



## NATIONAL INSTITUTE OF ECONOMICS

New Delhi

National Institute of Economics (NIE) which was sponsored by the World Institution Building Programme (WIBP), an international charity and inaugurated by the then Prime Minister of India Shri Atal Bihari Vajpayee on 26 May 1996 at New Delhi. The activities of the National Institute of Economics (NIE) include studies, training, research, publications and conference organizations in the areas of micro and macro economics : money and banking, public finance, international trade, mathematical and statistical economics, welfare economics international economics, agricultural economics, labour economics, managerial economics, monetary economics etc. besides organizations and implementation of grassroot level programmes having social, cultural, educational, scientific, environmental, positive and economic contents for ensuring the optimum development of our society.



*Prime Minister of India Shri Atal Bihari Vajpayee (right) inaugurating the*

*National Institute of Economics (NIE) at New Delhi on 26 May 1996 in the presence of Dr. Priya Ranjan Trivedi (left)*

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- 2. Certificate in Labour Economics**
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**Duration :** Three Months

**Eligibility :** No Minimum Educational Qualification has been led down. All those interested in acquiring expert knowledge for promoting legal awareness are eligible to apply.

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**IFS Code :** IDIB000S097

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7. Submit the Project Report based on your experience and knowledge acquired regarding any topic relevant to the admitted student.
8. Wait for the announcement of results.
9. Receive the Certificate (Online)

In case of any clarification, contact the Facilitation Officer, National Institute of Economics, A 14-15-16, Paryavaran Complex, New Delhi – 110030, India by post or by Email : [economics@ecology.edu](mailto:economics@ecology.edu)

**For any clarification, contact may be made through telephone by calling on 011-29533801, 011-29533830, 011-29535053.**

**24-Hours Helpline : 9999833886**

All those interested in getting admitted to one of the Certificate level courses are here by advised to fill-up the Admission Form given below and send the same on the above mentioned address by email or by post along with payment of Rs. 3500 by cheque / draft / RTGS etc.

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# NATIONAL INSTITUTE OF ECONOMICS

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## ADMISSION FORM

**NAME OF THE COURSE SELECTED** .....

Name of the Candidate .....

Father's Name .....

Mother's Name .....

Date of Birth ..... Nationality.....

Address .....

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Email ..... Website (*if any*).....

Mobile..... Telephone.....

Educational Qualification .....

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Mention how will this course help you ?

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Details of Fee paid (Cheque / Draft / Electronic Transfer)

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Date

Signature

Universities, Colleges, Institutions, Industrial Houses, Chambers of Commerce, Central and State Governments, Public and Private Sector Organisations interested in collaborating with the National Institute of Economics (NIE) are invited to contact :

The President

National Institute of Economics

A 14-15-16 Paryavaran Complex

South of Saket, New Delhi – 110030

Tel. : +91-11-29533801, +91-11-29533830

Email : economics@ecology.edu

During the last 24 years, the National Institute of Economics (NIE) has produced the following texts and study materials in English as well as in Hindi medium.

1. History of Economic Thoughts
2. Advanced Economic Theory
3. Economics of Development and Planning
4. International Economics
5. Agricultural Economics
6. Labour Economics
7. Managerial Economics
8. Monetary Economics
9. Public Finance
10. Economic Concepts
11. Micro Economics
12. Macro Economics
13. Money and Banking
14. International Trade
15. Mathematical Economics
16. Statistical Economics
17. Planning in India
18. Welfare Economics
19. Risk Assessment
20. Environmental Economics
21. Resource Economics
22. आर्थिक धारणाएं
23. व्यष्टि अर्थशास्त्र
24. समष्टि अर्थशास्त्र
25. मुद्रा एवं बैंकिंग
26. लोक वित्त
27. अंतर्राष्ट्रीय व्यापार
28. गणितीय अर्थशास्त्र
29. सांख्यिकी अर्थशास्त्र
30. भारत में आयोजन
31. कल्याण अर्थशास्त्र

32. जोखिम मूल्यांकन
33. पर्यावरणीय अर्थशास्त्र
34. साधन अर्थशास्त्र
35. आर्थिक विचारों का इतिहास
36. उच्च आर्थिक सिद्धान्त
37. विकास एवं आयोजन अर्थशास्त्र
38. अंतर्राष्ट्रीय अर्थशास्त्र
39. कृषि अर्थशास्त्र
40. श्रम अर्थशास्त्र
41. प्रबन्धकीय अर्थशास्त्र
42. मौद्रिक अर्थशास्त्र
43. उच्च लोक वित्त

