, subsidies, bailouts, wage and price controls, and regulations, including attempts to correct market failure, may also lead to an inefficient allocation of resources, (sometimes called government failures). Thus, there is sometimes a choice between imperfect outcomes, i.e. imperfect market outcomes with or without government interventions. In simple terms, the market may not always allocate scarce resources efficiently in a way that achieves the highest total social welfare. But either way, if a market failure exists the outcome is not Pareto efficient. Mainstream neoclassical and Keynesian economists believe that it may be possible for a government to improve the inefficient market outcome, while several heterodox schools of thought disagree with this.

Main problem is the absence of clearly defined property rights for those agents operating in the market. When property rights are not clearly defined, market failure is likely because producers & consumers may not be held to account. One should not forget that, positive externalities can also justify intervention if goods are under-consumed (social benefit is greater than the private benefit)

#### **Markets can fail because of:**

- Negative externalities** (e.g. the effects of environmental pollution) causing the social cost of production to exceed the private cost.
- Positive (or beneficial) externalities** (e.g. the provision of education and health care) causing the social benefit of consumption to exceed the private benefit
- Imperfect information** means merit goods are under-produced while demerit goods are over-produced or over-consumed
- The private sector in a free-market cannot profitably supply to consumers **pure public goods** and **quasi-public goods** that are needed to meet people's needs and wants
- Market dominance by monopolies** can lead to under-production and higher prices than would exist under conditions of competition
- Factor immobility** causes unemployment hence productive inefficiency
- Equity (fairness) issues**. Markets can generate an 'unacceptable' distribution of income and consequent social exclusion which the government may choose to change
- Inequality** - Market failure can also be caused by the existence of inequality throughout the economy. Wide differences in income and wealth between different groups within our economy, leads to a wide gap in living standards between affluent households and those experiencing poverty. Society may come to the view that too much inequality is unacceptable or undesirable

#### **Market failure results in :**

- Productive inefficiency:** Businesses are not maximising output from given factor inputs. This is a problem because the lost output from inefficient production could have been used to satisfy more wants and needs

- **Allocative inefficiency:** Resources are misallocated and producing goods and services not wanted by consumers. This is a problem because resources can be put to a better use making products that consumers value more highly

### a. Public Goods

Public Goods are not provided by the free market because of their two main characteristics

- **Non-excludability** where it is not possible to provide a good or service to one person without it thereby being available for others to enjoy
- **Non-rivalry** where the consumption of a good or service by one person will not prevent others from enjoying it. Examples: Street lighting / Lighthouse Protection, Police services, Roads / motorways, Public parks & beaches. Because of their nature the private sector is unlikely to be willing and able to provide public goods. The government therefore provides them for collective consumption and finances them through general taxation.

### b. Merit Goods

Merit Goods are those goods and services that the government feels that people left to themselves will under-consume and which therefore ought to be subsidized or provided free at the point of use. Both the public and private sector of the economy can provide merit goods & services. Consumption of merit goods is thought to generate positive externality effects where the social benefit from consumption exceeds the private benefit. Examples: Health services, Education, Public Libraries, Inoculations

### c. Monopoly

Few modern markets meet the stringent conditions required for a perfectly competitive market. The existence of monopoly power is often thought to create the potential for market failure and a need for intervention to correct for some of the welfare consequences of monopoly power.

#### The classical economic case against monopoly is that

- Price is higher and output is lower under monopoly than in a competitive market. This causes a net economic welfare loss of both consumer and producer surplus.
- Price is greater than marginal cost, leading to allocative inefficiency.
- Rent seeking behaviour by the monopolist might add to the standard costs of monopoly. This includes high (possibly excessive) amounts of spending on persuasive advertising and marketing.
- An upward drift in costs because of a lack of effective competition in the market-place can lead to consumers facing higher prices and a reduction in their real standard of living

### Externalities

Externalities are common in virtually every area of economic activity. They are defined as third party (or spill-over) effects arising from the production and/or consumption of goods and services for which no appropriate compensation is paid. Externalities can cause market failure if the price mechanism does not take into account the full social costs and social benefits of production and consumption. The study of externalities by economists has become extensive in recent years - not least because of concerns about the link between the economy and the environment.

#### □ PRIVATE AND SOCIAL COSTS

Externalities create a divergence between the private and social costs of production. Social cost includes all the costs of production of the output of a particular good or service. We include the third party (external) costs arising, for example, from pollution of the atmosphere.

$$\text{SOCIAL COST} = \text{PRIVATE COST} + \text{EXTERNALITY}$$

For example: - 1. A chemical factory emits wastage as a by-product into nearby rivers and into the atmosphere. This creates negative externalities which impose higher social costs on other firms and consumers. e.g. clean up costs and health costs.  
 2. Another example of higher social costs comes from the problems caused by traffic congestion in towns, cities and on major roads and motor ways. It is important to note though that the manufacture, purchase and use of private cars can also generate external benefits to society. This is why cost-benefit analysis can be useful in measuring and putting some monetary value on both the social costs and benefits of production.

## MARKET FAILURE AND EXTERNALITIES

When negative production externalities exist, marginal social cost is greater than private marginal cost. The marginal social cost of production exceeds the private costs faced only by the producer/supplier of the product. If a supplier of fertiliser to the agricultural industry creates some external costs to the environment arising from their production process.

### Why do externalities lead to market failure?

If we assume that the producer is interested in maximising profits - then they will only take into account the private costs and private benefits arising from their supply of the product. However the socially efficient level of production would consider the external costs too. This leads to the private optimum output being greater than the social optimum level of production. The producer creating the externality does not take the effects of externalities into their own calculations. We assume that producers are only concerned with their own self interest. The private optimum output is when, where private marginal benefit = private marginal cost. For society as a whole though the social optimum is where social marginal benefit = social marginal cost. The failure to take into account the negative externality effects is an example of market failure.

## NEGATIVE CONSUMPTION EXTERNALITIES

Consumers can create externalities when they purchase and consume goods and services. Some examples are:

- Pollution from cars and motorbikes
- Litter on streets and in public places
- Noise pollution from using car stereos or ghetto-blasters
- Negative externalities created by smoking and alcohol abuse
- Externalities created through the mis-treatment of animals
- Damage of public property
- Negative externalities arising from crime

In these situations the marginal social benefit of consumption will be less than the marginal private benefit of consumption. (i.e.  $SMB < PMB$ ) This leads to the good or service being over-consumed relative to the social optimum. Without government intervention the good or service will be under-priced and the negative externalities will not be taken into account. Again there will be a deadweight loss of economic welfare.

## GOVERNMENT INTERVENTION AND MARKET FAILURE

Government intervention may seek to correct for the distortions created by market failure and to improve the efficiency in the way that markets operate. There are many ways in which intervention can take place. Some examples:

- Pollution taxes to correct for externalities
- Taxation of monopoly profits (the Windfall Tax)
- Regulation of oligopolies/cartel behaviour
- Direct provision of public goods (defense)

- Policies to introduce competition into markets (de-regulation)
- Price controls for the recently privatized utilities

The economy operates with a huge amount of regulation. The government appointed regulators who can impose price controls in most of the main utilities. Regulation may be used to introduce fresh competition into a market.

#### □ **Direct State Provision of Goods and Services**

Because of privatization, the state-owned sector of the economy is now much smaller than it was twenty years ago. State funding can be used to provide merit goods and services and public goods directly to the population.

#### □ **Fiscal Policy Intervention**

Fiscal policy can be used to alter the level of demand for different products and also the pattern of demand within the economy.

**Indirect taxes** such as changes in VAT and excise duties can be used to raise the price of demerit goods and products with negative externalities designed to increase the opportunity cost of consumption and thereby reduce consumer demand towards a socially optimal level.

**Subsidies** to consumers will lower the price of merit goods such as grants to students to reduce the internal costs of staying in hostels. They are designed to boost consumption and output of products with positive externalities – a subsidy causes an increase in market supply and leads to a lower equilibrium price.

**Tax relief:** The government may offer financial assistance such as tax credits for business investment in research and development. Or a reduction in corporation tax designed to promote investment and employment.

**Changes to taxation and welfare payments** can be used to influence the distribution of income and wealth – for example higher direct taxes on rich households or an increase in the value of welfare benefits for the poor to make the tax and benefit system more progressive.

**Intervention designed to close the information gap-** Often market failure results from consumers suffering from a lack of information about the costs and benefits of the products available in the market place. Government action can have a role in improving information to help consumers and producers value the ‘true’ cost and/or benefit of a good or service. Examples might include: Compulsory labelling on cigarette packages with health warnings to reduce smoking; Improved nutritional information on high-fat foods to counter the risks of growing obesity; Anti-speeding television and cinema advertising to reduce road accidents; Advertising health-screening programmes / information campaigns on the dangers of drug and alcohol addiction. These programmes are really designed to change the “perceived” costs and benefits of consumption for the consumer. They don’t have any direct effect on market prices, but they seek to influence demand and therefore the level of final output and consumption.

The externalities are not synonymous with market failure. We need to consider (a) whether they have public-good characteristics and (b) whether taking the actions needed to manage the externality would result in positive net benefits.



## **2 . INTERNATIONAL TRADE AND WTO**

### **2.1. THEORY OF INTERNATIONAL TRADE**

International trade is exchange of capital, goods, and services across international borders or territories. In most countries, it represents a significant share of gross domestic product (GDP). While international trade has been present throughout much of history, its economic, social, and political importance has been on the rise in recent centuries.

Industrialization, advanced transportation, globalization, multinational corporations, and outsourcing are all having a major impact on the international trade system. Increasing international trade is crucial to the continuance of globalization. Without international trade, nations would be limited to the goods and services produced within their own borders.

International trade is in principle not different from domestic trade as the motivation and the behavior of parties involved in a trade do not change fundamentally regardless of whether trade is across a border or not. The main difference is that international trade is typically more costly than domestic trade. The reason is that a border typically imposes additional costs such as tariffs, time costs due to border delays and costs associated with country differences such as language, the legal system or culture.

Another difference between domestic and international trade is that factors of production such as capital and labour are typically more mobile within a country than across countries. Thus international trade is mostly restricted to trade in goods and services, and only to a lesser extent to trade in capital, labor or other factors of production. Then trade in goods and services can serve as a substitute for trade in factors of production.

International trade is also a branch of economics, which, together with international finance, forms the larger branch of international economics.

#### **I. Classical Theory of International Trade**

In 1817, David Ricardo, an English political economist, contributed theory of comparative advantage in his book '*Principles of Political Economy and Taxation*'. This theory of comparative advantage, also called comparative cost theory, is regarded as the classical theory of international trade.

According to the classical theory of international trade, every country will produce their commodities for the production of which it is most suited in terms of its natural endowments climate quality of soil, means of transport, capital, etc. It will produce these commodities in excess of its own requirement and will exchange the surplus with the imports of goods from other countries for the production of which it is not well suited or which it cannot produce at all. Thus all countries produce and export these commodities in which they have cost advantages and import those commodities in which they have cost disadvantages.

#### **Types of Cost Difference in Production**

- Economists speak about three types of cost difference in production, they are
- Absolute cost difference,
- Equal cost difference, and
- Comparative cost difference.

#### **1. Absolute Cost Differences:-**

Adam Smith in his book '*Wealth of Nation*' argued that international trade is advantageous for all the participating countries only if they enjoy absolute differences in the cost of production of the commodity which they specialize. As in the case of individuals where each specializes in the



production of that commodity in which he has an absolutely superiority in terms of cost, so also each country specializes in production of goods based on absolute advantage.

The principle of absolute difference in cost can be explained with the help of table given below. Let us assume that we have 2 countries, I and II specializing in the production of X and Y.

One Day's Labour Produces

Country	Commodity X (in Units)	Commodity Y (in Units)	Internal Exchange Rate	
			X	Y
I	20	10	2	: 1
II	10	20	1	: 2

In country I, one day's labour produces 20x or 10y. The internal exchange rate is 2 : 1. In country II, one day's labour produce 10x or 20y which gives us the domestic exchange rate of 1 : 2. Country I has the absolute advantage in the production of X (as 20 > 10) and country II in Y (as 10 < 20). If these countries enter into trade with the international exchange of 1 : 1, both countries stand to benefit. Country I will have 1y for 1x as against  $\frac{1}{2}y$  for 1x within the country. Similarly country II will have 1x for 1y as against  $\frac{1}{2}x$  for 1y within the country.

Based on this example, according to Adam Smith, it can be pointed out that international trade to be beneficial, each country must enjoy absolute difference in cost of production.

## 2. Equal Difference in Cost :-

Adam Smith, in order to strengthen his argument in favour of absolute difference in cost pointed out that trade is not possible if countries operate under equal difference in cost instead of absolute difference.

One Day's Labour Produces

Country	Commodity X (in Units)	Commodity Y (in Units)	Internal Exchange Rate	
			X	Y
I	20	10	2	: 1
II	10	5	2	: 1

The above table gives us the internal exchange rate 2x : 1y in both countries. Since the exchange ratio between X and Y in both countries is the same; none of them will benefit by entering into international trade.

Based on this example, according to Adam Smith, for international trade to be beneficial countries must enjoy absolute difference in cost. Trade would not take place when the difference in cost is equal.

## 3. Comparative Difference in Cost :-

David Ricardo agreed that absolute difference in cost gives a clear reason for trade to take place. He, however, went further to argue that even that the country has absolute advantage in the production of both commodities it is beneficial for that country to specialise in the production of that commodity in which it has a greater comparative advantage. The other country can be left to specialise in the production of that commodity in which it has less comparative advantage. According to Ricardo the essence for international trade is not the absolute difference in cost but comparative difference in cost.

## Ricardo's Theory of Comparative Advantage :

David Ricardo stated a theory that other things being equal a country tends to specialise in and exports those commodities in the production of which it has maximum comparative cost advantage or minimum comparative disadvantage. Similarly the country's imports will be of goods having relatively less comparative cost advantage or greater disadvantage.

#### a. Ricardo's Assumptions :-

Ricardo explains his theory with the help of following assumptions :-

- There are two countries and two commodities.
- There is a perfect competition both in commodity and factor market.
- Cost of production is expressed in terms of labour i.e. value of a commodity is measured in terms of labour hours/days required to produce it. Commodities are also exchanged on the basis of labour content of each good.
- Labour is the only factor of production other than natural resources.
- Labour is homogeneous i.e. identical in efficiency, in a particular country.
- Labour is perfectly mobile within a country but perfectly immobile between countries.
- There is free trade i.e. the movement of goods between countries is not hindered by any restrictions.
- Production is subject to constant returns to scale.
- There is no technological change.
- Trade between two countries takes place on barter system.
- Full employment exists in both countries.
- There is no transport cost.

#### b. Ricardo's Example :-

On the basis of assumptions, Ricardo explained his comparative cost difference theory, by taking an example of England and Portugal as two countries & Wine and Cloth as two commodities.

As pointed out in the assumptions, the cost is measured in terms of labour hour. The principle of comparative advantage expressed in labour hours by the following table.

	<i>1 Unit Of Wine</i>	<i>1 Unit of Cloth</i>
<i>England</i>	120	100
<i>Portugal</i>	80	90

Portugal requires less hours of labour for both wine and cloth. One unit of wine in Portugal is produced with the help of 80 labour hours as above 120 labour hours required in England. In the case of cloth too, Portugal requires less labour hours than England. From this it could be argued that there is no need for trade as Portugal produces both commodities at a lower cost. Ricardo however tried to prove that Portugal stands to gain by specialising in the commodity in which it has a greater comparative advantage. Comparative cost advantage of Portugal can be expressed in terms of cost ratio.

#### • Cost ratios of producing Wine and Cloth

<i>Portugal</i>		<i>England</i>	
<i>Wine</i>	<i>Cloth</i>	<i>Wine</i>	<i>Cloth</i>
$\frac{80}{120}$	>	$\frac{90}{100}$	
0.66	<	0.9	
		$\frac{120}{80}$	>
		1.5	1.11

Portugal has advantage of lower cost of production both in wine and cloth. However the difference in cost, that is the comparative advantage is greater in the production of wine ( $1.5 - 0.66 = 0.84$ ) than in cloth ( $1.11 - 0.9 = 0.21$ ).

Even in the terms of absolute number of days of labour Portugal has a large comparative advantage in wine, that is, 40 labourers less than England as compared to cloth where the difference is only 10, ( $40 > 10$ ). Accordingly Portugal specialises in the production of wine where its comparative advantage is larger. England specialises in the production of cloth where its comparative disadvantage is lesser than in wine.

#### • Comparative Cost Benefits Both Participants

Let us explain Ricardian contention that comparative cost benefits both the participants, though one of them had clear cost advantage in both commodities. To prove it, let us work out the internal exchange ratio.

	Wine	Cloth	Domestic Exchange Rate	
			W	C
England	120	100	1	: 1.2
Portugal	80	90	1	: 0.89

Let us assume these 2 countries enter into trade at an international exchange rate (Terms of Trade) 1 : 1. At this rate, England specializes in cloth and exporting one unit of cloth gets one unit of wine. At home it is required to give 1.2 units of cloth for one unit of wine. England thus gains 0.2 of cloth i.e. wine is cheaper from Portugal by 0.2 unit of cloth.

Similarly Portugal gets one unit of cloth from England for its one unit of wine as against 0.89 of cloth at home thus gaining extra cloth of 0.11. Here both England and Portugal gain from the trade i.e. England gives 0.2 less of cloth to get one unit of wine and Portugal gets 0.11 more of cloth for one unit of wine.

In this example, Portugal specializes in wine where it has greater comparative advantage leaving cloth for England in which it has less comparative disadvantage.

Thus comparative cost theory states that each country produces & exports those goods in which they enjoy cost advantage & imports those goods suffering cost disadvantage.

## II. Heckscher-Ohlin Model :

In the early 1900s an international trade theory called factor proportions theory emerged by two Swedish economists, Eli Heckscher and Bertil Ohlin. This theory is also called the Heckscher-Ohlin theory. The Heckscher-Ohlin theory stresses that countries should produce and export goods that require resources (factors) that are abundant and import goods that require resources in short supply. This theory differs from the theories of comparative advantage and absolute advantage since those theories focus on the productivity of the production process for a particular good. On the contrary, the Heckscher-Ohlin theory states that a country should specialize production and export using the factors that are most abundant, and thus the cheapest. Not to produce, as earlier theories stated, the goods it produces most efficiently.

The Heckscher-Ohlin model was produced as an alternative to the Ricardian model of basic comparative advantage. Despite its greater complexity it did not prove much more accurate in its predictions. However from a theoretical point of view it did provide an elegant solution by incorporating the neoclassical price mechanism into international trade theory.

The theory argues that the pattern of international trade is determined by differences in factor endowments. It predicts that countries will export those goods that make intensive use of locally abundant factors and will import goods that make intensive use of factors that are locally

scarce. Empirical problems with the H-O model, known as the Leontief paradox, were exposed in empirical tests by Wassily Leontief who found that the United States tended to export labor intensive goods despite having capital abundance.

The Heckscher-Ohlin theory explains why countries trade goods and services with each other. One condition for trade between two countries is that the countries differ with respect to the availability of the factors of production. They differ if one country, for example, has many machines (capital) but few workers, while another country has a lot of workers but few machines. According to the Heckscher-Ohlin theory, a country specializes in the production of goods that it is particularly suited to produce. Countries in which capital is abundant and workers are few, therefore, specialize in production of goods that, in particular, require capital. Specialization in production and trade between countries generates, according to this theory, a higher standard-of-living for the countries involved.

The production of goods and services requires capital and workers. Some goods require more capital - technical equipment and machinery - and are called *capital intensive*. Examples of these goods are cars, computers, and cell phones.

Other goods require less equipment to produce and rely mostly on the efforts of the workers. These goods are called *labor intensive*. Examples of these goods are shoes and textile products such as jeans.

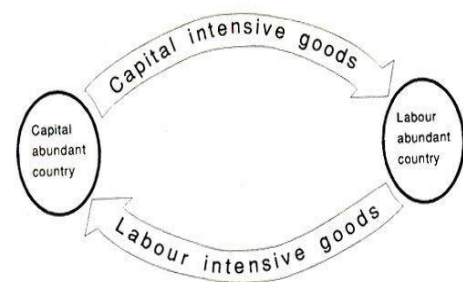
### Gains from Trade

By specializing in production, and by trading with other countries, it is possible for countries to increase their incomes. Even though countries as a whole benefit from specialization and international trade, all groups in society, workers and capitalists, do not gain according to the Heckscher-Ohlin theory. If international trade leads a country to specialize in producing goods that require lots of workers and little capital, such a specialization increases wages (which benefits the workers) but decreases the income of the capital owners. But the country as a whole benefits because, the gain of the workers is bigger than the loss of the capital owners.

### Assumptions:

Heckscher-Ohlin's theory explains the modern approach to international trade on the basis of following assumptions :-

1. There are two countries involved.
2. Each country has two factors (labour and capital).
3. Each country produce two commodities or goods (labour intensive and capital intensive).
4. There is perfect competition in both commodity and factor markets.
5. All production functions are homogeneous of the first degree i.e. production function is subject to constant returns to scale.
6. Factors are freely mobile within a country but immobile between countries.
7. Two countries differ in factor supply.
8. Each commodity differs in factor intensity.
9. The production function remains the same in different countries for the same commodity. For e.g. If commodity **A** requires more capital in one country then same is the case in other country.
10. There is full employment of resources in both countries and demand is identical in both countries.
11. Trade is free i.e. there are no trade restrictions in the form of tariffs or non-tariff barriers.
12. There are no transportation costs.



Given these assumptions, Ohlin's thesis contends that a country export goods which use relatively a greater proportion of its abundant and cheap factor. While same countries import goods whose production requires the intensive use of the nation's relatively scarce and expensive factor.

### The Concept of Factor Abundance

In the two countries, two commodities & two factor model, implies that the capital rich country will export capital intensive commodity and the labour rich country will export labour intensive commodity. But the concept of country being rich in one factor or other is not very clear. Economists quite often define factor abundance in terms of factor prices. Ohlin himself has followed this approach. Alternatively factor abundance can be defined in physical terms. In this case, physical amounts of capital & Labour are to be compared.

#### • Price Criterion for defining Factor Abundance

A country where capital is relatively cheaper and labour is relatively costly is said to be capital rich country. Whereas a country where labour is relatively cheaper and capital is relatively costly is said to be labour rich country.

Price of the factor can be symbolically measured as follows:-

$$\frac{PK}{PL}_E < \frac{PK}{PL}_I$$

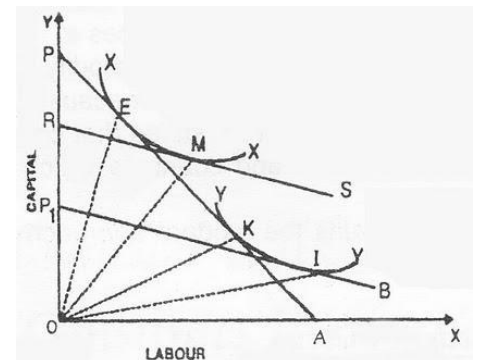
In above relation - P refers to price of the factor, K refers to Capital, L refers to Labour, E stands for England, and I stands for India.

The above analysis highlights a fact that in England capital is cheap, and hence it is a capital abundant country. Whereas in India, Labour is cheaper, and thus it is a labour rich country. Now lets understand how such a pattern of trade will necessarily emerge.

#### • Diagram Explaining Heckscher Ohlin's H-O Theory

Let us take an example of same two countries viz; England and India where England is a capital rich country while India is a labour abundant nation.

In the above diagram XX is the isoquant (equal product curve) for the commodity X produced in England. YY is the isoquant representing commodity Y produced in India. It is very clear that XX is relatively capital intensive while YY is relatively labour intensive. The factor capital is represented on Y- axis while the factor labour is represented on the horizontal X-axis.



PA is the price line or budget line of the country England. The price line PA is tangent to XX at E. The price line PA is also tangent to YY isoquant at K. The point K will help us to find out how much of capital and labour is required to produce one unit of Y in England.

P<sub>1</sub>B is the price line of the country India, The price line P<sub>1</sub>B is tangent to YY at I. The price line RS which is drawn parallel to P<sub>1</sub>B is tangent to XX at M. This will help us to find out how much of capital and labour is required to produce one unit of commodity X in India.

Under the given situations, the country England will choose the combination E. Which means more specialisation on capital goods. It will not choose the combination K because it is more labour intensive and less capital intensive.

Thus according to Ohlin, England will specialize on production of goods X by using the cheap factor capital extensively while India specializes on commodity Y by using the cheap factor labour available in the country.

### The Ohlin's theory concludes that :-

- The basis of internal trade is the difference in commodity prices in the two countries.
- Differences in the commodity prices are due to cost differences which are the results of differences in factor endowments in two countries.
- A capital rich country specializes in capital intensive goods & exports them. While a Labour abundant country specializes in labour intensive goods & exports them.

### Reality and Applicability of the Heckscher-Ohlin Model

The Heckscher-Ohlin theory is preferred to the Ricardo theory by many economists, because it makes fewer simplifying assumptions. In 1953, Wassily Leontief published a study, where he tested the validity of the Heckscher-Ohlin theory. The study showed that the U.S was more abundant in capital compared to other countries; therefore the U.S would export capital-intensive goods and import labour-intensive goods. Leontief found out that the U.S's export was less capital intensive than import.

After the appearance of Leontief's paradox, many researchers tried to save the Heckscher-Ohlin theory, either by new methods of measurement, or either by new interpretations. Leamer emphasized that Leontief did not interpret HO theory properly and claimed that with a right interpretation paradox did not occur. Brecher and Choudri found that, if Leamer was right, the American workers consumption per head should be lower than the workers world average consumption.

Many other trials followed but most of them failed. Many famous textbook writers, including Krugman and Obstfeld and Bowen, Hollander and Viane, are negative about the validity of H-O model. After examining the long history of empirical research, Bowen, Hollander and Viane concluded: "Recent tests of the factor abundance theory [H-O theory and its developed form into many-commodity and many-factor case] that directly examine the H-O-V equations also indicate the rejection of the theory."

Heckscher -Ohlin theory is not well adapted to the analyze South-North trade problems. The assumptions of HO are less realistic with respect to N-S than N-N (or S- S) trade. Income differences between North and South is the one that third world cares most. The factor price equalization [a consequence of HO theory] has not shown much sign of realization. HO model assumes identical production functions between countries. This is highly unrealistic. Technological gap between developed and developing countries is the main concern of the poor countries.

### Limitations of Heckscher Ohlin's H-O Theory:

Heckscher Ohlin's Theory has been **criticised** on basis of following grounds :-

- **Unrealistic Assumptions:** Besides the usual assumptions of two countries, two commodities, no transport cost, etc. Ohlin's theory also assumes no qualitative difference in factors of production, identical production function, constant return to scale, etc. All these assumptions makes the theory unrealistic one.
- **Restrictive:** Ohlin's theory is not free from constrains. His theory includes only two commodities, two countries and two factors. Thus it is a restrictive one.
- **One-Sided Theory:** According to Ohlin's theory, supply plays a significant role than demand in determining factor prices. But if demand forces are more significant, a capital abundant

country will export labour intensive good as the price of capital will be high due to high demand for capital.

- **Static in Nature:** Like Ricardian Theory the H-O Model is also static in nature. The theory is based on a given state of economy and with a given production function and does not accept any change.
- **Wijnholds's Criticism:** According to Wijnholds, it is not the factor prices that determine the costs and commodity prices but it is commodity prices that determine the factor prices.
- **Consumers' Demand ignored:** Ohlin forgot an important fact that commodity prices are also influenced by the consumers' demand.
- **Haberler's Criticism:** According to Haberler, Ohlin's theory is based on partial equilibrium. It fails to give a complete, comprehensive and general equilibrium analysis.
- **Leontief Paradox:** American economist Dr. Wassily Leontief tested H-O theory under U.S.A conditions. He found out that U.S.A exports labour intensive goods and imports capital intensive goods, but U.S.A being a capital abundant country must export capital intensive goods and import labour intensive goods than to produce them at home. This situation is called Leontief Paradox which negates H-O Theory.
- **Other Factors Neglected:** Factor endowment is not the sole factor influencing commodity price and international trade. The H-O Theory neglects other factors like technology, technique of production, natural factors, different qualities of labour, etc., which can also influence the international trade.

### Evaluation of the H-O Theory

The Heckscher- Ohlin theory has been often criticised for its wrong assumptions. Studies conducted by Leontief and some others tend to question even the validity of the theory. (For details see the section on "Empirical Testing of the H-O Model"). Despite its drawbacks, however, the Heckscher-Ohlin theory has certain definite merits.

1. The Heckscher-Ohlin theory rightly points out that the immediate basis of international trade is the difference in the final price of a commodity between countries, although the actual basis or ultimate cause of trade is comparative cost difference in production. Thus, the Heckscher-Ohlin theory provides a more comprehensive and satisfactory explanation for the existence of international trade.
2. The Heckscher-Ohlin theory is Superior to the comparative cost theory in another respect. The Ricardian theory points out that comparative cost difference is the basis of international trade, but it does not explain the reasons for the existence of comparative cost differences between nations. The Heckscher-Ohlin theory explains the reasons for the differences in the cost of production in terms of differences in factor endowments. This is another aspect that makes it superior to the Ricardian analysis.
3. Further, Heckscher and Ohlin make it very clear that "International trade is but a special case of inter-local or inter-regional trade" and hence there is no need for a special theory of international trade. Ohlin states that regions and nations trade with each other for the same reasons that individuals Specialise and trade. The comparative cost differences are the basis of all trade-inter-regional as well as international. Nations, according to Ohlin, are only regions distinguished from one another by such obvious marks as national frontiers, tariff barriers and differences in language, customs and monetary systems.

The *modern* theory of trade is also called the *General Equilibrium Theory* of international trade because it points out that the general demand and supply analysis applicable to inter-

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regional trade can generally be used without substantial changes in dealing with problems of international trade.

4. Another merit of the Heckscher-Ohlin theory is that it indicates the impact of trade on product and factor prices.

**The Heckscher -Ohlin theory indicates that international trade will ultimately have the following results:**

#### **Equalization of Commodity Prices**

International trade tends to equalize the prices of internationally traded goods in all the regions of the world because trade causes the movement of commodities from areas where they are abundant to areas where they are scarce. This would tend to increase commodity prices where there was abundance and decrease prices where there was scarcity due to the redistribution of commodity supply between these two regions as a result of trade. International trade tends to expand up to the point where prices in all regions become equal. But perfect equality of prices can hardly be achieved due to the existence of transport costs and due to the absence of free trade and perfect competition.





## **2.2. WORLD TRADE ORGANISATION (WTO)**

The World Trade Organization (WTO) came into being on January 1st 1995. It was the outcome of the lengthy (1986-1994) Uruguay round of GATT negotiations. The WTO was essentially an extension of GATT. It extended GATT in two major ways. First GATT became only one of the three major trade agreements that went into the WTO (the other two being the General Agreement on Trade in Services (GATS) and the agreements on Trade Related Aspects of Intellectual Property Rights (TRIPS)). Second the WTO was put on a much sounder institutional footing than GATT. With GATT the support services that helped maintain the agreement had come into being in an ad hoc manner as the need arose. The WTO by contrast is a fully fledged institution (GATT also was, at least formally, only an agreement between contracting parties and had no independent existence of its own while the WTO is a corporate body recognized under international law).

### **Principles of the WTO**

The basic principles of the WTO (according to the WTO):

- Trade Without Discrimination
- No Most Favoured Nation (MFN) Treatment - no special deals to trading partners, all members of WTO must be treated the same
- No National Special Treatment - locals and foreigners are treated equally
- Freer Trade
- Predictability through Binding - promising not to raise tariffs is called binding a tariff and binding leads to greater certainty for businesses
- Promoting Fair Competition
- Encouraging Development and Economic Reform

### **Scope, Functions, and Structure of the WTO**

The WTO is headed by a ministerial conference of all members that meets at least once every two years. By contrast, under the GATT a decade could pass between ministerial meetings. The more frequent participation by trade ministers under the WTO was intended to strengthen the political guidance of the WTO and enhance the prominence and credibility of its rules in domestic political arenas. Article II of the Marrakech Agreement that established the WTO charges the organization with providing a common institutional framework for the conduct of trade relations among its members in matters to which agreements and associated legal obligations apply. Four annexes to the WTO define the substantive rights and obligations of members. Annex 1 has three parts: Annex 1A, Multilateral Agreements on Trade in Goods, which contains the GATT 1994 (the GATT 1947 as amended by a large number of understandings and supplementary agreements negotiated in the Uruguay Round); Annex 1B, which contains the GATS; and Annex 1C, the TRIPS agreement. Annex 2 contains the Understanding on Rules and Procedures Governing the Settlement of Disputes (DSU)—the WTO's common dispute settlement mechanism. Annex 3 contains the Trade Policy Review Mechanism (TPRM), an instrument for surveillance of members' trade policies. Finally, Annex 4, Plurilateral Trade Agreements, consists of Tokyo Round codes that were not multilateralized in the Uruguay Round and that therefore bind only their signatories. Together, Annexes 1 through 3 embody the multilateral trade agreements. Article II of the WTO specifies that all the agreements contained in these three annexes are an integral part of the WTO agreement and are binding on all members.

All of these instruments are discussed further in this chapter or in other chapters of this volume. The WTO is charged with facilitating the implementation and operation of the multilateral trade agreements, providing a forum for negotiations, administering the dispute settlement mechanism, exercising multilateral surveillance of trade policies, and cooperating with the World Bank and the IMF to achieve greater coherence in global economic policymaking (Art. III WTO). Between meetings of the ministerial conference, which is responsible for carrying out the functions of the WTO, the organization is managed by the General Council, at the level of diplomats. The General Council meets about 12 times a year. On average, about 70 percent of all

WTO members take part in its meetings, at which members are usually represented by delegations based in Geneva. The General Council turns itself, as needed, into a body that adjudicates trade disputes (the Dispute Settlement Body, or DSB) or that reviews members' trade policies (the Trade Policy Review Body, or TPRB).

Three subsidiary councils, on goods, on services, and on intellectual property rights, operate under the general guidance of the General Council. Separate committees deal with the interests of developing countries (Committee on Trade and Development); surveillance of trade restriction actions taken for balance of payment purposes; surveillance of regional trade agreements; trade-environment linkages; and WTO finances and administration. Additional committees or working parties deal with matters covered by the GATT, the GATS, or the TRIPS agreement. There are committees, functioning under the auspices of the Council on Trade in Goods, on subsidies, antidumping and countervailing measures, technical barriers to trade (product standards), import licensing, customs valuation, market access, agriculture, sanitary and phytosanitary measures, trade-related investment measures, rules of origin, and safeguards. In addition, working groups have been established to deal with notifications, with state-trading enterprises, with the relationships between trade and investment and between trade and competition policy, and with the issue of transparency in government procurement. Specific committees address matters relating to the GATS or the TRIPS agreement. All WTO members may participate in all councils, committees, and other bodies, with the exceptions of the Appellate Body, dispute settlement panels, the Textiles Monitoring Body, and committees dealing with plurilateral agreements.

About 40 councils, committees, subcommittees, bodies, and standing groups or working parties functioned under WTO auspices in 2000, more than twice the number under the GATT. Such bodies are open to all WTO members, but generally only the more important trading nations (less than half of the membership) regularly send representatives to most meetings. The degree of participation reflects a mix of national interests and resource constraints. The least-developed countries, in particular, tend not to be represented at these meetings; often, they do not have delegations based in Geneva. All of these fora, plus working parties on accession (averaging close to 30 in the late 1990s), dispute settlement panels, meetings of regional groups, meetings of heads of delegations, and numerous ad hoc and informal groups add up to 1,200 events a year at or near WTO headquarters in Geneva. Most WTO business is conducted in English, but many official WTO meetings require French and Spanish interpretation.

The main actors in the day-to-day activities are officials affiliated with the delegations of members. The WTO—like the 1947 GATT—is therefore something of a network organization (Blackhurst 1998). The WTO secretariat is the hub of a very large and dispersed network comprising official representatives of members based in Geneva, civil servants based in capitals, and national business and nongovernmental groups that seek to have their governments push for their interests at the multilateral level. The operation of the WTO depends on the collective input of thousands of civil servants and government officials who deal with trade issues in each member country.

Initiatives to launch multilateral trade negotiations and to settle disputes—the two highest-profile activities of the WTO—are the sole responsibility of WTO members themselves, not the secretariat. The member-driven nature of the organization puts a considerable strain on the national delegations of members. Many countries have no more than one or two persons dealing with WTO matters; a large minority has no delegations in Geneva at all.

### **Decision making**

Most decision making in the WTO follows GATT practices and is based on consultation and consensus. The consensus practice is of value to smaller countries, as it enhances their negotiating leverage in the informal consultations and bargaining that precede decision making, especially if they are able to form coalitions. Although recourse to voting may be had if a consensus cannot be reached, in practice voting occurs only very rarely. If a vote is needed, it is based on the principle of “one member, one vote.” Unanimity is required for amendments relating

to general principles such as MFN or national treatment. Interpretation of the provisions of the WTO agreements and decisions on waivers of a member's obligations require approval by a three quarters majority vote. A two-thirds majority vote is sufficient for amendments relating to issues other than the general principles mentioned above.

Where not otherwise specified, and where consensus cannot be reached, a simple majority vote is, in principle, sufficient. In practice, voting does not occur. Indeed, in 1995 WTO members decided not to apply provisions allowing for a vote in the case of accessions and requests for waivers but to continue to proceed on the basis of consensus (WT/L/93). Legislative amendments are also likely to be quite rare, as, in practice, changes to the various agreements occur as part of broader multilateral rounds.

### **Management of the Secretariat and Daily Operations**

Unlike the World Bank and the IMF, the WTO does not have an executive body or a board comprising a subset of members some of whom represent a number of countries. Such executive boards facilitate Decision making by concentrating discussions within a smaller but representative group of members. The closest the GATT ever came to such a forum was the Consultative Group of Eighteen (CG18), established in 1975. It ceased meeting in 1985 and never substituted for the GATT Council of Representatives. As of January 1, 2002, the WTO had a membership of 144. Achieving consensus among such a large number of members is not a simple matter, and mechanisms have therefore been developed over the years to reduce the number of members that are active participants in WTO deliberations. The first and most important device is to involve only "principals," at least initially. To some extent this is a natural process; a country that has no agricultural sector is unlikely to be interested in discussions centering on the reduction of agricultural trade barriers. In general the "Quad" economies— Canada, the European Union, Japan, and the United States—are part of any group that forms to discuss any topic. They are supplemented by countries that have a principal supplying interest in a product and by the major (potential) importers whose policies are the subject of interest. Finally, a number of countries that have established a reputation as spokespersons tend to be involved in most major meetings. Historically, such countries have included Egypt, India, and Yugoslavia. During the Tokyo and Uruguay Rounds, contentious issues as to which deals had to be struck were often thrashed out in the "green room," a conference room adjacent to the Director- General's offices. Green-room meetings were part of a consultative process through which the major countries and a representative set of developing countries—a total of 20 or so delegations—tried to hammer out the outlines of acceptable proposals or negotiating agendas. Such meetings generally involved the active participation and input of the Director-General.

The convention now is to call such meetings green-room gatherings, no matter where they are held. The green-room process became a contentious issue during the Seattle ministerial meeting; many developing countries that were excluded from critical green-room meetings, where attempts were being made to negotiate compromise texts of a draft agenda for a new multilateral trade negotiation, felt that they were not being kept informed of developments and were not being granted the opportunity to defend their views. Proposals have been made periodically to formalize the green- room process by creating an executive committee to manage the WTO agenda, based on shares in world trade . To date, no progress in this direction has proved possible in the WTO.

## **FUNCTIONS AND BASIC PRINCIPLES**

**The basic functions of the WTO are:**

### **a. Administering WTO trade agreements**

The WTO shall facilitate the implementation, administration and operation, and further the objectives, of this Agreement and of the Multilateral Trade Agreements, and shall also provide the framework for the implementation, administration and operation of the Plurilateral Trade Agreements.

## **b. Forum for trade negotiations**

The WTO shall provide the forum for negotiations among its Members concerning their multilateral trade relations in matters dealt with under the agreements in the Annexes to this Agreement. The WTO may also provide a forum for further negotiations among its Members concerning their multilateral trade relations, and a framework for the implementation of the results of such negotiations, as may be decided by the Ministerial Conference.

## **c. Handling trade disputes**

The WTO shall administer the Understanding on Rules and Procedures Governing the Settlement of Disputes (hereinafter referred to as the "Dispute Settlement Understanding" or "DSU") in Annex 2 to this Agreement.

## **d. Monitoring national trade policies**

The WTO shall administer the Trade Policy Review Mechanism (hereinafter referred to as the "TPRM") provided for in Annex 3 to this Agreement.

## **e. Technical assistance and training for developing countries - Cooperation with other international organizations**

With a view to achieving greater coherence in global economic policy-making, the WTO shall cooperate, as appropriate, with the International Monetary Fund and with the International Bank for Reconstruction and Development and its affiliated agencies.

The WTO, established in 1995, administers the trade agreements negotiated by its members, in particular the General Agreement on Tariffs and Trade (GATT), the General Agreement on Trade in Services (GATS), and the Trade-Related Aspects of Intellectual Property Rights (TRIPS) agreement. The WTO builds on the organizational structure that had developed under GATT auspices as of the early 1990s. The origins of the GATT were in the abortive negotiations to create an International Trade Organization (ITO) following World War II. Negotiations on the charter of such an organization were concluded successfully in Havana in 1948, but the talks did not lead to the establishment of the ITO because the U.S. Congress was expected to refuse to ratify the agreement. Meanwhile, the GATT was negotiated in 1947 by 23 countries—12 industrial and 11 developing—before the ITO negotiations were concluded.

As the ITO never came into being, the GATT was the only concrete result of the negotiations. Since 1947, the GATT has been the major focal point for industrial country governments seeking to lower trade barriers. Although the GATT was initially largely limited to a tariff agreement, over time, as average tariff levels fell, it increasingly came to concentrate on nontariff trade policies and domestic policies having an impact on trade. Its success was reflected in a steady expansion in the number of contracting parties. By the end of the Uruguay Round (1994), 128 countries had joined the GATT. Since the entry into force of the WTO, membership has grown to 144, as of the end of 2001.

The WTO differs in a number of important respects from the GATT. The GATT was a rather flexible institution; bargaining and deal-making lay at its core, with significant opportunities for countries to "opt out" of specific disciplines. In contrast, WTO rules apply to all members, who are subject to binding dispute settlement procedures. This is attractive to groups seeking to introduce multilateral disciplines on a variety of subjects, ranging from the environment and labor standards to competition and investment policies to animal rights. But it is a source of concern to groups that perceive the (proposed) multilateral rules to be inappropriate or worry that the adoption of specific rules may affect detrimentally the ability of governments to regulate domestic activities and deal with market failures.

The main function of the WTO is as a forum for international cooperation on trade-related policies—the creation of codes of conduct for member governments. These codes emerge from

the exchange of trade policy commitments in periodic negotiations. The WTO can be seen as a market in the sense that countries come together to exchange market access commitments on a reciprocal basis. It is, in fact, a barter market. In contrast to the markets one finds in city squares, countries do not have access to a medium of exchange: they do not have money with which to buy, and against which to sell, trade policies. Instead they have to exchange apples for oranges: for example, tariff reductions on iron for foreign market access commitments regarding cloth. This makes the trade policy market less efficient than one in which money can be used, and it is one of the reasons that WTO negotiations can be a tortuous process. One result of the market exchange is the development of codes of conduct.

The WTO contains a set of specific legal obligations regulating trade policies of member states, and these are embodied in the GATT, the GATS, and the TRIPS agreement.

### **Basic Principles**

The WTO establishes a framework for trade policies; it does not define or specify outcomes. That is, it is concerned with setting the rules of the trade policy game, not with the results of the game. Five principles are of particular importance in understanding both the pre-1994 GATT and the WTO: nondiscrimination, reciprocity, enforceable commitments, transparency, and safety valves.

### **Non-discrimination**

Non-discrimination has two major components: the most-favored-nation (MFN) rule, and the national treatment principle. Both are embedded in the main WTO rules on goods, services, and intellectual property, but their precise scope and nature differ across these three areas. This is especially true of the national treatment principle, which is a specific, not a general commitment when it comes to services. The MFN rule requires that a product made in one member country be treated no less favorably than a “like” (very similar) good that originates in any other country. Thus, if the best treatment granted a trading partner supplying a specific product is a 5 percent tariff, this rate must be applied immediately and unconditionally to imports of this good originating in all WTO members. In view of the small number of contracting parties to the GATT (only 23 countries), the benchmark for MFN is the best treatment offered to any country, including countries that are not members of the GATT. National treatment requires that foreign goods, once they have satisfied whatever border measures are applied, be treated no less favorably, in terms of internal (indirect) taxation than like or directly competitive domestically produced goods (Art. III, GATT). That is, goods of foreign origin circulating in the country must be subject to taxes, charges, and regulations that are “no less favorable” than those that apply to similar goods of domestic origin.

The MFN rule applies unconditionally. Although exceptions are made for the formation of free trade areas or customs unions and for preferential treatment of developing countries, MFN is a basic pillar of the WTO. One reason for this is economic: if policy does not discriminate between foreign suppliers, importers and consumers will have an incentive to use the lowest-cost foreign supplier. MFN also provides smaller countries with a guarantee that larger countries will not exploit their market power by raising tariffs against them in periods when times are bad and domestic industries are clamoring for protection or, alternatively, give specific countries preferential treatment for foreign policy reasons. MFN helps enforce multilateral rules by raising the costs to a country of defecting from the trade regime to which it committed itself in an earlier multilateral trade negotiation. If the country desires to raise trade barriers, it must apply the changed regime to all WTO members. This increases the political cost of backsliding on trade policy because importers will object. Finally, MFN reduces negotiating costs: once a negotiation has been concluded with a country, the results extend to all. Other countries do not need to negotiate to obtain similar treatment; instead, negotiations can be limited to principal suppliers.

National treatment ensures that liberalization commitments are not offset through the imposition of domestic taxes and similar measures. The requirement that foreign products be treated no less favorably than competing domestically produced products gives foreign suppliers

greater certainty regarding the regulatory environment in which they must operate. The national treatment principle has often been invoked in dispute settlement cases brought to the GATT. It is a very wide-ranging rule: the obligation applies whether or not a specific tariff commitment was made, and it covers taxes and other policies, which must be applied in a nondiscriminatory fashion to like domestic and foreign products. It is also irrelevant whether a policy hurts an exporter. What matters is the existence of discrimination, not its effects.

### **Reciprocity**

Reciprocity is a fundamental element of the negotiating process. It reflects both a desire to limit the scope for free-riding that may arise because of the MFN rule and a desire to obtain “payment” for trade liberalization in the form of better access to foreign markets. A rationale for reciprocity can be found in the political-economy literature. The costs of liberalization generally are concentrated in specific industries, which often will be well organized and opposed to reductions in protection. Benefits, although in the aggregate usually greater than costs, accrue to a much larger set of agents, who thus do not have a great individual incentive to organize themselves politically. In such a setting, being able to point to reciprocal, sector-specific export gains may help to sell the liberalization politically. Obtaining a reduction in foreign import barriers as a quid pro quo for a reduction in domestic trade restrictions gives specific export-oriented domestic interests that will gain from liberalization an incentive to support it in domestic political markets. A related point is that for a nation to negotiate, it is necessary that the gain from doing so be greater than the gain available from unilateral liberalization. Reciprocal concessions ensure that such gains will materialize.

### **Binding and Enforceable Commitments**

Liberalization commitments and agreements to abide by certain rules of the game have little value if they cannot be enforced. The nondiscrimination principle, embodied in Articles I (on MFN) and III (on national treatment) of the GATT, is important in ensuring that market access commitments are implemented and maintained. Other GATT articles play a supporting role, including Article II (on schedules of concessions). The tariff commitments made by WTO members in a multilateral trade negotiation and on accession are enumerated in schedules (lists) of concessions. These schedules establish “ceiling bindings”: the member concerned cannot raise tariffs above bound levels without negotiating compensation with the principal suppliers of the products concerned. The MFN rule then ensures that such compensation—usually, reductions in other tariffs—extends to all WTO members, raising the cost of reneging. Once tariff commitments are bound, it is important that there be no resort to other, non-tariff, measures that have the effect of nullifying or impairing the value of the tariff concession. A number of GATT articles attempt to ensure that this does not occur. They include Article VII (customs valuation), Article XI, which prohibits quantitative restrictions on imports and exports, and the Agreement on Subsidies and Countervailing Measures, which outlaws export subsidies for manufactures and allows for the countervailing of production subsidies on imports that materially injure domestic competitors.

If a country perceives that actions taken by another government have the effect of nullifying or impairing negotiated market access commitments or the disciplines of the WTO, it may bring this situation to the attention of the government involved and ask that the policy be changed. If satisfaction is not obtained, the complaining country may invoke WTO dispute settlement procedures, which involve the establishment of panels of impartial experts charged with determining whether a contested measure violates the WTO. Because the WTO is an intergovernmental agreement, private parties do not have legal standing before the WTO’s dispute settlement body; only governments have the right to bring cases. The existence of dispute settlement procedures precludes the use of unilateral retaliation. For small countries, in particular, recourse to a multilateral body is vital, as unilateral actions would be ineffective and thus would not be credible. More generally, small countries have a great stake in a rule-based international system, which reduces the likelihood of being confronted with bilateral pressure from large trading powers to change policies that are not to their liking.

## Transparency

Enforcement of commitments requires access to information on the trade regimes that are maintained by members. The agreements administered by the WTO therefore incorporate mechanisms designed to facilitate communication between WTO members on issues. Numerous specialized committees, working parties, working groups, and councils meet regularly in Geneva. These interactions allow for the exchange of information and views and permit potential conflicts to be defused efficiently.

Transparency is a basic pillar of the WTO, and it is a legal obligation, embedded in Article X of the GATT and Article III of the GATS. WTO members are required to publish their trade regulations, to establish and maintain institutions allowing for the review of administrative decisions affecting trade, to respond to requests for information by other members, and to notify changes in trade policies to the WTO. These internal transparency requirements are supplemented by multilateral surveillance of trade policies by WTO members, facilitated by periodic country-specific reports (trade policy reviews) that are prepared by the secretariat and discussed by the WTO General Council. The external surveillance also fosters transparency, both for citizens of the countries concerned and for trading partners. It reduces the scope for countries to circumvent their obligations, thereby reducing uncertainty regarding the prevailing policy stance. Transparency has a number of important benefits. It reduces the pressure on the dispute settlement system, as measures can be discussed in the appropriate WTO body. Frequently, such discussions can address perceptions by a member that a specific policy violates the WTO; many potential disputes are defused in informal meetings in Geneva. Transparency is also vital for ensuring “ownership” of the WTO as an institution—if citizens do not know what the organization does, its legitimacy will be eroded. The trade policy reviews are a unique source of information that can be used by civil society to assess the implications of the overall trade policies that are pursued by their governments. From an economic perspective, transparency can also help reduce uncertainty related to trade policy. Such uncertainty is associated with lower investment and growth rates and with a shift in resources toward non-tradables (Francois 1997). Mechanisms to improve transparency can help lower perceptions of risk by reducing uncertainty. WTO membership itself, with the associated commitments on trade policies that are subject to binding dispute settlement, can also have this effect.

## Safety Valves

A final principle embodied in the WTO is that, in specific circumstances, governments should be able to restrict trade. There are three types of provisions in this connection:

- (a) articles allowing for the use of trade measures to attain non-economic objectives;
  - (b) articles aimed at ensuring “fair competition”; and
  - (c) provisions permitting intervention in trade for economic reasons.
- Category (a) includes provisions allowing for policies to protect public health or national security and to protect industries that are seriously injured by competition from imports. The underlying idea in the latter case is that governments should have the right to step in when competition becomes so vigorous as to injure domestic competitors. Although it is not explicitly mentioned in the relevant WTO agreement, the underlying rationale for intervention is that such competition causes political and social problems associated with the need for the industry to adjust to changed circumstances.
  - Measures in category (b) include the right to impose countervailing duties on imports that have been subsidized and antidumping duties on imports that have been dumped (sold at a price below that charged in the home market).
  - Finally, under category (c) there are provisions allowing actions to be taken in case of serious balance of payments difficulties or if a government desires to support an infant industry.

Most agreements in the WTO are arrived at by consensus (i.e. everybody agrees - not one member dissents). Majority votes are possible but none so far have occurred. It is also worth noting that all the WTO's agreements have been ratified by the members states' parliaments (where such exist) in contrast to the case for GATT.

### **Ministerial Conference**

There shall be a Ministerial Conference composed of representatives of all the Members, which shall meet at least once every two years. The Ministerial Conference shall carry out the functions of the WTO and take actions necessary to this effect. The Ministerial Conference shall have the authority to take decisions on all matters under any of the Multilateral Trade Agreements, if so requested by a Member, in accordance with the specific requirements for decision-making in this Agreement and in the relevant Multilateral Trade Agreement.

### **General Council**

There shall be a General Council composed of representatives of all the Members, which shall meet as appropriate. In the intervals between meetings of the Ministerial Conference, its functions shall be conducted by the General Council. The General Council shall also carry out the functions assigned to it by this Agreement. The General Council shall establish its rules of procedure and approve the rules of procedure for the Committees provided for in paragraph 7.

### **Multitude of Committees, Bodies and Councils**

For example: Dispute Settlement Body (DSU), Councils for Trade in Goods, Trade in Services and for TRIPS etc.

The Uruguay Round and the establishment of the WTO changed the character of the trading system. The GATT was very much a market access-oriented institution: its function was to harness the dynamics of reciprocity for the global good. Negotiators could be left to follow mercantilist logic, and the end result would be beneficial to all contracting parties. This dynamic worked less well for developing countries, where the burden of liberalization rested much more heavily on the shoulders of governments. Even if they wanted to, their scope to use the GATT was often limited because exporters had fewer incentives and were less powerful than in industrial countries. The reciprocal, negotiation driven dynamic also worked much less well for issues that were "lumpy" and where the terms of the debate revolved around what rules to adopt, not around how much of a marginal change was appropriate. Once discussions center on rules, especially on disciplines for domestic policy and regulations, it is more difficult to define intra issue compromises that make economic sense. Cross-issue linkage becomes necessary. Disengagement was not an option during the Uruguay Round (because of the "single undertaking"), so the task was to come up with a balanced package that ensured gains for all players. One can argue whether the package that emerged from the round was a balanced one; views on this point differ widely.

Whatever the conclusion, it is clear that the approach taken toward ensuring and supporting implementation of WTO agreements by developing countries was not an effective one. Limiting recognition of this problem to the setting of uniform transition periods was clearly inadequate. The case for uniform application of agreements that involve reducing trade barriers tariffs and non-tariff barriers is very strong. But in other areas requiring minimum levels of institutional capacity, such as customs valuation, a good case can be made that implementation should be linked to national capacity and international assistance.

A lesson from post-Uruguay Round experience and thinking is that trade policy should be made more central to the development process and development strategies. This needs to be done at both the national and international levels. At the national level it is necessary in order to ensure that governments have a basis on which to resist efforts to negotiate agreements in an area. Governments must be able to identify what types of rules will promote development and what types would lead to an inappropriate use of scarce resources. At the international level such



a change is necessary in order to enhance the communication between trade and development assistance bodies in member countries. One reason for the implementation assistance problems that were encountered in the late 1990s was that the best-efforts commitments on assistance that were made by industrial country trade negotiators were not "owned" by counterpart agencies in their governments that controlled development assistance money. Progress on both fronts would do much to ensure that future negotiations do not give rise to problems of the type that were created in the Uruguay Round.

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### **3. NATIONAL INCOME ACCOUNTS**

Internationally some countries are wealthy, some countries are not wealthy and some countries are in-between. Under such circumstances, it would be difficult to evaluate the performance of an economy. Performance of an economy is directly proportionate to the amount of goods and services produced in an economy. Measuring national income is also important to chalk out the future course of the economy. It also broadly indicates people's standard of living.

According to the famous economist J.M. Keynes national income is the money value of all the goods and services produced in a country during a year. The National income of any country shows the economic position of the country. It is the national income which helps to compare the progress of the country over a period of time. The study of National income is important because of the following reasons:

- To see the economic development of the country.
- To assess the developmental objectives.
- To know the contribution of the various sectors to National income.

#### **Calculating National Income**

Income can be measured by Gross National Product (GNP), Gross Domestic Product (GDP), Gross National Income (GNI), Net National Product (NNP) and Net National Income (NNI). There are various methods for calculating the national income such as production method, income method, expenditure method etc.

In India the Central Statistical Organization has been formulating national income. However some economists have felt that GNP as a measure of national income has limitation, since they exclude poverty, literacy, public health, gender equity and other measures of human prosperity. Instead they formulated other measures of welfare like Human Development Index (HDI)

#### **Production Method**

The production method gives us national income or national product based on the final value of the produce and the origin of the produce in terms of the industry.

#### **All producing units are classified sector wise.**

Primary sector is divided into agriculture, fisheries, animal husbandry. Secondary sector consists of manufacturing.

Tertiary sector is divided into trade, transport, communication, banking, insurance etc.

#### **Income Method:**

Different factors of production are paid for their productive services rendered to an organization. The various incomes that includes in these methods are wages, income of self employed, interest, profit, dividend, rents, and surplus of public sector and net flow of income from abroad.

#### **Expenditure Method:**

The various sectors – the household sector, the government sector, the business sector, either spend their income on consumer goods and services or they save a part of their income. These can be categorized as private consumption expenditure, private investment, public consumption, public investment etc.

## Calculation of National Income of India: A Brief History

The first attempt to calculate National Income of India was made by Dadabhai Naroji in 1867 -68. This was followed by several other methods. The first scientific method was made by Prof. V.K.R Rao in 1931-32. But this was not very satisfactory. The first official attempt was made by Prof.P.C.Mahalnobis in 1948-49, who submitted his report in 1954.

### Difficulties in Calculation of National Income

In India there are various difficulties in calculating the national incomes .The most severe one is the finding of reliable data. Most of the time, it is based on assumptions. Soon after independence the National Income Committee was formed to collect data and estimate National Income. The two major problems which remain in the calculation of National Income are:

- Vast area
- Illiteracy
- Nomadic tribes
- Less number of statisticians
- Most of the data is not from the current year.
- Even if current data are available then values are underreported.
- Difficulty in collecting data from some sectors of the economy
- Non-availability of statistics from agricultural sector
- Multiple occupations

### Obstacles in High Growth of National Income of India

Even if the Indian economy grows faster than the BRIC countries and G 6, the benefits of the growth would not be evenly distributed. India's progress in education cannot be termed as satisfactory. In terms of higher education it has achieved tremendous success, but its unsatisfactory performance in primary education and secondary education has been a major obstacle to growth. Similarly India's healthcare system is in a less than desirable state. Governments' spending on public health has not been up to the required levels.

### Growth Of National Income In India

Sector	1950-1980	1980-2005
GDP Total	3.5	5.6
GDP Per capita	1.4	3.6

### Sectoral Composition Of National Income (in percent)

Year	Primary	Secondary	Tertiary	Total GDP
1950-51	59	13	28	100
1980-81	42	22	36	100
2002-03	24	24	52	100

Economic development is the development of economic wealth of countries or regions for the well-being of their inhabitants. It is the process by which a nation improves the economic, political, and social well being of its people. From a policy perspective, economic development can be defined as efforts that seek to improve the economic well-being and quality of life for a community by creating and/or retaining jobs and supporting or growing incomes and the tax base.

Economic growth is defined as an increase in an economy's ability to produce goods and services. Think of an economy as a giant cake. We all have a slice of the cake to eat, and may be happy with the size of our slice or not. If the economy grows, we would be able to see the overall size of the cake increasing.

Whether or not our individual slice grows depends on whether we are able to share in the growing economy. Even if we do not benefit directly, we should still be able to see some advantages to the growing economy. This is because the extra economic growth should produce higher tax revenues, which can then be spent on public services that should benefit everyone.

## Gross Domestic Product (GDP)

The **Gross Domestic Product (GDP)** or **Gross Domestic Income (GDI)**, a basic measure of an economy's economic performance, is the market value of all final goods and services made within the borders of a nation in a year. GDP can be defined in three ways, all of which are conceptually identical.

First, it is equal to the total expenditures for all final goods and services produced within the country in a stipulated period of time (usually a 365-day year).

Second, it is equal to the sum of the value added at every stage of production (the intermediate stages) by all the industries within a country, plus taxes less subsidies on products, in the period.

Third, it is equal to the sum of the income generated by production in the country in the period—that is, compensation of employees, taxes on production and imports less subsidies, and gross operating surplus (or profits).

The most common approach to measuring and quantifying GDP is the **expenditure method**:

$$GDP = \text{consumption} + \text{gross investment} + \text{government spending} + (\text{exports} - \text{imports}), \text{ or,}$$

$$GDP = C + I + G + (X - M).$$

"Gross" means that depreciation of capital stock is *not* subtracted out of GDP. If net investment (which is gross investment minus depreciation) is substituted for gross investment in the equation above, then the formula for net domestic product is obtained. Consumption and investment in this equation are expenditure on final goods and services. The exports-minus-imports part of the equation (often called **net exports**) adjusts this by subtracting the part of this expenditure not produced domestically (the imports), and adding back in domestic area (the exports).

Economists (since Keynes) have preferred to split the general consumption term into two parts; private consumption, and public sector (or government) spending. Two advantages of dividing total consumption this way in theoretical macroeconomics are:

**Private consumption** is a central concern of welfare economics. The private investment and trade portions of the economy are ultimately directed (in mainstream economic models) to increases in long-term private consumption.

If separated from endogenous private consumption, **government consumption** can be treated as exogenous, so that different government spending levels can be considered within a meaningful macroeconomic framework.

## Measuring GDP

### Components of GDP

Each of the variables **C (Consumption)**, **I (Investment)**, **G (Government spending)** and **X - M (Net Exports)** (where  $GDP = C + I + G + (X - M)$  as above)  
(Note: \* **GDP** is sometimes also referred to as **Y** in reference to a GDP graph)

**C (Consumption)** is **private** consumption in the economy. This includes most personal expenditures of households such as food, rent, medical expenses and so on but does not include new housing.

**I (Investment)** is defined as investments by business or households in capital. Examples of investment by a business include construction of a new mine, purchase of software, or purchase of machinery and equipment for a factory. Spending by households (not government) on new houses is also included in Investment. In contrast to its colloquial meaning, 'Investment' in GDP does not mean purchases of financial products. Buying financial products is classed as 'saving', as opposed to investment. The distinction is (in theory) clear: if money is converted into goods or services, it *is* investment; but, if you buy a bond or a share of stock, this transfer payment is excluded from the GDP sum. That is because the stocks and bonds affect the financial capital which in turn affects the production and sales which in turn affects the investments. So stocks and bonds indirectly affect the GDP. Although such purchases would be called *investments* in normal speech, from the total-economy point of view, this is simply swapping of deeds, and not part of real production or the GDP formula.

**G (Government spending)** is the sum of government expenditures on final goods and services. It includes salaries of public servants, purchase of weapons for the military, and any investment expenditure by a government. It does not include any transfer payments, such as social security or unemployment benefits.

**X (Exports)** is gross exports. GDP captures the amount a country produces, including goods and services produced for other nations' consumption, therefore exports are added.

**M (Imports)** is gross imports. Imports are subtracted since imported goods will be included in the terms **G**, **I**, or **C**, and must be deducted to avoid counting foreign supply as domestic.

### Examples of GDP component variables

Examples of **C**, **I**, **G**, and **NX** (net exports): If you spend money to renovate your hotel so that occupancy rates increase, that is private investment, but if you buy shares in a consortium to do the same thing it is saving. The former is included when measuring GDP (in **I**), the latter is not. However, when the consortium conducted its own expenditure on renovation, that expenditure would be included in GDP.

For example, if a hotel is a private home then renovation spending would be measured as **C**onsumption, but if a Government agency is converting the hotel into an office for civil servants the renovation spending would be measured as part of public sector spending (**G**).

If the renovation involves the purchase of a chandelier from abroad, that spending would also be counted as an increase in imports, so that **NX** would fall and the total GDP is affected by the purchase. (This highlights the fact that GDP is intended to measure domestic production rather than total consumption or spending. Spending is really a convenient means of estimating production.)

If a domestic producer is paid to make the chandelier for a foreign hotel, the situation would be reversed, and the payment would be counted in **NX** (positively, as an export). Again, GDP is attempting to measure production through the means of expenditure; if the chandelier produced had been bought domestically it would have been included in the GDP figures (in **C** or **I**) when purchased by a consumer or a business, but because it was exported it is necessary to 'correct' the amount consumed domestically to give the amount produced domestically. (As in Gross Domestic **Product**.)

## Types of GDP and GDP growth

### GDP real growth rates

**Current GDP** is GDP expressed in the current prices of the period being measured

**Nominal GDP growth** is GDP growth in nominal prices (unadjusted for price changes). **Real GDP growth** is GDP growth adjusted for price changes.

Another formula can be written as this:

$$\text{GDP} = R + I + P + SA + W$$

where R = rents ; I = interests ; P = profits ; SA = statistical adjustments (corporate income taxes, dividends, undistributed corporate profits) ; W = wages

### GDP vs GNP

GDP can be contrasted with **Gross National Product (GNP, or Gross National Income, GNI)**, which the United States used in its national accounts until 1992. The difference is that GNP includes net foreign income (the current account) rather than net exports and imports (the balance of trade). Put simply, GNP adds net foreign investment income compared to GDP. United States GDP, GNP and GNI (Gross National Income) can be compared at EconStats .

GDP is concerned with the region in which income is generated. It is the market value of all the output produced in a nation in one year. GDP focuses on where the output is produced rather than who produced it. GDP measures all domestic production, disregarding the producing entities' nationalities.

In contrast, GNP is a measure of the value of the output produced by the "nationals" of a region. GNP focuses on who owns the production. For example, in the United States, GNP measures the value of output produced by American firms, regardless of where the firms are located. Year-over-year real GNP growth in the year 2007 was 3.2%.

## Measurement

### International standards

The international standard for measuring GDP is contained in the book System of National Accounts (1993), which was prepared by representatives of the International Monetary Fund, European Union, Organization for Economic Co-operation and Development, United Nations and World Bank. The publication is normally referred to as SNA93 to distinguish it from the previous edition published in 1968 (called SNA68)

SNA93 provides a set of rules and procedures for the measurement of national accounts. The standards are designed to be flexible, to allow for differences in local statistical needs and conditions.

### National measurement

Within each country GDP is normally measured by a national government statistical agency, as private sector organizations normally do not have access to the information required (especially information on expenditure and production by governments).

### Interest rates

Net interest expense is a transfer payment in all sectors except the financial sector. Net interest expenses in the financial sector are seen as production and value added and are added to GDP.

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## Cross-border comparison

The level of GDP in different countries may be compared by converting their value in national currency according to either Current Currency Exchange Rate or Purchasing Power Parity.

### Current Currency Exchange Rate:

GDP is calculated by exchange rates prevailing on international currency markets

### Purchasing Power Parity Exchange Rate:

Under Purchasing Power Parity (PPP), GDP is calculated by each currency relative to a selected standard (usually the United States dollar).

The relative ranking of countries may differ dramatically between the two approaches.

The current exchange rate method converts the value of goods and services using global currency exchange rates. This can offer better indications of a country's international purchasing power and relative economic strength. For instance, if 10% of GDP is being spent on buying hi-tech foreign arms, the number of weapons purchased is entirely governed by *current exchange rates*, since arms are a traded product bought on the international market (there is no meaningful 'local' price distinct from the international price for high technology goods).

The Purchasing Power Parity method accounts for the relative effective domestic purchasing power of the average producer or consumer within an economy. This can be a better indicator of the living standards of less-developed countries because it compensates for the weakness of local currencies in world markets. (For example, India ranks 12th by nominal GDP but 4th by PPP). The PPP method of GDP conversion is most relevant to non-traded goods and services.

There is a clear pattern of the purchasing power parity method decreasing the disparity in GDP between high and low income (GDP) countries, as compared to the Current Exchange Rate Method. This finding is called the Penn effect.

## Standard of living and GDP

World GDP per capita (in 1990 international dollars) changed very little for most of human history before the industrial revolution. (Note the empty areas mean no data, not very low levels. There are data for the years 1, 1000, 1500, 1600, 1700, 1820, 1900, and 2003.)

GDP per capita is not a measurement of a standard of living in an economy. However, it is often used as such an indicator with the rationale being that all citizens would benefit from their country's increased economic production. Similarly, GDP per capita is not a measurement of personal income. GDP may increase while incomes for the majority of a country's citizens may even decrease or change disproportionately. For example, in the US from 1990 to 2006 the earnings (adjusted for inflation) of individual workers, in private industry and services, increased by less than 0.5% per year while GDP (adjusted for inflation) increased about 3.6% per year over the same period.

The major advantages to using GDP per capita as an indicator of standard of living are that it is measured frequently, widely and consistently; frequently in that most countries provide information on GDP on a quarterly basis (which allows a user to spot trends more quickly), widely in that some measure of GDP is available for practically every country in the world (allowing crude comparisons between the standard of living in different countries), and consistently in that the technical definitions used within GDP are relatively consistent between

countries, and so there can be confidence that the same thing is being measured in each country.

The major disadvantage of using GDP as an indicator of standard of living is that it is not, strictly speaking, a measure of standard of living. GDP is intended to be a measure of particular types of economic activity within a country. Nothing about the definition of GDP suggests that it is necessarily a measure of standard of living. For instance, in an extreme example, a country which exported 100 per cent of its production and imported nothing would still have a high GDP, but a very poor standard of living.

The argument in favour of using GDP is not that it is a good indicator of standard of living, but rather that (all other things being equal) standard of living tends to increase when GDP per capita increases. This makes GDP a proxy for standard of living, rather than a direct measure of it. GDP per capita can also be seen as a proxy of labour productivity. As the productivity of the workers increases, employers must compete for them by paying higher wages. Conversely, if productivity is low, then wages must be low or the businesses will not be able to make a profit.

### **Criticism:**

There are a number of controversies about the use of GDP.  
Limitations of GDP to judge the health of an economy

GDP is widely used by economists to gauge the health of an economy, as its variations are relatively quickly identified. However, its value as an indicator for the standard of living is considered to be limited.

### **Criticisms of how the GDP is used include:**

**Wealth distribution** – GDP does not take disparity in incomes between the rich and poor into account. However, numerous Nobel-prize winning economists have disputed the importance of income inequality as a factor in improving long-term economic growth. In fact, short term increases in income inequality may even lead to long term decreases in income inequality. See income inequality metrics for discussion of a variety of inequality-based economic measures.

**Non- market transactions** – GDP excludes activities that are not provided through the market, such as household production and volunteer or unpaid services. As a result, GDP is understated. Unpaid work conducted on Free and Open Source Software (such as Linux) contribute nothing to GDP, but it was estimated that it would have cost more than a billion US dollars for a commercial company to develop.

**Underground economy** – Official GDP estimates may not take into account the underground economy, in which transactions contributing to production, such as illegal trade and tax-avoiding activities, are unreported, causing GDP to be underestimated.

**Non-monetary economy** – GDP omits economies where no money comes into play at all, resulting in inaccurate or abnormally low GDP figures. For example, in countries with major business transactions occurring informally, portions of local economy are not easily registered. Bartering may be more prominent than the use of money, even extending to services (I helped you build your house ten years ago, so now you help me). GDP also ignores subsistence production.

**Quality of goods** – People may buy cheap, low-durability goods over and over again, or they may buy high-durability goods less often. It is possible that the monetary value of the items sold in the first case is higher than that in the second case, in which case a higher GDP is simply the result of greater inefficiency and waste. (This is not always the case; durable goods are often more difficult to produce than flimsy goods, and consumers have a financial incentive to find the cheapest long-term option. With goods that are undergoing rapid change, such as in fashion or



high technology, the short lifespan may increase customer satisfaction by allowing them to have newer products.)

**Quality improvements and inclusion of new products** – By not adjusting for quality improvements and new products, GDP understates true economic growth. For instance, although computers today are less expensive and more powerful than computers from the past, GDP treats them as the same products by only accounting for the monetary value. The introduction of new products is also difficult to measure accurately and is not reflected in GDP despite the fact that it may increase the standard of living.

**What is being produced** – GDP counts work that produces no net change or that results from repairing harm. For example, rebuilding after a natural disaster or war may produce a considerable amount of economic activity and thus boost GDP. The economic value of health care is another classic example—it may raise GDP if many people are sick and they are receiving expensive treatment, but it is not a desirable situation. Alternative economic measures, such as the standard of living or discretionary income per capita better measure the human utility of economic activity.

**Externalities** – GDP ignores externalities or economic bads such as damage to the environment. By counting goods which increase utility but not deducting bads or accounting for the negative effects of higher production, such as more pollution, GDP is overstating economic welfare. The Genuine Progress Indicator is thus proposed by ecological economists and green economists as a substitute for GDP. In countries highly dependent on resource extraction or with high ecological footprints the disparities between GDP and GPI can be very large, indicating ecological overshoot. Some environmental costs, such as cleaning up oil spills are included in GDP.

**Sustainability of growth** – GDP does not measure the sustainability of growth. A country may achieve a temporarily high GDP by over-exploiting natural resources or by misallocating investment. Economies experiencing an economic bubble, such as a housing bubble or stock bubble, or a low private- saving rate tend to appear to grow faster owing to higher consumption, mortgaging their futures for present growth. Economic growth at the expense of environmental degradation can end up costing dearly to clean up; GDP does not account for this.

One main problem in estimating GDP growth over time is that the purchasing power of money varies in different proportion for different goods, so when the GDP figure is deflated over time, GDP growth can vary greatly depending on the basket of goods used and the relative proportions used to deflate the GDP figure. For example, in the past 80 years the GDP per capita of the United States if measured by purchasing power of potatoes, did not grow significantly. But if it is measured by the purchasing power of eggs, it grew several times. For this reason, economists comparing multiple countries usually use a varied basket of goods.

Cross-border comparisons of GDP can be inaccurate as they do not take into account local differences in the quality of goods, even when adjusted for purchasing power parity. This type of adjustment to an exchange rate is controversial because of the difficulties of finding comparable baskets of goods to compare purchasing power across countries. For instance, people in country A may consume the same number of locally produced apples as in country B, but apples in country A are of a more tasty variety. This difference in material well being will not show up in GDP statistics. This is especially true for goods that are not traded globally, such as housing.

## Human Development Index

The **Human Development Index (HDI)** is an index used to rank countries by level of "human development", which usually also implies whether a country is a developed, developing, or underdeveloped country

The HDI combines normalized measures of life expectancy, literacy, educational attainment, and GDP per capita for countries worldwide. It is claimed as a standard means of measuring human development—a concept that, according to the United Nations Development Program (UNDP), refers to the process of widening the options of persons, giving them greater opportunities for education, health care, income, employment, etc. The basic use of HDI is to measure a country's development.

The index was developed in 1990 by Pakistani economist Mahbub ul Haq, Sir Richard Jolly, with help from Gustav Ranis of Yale University and Lord Meghnad Desai of the London School of Economics. It has been used since then by UNDP in its annual Human Development Report. It is claimed that ideas of Indian Nobel prize winner Amartya Sen were influential in the development of the HDI. The HDI now serves as a path towards a wide variety of more detailed measures contained in the Human Development Reports.

The HDI combines three basic dimensions:

1. Life expectancy at birth, as an index of population health and longevity
2. Knowledge and education, as measured by the adult literacy rate (with two-thirds weighting) and the combined primary, secondary, and tertiary gross enrollment ratio (with one-third weighting).
3. Standard of living, as measured by the natural logarithm of gross domestic product

### **Criticisms**

The Human Development Index has been criticized on a number of grounds, including failure to include any ecological considerations, focusing exclusively on national performance and ranking, and not paying much attention to development from a global perspective. The index has also been criticized as "redundant" and a "reinvention of the wheel", measuring aspects of development that have already been exhaustively studied. The index has further been criticized for having an inappropriate treatment of income, lacking year-to-year comparability, and assessing development differently in different groups of countries.

### **Economic growth in India**

#### **Indian economy growth in colonial period**

When India was first colonized by British, Indian economy was going through a relatively good period. Production and trade had increased. However, when India ceased being a colonial nation, its economy had already been massively exploited and lay in tatters. A number of leftist economists had squarely blamed British for decline of Indian economy but their views have been opposed by rightist economists who opine that since a number of sectors in India were at a developmental stage, economy of India was unable to sustain that impressive rate of development.

India's economic growth really kicked off in 1990s when India made its markets more accessible. This was done by introducing a number of economic reforms. From that point in time Indian economy has been growing at a steady pace. However, India's economic growth has not been exactly steady. In 1991, Rajiv Gandhi-led Indian government imposed limits on office holders regarding expansion of capacity, brought down corporate taxes, and abolished price controls. This led to an increase in growth of Indian economy.

But there are some disparities across states and sectors. For example, Maharashtra has been in better economic condition than states like Bihar.

In past, India's economic growth has been hampered by a variety of factors. For example in 2002, lesser expenditures in areas like power, telecommunications, construction, real estate and transportation prevented good growth of Indian economy. This led to permission

and promotion of foreign investment, which has contributed to a continuous rate of development in last one and a half year.

### **GDP growth in India**

The rise in the GDP growth rate in India was due to the effect of adoption of liberal economic policy by Government of India. The change in the stance towards an open and globalized economic policy was taken in the wake of balance of payments crisis during the late 1980s. Traditionally, the Indian markets were strictly insulated from foreign investments and investors and the government of India machineries were the chief market regulators. The wide spread acceptance of border less trade and open market policies by other developing countries of the world necessitated opening up of Indian markets to foreign investors and investments. In India GDP growth rate skyrocketed to all time high, immediately after opening up of Indian markets to Foreign Direct Investments (FDI) and Foreign Institutional Investors (FII). This era, during the early 1990s marks the initiation of the rise of the India GDP growth rate.

The period after the 1990s witnessed around 4.5% to 5% rise of the Indian Gross Domestic Product output. Further, the astronomical growth of the Indian Information Technology, Indian service industry and the Indian BPO sector, skyrocketed the India GDP growth rate to around 6%, during the period from 1988 to 2003. The period after 2004 marks the meteoritic rise of gross domestic product of India and this rise was affected by service and manufacturing industry. The India GDP growth rate registered an impressive growth of 8.5% during this period. The present target of India GDP growth rate is pegged at 9.5% to 10 %.

In financial year 2007 -08, India recorded a growth of 9.1 % in its gross domestic product. This has enabled India to be counted among two quickest emerging economies of global world. In this regard, it is placed right after China. A number of economists are of opinion that if India can sustain this rate of development they would soon be regarded as a big name in global economic scenario. Goldman Sachs has predicted that by 2020 India's gross domestic product would be four times of what it was in 2007.

GDP growth rate of India are as follows –

GDP factor for the first quarter of 2007-08 was at Rs 7,23,132 crore, registering a growth rate of 9.3% over the corresponding quarter of previous year. India's economy grew at 9.3% in quarter April-June and it was driven by manufacturing, construction and services sector and agriculture sector. The annual inflation rate was 4.45% for the week ended July 28, 2007. India's Balance of Payments is expected to remain comfortable . Merchandise Exports recorded strong growth. Manufacturing registered 11.95 % growth. The passenger vehicles sector grew by 11.61% during April-May 2007. Electricity, gas & water supply performed well and recorded an impressive growth rate of 8.3%. Construction growth rate rose to 10.7%. Trade, hotels, transport and communication registered a growth rate of 12%. Financing, insurance, real estate and business services recorded an impressive growth rate of at 11% during the 1st quarter of this fiscal year 2007. Community, social and personal services maintained a decent growth rate of 7.6%. The growth rate of agriculture, forestry & fishing' and 'mining & quarrying' are estimated at 3.8 %, and 3.2 %, respectively during the 1st quarter of 2007-2008. Exports grew by 18.11% during the 1st quarter of 2007-2008 and the imports shoot up by 34.30% during the same period. India's FOREX reserves (excluding Gold and SDRs) stood at \$219.75 billion at the end of July ' 07. The food sector is estimated to be of US\$ 200 billion and it is expected to grow to \$310 billion by 2015 Stocks of food-grains grew by 13.1% to 17.73 million tonnes.

The productivity growth rate of Indian economy is estimated to be around 8% and it is expected to sustain until 2020. Moreover, at this rate of GDP growth, India is poised to become the second largest economy in the world after China. Further, the World Bank has ranked India as one of the top economic reformers worldwide, in the last decade. India has simplified business registration, cross-border trade, and payment of taxes, eased access to credit and strengthened investor's interest. The stupendous growth of Indian industries especially manufacturing, construction, and services together with bullish stock market suggests that the

recent growth is likely to continue further. The factors like industrial growth, FII and FDI inflow, Balance-of-payments, merchandise exports, invisible accounts and Foreign-exchange-reserves had substantial contribution towards the growth rate of Indian GDP.

### **Inflation Rate in India**

The Indian economy has been registering stupendous growth after the liberalization of Indian economy. The opening up of the Indian economy in the early 1990s had increased India's industrial output and consequently has raised the inflation rate in India.