### **ECONOMICS : PAST, PRESENT AND FUTURE**

Economics is the social science that studies the behavior of individuals, groups, and organizations (called economic actors, players, or agents), when they manage or use scarce resources, which have alternative uses, to achieve desired ends. Agents are assumed to act rationally, have multiple desirable ends in sight, limited resources to obtain these ends, a set of stable preferences, a definite overall guiding objective, and the capability of making a choice. There exists an economic problem, subject to study by economic science, when a decision (choice) has to be made by one or more resource-controlling players to attain the best possible outcome under bounded rational conditions. In other words, resource-controlling agents must maximize value subject to the constraints imposed by the information the agents have, their cognitive limitations, and the finite amount of time they have to take a decision. Economic science centers on the activities of the economic agents that comprise society. They are the focus of economic analysis.

The traditional concern of economics is to gain an understanding of the processes that govern the production, distribution and consumption of goods and services in an exchange economy. An agent may have purposes or ends, such as reducing or protecting individuals from crime, on which he or she wants to spend resources. Economics may study how the agent determines the amount of resources to allocate for this purpose, aside from the traditional concern of economics.

An approach to understanding the processes of production, distribution, and consumption, through the study of agent behavior under scarcity, may go as follows: The continuous interplay (exchange or trade) done by economic actors in all markets sets the prices for all goods and services which, in turn, make the rational managing of scarce resources possible. At the same time, the decisions (choices) made by the same actors, while they are pursuing their own interest (their overall guiding objective), determine the level of output (production), consumption, savings, and investment, in an economy, as well as the remuneration (distribution) paid to the owners of labor (in the form of wages), capital (in the form of profits) and land (in the form of rent). Each period, as if they were in a giant feedback system, economic players influence the pricing processes and the economy, and are in turn influenced by them until a steady

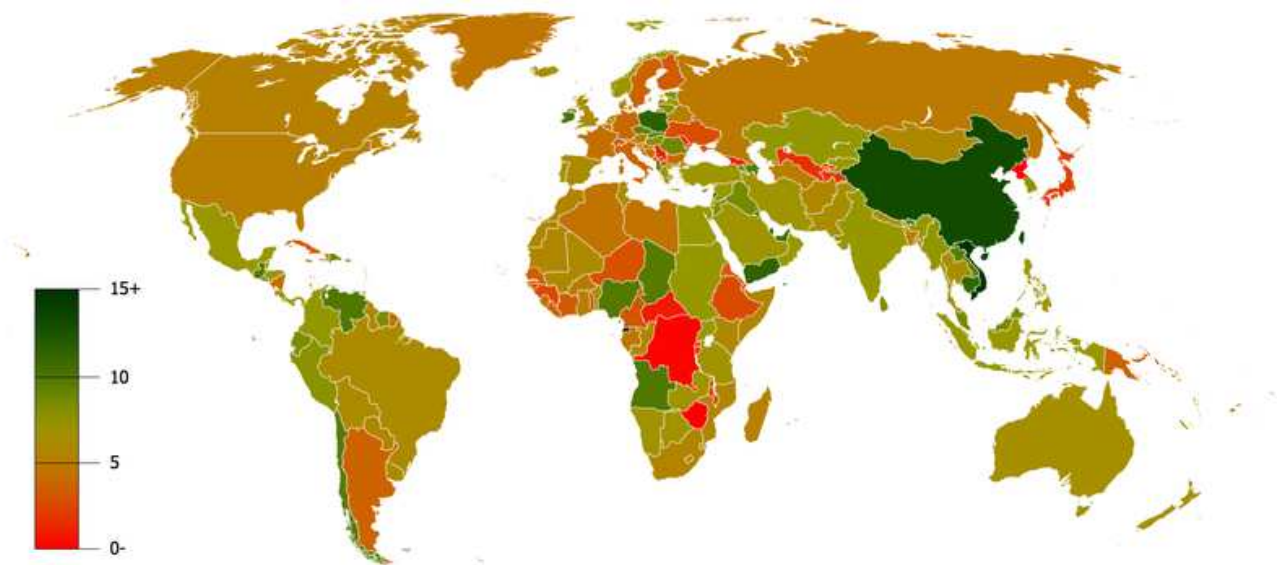
state (equilibrium) of all variables involved is reached or until an external shock throws the system toward a new equilibrium point. Because of the autonomous actions of rational interacting agents, the economy is a complex adaptive system.