The stupendous growth rate of industrial output and employment has created enormous pressure on the inflation rate. The Reserve Bank of India (the central bank) and the Ministry of Finance, Government of India are concerned about the prevalent and intermittent rise of the inflation rate. The present rise of inflation rate in India can be detrimental to the projected growth of Indian economy. Thus, the Reserve Bank of India is devising methods to arrest the rise of inflation by putting checks and measures in place. Although the central bank has assured the Indian business community and the general public about the harmless inflationary rise, apprehensions still exist among the business circles of India.

The main cause of rise of India Inflation Rate is the pricing disparity of agricultural products between the producer and end- consumer. Moreover, the meteoric rise of prices of food products, manufacturing products, and essential commodities has also catapulted the India Inflation Rate. As a result of this, the Wholesale Prices Index (WPI) of India touched 6.1% as on 6th January, 2007. Moreover, the Cash Reserve Ratio touched 5.5% on the same day.

To arrest the panic and discomfort amongst the Indian business circles, the Reserve Bank of India, in its recently drafted monetary policy, had given top priority to price stability. It also sought to sustain the stupendous rate of economic growth of India. The Reserve Bank of India has raised the Cash Reserve Ratio in a continuous manner to arrest the rise of India.

The solution to this problem lies in rationalizing the pricing disparity between the producer and the consumer. Only this will ensure inflation stabilization and thus sustainable economic growth of India.

### **Obstacles in High Growth of National Income of India**

Despite of India's impressive economic growth over recent decades, it still contains the largest concentration of poor people in the world, and has a higher rate of malnutrition among children under the age of three (46% in year 2007) than any other country in the world.

The percentage of people living below the new international poverty line \$1.08 a day (PPP, in nominal terms Rs 21.6 a day in urban areas and Rs 14.3 in rural areas in 2005) decreased from 60% in 1981 to 42% in 2005 - the 3rd highest rate in South Asia after Nepal and Bangladesh, despite having a higher per capita income earning overall 85.7% of the population was living on less than \$2.50 (PPP) a day in 2005, compared with 80.5% for Sub-Saharan Africa. Even though India has avoided famines in recent decades, half of children are underweight, one of the highest rates in the world and nearly double the rate of Sub-Saharan Africa.

It is also estimated that in the next 10 years India's national income is going to suffer a loss of nearly \$200billion. The Government of India must try to frame suitable strategies for evolving greater generation of goods. Unemployment which is a big problem of the Indian economy must be solved. Only when people are employed, they will be able to contribute in the national income.

The other major factors which are going to hurt the National Income of India are: Slow growth of agricultural sector, defect in planning, poverty etc.

A higher national income will result in a prosperous economy. With an average annual GDP growth rate of 5.8% for the past two decades, the economy is among the fastest growing in the world. It has the world's second largest labour force, with 516.3 million people. In terms of output, the agricultural sector accounts for 28% of GDP; the service and industrial sectors make up 54% and 18% respectively. Major agricultural products include rice, wheat, oilseed, cotton, jute, tea, sugarcane, potatoes; cattle, water buffalo, sheep, goats, poultry; fish. Major industries include textiles, chemicals, food processing, steel, transport equipment, cement, mining, petroleum, machinery, software. India's trade has reached a relatively moderate share 24% of GDP in 2006, up from 6% in 1985. India's share of world trade has reached 1%. Major exports include petroleum products, textile goods, gems and jewelry, software, engineering goods, chemicals, leather manufactures. Major imports include crude oil, machinery, gems, fertilizer, chemicals.

India's GDP is US\$1.089 trillion, which makes it the twelfth-largest economy in the world or fourth largest by purchasing power adjusted exchange rates. India's nominal per capita income US\$977 is ranked 128<sup>th</sup> in the world. In the late 2000s, India's economic growth has averaged 7½% a year, which will double the average income in a decade.

In the revised 2007 figures, based on increased and sustaining growth, more inflows into foreign direct investment, Goldman Sachs predicts that "from 2007 to 2020, India's GDP per capita in US\$ terms will quadruple", and that the Indian economy will surpass the United States (in US\$) by 2043. Despite high growth rate, the report stated that India would continue to remain a low-income country for several decades but can be a "motor for the world economy" if it fulfills its growth potential. Goldman Sachs has outlined 10 things that it needs to do in order to achieve its potential and grow 40 times by 2050. These are : improve governance; raise educational achievement ; increase quality and quantity of universities; control inflation; introduce a credible fiscal policy ; liberalize financial markets; increase trade with neighbours ; increase agricultural productivity ; improve infrastructure and improve environmental quality.

### India GDP Growth Rate

The Gross Domestic Product (GDP) in India expanded 7.80 percent in the first quarter of 2011 over the previous quarter. Historically, from 2000 until 2011, India's average quarterly GDP Growth was 7.45 percent reaching an historical high of 11.80 percent in December of 2003 and a record low of 1.60 percent in December of 2002. India's diverse economy encompasses traditional village farming, modern agriculture, handicrafts, a wide range of modern industries, and a multitude of services. Services are the major source of economic growth, accounting for more than half of India's output with less than one third of its labor force. The economy has posted an average growth rate of more than 7% in the decade since 1997, reducing poverty by about 10 percentage points. This page includes: India GDP Growth Rate chart, historical data, forecasts and news. Data is also available for India GDP Annual Growth Rate, which measures growth over a full economic year.

The Central Statistics Office (CSO), Ministry of Statistics and Programme Implementation has released the advance estimates of national income at constant (2004- 05) and current prices, for the financial year 2010-11. These advance estimates are based on anticipated level of agricultural and industrial production, analysis of budget estimates of government expenditure and performance of key sectors like, railways, transport other than railways, communication, banking and insurance, available so far. The advance estimates at current prices are derived by estimating the implicit price deflators (IPDs) at sectoral level from the relevant price indices. The salient features of these estimates are detailed below:

### ADVANCE ESTIMATES OF NATIONAL INCOME, 2010-11

(Estimates at Constant (2004-05) Prices)

#### □ **Gross Domestic Product**

Gross Domestic Product (GDP) at factor cost at constant (2004-05) prices in the year 2010-11 is likely to attain a level of Rs. 48,79,232 crore, as against the Quick Estimates of GDP for the year 2009-10 of Rs. 44,93,743 crore, released on 31<sup>st</sup> January 2011. The growth in GDP during 2010-11 is estimated at 8.6 per cent as compared to the growth rate of 8.0 per cent in 2009-10.

The growth rate of 8.6 per cent in GDP during 2010-11 has been due to the growth rates of over 8 per cent in the sectors of 'manufacturing', 'construction', 'trade, hotels, transport and communication', 'financing, insurance, real estate and business services'. Agriculture sector registered a growth rate of 5.4 percent.

#### □ **Agriculture**

The 'agriculture, forestry and fishing' sector is likely to show a growth of 5.4 per cent in its GDP during 2010-11, as against the previous year's growth rate of 0.4 per cent. According to the information furnished by the Department of Agriculture and Cooperation (DAC), which has been used in compiling the estimate of GDP from agriculture in 2010-11, production of foodgrains and oilseeds is expected to grow by 6.5 per cent and 11.9 per cent, respectively, as compared to the previous agriculture year. The production of cotton and sugarcane is also expected to rise by 41.2 per cent and 15.2 per cent, respectively, in 2010-11. Among the horticultural crops, production of fruits and vegetables is expected to increase by 4.1 per cent and 3.8 per cent, respectively, during the year 2010-11.

#### **Industry**

□ The growth in GDP for mining and quarrying and manufacturing sectors during 2010-11 is expected to be 6.2 and 8.8 percent respectively over previous year. According to the latest estimates available on the Index of Industrial Production (IIP), the index of mining and manufacturing registered growth rates of 8.0 per cent and 10.0 per cent during April-November, 2010. The estimated growth rate for construction sector is 8.0 percent in 2010-11. The key indicators of construction sector, namely, cement production and steel consumption have registered growth rates of 4.4 per cent and 8.8 per cent, respectively during April-December, 2010.

#### **Services**

□ The estimated growth in GDP for the trade, hotels, transport and communication sectors during 2010-11 is placed at 11.0 per cent, mainly on account of growth during April-November, 2010-11 of 14.9 per cent in passengers handled in civil aviation, 21.3 per cent in air cargo handled and 40.9 per cent in stock of telephone connections. The sales of commercial vehicles witnessed an increase of 34.1 per cent per cent in April-December, 2010. The sector, 'financing, insurance, real estate and business services', is expected to show a growth rate of 10.6 per cent during 2010-11, on account of 14.0 per cent growth in aggregate deposits and 22.6 per cent growth in bank credit during April- November 2010 (against the respective growth rates of 18.6 per cent and 10.1 per cent in the corresponding period of previous year). The growth rate of 'community, social and personal services' during 2010-11 is estimated to be 5.7 per cent.

#### **National Income**

□ The net national income (NNI) at factor cost, also known as national income, at 2004-05 prices is likely to be Rs. 42,69,994 crore during 2010-11, as against the previous year's Quick Estimate of Rs. 39,46,540 crore. In terms of growth rates, the national income is expected to rise by 8.2 per cent during 2010-11 in comparison to the growth rate of 7.5 per cent in 2009-10.

### Per Capita Income

- The per capita income in real terms (at 2004-05 prices) during 2010-11 is likely to attain a level of Rs. 36,003 as compared to the Quick Estimate for the year 2009-10 of Rs. 33,731. The growth rate in per capita income is estimated at 6.7 per cent during 2010-11, as against the previous year's estimate of 6.1 per cent.

### Estimates at Current Prices

#### □ Gross Domestic Product

GDP at factor cost at current prices in the year 2010-11 is likely to attain a level of Rs. 72,56,571 crore, showing a growth rate of 18.3 per cent over the Quick Estimates of GDP for the year 2009-10 of Rs. 61,33,230 crore.

### National Income

The NNI at factor cost at current prices is anticipated to be Rs. 64,66,860 crore during 2010-11, as compared to Rs. 54,39,557 crore during 2009-10, showing a rise of 18.9 per cent.

### Per Capita Income

The per capita income at current prices during 2010-11 is estimated to be Rs. 54,527 as compared to Rs. 46,492 during 2009-10, showing a rise of 17.3 per cent.

### ESTIMATES OF EXPENDITURES ON GDP, 2010-11

Alongwith the Advance Estimates of GDP by economic activity, the CSO is also releasing the Advance Estimates of expenditures of the GDP at current and constant (2004 -05) prices. These estimates have been compiled using the data on indicators available from the same sources as those used for compiling GDP estimates by economic activity, detailed data available on merchandise trade in respect of imports and exports, balance of payments, and monthly accounts of central government. As various components of expenditure on gross domestic product, namely, consumption expenditure and capital formation, are normally measured at market prices, the discussion in the following paragraphs is in terms of market prices only.

#### Private Final Consumption Expenditure

Private Final Consumption Expenditure (PFCE) at current prices is estimated at Rs. 44,93,487 crore in 2010-11 as against Rs. 37,82,013 crore in 2009 -10. At constant (2004-05) prices, the PFCE is estimated at Rs. 30,79,898 crore in 2010 -11 as against Rs. 28,46,410 crore in 2009-10. In terms of GDP at market prices, the rates of PFCE at current and constant (2004-05) prices during 2010 -11 are estimated at 57.0 per cent and 57.6 per cent, respectively, as against the corresponding rates of 57.7 per cent and 58.5 per cent, respectively in 2009-10.

#### Government Final Consumption Expenditure

Government Final Consumption Expenditure (GFCE) at current prices is estimated at Rs. 8,90,978 crore in 2010-11 as against Rs. 7,85,443 crore in 2009-10. At constant (2004-05) prices, the GFCE is estimated at Rs. 5,79,479 crore in 2010-11 as against Rs. 5,64,835 crore in 2009-10. In terms of GDP at market prices, the rates of GFCE at current and constant (2004-05) prices during 2010-11 are estimated at 11.3 per cent and 10.8 per cent, respectively, as against the corresponding rates of 12.0 per cent and 11.6 per cent, respectively in 2009-10.

## Gross Fixed Capital Formation

Gross Fixed Capital Formation (GFCF) at current prices is estimated at Rs. 23,07,376 crore in 2010-11 as against Rs. 20,16,186 crore in 2009-10. At constant (2004-05) prices, the GFCF is estimated at Rs. 16,89,460 crore in 2010-11 as against Rs. 15,59,126 crore in 2009-10. In terms of GDP at market prices, the rates of GFCF at current and constant (2004-05) prices during 2010-11 are estimated at 29.3 per cent and 31.6 per cent, respectively, as against the corresponding rates of 30.8 per cent and 32.0 per cent, respectively in 2009-10. The rates of Change in Stocks and Valuables at current prices during 2010-11 are estimated at 3.2 per cent and 1.9 per cent, respectively.

As far as the economic scenario is concerned India is surely on a roll. The last twenty years have really proved extremely beneficial for India. The country now stands only after Brazil as far as GDP ranking is concerned. India has replaced Russia and grabbed the second position in the global forefront mostly due to the strategic planning and huge amount of expenditures on education in India. India GDP 2011 is expected to cross the 8 percent mark and move to 9 percent GDP growth rate.

India is the second largest populated country in the world sheltering over one billion people. Although India has not had a striking 10 percent year over year economic growth as its neighbor China it has still managed to grow at a nominal rate. India's GDP growth has been slow but careful.

According to trade pundits India will take the third position as far as GDP growth is concerned by 2020 replacing Germany, the UK, and Japan. Only United States and China will be ahead of it.

The country which was termed underdeveloped till a few decades back has shown the world its great potential. Moving along slowly with accurately measured footsteps India is surely treading on. The policy-makers of the country realized at the right time their age old ideas and beliefs and started moving towards the direction of growth. Over the years numerous steps have been taken to rationalize taxes and reduce red-tapism in the country.

The recent all round growth and development has made people across the globe realize the importance of the country as a well read and powerful economy. With its galloping GDP figures India forced other powerful economies to sit up and take notice of it. The country today, despite all odds is showing signs of health, wealth and vigor.

The one striking feature about the remarkable economic growth rate is its internal resources. The country is blessed in terms of natural resources, skilled labor and a well educated young population. Business in India does not thrive by handsome made by charitable institutions.

India is attracting millions of foreign investors that think India to be a very sound and prospective market. Over the last few decades most of the global multinational firms have opened their regional offices in the various metros of the country. Places like Delhi, Mumbai, Chennai, Bangalore and Hyderabad have experienced superb growth in the last 20 years.

The economic scenario in India has been pretty stable over the last 5 years. Despite the economic downturn two years back the Indian economy has managed to remain stable. The India GDP recorded for the period December 2010 stood at 8.20 percent. However according to the (CMIE) or Centre for Monitoring Indian Economy India will record a GDP of 9.2 per cent in the year 2011. India's GDP growth 2010 - 2011 has not been phenomenal but is certainly encouraging.

## GDP growth during 2010 - 2011 in India (Sector wise)

All the important sectors in India have shown positive signs of growth from the last five years. Let us have a close look at the sector wise growth rate in India from the period 2010 to 2011.



Indian exports increased by 26.8 per cent (y-o-y) and touched US\$ 18.9 billion in November 2010. This rapid growth in the exports from India urged the Indian Government to conclude that the total shipments in 2010-11 might go up to US\$ 215 billion. For the period April 2010 to November 2010 exports in the country grew by 26.7 per cent to US\$ 140.3 billion. On the other hand imports increased to US\$ 222 billion.

India also made a substantial profit from Foreign Exchange Earnings. The number of Foreign Tourist that visited the country from January - November 2010 was about 4.93 million as compared to 4.46 million foreign tourists during the same period in 2009, registering a growth rate of 10.4 per cent. The (FEE) or Foreign Exchange Earnings went up to a whopping US\$ 12.88 billion during the period January -November 2010 as compared to US\$ 10.67 billion during January-November 2009. The growth rate registered by the Ministry of Tourism was 20.7 per cent.

The logistics industry in India is also witnessing enormous activity. According to a study conducted by the shipping ministry in India, some of the important ports in the country handled about 44.4 million tones of freight in September 2010. There was a growth rate of 4.5 per cent as compared to the growth rate in September 2009 which stood at 5.9 per cent. According to Frost&Sullivan, the traffic in these ports is going to rise from 814.1 (MT) to 1,373.1 MT from the period 2010 to 2015 at a steady CAGR of 11 per cent

The investment industry in India also showed positive signs of growth in 2010. According to the reports released by the Association of Mutual Funds in India the total assets that the mutual fund industry managed accounted at US\$ 160.44 billion in September 2010.

According to the reports released by the Telecom Regulatory Authority of India (TRAI) the total number of telephone users in India reached 742.12 million in October 31, 2010. This took the total telephone using population in the country to 62.51 percent. The number of wireless subscribers also increased to 706.69 million.

According to the NASSCOM's Strategic Review 2010, the IT-BPO sector in India remained the fastest developing industry churning out total revenue of USD 73.1 billion in 2010. The Information Technology and software services generated revenues of USD 63.7 billion.

The vehicles industry in India also witnessed a substantial growth in 2010. The production of vehicles in India grew by 32.4 per cent in August 2010, as against the corresponding period in 2009. Ranging from the commercial vehicles to two- wheelers to the Passenger vehicles segment all registered striking growth rates of 49 per cent, 31 per cent and 32 per cent.

According to the reports of the Gem and Jewellery Export Promotion Council, the shipment of jewelry from India was worth US\$ 23.57 billion during the April-November 2010, recording an increase of 38.25 per cent as compared to that of US\$ 17.05 billion as against the same period in 2009.

Even the aviation industry registered a steady growth in 2010 as compared to the previous year. As per the Ministry of Civil Aviation, the total number of passengers carried by the domestic airlines during January-November, 2010 were 46.81 million as compared to 39.35 million in the previous year, registering a profit of 18.9 per cent.

India has become a hot favorite as far as foreign investment is concerned. As per reports published by Ernst & Young (E&Y), a world renowned consultancy firm, India received more than US\$ 7 billion from foreign sources to invest in private equity.

**Table showing the GDP growth rate from 2008 to 2010**

Year	March	June	September	December
2008	8.50	7.80	7.50	6.10
2009	5.80	6.00	8.60	6.50
2010	8.60	8.90	8.90	8.20

**Sector wise GDP growth rate in India for 2010- 2011**

Sector	GDP Growth Rate
Manufacturing	9.8 percent
Farming	4.4 percent
Construction	8.8 percent
Mining	8 percent
Service	9.8 percent

India enhanced the economic growth projection for 2010-11 to 8.75%, with the possibility it could breach the 9% mark, but warned the situation could be more volatile due to a spillover of Europe's economic woes and an increase in global food prices. In February's Economic Survey, the finance ministry had projected 8.5% growth for 2010-11 and added it could fluctuate in the range of 0.25% around it. In the Mid-Year Analysis 2010-11 placed in Parliament by finance minister Pranab Mukherjee, the government raised the growth forecast to 8.75%, but said it could fluctuate in the range of 0.35% around that level.

"Private consumption is becoming the primary engine of growth," said D.K. Joshi, chief economist of Crisil Ltd. Crisil issued a new forecast for 2010 -11, raising the growth projection by 0.4 percentage point to 8.6%. "In essence, growth is more sustainable now," Joshi said. Amid the increase in growth forecasts, the mid-year analysis warned of a simultaneous increase in volatility.

Risks from the external sector account for the enhanced volatility in the economic situation, the mid-year analysis said. The two major risks are slow economic growth on account of Europe's problems and the firm trend in the price of primary articles.

According to the analysis, the Food and Agriculture Organization's food index has increased in 2010 to levels last seen at the peak of the 2007-08 crisis. This development could eventually have an adverse impact on India, the analysis added. The Indian economy has the potential to grow faster than 9% recorded before the 2008 global financial crisis and stay at that level. However, to sustain such levels, there are no easy options and "significant deepening of reform initiatives" is needed.

The mid-year analysis identified two key challenges to keep India on a high growth path and raise it to double -digit levels. India needs to push forward on consolidating government finances and clean up its governance act to get better outcomes in infrastructure. "A high fiscal deficit is higher growth foregone," the analysis said, explaining why the primary macroeconomic challenge is for the government to stick to its commitments on fiscal consolidation.

Mukherjee has said in Parliament that the projected fiscal deficit of 5.5% of gross domestic product (GDP) in 2010-11 would be whittled down to 4.1% by 2012 -13. This is to be accompanied by a reduction in the Central government's debt as a proportion of GDP to 47.6% by 2012-13 from the last fiscal's 50.5%. In the long term, fiscal consolidation is best achieved by spending less, the analysis said. The report also explored India's challenges in dealing with the fallout of a surge in capital inflows. Research showed controls work for a short period, but then start hindering economic growth. Reforms in the domestic capital market to channel flows into longer-term and risk-bearing assets is an important aspect, the analysis concluded.

The pace of improvement in India's infrastructure performance is linked, in part, to cleaning up the system, the mid- year analysis said. "Some of these problems can be overcome if projects are awarded on the basis of transparent and hands-off auction system," it said, explaining the delays in India's highways programme. In absolute terms, between 2012 and 2017, India will need to invest Rs44.9 trillion, the analysis said. This will translate into 9.95% of GDP at the projected economic growth rate of 9%. India's investments in infrastructure and economic growth were set in the context of global anxiety over climate change on account of human economic activity. "At the end of the day, the debate on climate change, though focused upon primarily as an environmental issue, boils down to a debate on economic costs and economic development," the report said. It pointed out India had committed itself in international forums to keep reducing its emissions intensity. Emission intensity of India's GDP has declined by more than 30% during 1947-2007, the report said.

### India GDP forecast to 2015

Economy Watch has a forecast for the Indian economy to 2015. Economy watch has a projections from 2010 to 2015 based on OECD, IMF, UN, World Bank and CIA data.

Indicator Values for India	2010	2011	2012	2013	2014	2015
GDP Growth (Constant Prices, National Currency)	8.78%	8.43%	8.03%	8.09%	8.10%	8.08%
GDP (Current Prices, Trillion INR)	67.0	76.1	85.4	96.0	107.8	121.0
GDP (Current Prices, Trillion USD)	1.40	1.50	1.64	1.81	1.99	2.19
GDP Deflator	163	171.00	178.00	185.00	192	199.00
GDP Per Capita (Constant Prices, National Currency)	33,751	36,099	38,481	41,052	43,799	46,723
GDP Per Capita (Current Prices, National Currency)	55,063	61,720	68,404	75,809	84,023	93,111
GDP Per Capita (Current Prices, US Dollars)	1,124	1214	1,316	1,430	1,553	1,681
GDP (PPP, Trillion USD)	3.86	4.248	4.67	5.14	5.670	6.24
GDP Per Capita (PPP), US Dollars	3,176	3446	3,739	4,065	4,420	4,804
GDP Share of World Total (PPP)	5.23%	5.38%	5.55%	5.73%	5.93%	6.12%
Implied PPP Conversion Rate	17.34	17.90	18.29	18.65	19.01	19.38
Inflation, Average Consumer Prices (Indexed to Year 2	187	197	205	213	222	231
Inflation (Average Consumer Price Change %)	13.2%	5.5%	4.1%	4.0%	4.0%	4.0%
Inflation, End of Year (Indexed to Year 2000)	190	199	207	215	224	233
Inflation (End of Year Change %)	8.1%	4.6%	4.0%	4.0%	4.0%	4.0%
Population (Million)	1216	1233	1,249	1,266	1,282	1,299
Current Account Balance (Billion USD)	-29.7	-30.4	-32.4	-35.8	-39.8	-42.7
Current Account Balance (% GDP)	-2.2%	-2.0%	-2.0%	-2.0%	-2.0%	-2.0%

India should get close to the GDP level of the United States in 2030 if India can maintain growth rates and have some currency appreciation. Around 2020 India should pass the economy of Germany and around 2025 India should pass Japan. The future ranking of the India economy in the world will also depend upon when India will surpass the economies of Brazil and Russia.

Government of India released (on 1<sup>st</sup> August, 2011) Economic Outlook for 2011-12 that pegs the India's GDP growth rate for 2011-12 at 8.2% as compared to 8.5% registered last year. Given the current adverse global circumstances and high Inflation to boot, expected growth rate of 8.2% looks quite encouraging.

### Important highlights of Economic Outlook 2011-12

- **Agriculture** grew at 6.6% in 2010-11. This year's monsoon is projected to be in the range of 90 to 96 per cent, based on which Agriculture sector is pegged to grow at 3.0% in 2011-12!
- **Industry** grew at 7.9% in 2010-11. Projected to grow at 7.1% in 2011-12

- **Services** grew at 9.4% in 2009-10. Projected to grow at 10.0% in 2011-12
- **Investment rate** projected at 36.4% in 2010-11 and 36.7% in 2011-12
- **Domestic savings rate** as ratio of GDP projected at 33.8% in 2010-11 & 34.0% in 2011-12
- **Current Account deficit** is \$44.3 billion (2.6% of GDP) in 2010-11 and projected at \$54.0 billion (2.7% of GDP) in 2011-12
- **Merchandise trade deficit** is \$ 130.5 billion or 7.59% of the GDP in 2010-11 and projected at \$154.0 billion or 7.7% of GDP in 2011-12
- **Invisibles trade surplus** is \$ 86.2 billion or 5.0% of the GDP in 2010-11 and projected at \$100.0 billion or 5.0% in 2011-12
- **Capital flows** at \$61.9 billion in 2010-11 and projected at \$72.0 billion in 2011-12
- **FDI inflows** projected at \$35 billion in 2011/12 against the level of \$23.4 billion in 2010-11
- **FII inflows** projected to be \$14 billion which is less than half that of the last year i.e \$30.3 billion
- **Accretion to reserves** was \$15.2 billion in 2010-11. Projected at \$18.0 billion in 2011-12
- **Inflation rate would continue to be at 9 per cent in the month of July-October 2011. There will be some relief starting from November and will decline to 6.5% in March 2012.**



## 4. THEORY OF GROWTH

Economic development is the development of economic wealth of countries or regions for the well-being of their inhabitants. It is the process by which a nation improves the economic, political, and social well being of its people. From a policy perspective, economic development can be defined as efforts that seek to improve the economic well-being and quality of life for a community by creating and/or retaining jobs and supporting or growing incomes and the tax base.

Economic growth is defined as an increase in an economy's ability to produce goods and services. Think of an economy as a giant cake. We all have a slice of the cake to eat, and may be happy with the size of our slice or not. If the economy grows, we would be able to see the overall size of the cake increasing.

Whether or not our individual slice grows depends on whether we are able to share in the growing economy. Even if we do not benefit directly, we should still be able to see some advantages to the growing economy. This is because the extra economic growth should produce higher tax revenues, which can then be spent on public services that should benefit everyone.

### **Economic Growth vs Economic Development**

Economic development refers to social and technological progress. Economic growth is often assumed to indicate the level of economic development. The term "economic growth" refers to the increase (or growth) of a specific measure such as real national income, gross domestic product, or per capita income. National income or product is commonly expressed in terms of a measure of the aggregate value-added output of the domestic economy called gross domestic product (GDP). When the GDP of a nation rises economists refer to it as economic growth.

The term economic development on the other hand, implies much more. It typically refers to improvements in a variety of indicators such as literacy rates, life expectancy, and poverty rates. GDP is a specific measure of economic welfare that does not take into account important aspects such as leisure time, environmental quality, freedom, or social justice. Economic growth of any specific measure is not a sufficient definition of economic development.

### **Models of economic development**

The 3 building blocks of most growth models are: (1) the production function, (2) the saving function, and (3) the labor supply function (related to population growth). Together with a saving function, growth rate equals  $s/\beta$  ( $s$  is the saving rate, and  $\beta$  is the capital-output ratio). Assuming that the capital-output ratio is fixed by technology and does not change in the short run, growth rate is solely determined by the saving rate on the basis of whatever is saved will be invested.

### **Harrod-Domar Model**

The Harrod-Domar Model delineates a functional economic relationship in which the growth rate of gross domestic product ( $g$ ) depends positively on the national saving ratio ( $s$ ) and inversely on the national capital/output ratio ( $k$ ) so that it is written as  $g = s/k$ . The equation takes its name from a synthesis of analysis of growth by the British economist Sir Roy F. Harrod and the Polish-American economist Evsey Domar. The Harrod-Domar model in the early postwar times was commonly used by developing countries in economic planning. With a target growth rate, and information on the capital output ratio, the required saving rate can be calculated.

## Exogenous growth model

The exogenous growth model (or neoclassical growth model) of Robert Solow and others places emphasis on the role of technological change. Unlike the Harrod-Domar model, the saving rate will only determine the level of income but not the rate of growth. The sources-of-growth measurement obtained from this model highlights the relative importance of capital accumulation (as in the Harrod-Domar model) and technological change (as in the Neoclassical model) in economic growth. The original Solow (1957) study showed that technological change accounted for almost 90 percent of U.S. economic growth in the late 19th and early 20th centuries. Empirical studies on developing countries have shown different results .

Even so, in our post industrial economy, economic development, including in emerging countries is now more and more based on innovation and knowledge. Creating business clusters is one of the strategies used. One well known example is Bangalore in India, where the software industry has been encouraged by government support including Software Technology Parks.

## Information-Led Development

Information-Led Development (ILD) most commonly refers to a development strategy whereby a developing country makes as a primary economic policy focus the creation and development of a national information technology (IT) sector with the express aim of relying on this sector as an engine of growth. Notable examples of such countries are India and the Philippines.

More recently, a new formulation of ILD has emerged. With origins in community economic development in the United States, the new ILD model describes the use of data to generate actionable information or information solutions to development challenges. Examples of this include the inclusion of non-financial payment obligations in consumer credit files, also known as alternative data, and the use of this information in underwriting, as a means to reduce financial exclusion in the United States, where an estimated 54 million Americans are shut out of mainstream credit access as there is insufficient information about them in their credit files to be scored by a credit scoring model. This variant of ILD was pioneered by PERC, a non -profit policy research organization and development intermediary headquartered in Chapel Hill, North Carolina . Other US -based organizations, including Social Compact and the Local Initiatives Support Corporation, employ variants of ILD, but none has applied this internationally except for PERC.

This development model is gaining traction in emerging markets such as Colombia and South Africa, where the data is being used to reduce financial exclusion and facilitate credit access as a means to build wealth and form assets. It is also attracting increasing attention from development agencies, including USAID, the International Finance Corporation, the World Bank Group, and the Consultative Group to Assist the Poor.

## Factors affecting economic growth in developing countries

### Savings and Investment

There are some economic facts of life that underpin all macroeconomic explanations of growth. Perhaps the most important is that in order for capital goods to be accumulated to produce greater quantities of consumer goods in the future, consumer goods have to be given up in the present. For example, if workers are building a textile factory they cannot simultaneously be making textiles these will only appear in the future as a result of the sacrifices of the present.

Increases in the amount of capital goods are called investment. For growth to occur the level of investment has to be greater than the amount of depreciation, i.e. the amount by which machines wear out or become obsolete during the year. The higher the level of investment above depreciation the greater the potential output of the economy in the future.

Unfortunately, the resources to enable investment have to come from somewhere. The only way that workers can be freed from making cars to build car factories is by an increase in savings by households i.e. by the postponement of any decision to buy goods today in favour of future consumption. Look now at the investment figures for your six case study countries and think about the differences between them, particularly those between Asian and Latin American countries. Notice also the very marked regional differences in investment and savings rates.

The Harrod Domar Model has been extremely influential in development economics.

### **Evaluation of the model:**

An increased level of savings is not a sufficient condition for growth. For a start, the savings funds have to find their way to people who are willing to take the risk of investing. Provided they get the funds at reasonable rates of interest they then have to be able to make informed choices about the kind of investment needed e.g. what consumer tastes in the future are likely to be.

There are also problems coordinating investment projects often firms will only invest if other firms are also investing, e.g. providing intermediate goods, infrastructure support or external economies of scale. Indeed, the two-good PPF model illustrated in the diagram may be rather misleading because it leaves out of the picture the extent to which the various sectors of the economy are in tune with each other.

The extent to which the savings rate can be influenced by government policy may be very limited. The trouble is that the savings rate cannot really be taken as independent of the level of GDP. To some extent peoples willingness to save depends on their income with people generally less inclined to save when their incomes are low. For example, in developed countries it is usual for people to borrow money when starting employment and only to start saving when their salaries are higher later on in their careers.

The situation is much more acute for people below the poverty line in developing countries. The prospect of future growth in GDP may act as a disincentive to do the savings necessary for that growth. What makes sense for the economy as a whole may not appear to be at all sensible for the individuals making the decisions.

A further major problem with the arguments of the Harrod-Domar model is its assumption that increases in capital automatically expand the PPF. Unfortunately, extra capital for a given quantity of labour can only bring a certain amount of growth. At some point the economy will run into diminishing returns, i.e. a shortage of labour. This suggests that the level of savings is much less important than the rate of technological change. Some countries have compulsory savings laws e.g. Singapore. But perhaps this works only if the economy is already growing fast enough to provide the economic and political basis on which to sustain compulsory savings. There is also a need for potential savers to trust the financial system e.g. that there will be a low inflationary environment and that institutions are safe places to deposit money.



## 5 . POVERTY AND UNEMPLOYMENT

The fruits of economic growth have not benefited everyone uniformly. Some are left behind and some others are not touched by the benefits of economic growth. It is proved globally that the so-called trickle down effect does not work in all the societies and India is no exception to this. There are various reasons for this uneven development in the society. Modern economy is technology driven and not labour-intensive. High volume of high quality goods and services are produced with fewer labour hands. In short, the modern economy is not generating much employment and sometimes it displaces and replaces labour with machines and tools. The period of 1999-2000 to 2004-2005 saw rapid economic growth in the country but it has not impacted on the unemployment problem of the country. During this period, the unemployment rate remained almost same for rural males and decreased by just one percentage for urban male. On the other hand, unemployment among females increased by one percentage for urban and rural females.

Unemployment and poverty are the two major challenges that the world economy is facing at present. Unemployment leads to financial crisis and reduces the overall purchasing capacity of a nation. This in turn results in poverty followed by increasing burden of debt. Now, poverty can be described in several ways. As per the World Bank definition, poverty implies a financial condition where people are unable to maintain the minimum standard of living.

### **Poverty**

There is no generally agreed definition of poverty. This is because, Piachaud argues, the definition of poverty is a moral question - it refers to hardship which is unacceptable. 'Poverty' may refer to:

**Material conditions** - needing goods and services, multiple deprivation, or a low standard of living;

**Economic position** - low income, limited resources, inequality or low social class; and

**Social position** - of the poor, through lack of entitlement, dependency or social exclusion.

Conventionally, poverty is represented in two main models.

**Absolute poverty** is based on subsistence, a minimum standard needed to live. Seebom Rowntree's research identified a 'poverty line' on the basis of minimum needs. The Copenhagen Declaration defines absolute poverty as "a condition characterised by severe deprivation of basic human needs, including food, safe drinking water, sanitation facilities, health, shelter, education and information. It depends not only on income but also on access to social services."

**Relative poverty** is based on a comparison of poor people with others in society. Peter Townsend defines poverty as "the absence or inadequacy of those diets, amenities, standards, services and activities which are common or customary in society."

Poverty, like all need, is defined in terms of the society where it takes place: what people can eat, and where they can live, depend on the society they live in. That does not mean that it is based on a comparison with others in the same society; there are some countries where most people are poor.

Thus, poverty can be of different types like absolute poverty and relative poverty. There may be many other classifications like urban poverty, rural poverty, primary poverty, secondary poverty and many more. Whatever be the type of poverty, the basic reason has always been lack



of adequate income. Here comes the role of unemployment behind poverty. Lack of employment opportunities and the consequential income disparity bring about mass poverty in most of the developing and under developed economies of the world.

### Causes of poverty

The problems of poverty have been explained in many ways. *Pathological* explanations are those which attribute poverty to the characteristics or behaviour of poor people.

They include:

**Individualistic explanations:** Poor people are assumed to be inadequate, to have made bad choices, or to have chosen their lifestyle.

**Family:** Poverty is believed to run in families, with the transmission of inadequate behaviour from one generation to the next. (This proposition has been thoroughly researched; it is untrue)

**Sub-cultural views:** The 'culture of poverty' suggests that poor people learn to be different, and 'adapt' to poverty. The evidence here is ambiguous, and much disputed.

**Structural explanations** explain poverty in terms of the society where it occurs. They include:

**Class-based explanation:** Poverty is the result of some people's marginality in relation to the process of economic production, which limits their life-chances.

**'agency' views.** Poverty is attributed to the failures of public services.

**Inequality:** Poverty is attributed to inequalities in the structure of society, which lead to denial of opportunity and perpetuation of disadvantage. Examples are the inequalities of income, wealth, race, and gender.

### Measuring poverty

**Absolute poverty :** Absolute poverty measures the number of people living below a certain income threshold or the number of households unable to afford certain basic goods and services.

**Relative poverty :** Relative poverty measures the extent to which a household's financial resources falls below an average income threshold for the economy. Although living standards and real incomes have grown because of higher employment and sustained economic growth over recent years, the gains in income and wealth have been unevenly distributed across the population.

Because there is no agreed definition of poverty, there can be no agreed measure. Even if definitions were agreed, though, poverty would be complex and difficult to quantify. Measures of poverty have to be 'indicators', or signposts. The most commonly used measure is based on income. The World Bank, for example, uses the arbitrary standard of \$31 dollars a month (\$1 a day); at this level there are nearly 1200 million poor people in the world. At \$2 a day, another arbitrary line, the figure approaches three billion.

Percentage of poor in different size classes of cities/towns		
City/Town size	1993-94	1999-2000
Large towns/cities	18.4	14.2
Medium town/cities	27.6	20.4
Small towns	33.2	24.2
All Urban areas	27.4	19.9
Rural Areas	35.7	23.9

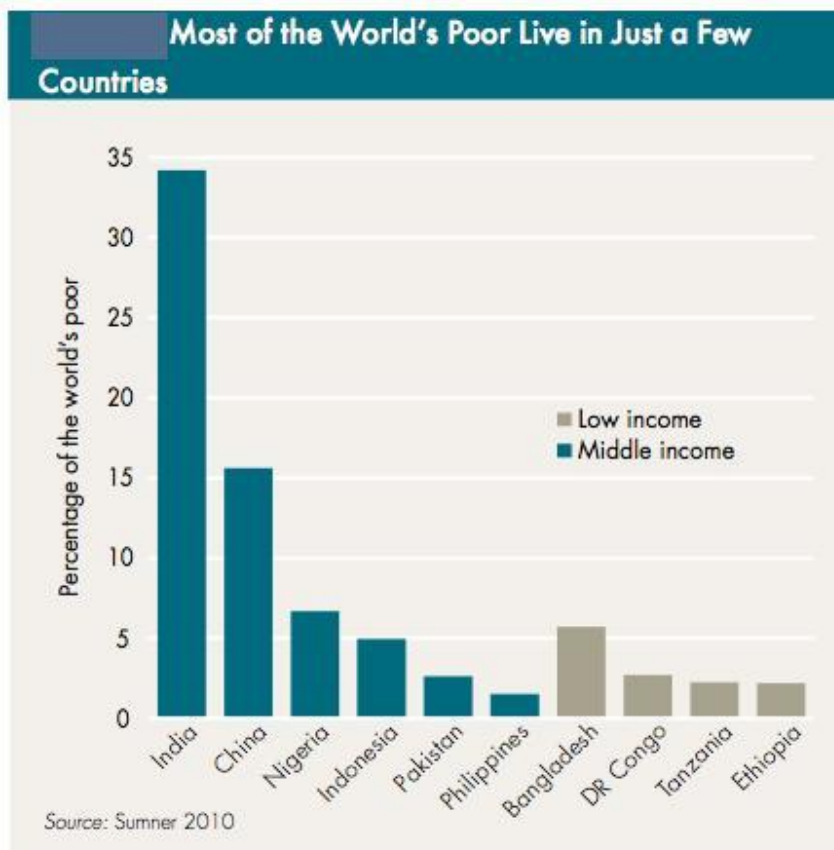
Source: UNDP: India: Urban Poverty Report, 2009

Some nations use 'budget standards', estimating the cost of a minimum basket of goods. The US defines its poverty threshold by identifying the cost of a food basket and estimating from that how much income is necessary. Others use relative measures. The European Union uses a comparative measure which sets a poverty line at 50% of the median income. (The median comes half-way up the income distribution). This means that there is more poverty where there is more inequality, or 'economic distance'.

Social science surveys have estimated the numbers of poor people in various ways. Some use budget standards; others use a 'subjective' poverty test, to see whether people identify themselves as poor. Others again have developed a 'consensual' method, where an opinion poll is used to identify what people in that society see as essential, and working from there to see who can afford that standard. A recent survey for the Joseph Rowntree Foundation estimates that on these tests a quarter of Britain's population is poor.

**The Poverty Trap**

The poverty trap affects people on low incomes. It creates a disincentive to look for work or work longer hours because of the effects of the tax and benefits system. For example, a worker might be given the opportunity to earn an extra 50 a week by working ten additional hours. This boost to his/her gross income is reduced by an increase in income tax and national insurance contributions. The individual may also lose some income-related state benefits. The combined effects of this might be to take away over 70% of a rise in income, leaving little in the way of extra net or disposable income.



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## Unemployment

The causes of unemployment are complex. Some kinds are long term: technical unemployment happens when people's skills are made redundant. Some are medium term: cyclical unemployment happens because there is inadequate demand to keep production going. Some are short term: frictional unemployment happens because people change jobs or locations. Seasonal work, casual employment and subemployment are patterns of work which lead to people being employed only for short periods at a time.

Exclusion from the labour market takes many forms: some people can opt for early retirement, further education or domestic responsibility, and others cannot. If poor people are unemployed more, it is not just because they are more marginal in the labour market; it is also because they have fewer choices, and because people who become classified as 'unemployed' are more likely to be poor. The unemployment figures are an artefact; economic analyses which are based solely on the formal 'unemployment rate' are generally misconceived.

### Sources of Unemployment

Lack of effective aggregate demand of labor is one of the principal reasons for unemployment. In the less developed economies a substantial portion of the total workforce works as surplus labor. This problem is particularly prevalent in the agricultural sector. Due to excess labor, the marginal productivity of the workforce may be zero or even negative. This excess pool of labor is the first to become unemployed during the period of economic or social crisis.

When a capitalist economy undergoes some dynamic changes in its organizational structure, it results in structural unemployment. This type of unemployment may also emerge if the lack of aggregate demand continues for a substantially long period of time. In case of frictional unemployment, workers are temporarily unemployed. There may be cases of hidden unemployment where workers restrain themselves from working due to absence of appropriate facilities.

One-third of the country's population is still illiterate and a majority are not educated up to the age of 15 yr. Even among the educated, all do not have employable skills of the modern economy. The education system is not tuned to the changing economic scenario. The large agricultural workforce in rural areas is not sustainable with dwindling cultivable land and use of modern methods of cultivation. As a result, the rural labour is pushed into cities in search of work but they do not have any employable skills in the urban formal sector often end up doing odd jobs in urban areas. Urbanization in this country is mainly due to acute poverty in rural areas rather than due to the economic opportunities in urban areas. Further, poverty is not uniformly spread in the country. States like Orissa, Bihar and Madhya Pradesh have high level of poverty and the levels have not come down significantly in the post economic reform era. It is therefore that clear while the economic reform did bring in prosperity to the country, the benefits are not evenly distributed and some are even deprived of the benefits. It is also pertinent to understand that some of them are unable to be part of the economic reform and do not have the capacity to participate in the economic development process. Such groups need government intervention to ensure that they are not left behind in the development process and deprived of the benefits because they do not have the capacity to be part of the global economy. The government needs to develop safety nets for such groups and try to mainstream them in the development process. They need welfare measures in the form of poverty alleviation programmes to ensure that they survive if not prosper in this era of economic reform. Further, the poor are not a homogeneous population and their capacity to survive the economic reform varied from one group of poor to another. Especially, those who are below the poverty line or the poorest among the poor need more government help.

## Unemployment and Poverty: the Latest Trends

It is true that unemployment and poverty are mostly common in the less developed economies. However, due to the global economic recessions, the developed economies are also facing these challenges in the recent times. The US subprime crisis and its wide spread impacts have played a major role in worsening the situation.

In India, the problems of unemployment and poverty have always been major obstacles to economic development. Underemployment and unemployment have crippled the Indian economy from time to time. Even during the period of good harvest, the Indian farmers are not employed for the entire year. Excessive population is another major problem as far as Indian economy is concerned. Regional disparity is also crucial in this context. A part of the urban workforce in India is subjected to sub-employment. Mass migration from rural to urban regions is adding to the problems of unemployment and poverty in India.

## Unemployment in India & Development Programmes

Whenever there is a discussion of the Indian Economy, a common topic that comes up is that of Unemployment which has been plaguing the nation. **Unemployment** refers to a situation in which people who are able and willing to work do not get employment opportunities and jobs that match their capabilities and skills.

**Structural Unemployment** - India suffers from a condition of Structural unemployment in which enough jobs are not created due to insufficient productive capacity.

**The National Sample Survey Organization (NSSO) has 3 concepts of unemployment:**

1. Chronic Unemployment 2. Weekly Unemployment 3. Daily Status Unemployment

### Types of unemployment:

- Structural unemployment** – in such a situation the productive capacity is inadequate.
- Seasonal unemployment** - such as that affecting the rain-fed agricultural farmers who remain out of work for four to six months in a year.
- Open unemployment** – there is a migration of people from rural areas to urban areas in search of work.
- Frictional unemployment** – generation of unemployment due to change in market conditions.
- Disguised unemployment** – a situation in which more persons are involved in a certain job than needed in which case the marginal productivity of labour is 0.

## Measures to Prevent Unemployment and Poverty

Economic reforms, changes in the industrial policy and better utilization of available resources are expected to reduce the problem of unemployment and poverty that results from it. The economic reform measures need to have major impacts on the employment generating potential of the economy. The governmental bodies are also required to initiate long term measures for poverty alleviation. Generation of employment opportunities and equality in income distribution are the two key factors that are of utmost importance to deal with the dual problem of unemployment and poverty.

## Anti-poverty, employment generation and basic services programmes

### (a) Pradhan Mantri Gram Sadak Yojana (PMGSY)

Launched in December 2000 as a 100 per cent CSS, PMGSY aims to provide all-weather connectivity to all the eligible unconnected rural habitations. Bharat Nirman, envisages connectivity by 2009 to all the habitations with a population of 1000 or more in the plains, and of 500 or more in the hilly, desert and tribal areas. The systematic upgradation of the existing rural road network also is an integral component of the scheme, funded mainly from the accruals of diesel cess in the Central Road Fund, with support of the multilateral funding agencies and the domestic financial institutions. Up to December 2005, with an expenditure of Rs.12,049 crore, a total length of 82,718 km. of road works had been completed.

### (b) Indira Awaas Yojana (IAY)

IAY aims to provide dwelling units, free of cost, to the Scheduled Castes (SCs), Scheduled Tribes (STs), and freed bonded labourers, and also the non-SC/ST BPL families in rural areas. It is funded on a cost-sharing basis in the rates of 75:25 between the Centre and the States. Under IAY, the ceiling on construction assistance is Rs.25,000/- per unit in the plains and Rs.27,500/- for hilly/difficult areas; and Rs. 12,500/- on upgradation of unserviceable kutcha house to pucca/semi pucca house for all areas. Up to January 30, 2006, about 138 lakh houses had been constructed/upgraded with an expenditure of Rs.25,208 crore.

### (c) Swarnjayanti Gram Swarozgar Yojana (SGSY)

SGSY, launched in April, 1999 after restructuring the Integrated Rural Development Programme and allied schemes, is the only self-employment programme for the rural poor. The objective is to bring the selfemployed above the poverty line by providing them income-generating assets through bank credit and Government subsidy. Up to November 2005, the Centre and States, sharing the costs on 75:25 basis, had allocated Rs.8,067 crore, of which Rs. 6,980 crore had been utilized to assist 62.75 lakh self-employed.

### (d) Sampoorna Grameen Rozgar Yojana (SGRY)

SGRY, launched on September 25, 2001 to provide additional wage employment in the rural areas, has a cash and food grains component, and the Centre bears 75 per cent and 100 per cent of the cost of the two with the balance borne by the States/UTs. In 2004 -05, 82.23 crore persondays were generated with the Centre releasing Rs. 4,496 crore as cash component and about 50 lakh tonnes of foodgrains to the States/ UTs. Besides, under the special component of the SGRY, with the States/UTs meeting the cash components, Centre released 26 lakh tonnes of foodgrains to the 13 calamity affected States. In 2005-06 up to November, 2005, the number of persondays generated under SGRY was 48.75 crore, while the Centre's contributions in terms of the cash and foodgrains components up to January, 2006 were Rs. 4651 crore and 35 lakh tonnes, respectively. Under the special component, about 11.65 lakh tonnes of foodgrains have been released to the 11 calamity-hit States in the current year

### (e) National Food for Work Programme (NFFWP)

The NFFWP was launched as a CSS in November 2004 in the 150 most backward districts to generate additional supplementary wage employment with food security. States receive food grains under NFFWP free of cost. The focus of the programme is on works relating to water conservation, drought proofing (including aforestation /tree plantation), land development, flood-control/protection (including drainage in waterlogged areas), and rural connectivity in terms

of all-weather roads. In 2004-05, allocation of Rs 2,020 crore and 20 lakh tonnes of foodgrains generated 7.85 crore persondays of employment. In 2005-06, of the allocation of Rs 4,500 crore and 15 lakh tonnes of food grains (Revised), Rs.2,219 crore and 11.58 lakh metric tonnes of foodgrains had been released up to January 27, 2006. About 17.03 lakh persondays were generated up to December 2005.

#### **(f) DPAP, DDP and IWDP**

Drought Prone Areas Programme (DPAP) was launched in 1973-74 to tackle the special problems faced by those areas constantly affected by severe drought conditions. Desert Development Programme (DDP) was launched in 1977-78 to mitigate the adverse effects of desertification. Integrated Wastelands Development Programme (IWDP) has been under implementation since 1989-90 for the development of wastelands/ degraded lands. The basis of implementation has been shifted from sectoral to watershed basis from April 1995. For 2005-06, Rs.353 crore, Rs.268 crore and Rs.485 crore have been allocated for DPAP, DDP and IWDP, respectively. So far in 2005-06 up to October, 2005, 3000 new projects covering 15 lakh ha., 2000 new projects covering 10 lakh ha. and 340 new projects covering 16 lakh ha. have been sanctioned under DPAP, DDP and IWDP, respectively.

#### **(g) Swarna Jayanti Shahari Rozgar Yojana (SJSRY)**

In December 1997, the Urban Self-Employment Programme (USEP) and the Urban Wage Employment Programme (UWEP), which are the two special components of the SJSRY, substituted for various programmes operated earlier for urban poverty alleviation. The SJSRY is funded on a 75:25 basis between the Centre and the States. In 2003-04, the central allocation of Rs. 94.50 crore plus Rs. 10.50 crore for North- Eastern Region including Sikkim was fully utilized. Even 2004-05 saw the release of the entire budgetary allocation of Rs. 122.00 crore. In 2005-06, out of an allocation of Rs. 160.00 crore, Rs. 84.52 crore had been utilized until November 30, 2005.

#### **(h) Valmiki Ambedkar Awas Yojana (VAMBAY)**

VAMBAY, launched in December 2001, facilitates the construction and up-gradation of dwelling units for the slum dwellers, and provides a healthy and enabling urban environment through community toilets under Nirmal Bharat Abhiyan, a component of the Scheme. The Central Government provides a subsidy of 50 per cent, with the balance provided by the State Government. Since its inception and up-to December, 31 2005, Rs. 866.16 crore had been released as Central subsidy for the construction/ upgradation of 4,11,478 dwelling units and 64,247 toilet seats under the Scheme. For 2005-06, out of the tentative Central allocation of Rs. 249 crore, up to December 31, 2005, an amount of Rs.96.4 crore had been released covering 60,335 dwelling units and 381 toilet seats.

#### **Important Employment & Development Programmes:**

- Community Development Programme** - 1952 - Overall development of rural areas with people's participation.
- Intensive Agriculture Development Programme** - 1960-61 - To provide loan, seeds, fertilizer, tools to the farmers.
- Employment Guarantee Scheme of Maharashtra** - 1972-73 - To assist the economically weaker section of the rural society.
- Twenty Point Programme** - 1975 - Poverty eradication and raising the standard of living.

- **Food for work Programme** - 1977-78 - Providing food grains to labour for the work of development.
- **National Rural Employment Programme** - 1980 - To provide profitable employment opportunities to the rural poor.
- **Development of women & children in Rural Areas** - 1982 - To provide suitable opportunities of self-employment to the women belonging to the rural families who are living below the poverty line.
- **Rural Landless Employment Guarantee Programme** - 1983 - For providing employment to landless farmers & labourers.
- **Self-employment of the Educated Unemployed Youth** - 1983-84 - To provide financial and technical assistance for self-employment.
- **Council for Advancement of People's Action & Rural Technology** - 1986 - To provide assistance for rural prosperity.
- **Self-Employment programme for the Urban poor** - 1986 - To provide self employment to urban poor through provision of subsidiary and bank credit.
- **Jawahar Rozgar Yojana** - 1989 - To provide employment to rural unemployed.
- **Nehru Rozgar Yojana** - 1989 - To provide employment to urban unemployed.
- **Scheme for Urban Micro Enterprises** - 1990 - To assist the urban poor for small enterprises.
- **Scheme for Urban Wage Employment** - 1990 - To provide wages employment after arranging the basic facilities for poor people in the urban areas where population is less than one lakh.
- **Scheme for Housing and Shelter Up-gradation** - 1990 - To provide employment by means of shelter up-gradation in the urban areas where population is between 1 to 20 lakhs.
- **Employment Assurance Scheme** - 1993 - To provide employment of at least 100 days in a year in villages.
- **Swaran Jayanti Shahri Rozgar Yojana** - 1997 - To provide gainful employment to urban unemployed and under employed poor through self employment or wage employment.
- **Swarna Jayanti Gram Swarozgar Yojana** - 1999 - For eliminating rural poverty and unemployment and promoting self employment.
- **Pradhan Mantri Gram Sadak Yojana** - 2000 - To line all villages with Pacca road.
- **Sampurna Gramin Rojgar Yojana** - 2001 - Providing employment & food security.
- **Jai Prakash Narain Rozgar Guarantee Yojana** - 2002-'03 - Employment guarantee in most poor districts.
- **Rural Employment Guarantee Yojana** - 2005-'06 - 100 days assured employment.

Poverty reduction has been an important goal of development policy since the inception of planning in India. Various antipoverty, employment generation and basic services programmes have been in operation for decades in India. The ongoing reforms attach great importance to removal of poverty, and addressing specifically the wide variations across States and the rural-urban divide. Anti-poverty strategy has three broad components: promotion of economic growth; promotion of human development; and targeted programmes of poverty alleviation to address multi-dimensional nature of poverty. The various programmes targeted at the poor have been streamlined and strengthened in recent years.

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## **6. INDUSTRIAL SECTOR**

A nation's economy can be divided into various sectors to define the proportion of the population engaged in the activity sector. This categorization is seen as a continuum of distance from the natural environment. The continuum starts with the primary sector, which concerns itself with the utilization of raw materials from the earth such as agriculture and mining. From there, the distance from the raw materials of the earth increases.

### **Primary Sector**

The primary sector of the economy extracts or harvests products from the earth. The primary sector includes the production of raw material and basic foods. Activities associated with the primary sector include agriculture (both subsistence and commercial), mining, forestry, farming, grazing, hunting and gathering, fishing, and quarrying. The packaging and processing of the raw material associated with this sector is also considered to be part of this sector.

In developed and developing countries, a decreasing proportion of workers are involved in the primary sector. Agriculture is the predominant occupation in India, accounting for about 52% of employment.

### **Secondary Sector**

The secondary sector of the economy manufactures finished goods. All of manufacturing, processing, and construction lies within the secondary sector. Activities associated with the secondary sector include metal working and smelting, automobile production, textile production, chemical and engineering industries, aerospace manufacturing, energy utilities, engineering, breweries and bottlers, construction, and shipbuilding. Industrial sector in India accounts for about 14% of employment.

### **Tertiary Sector**

The tertiary sector of the economy is the service industry. This sector provides services to the general population and to businesses. Activities associated with this sector include retail and wholesale sales, transportation and distribution, entertainment (movies, television, radio, music, theater, etc.), restaurants, clerical services, media, tourism, insurance, banking, healthcare, and law.

In most developed and developing countries, a growing proportion of workers are devoted to the tertiary sector. In India service sector accounts for about 57.2% of employment. India's large service industry accounts for 57.2% of the country's GDP.

### **Quaternary Sector**

The quaternary sector of the economy consists of intellectual activities. Activities associated with this sector include government, culture, libraries, scientific research, education, and information technology.

### **Quinary Sector**

Some consider there to be a branch of the quaternary sector called the quinary sector, which includes the highest levels of decision making in a society or economy. This sector would include the top executives or officials in such fields as government, science, universities, non-profit, healthcare, culture, and the media.



An Australian source relates that the quinary sector in Australia refers to domestic activities such as those performed by stay-at-home parents or homemakers. These activities are typically not measured by monetary amounts but it is important to recognize these activities in contribution to the economy.

### **Industry in India**

Industry in India accounts for 28% of the GDP and employ 14% of the total workforce. In absolute terms, India is 12th in the world in terms of nominal factory output. The Indian industrial sector underwent significant changes as a result of the economic reforms of 1991, which removed import restrictions, brought in foreign competition, led to privatisation of certain public sector industries, liberalised the FDI regime, improved infrastructure and led to an expansion in the production of fast moving consumer goods. Post-liberalisation, the Indian private sector was faced with increasing domestic as well as foreign competition, including the threat of cheaper Chinese imports. It has since handled the change by squeezing costs, revamping management, and relying on cheap labour and new technology. However, this has also reduced employment generation even by smaller manufacturers who earlier relied on relatively labour-intensive processes.

Textile manufacturing is the second largest source of employment after agriculture and accounts for 20% of manufacturing output, providing employment to over 20 million people. After freeing the industry in 2004–2005 years on a number of limitations, primarily financial, the government gave the green light flow of massive investment – both domestic and foreign. During the period from 2004 to 2008, total investment amounted to 27 billion dollars. By 2012, still convinced of the government, this figure will reach 38 billion as expected; these investments in 2012 will create an additional sector of more than 17 million jobs. But demand for Indian textiles in world markets continues to fall. According to Union Minister for Commerce and Industries, only during 2008–2009 fiscal year (which ends by March 31) textile and clothing industry will be forced to cut about 800 thousand new jobs – nearly half of the rate of two million, which will have to go all the export-oriented sectors of Indian economy to soften the impact of the global crisis. Ludhiana produces 90% of woollens in India and is known as the Manchester of India. Tirupur has gained universal recognition as the leading source of hosiery, knitted garments, casual wear and sportswear.

Information technology and business process outsourcing are among the fastest growing sectors, having a cumulative growth rate of revenue 33.6% between 1997–98 and 2002–03 and contributing to 25% of the country's total exports in 2007–08. The growth in the IT sector is attributed to increased specialisation, and an availability of a large pool of low cost, highly skilled, educated and fluent English-speaking workers, on the supply side, matched on the demand side by increased demand from foreign consumers interested in India's service exports, or those looking to outsource their operations. The share of the Indian IT industry in the country's GDP increased from 4.8 % in 2005–06 to 7% in 2008. In 2009, seven Indian firms were listed among the top 15 technology outsourcing companies in the world.

Mining forms an important segment of the Indian economy, with the country producing 79 different minerals (excluding fuel and atomic resources) in 2009–10, including iron ore, manganese, mica, bauxite, chromite, limestone, asbestos, fluorite, gypsum, ochre, phosphorite and silica sand. Organised retail supermarkets accounts for 24% of the market as of 2008. Regulations prevent most foreign investment in retailing. Moreover, over thirty regulations such as "signboard licences" and "anti-hoarding measures" may have to be complied before a store can open doors. There are taxes for moving goods from state to state, and even within states. Tourism in India is relatively undeveloped, but growing at double digits. Some hospitals woo medical tourism.

## INDUSTRIAL POLICY SINCE 1956

When India achieved Independence in 1947, the national consensus was in favour of rapid industrialization of the economy which was seen not only as the key to economic development but also to economic sovereignty. In the subsequent years, India's Industrial Policy evolved through successive Industrial Policy Resolutions and Industrial Policy Statements. Specific priorities for industrial development were also laid down in the successive Five Year Plans.

Building on the "Bombay Plan" in the pre-Independence era, the first Industrial Policy Resolution announced in 1948 laid down broad contours of the strategy of industrial development. At that time the Constitution of India had not taken final shape nor was the Planning Commission constituted. Moreover, the necessary legal framework was also not put in place. Not surprisingly therefore, the Resolution was somewhat broad in its scope and direction. Yet, an important distinction was made among industries to be kept under the exclusive ownership of Government, *i.e.*, the public sector, those reserved for private sector and the joint sector. Subsequently, the Indian Constitution was adopted in January 1950, the Planning Commission was constituted in March 1950 and the Industrial (Department and Regulation) Act (IDR Act) was enacted in 1951 with the objective of empowering the Government to take necessary steps to regulate the pattern of industrial development through licensing. This paved the way for the Industrial Policy Resolution of 1956, which was the first comprehensive statement on the strategy for industrial development in India.

### Industrial Policy Resolution – 1956

The Industrial Policy Resolution - 1956 was shaped by the Mahalanobis Model of growth, which suggested that emphasis on heavy industries would lead the economy towards a long term higher growth path. The Resolution widened the scope of the public sector. The objective was to accelerate economic growth and boost the process of industrialization as a means to achieving a socialistic pattern of society. Given the scarce capital and inadequate entrepreneurial base, the Resolution accorded a predominant role to the State to assume direct responsibility for industrial development. All industries of basic and strategic importance and those in the nature of public utility services besides those requiring large scale investment were reserved for the public sector.

The Industrial Policy Resolution – 1956 classified industries into three categories. The first category comprised 17 industries (included in Schedule A of the Resolution) exclusively under the domain of the Government. These included *inter alia*, railways, air transport, arms and ammunition, iron and steel and atomic energy. The second category comprised 12 industries (included in Schedule B of the Resolution), which were envisaged to be progressively State owned but private sector was expected to supplement the efforts of the State. The third category contained all the remaining industries and it was expected that private sector would initiate development of these industries but they would remain open for the State as well. It was envisaged that the State would facilitate and encourage development of these industries in the private sector, in accordance with the programmes formulated under the Five Year Plans, by appropriate fiscal measures and ensuring adequate infrastructure. Despite the demarcation of industries into separate categories, the Resolution was flexible enough to allow the required adjustments and modifications in the national interest.

Another objective spelt out in the Industrial Policy Resolution – 1956 was the removal of regional disparities through development of regions with low industrial base. Accordingly, adequate infrastructure for industrial development of such regions was duly emphasized. Given the potential to provide large-scale employment, the Resolution reiterated the Government's

determination to provide all sorts of assistance to small and cottage industries for wider dispersal of the industrial base and more equitable distribution of income. The Resolution, in fact, reflected the prevalent value system of India in the early 1950s, which was centered around self sufficiency in industrial production. The Industrial Policy Resolution – 1956 was a landmark policy statement and it formed the basis of subsequent policy announcements.

### **Industrial Policy Measures in the 1960s and 1970s**

Monopolies Inquiry Commission (MIC) was set up in 1964 to review various aspects pertaining to concentration of economic power and operations of industrial licensing under the IDR Act, 1951. While emphasizing that the planned economy contributed to the growth of industry, the Report by MIC concluded that the industrial licensing system enabled big business houses to obtain disproportionately large share of licenses which had led to pre-emption and foreclosure of capacity. Subsequently, the Industrial Licensing Policy Inquiry Committee (Dutt Committee), constituted in 1967, recommended that larger industrial houses should be given licenses only for setting up industry in core and heavy investment sectors, thereby necessitating reorientation of industrial licensing policy.

In 1969, the monopolies and restrictive Trade Practices (MRTP) Act was introduced to enable the Government to effectively control concentration of economic power. The Dutt Committee had defined large business houses as those with assets of more than Rs.350 million. The MRTP Act, 1969 defined large business houses as those with assets of Rs. 200 million and above. Large industries were designated as MRTP companies and were eligible to participate in industries that were not reserved for the Government or the Small scale sector.

The new Industrial Licensing Policy of 1970 classified industries into four categories. First category, termed as 'Core Sector', consisted of basic, critical and strategic industries. Second category termed as 'Heavy Investment Sector', comprised projects involving investment of more than Rs.50 million. The third category, the 'Middle Sector' consisted of projects with investment in the range of Rs.10 million to Rs.50 million. The fourth category was 'Delicensed Sector', in which investment was less than Rs.10 million and was exempted from licensing requirements. The industrial licensing policy of 1970 confined the role of large business houses and foreign companies to the core, heavy and export oriented sectors.

### **The Industrial Policy Statement – 1973**

With a view to prevent excessive concentration of industrial activity in the large industrial houses, this Statement gave preference to small and medium entrepreneurs over the large houses and foreign companies in setting up of new capacity particularly in the production of mass consumption goods. New undertakings of up to Rs.10 million by way of fixed assets were exempted from licensing requirements for substantial expansion of assets. This exemption was not allowed to MRTP companies, foreign companies and existing licensed or registered undertakings having fixed assets of Rs.50 million and above.

### **The Industrial Policy Statement -1977**

This Statement emphasized decentralization of industrial sector with increased role for small scale, tiny and cottage industries. It also provided for close interaction between industrial and agricultural sectors. Highest priority was accorded to power generation and transmission. It expanded the list of items reserved for exclusive production in the small scale sector from 180 to more than 500. For the first time, within the small scale sector, a tiny unit was defined as a unit with investment in machinery and equipment up to Rs.0.1 million and situated in towns or villages with a population of less than 50,000 (as per 1971 census). Basic goods, capital goods, high technology industries important for development of small scale and agriculture sectors were clearly delineated for large scale sector. It was also stated that foreign companies that

diluted their foreign equity up to 40 per cent under Foreign Exchange Regulation Act (FERA) 1973 were to be treated at par with the Indian companies. The Policy Statement of 1977 also issued a list of industries where no foreign collaboration of financial or technical nature was allowed as indigenous technology was already available. Fully owned foreign companies were allowed only in highly export oriented sectors or sophisticated technology areas. For all approved foreign investments, companies were completely free to repatriate capital and remit profits, dividends, royalties, etc. Further, in order to ensure balanced regional development, it was decided not to issue fresh licenses for setting up new industrial units within certain limits of large metropolitan cities (more than 1 million population) and urban areas (more than 0.5 million population).

### **Industrial Policy Statement -1980**

The industrial Policy Statement of 1980 placed accent on promotion of competition in the domestic market, technological upgradation and modernization of industries. Some of the socio-economic objectives spelt out in the Statement were i) optimum utilisation of installed capacity, ii) higher productivity, iii) higher employment levels, iv) removal of regional disparities, v) strengthening of agricultural base, vi) promotion of export oriented industries and vi) consumer protection against high prices and poor quality.

Policy measures were announced to revive the efficiency of public sector undertakings (PSUs) by developing the management cadres in functional fields *viz.*, operations, finance, marketing and information system. An automatic expansion of capacity up to five per cent per annum was allowed, particularly in the core sector and in industries with long-term export potential. Special incentives were granted to industrial units which were engaged in industrial processes and technologies aiming at optimum utilization of energy and the exploitation of alternative sources of energy. In order to boost the development of small scale industries, the investment limit was raised to Rs.2 million in small scale units and Rs.2.5 million in ancillary units. In the case of tiny units, investment limit was raised to Rs.0.2 million.

### **Industrial Policy Measures during the 1980s**

Policy measures initiated in the first three decades since Independence facilitated the establishment of basic industries and building up of a broadbased infrastructure in the country. The Seventh Five Year Plan (1985-1990), recognized the need for consolidation of these strengths and initiating policy measures to prepare the Indian industry to respond effectively to emerging challenges. A number of measures were initiated towards technological and managerial modernization to improve productivity, quality and to reduce cost of production. The public sector was freed from a number of constraints and was provided with greater autonomy. There was some progress in the process of deregulation during the 1980s. In 1988, all industries, excepting 26 industries specified in the negative list, were exempted from licensing. The exemption was, however, subject to investment and locational limitations. The automotive industry, cement, cotton spinning, food processing and polyester filament yarn industries witnessed modernization and expanded scales of production during the 1980s.

With a view to promote industrialization of backward areas in the country, the Government of India announced in June, 1988 the Growth Centre Scheme under which 71 Growth Centers were proposed to be set up throughout the country. Growth centers were to be endowed with basic infrastructure facilities such as power, water, telecommunications and banking to enable them to attract industries.

### Industrial Policy Statement- 1991

The Industrial Policy Statement of 1991 stated that “the Government will continue to pursue a sound policy framework encompassing encouragement of entrepreneurship, development of indigenous technology through investment in research and development, bringing in new technology, dismantling of the regulatory system, development of the capital markets and increased competitiveness for the benefit of common man”. It further added that “the spread of industrialization to backward areas of the country will be actively promoted through appropriate incentives, institutions and infrastructure investments”.

The objective of the Industrial Policy Statement - 1991 was to maintain sustained growth in productivity, enhance gainful employment and achieve optimal utilization of human resources, to attain international competitiveness, and to transform India into a major partner and player in the global arena. Quite clearly, the focus of the policy was to unshackle the Indian industry from bureaucratic controls. This called for a number of far-reaching reforms :

- A substantial modification of Industry Licencing Policy was deemed necessary with a view to ease restraints on capacity creation, respond to emerging domestic and global opportunities by improving productivity. Accordingly, the Policy Statement included abolition of industrial licensing for most industries, barring a handful of industries for reasons of security and strategic concerns, social and environmental issues. Compulsory licencing was required only in respect of 18 industries. These included, *inter alia*, coal and lignite, distillation and brewing of alcoholic drinks, cigars and cigarettes, drugs and pharmaceuticals, white goods, hazardous chemicals. The small scale sector continued to be reserved. Norms for setting up industries (except for industries subject to compulsory licensing) in cities with more than one million population were further liberalised.
- Recognising the complementarity of domestic and foreign investment, foreign direct investment was accorded a significant role in policy announcements of 1991. Foreign direct investment (FDI) up to 51 per cent foreign equity in high priority industries requiring large investments and advanced technology was permitted. Foreign equity up to 51 per cent was also allowed in trading companies primarily engaged in export activities. These important initiatives were expected to provide a boost to investment besides enabling access to high technology and marketing expertise of foreign companies.
- With a view to inject technological dynamism in the Indian industry, the Government provided automatic approval for technological agreements related to high priority industries and eased procedures for hiring of foreign technical expertise.
- Major initiatives towards restructuring of public sector units (PSUs) were initiated, in view of their low productivity, over staffing, lack of technological upgradation and low rate of return. In order to raise resources and ensure wider public participation PSUs, it was decided to offer its shareholding stake to mutual funds, financial institutions, general public and workers. Similarly, in order to revive and rehabilitate chronically sick PSUs, it was decided to refer them to the Board for Industrial and Financial Reconstruction (BIFR). The Policy also provided for greater managerial autonomy to the Boards of PSUs.
- The Industrial Policy Statement of 1991 recognized that the Government’s intervention in investment decisions of large companies through MRTP Act had proved to be deleterious for industrial growth. Accordingly, pre-entry scrutiny of investment decisions of MRTP companies was abolished. The thrust of policy was more on controlling unfair and restrictive trade practices. The provisions restricting mergers, amalgamations and takeovers were also repealed.

### Industrial Policy Measures Since 1991

Since 1991, industrial policy measures and procedural simplifications have been reviewed on an ongoing basis. Presently, there are only six industries which require compulsory licensing. Similarly, there are only three industries reserved for the public sector. Some of important policy measures initiated since 1991 are set out below:

- Since 1991, promotion of foreign direct investment has been an integral part of India's economic policy. The Government has ensured a liberal and transparent foreign investment regime where most activities are opened to foreign investment on automatic route without any limit on the extent of foreign ownership. FDI up to 100 per cent has also been allowed under automatic route for most manufacturing activities in Special Economic Zones (SEZs). More recently, in 2004, the FDI limits were raised in the private banking sector (up to 74 per cent), oil exploration (up to 100 per cent), petroleum product marketing (up to 100 per cent), petroleum product pipelines (up to 100 per cent), natural gas and LNG pipelines (up to 100 per cent) and printing of scientific and technical magazines, periodicals and journals (up to 100 per cent). In February 2005, the FDI ceiling in telecom sector in certain services was increased from 49 per cent to 74 per cent.
- Reservation of items of manufacture exclusively in the small scale sector has been an important tenet of industrial policy. Realizing the increased import competition with the removal of quantitative restrictions since April 2001, the Government has adopted a policy of dereservation and has pruned the list of items reserved for SSI sector gradually from 821 items as at end March 1999 to 506 items as on April 6, 2005. Further, the Union Budget 2005-06 has proposed to dereserve 108 items which were identified by Ministry of Small Scale Industries. The investment limit in plant and machinery of small scale units has been raised by the Government from time to time. To enable some of the small scale units to achieve required economies of scale, a differential investment limit has been adopted for them since October 2001. Presently, there are 41 reserved items which are allowed investment limit up to Rs.50 million instead of present limit of Rs.10 million applicable for other small scale units.
- Equity participation up to 24 per cent of the total shareholding in small scale units by other industrial undertakings has been allowed. The objective therein has been to enable the small sector to access the capital market and encourage modernization, technological upgradation, ancillarisation, sub-contracting, etc.
- Under the framework provided by the Competition Act 2002, the Competition Commission of India was set up in 2003 so as to prevent practices having adverse impact on competition in markets.
- In an effort to mitigate regional imbalances, the Government announced a new North-East Industrial Policy in December 1997 for promoting industrialization in the North-Eastern region. This policy is applicable for the States of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland and Tripura. The Policy has provided various concessions to industrial units in the North Eastern Region, e.g., development of industrial infrastructure, subsidies under various schemes, excise and income-tax exemption for a period of 10 years, etc. North Eastern Development Finance Corporation Ltd. has been designated as the nodal disbursing agency under the Scheme.
- The focus of disinvestment process of PSUs has shifted from sale of minority stakes to strategic sales. Up to December 2004, PSUs have been divested to an extent of Rs.478 billion.
- Apart from general policy measures, some industry specific measures have also been initiated. For instance, Electricity Act 2003 has been enacted which envisaged to delicense power generation and permit captive power plants. It is also intended to facilitate private sector participation in transmission sector and provide open access to grid sector. Various policy measures have facilitated increased private sector participation in key infrastructure

sectors such as, telecommunication, roads and ports. Foreign equity participation up to 100 per cent has been allowed in construction and maintenance of roads and bridges. MRTP provisions have been relaxed to encourage private sector financing by large firms in the highway sector.

Evidently, in the process of evolution of industrial policy in India, the Government's intervention has been extensive. Unlike many East Asian countries which used the State intervention to build strong private sector industries, India opted for the State control over key industries in the initial phase of development. In order to promote these industries the Government not only levied high tariffs and imposed import restrictions, but also subsidized the nationalized firms, directed investment funds to them, and controlled both land use and many prices.

In India, there has been a consensus for long on the role of government in providing infrastructure and maintaining stable macroeconomic policies. However, the path to be pursued toward industrial development has evolved over time. The form of government intervention in the development strategy needs to be chosen from the two alternatives: 'Outward-looking development policies' encourage not only free trade but also the free movement of capital, workers and enterprises. By contrast, 'inward-looking development policies' stress the need for one's own style of development. India initially adopted the latter strategy.

The advocates of import substitution in India believed that we should substitute imports with domestic production of both consumer goods and sophisticated manufactured items while ensuring imposition of high tariffs and quotas on imports. In the long run, these advocates cite the benefits of greater domestic industrial diversification and the ultimate ability to export previously protected manufactured goods, as economies of scale, low labour costs, and the positive externalities of learning by doing cause domestic prices to become more competitive than world prices. However, pursuit of such a policy forced the Indian industry to have low and inferior technology. It did not expose the industry to the rigours of competition and therefore it resulted in low efficiency. The inferior technology and inefficient production practices coupled with focus on traditional sectors choked further expansion of the India industry and thereby limited its ability to expand employment opportunities. Considering these inadequacies, the reforms currently underway aim at infusing the state of the art technology, increasing domestic and external competition and diversification of the industrial base so that it can expand and create additional employment opportunities.

In retrospect, the Industrial Policy Resolutions of 1948 and 1956 reflected the desire of the Indian State to achieve self sufficiency in industrial production. Huge investments by the State in heavy industries were designed to put the Indian industry on a higher long-term growth trajectory. With limited availability of foreign exchange, the effort of the Government was to encourage domestic production. This basic strategy guided industrialization until the mid-1980s. Till the onset of reform process in 1991, industrial licensing played a crucial role in channeling investments, controlling entry and expansion of capacity in the Indian industrial sector. As such industrialization occurred in a protected environment, which led to various distortions. Tariffs and quantitative controls largely kept foreign competition out of the domestic market, and most Indian manufacturers looked on exports only as a residual possibility. Little attention was paid to ensure product quality, undertaking R&D for technological development and achieving economies of scale. The industrial policy announced in 1991, however, substantially dispensed with industrial licensing and facilitated foreign investment and technology transfers, and threw open the areas hitherto reserved for the public sector. The policy focus in the recent years has been on deregulating the Indian industry, enabling industrial restructuring, allowing the industry freedom and flexibility in responding to market forces and providing a business environment that facilitates and fosters overall industrial growth. The future growth of the Indian industry as widely believed, is crucially dependent upon improving the overall productivity of the manufacturing

sector, rationalisation of the duty structure, technological upgradation, the search for export markets through promotional efforts and trade agreements and creating an enabling legal environment.

### **The contribution of the Industrial Sector in India GDP**

The industrial sector is one of the main sectors that contribute to the Indian GDP. The country ranks fourteenth in the factory output in the world. The industrial sector is made up of manufacturing, mining and quarrying, and electricity, water supply, and gas sectors. The industrial sector accounts for around 27.6% of the India GDP and it employs over 17% of the total workforce in the country. The Growth Rate of the Industrial Sector in India GDP came to around 5.2% in 2002- 2003. In this year, within the India GDP, the mining and quarrying sector contributed 4.4%, the electricity, water supply, and gas sector contributed 2.8%, and the manufacturing sector contributed around 5.7%.

The Growth Rate of the Industry Sector in India GDP came to around 6.6% in 2003-2004 and in this year, the electricity, water supply, and gas sector contributed 4.8%, the mining and quarrying sector contributed 5.3%, and the manufacturing sector contributed 7.1% in India GDP. Industry Growth Rate in India GDP came to 7.4% in 2004- 2005, with the manufacturing sector contributing 8.1%, the mining and quarrying sector contributing 5.8%, and the water supply, electricity, and gas sector contributing 4.3% in India GDP.

Industry Growth Rate in India GDP came to 7.6% in 2005- 2006. In this year, the mining and quarrying sector contributed 0.9%, the manufacturing sector contributed 9.0%, and the water supply, gas, and electricity sector contributed 4.3%. The Growth Rate of the Industrial Sector finally came to 9.8% in 2006- 2007. This shows that Industry Growth Rate in India GDP has been on the rise over the last few years.

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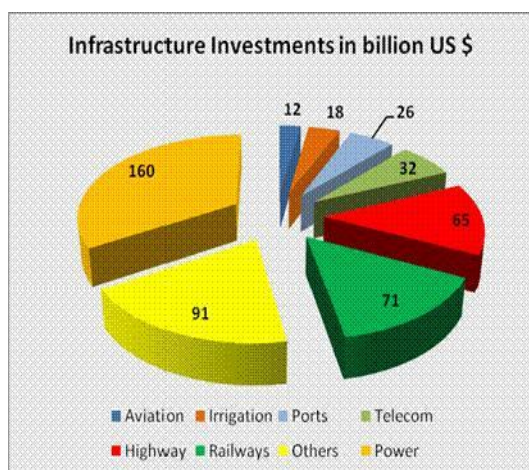
## 7 . INFRASTRUCTURE SECTOR

Infrastructure is basic physical and organizational structures needed for the operation of a society or enterprise, or the services and facilities necessary for an economy to function. The term typically refers to the technical structures that support a society, such as roads, water supply, sewers, electrical grids, telecommunications, and so forth, and can be defined as "the physical components of interrelated systems providing commodities and services essential to enable, sustain, or enhance societal living conditions."

Viewed functionally, infrastructure facilitates the production of goods and services, and also the distribution of finished products to markets, as well as basic social services such as schools and hospitals; for example, roads enable the transport of raw materials to a factory. In military parlance, the term refers to the buildings and permanent installations necessary for the support, redeployment, and operation of military forces.

The best barometer of country's economic standing is measured by its GDP. India, the second most populated country of more than 1100 million has emerged as one of the fastest growing economies. It is a republic with a federal structure and well-developed independent judiciary with political consensus in reforms and stable democratic environment .In 2008-09 India's economy- GDP grew by 6.5% due to global recession. In the previous four years, economy grew at 9%.The Indian economy is expected sustain a growth rate of 8% for the next three years upto 2012. With the expected average annual compounded growth rate of 8.5%, India's GDP is expected to be USD 1.4 trillion by 2017 and USD 2.8 trillion by 2027. Service sector contribute to 50% of India's GDP and the Industry and agriculture sector 25% each.