The term economics comes from the Ancient Greek οἰκονομία (oikonomia, "management of a household, administration") from οἶκος (oikos, "house") and νόμος (nomos, "custom" or "law"), hence "rules of the house(hold for good management)". 'Political economy' was the earlier name for the subject, but economists in the late 19th century suggested "economics" as a shorter term for "economic science" to establish itself as a separate discipline outside of political science and other social sciences.

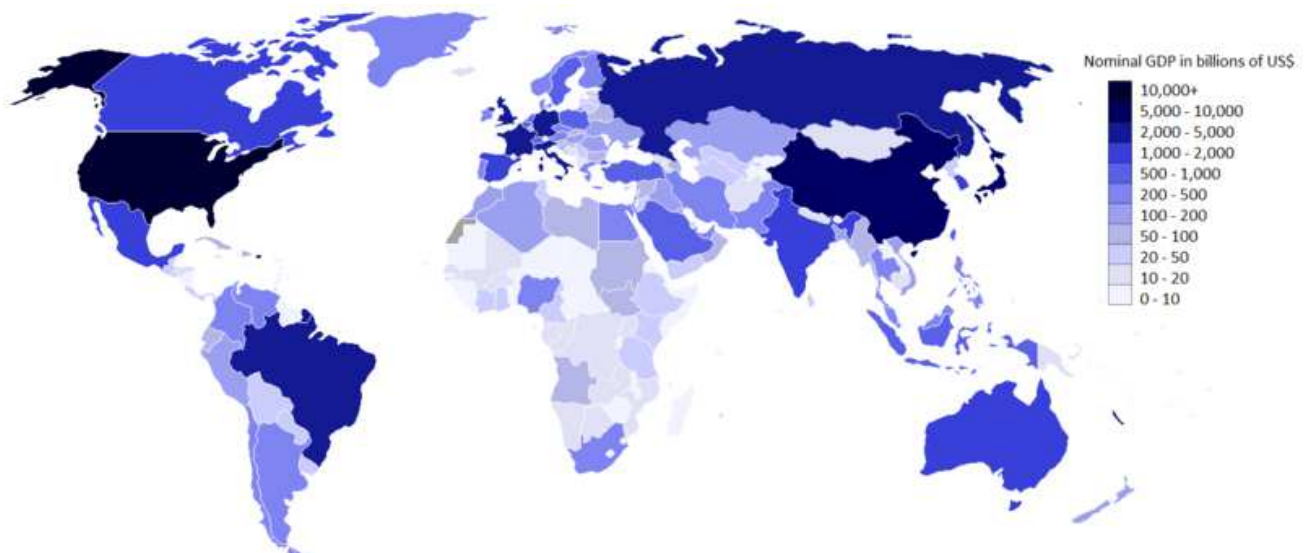
Economics focuses on the behavior and interactions of economic agents and how economies work. Consistent with this focus, primary textbooks often distinguish between microeconomics and macroeconomics. Microeconomics examines the behavior of basic elements in the economy, including individual agents and markets, their interactions, and the outcomes of interactions. Individual agents may include, for example, households, firms, buyers, and sellers. Macroeconomics analyzes the entire economy (meaning aggregated production, consumption, savings, and investment) and issues affecting it, including unemployment of resources (labor, capital, and land), inflation, economic growth, and the public policies that address these issues (monetary, fiscal, and other policies).

Other broad distinctions within economics include those between positive economics, describing "what is," and normative economics, advocating "what ought to be"; between economic theory and applied economics; between rational and behavioral economics; and between mainstream economics (more "orthodox" and dealing with the "rationality-individualism-equilibrium nexus") and heterodox economics (more "radical" and dealing with the "institutions-history-social structure nexus").

Besides the traditional concern in production, distribution, and consumption in an economy, economic analysis may be applied throughout society, as in business, finance, health care, and government. Economic analyses may also be applied to such diverse subjects as crime, education, the family, law, politics, religion, social institutions, war, and science; by considering the economic aspects of these subjects. Education, for example, requires time, effort, and expenses, plus the foregone income and experience, yet these losses can be weighted against future benefits education may bring to the agent or the economy. At the turn of the 21st century, the expanding domain of economics in the social sciences has been described as economic imperialism.



*A world map of GDP growth (annualized), from 1990 to 2007.*



*A map of world economies by size of GDP (nominal) in \$US, CIA World Factbook, 2011.*

There are a variety of modern definitions of economics. Some of the differences may reflect evolving views of the subject or different views among economists. Scottish philosopher Adam Smith (1776) defined what was then called political economy as "an inquiry into the nature and causes of the wealth of nations", in particular as:

a branch of the science of a statesman or legislator [with the twofold objectives of providing] a plentiful revenue or subsistence for the people ... [and] to supply the state or commonwealth with a revenue for the public services.