### **Investment Opportunities In Indian Infrastructure**



Name	%
Power	160
Railways	71
Highway	65
Telecom	32
Ports	26
Irrigation	18
Aviation	12
Others	91

The robust current growth in GDP has exposed the grave inadequacies in the country's infrastructure sectors. The strong population growth in India and its booming economy are generating enormous pressures to modernize and expand India's infrastructure. The creation of world class infrastructure would require large investments in addressing the deficit in quality and quantity. More than USD 475 bn worth of investment is to flow into India's infrastructure by 2012. No country in the world other than India needs and can absorb so many funds for the infrastructure sector. With the above investments India's infrastructure would be equal to the best in the world by 2017.

In the next five years planned infrastructure investment in India in some key sectors are (at current prices): Modernization of highways - US\$ 75 billion, Development of civil aviation US\$ 12 billion, Development of Irrigation system- US\$ 18 billion, Development of Ports-US\$ 26 billion, Development of Railways- US\$ 71 billion, Development of Telecom- US\$ 32 billion, Development of Power -US\$ 232 billion. Thus in the eleventh five year plan ,investment in the above sectors (Aviation infrastructure ,Construction infrastructure, Highway infrastructure,Power infrastructure, Port infrastructure ,Telecom infrastructure ) will be US\$ 384 billions(Rs 17,20,000 Crores) considering the huge infrastructure market potential in India. In addition to the above, investments to the tune of US \$ 91 billions have been planned in other infrastructure sectors like Tourism infrastructure ,Urban infrastructure ,Rural infrastructure, SEZs ,and water infrastructure and sanitation infrastructure thus making the total infrastructure investments in the eleventh plan period 2007 -08 to 2011-12 as US\$475 billions. Domestic and global infrastructure funds have exposure to Indian infrastructure sectors.

### Infrastructure sector targets for Eleventh five year plan ending 2012

- **Electricity:** Additional power generation capacity of about 90,000 MW , reaching electricity to all un-electrified hamlets and providing access to all rural households through Rajiv Gandhi Grameen Vidyutikaran Yojna (RGGVY)
- **National Highways:** Six-laning 6,500 km of Golden Quadrilateral and selected National Highways, Four-laning 6,736 km on North-South and East-West Corridors, Four-laning 12,109 km of National Highways, Widening 20,000 km of National Highways to two lanes, Developing 1000 km of Expressways, Constructing 8,737 km of roads, including 3,846 km of National Highways, in the North East
- **Rural Roads:** Constructing 1, 65,244 km of new rural roads, and renewing and upgrading existing 1, 92,464 km covering 78,304 rural habitations.
- **Railways:** Constructing Dedicated Freight Corridors between Mumbai-Delhi and Ludhiana-Kolkatta, 10,300 km of new railway lines; gauge conversion of over 10,000 km and doubling, Modernization and redevelopment of 21 railway stations, Introduction of private entities in container trains for rapid addition of rolling stock and capacity, Metro rails and world class stations.
- **Ports:** Capacity addition of 485 million MT in Major Ports, 345 million MT in Minor Ports, construction of jetties and berths, Port connectivity ,channels deepening and port equipments.
- **Airports :** Modernization and redevelopment of 4 metro and 35 non-metro airports, Constructing 7 Greenfield airports, Constructing 3 airports in North East, Upgrading CNS/ATM facilities ,Establishing training facilities.
- **Telecom and IT :** Achieving a telecom subscriber base of 600 million, with 200 million rural telephone connections, Achieving a broadband coverage of 20million and 40 million internet connections
- **Irrigation:** Developing 16 million hectares through major, medium and minor irrigation works
- **Urban Infrastructure:** Urban renewal projects for selected cities; one million plus cities, state capitals and places of historical, religious or tourist importance under Jawaharlal Nehru National Urban Renewal Mission (JNNURM).

- **Rural infrastructure** :As per Bharat Nirman action proposed in rural infrastructure for irrigation, roads, housing, water supply, electrification and telecommunication connectivity.
- **Construction and Real Estate infrastructure** :Development of residential and retail real estate ,Green buildings ,construction of SEZs, Infrastructure projects, Infrastructure facilities for Common wealth games 2010
- **Mining Infrastructure** :Mineral exploration,Mineral extraction,processing ,technology and equipments.

#### **Investments in infrastructure sectors to create demand:**

The estimated infrastructure investments in India over USD475 will create demand for Power equipment , Construction equipment ,Material Handling equipment ,Electronic and IT systems, Environment technologies, Transport equipment, EPC contracts, Infrastructure companies in India ,Financial services ,Real estate ,Education and training ,Design and Planning services , Infrastructure consultants , Advisory and professional services and provide opportunities for investors, contractors, o&m contractors, developers of infrastructure projects , foreign players.

#### **Infrastructure policy in India:**

Major policy initiatives such as deregulation, viability gap funding ,India infrastructure finance company, Committee on infrastructure ,rural infrastructure programme , National urban renewal mission, public private partnerships, Launch of private sector infrastructure funds have been implemented in infrastructure sector

**Road Policy in India:** Indian infrastructure policy on roads permit duty free import of high capacity and modern road construction equipments, complete tax holiday for any 10 consecutive years out of 20 years. Longer concession periods of up to 30 years are permitted as per the roads policy of India.

**Airports Policy in India:** Indian airport infrastructure policy permits 100% tax exemption for airport projects for 10 years, 100% equity ownership by Non Resident Indians (NRIs), 100% foreign direct investments (FDI) in India in existing and Greenfield airport projects, Airport policy of India also allows 49%FDI and 100% NRI investment in airport transport services.

**Ports Policy in India:** As per Indian port policy all areas of port operation open for Private Sector Participation .Private sector participation and JVs now permitted. Ports policy of India also allows 100% income tax exemption for a period of 10 years.

**Power Policy in India:** Indian power policy permit 100 percent FDI (except atomic energy) in electricity generation, transmission, and distribution and trading, Establishing power plants without any license, transmission services for Independent power transmission companies.

**Oil, Gas and mining Policy:** 100% FDI permitted for mining (except coal). CASs, levied earlier on crude production, has been abolished for the blocks offered under NELP. In deepwater exploration royalty for areas beyond 400m bathymetry will be charged at half the prevailing rate. In petroleum and natural gas sector 100 FDI is permitted except refining ,subject to sectoral regulations; and in the case of actual Trading and marketing of petroleum products, divestment of 26% equity in favour of Indian partner/public within 5 years .In refining 100% FDI is allowed in private companies and 26% FDI allowed in Public sector companies.

**Real Estate Policy in India:** Corporate tax exemption of up to 100% for industrial parks, SEZs and housing projects are permitted as per Indian Real Estate Policy.

**Telecommunication Policy in India:** 74% FDI is allowed in Basic and cellular, Unified Access Services, National/International Long Distance, V-Sat, Public Mobile Radio Trunked Services (PMRTS), Global Mobile Personal Communications Services (GMPCS) and Other value added telecom services, ISP with gateways, radio paging, end-to-end bandwidth. 100% FDI is permitted in ISP without gateway, infrastructure provider providing dark fiber, electronic mail and voice mail, subject to the condition that such companies shall divest 26% of their equity in favor of Indian public in 5 years, if these companies are listed in other parts of the world as per the Indian telecommunication policy.

### **India is an attractive destination**

India has a population of 1.1 billion. More than 30% of the world's youth live in India. More than 55% (550 million) of the India's population is less than 25 years of age. This is nearly twice the total population of the United States. India's urban population constitutes around 30%. India is a nation growing younger (population in working age group projected to increase) as the developed world faces the problem of aging. India has a huge reservoir of English speaking, skilled and relatively inexpensive manpower with over 2.6 million engineers (degree and diploma holders), 814,000 software professionals, growing every year. It also got a well developed banking system, with over 67,000 branches and banking practices conforming to international best standards with net non performing assets ratio for all commercial banks 1.2%. It has a sophisticated, well regulated capital market with 23 stock exchanges of which the two largest, the National Stock Exchange and Bombay Stock Exchange ranked as no 3 and 5 in the globe by number of transactions. India has more billionaires than China. This year there were 15 billionaires in China but last year in India, there were 20 billionaires, according to the Forbes magazine. Forty-four per cent of Top 100 Fortune 500 companies are present in India. Some of the fortune companies present in India are ABB, Accenture, Alcatel, AMD, ANZ, APC, Bosch, CSC, Citibank, Caterpillar, CA, Delphi, Dell, Dupont, Digital, Delloitte, Ford, HSBC, Hyundai, Google, Intel, GE, Oracle, Microsoft, Nokia, Siemens. India is the fourth largest economy in terms of purchasing power parity, the tenth most industrialized country in the world, the tenth largest economy in the world in terms of GDP and is one of the fastest growing developing economies today in the world. The most remarkable feature of its impressive growth story, especially over the last decade and a half, is that it has happened in a solid, democratic environment, making the process sustainable. The present infrastructure in India is grossly inadequate for the 1.1 billion populations. To improve the infrastructure of India, large investments have been planned by Indian government.

### **Infrastructure Potential in India:**

#### **Ports infrastructure in India:**

India has a long coastline of 7,517 km. The existing 12 major ports control around 76 % of the traffic. Due to globalization, India's ports need to gear up to handle growing volumes. A number of the existing ports have plans for expansion of capacities, including addition of container terminals. The government has launched the National Maritime Development Programme, to cover 276 port projects (including related infrastructure) at an investment of about INR 600 billion by the year 2012. Also, States are increasingly seeking private participation for the development of minor ports, especially on the west ports. Indian ports are projected to handle 875 million tones (MT) of cargo traffic by 2011-12 as compared to 520MT in 2004-05. There will be an increase in container capacity at 17% CAGR. Cargo handling at all the ports is projected to grow at 19 per cent per annum till 2012. Planned capacity addition of 545 mt at major ports and 345 mt at minor ports. Port traffic is estimated to reach 1350 million tones

by 2012. Containerized cargo is expected to grow at 18 per cent per annum till 2012. Projected Investment in major ports \$16 billions and minor ports \$9billion during 2007-12.

#### **Airports infrastructure in India:**

Passenger and cargo traffic slated to grow at over 20% annually and set to cross 100 million passengers per annum by 2010 and and set to cross cargo traffic of 3.3 million tonnes by 2010. Mumbai and Delhi airports have already been handed over to private players. Kolkata and Chennai airports will also be developed through JV route.

#### **Railways Infrastructure in India:**

Indian Railways is the largest rail network in Asia and worlds second largest under one management. Indian Railways comprise over one hundred thousand track kilometers and run about 11000 trains every day carrying about 13 million passengers and 1.25 million tones of freight every day. The scope for public private partnership is enormous in railways, ranging from commercial exploitation of rail space to private investments in railway infrastructure and rolling stocks. The Golden quadrilateral is proposed to be strengthened to enable running of more long distance passenger trains and freight trains at a higher speed. Programmed also envisages strengthening of rail connectivity to ports and development of multimodal corridors to hinterland. Construction of 4 mega bridges costing about US\$ 750 million is also included in the programme. Construction of a new Railway Line to Kashmir valley in most difficult terrain at a cost of US\$ 1.5 Billion and expansion of rail network in Mumbai area at a cost of US\$900 million has also been taken up. Freight traffic is growing at close to 10% and passenger traffic at close to 8% annually. Railways have planned a dedicated rail freight corridor running along the railways Golden Quadrilateral (GQ). The double-line freight corridor is expected to evolve systematic and efficient freight movement mechanisms and ease congestion along the existing GQ. It would leave the existing GQ free for passenger trains. The 9260 km dedicated freight corridor to be built at a cost of Rs 60,000 crore (US\$ 15 billion) is being funded partially with a US\$ 5 billion loan from Japan. The work is expected to be completed within the next 5–7 years. The first phase of the project would include the Delhi–Howrah and the Delhi–Mumbai routes.

#### **Power Infrastructure in India:**

Presently the installed capacity of electric power generation stations under utilities stood at 130000MW and in the five year plan the generation capacity is planned to be increased to 2,20,000 MW by 2012. There is a 13% peaking and 8% average shortage of power annually. Central government has already taken steps to increase capacity by building Ultra mega power projects (UMPPs). There is a plan to increase Nuclear power capacity from 3900MW currently to 10000 MW by end of 11th plan.

#### **Telecom Infrastructure in India:**

Even with the rapid growth of telecom sector in India, the rural penetration is still less than 5%. At 500 minutes a month, India has the highest monthly 'minutes of usage' (MOU) per subscriber in the Asia-Pacific region, the fastest growth in the number of subscribers at CAGR of more than 50%, the fastest sale of a million mobile phones (in one week), the world's cheapest mobile handset and the world's most affordable colour phone.

#### **Highways and Roads infrastructure:**

The Indian road network has emerged as the second largest road network in the world with a total network of 3.3 million km comprising national highways (65,569 km.), State highways (128,000 km.) and a wide network of district and rural roads. The US tops the list with

a road network of 6.4 million km. Currently, China has a road network of over 1.8 million km only. Out of the 3.38 million Kms of Indian road network, only 47% of the roads are paved. Roads occupy a crucial position in the transportation matrix of India as they carry nearly 65 per cent of freight and 85 per cent of passenger traffic. Over the past decade several major projects for development of highways linking the major cities have been planned – and work started on most of them. What is of significance is that private sector involvement (BOT projects) has finally been found to be feasible in the Indian context. This has led to an accelerated growth in this sector – which had long been faced with financial constraints. This has also facilitated improvement in the quality of the new highways and introduction of the latest concepts for toll collection, signages etc. The process of development of the new highways is expected to continue for many years to come.

### **Construction Infrastructure in India:**

Construction accounts for nearly 7 per cent of Indian GDP and is the second biggest contributor (to GDP) after agriculture. Construction is a capital-intensive activity. Broadly the services of the sector can be classified into infrastructure development (54%), industrial activities (36%), residential activities (5%) and commercial activities (5%). The main entities in the construction sector are construction contractors, equipment suppliers, material suppliers and solution providers. India's construction equipment sector is growing at a scorching pace of over 30 per cent annually--driven by huge investments by both the Government and the private sector in infrastructure development. It is estimated that there is USD860 billion worth of construction opportunities in India

### **Oil, Gas –Hydrocarbon Infrastructure in India :**

With the exponential increase in the population of vehicles and industrial requirement, the consumption of petrol products is likely to increase to 300 MMT by the year 2010. India has established geological reserves of more than 6 billion and exploration acreages are available on offer on continuous basis. It is estimated that investment over the next 10-15 years shall be in the range of US\$ 100-150 billion. Additional refining capacity of 110 million tonnes shall be required by 2010. Opportunities have emerged in business areas linked to Natural Gas. Private opportunities also exist in infrastructure like jetties, storage tanks, movement of oil and petro-products. Oil import constitute largest share of total import and therefore Government has taken many initiatives to mitigate the situation and attract the foreign investors. 100% foreign investment has been allowed in this sector. Deregulation and de-licensing has been done for the petroleum products. Rationalization of pricing has taken place by decontrol and import parity. Private sector can import most products, pipelines, terminals and tank ages cleared for private investment. JV can be formed for the development of infrastructure, marketing and, refining activities.

### **NEW INSTITUTIONAL MECHANISM FOR PPP**

The creation of world class infrastructure would require large investments in addressing the deficit in quality and quantity. , it is necessary to explore the scope for plugging this deficit through Public Private Partnerships (PPPs) in all areas of infrastructure like roads, ports, energy, etc. Given the risks involved in large projects the government has realized that only public sector involvement with central government development assistance for infrastructure projects is not adequate to meet the challenge. Recognizing the imponderable risks, which infrastructure projects entail, with long gestation periods, high costs and budget constraints, the government has proposed a flexible funding scheme, which will find support from budgetary allocation to fund public-private-partnerships (PPPs) for infrastructure projects. The government has proposed India Infrastructure Finance Company (IIFC) and formulated a scheme to support PPPs in infrastructure. As part of this scheme, PPP opportunities are to be awarded through

competitive bidding in a transparent manner and for each project, performance is to be assessed against easily measurable standards, based on unambiguously defined criteria, in order to inspire confidence among investors.

Recently, legal and regulatory changes have been made to enable PPPs in the infrastructure sector, across power, transport, and urban infrastructure. For example, the Electricity Act allowed for private sector participation in the Distribution of electricity in specified area(s) of the distribution licensees under the role of a “franchisee”. The recognition of the franchisee role is a significant step towards fostering PPP in the distribution of electricity. In some cases, the impact of private sector involvement in terms of end-user benefits has been felt almost immediately. A case in point is the initial Build-Operate- Transfer (BOT) experience at Jawaharlal Nehru Port, where the Minimum Guaranteed Traffic requirement at the end of 15 years, identified as part of the concession agreement, was met in just 2 years. The experiment is being replicated across other major ports as well.

### **Special Economic Zone (SEZ) – A New Policy**

The Government of India has announced a pragmatic “SEZ” policy, which offers several innovative fiscal and regulatory incentives to developers of the SEZs, as well as the units within these zones. Each SEZ is treated as a foreign territory and units located in it are not subject to either customs tariffs or domestic duties. Sales to Domestic Tariff Areas are permitted, subject to payment of applicable customs duties and import policies in force. Inputs, whether imported or sourced domestically, are free of any taxes. So are exports made from a SEZ. The only requirement is that the SEZ and the units located within it are positive foreign exchange earners. This offers foreign companies tremendous opportunities for taking full advantage of Indian strengths in doing business in India. This could be either as the developer of the SEZ or as a unit in a SEZ or both. Presently, the board of approvals for the SEZs granted formal approvals for 340 SEZs. These 339 SEZs today have lands for development. It is widely expected that the Special Economic Zones approved for various parts of the country, once implemented, would contribute substantially to India's exports and would help connecting the missing links in manufacturing. These zones aim at providing an internationally competitive and hassle free business environment for promotion of exports.

### **The contribution of the Infrastructure Sector in the India GDP**

Infrastructure Sector Growth Rate in India GDP came to 3.5% in 1996- 1997 and the next year, this figure was 4.6%. The Growth Rate of the Infrastructure Sector in India GDP increased after the Indian government opened the sector to 100% foreign direct investment (FDI). This was done in order to boost the Infrastructure Sector in the country. The result of opening the sector to the private sector has been that Infrastructure Sector Growth Rate in India GDP has increased at the rate of 9%. It is estimated that the Growth Rate of the Infrastructure Sector in India GDP will grow at the rate of 8.5% between 2006 and 2010. The biggest ongoing project in the Infrastructure Sector in India is the Golden Quadrilateral, which is improving the main roads that connect the four cities of Chennai, Mumbai, Delhi, and Kolkata.

Infrastructure Sector Growth Rate in India GDP thus has increased over the last few years due to the efforts that have been made by the Indian government. The government of India must continue to take steps to improve the Infrastructure Sector in the country. For this in its turn will help to boost the Indian economy in future.

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## **8. POPULATION, AGRICULTURE AND FOOD SECURITY**

### **8.1. POPULATION**

Population refers to a collection of human beings. Population growth is the change in a population over time, and can be quantified as the change in the number of individuals of any species in a population using "per unit time" for measurement. In biology, the term population growth is likely to refer to any known organism, but this article deals mostly with the application of the term to human populations in demography. In demography, population growth is used informally for the more specific term population growth rate, and is often used to refer specifically to the growth of the human population of the world.

Human beings evolved under conditions of high mortality due to famines, accidents, illnesses, infections and war and therefore the relatively high fertility rates were essential for species survival. In spite of the relatively high fertility rates it took all the time from evolution of mankind to the middle of the 19th century for the global population to reach one billion. The twentieth century witnessed an unprecedented rapid improvement in health care technologies and access to health care all over the world; as a result there was a steep fall in the mortality and steep increase in longevity. The population realized these changes and took steps to reduce their fertility but the decline in fertility was not so steep. As a result the global population has undergone a fourfold increase in a hundred years and has reached 6 billion.

The world population is the total number of living humans on the planet Earth, currently estimated to be 6.94 billion by the United States Census Bureau as of July 1, 2011. The world population has experienced continuous growth since the end of the Bubonic Plague, Great Famine and Hundred Years Wars in 1350, when it was about 300 million. The highest rates of growth—increases above 1.8% per year—were seen briefly during the 1950s, for a longer period during the 1960s and 1970s; the growth rate peaked at 2.2% in 1963, and declined to 1.1% by 2009. Annual births have reduced to 140 million since their peak at 173 million in the late 1990s, and are expected to remain constant, while deaths number 57 million per year and are expected to increase to 80 million per year by 2040. Current projections show a continued increase of population (but a steady decline in the population growth rate) with the population to reach between 7.5 and 10.5 billion by the year 2050.

The population continues to grow and is expected to reach 7 billion by 2015. In only 40 years, the world population had doubled. In 100 years, it had quadrupled. In only 12 years, it had increased by one billion. Critics pointed to alarming trends in population growth that indicated the world was not ready for a 50 percent population increase in the half century to come. The 30 percent estimated chance that the 6 billionth child would come from an indigent family reflected uneven global statistics. While growth had stopped on the soil of developed countries, it continued in the underdeveloped; the population was increasing in the places that could least afford it. Nations that had trouble providing food and sanitation in the 20<sup>th</sup> century would find it even harder with the growing numbers, they said. In a world where the gap between the rich and poor was greater than ever, (the richest 20 percent of humanity was said to have 82 times the income of the poorest 20 percent), the population increase was bottom-heavy.

Others chose to look at the positives that came with the milestone, arguing that as the population had increased, so too did the quality of life. A population increase also meant an aging population, and an aging population was the product of lower child mortality rates. An emphasis on education led to lower fertility rates, particularly in developed countries, where fewer children often meant fewer health problems for families. Fertility rates were down from the 1960s on all continents, though the decrease was sharper on continents such as North America and Asia than in Africa. Many attributed this to progress and education in reproductive rights, particularly in a woman's right to choose if and when she has children. Death rates were also lower, thanks to better health care and nutrition. Despite the disagreements in population statistics, everyone agreed that resolving social, economic and environmental issues would be crucial with population increase into the new century.



## Current Population of India

India, with 1,210,193,422 (1.21 billion) people is the second most populous country in the world, while China is on the top with over 1,350,044,605 (1.35 billion) people. The figures show that India represents almost 17.31% of the world's population, which means one out of six people on this planet live in India. Although, the crown of the world's most populous country is on China's head for decades, India is all set to take the position by 2030. With the population growth rate at 1.58%, India is predicted to have more than 1.53 billion people by the end of 2030.

More than 50% of India's current population is below the age of 25 and over 65% below the age of 35. About 72.2% of the population lives in some 638,000 villages and the rest 27.8% in about 5,480 towns and urban agglomerations. The birth rate (child births per 1,000 people per year) is 22.22 births/1,000 population (2009 est.) while death rate (deaths per 1000 individuals per year) is 6.4 deaths/1,000 population. Fertility rate is 2.72 children born/woman (NFHS-3, 2008) and Infant mortality rate is 30.15 deaths/1,000 live births (2009 estimated). India has the largest illiterate population in the world. The literacy rate of India as per 2001 Population Census is 65.38%, with male literacy rate at 75.96% and female at 54.28%. Kerala has the highest literacy rate at 90.86%, Mizoram (88.80%) is on the second position and Lakshadweep (86.66%) is on third.

Every year, India adds more people than any other nation in the world, and in fact the individual population of some of its states is equal to the total population of many countries. For example, Population of Uttar Pradesh (state in India) almost equals to the population of Brazil. It, as per 2001 Population Census of India, has 190 million people and the growth rate is 16.16%. The population of the second most populous state Maharashtra, which has a growth rate of 9.42%, is equal to that of Mexico's population. Bihar, with 8.07%, is the third most populous state in India and its population is more than Germany's. West Bengal with 7.79% growth rate, Andhra Pradesh (7.41%) and Tamil Nadu (6.07%) are at fourth, fifth and sixth positions respectively. The sex ratio of India stands at 933. Kerala with 1058 females per 1000 males is the state with the highest female sex ratio. Pondicherry (1001) is second, while Chhatisgarh (990) and Tamil Nadu (986) are at third and fourth places respectively. Haryana with 861 has the lowest female sex ratio.

Some of the reasons for India's rapidly growing population are poverty, illiteracy, high fertility rate, rapid decline in death rates or mortality rates and immigration from Bangladesh and Nepal. Alarmed by its swelling population, India started taking measures to stem the growth rate quite early. In fact India by launching the National Family Planning programme in 1952 became the first country in the world to have a population policy. The family planning programme yielded some noticeable results, bringing down significantly the country's fertility rate. In 1965-2009, the contraceptive usage more than tripled and the fertility rate more than halved. The efforts did produce positive results, however, failed to achieve the ultimate goal and the population of India since getting independence from Britain in 1947 increased almost three times. Whereas India has missed almost all its targets to bring the rate of population growth under control, China's 'One Child Policy' in 1978, has brought tremendous results for the latter. The policy claims to have prevented between 250 and 300 million births from 1978 to 2000 and 400 million births from 1979 to 2010.

## DEMOGRAPHIC TRANSITION

Demographers refer to these changes from stable population with high fertility and mortality to a new stability in population due to low fertility and mortality patterns as demographic transition. Demographic transition occurs in four phases; of these the first three phases are characterized by population growth. In the first phase there is a fall in death rate and improvement in longevity; this leads to population growth. In the second phase there is a fall in birth rate but fall is less steep than fall in death rates and consequently there is population growth. In the third phase death rates plateau and replacement level of fertility is attained but the population growth continues because of the large size of population in reproductive age group. The fourth phase is characterized by fall in birth rate to below replacement level and reduction in the proportion of the

population in reproductive age group; as a result of these changes population growth ceases and population stabilizes. Experience in some of the developed countries suggest that in some societies even after attainment of stable population there may be a further decline in fertility so that there is a further reduction in the population - so called negative population growth phase of the demographic transition. Different countries in the world have entered the demographic transition at different periods of time; there are also substantial differences in the rate of demographic transition and time taken to achieve population stabilization.

### **Global Population Scenario**

In 1901 the world population was 1.6 billion. By 1960, it became 3 billion, and by 1987, 5 billion and in 1999, 6 billion. Currently, one billion people are added every 12 - 13 years. During the last decade there has been substantial decline in birth rate. The reasons for decline vary from society to society; urbanization, rising educational attainment, increasing employment among women, lower infant mortality are some major factors responsible for growing desire for smaller families; increasing awareness and improved access to contraception have made it possible for the majority of the couple to achieve the desired family size. In some countries slowing of the population growth has been due to an increase in mortality (e.g. HIV related mortality in sub-saharan Africa). As a result of all these the decline in the global population growth during the nineties is steeper than the earlier predictions. Currently, the annual increment is about 80 million. It is expected to decrease to about 64 million by 2020 -25 and to 33 million by 2045 -50; 95 % of the growth of population occurs in developing countries. Most demographers believe that the current accelerated decline in population growth will continue for the next few decades and the medium projections of Population Division of United Nations, that the global population will grow to 8.9 billion by 2050 is likely to be achieved.

### **Changing age structure of the population:**

During demographic transition along with the growth in number there are changes in the population age structure. While the importance of the population growth as a determinant of quality of life is universally understood, the profoundly serious consequences of changing age structure especially if it occurs too rapidly is not understood by many. Population pyramids graphically represent complex changes in age structure of the population so that it can be readily understood and interpreted. Currently nearly half of the global population is below 25 years of age and one sixth are in the age group 15-24. Their choices, efforts and lifestyles will determine not only the population growth but also future improvement in the quality of life in harmony with global ecology. In developed countries the reproductive age group population is relatively small; their fertility is low and the longevity at birth is high. Population profiles of these countries resemble a cylinder and not a pyramid. These countries have the advantages of having achieved a stable population but have to face the problems of having a relatively small productive workforce to support the large aged population with substantial non -communicable disease burden. Some of the developing countries have undergone a very rapid decline in the birth rates within a short period. This enabled them to quickly achieve population stabilization but they do face the problems of rapid changes in the age structure and workforce which may be inadequate to meet their manpower requirements. In contrast the population in most of the developing countries (including India) consist of a very large proportion of children and persons in reproductive age. Because of the large reproductive age group (Population momentum) the population will continue to grow even when replacement level of fertility is reached (couples having only two children). It is imperative that these countries should generate enough employment opportunities for this work force and utilise the human resources and accelerate their economic growth. Planners and policy makers in developing countries like India have to take into account the ongoing demographic changes (number and age structure of the population) so that available human resources are optimally utilised as agents of change and development to achieve improvement in quality of life.

### **Demographic Transition in India**

Over the last four decades there has been rapid fall in Crude Death Rate (CDR) from 25.1 in 1951 to 9.8 in 1991 and less steep decline in the Crude Birth Rate (CBR) from 40.8 in 1951 to

29.5 in 1991. The annual exponential population growth rate has been over 2% in the period 1961-90. During the nineties the decline in CBR has been steeper than that in the (CDR) and consequently, the annual population growth rate has fallen below 2%. The rate of decline in population growth is likely to be further accelerated during the next decade. The changes in the population growth rates have been relatively slow, steady and sustained. As a result the country was able to achieve a relatively gradual change in the population numbers and age structure. The short and long term adverse consequences of too rapid decline in birth rates and change in age structure on the social and economic development were avoided and the country was able to adapt to these changes without massive disruptions of developmental efforts.

In spite of the uniform national norms set under the 100% Centrally Funded and Centrally Sponsored Scheme (CSS) of Family Welfare, there are substantial differences in the performance between States as assessed by IMR and CBR. Though the decline in CBR and IMR has occurred in all States, the rate of decline is slower in some States. At one end of the spectrum is Kerala with mortality and fertility rates nearly similar to those in some of the developed countries. At the other end, there are four large northern States (Uttar Pradesh, Bihar, Madhya Pradesh and Rajasthan) with high Infant Mortality Rate and Fertility Rates. Though the decline in CBR, IMR and CDR has occurred in all States, the rate of decline was slower in some States like U.P. and Bihar. There are substantial differences in CBR and IMR not only between States but also between the districts in the same state.

In view of these findings, the NDC Committee on Population recommended that efforts should be made to provide reproductive and child health services at district level and undertake decentralized area-specific micro planning and implementation of appropriate interventions. In response to this recommendation Dept of Family Welfare has abolished the practice of fixing targets for individual contraceptives by the Central Government from April 1996 and had initiated decentralized district based, planning (based on community need assessment), implementation, monitoring and midcourse corrections of FW programme. The experience of states with district based planning, implementation and the impact are being closely monitored.

## **CONSEQUENCES OF POPULATION GROWTH**

### **□ Environmental and ecological consequences**

The already densely populated developing countries contribute to over 95% of the population growth and rapid population growth could lead to environmental deterioration. Developed countries are less densely populated and contribute very little to population growth; however, they cause massive ecological damage by the wasteful, unnecessary and unbalanced consumption the consequences of which could adversely affect both the developed and the developing countries.

### **Some of the important ecological consequences of demographic transition are:**

In many developing countries continued population growth has resulted in pressure on land, fragmentation of land holding, collapsing fisheries, shrinking forests, rising temperatures, loss of plant and animal species.

Global warming due to increasing use of fossil fuels (mainly by the developed countries) could have serious effects on the populous coastal regions in developing countries, their food production and essential water supplies. The Intergovernmental Panel on Climate Change has projected that, if current greenhouse gas emission trends continue, the mean global surface temperature will rise from 1 to 3.5 degrees Celsius in the next century. The panel's best estimate scenario projects a sea-level rise of 15 to 95 centimeters by 2100. The ecological impact of rising oceans would include increased flooding, coastal erosion, salination of aquifers and coastal crop land and displacement of millions of people living near the coast. Patterns of precipitation are also likely to change, which combined with increased average temperatures, could substantially alter the relative agricultural productivity of different regions. Greenhouse gas emissions are closely linked to both population growth and development. Slower population growth in developing countries and

ecologically sustainable lifestyles in developed countries would make reduction in green house gas emission easier to achieve and provide more time and options for adaptation to climate change.

- Rapid population growth, developmental activities either to meet the growing population or the growing needs of the population as well as changing lifestyles and consumption patterns pose major challenge to preservation and promotion of ecological balance in India. Some of the major ecological adverse effects reported in India include:
  - severe pressure on the forests due to both the rate of resource use and the nature of use. The per capita forest biomass in the country is only about 6 tons as against the global average of 82 tons.
  - adverse effect on species diversity:
    - conversion of habitat to some other land use such as agriculture, urban development, forestry operation.
  - Some 70-80 % of fresh water marshes and lakes in the Gangetic flood plains has been lost in the last 50 years.
  - Tropical deforestation and destruction of mangroves for commercial needs and fuel wood.
  - The country's mangrove areas have reduced from 700,000 ha to 453,000 ha in the last 50 years.
  - Intense grazing by domestic livestock
  - Poaching and illegal harvesting of wildlife.
  - Increase in agricultural area, high use of chemical fertilizers pesticides and weedicides; water stagnation, soil erosion, soil salinity and low productivity.
  - High level of biomass burning causing large-scale indoor pollution.
  - Encroachment on habitat for rail and road construction thereby fragmenting the habitat. increase in commercial activities such as mining and unsustainable resource extraction.
  - Degradation of coastal and other aquatic ecosystems from domestic sewage, pesticides, fertilizers and industrial effluents.
  - Over fishing in water bodies and introduction of weeds and exotic species.
  - Diversion of water for domestic, industrial and agricultural uses leading to increased river pollution and decrease in self-cleaning properties of rivers.
  - Increasing water requirement leading to tapping deeper aquifers which have high content of arsenic or fluoride resulting health problems.
  - Disturbance from increased recreational activity and tourism causing pollution of natural ecosystems with wastes left behind by people.
  - The United Nations Conference on Environment and Development (1992) acknowledged population growth, rising income levels, changing technologies, increasing consumption pattern will all have adverse impact on environment. Ensuring that there is no further deterioration depends on choices made by the population about family size, life styles, environmental protection and equity. Availability of appropriate technology and commitment towards ensuring sustainable development is increasing throughout the world. Because of these, it might be possible to initiate steps to see that the natural carrying capacity of the environment is not damaged beyond recovery and ecological balance is to a large extent maintained. It is imperative that the environmental sustainability of all developmental projects is taken care of by appropriate inputs at the planning, implementation, monitoring and evaluation stages.

#### □ **Urbanization**

The proportion of people in developing countries who live in cities has almost doubled since 1960 (from less than 22 per cent to more than 40 per cent), while in more developed regions the urban share has grown from 61 per cent to 76 per cent. Urbanization is projected to continue well into the next century. By 2030, it is expected that nearly 5 billion (61 per cent) of the world's 8.1 billion people will live in cities. India shares this global trend toward urbanisation. Globally, the number of cities with 10 million or more inhabitants is increasing rapidly, and most of these new "megacities" are in developing regions. In 1960, only New York and Tokyo had more than 10 million people. By 1999, the number of megacities had grown to 17(13 in developing countries). It

is projected that there will be 26 megacities by 2015, (18 in Asia; of these five in India); more than 10 per cent of the world's population will live in these cities (1.7% in 1950). India's urban population has doubled from 109 million to 218 million during the last two decades and is estimated to reach 300 million by 2000 AD. As a consequence cities are facing the problem of expanding urban slums.

Like many other demographic changes, urbanization has both **positive and negative effects.**

- Cities and towns have become the engines of social change and rapid economic development.
- Urbanisation is associated with improved access to education, employment, health care; these result in increase in age at marriage, reduction in family size and improvement in health indices.
- As people have moved towards and into cities, information has flowed outward.
- Better communication and transportation now link urban and rural areas both economically and socially creating an urban-rural continuum of communities with improvement in some aspects of lifestyle of both.
- The ever increasing reach of mass media communicate new ideas, points of reference, and available options are becoming more widely recognized, appreciated and sought. This phenomenon has affected health care, including reproductive health, in many ways. For instance, radio and television programmes that discuss gender equity, family size preference and family planning options are now reaching formerly isolated rural populations. This can create demand for services for mothers and children, higher contraceptive use, and fewer unwanted pregnancies, smaller healthier families and lead to more rapid population stabilisation.
- **But the rapid growth of urban population also poses some serious challenges.** Urban population growth has outpaced the development of basic minimum services; housing, water supply, sewerage and solid waste disposal are far from adequate; increasing waste generation at home, offices and industries, coupled with poor waste disposal facilities result in rapid environmental deterioration. Increasing automobiles add to air pollution. All these have adverse effect on ecology and health. Poverty persists in urban and semi-urban areas; awareness about the glaring inequities in close urban setting may lead to social unrest.

### **Rural population and their development**

Over seventy per cent of India's population still lives in rural areas. There are substantial differences between the states in the proportion of rural and urban population (varying from almost 90 per cent in Assam and Bihar to 61 per cent in Maharashtra). Agriculture is the largest and one of the most important sector of the rural economy and contributes both to economic growth and employment. Its contribution to the Gross Domestic Product has declined over the last five decades but agriculture still remains the source of livelihood for over 70 per cent of the country's population. A large proportion of the rural work force is small and consists of marginal farmers and landless agricultural labourers. There is substantial under employment among these people; both wages and productivity are low. These in turn result in poverty; it is estimated that 320 million people are still living below the poverty line in rural India. Though poverty has declined over the last three decades, the number of rural poor has in fact increased due to the population growth. Poor tend to have larger families which puts enormous burden on their meagre resources, and prevent them from breaking out of the shackles of poverty. In States like Tamil Nadu where replacement level of fertility has been attained, population growth rates are much lower than in many other States; but the population density is high and so there is a pressure on land. In States like Rajasthan, Uttar Pradesh, Bihar and Madhya Pradesh population is growing rapidly, resulting in increasing pressure on land and resulting land fragmentation. Low productivity of small land holders leads to poverty, low energy intake and under nutrition, and this, in turn, prevents the development thus creating a vicious circle. In most of the states non-farm employment in rural areas has not grown very much and cannot absorb the growing labour force. Those who are getting educated specially beyond the primary level, may not wish to do manual agricultural work. They would like better opportunities and more remunerative employment. In this context, it is

imperative that programmes for skill development, vocational training and technical education are taken up on a large scale in order to generate productive employment in rural areas. The entire gamut of existing poverty alleviation and employment generation programmes may have to be restructured to meet the newly emerging types of demand for employment. Rural poor have inadequate access to basic minimum services, because of poor connectivity, lack of awareness, inadequate and poorly functional infrastructure. There are ongoing efforts to improve these, but with the growing aspirations of the younger, educated population these efforts may prove to be inadequate to meet the increasing needs both in terms of type and quality of services. Greater education, awareness and better standard of living among the growing younger age group population would create the required consciousness among them that smaller families are desirable; if all the felt needs for health and family welfare services are fully met, it will be possible to enable them to attain their reproductive goals, achieve substantial decline in the family size and improve quality of life.

### **Water Supply:**

In many parts of developed and developing world, water demand substantially exceeds sustainable water supply. It is estimated that currently 430 millions (8% of the global population) are living in countries affected by water stress; by 2020 about one fourth of the global population may be facing chronic and recurring shortage of fresh water. In India, water withdrawal is estimated to be twice the rate of aquifer recharge; as a result water tables are falling by one to three meters every year; tapping deeper aquifers have resulted in larger population groups being exposed to newer health hazards such as high fluoride or arsenic content in drinking water. At the other end of the spectrum, excessive use of water has led to water logging and increasing salinity in some parts of the country. Eventually, both lack of water and water logging could have adverse impact on India's food production. There is very little arable agricultural land which remains unexploited and in many areas, agricultural technology improvement may not be able to ensure further increase in yield per hectare. It is, therefore, imperative that research in biotechnology for improving development of foodgrains strains that would tolerate salinity and those which would require less water gets high priority. Simultaneously, a movement towards making water harvesting, storage and its need based use part of every citizens life should be taken up.

### **Food security:**

Technological innovations in agriculture and increase in area under cultivation have ensured that so far, food production has kept pace with the population growth. Evolution of global and national food security systems have improved access to food. It is estimated that the global population will grow to 9 billion by 2050 and the food production will double; improvement in purchasing power and changing dietary habits (shift to animal products) may further add to the requirement of food grains. Thus, in the next five decades, the food and nutrition security could become critical in many parts of the world especially in the developing countries and pockets of poverty in the developed countries. In India one of the major achievements in the last fifty years has been the green revolution and self-sufficiency in food production. It is a matter of concern that while the cereal production has been growing steadily at a rate higher than the population growth rates, the coarse grain and pulse production has not shown a similar increase. Consequently, there has been a reduction in the per capita availability of pulses (from 60.7 grams in 1951 to 34 grams per day in 1996) and coarse grains. Over the last five decades there has been a decline in the per capita availability of pulses. During the last few years the country has imported pulses to meet the requirement. There has been a sharp and sustained increase in cost of pulses, so there is substantial decline in per capita pulses consumption among poorer segment of population. This in turn could have an adverse impact on their protein intake. The pulse component of the "Pulses and Oil Seeds Mission" need to receive a major thrust in terms of R&D and other inputs, so that essential pulse requirement of growing population is fully met.

Rising cost of pulses had a beneficial effect also. Till eighties in central India wages of landless labourers were given in the form Kesari Dal which was cheaper than cereals or coarse grains. Consumption of staple diet of Kesari Dal led to crippling disease of neuro lathyrism. Over the last three decades the rising cost of pulses has made Kesari Dal more expensive than wheat

or rice and hence it is no longer given to labourers as wages for work done; as a result the disease has virtually disappeared from Central India. Over years the coarse grain production has remained stagnant and per capita availability of coarse grain has undergone substantial reduction; there has been a shift away from coarse grains to rice and wheat consumption even among poorer segment of population. One of the benefits of this change is virtual elimination of pellagra which was widely prevalent among low income group population in Deccan Plateau whose staple food was sorghum. Coarse grains are less expensive than rice and wheat; they can thus provide higher calories for the same cost as compared to rice and wheat. Coarse grains which are locally produced and procured if made available through TPDS at subsidised rate, may not only substantially bring down the subsidy cost without any reduction in calories provided but also improve "targeting" - as only the neediest are likely to access these coarse grains. Another area of concern is the lack of sufficient focus and thrust in horticulture; because of this, availability of vegetables especially green leafy vegetables and yellow/red vegetables throughout the year at affordable cost both in urban and rural areas has remained an unfulfilled dream. Health and nutrition education emphasizing the importance of consuming these inexpensive rich sources of micronutrients will not result in any change in food habits unless there is harnessing and effective management of horticultural resources in the country to meet the growing needs of the people at affordable cost. States like Tamil Nadu and Himachal Pradesh have initiated some efforts in this direction; similar efforts need be taken up in other states also.

## **Nutrition**

At the time of independence the country faced two major nutritional problems; one was the threat of famine and acute starvation due to low agricultural production and lack of appropriate food distribution system. The other was chronic energy deficiency due to poverty, low-literacy, poor access to safe-drinking water, sanitation and health care; these factors led to wide spread prevalence of infections and ill health in children and adults. Kwashiorkor, marasmus, goitre, beri beri, blindness due to Vitamin-A deficiency and anaemia were major public health problems. The country adopted multi-sectoral, multi- pronged strategy to combat the major nutritional problems and to improve nutritional status of the population.

During the last 50 years considerable progress has been achieved. Famines no longer stalk the country. There has been substantial reduction in moderate and severe undernutrition in children and some improvement in nutritional status of all segments of population. Kwashiorkor, marasmus, pellagra, lathyrism, beri beri and blindness due to severe Vitamin -A deficiency have become rare. However, it is a matter of concern that milder forms of Chronic Energy Deficiency (CED) and micronutrient deficiencies continue to be widely prevalent in adults and children. In view of the fact that population growth in India will continue for the next few decades, it is essential that appropriate strategies are devised to improve food and nutrition security of families, identify individuals/families with severe forms of CED and provide them assistance to overcome these problems.

### **Operational strategy to improve the dietary intake of the family and improve nutritional status of the rapidly growing adult population would include:**

Ensuring adequate agricultural production of cereals, pulses, vegetables and other foodstuffs needed to fully meet the requirement of growing population.

Improving purchasing power through employment generation and employment assurance schemes;

Providing subsidised food grains through TPDS to the families below poverty line.

Exploring feasibility of providing subsidized coarse grains to families Below Poverty Line (BPL)

### **Operational strategies to improve health and nutritional status of the growing numbers of women and children include:**

1) Pregnant and lactating women - screening to identify women with weight below 40 Kgs and ensuring that they/ their preschool children receive food supplements through Integrated Child Development Services Scheme (ICDS); adequate antenatal intrapartum and neonatal care.

- 2) 0-6 months infants - Nutrition education for (a) early initiation of lactation (b) protection and promotion of universal breast feeding (c) exclusive breast feeding for the first six months; unless there is specific reason supplementation should not be introduced before 6 months (d) immunisation, growth monitoring and health care.
- 3) Well planned nutrition education to ensure that the infants and children do a) continue to get breastfed; b) get appropriate cereal pulse - vegetable based supplement fed to them at least 3 - 4 times a day – appropriate help in ensuring this through family/community/work place support; c) immunisation and health care.
- 4) Children in the 0 - 5 age group; a) screen by weight to identify children with moderate and severe undernutrition b) provide double quantity supplements through ICDS; c) screening for nutrition and health problems and appropriate intervention.
- 5) Primary school children: a) weigh and identify those with moderate and severe chronic energy deficiency; b) improve dietary intake to these children through the mid-day meal.
- 6) Monitor for improvement in the identified undernourished infants, children and mothers; if no improvement after 2 months refer to physician for identification and treatment of factors that might be responsible for lack of improvement;
- 7) Nutrition education on varying dietary needs of different members of the family and how they can be met by minor modifications from the family meals. Intensive health education for improving the life style of the population coupled with active screening and management of the health problems associated with obesity.

## POPULATION PROJECTIONS FOR INDIA AND THEIR IMPLICATIONS

Right from 1958 the Planning Commission has been constituting an Expert Group on Population Projections prior to the preparation of each of the Five Year Plans so that the information on the population status at the time of initiation of the Plan and population projections for future are available during the preparation of the Plan. Population projections have been utilised not only for planning to ensure provision of essentials necessities such as food, shelter and clothing but also prerequisites for human development such as education, employment and health care. Over the years there has been considerable refinement in the methodology used for population projections and substantial improvement in the accuracy of predictions.

### Economic Implications:

Population growth and its relation to economic growth has been a matter of debate for over a century. The early Malthusian view was that population growth is likely to impede economic growth because it will put pressure on the available resources, result in reduction in per capita income and resources; this, in turn, will result in deterioration in quality of life. Contrary to the Malthusian predictions, several of the East Asian countries have been able to achieve economic prosperity and improvement in quality of life inspite of population growth. This has been attributed to the increase in productivity due to development and utilisation of innovative technologies by the young educated population who formed the majority of the growing population. These countries have been able to exploit the dynamics of demographic transition to achieve economic growth by using the human resources as the engine driving the economic development; improved employment with adequate emoluments has promoted saving and investment which in turn stimulated economic growth. However, not all countries, which have undergone demographic transition, have been able to transform their economies. Sri Lanka in South Asia underwent demographic transition at the same time as South East Asian countries but has not achieved the economic transition. It is now realized that population growth or demographic transition can have favourable impact on economic growth only when there are optimal interventions aimed at human resource development (HRD) and appropriate utilisation of available human resources. For India the current phase of demographic transition with low dependency ratio and high working age



group population, represents both a challenge and an opportunity. The challenge is to develop these human resources through appropriate education and skill development and utilise them fully by giving them appropriate jobs with adequate emoluments; if this challenge is met through well planned schemes for HRD and employment generation which are implemented effectively, there will be improved national productivity and personal savings rates; appropriate investment of these savings will help the country to achieve the economic transition from low economic growth - low per capita income to high economic growth - high per capita income. It is imperative to make the best use of this opportunity so as to enable the country and its citizens to vault to the high income-high economic growth status and stabilize at that level.

### **Interstate differences:**

There are marked differences between States in size of the population and population growth rates, the time by which replacement level of fertility is to be achieved and age structure of the population. Urgent energetic steps to assess and fully meet the unmet needs for maternal and child health (MCH) care and contraception through improvement in availability and access to family welfare services are needed in the States of UP, MP, Rajasthan and Bihar in order to achieve a faster decline in their mortality and fertility rates.

The five states of Bihar, Uttar Pradesh, Madhya Pradesh, Rajasthan and Orissa, which constitute 44% of the total population of India in 1996, will constitute 48% of the total population of India in 2016. These states will contribute 55% of the total increase in population of the country during the period 1996-2016. In all the states performance in the social and economic sector has been poor. The poor performance is the outcome of poverty, illiteracy and poor development which co-exist and reinforce each other. The quality and coverage under health services is poor and the unmet need for FW services is about 30%. Urgent energetic steps are required to be initiated to assess and fully meet the unmet needs for maternal and child health (MCH) care and contraception through improvement in availability and access to family welfare services in the states of UP, MP, Rajasthan and Bihar in order to achieve a faster decline in their mortality and fertility rates. The performance of these states would determine the year and size of the population at which the country achieves population stabilisation.

There are also marked differences between States in socio-economic development. Increasing investments and rapid economic development are likely to occur in the States where literacy rates are high; there is ready availability of skilled work force and adequate infrastructure. In these States, population growth rates are low. If equitable distribution of the income and benefits generated by development is ensured, substantial increase in per capita income and improvement in quality of life could occur in these States in a relatively short time. In majority of States with high population growth rates, the performance in the social and economic sector has been poor. The poor performance could be the outcome of a variety of factors including paucity of natural, financial or human resources. Poverty, illiteracy and poor development co-exist and aggravate each other. In order to promote equity and reduce disparity between States, special assistance has been provided to the poorly performing States. The benefits accrued from such assistance has to a large extent depended upon:

the States' ability to utilise the available funds; improve quality & coverage of services and facilities, increase efficiency and improve performance

community awareness and ability to utilise the available services.

In spite of the additional assistance provided, improvement in infrastructure, agriculture and industry have been sub-optimal and the per capita income continues to be low in most of the poorly performing States. These States also have high birth rates and relatively low literacy rates. It is imperative that special efforts are made during the next two decades to break this vicious self perpetuating cycle of poor performance, poor per capita income, poverty, low literacy and high birth rate so that the further widening of disparities between States in terms of per capita income and quality of life is prevented. The higher population growth rates and low per capita income in poorly performing States are likely to have a major impact on several social sector programmes.

The health status of the population in these States is poor; the health sector programme will require inputs not only for improving infrastructure and manpower, but also increasing efficiency and improving performance. The Family Welfare Programme has to address the massive task of meeting all the unmet needs for MCH and contraception so that there is a rapid decline in mortality and fertility rates. Due to high birth rate, the number of children requiring schooling will be large. The emphasis in the education sector on primary education is essential to ensure that the resource constraints do not result in an increase in either proportion or number of illiterates. Emphasis on prevocational and vocational training in schools will enable these children to acquire skills through which they will find gainful employment later.

### **Migration:**

Given the combination of high population growth, low literacy and lack of employment opportunities in the poorly performing States, there may be increasing rural to urban migration as well as interstate migration especially of unskilled workers. Such migration may in the short run assist the migrants in overcoming economic problems associated with unemployment. However, the migrant workers and their families may face problems in securing shelter, education and health care. It is essential to build up a mechanism for monitoring these changes. Steps will have to be taken to provide for the minimum essential needs of the vulnerable migrant population.

### **Labour, employment and manpower:**

Population, which is engaged in any economic activity (employed persons) and population seeking work (unemployed) constitute Labour Force. India has the second largest labour force in the world. Projection of labour force is pre-requisite ensuring optimal utilisation of available human resources. Manpower development is then taken up to provide adequate labour force, of appropriate skills and quality to different sectors so that there is rapid socioeconomic development and there is no mismatch between skills required and skills available. Planning also attempts to provide enabling environment for employment generation (both self employment and wage employment) in public, private and voluntary sectors in urban and rural areas.

Increasing literacy and decreasing birth rates may result in more women seeking economically productive work outside home. It will be important to generate appropriate and remunerative employment at places where labour force are available so as to reduce interstate and urban migration in search of employment. Attempts should be made to eliminate bonded labour, employment of children and women in hazardous industries and minimising occupational health hazards.

Planners face the challenge to have sustained high economic growth rate in sectors that are labour-intensive to ensure adequate employment generation for productively utilising this massive work force. If the massive work force of literate, skilled, aware men and women in age-group 20- 60 years get fully employed and adequately paid they could trigger off a period of rapid economic development. As they have very few dependant children and elders there will be increased savings and investments at household level; this in turn will improve the availability of resources for accelerating economic growth. The current stage of demographic transition thus provides the country with the opportunity window for using human resources as the engine to power economic development and improving the quality of life of all the citizens.

### **Sex Ratio**

The reported decline in the sex ratio during the current century has been a cause for concern. The factors responsible for this continued decline are as yet not clearly identified. However, it is well recognised that the adverse sex ratio is a reflection of the gender disparity. Higher childhood mortality in girl children is yet another facet of the existing gender disparities and consequent adverse effect on survival. In the reproductive age group the mortality rates among women are higher than those among men. The continued high maternal mortality is one of the major factors responsible for this. Effective implementation of the Reproductive and Child Health Programme is expected to result in a substantial reduction in maternal mortality. At the moment,

the longevity at birth among women is only marginally higher than that among men. However over the next decade life expectancy among women will progressively increase. Once the reproductive age group is crossed, the mortality rates among women are lower as women outlive and outnumber men in the age group 65 and above. The needs especially of the widowed women have to be met so that quality of life does not deteriorate. There are substantial differences in sex ratio at birth and in different age groups between states. There had been speculations whether female infanticide, sex determination and selective female foeticide are at least in part responsible for this. The Government of India has enacted a legislation banning the prenatal sex determination and selective abortion. Intensive community education efforts are under way to combat these practices, especially in pockets from where female infanticide and foeticide have been reported.

### **Increasing Longevity**

Over the coming decades the country will be facing a progressive increase both in the proportion and number of persons beyond 60 years of age. Over the next 20 years the population of more than 60 years will grow from 62.3 million to 112.9 million; the subsequent decades will witness massive increase in this age group. Increasing longevity will inevitably bring in its wake increase in the prevalence of non-communicable diseases. The growing number of senior citizens in the country poses a major challenge and the cost of providing socio-economic security and health care to this population has to be met. Currently several region and culture specific innovative interventions to provide needed care to this population are underway; among these are efforts to reverse the trend of break up of joint families. If these efforts succeed, it will be possible to provide necessary care for rapidly increasing population of senior citizens in the subsequent two decades within the resources of the family and the country. Majority of the people in their sixties will be physically and psychologically fit and would like to participate both in economic and social activities. They should be encouraged and supported to lead a productive life and contribute to the national development. Senior citizens in their seventies and beyond and those with health problems would require assistance. So far, the families have borne major share in caring for the elderly. This will remain the ideal method; however, there are growing number of elderly without family support; for them, alternate modes for caring may have to be evolved and implemented. Improved health care has "added years to life". The social sectors have to make the necessary provisions for improving the quality of life of these senior citizens so that they truly "add life to years."

### **Health Implication of the demographic transition**

It was earlier assumed that population growth during demographic transition will lead to overcrowding, poverty, under nutrition, environmental deterioration, poor quality of life and increase in disease burden. Experience in the last few decades have shown that this may not always be correct. India is currently in the phase of demographic transition when the increase in population is mainly among younger, better educated and healthy population with low morbidity and mortality rate. The challenge for the health sector is to promote healthy life styles, improve access to and utilisation of health care so that the country can achieve substantial reduction in mortality and morbidity. Occupational health and environmental health programme need be augmented to ensure that working population remain healthy and productive. If these challenges are fully met, it is possible to accelerate reduction in morbidity and mortality rate in this age group and improve health indices of the country.

With growing number of senior citizens there may be substantial increase in health care needs especially for management of non-communicable diseases. Increasing availability and awareness about technological advances for management of these problems, rising expectations of the population and the ever escalating cost of health care are some of the problems that the health care system has to cope with. Health care delivery systems will have to gear up to taking up necessary preventive, promotive, curative and rehabilitative care for growing population of senior citizens.

### **Family Welfare Programmes:**

The health care infrastructure will therefore be not grappling with ever increasing number of children for providing care and they will be able to concentrate on:

- a. improving quality of care;
- b. focus on antenatal, intranatal and neonatal care aimed at reducing neonatal morbidity and mortality;
- c. improve coverage and quality of health care to vulnerable and underserved adolescents;
- d. promote inter sectoral coordination especially with ICDS programme so that there is improvement in health and nutritional status;
- e. improve coverage for immunization against vaccine preventable diseases.

The economic challenge is to provide needed funds so that these children have access to nutrition, education and skill development. The challenge faced by the health sector is to achieve reduction in morbidity and mortality rate in infancy and childhood, to improve nutritional status and eliminate ill-effects of gender bias. While providing the package of services, efforts will have to be made to improve the quality of services, make services more responsive to users' needs, ensure that health workers and health care providers have the necessary skills and supplies they need and there is a strong and effective referral system to manage all the risk cases. Family welfare Programme is attempting to improve the logistics of supply of drugs and vaccine to make sure good quality drugs are available at appropriate time. Efforts should be made to promote community participation and optimal utilisation of available services.

### **Essential Reproductive and Child Health Services**

Though it is desirable that the entire package of services indicated under comprehensive RCH care is made available to all those who need it, it will not be possible to immediately implement such a comprehensive package at primary health care level on a nationwide basis. After consultation with experts a package of essential reproductive health services for nationwide implementation at primary health care settings has been identified. Essential components recommended for nationwide implementation include:

- Prevention and management of unwanted pregnancy,
- Services to provide antenatal, intra-natal and post-natal, and neo-natal care
- Services to promote child health and survival,
- Prevention and treatment of RTI/STD.

Most of these services are already being delivered under the Family Welfare Programme. However, there are wide variations in the quality and coverage of services not only between states but also between districts in the same state. The focus under RCH Programme is therefore on the improvement in the quality and coverage of the services over and above the existing level in all districts/states in an incremental manner so that there is over all improvement maternal and child health indices.

### **FAMILY WELFARE PROGRAMME IN INDIA**

India, the second most populous country in the world, has no more than 2.5% of global land but is the home of 1/6th of the world's population. The prevailing high maternal, infant, childhood morbidity and mortality, low life expectancy and high fertility and associated high morbidity had been a source of concern for public health professionals right from the pre-independence period. The Bhore Committee Report (1946) which laid the foundation for health service planning in India, gave high priority to provision of maternal and child health services and improving their nutritional and health status. It is noteworthy that this report which emphasized the importance of providing integrated preventive, promotive and curative primary health care services preceded the Alma Ata declaration by over three decades. Under the Constitution of India elimination of poverty, ignorance and ill health are three important goals. In 1951, the infant republic took stock of the existing situation in the country and initiated the first Five Year

Development Plan. Living in a resource poor country with high population density, the Planners recognised in the census figures of 1951, the potential threat posed by population explosion and the need to take steps to avert it. It was recognised that population stabilisation is an essential prerequisite for sustainability of development process so that the benefits of economic development result in enhancement of the well being of the people and improvement in quality of life. India became the first country in the world to formulate a National Family Planning Programme in 1952, with the objective of "reducing birth rate to the extent necessary to stabilise the population at a level consistent with requirement of national economy". Thus, the key elements of health care to women and children and provision of contraceptive services have been the focus of India's health services right from the time of India's independence. Successive Five Year Plans have been providing the policy framework and funding for planned development of nationwide health care infrastructure and manpower. The Centrally Sponsored and 100% centrally funded Family Welfare Programme provides additional infrastructure, manpower and drugs, vaccines contraceptives and other consumables needed for improving health status of women and children and to meet all the felt needs for fertility regulation.

Demographic transition is a global phenomenon; population growth is inevitable in the initial phases of the transition. For India the current phase of the demographic transition is both a challenge and an opportunity. The challenge is to ensure human development and optimum utilisation of human resources. The opportunity is to utilise available human resources to achieve rapid economic development and improvement in quality of life. Over the last five decades the country has built up a massive healthcare infrastructure for delivery of FW services to the population in the Govt, private and voluntary sectors. The RCH programme envisages wider range of services and improvement in quality of services provided. There is universal awareness about the need for these services. In the next two decades the population growth will be mainly among the young adults who will be more literate, aware and likely to make optimal use of available facilities. India is currently in the phase of demographic transition during which where it will be possible for the country to accelerate the pace of decline in fertility. If the population now has ready access to good quality services at affordable cost, it will be possible for them to meet all their needs, achieve the desired family size and enable the country to achieve population stabilisation rapidly.

Demographic transition does not occur in isolation. Simultaneously, there are ongoing economic transition, education transition, health transition and reproductive health transition. All these affect human development. If there is synergy between these transitions; the transitions can be completed rapidly; there will be substantial improvement in human development and economic development. The focus of planners, programme implementers and the people during the next two decades will have to be in achieving the synergy so that India can achieve rapid population stabilization, improvement in economic social and human development.

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## 8. 2. AGRICULTURE

“Agriculture is the backbone of the Indian Economy”- said Mahatma Gandhi. India has an agriculture-based economy. 43% of India’s territory remains employed in agricultural activities. Globalization and agriculture in India are both intricately connected to each other as agriculture in India prevails over all other sectors because it plays a pivotal role in the socio-cultural life of its people.

Hence, it is agriculture that is the most influential field as compared to others in India. It is also most affected due to globalization in terms of the export and import of agricultural commodities - a major source of income in India. Agriculture along with other related fields like forestry and logging provides employment to 60% of India’s population. Agriculture also accounts for 8.56% of the country’s total exports. According to a 2005 survey, agriculture accounts for 18.6% of the GDP (Gross Domestic Product).

Most of the Indian population lives in its villages and thus the contribution of agriculture to Indian economy becomes very important. Majority of Indians depend on agriculture for their livelihood. Sustainable agriculture in India is in the process of acquiring importance. Sustainable agriculture is defined by the presence of eco -friendly agricultural practices. It pays attention to conservation of the environment as much as to crop yield. Hence equipment, fertilizers, pesticides, etc used are monitored.

### PROBLEMS

Slow agricultural growth is a concern for policymakers as some two-thirds of India’s people depend on rural employment for a living. Current agricultural practices are neither economically nor environmentally sustainable and India's yields for many agricultural commodities are low. Poorly maintained irrigation systems and almost universal lack of good extension services are among the factors responsible. Farmers' access to markets is hampered by poor roads, rudimentary market infrastructure, and excessive regulation.

—World Bank: "India Country Overview 2008"

### The low productivity in India is a result of the following factors:

According to World Bank, Indian Branch:

- “Priorities for Agriculture and Rural Development”, India's large agricultural subsidies are hampering productivity-enhancing investment.
- Overregulation of agriculture has increased costs, price risks and uncertainty. Government intervenes in labour, land, and credit markets.
- India has inadequate infrastructure and services.
- The allocation of water is inefficient, unsustainable and inequitable. The irrigation infrastructure is deteriorating. The overuse of water is currently being covered by over pumping aquifers, but as these are falling by foot of groundwater each year, this is a limited resource.
- Illiteracy, general socio-economic backwardness, slow progress in implementing land reforms and inadequate or inefficient finance and marketing services for farm produce.
- Inconsistent government policy is another issue. Agricultural subsidies and taxes often changed without notice for short term political ends.
- The average size of land holdings is very small (less than 20,000 m<sup>2</sup>) and is subject to fragmentation due to land ceiling acts, and in some cases, family disputes. Such small holdings are often over-manned, resulting in disguised unemployment and low productivity of labour.
- Adoption of modern agricultural practices and use of technology is inadequate, hampered by ignorance of such practices, high costs and impracticality in the case of small land holdings.

- Irrigation facilities are inadequate, as revealed by the fact that only 52.6% of the land was irrigated in 2003–04, which result in farmers still being dependent on rainfall, specifically the Monsoon season. A good monsoon results in a robust growth for the economy as a whole, while a poor monsoon leads to a sluggish growth.
- Farm credit is regulated by NABARD, which is the statutory apex agent for rural development in the subcontinent.
- At the same time over pumping made possible by subsidized electric power is leading to an alarming drop in aquifer levels.

## AGRICULTURE - INDIA

Agricultural development is vital in a developing country since a vast majority of the workforce derive their livelihood from it. During the Tenth Five Year Plan, the gross domestic product (GDP) emanating from agriculture and allied activities in India registered a growth rate of 2.3 percent, which was lower than the growth rate observed in the industrial sector (8.0 percent) and services sector (9.5 percent). Growth in agriculture and allied activities averaged 2.3 percent during the 10th Plan period, lower than 3.2 percent during the 1990s and 4.4 percent during the 1980s. Hence, it is felt that a big push to the '*agricultural sector*' is urgently required via the second green revolution, by implementing the National Agricultural Innovation Project.

India is the largest producer in the world of fresh fruit, anise, fennel, badian, coriander, tropical fresh fruit, jute, pigeon peas, pulses, spices, millets, castor oil seed, sesame seeds, safflower seeds, lemons, limes, cow's milk, dry chillies and peppers, chick peas, cashew nuts, okra, ginger, turmeric guavas, mangoes, goat milk and buffalo milk and meat. India is also the largest producer of millets like Jowar Bajra and Ragi. It is second only to China in the production of rice. India is the 6th largest coffee producer in the world It also has the world's largest cattle population (281 million). It is the second largest producer of cashews, cabbages, cotton seed and lint, fresh vegetables, garlic, egg plant, goat meat, silk, nutmeg, mace, cardamom, onions, wheat, rice, sugarcane, lentil, dry beans, groundnut, tea, green peas, cauliflowers, potatoes, pumpkins, squashes, gourds and inland fish. It is the third largest producer of tobacco, sorghum, rapeseed, coconuts, hen's eggs and tomatoes. India accounts for 10% of the world fruit production with first rank in the production of mangoes, papaya, banana and sapota.

### ***Policies and programmes for agriculture***

Some of the institutions/ authorities that have been newly created are: National Rainfed Area Authority, Mini Mission-II of Jute Technology Mission, scheme on micro-irrigation, National Bamboo Mission, Forecasting Agricultural Output Using Space, Agri-Meteorology and Land-based Observation (FASAL), Terminal Markets under the National Horticultural Mission, National Bee Board Rastriya Krishi Vikas Yojana, and Central Institute of Horticulture (Nagaland). The National Water Development Project in rain fed areas (NWDPRRA) is being implemented in 28 states and 2 Union Territories. Under the Watershed Development Fund, the Department of Agriculture and Co-operation and NABARD have contributed equally to establish a corpus fund of the amount INR 200 crore at NABARD.

The Approach Paper to the Eleventh Five Year Plan has undertaken the following strategies to raise agricultural output: (a) doubling the rate of growth of irrigated area; (b) improving water management, rainwater harvesting and watershed development; (c) reclaiming degraded land and focusing on soil quality; (d) bridging the knowledge gap through effective extension; (e) diversifying into high-valued outputs, fruits, vegetables, flowers, herbs and spices, medicinal plants, bamboo, bio-diesel, but with adequate measures to ensure food security; (f) promoting animal husbandry and fishery; (g) providing easy access to credit at affordable rates; (g) improving the incentive structure and functioning of markets; and (h) refocusing on land reforms issues. Emphasis has also been promised on research and development (R&D) in agriculture. A National Strategic Research Fund has been created within the Agricultural Research System (NARS) so as to see the adverse impact of climate change. Various schemes that have been implemented under Technology Mission on Oilseeds and Pulses (TMOP) are: (a)

Oilseeds Production Programme (OPP); (b) National Pulses Development Project (NPDP); (c) Accelerated Maize Development Programme (AMDP); (d) Post Harvest Technology (PHT); (e) Oil Palm Development Programme (OPDP); (f) National Oilseeds and Vegetable Oils Development (NOVOD) Board; and (g) UNDP Sub-Programme on Maize based Cropping System for Food Security in India. Under the resolution on agriculture undertaken by the National Development Council (NDC), there have been plans to amend the Agricultural Produce Marketing Committee (APMC) Act apart from more allocation of resources for the Accelerated Irrigation Benefit Programme (AIBP).

There have been talk on the use of bio- fertilizers, organic manure and micro-nutrients, to enhance soil health. The Government of India is also promoting soil test-based, balanced and judicious use of chemical fertilisers, in conjunction with bio- fertilisers and organic manures to maintain soil health and its productivity, under the programme of Integrated Nutrient Management through various schemes. The NDC has also given a thought on launching a Food Security Mission. Although the Government of India has undertaken several steps to ensure agricultural development, but it is essential to cross-check how the projects are running at the ground-level. The Kisan Credit Card Scheme has been extended to the borrowers of long- term cooperative credit. A rehabilitation package of INR 16,978.69 crore has been announced for 31 suicide-prone districts in the states of Andhra Pradesh, Maharashtra, Karnataka and Kerala (India).

India hopes that the policies and programmes that have been undertaken are going to produce the desired results. But the issues related to the trade-related distortions, access to international markets, and tariff and non-tariff related barriers need to be mitigated at the right forum with the right kind of spirit. India should also ensure right to food, apart from striving for agricultural development.

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### **8.3. FOOD SECURITY**

Food security refers to the availability of food and one's access to it. A household is considered food-secure when its occupants do not live in hunger or fear of starvation. According to the World Resources Institute, global per capita food production has been increasing substantially for the past several decades. Any disruption to farm supplies may precipitate a uniquely urban food crisis in a relatively short time. Food security is a complex topic, standing at the intersection of many disciplines.

Two commonly used definitions of food security come from the UN's Food and Agriculture Organization (FAO) and the United States Department of Agriculture (USDA):

1. Food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.
2. Food security for a household means access by all members at all times to enough food for an active, healthy life. Food security includes at a minimum (1) the ready availability of nutritionally adequate and safe foods, and (2) an assured ability to acquire acceptable foods in socially acceptable ways (that is, without resorting to emergency food supplies, scavenging, stealing, or other coping strategies). (USDA)

The stages of food insecurity range from food secure situations to full-scale famine. "Famine and hunger are both rooted in food insecurity. Food insecurity can be categorized as either chronic or transitory. Chronic food insecurity translates into a high degree of vulnerability to famine and hunger; ensuring food security presupposes elimination of that vulnerability. [Chronic] hunger is not famine. It is similar to under-nourishment and is related to poverty, existing mainly in poor countries."

In developing countries, often 70% or more of the population lives in rural areas. In that context, agricultural development among smallholder farmers and landless people provides a livelihood for people allowing them the opportunity to stay in their communities. In many areas of the world, land ownership is not available, thus, people who want or need to farm to make a living have little incentive to improve the land.

Food security has been a major developmental objective in India since the beginning of planning. India achieved self-sufficiency in food grains in the 1970's and has sustained it since then. But the achievement of food grain security at the national level did not percolate down to households and the level of chronic food insecurity is still high. Over 225 million Indians remain chronically under nourished.

In recent years, there has been a shift in policy focus towards household level food security and per capita food energy intake is taken as a measure of food security. The government has been implementing a wide range of nutrition intervention programmes for achieving food security at the household and individual levels. The Public Distribution System (PDS) supplies food items, such as food grains and sugar, at administered prices through fair price shops. There have been a range of food-for-work and other wage employment programmes. Another approach adopted by the government is to target women and children directly; this includes mid-day meal programme for school going children and supplementary nutrition programme for children and women.

According to NSS, per capita cereal consumption has been declining since the early 1970's despite a significant rise in per capita cereal production. This can be attributed to changes in consumer tastes, from food to non-food items and, within food group, from coarse to fine cereals. The decline in cereal consumption has been greater in rural areas, where the improvement in rural infrastructure has made other food and non-food items available to rural households.

The reality is that the bottom 30% of the population has not shown any improvement in cereal and calorie intake in the rural and urban areas despite a significant improvement in their real per capita expenditure. Their per capita calorie intake (1600 to 1700) falls short of the required norm. Intra-family food distribution is also inequitable in the rural households and the pre-school children get much less than their physiological needs as compared to adult males and females. Micronutrient deficiency is common among people. Diets of about 80% of the rural population contain less than half of the normal requirement of vitamin-A. This deficiency leads to preventable blindness. Iron deficiency is widely prevalent among pregnant women. This results in a high incidence of low birth weight children, which in turn contributes to malnutrition.

The most important challenge is to increase the energy intake of the bottom 30% of the population and at the same time facilitate diet diversification to meet micronutrient deficiency. The food gap can be met from the existing foodgrain stocks in the medium term and by increasing their purchasing power in the long run through increasing job opportunities. The micronutrient deficiency can be rectified through supplementary nutrition and supply of fortified food. There is also a need to improve the efficiency of the various food schemes initiated by the government and make it more available and free of corruption and urban bias.

### **Food security in India: High prices vs. shortages**

The farm industry in India hasn't changed as quickly as most other industries over the past 20 years; as a result, agriculture's share of India's economy continues to shrink, down to 17.5 percent from almost 30 percent in the 1990s. That's leading to a dangerous either-or scenario: Without enough food to feed the exploding population, it's become a dance between high prices and shortages, leaving many Indians without enough to eat.

Not a lot has changed since the Green Revolution of the 1960s, making it increasingly difficult for farmers to turn a profit. As a result, more and more are leaving farming; a survey by a government body called the National Sample Survey Organization found that 40 percent of Indian farmers would quit farming, if they could. That's a big number for a big country where two out of three live in villages.

"The increase in yields in the past decades have been insignificant. India sorely needs another Green Revolution," says Kushagra Nayan Bajaj, joint managing director of Bajaj Hindusthan, India's top sugar producer, which is importing raw sugar after a drought ravaged the domestic cane crop. Environmental damage wrought by the first revolution degraded soil from pesticides and fertilizers, mismanaged groundwater make it a tougher challenge this time around. In Punjab state, the center and poster child for the first go 'round, groundwater reserves have declined rapidly, and Sardara Singh Johl, an economist and former chairman of India's Commission for Agricultural Costs and Prices, said there would be very little water available for farming in the state. "This could severely compromise the food security of India. Government should realise the gravity of the situation and allocate funds for research to conserve groundwater," he said.

### **Sustainability of Food Security In India**

"Sustainable food security" means enough food for everyone at present plus the ability to provide enough in future as well. This calls for sound policies and investments in natural resources such as land and water, flora and fauna, forests and biodiversity -- the ecological foundations essential for sustainable food security - plus sustainable intensification of crop and animal production. Population pressures and the forces of atmosphere and climate change must also be taken into account.

"Food security has three components," says Prof M S Swaminathan. "The first is food availability, which depends on food production and imports. The second is food access, which depends on purchasing power. The third, food absorption, is a function of safe drinking water, environmental hygiene, primary health care and education."

**Some interesting facts :**

- In some States like Orissa, Himachal Pradesh, Bihar, Karnataka and Tamil Nadu, Net sown area has been declining. In the process prime agricultural land may shift to non-agricultural uses.
- Land degradation has been fairly high in Nagaland, Sikkim and Himachal Pradesh. In some northeastern State, wasteland accounts for 50 per cent of the total geographical areas.
- Overexploitation of groundwater has reached danger levels in Punjab, Haryana and Tamil Nadu.
- Some States (Madhya Pradesh for example) show high poverty levels at present, yet natural resources are sufficient to sustain agriculture in future. In other states (Punjab and Haryana), livelihood access is good at present, but natural resource endowments for future sustainability are below par.
- In States like Bihar, Uttar Pradesh and Madhya Pradesh, there is an urgent need to diversify livelihoods to non-crop and non- agricultural enterprises.
- Every State will have to chalk out its own strategies for sustainable livelihood to move on the path of sustainable food production and sustainable livelihood security.

Arunachal Pradesh, Madhya Pradesh and Goa obtain the top three ranks as regards a sustainable food security index. Karnataka, Gujarat and Andhra Pradesh occupy ranks four to six. The path towards sustainable development varies from State to State. States with a strong natural resource base may rank high in sustainability but may not be in a position to produce enough food at present. Removing pressure on land and water and conserving natural resources for sustainable water supply are essential in Tamil Nadu; increasing land productivity, diversifying agriculture, improving infrastructure and providing market linkages are essential in Orissa, and to some extent in Bihar and Uttar Pradesh. In states like Bihar and Uttar Pradesh, population stabilization will ultimately hold the key to sustainable food security.

The food security can be achieved by allowing genetically modified crops, greater investment in irrigation, better economics in farming and greater government attention to agriculture -- all offer short term relief, but, unless more sustainable food systems are introduced, none will succeed in the long term.

There's no doubt that something like a second Green Revolution which has great potential to transform India's food production capacity and bring it up to levels that will sustain the population as it continues to grow. It can then be called as 'Ever Green Revolution'. Unless sustainable methods are employed, we can not have organic agriculture, which feeds the soil and retains more water as crops grow.

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## **9.TRENDS IN INDIAN ECONOMY**

India's economy has made great strides in the years since independence. In 1947 the country was poor and shattered by the violence and economic and physical disruption involved in the partition from Pakistan. The economy had stagnated since the late nineteenth century, and industrial development had been restrained to preserve the area as a market for British manufacturers. In fiscal year (FY--see Glossary) 1950, agriculture, forestry, and fishing accounted for 58.9 percent of the gross domestic product (GDP--see Glossary) and for a much larger proportion of employment. Manufacturing, which was dominated by the jute and cotton textile industries, accounted for only 10.3 percent of GDP at that time.

India's new leaders sought to use the power of the state to direct economic growth and reduce widespread poverty. The public sector came to dominate heavy industry, transportation, and telecommunications. The private sector produced most consumer goods but was controlled directly by a variety of government regulations and financial institutions that provided major financing for large private- sector projects. Government emphasized self-sufficiency rather than foreign trade and imposed strict controls on imports and exports. In the 1950s, there was steady economic growth, but results in the 1960s and 1970s were less encouraging.

Beginning in the late 1970s, successive Indian governments sought to reduce state control of the economy. Progress toward that goal was slow but steady, and many analysts attributed the stronger growth of the 1980s to those efforts. In the late 1980s, however, India relied on foreign borrowing to finance development plans to a greater extent than before. As a result, when the price of oil rose sharply in August 1990, the nation faced a balance of payments crisis. The need for emergency loans led the government to make a greater commitment to economic liberalization than it had up to this time. In the early 1990s, India's postindependence development pattern of strong centralized planning, regulation and control of private enterprise, state ownership of many large units of production, trade protectionism, and strict limits on foreign capital was increasingly questioned not only by policy makers but also by most of the intelligentsia.

As India moved into the mid -1990s, the economic outlook was mixed. Most analysts believed that economic liberalization would continue, although there was disagreement about the speed and scale of the measures that would be implemented. It seemed likely that India would come close to or equal the relatively impressive rate of economic growth attained in the 1980s, but that the poorest sections of the population might not benefit.

At independence the economy was predominantly agrarian. Most of the population was employed in agriculture, and most of those people were very poor, existing by cropping their own small plots or supplying labor to other farms. Landownership, land rental, and sharecropping rights were complex, involving layers of intermediaries (see Land Use, ch. 7). Moreover, the structural economic problems inherited at independence were exacerbated by the costs associated with the partition of British India, which had resulted in about 12 million to 14 million refugees fleeing past each other across the new borders between India and Pakistan (see National Integration, ch. 1). The settlement of refugees was a considerable financial strain. Partition also divided complementary economic zones. Under the British, jute and cotton were grown in the eastern part of Bengal, the area that became East Pakistan (after 1971, Bangladesh), but processing took place mostly in the western part of Bengal, which became the Indian state of West Bengal in 1947. As a result, after independence India had to employ land previously used for food production to cultivate cotton and jute for its mills.

India's leaders--especially the first prime minister, Jawaharlal Nehru, who introduced the five-year plans--agreed that strong economic growth and measures to increase incomes and consumption among the poorest groups were necessary goals for the new nation. Government was assigned an important role in this process, and since 1951 a series of plans have guided the country's economic development. Although there was considerable growth in the 1950s, the

long-term rates of growth were less positive than India's politicians desired and less than those of many other Asian countries. From FY 1951 to FY 1979, the economy grew at an average rate of about 3.1 percent a year in constant prices, or at an annual rate of 1.0 percent per capita. During this period, industry grew at an average rate of 4.5 percent a year, compared with an annual average of 3.0 percent for agriculture. Many factors contributed to the slowdown of the economy after the mid-1960s, but economists differ over the relative importance of those factors. Structural deficiencies, such as the need for institutional changes in agriculture and the inefficiency of much of the industrial sector, also contributed to economic stagnation. Wars with China in 1962 and with Pakistan in 1965 and 1971; a flood of refugees from East Pakistan in 1971; droughts in 1965, 1966, 1971, and 1972; currency devaluation in 1966; and the first world oil crisis, in 1973-74, all jolted the economy.

The rate of growth improved in the 1980s. From FY 1980 to FY 1989, the economy grew at an annual rate of 5.5 percent, or 3.3 percent on a per capita basis. Industry grew at an annual rate of 6.6 percent and agriculture at a rate of 3.6 percent. A high rate of investment was a major factor in improved economic growth. Investment went from about 19 percent of GDP in the early 1970s to nearly 25 percent in the early 1980s. India, however, required a higher rate of investment to attain comparable economic growth than did most other low-income developing countries, indicating a lower rate of return on investments. Part of the adverse Indian experience was explained by investment in large, long-gestating, capital-intensive projects, such as electric power, irrigation, and infrastructure. However, delayed completions, cost overruns, and under-use of capacity were contributing factors.