J.-B. Say (1803), distinguishing the subject from its public-policy uses, defines it as the science of production, distribution, and consumption of wealth. On the satirical side, Thomas Carlyle (1849) coined "the dismal science" as an epithet for classical economics, in this context, commonly linked to the pessimistic analysis of Malthus (1798). John Stuart Mill (1844) defines the subject in a social context as:



The science which traces the laws of such of the phenomena of society as arise from the combined operations of mankind for the production of wealth, in so far as those phenomena are not modified by the pursuit of any other object.

Alfred Marshall provides a still widely cited definition in his textbook *Principles of Economics* (1890) that extends analysis beyond wealth and from the societal to the microeconomic level:

Economics is a study of man in the ordinary business of life. It enquires how he gets his income and how he uses it. Thus, it is on the one side, the study of wealth and on the other and more important side, a part of the study of man.

Lionel Robbins (1932) developed implications of what has been termed "[p]erhaps the most commonly accepted current definition of the subject":

Economics is a science which studies human behaviour as a relationship between ends and scarce means which have alternative uses.

Robbins describes the definition as not classificatory in "pick[ing] out certain kinds of behaviour" but rather analytical in "focus[ing] attention on a particular aspect of behaviour, the form imposed by the influence of scarcity." He affirmed that previous economists have usually centered their studies on the analysis of wealth: how wealth is created (production), distributed, and consumed; and how wealth can grow. But he said that economics can be used to study other things, such as war, that are outside its usual focus. This is because war has as the goal winning it (as a sought after **end**), generates both cost and benefits; and, **resources** (human life and other costs) are used to attain the goal. If the war is not winnable or if the expected costs outweigh the benefits, the deciding **actors** (assuming they are rational) may never go to war (a **decision**) but rather explore other alternatives. We cannot define economics as the science that study wealth, war, crime, education, and any other field economic analysis can be applied to; but, as the science that study a particular common aspect of each of those subjects (they all use scarce resources to attain a sought after end).

Some subsequent comments criticized the definition as overly broad in failing to limit its subject matter to analysis of markets. From the 1960s, however, such comments abated as the economic theory of maximizing behavior and rational-choice modeling expanded the domain of the subject to areas previously treated in other fields. There are other criticisms as well, such as in scarcity not accounting for the macroeconomics of high unemployment.

Gary Becker, a contributor to the expansion of economics into new areas, describes the approach he favors as "combin[ing the] assumptions of maximizing behavior, stable preferences, and market equilibrium, used relentlessly and unflinchingly." One commentary characterizes the remark as making economics an approach rather than a subject matter but with great specificity as to the "choice process and the type of social interaction that [such] analysis involves." The same source reviews a range of

definitions included in principles of economics textbooks and concludes that the lack of agreement need not affect the subject-matter that the texts treat. Among economists more generally, it argues that a particular definition presented may reflect the direction toward which the author believes economics is evolving, or should evolve.



*Economists study trade, production and consumption decisions, such as those that occur in a traditional marketplace.*



*In Virtual Markets, buyer and seller are not present and trade via intermediates and electronic information.*

Microeconomics examines how entities, forming a market structure, interact within a market to create a market system. These entities include private and public players with various classifications, typically operating under scarcity of tradable units and government regulation. The item traded may be a tangible product such as apples or a service such as repair services, legal counsel, or entertainment.

In theory, in a free market the aggregates (sum of) of quantity demanded by buyers and quantity supplied by sellers will be equal and reach economic equilibrium over time in reaction to price changes; in practice, various issues may prevent equilibrium, and any equilibrium reached may not necessarily morally equitable. For example, if the supply of healthcare services is limited by external factors, the equilibrium price may be unaffordable for many who desire it but cannot pay for it.

Various market structures exist. In perfectly competitive markets, no participants are large enough to have the market power to set the price of a homogeneous product. In other words, every participant is a "price taker" as no participant influences the price of a product. In the real world, markets often experience imperfect competition.

Forms include monopoly (in which there is only one seller of a good), duopoly (in which there are only two sellers of a good), oligopoly (in which there are few sellers of a good), monopolistic competition (in which there are many sellers producing highly

differentiated goods), monopsony (in which there is only one buyer of a good), and oligopsony (in which there are few buyers of a good). Unlike perfect competition, imperfect competition invariably means market power is unequally distributed. Firms under imperfect competition have the potential to be "price makers", which means that, by holding a disproportionately high share of market power, they can influence the prices of their products.