Private savings financed most of India's investment, but by the mid-1980s further growth in private savings was difficult because they were already at quite a high level. As a result, during the late 1980s India relied increasingly on borrowing from foreign sources. This trend led to a balance of payments crisis in 1990; in order to receive new loans, the government had no choice but to agree to further measures of economic liberalization. This commitment to economic reform was reaffirmed by the government that came to power in June 1991.

India's primary sector, including agriculture, forestry, fishing, mining, and quarrying, accounted for 32.8 percent of GDP in FY 1991. The size of the agricultural sector and its vulnerability to the vagaries of the monsoon cause relatively large fluctuations in the sector's contribution to GDP from one year to another.

In FY 1991, the contribution to GDP of industry, including manufacturing, construction, and utilities, was 27.4 percent; services, including trade, transportation, communications, real estate and finance, and public- and private- sector services, contributed 39.8 percent. The steady increase in the proportion of services in the national economy reflects increased market-determined processes, such as the spread of rural banking, and government activities, such as defense spending.

Despite a sometimes disappointing rate of growth, the Indian economy was transformed between 1947 and the early 1990s. The number of kilowatt -hours of electricity generated, for example, increased more than fiftyfold. Steel production rose from 1.5 million tons a year to 14.7 million tons a year. The country produced space satellites and nuclear-power plants, and its scientists and engineers produced an atomic explosive device. Life expectancy increased from twenty-seven years to fifty- nine years. Although the population increased by 485 million between 1951 and 1991, the availability of food grains per capita rose from 395 grams per day in FY 1950 to 466 grams in FY 1992.

However, considerable dualism remains in the Indian economy. Officials and economists make an important distinction between the formal and informal sectors of the economy. The informal, or unorganized, economy is largely rural and encompasses farming, fishing, forestry, and cottage industries. It also includes petty vendors and some small-scale mechanized industry in both rural and urban areas. The bulk of the population is employed in the informal economy, which contributes more than 50 percent of GDP. The formal economy consists of large units in the modern sector for which statistical data are relatively good. The modern sector

includes large-scale manufacturing and mining, major financial and commercial businesses, and such public-sector enterprises as railroads, telecommunications, utilities, and government itself.

The greatest disappointment of economic development is the failure to reduce more substantially India's widespread poverty. Studies have suggested that income distribution changed little between independence and the early 1990s, although it is possible that the poorer half of the population improved its position slightly. Official estimates of the proportion of the population that lives below the poverty line tend to vary sharply from year to year because adverse economic conditions, especially rises in food prices, are capable of lowering the standard of living of many families who normally live just above the subsistence level. The Indian government's poverty line is based on an income sufficient to ensure access to minimum nutritional standards, and even most persons above the poverty line have low levels of consumption compared with much of the world.

Estimates in the late 1970s put the number of people who lived in poverty at 300 million, or nearly 50 percent of the population at the time. Poverty was reduced during the 1980s, and in FY 1989 it was estimated that about 26 percent of the population, or 220 million people, lived below the poverty line. Slower economic growth and higher inflation in FY 1990 and FY 1991 reversed this trend. In FY 1991, it was estimated that 332 million people, or 38 percent of the population, lived below the poverty line.

Farmers and other rural residents make up the large majority of India's poor. Some own very small amounts of land while others are field hands, seminomadic shepherds, or migrant workers. The urban poor include many construction workers and petty vendors. The bulk of the poor work, but low productivity and intermittent employment keep incomes low. Poverty is most prevalent in the states of Orissa, Bihar, Uttar Pradesh, and Madhya Pradesh, and least prevalent in Haryana, Punjab, Himachal Pradesh, and Jammu and Kashmir.

By the early 1990s, economic changes led to the growth in the number of Indians with significant economic resources. About 10 million Indians are considered upper class, and roughly 300 million are part of the rapidly increasing middle class. Typical middle-class occupations include owning a small business or being a corporate executive, lawyer, physician, white-collar worker, or land-owning farmer. In the 1980s, the growth of the middle class was reflected in the increased consumption of consumer durables, such as televisions, refrigerators, motorcycles, and automobiles. In the early 1990s, domestic and foreign businesses hoped to take advantage of India's economic liberalization to increase the range of consumer products offered to this market.

Housing and the ancillary utilities of sewer and water systems lag considerably behind the population's needs. India's cities have large shantytowns built of scrap or readily available natural materials erected on whatever space is available, including sidewalks. Such dwellings lack piped water, sewerage, and electricity. The government has attempted to build housing facilities and utilities for urban development, but the efforts have fallen far short of demand. Administrative controls and other aspects of government policy have discouraged many private investors from constructing housing units.

### **Liberalization in the Early 1990s**

Increased borrowing from foreign sources in the late 1980s, which helped fuel economic growth, led to pressure on the balance of payments. The problem came to a head in August 1990 when Iraq invaded Kuwait, and the price of oil soon doubled. In addition, many Indian workers resident in Persian Gulf states either lost their jobs or returned home out of fear for their safety, thus reducing the flow of remittances. The direct economic impact of the Persian Gulf conflict was exacerbated by domestic social and political developments. In the early 1990s, there was violence over two domestic issues: the reservation of a proportion of public-sector jobs for members of Scheduled Castes and the Hindu-Muslim conflict at Ayodhya. The central government fell in November 1990 and was succeeded by a minority government. The

cumulative impact of these events shook international confidence in India's economic viability, and the country found it increasingly difficult to borrow internationally. As a result, India made various agreements with the International Monetary Fund and other organizations that included commitments to speed up liberalization.

In the early 1990s, considerable progress was made in loosening government regulations, especially in the area of foreign trade. Many restrictions on private companies were lifted, and new areas were opened to private capital. However, India remains one of the world's most tightly regulated major economies. Many powerful vested interests, including private firms that have benefited from protectionism, labor unions, and much of the bureaucracy, oppose liberalization. There is also considerable concern that liberalization will reinforce class and regional economic disparities.

The balance of payments crisis of 1990 and subsequent policy changes led to a temporary decline in the GDP growth rate, which fell from 6.9 percent in FY 1989 to 4.9 percent in FY 1990 to 1.1 percent in FY 1991. In March 1995, the estimated growth rate for FY 1994 was 5.3 percent. Inflation peaked at 17 percent in FY 1991, fell to 9.5 percent in FY 1993, and then accelerated again, reaching 11 percent in late FY 1994. This increase was attributed to a sharp increase in prices and a shortfall in such critical sectors as sugar, cotton, and oilseeds. Many analysts agree that the poor suffer most from the increased inflation rate and reduced growth rate.

Many early post independence leaders, such as Nehru, were influenced by socialist ideas and advocated government intervention to guide the economy, including state ownership of key industries. The objective was to achieve high and balanced economic development in the general interest while particular programs and measures helped the poor. India's leaders also believed that industrialization was the key to economic development. This belief was all the more convincing in India because of the country's large size, substantial natural resources, and desire to develop its own defense industries.

The Industrial Policy Resolution of 1948 gave government a monopoly in armaments, atomic energy, and railroads, and exclusive rights to develop minerals, the iron and steel industries, aircraft manufacturing, shipbuilding, and manufacturing of telephone and telegraph equipment. Private companies operating in those fields were guaranteed at least ten years more of ownership before the government could take them over. Some still operate as private companies.

The Industrial Policy Resolution of 1956 greatly extended the preserve of government. There were seventeen industries exclusively in the public sector. The government took the lead in another twelve industries, but private companies could also engage in production. This resolution covered industries producing capital and intermediate goods. As a result, the private sector was relegated primarily to production of consumer goods. The public sector also expanded into more services. In 1956 the life insurance business was nationalized, and in 1973 the general insurance business was also acquired by the public sector. Most large commercial banks were nationalized in 1969. Over the years, the central and state governments formed agencies, and companies engaged in finance, trading, mineral exploitation, manufacturing, utilities, and transportation. The public sector was extensive and influential throughout the economy, although the value of its assets was small relative to the private sector.

Controls over prices, production, and the use of foreign exchange, which were imposed by the British during World War II, were reinstated soon after independence. The Industries (Development and Regulation) Act of 1951 and the Essential Commodities Act of 1955 (with subsequent additions) provided the legal framework for the government to extend price controls that eventually included steel, cement, drugs, nonferrous metals, chemicals, fertilizer, coal, automobiles, tires and tubes, cotton textiles, food grains, bread, butter, vegetable oils, and other commodities. By the late 1950s, controls were pervasive, regulating investment in industry, prices of many commodities, imports and exports, and the flow of foreign exchange.

Export growth was long ignored. The Government's extensive controls and pervasive licensing requirements created imbalances and structural problems in many parts of the economy. Controls were usually imposed to correct specific problems but often without adequate consideration of their effect on other parts of the economy. For example, the government set low prices for basic foods, transportation, and other commodities and services, a policy designed to protect the living standards of the poor. However, the policy proved counterproductive when the government also limited the output of needed goods and services. Price ceilings were implemented during shortages, but the ceiling frequently contributed to black markets in those commodities and to tax evasion by black-market participants. Import controls and tariff policy stimulated local manufacturers toward production of import-substitution goods, but under conditions devoid of sufficient competition or pressure to be efficient.

Private trading and industrial conglomerates (the so-called large houses) existed under the British and continued after independence. The government viewed the conglomerates with suspicion, believing that they often manipulated markets and prices for their own profit. After independence the government instituted licensing controls on new businesses, especially in manufacturing, and on expanding capacity in existing businesses. In the 1960s, when shortages of goods were extensive, considerable criticism was leveled at traders for manipulating markets and prices. The result was the 1970 Monopolies and Restrictive Practices Act, which was designed to provide the government with additional information on the structure and investments of all firms that had assets of more than Rs200 million, to strengthen the licensing system in order to decrease the concentration of private economic power, and to place restraints on certain business practices considered contrary to the public interest. The act emphasized the government's aversion to large companies in the private sector, but critics contended that the act resulted from political motives and not from a strong case against big firms. The act and subsequent enforcement restrained private investment.

The extensive controls, the large public sector, and the many government programs contributed to a substantial growth in the administrative structure of government. The government also sought to take on many of the unemployed. The result was a swollen, inefficient bureaucracy that took inordinate amounts of time to process applications and forms. Business leaders complained that they spent more time getting government approval than running their companies. Many observers also reported extensive corruption in the huge bureaucracy. One consequence was the development of a large underground economy in small-scale enterprises and the services sector.

India's current economic reforms began in 1985 when the government abolished some of its licensing regulations and other competition-inhibiting controls. Since 1991 more "new economic policies" or reforms have been introduced. Reforms include currency devaluations and making currency partially convertible, reduced quantitative restrictions on imports, reduced import duties on capital goods, decreases in subsidies, liberalized interest rates, abolition of licenses for most industries, the sale of shares in selected public enterprises, and tax reforms. Although many observers welcomed these changes and attributed the faster growth rate of the economy in the late 1980s to them, others feared that these changes would create more problems than they solved. The growing dependence of the economy on imports, greater vulnerability of its balance of payments, reliance on debt, and the consequent susceptibility to outside pressures on economic policy directions caused concern. The increase in consumerism and the display of conspicuous wealth by the elite exacerbated these fears.

The pace of liberalization increased after 1991. By the mid-1990s, the number of sectors reserved for public ownership was slashed, and private-sector investment was encouraged in areas such as energy, steel, oil refining and exploration, road building, air transportation, and telecommunications. An area still closed to the private sector in the mid-1990s was defense industry. Foreign-exchange regulations were liberalized, foreign investment was encouraged, and import regulations were simplified. The average import-weighted tariff was reduced from 87 percent in FY 1991 to 33 percent in FY 1994. Despite these changes, the economy remained highly regulated by international standards. The import of many consumer goods was banned,



and the production of 838 items, mostly consumer goods, was reserved for companies with total investment of less than Rs6 million. Although the government had sold off minority stakes in public-sector companies, it had not in 1995 given up control of any enterprises, nor had any of the loss-making public companies been closed down. Moreover, although import duties had been lowered substantially, they were still high compared to most other countries.

Political successes in the mid -1990s by nationalist-oriented political parties led to some backlash against foreign investment in some parts of India. In early 1995, official charges of serving adulterated products were made against a KFC outlet in Bangalore, and Pepsi-Cola products were smashed and advertisements defaced in New Delhi. The most serious backlash occurred in Maharashtra in August 1995 when the Bharatiya Janata Party (BJP--Indian People's Party)-led state government halted construction of a US\$2.8 million 2,015-megawatt gas-fired electric-power plant being built near Bombay (Mumbai in the Marathi language) by another United States company, Enron Corporation.

The government has initiated, sustained, and refined many programs since independence to help the poor attain self sufficiency in food production. Probably the most important initiative has been the supply of basic commodities, particularly food at controlled prices, available throughout the country. The poor spend about 80 percent of their income on food while the rest of the population spends more than 60 percent. The price of food is a major determinant of wage scales. Often when food prices rise sharply, rioting and looting follow. Until the late 1970s, the government frequently had difficulty obtaining adequate grain supplies in years of poor harvests. During those times, states with surpluses of grain were cordoned off to force partial sales to public agencies and to keep private traders from shipping grain to deficit areas to secure very high prices; state governments in surplus -grain areas were often less than cooperative. After the late 1970s, the central government, by holding reserve stocks and importing grain adequately and early, maintained sufficient supplies to meet the increased demand during drought years. It also provided more remunerative prices to farmers.

In rural areas, the government has undertaken programs to mitigate the worst effects of adverse monsoon rainfall, which affects not only farmers but village artisans and traders when the price of grain rises. The government has supplied water by financing well digging and, since the early 1980s, by power-assisted well drilling; rescinded land taxes for drought areas; tried to maintain stable food prices; and provided food through a food -for-work program. The actual work accomplished through food -for-work programs is often a secondary consideration, but useful projects sometimes result. Employment is offered at a low daily wage, usually paid in grain, the rationale being that only the truly needy will take jobs at such low pay.

In the 1980s and early 1990s, Indian government programs attempted to provide basic needs at stable, low prices; to increase income through pricing and regulations, such as supplying water from irrigation works, fertilizer, and other inputs; to foster location of industry in backward areas; to increase access to basic social services, such as education, health, and potable water supply; and to help needy groups and deprived areas. The total money spent on such programs for the poor was not discernible from the budget data, but probably exceeded 10 percent of planned budget outlays.

India has had a number of antipoverty programs since the early 1960s. These include, among others, the National Rural Employment Programme and the Rural Landless Employment Guarantee Programme. The National Rural Employment Programme evolved in FY 1980 from the earlier Food for Work Programme to use unemployed and underemployed workers to build productive community assets. The Rural Landless Employment Guarantee Programme was instituted in FY 1983 to address the plight of the hard -core rural poor by expanding employment opportunities and building the rural infrastructure as a means of encouraging rapid economic growth. There were many problems with the implementation of these and otherschemes, but observers credit them with helping reduce poverty. To improve the effectiveness of the National Rural Employment Programme, in 1989 it was combined with the Rural Landless Employment Guarantee Programme and renamed Jawahar Rozgar Yojana, or Jawahar Employment Plan.

State governments are important participants in antipoverty programs. The constitution assigns responsibility to the states in a number of matters, including ownership, redistribution, improvement, and taxation of land. State governments implement most central government programs concerned with land reform and the situation of small landless farmers. The central government tries to establish programs and norms among the states and union territories, but implementation has often remained at the lower bureaucratic levels. In some matters concerning subsoil rights and irrigation projects, the Central Government exerts political and financial leverage to obtain its objectives, but the states sometimes modify or retard the impact of Central Government policies and programs.

### **Development Planning**

Planning in India dates back to the 1930s. Even before independence, the colonial government had established a planning board that lasted from 1944 to 1946. Private industrialists and economists published three development plans in 1944. India's leaders adopted the principle of formal economic planning soon after independence as an effective way to intervene in the economy to foster growth and social justice.

The Planning Commission was established in 1950. Responsible only to the prime minister, the commission is independent of the cabinet. The prime minister is chairperson of the commission, and the minister of state with independent charge for planning and program implementation serves as deputy chairperson. A staff drafts national plans under the guidance of the commission; draft plans are presented for approval to the National Development Council, which consists of the Planning Commission and the chief ministers of the states. The council can make changes in the draft plan. After council approval, the draft is presented to the cabinet and subsequently to Parliament, whose approval makes the plan an operating document for central and state governments.

The First Five-Year Plan (FY 1951-55) attempted to stimulate balanced economic development while correcting imbalances caused by World War II and partition. Agriculture, including projects that combined irrigation and power generation, received priority. By contrast, the Second Five-Year Plan (FY 1956-60) emphasized industrialization, particularly basic, heavy industries in the public sector, and improvement of the economic infrastructure. The plan also stressed social goals, such as more equal distribution of income and extension of the benefits of economic development to the large number of disadvantaged people. The Third Five-Year Plan (FY 1961-65) aimed at a substantial rise in national and per capita income while expanding the industrial base and rectifying the neglect of agriculture in the previous plan. The third plan called for national income to grow at a rate of more than 5 percent a year; self-sufficiency in food grains was anticipated in the mid-1960s.

Economic difficulties disrupted the planning process in the mid-1960s. In 1962, when a brief war was fought with China on the Himalayan frontier, agricultural output was stagnating, industrial production was considerably below expectations, and the economy was growing at about half of the planned rate. Defense expenditures increased sharply, and the increased foreign aid needed to maintain development expenditures eventually provided 28 percent of public development spending. Midway through the third plan, it was clear that its goals could not be achieved. Food prices rose in 1963, causing rioting and looting of grain warehouses in 1964. War with Pakistan in 1965 sharply reduced the foreign aid available. Successive severe droughts in 1965 and 1966 further disrupted the economy and planning. Three annual plans guided development between FY 1966 and FY 1968 while plan policies and strategies were reevaluated. Immediate attention centered on increasing agricultural growth, stimulating exports, and searching for efficient uses of industrial assets. Agriculture was to be expanded, largely through the supply of inputs to take advantage of new high-yield seeds becoming available for food grains. The rupee was substantially devalued in 1966, and export incentives were adjusted to promote exports. Controls affecting industry were simplified, and greater reliance was placed on the price mechanism to achieve industrial efficiency.

The Fourth Five-Year Plan (FY 1969-73) called for a 24 percent increase over the third plan in real terms of public development expenditures. The public sector accounted for 60 percent of plan expenditures, and foreign aid contributed 13 percent of plan financing. Agriculture, including irrigation, received 23 percent of public outlays; the rest was mostly spent on electric power, industry, and transportation. Although the plan projected national income growth at 5.7 percent a year, the realized rate was only 3.3 percent.

The Fifth Five-Year Plan (FY 1974-78) was drafted in late 1973 when crude oil prices were rising rapidly; the rising prices quickly forced a series of revisions. The plan was subsequently approved in late 1976 but was terminated at the end of FY 1977 because a new government wanted different priorities and programs. The fifth plan was in effect only one year, although it provided some guidance to investments throughout the five-year period. The economy operated under annual plans in FY 1978 and FY 1979.

The Sixth Five-Year Plan (FY 1980-84) was intended to be flexible and was based on the principle of annual "rolling" plans. It called for development expenditures of nearly Rs1.9 trillion (in FY 1979 prices), of which 90 % would be financed from domestic sources, 57 % of which would come from the public sector. Public-sector development spending would be concentrated in energy (29%); agriculture and irrigation (24%); industry including mining (16%); transportation (16%); and social services (14%). In practice, slightly more was spent on social services at the expense of transportation and energy. The plan called for GDP growth to increase by 5.1 % a year, a target that was surpassed by 0.3%. A major objective of the plan was to increase employment, especially in rural areas, in order to reduce the level of poverty. Poor people were given cows, bullock carts, and handlooms; however, subsequent studies indicated that the income of only about 10 percent of the poor rose above the poverty level.

The Seventh Five-Year Plan (FY 1985-89) envisioned a greater emphasis on the allocation of resources to energy and social spending at the expense of industry and agriculture. In practice, the main increase was in transportation and communications, which took up 17 % of public-sector expenditure during this period. Total spending was targeted at nearly Rs3.9 trillion, of which 94 percent would be financed from domestic resources, including 48 % from the public sector. The planners assumed that public savings would increase and help finance government spending. In practice that increase did not occur; instead, the government relied on foreign borrowing for a greater share of resources than expected.

The schedule for the Eighth Five -Year Plan (FY 1992-96) was affected by changes of government and by growing uncertainty over what role planning could usefully perform in a more liberal economy. Two annual plans were in effect in FY 1990 and FY 1991. The eighth plan was finally launched in April 1992 and emphasized market-based policy reform rather than quantitative targets. Total spending was planned at Rs8.7 trillion, of which 94 percent would be financed from domestic resources, 45 percent of which would come from the public sector. The eighth plan included three general goals. First, it sought to cut back the public sector by selling off failing and inessential industries while encouraging private investment in such sectors as power, steel, and transport. Second, it proposed that agriculture and rural development have priority. Third, it sought to renew the assault on illiteracy and improve other aspects of social infrastructure, such as the provision of fresh drinking water.

Government documents issued in 1992 indicated that GDP growth was expected to increase from around 5 % a year during the seventh plan to 5.6 % a year during the eighth plan. However, in 1994 economists expected annual growth to be around 4 % during the period of the eighth plan.

Four decades of planning show that India's economy, a mix of public and private enterprise, is too large and diverse to be wholly predictable or responsive to directions of the planning authorities. Actual results usually differ in important respects from plan targets. Major shortcomings include insufficient improvement in income distribution and alleviation of poverty, delayed completions and cost overruns on many public-sector projects, and far too small a

return on many public-sector investments. Even though the plans have turned out to be less effective than expected, they help guide investment priorities, policy recommendations, and financial mobilization.

## Finance

The early governments after independence operated with only modest budget deficits, but in the 1970s and 1980s the amount of the budget deficit as a proportion of GDP increased gradually, reaching 8.4 percent in FY 1990. Following economic reforms, the deficit declined to 6.7 percent by FY 1994. More than 80 percent of the public debt was financed from domestic sources, but the proportion of foreign debt rose steadily in the late 1980s. However, although foreign aid to India was substantial, it was much lower than most other developing countries when calculated on a per capita basis. Banking and credit were dominated by government-controlled institutions, but the importance of the private sector in financial services was increasing slowly.

## Budget

India's public finance system follows the British pattern. The constitution establishes the supremacy of the bicameral Parliament--specifically the Lok Sabha (House of the People)--in financial matters. No central government taxes are levied and no government expenditure from public funds disbursed without an act of Parliament, which also scrutinizes and audits all government accounts to ensure that expenditures are legally authorized and properly spent. Proposals for taxation or expenditures, however, may be initiated only within the Council of Ministers--specifically by the minister of finance. The minister of finance is required to submit to Parliament, usually on the last day of February, a financial statement detailing the estimated receipts and expenditures of the central government for the forthcoming fiscal year and a financial review of the current fiscal year.

The Lok Sabha has one month to review and modify the government's budget proposals. If by April 1, the beginning of the fiscal year, the parliamentary discussion of the budget has not been completed, the budget as proposed by the minister of finance goes into effect, subject to retroactive modifications after the parliamentary review. On completion of its budget discussions, the Lok Sabha passes the annual appropriations act, authorizing the executive to spend money, and the finance act, authorizing the executive to impose and collect taxes. Supplemental requests for funds are presented during the course of the fiscal year to cover emergencies, such as war or other catastrophes. The bills are forwarded to the Rajya Sabha (Council of States--the upper house of Parliament) for comment. The Lok Sabha, however, is not bound by the comments, and the Rajya Sabha cannot delay passage of money bills. When signed by the president, the bills become law. The Lok Sabha cannot increase the request for funds submitted by the executive, nor can it authorize new expenditures. Taxes passed by Parliament may be retroactive.

Each state government maintains its own budget, prepared by the state's minister of finance in consultation with appropriate officials of the central government. Primary control over state finances rests with the state legislature in the same manner as at the central government level. State finances are supervised by the central government, however, through the comptroller and the auditor general; the latter reviews state government accounts annually and reports the findings to the appropriate state governor for submission to the state's legislature. The central and state budgets consist of a budget for current expenditures, known as the budget on revenue account, and a capital budget for economic and social development expenditures.

The national railroad (Indian Railways), the largest public-sector enterprise, and the Department of Posts and Telegraph have their own budgets, funds, and accounts (see Railroads; Telecommunications, this ch.). The appropriations and disbursements under their budgets are subject to the same form of parliamentary and audit control as other government revenues and expenditures. Dividends accrue to the central government, and deficits are

subsidized by it, a pattern that holds true also, directly or indirectly, for other government enterprises.

During the eighth plan, the states were expected to spend nearly Rs1.9 trillion, or 42.9 percent of the public outlay. Because of its greater revenue sources, the central government shared with the states its receipts from personal income taxes and certain excise taxes. It also collected other minor taxes, the total proceeds of which were transferred to the states. The division of the shared taxes is determined by financial commissions established by the president, usually at five-year intervals. In the early 1990s, the states received 75 % of the revenue collected from income taxes and around 43 % of the excise taxes. The central government also provided the states with grants to meet their commitments. In FY 1991, these grants and the states' share of taxes collected by the central government amounted to 40.9 % of the total revenue of state governments.

The states' share of total public revenue collected declined from 48 percent in FY 1955 to about 42 percent in the late 1970s, and to about 33 percent in the early 1990s. An important cause of the decline was the diminished importance of the land revenue tax, which traditionally had been the main direct tax on agriculture. This tax declined from 8 percent of all state and central tax revenues in FY 1950 to less than 1 percent in the 1980s and early 1990s. The states have jurisdiction over taxes levied on land and agricultural income, and vested interests exerted pressure on the states not to raise agricultural taxation. As a result, in the 1980s and early 1990s agriculture largely escaped significant taxation, although there has long been nationwide discussion about increasing land taxes or instituting some sort of tax on incomes of the richer portion of the farm community. The share of direct taxes in GDP increased from 2.1 % in FY 1991 to 2.8 % in FY 1994.

Since independence government has favored more politically palatable indirect taxes-- customs and excise duties-- over direct taxes. In the 1980s and early 1990s, indirect taxes accounted for around 75 % of all tax revenue collected by the central government. State governments relied heavily on sales taxes. Overall, indirect taxes accounted for 84.1 percent of all government tax revenues in FY 1990. Total government tax revenues amounted to 17.1 percent of GDP in that year, up from 9.0 % in FY 1960, 11.5 % in FY 1970, and 14.9 percent in FY 1980. In FY 1990, the share of the public sector in GDP was 26.4 percent. In terms of rupees (in current prices), total government income rose from Rs259.8 billion in FY 1981 to Rs1.3 trillion in FY 1992.

Comprehensive tax reforms were implemented with the FY 1985 budget. Corporate tax was cut, income taxes simplified and lowered for high-income groups, and wealth taxes reduced. Tax receipts in FY 1985 rose by 20 percent over FY 1984 as a result of tightened enforcement, and taxpayers responded to lower taxes with greater compliance. In FY 1986, another major change was made with the launching of a long-term program of tax reform designed to eliminate annual changes, which had produced uncertainty. However, in FY 1987, when the monsoon failed, the government raised taxes on higher income groups. The emergency budget of FY 1991, designed to cope with the nation's 1990 balance of payments crisis, increased indirect and corporate taxes, but the budgets for FY 1992 and FY 1993 reflected the policy of economic liberalization. They reduced and simplified direct taxes, removed the wealth tax from financial investments, and indexed the capital gains tax. The highest marginal rate of personal income tax was 42.5 percent in FY 1992.

Historically, the Indian government has pursued a cautious policy with regard to financing budgets, allowing only small amounts of deficit spending. Budget deficits increased in the late 1980s, and the necessity of financing these deficits from foreign borrowing contributed to the 1990 balance of payments crisis. The central government budget deficit reached 8.4 percent of GDP in FY 1990, up from 2.6 percent in FY 1970, 5.9 percent in FY 1980, and 7.8 percent in FY 1989. The deficit was cut to 5.9 percent in FY 1991 and 5.2 percent in FY 1992, but widened to 7.4 percent in FY 1993. It was expected to recede to 6.2 percent in FY 1995.

The central government's budget deficits during the 1980s increased the total public debt rapidly until in FY 1991 it stood at Rs3.9 trillion. The bulk of this debt was owed to citizens and domestic institutions and firms, particularly the central bank. Readers of Indian monetary statistics should be alert to the use of the terms *lakh* and *crore*, which are used to express higher numbers.

### Monetary Process

The basic elements of the financial system were established during British rule (1757-1947). The national currency, the rupee, had long been used domestically before independence and even circulated abroad, for example, in the Persian Gulf region. Foreign banks, mainly British and including some from such other parts of the empire as Hong Kong, provided banking and other services. The Reserve Bank of India was formed in 1935 as a private bank, but it also carried out some central bank functions. This colonial banking system, however, was geared to foreign trade and short-term loans. Banking was concentrated in the major port cities.

The Reserve Bank was nationalized on January 1, 1949, and given broader powers. It was the bank of issue for all rupee notes higher than the one-rupee denomination; the agent of the Ministry of Finance in controlling foreign exchange; and the banker to the central and state governments, commercial banks, state cooperative banks, and other financial institutions. The Reserve Bank formulated and administered monetary policy to promote stable prices and higher production. It was given increasing responsibilities for the development of banking and credit and to coordinate banking and credit with the five-year plans. The Reserve Bank had a number of tools with which to affect commercial bank credit.

After independence the government sought to adapt the banking system to promote development and formed a number of specialized institutions to provide credit to industry, agriculture, and small businesses. Banking penetrated rural areas, and agricultural and industrial credit cooperatives were promoted. Deposit insurance and a system of postal savings banks and offices fostered use by small savers. Subsidized credit was provided to particular groups or activities considered in need and which deserved such help. A credit guarantee corporation covered loans by commercial banks to small traders, transport operators, self-employed persons, and other borrowers not otherwise effectively covered by major institutions. The system effectively reached all kinds of savers and provided credit to many different customers.

The government nationalized fourteen major private commercial banks in 1969 and six more in 1980. Nationalization forced commercial banks increasingly to meet the credit requirements of the weaker sections of the nation and to eliminate monopolization by vested interests of large industry, trade, and agriculture.

The banking system expanded rapidly after nationalization. The number of bank branches, for instance, increased from about 7,000 in 1969 to more than 60,000 in 1994, two-thirds of which were in rural areas. The deposit base rose from Rs50 billion in 1969 to around Rs3.5 trillion in 1994. Nevertheless, currency accounted for well over 50 percent of all the money supply circulating among the public. In 1992 the nationalized banks held 93 percent of all deposits.

In FY 1990, twenty-three foreign banks operated in India. The most important were ANZ Grindlays Bank, Citibank, the Hongkong and Shanghai Banking Corporation, and Standard Chartered Bank.

Public-sector banks are required to reserve their lending based on 40 percent of their deposits for priority sectors, especially agriculture, at favorable rates. In addition, 35 percent of their deposits have to be held in liquid form to satisfy statutory liquidity requirements, and 15 percent are needed to meet the cash reserve requirements of the Reserve Bank. Both these percentages represent an easing of earlier requirements, but only a small proportion of public-

sector banks' resources can be deployed freely. In late 1994, the rate of interest on bank loans was deregulated, but deposit rates were still subject to ceilings.

More than 50 percent of bank lending is to the government sector. With the onset of economic reform, India's banks were experiencing major financial losses as the result of low productivity, bad loans, and poor capitalization. Seeking to stabilize the banking industry, the Reserve Bank of India developed new reporting formats and has initiated takeovers and mergers of smaller banks that were operating with financial losses.

India has a rapidly expanding stock market that in 1993 listed around 5,000 companies in fourteen stock exchanges, although only the stocks of about 400 of these companies were actively traded. Financial institutions and government bodies controlled an estimated 45 percent of all listed capital. In April 1992, the Bombay stock market, the nation's largest with a market capital of US\$ 65.1 billion, collapsed, in part because of revelations about financial malpractice amounting to US\$2 billion. Afterward, the Securities and Exchange Board of India, the government's capital market regulator, implemented reforms designed to strengthen investor confidence in the stock market. In the mid -1990s, foreign institutional investors took greater interest than ever before in the Indian stock markets, investing around US\$2 billion in FY 1993 alone.

Despite increases in energy costs and other pressures from the world economy, for most of the period since independence India has not experienced severe inflation. The underlying average rate of inflation, however, has tended to rise. Consumer prices rose at an annual average of 2.1 percent in the 1950s, 6.3 percent in the 1960s, 7.8 percent in the 1970s, and 8.5 percent in the 1980s.

Three factors lay behind India's relative price stability. First, the government has intervened, either directly or indirectly, to keep stable the price of certain staples, including wheat, rice, cloth, and sugar. Second, monetary regulation has restricted growth in the money supply. Third, the overall influence of the labor unions on wages has been small because of the weakness of the unions in India's labor surplus economy.

### **Foreign Economic Relations**

Since independence India has had to draw on foreign investments to finance part of its economic development. Although the government has attempted to be as self-reliant as possible, the absolute amount of foreign aid received has been high. In per capita terms, however, it has been much less than most other developing countries receive.

In August 1958, the World Bank organized the Aid-to-India Consortium, consisting of the World Bank Group and thirteen countries: Austria, Belgium, Britain, Canada, Denmark, the Federal Republic of Germany (at that time, West Germany), France, Italy, Japan, the Netherlands, Norway, Sweden, and the United States. The consortium was formed to coordinate aid and establish priorities among India's major sources of foreign assistance and to simplify India's requests for aid based on its plans for development. Consortium aid was bilateral government-to-government aid from the thirteen consortium countries, and almost all of the aid, including that from the World Bank Group, was for specific projects judged to be valuable contributions to India's development. Of the Rs630 billion in aid authorized by all aid donors between FY 1974 and FY 1989, more than 60 percent was provided by the consortium.

Collectively, the Western nations have donated a substantial amount of aid to India. In 1980 this aid totaled nearly US\$1.5 billion and reached US\$2.5 billion in 1990. In 1992 Western aid reached a new height: US\$ 3.9 billion, which represented 49.8 percent of all Western multilateral and bilateral aid given to South Asian nations that year. The largest bilateral donor is Japan. Between 1984 and 1993, Japan's official development assistance grants to India totaled US\$337 million. Much greater than the outright grants has been Japan's large-scale loan program, which supports economic infrastructure development (power plants and delivery



systems, and road improvement) and environmental protection. Between 1984 and 1993, Japanese loans to India totaled nearly US\$2.4 billion. A ¥125 billion (US\$1.2 billion) loan financing major projects was granted in December 1994, bringing Japanese loans to India since 1957 to a total of ¥1.6 trillion.

United States assistance was significant in the late 1950s and 1960s but, because of strained India-United States relations, fell off sharply in the 1970s (see United States, ch. 9). The United States accounted for 8.6 percent of all of the aid India received from independence through FY 1988, but for only 0.7 percent in FY 1989 and 0.6 percent in FY 1990. United States aid to India remained relatively insignificant in the early 1990s when it took the form of grants for food aid and consultants in a wide variety of economic growth areas, such as computers, steel, telecommunications, and energy production. In FY 1993, actual United States obligations through the United States Agency for International Development totaled almost US\$ 161 million. The bulk of this aid was provided as United States Public Law 480 food aid grants with lesser amounts for development assistance (including energy and the environment, population control, child survival, acquired immune deficiency syndrome (AIDS) prevention, and economic growth) and housing guaranty loans. Germany and Britain also have substantial aid-to-India programs.

Among countries not in the World Bank consortium, the Soviet Union was the most important contributor, providing more than 16 percent of all aid between 1947 and FY 1988. Since 1991, however, Russia has provided little aid.

About 90 percent of all aid received by India has been in the form of loans. Aid disbursements from all providers for FY 1990 were Rs67 billion.

India maintains a small but well-established foreign aid program of its own. In FY 1990, Rs1.6 billion of aid was authorized, of which Rs582 million was for Bhutan and Rs578 million for Nepal. Bangladesh and Vietnam received significant amounts of aid during the 1980s, but, as the result of changing world political and economic conditions, these programs were small by the early 1990s.

## Trade

Despite its size, India plays a relatively small role in the world economy. Until the 1980s, the government did not make exports a priority. In the 1950s and 1960s, Indian officials believed that trade was biased against developing countries and that prospects for exports were severely limited. Therefore, the government aimed at self-sufficiency in most products through import substitution, with exports covering the cost of residual import requirements. Foreign trade was subjected to strict government controls, which consisted of an all-inclusive system of foreign exchange and direct controls over imports and exports. As a result, India's share of world trade shrank from 2.4 percent in FY 1951 to 0.4 percent in FY 1980. Largely because of oil price increases in the 1970s, which contributed to balance of payments difficulties, governments in the 1970s and 1980s placed more emphasis on the promotion of exports. They hoped exports would provide foreign exchange needed for the import of oil and high-technology capital goods. Nevertheless, in the early 1990s India's share of world trade stood at only 0.5 percent. In FY 1992, imports accounted for 9.3 percent of GDP and exports for 7.7 percent of GDP.

Based on trends throughout the 1980s and early 1990s, it appears likely that the balance of trade will remain negative for the foreseeable future (see table 19, Appendix). The 1979 increase in the price of oil produced a Rs58.4 billion deficit in FY 1980, close to 5 percent of GNP. The deficit was barely reduced in nominal rupee terms over the next five years, although it improved considerably as a share of GNP (to 2.3 percent in FY 1984) and in dollar terms (from US\$7.4 billion in FY 1980 to US\$4.3 billion in FY 1984). Pressure on the balance of trade continued through the late 1980s and worsened with the attempted annexation of Kuwait by Iraq in August 1990, which led to a temporary but sharp increase in the price of oil. In FY 1990, the balance of trade deficit reached a record level in rupees (Rs106.5 billion) and in dollars (US\$6 billion). Import controls and devaluation of the rupee allowed the trade deficit to fall to US\$1.6



billion in FY 1991. However, it widened to US\$3.3 billion in FY 1992 before falling to an estimated US\$1 billion in FY 1993. However, one optimistic sign, noted by India's minister of finance in March 1995, was that exports had come to finance 90 percent of India's imports, compared with only 60 percent in the mid-1980s.

No one product dominates India's exports. In FY 1993, handicrafts, gems, and jewelry formed the most important sector and accounted for an estimated US\$4.9 billion (22.2 percent) of exports. Since the early 1990s, India has become the world's largest processor of diamonds (imported in the rough from South Africa and then fabricated into jewelry for export). Along with other semiprecious commodities, such as gold, India's gems and jewelry accounted for 11 percent of its foreign-exchange receipts in early 1993. Textiles and ready-made garments combined were also an important category, accounting for an estimated US\$4.1 billion (18.5 percent) of exports. Other significant exports include industrial machinery, leather products, chemicals and related products.

The dominant imports are petroleum products, valued in FY 1993 at nearly US\$5.8 billion, or 24.7 percent of principal imports, and capital goods, amounting to US\$4.2 billion, or 21.8 percent of principal imports. Other important import categories are chemicals, dyes, plastics, pharmaceuticals, uncut precious stones, iron and steel, fertilizers, nonferrous metals, and pulp paper and paper products.

India's most important trading partners are the United States, Japan, the European Union, and nations belonging to the Organization of the Petroleum Exporting Countries (OPEC). From the 1950s until 1991, India also had close trade links with the Soviet Union, but the breakup of that nation into fifteen independent states led to a decline of trade with the region. In FY 1993, some 30 percent of all imports came from the European Union, 22.4 percent from OPEC nations, 11.7 percent from the United States, and 6.6 percent from Japan. In that same year, 26 percent of all exports were to the European Union, 18 percent to the United States, 7.8 percent to Japan, and 10.7 to the OPEC nations.

Trade and investment with the United States seemed likely to experience an upswing following a January 1995 trade mission from the United States led by Secretary of Commerce Ronald H. Brown and including top executives from twenty-six United States companies. During the weeklong visit, some US\$7 billion in business deals were agreed on, mostly in the areas of infrastructure development, transportation, power and communication systems, food processing, health care services, insurance and financing projects, and automotive catalytic converters. In turn, greater access for Indian goods in United States markets was sought by Indian officials.

In February 1995, in a bid to improve commercial prospects in Southeast Asia, India signed a four-part agreement with the Association of Southeast Asian Nations (ASEAN--see Glossary). The pact covers trade, investment, science and technology, and tourism, and there are prospects for further agreements on joint ventures, banks, and civil aviation.

India's balance of payments position is closely related to the balance of trade. Foreign aid and remittances from Indians employed overseas, however, make the balance of payments more favorable than the balance of trade.

### **Foreign-Exchange System**

The central government has wide powers to control transactions in foreign exchange. Until 1992 all foreign investments and the repatriation of foreign capital required prior approval of the government. The Foreign-Exchange Regulation Act, which governs foreign investment, rarely allowed foreign majority holdings. However, a new foreign investment policy announced in July 1991 prescribed automatic approval for foreign investments in thirty-four industries designated high priority, up to an equity limit of 51 percent. Initially the government required that a company's automatic approval must rely on matching exports and dividend repatriation, but in

May 1992 this requirement was lifted, except for low-priority sectors. In 1994 foreign and nonresident Indian investors were allowed to repatriate not only their profits but also their capital. Indian exporters are also free to use their export earnings as they see fit. However, transfer of capital abroad by Indian nationals is only permitted in special circumstances, such as emigration. Foreign exchange is automatically made available for imports for which import licenses are issued.

Because foreign-exchange transactions are so tightly controlled, Indian authorities are able to manage the exchange rate, and from 1975 to 1992 the rupee was tied to a trade-weighted basket of currencies. In February 1992, the government began moves to make the rupee convertible, and in March 1993 a single floating exchange rate was implemented. In July 1995, Rs31.81 were worth US\$1, compared with Rs7.86 in 1980, Rs12.37 in 1985, and Rs17.50 in 1990.

### **Industrial Growth :**

The strong growth seen till the year 2007-08, lost steam in 2008 -09 with the economy turning extremely weak since November 2008 on account of the turmoil in the global economy.

The adverse developments in the Indian industry made the industry post negative growth numbers in February 2009 of 1.2% compared to a significantly high growth of 9.5% recorded in the same month of previous year. It has been seen that the constituents of overall index, especially production in mining and manufacturing fell by 1.6% and 1.4 % respectively during the month 2009 compared to 7.9% and 9.6% posted a year ago.

Electricity sector was however seen to slow to 0.7% compared to 9.8% previously. Basic and intermediate sectors lurched below 0% level, posting a negative 0.4% and 5.4% respectively while capital goods was seen to sustain its high growth levels achieved last year maintaining above 10% growth in February 2009.

Consumer goods segment were also observed to post negative growth of 3% during February 2009 compared to positive 11.7% in the corresponding month of previous year. The growth in total consumer goods is seen to erode due to fall in the growth of consumer non durables category.

The disaggregated growth data on the manufacturing sector that included seventeen broad industry sectors showed as many as nine industry sectors in February 2009 were in the negative zone. These sectors were food products, cotton textiles, jute, textile products, paper products, leather products, metal products and transport equipments. Six more sectors namely beverages & tobacco, wool, silk and manmade textiles basic chemicals, rubber, non metallic mineral products slowed in growth compared to that of the previous year. Only machinery and equipment and other manufacturing industries exceeded the growth posted a year ago.

### **Core infrastructure industries**

Adverse market conditions seem to impact the six core infrastructure industries as it managed to grow at 2.2% in February 2009 as against the 7.0% growth posted in the previous year.

Growth at disaggregated levels show finished steel production inch up by 3.6% compared to the growth of 2.3% in the previous year. The laggards in the month were cement that grew at 8.3% (12.8%), petroleum refinery by 0.5% (5.8%), coal by 6.0% (11.7%) and power by 0.3%(9.6%). The only sector that posted negative was petroleum.

## **Inflation Trends**

The wholesale price index based inflation cools further. The average inflation for February 2009 calculated on YoY basis was 3.5% and was lower than the 4.5% recorded in the previous year. The wholesale basket shows softening of fuel prices aiding to the gradual decline in inflation numbers. Some of essential items as the primary food articles and items in the manufactured category were found to get dearer causing concern.

## **Monetary Indicators:**

In February 2009, money supply swelled by 15.9% as against 17% in the same month of previous year. Not only was there a significant rise in the borrowings by the Government by 32.0% (3.5%) up to February 2009, the commercial sector rose by 13% however remained lower than the growth of 15.7% in the previous year. Foreign exchange assets of banks eroded to the extent of 1.2% in February 2009 in contrast to the accretion by 34.9% in February 2008.

Non-monetary liabilities have shrunk by 3.8% compared to an increase of 20.6% in the last year. Aggregate deposits swelled by 16.9% compared to 18% in the previous year. Scale up in investments in government and approved securities were to the tune of 22.2% and this was little below 24.8% recorded in the previous year.

## **Stock Market Trends**

Markets showed weakness since last year on account of series of upheavals in the economy. The Sensex continues to drag around 10K levels. The momentary upward thrusts seen in the indices are being countered by the still-negatives (indicators) in the economy. A quick recovery seems less likely in the near term, however it is also felt that with the improvement in the global economic situation stock markets would come back to the levels it has left behind.

## **Fiscal Management**

In the penultimate month of the current fiscal the gross tax collection continues to grow at single digit from double digit growth seen in the previous year. The growth in collection up to February 2009 has been only 7% compared to 26.7% in the previous year. The state of poor tax collection seen in both the direct and indirect taxes was caused due to low profits by corporate sector and indirect tax relief by the government to aid the ailing industry and promote consumer spending. Rate of corporate tax collection has been 17.4% in February 2009 compared to 37.1% registered in the previous year and income tax collected was only 7.5% in February this year in contrast to 42.4% previously. There has been deterioration in the government finances due to large assistance by the government. The revised consolidated deficit of the centre and the states is above 10% as estimated by EAC to the PM

## **Foreign Trade**

Exports fell flat and hence been experiencing negative growth since October 2008. The latest release of commerce ministry on merchandise trade shows exports in February 2009 slide by 21.7%. Imports were also seen to shrink by 23% in February 2009 demonstrating limited consumption in the domestic economy.

## **Capital Inflows**

Total foreign investments have plunged due to the fact that large number of foreign institutional investors chose the exit path mainly to park funds in instruments that are more secured. However, the country continues to attract foreign direct investments and this remain little impacted. The total foreign direct investments up to February 2009 was USD 31 billion compared to USD 25 billion in the same period of previous year

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### **Foreign Exchange Reserves**

Our current forex reserves stand at USD 249 billion and are enough to cover for 9- 10 months of imports. The FII exit from security holdings is seen the main reason for the drain in the forex reserves.

### **Trends in the Exchange Rates**

Pressure on Indian Rupee to weaken further is high due to the fact that FII outflows continue and exports are not likely to recover anytime soon. The Rupee showed gradual weakness against the USD as it progressed from 48 to a \$ to 50 to a \$ during last trading sessions of the month.

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## 10. PUBLIC-PRIVATE PARTNERSHIP

Public-private partnership (PPP) describes a government service or private business venture which is funded and operated through a partnership of government and one or more private sector companies. These schemes are sometimes referred to as PPP or P<sup>3</sup>.

In some types of PPP, the government uses tax revenue to provide capital for investment, with operations run jointly with the private sector or under contract. In other types, capital investment is made by the private sector and Government provides service. Government contributions to a PPP may also be in kind. In projects that are aimed at creating public goods like in the infrastructure sector, the Government may provide a capital subsidy in the form of a one-time grant, so as to make it more attractive to the private investors. In some other cases, the Government may support the project by providing revenue subsidies, including tax breaks or by providing guaranteed annual revenues for a fixed period.

Public service provision in India is seen by many as inadequate. It is not that India lacks the engineering expertise or the desire to provide reliable and quality public services; but it is just a matter of organisation and funding.

Some commentators, such as the World Bank, point out that the Government tries to extend access to services, perhaps in terms of political capital instead of sound economics.

Added to that, corruption is a major problem, making sure that funds intended for the payment of service provision do not find their way to the intended end users. Using private money to fund the provision of public services may be part of the solution.

Also with sufficient risk transfer to the private sector, the use of private money and private sector expertise in providing public services may be acceptable and justifiable, in terms of value for money, to the Indian Government.

The concept of partnerships between the public and private sectors is already being embraced by a number of so called 'developing' countries.

In PPP schemes, the public sector asks the private sector to fund, provide and take some of the risks inherent in the project, in return for the possibility of making a profit. The idea is that the public body purchases a service.

It is not a method of infrastructure procurement per se, although the project will involve either the construction or refurbishment of infrastructure.

In a hospital scheme for example, the services being purchased will be the use of the hospital, equipment and the provision of ancillary services (such as cleaning and repair) -- the doctors and nurses are still trained and employed by the Government.

This switches the role of the public sector from a provider of services to a guardian of services. Control in the day to day delivery of certain services is taken away from Government officials and Government managers. If services are not being provided satisfactorily, the public sector managers can make deductions from the fees paid.

At the heart of the PPP concept is optimum risk allocation. Certain risks are transferred to the private sector such as design risk, construction risk and operational risk, incidental to running any business.

Risk transfer is supposed to outweigh the increased cost of borrowing by the private sector who will have to obtain the finance from an investment bank at a more expensive rate than the Government. Whether this is true is a matter of debate and still requires some research.

## Origin

Initially, most public-private partnerships were negotiated individually, as one-off deals. In 1992, however, the Conservative government of John Major in the United Kingdom introduced the private finance initiative (PFI), the first systematic program aimed at encouraging public-private partnerships. In the 1992 program, the main focus was on reducing the Public Sector Borrowing Requirement, although, as already noted, the effect on the public accounts was largely illusory. The Labour government of Tony Blair elected in 1997, persisted with the PFI sought to shift the emphasis to the achievement of "value for money" mainly through an appropriate allocation of risk.

A number of Australian State Governments have adopted systematic programs based on the PFI. The first, and the model for most others, is Partnerships Victoria.

## Public-private Partnership Model In India: Concepts, issues And Outlook

According to the official estimates, an estimated 50% of the population in India will be living in cities by 2025. That means the Governments at the Central, State and Local levels face the hard task of providing efficient and reliable infrastructure facilities to improve the quality of life, connectivity, utilities and access to basic/civic amenities for all citizens. For instance, factors like lack of skilled manpower, project management expertise, time and financial resources act as major constraints before the Government in developing infrastructure on massive scale in areas like national highways, power, railways, ports and airports. The role of private sector becomes crucial as the Governments and urban local bodies alone cannot shoulder the responsibility due to certain constraints. Hence, the private sector especially entrepreneurs, builders and NGOs (non-governmental organizations) got an opportunity to jointly execute infrastructure development projects through the Public-Private Partnership (PPP) model.

## CRITICISM

However, PPPs are not without their critics, and many of the problems facing the UK will of course also relate to any implementation in India. Some schemes have not worked well at all and have collapsed.

Also, in the UK, many people (mainly on the political Left) see PPPs as a kind of mortgage, for which the public will pay more in the long run. Evidence suggests that some PPPs are more expensive than outright procurement, and some people object to the 'have now, pay later' mentality.

A further problem facing the introduction of such schemes (and one which might affect any introduction in India) is the views of the public sector workers. In the UK, some public sector workers and their unions object to the private sector taking control in areas where there is a long tradition of public service.

Public sector workers may also consider (rightly or wrongly) that their employment rights will be reduced and job security threatened and this may lead to industrial action.

Whatever the specific problems India may face if she were to introduce PPPs, the acid test will be whether banks are interested in funding such projects. As the bank is providing the finance, it will want to ensure that there is no risk or impediment to its loan being repaid, which ultimately flows from contract payments made by the public sector. It would also like to see quick and efficient dispute resolution procedures and will require as many procedures in place to avoid corruption. The ultimate challenge is whether the Government can provide an investment environment that will attract banks and funding.

The electorate can see the infrastructure being built before their eyes and projects may not be affected by a new Government reversing the decision or cutting off the funding.

PPPs are not necessarily a bad idea; some schemes in the UK are delivered early, to a good quality standard and on budget. It remains to be seen whether they are good value for money.

The Indian Government should therefore look very carefully at PPPs, because if economic advancement can be made via infrastructure improvements, it may meet any increased cost of involving the private sector.

### PPP-AP

Located in south India, Andhra Pradesh is the fourth largest economy in the country. At national level, the state stands first in the generation of hydroelectric power. According to the predictions of 2007- 2008, its gross state domestic product (GSDP) at constant prices is projected to record a growth of 10.37 percent. During the 11th Five Year Plan (2007-2012), the state is focusing on 9 % annual economic growth. The states' GSDP growth averaged 6.8 % during 2002-07. Its major thriving fields have been IT, pharmaceuticals, biotech, outsourcing, electronic hardware, textiles, and mining.

### Advantage to Andhra Pradesh

- Hyderabad is ranked as the No. 1 Indian ITES destination by NASSCOM
- Ranks second in the number of industrial estates in the country
- Only state with abundant energy
- Several world-class academic institutions with foreign collaborations
- Accounts for about 23 % of software professionals in India
- Second largest storehouse of minerals in the country

### SPECIAL ECONOMIC ZONES

A Special Economic Zone (SEZ) is a geographical region that has economic laws that are more liberal than a country's typical economic laws. The category 'SEZ' covers a broad range of more specific zone types, including Free Trade Zones (FTZ), Export Processing Zones (EPZ), Free Zones (FZ), Industrial Estates (IE), Free Ports, Urban Enterprise Zones and others. Usually the goal of a structure is to increase foreign investment. One of the earliest and the most famous Special Economic Zones were found by the Government of the People's Republic of China under Deng Xiaoping in the early 1980s.

The most successful Special Economic Zone in China, Shenzhen, has developed from a small village into a city with a population over 10 million within 20 years. Following the Chinese examples, Special Economic Zones have been established in several countries, including Brazil, India, Iran, Jordan, Kazakhstan, Pakistan, the Philippines, Poland, Russia, and Ukraine. North Korea has also attempted this to a degree, but failed. Currently, Puno, Peru has been slated to become a "Zona Economica" by its president Alan Garcia. A single SEZ can contain multiple 'specific' zones within its boundaries. The two most prominent examples of this layered approach are Subic Bay in the Philippines and the Aqaba Special Economic Zone in Jordan. According to World Bank estimates, as of 2007 there are more than 3,000 projects taking place in SEZs in 120 countries worldwide.

SEZs have been implemented using a variety of institutional structures across the world ranging from fully public (Government operator, Government developer, Government regulator) to 'fully' private (private operator, private developer, public regulator). In many cases, public sector operators and developers act as quasi-government agencies in that they have a pseudo-corporate institutional structure and have budgetary autonomy. SEZs are often developed under a public-private partnership arrangement, in which the public sector provides some level of support (provision of off-site infrastructure, equity investment, soft loans, bond issues, etc) to

enable a private sector developer to obtain a reasonable rate of return on the project (typically 10-20% depending on risk levels).

## India

India was one of the first in Asia to recognize the effectiveness of the Export Processing Zone (EPZ) model in promoting exports, with Asia's first EPZ set up in Kandla in 1965. With a view to overcome the shortcomings experienced on account of the multiplicity of controls and clearances; absence of world-class infrastructure, and an unstable fiscal regime and with a view to attract larger foreign investments in India, the Special Economic Zones (SEZs) Policy was announced in April 2000.

Special Economic Zones (SEZs) Scheme in India was conceived by the Commerce and Industries Minister Murosoli Maran during a visit to Special Economic Zones in China in 1999. The scheme was announced at the time of annual review of EXIM Policy effective from 1.4.2000. SEZ is basically a geographically distributed area or zones where the economic laws are more liberal as compared to other parts of the country. Within SEZs, units may be set-up for the manufacture of goods, provisioning of services, and other activities including processing, assembling, trading and repairing etc. A SEZ may be set-up in the public, private, or joint sector and /or by a state government and even by a foreign country. The minimum land area requirement for establishing a SEZ is 1000 hectares. Out of this total area, only 30-35% of area is used for setting up plants and rest of the area is used to provide housing facilities, malls, multiplexes etc. The area under 'SEZ' covers a broad range of zone types, including Export Processing Zones (EPZ), Free Zones (FZ), Industrial Estates (IE), Free Trade Zones (FTZ), Free Ports, Urban Enterprise Zones and others. Usually the goal of an SEZ structure is to increase foreign investment. In Indian, at present there are eight functional Special Economic Zones located at Santa Cruz (Maharashtra), Cochin (Kerala), Kandla and Surat (Gujarat), Chennai (Tamil Nadu), Visakhapatnam (Andhra Pradesh), Falta (West Bengal) and Nodia (Uttar Pradesh) in India. Further a Special Economic Zone at Indore ( Madhya Pradesh ) is also ready for operation. In addition 18 approvals have been given for setting up of SEZ at Positra (Gujarat), Navi Mumbai and Kopata (Maharashtra), Nanguneri (Tamil Nadu), Kulpi and Salt Lake (West Bengal), Paradeep and Gopalpur (Orissa), Bhadohi, Kanpur, Moradabad and Greater Noida (U.P.), Vishakhapatnam and Kakinada (Andhra Pradesh), Vallarpadam /Puthuvypeen (Kerala) Hassan (Karnataka), Jaipur and Jodhpur (Rajasthan) on the basis of proposals received from the State Governments. Any new policy or amendment related to the Special Economic Zones (SEZs) will be very soon released with the new EXIM Policy 2008-2009 on or after 31st March 2008. The policy relating to Special Economic Zones is governed by SEZ Act 2005, and the Rules framed there under.

This policy intended to make SEZs an engine for economic growth supported by quality infrastructure complemented by an attractive fiscal package, both at the Centre and the State level, with the minimum possible regulations. SEZs in India functioned from 1.11.2000 to 09.02.2006 under the provisions of the Foreign Trade Policy and fiscal incentives were made effective through the provisions of relevant statutes.

To instill confidence in investors and signal the Government's commitment to a stable SEZ policy regime and with a view to impart stability to the SEZ regime thereby generating greater economic activity and employment through the establishment of SEZs, a comprehensive draft SEZ Bill prepared after extensive discussions with the stakeholders. A number of meetings were held in various parts of the country both by the Minister for Commerce and Industry as well as senior officials for this purpose. The Special Economic Zones Act, 2005, was passed by Parliament in May, 2005 which received Presidential assent on the 23rd of June, 2005. The draft SEZ Rules were widely discussed and put on the website of the Department of Commerce offering suggestions/comments. Around 800 suggestions were received on the draft rules. After extensive consultations, the SEZ Act, 2005, supported by SEZ Rules, came into effect on 10th February, 2006, providing for drastic simplification of procedures and for single window



clearance on matters relating to central as well as state governments. The main objectives of the SEZ Act are:

- (a) generation of additional economic activity
- (b) promotion of exports of goods and services;
- (c) promotion of investment from domestic and foreign sources;
- (d) creation of employment opportunities;
- (e) development of infrastructure facilities;

It is expected that this will trigger a large flow of foreign and domestic investment in SEZs, in infrastructure and productive capacity, leading to generation of additional economic activity and creation of employment opportunities.

The SEZ Act 2005 envisages key role for the State Governments in Export Promotion and creation of related infrastructure. A Single Window SEZ approval mechanism has been provided through a 19 member inter-ministerial SEZ Board of Approval (BoA). The applications duly recommended by the respective State Governments/UT Administration are considered by this BoA periodically. All decisions of the Board of approvals are with consensus.

The SEZ Rules provide for different minimum land requirement for different class of SEZs. Every SEZ is divided into a processing area where alone the SEZ units would come up and the non-processing area where the supporting infrastructure is to be created.

#### **The SEZ Rules provide for :**

Considering the need to enhance foreign investment and promote exports from the country and realizing the need that a level playing field must be made available to the domestic enterprises and manufacturers to be competitive globally, the Government of India had in April 2000 announced the introduction of Special Economic Zones policy in the country, deemed to be foreign territory for the purposes of trade operations, duties and tariffs. As of 2007, more than 500 SEZs have been proposed, 220 of which have been created. This has raised the concern of the World Bank, which questions the sustainability of such a large number of SEZs. The Special Economic Zones in India closely follow the PRC model. India passed special economic zone act in 2005.

Considering the need to enhance foreign investment and promote exports from the country and realizing the need that level playing field must be made available to the domestic enterprises and manufacturers to be competitive globally, the government had in April 2000 announced the introduction of Special Economic Zones policy in the country, deemed to be foreign territory for the purposes of trade operations, duties and tariffs.

SEZs when operational are expected to offer high quality infrastructure facilities and support services, besides allowing for the duty free import of capital goods and raw materials. Additionally, attractive fiscal incentives and simpler customs, banking and other procedures are offered in such zones. Setting up of SEZs is also treated as an infrastructure development activity and offered same incentives.

#### **Salient features of the Indian SEZ initiative include:**

- Unlike most of the international instances where zones are primarily developed by Governments, the Indian SEZ policy provides for development of these zones in the government, private or joint sector. This offers equal opportunity to both Indian and international private developers.
- For green field SEZs, the Government has specified a minimum preferable area of 1,000 hectares. However, for sector specific SEZs, there is no restriction of minimum area.

- 100 per cent FDI is permitted for all investments in SEZs, except for activities under the negative list.
- SEZ units are required to be positive net foreign exchange earners and are not subject to any minimum value addition norms or export obligations.
- Goods flow into the SEZ area from Domestic Tariff Area (DTA) will be treated as exports and goods coming from the SEZ area into DTA are treated as imports.

Currently, a number of SEZ projects are coming up in the country. The government has given a go-ahead for around 17 SEZs to be set up in the private sector or the joint sector. Of these, the projects at Positra (Gujarat), Vishakhapatnam (Andhra Pradesh), Indore (Madhya Pradesh) and Navi Mumbai (Maharashtra) are in advanced stages of planning and development, while the others are preparing to get off the ground.

### **Incentives and Benefits**

Besides providing state-of-the-art infrastructure and access to a large well-trained and skilled work force, the SEZ policy also provides enterprises and developers with a favourable and attractive framework of incentives:

- Duty free import/domestic procurement of goods for development, operation and maintenance of SEZ units
- 100% Income Tax exemption on export income for SEZ units under Section 10AA of the Income Tax Act for first 5 years, 50% for next 5 years thereafter and 50% of the ploughed back export profit for next 5 years.
- 100% FDI in the manufacturing sector permitted through automatic route, barring a few sectors.
- 100% FDI permitted to SEZ franchisee in providing basic telephone services in SEZs.
- Exemption from minimum alternate tax under section 115JB of the Income Tax Act.
- External commercial borrowing by SEZ units upto US \$ 500 million in a year without any maturity restriction through recognized banking channels.
- Exemption from Central Sales Tax.
- Exemption from Service Tax.
- Exemption from industrial licensing requirements for items reserved for the SSI sector.
- Exemption from customs duties on import of capital goods, raw materials, consumables, spares etc
- Exemption from Central Excise duties on procurement of capital goods, raw materials, consumable spares etc., from the domestic market.
- Exemption from State sales tax and other levies as extended by the respective State Governments.
- Single window clearance for Central and State level approvals.
- No cap on foreign investment for small scale sector reserved items.
- No import licence requirements
- No routine examinations by Customs for export and import cargo.
- Facility to realize and repatriate export proceeds within 12 months.
- Profits allowed to be repatriated without any dividend-balancing requirement.
- Job work on behalf of domestic exporters for direct export allowed.
- Subcontracting both domestic and international is permitted; this facility is available to jewellery units as well.
- Facility to retain 100% foreign exchange receipts in Exchange Earners' Foreign Currency Account.
- Facilities to set up off-shore banking units in SEZs.

## Incentives and facilities offered to the SEZs

The incentives and facilities offered to the units in SEZs for attracting investments into the SEZs, including foreign investment include:-

### Incentives to Developers

- Exemption from duties on import /procurement of goods for the development, operation and maintenance of SEZ.
- Exemption from minimum alternate tax under Section 115 JB of the Income Tax Act.
- Exemption from dividend distribution tax under Section 115O of the Income Tax Act.
- Exemption from Central Sales Tax (CST).
- Exemption from Service Tax (Section 7, 26 and Second Schedule of the SEZ Act).
- Income tax exemption for a block of 10 years in 15 years under Section 80-IAB of the Income Tax Act.
- Exemption from Service Tax
- FDI to develop townships within SEZs with residential, educational, health care and recreational facilities permitted on a case-to-case basis.

### Approval mechanism

The developer submits the proposal for establishment of SEZ to the concerned State Government. The State Government has to forward the proposal with its recommendation within 45 days from the date of receipt of such proposal to the Board of Approval. The applicant also has the option to submit the proposal directly to the Board of Approval.

The Board of Approval has been constituted by the Central Government in exercise of the powers conferred under the SEZ Act. All the decisions are taken in the Board of Approval by consensus. The Board of Approval has 19 Members. Its constitution is as follows:

(1)	<b>Secretary, Department of Commerce</b>	<b>Chairman</b>
(2)	Member, CBEC	Member
(3)	Member, IT, CBDT	Member
(4)	Joint Secretary (Banking Division), Department of Economic Affairs, Ministry of Finance	
(5)	Joint Secretary (SEZ), Department of Commerce	Member
(6)	Joint Secretary, DIPP	Member
(7)	Joint Secretary, Ministry of Science and Technology	Member
(8)	Joint Secretary, Ministry of Small Scale Industries and Agro and Rural Industries	Member
(9)	Joint Secretary, Ministry of Home Affairs	Member
(10)	Joint Secretary, Ministry of Defence	Member
(11)	Joint Secretary, Ministry of Environment and Forests	Member
(12)	Joint Secretary, Ministry of Law and Justice	Member
(13)	Joint Secretary, Ministry of Overseas Indian Affairs	Member
(14)	Joint Secretary, Ministry of Urban Development	Member
(15)	A nominee of the State Government concerned	Member
(16)	Director General of Foreign Trade or his nominee	Member
(17)	Development Commissioner concerned	Member
(18)	A professor in the Indian Institute of Management or the Indian Institute of Foreign Trade	Member
(19)	Director or Deputy Secretary, Ministry of Commerce and Industry, Department of Commerce	Member Secretary

## **Administrative set up**

The functioning of the SEZs is governed by a three tier administrative set up. The Board of Approval is the apex body and is headed by the Secretary, Department of Commerce. The Approval Committee at the Zone level deals with approval of units in the SEZs and other related issues. Each Zone is headed by a Development Commissioner, who is ex-officio chairperson of the Approval Committee.

Once an SEZ has been approved by the Board of Approval and Central Government has notified the area of the SEZ, units are allowed to be set up in the SEZ. All the proposals for setting up of units in the SEZ are approved at the Zone level by the Approval Committee consisting of Development Commissioner, Customs Authorities and representatives of State Government. All post approval clearances including grant of importer-exporter code number, change in the name of the company or implementing agency, broad banding diversification, etc. are given at the Zone level by the Development Commissioner. The performance of the SEZ units are periodically monitored by the Approval Committee and units are liable for penal action under the provision of Foreign Trade (Development and Regulation) Act, in case of violation of the conditions of the approval.

## **SEZ Approval Status**

Consequent upon the SEZ Rules coming into effect w.e.f. 10th February, 2006, Twenty-eight meetings of the Board of Approvals have since been held. During these meetings, formal approval has been granted to 531 SEZ proposals. There are 143 valid in-principle approvals. Out of the 531 formal approvals, 260 SEZs have been notified.

## **Land requirements for approved Special Economic Zones:**

The total land requirement for the formal approvals granted till date is approximately 67680 hectares out of which about 109 approvals are for State Industrial Development Corporations/State Government Ventures which account for over 20853 hectares. In these cases, the land already available with the State Governments or SIDCs or with private companies has been utilized for setting up SEZ. The land for the 270 notified SEZs where operations have since commenced involved is approximately over 31405 hectares only.

Out of the total land area of 2973190 sq km in India, total agricultural land is of the order of 1620388 sq km (54.5%). It is interesting to note that out of this total land area, the land in possession of the 270 SEZs notified amounts to approximately over 314 sq km only. The formal approvals granted also works out to only around 676 sq km.

## **SEZs- leading to the growth of labour intensive manufacturing industry:**

Out of the 531 formal approvals given till date, 174 approvals are for sector specific and multi product SEZs for manufacture of Textiles & Apparels, Leather Footwear, Automobile components, Engineering etc.. which would involve labour intensive manufacturing. SEZs are going to lead to creation of employment for large number of unemployed rural youth. Nokia and Flextronics electronics hardware SEZs in Sriperumbudur are already providing employment to 14577 and 1058 persons. Hyderabad Gems SEZ for Jewellery manufacturing in Hyderabad has already employed 2145 persons. majority of whom are from landless families, after providing training to them. They have a projected direct employment for about 2267 persons. Apache SEZ being set up in Andhra Pradesh will employ 20, 000 persons to manufacture 10,00,000 pairs of shoes every month. Current employment in Apache SEZ is 5536 persons. Brandix Apparels, a Sri Lankan FDI project would provide employment to 60,000 workers over a period of 3 years. Even in the services sector, 12.5 million sq meters space is expected in the IT/ITES SEZs which as per the NASSCOM standards translates into 12.5 lakh jobs. It is, therefore, expected that

establishment of SEZs would lead to fast growth of labour intensive manufacturing and services in the country.

### Benefits derived from SEZs

Benefit derived from SEZs is evident from the investment, employment, exports and infrastructural developments additionally generated. The benefits derived from multiplier effect of the investments and additional economic activity in the SEZs and the employment generated thus will far outweigh the tax exemptions and the losses on account of land acquisition. Stability in fiscal concession is absolutely essential to ensure credibility of Government intensions.

#### (a) Exports from the functioning SEZs during the last three years are as under:

Year	Value (Rs. Crore)	Growth Rate ( over previous year )
2003-2004	13,854	39%
2004-2005	18,314	32%
2005-2006	22 840	25%
2006-2007	34,615	52%
2007-2008	66,638	92%

#### (b) Investment and employment in the SEZs set up prior to the SEZ Act, 2005:

At present, 1943 units are in operation in the SEZs. In the SEZs established prior to the Act coming into force, there are 1143 units providing direct employment to over 1.97 lakh persons; about 37% of whom are women. Private investment by entrepreneurs in these SEZs established prior to the SEZ Act is of the order of over Rs. 5626.24 crore.

#### (c) Investment and employment in the SEZs notified under the SEZ Act 2005:

##### Current investment and employment:

Investment: Rs. 83450crore  
Employment: 1,13,426 persons

#### Special Economic Zones Act, 2005 & Special Economic Zones Rules, 2006

The Government of India had announced a SEZ scheme in April, 2000 with a view to provide an internationally competitive environment for exports. The objectives of SEZs include making available goods and services free of taxes and duties supported by integrated infrastructure for export production, expeditious and single window approval mechanism and a package of incentives to attract foreign and domestic investments for promoting export-led growth.

In order to give a long term and stable policy framework with minimum regulatory regime and to provide expeditious and single window clearance mechanism, the Special Economic Zones Act, 2005 has been brought into effect along with the Special Economic Zones Rules, 2006 from 10 February 2006.

The Act and the Rules together aim to provide a single self contained legislation governing the operations of SEZs and replaces the hitherto applicable legislations and rules governing the operations of SEZ in India.

Under the Act, SEZ could be set up either jointly or severally by the Central Government, State Government, or any person (including a private or public limited company, partnership or proprietorship):

- for manufacture of goods; or
- for rendering services; or
- for both manufacturing of goods and for rendering services; or
- as a Free Trade and Warehousing Zone.

The Act provides for certain fiscal incentives to developers of SEZ and units established in SEZs. Key fiscal incentives have been outlined below:

Fiscal incentives for developers/ SEZ units - Indirect Tax incentives

Developer and the SEZ unit shall be entitled to the following exemptions, drawbacks and concessions:

- exemption from customs duty on goods imported into the SEZ by the Developer or SEZ Unit to carry on the authorised operations;
- exemption from customs duty on goods exported from the SEZ by the Developer or SEZ Unit to any place outside India;
- exemption from excise duty on goods brought from Domestic Tariff Area ("DTA") to the SEZ by the Developer or SEZ unit to carry on the authorized operations;
- drawback or such other benefits (as may be admissible from time to time) on goods brought from the DTA into a SEZ by the Developer or Unit to carry on the authorized operations;
- exemption from service tax on taxable services provided to a Developer or Unit to carry on the authorized operations in a SEZ. However, please note that there is no specific service tax exemption on services provided by a Developer of an SEZ or a SEZ Unit. Exemption, if any, would be as per the service tax legislation;
- exemption from the securities transaction tax in case the taxable securities transactions are entered into by a non-resident through the International Financial Services Centre ("IFSC");
- exemption from levy of Central Sales Tax on the sale or purchase of goods by the Developer or SEZ unit if such goods are meant to carry on the authorized operations;
- Local sales tax/ VAT exemption or concession on supply of goods to an SEZ Developer or Unit or sale of goods by an SEZ Developer or Unit is subject to the respective sales tax/ VAT legislation of the state in which the SEZ is set up.

The Central government has prescribed the manner, terms and conditions subject to which above exemptions/ concessions would be available.

Removal of goods into DTA is subject to prescribed conditions and on payment of applicable customs duties as levied on importation of such goods into India.

#### **Fiscal incentives - Income Tax incentives for SEZ units:**

1. Tax Holiday for SEZ units engaged in manufacture or providing services: A new section 10AA has been inserted in the IT Act by SEZ Act, 2005 which provides that the units in SEZ which start manufacturing or producing articles/ things or which start providing services on or after April 1, 2005 will be eligible for a deduction of 100 percent of export profits for the first five years from the year in which such manufacture/ provision of services commences and 50 percent of the export profits for the next five years. Further, for the next five years a deduction shall be allowed of upto 50 percent of the profit as is debited to the profit and loss account and credited to the Special Economic Zone Reinvestment Reserve Account (subject to conditions).

2. Tax Holiday for Offshore Banking units in SEZ : A deduction in respect of certain incomes would be allowed under the new section 80LA, to scheduled banks or foreign banks having an Offshore Banking unit in SEZ or to a unit of IFSC. The deduction shall be for 100 percent of

income for five consecutive years beginning from the year in which permission/ registration has been obtained under the Banking Regulation Act or the SEBI Act or any other relevant law and 50 percent of income for next five years.

3. Interest received by non-residents and not ordinary residents on deposits made with an Offshore Banking Unit on or after April 1, 2005 shall be exempt from tax.

4. Exemption from Minimum Alternate Tax ("MAT") : Income arising or accruing on or after April 1, 2005 from any business carried on, or services rendered by SEZ unit would be exempt from MAT under section 115JB.

5. Exemption from Capital Gains : Capital gains arising on transfer of assets (machinery, plant, building, land or any rights in buildings or land) on shifting of the industrial undertaking from an urban area to any SEZ would be exempt from capital gains tax.

The exemption would be allowable if within one year before or three years after such transfer:

- machinery or plant is purchased for the purposes of business of industrial undertaking in SEZ by the assessee;
- assessee has acquired land or building or has constructed building for the purposes of business in SEZ;
- the original assets are shifted and establishment of the industrial undertaking is transferred to SEZ; and
- other specified expenses are incurred.

The amount of exemption for capital gains would be restricted to the costs and expenses incurred in relation to all or any of the purposes mentioned above.

#### **Fiscal incentives - Income Tax incentives for SEZ developers:**

1. Tax holiday for SEZ developers : A new section 80-IAB has been introduced in the IT Act vide SEZ Act, 2005 whereby a deduction of 100 percent of profits derived from the business of developing SEZ (notified on or after April 1, 2005) would be available to developer of SEZ for any 10 consecutive years out of 15 years beginning from the year in which SEZ has been notified.

2. Exemption under section 10(23G) that was available to infrastructure capital fund or a cooperative bank on interest and long term capital gains investment had been extended to investment made by SEZ developers qualifying for tax holiday under section 80-IAB of the IT Act. However, this exemption has been withdrawn with effect from assessment year 2007-08.

3. Exemption from Dividend Distribution Tax ("DDT"): No DDT would be payable by a developer of SEZ on dividend declared, distributed or paid on or after April 1, 2005 out of current income.

4. Exemption from MAT : Any income earned on or after April 1, 2005 by a SEZ developer would be exempt from MAT under section 115JB of the Act.

Sale from Domestic Tariff Area (DTA) to SEZ : Regarding implementation of the Special Economic Zone Act, 2005 and the Special Economic Zone Rules, 2006, a Circular No 29/2006-Cus, dated December 27, 2006, has been issued which clarifies that the procedure for procurement of goods from Domestic Tariff Area to a SEZ Developer or a unit would be governed by the provisions of Rule 30 of the SEZ Rules, 2006.

## Impact of the scheme

The overwhelming response to the SEZ scheme is evident from the flow of investment and creation of additional employment in the country. The SEZ scheme has generated tremendous response amongst the investors, both in India and abroad, which is evident from the list of Developers who have set up SEZs:

Nokia SEZ in Tamil Nadu  
 Quark City SEZ in Chandigarh  
 Flextronics SEZ in Tamil Nadu  
 Mahindra World City in Tamil Nadu  
 Motorola, DELL and Foxconn  
 Apache SEZ (Adidas Group) in Andhra Pradesh  
 Divvy's Laboratories, Andhra Pradesh  
 Rajiv Gandhi Technology Park, Chandigarh  
 ETL Infrastructure IT SEZ, Chennai  
 Hyderabad Gems Limited, Hyderabad

## List of SEZs in India

The policy provides for setting up of SEZs in the public, private, joint sector or by State Governments. It was also envisaged that some of the existing Export Processing Zones would be converted into Special Economic Zones. Accordingly, the Government has converted Export Processing zones located at

Sri City (SEZ), Andhra Pradesh (<http://www.sricity.in>)  
 Velankani SEZ, Chennai (<http://www.velankanisez.com>)  
 Pharma and Biotech SEZ, Aurangabad, Maharashtra  
 (<http://www.inspirainfra.com>) Visakhapatnam (Andhra Pradesh)  
 Hyderabad (Andhra Pradesh)  
 Polepally (Andhra Pradesh)  
 Ahmedabad, Baroda, Kandla and Surat  
 (Gujarat) Cochin (Kerala)  
 Pithampur (Madhya Pradesh)  
 Nagpur also refer MIHAN, Pune and SEEPZ in Mumbai (Maharashtra)  
 Chennai, Ilandaikulam Madurai, Nanguneri and Tirunelveli (Tamil Nadu)  
 NOIDA, Greater NOIDA (Uttar Pradesh) UP  
 Falta (West Bengal)  
 Bangalore [Karnataka]  
 Kensington [Powai, Mumbai]

Currently, India has 1022 units in operations in 9 functional SEZs, each an average size of 200 acres (0.81 km<sup>2</sup>). 8 Export Processing Zones (EPZs) have been converted into SEZs. These are fully functional. All these SEZs are in various parts of the country in the private/joint sectors or by the State Government. But this process of planning and development is under question, as the states in which the SEZs have been approved are facing intense protests, from the farming community, accusing the government of forcibly snatching fertile land from them, at heavily discounted prices as against the prevailing prices in the commercial real estate industry. Also some reputed companies like Bajaj and others have commented against this policy and have suggested using barren and wasteland for setting up of SEZs.

Attempts to set up a Special Economic Zone in Nandigram have led to protests by villagers in the area. A Parliamentary Committee to study and give recommendations on SEZs has said that no further SEZs be notified unless the existing law is amended to incorporate the changes related to the land acquisitions.



Genpact has announced its plans to expand its presence in Hyderabad by setting up a Special Economic Zone (SEZ) across 50 acres (200,000 m<sup>2</sup>) in the city at Jawahar Nagar. PointIndu has inaugurated Hyderabad by setting up a Special Economic Zone (SEZ) across 150 acres (0.61 km<sup>2</sup>) near Shamshabad close to airport.

### **SEZ Disadvantages :**

Special economic zones and the SEZ projects have instigated certain SEZ controversy and a SEZ debate regarding the SEZ Disadvantages:

- Revenue losses due to various tax exemptions and tax benefits awarded to the India special economic zones.
- Most Real Estate Developers In India are interested in setting up a SEZ to cash in the india real estate bubble by acquiring SEZ land at cheap rates and creating a land bank for themselves
- India Real Estate holds a special section for SEZ where details regarding the SEZ news and notification, upcoming SEZ projects, listing of SEZ developers, SEZ consultants and consultant agencies, SEZ companies group engaged in development of special economic zones in India and others deserve special mention.

Presently around fourteen major special economic zones functional in India:

- Santa Cruz, Mumbai, Maharashtra
- Cochin, Kerala
- Kandla And Surat in Gujarat
- Chennai, Tamil Nadu
- Vishakhapatnam, Andhra Pradesh
- Falta And Salt Lake in West Bengal
- Noida, Greater Noida in Uttar Pradesh
- Indore, Madhya Pradesh
- Jaipur, Rajasthan

Owing to the mass attraction of SEZ's in terms of the SEZ benefits or advantages, major Indian conglomerates are jumping into the SEZ development bandwagon. Some of the names that deserve mention here are Mahindra & Mahindra with Mahindra World City in Chennai and Reliance Industries along with Haryana Government and coming up Special Economic Zones by Leading Real Estate Builders And Developers in India like Unitech India Ltd. and DLF . The newer areas attracting SEZ development are Navi Mumbai, Manesar, Gurgaon, Noida, Indore, Dehradun, Kanpur, Kochi, Nadigram, Surat, Nagpur, surrounding areas of Pune, Goa, Bangalore, Hyderabad, Jaipur, and Karnataka.

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