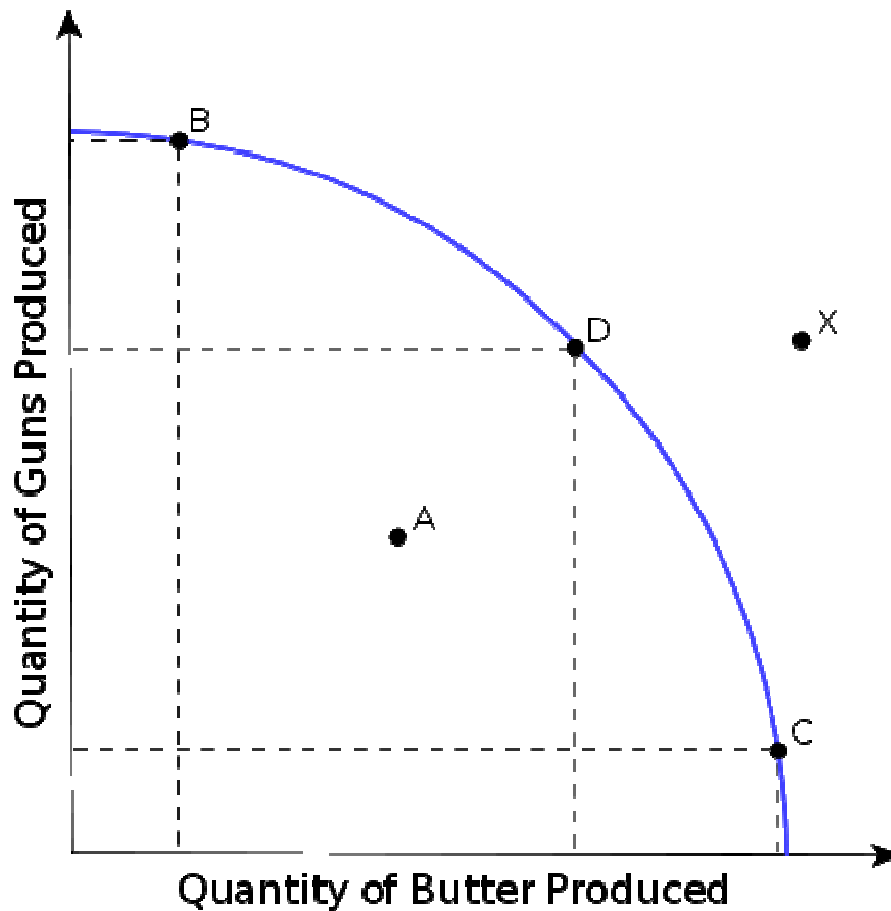
Microeconomics studies individual markets by simplifying the economic system by assuming that activity in the market being analysed does not affect other markets. This method of analysis is known as partial-equilibrium analysis (supply and demand). This method aggregates (the sum of all activity) in only one market. General-equilibrium theory studies various markets and their behaviour. It aggregates (the sum of all activity) across all markets. This method studies both changes in markets and their interactions leading towards equilibrium.

In microeconomics, production is the conversion of inputs into outputs. It is an economic process that uses inputs to create a commodity or a service for exchange or direct use. Production is a flow and thus a rate of output per period of time. Distinctions include such production alternatives as for consumption (food, haircuts, etc.) vs. investment goods (new tractors, buildings, roads, etc.), public goods (national defense, small-pox vaccinations, etc.) or private goods (new computers, bananas, etc.), and "guns" vs. "butter".

Opportunity cost refers to the economic cost of production: the value of the next best opportunity foregone. Choices must be made between desirable yet mutually exclusive actions. It has been described as expressing "the basic relationship between scarcity and choice.". The opportunity cost of an activity is an element in ensuring that scarce resources are used efficiently, such that the cost is weighed against the value of that activity in deciding on more or less of it. Opportunity costs are not restricted to monetary or financial costs but could be measured by the real cost of output forgone, leisure, or anything else that provides the alternative benefit (utility).

Inputs used in the production process include such primary factors of production as labour services, capital (durable produced goods used in production, such as an existing factory), and land (including natural resources). Other inputs may include intermediate goods used in production of final goods, such as the steel in a new car.

Economic efficiency describes how well a system generates desired output with a given set of inputs and available technology. Efficiency is improved if more output is generated without changing inputs, or in other words, the amount of "waste" is reduced. A widely accepted general standard is Pareto efficiency, which is reached when no further change can make someone better off without making someone else worse off.



*An example production-possibility frontier with illustrative points marked.*

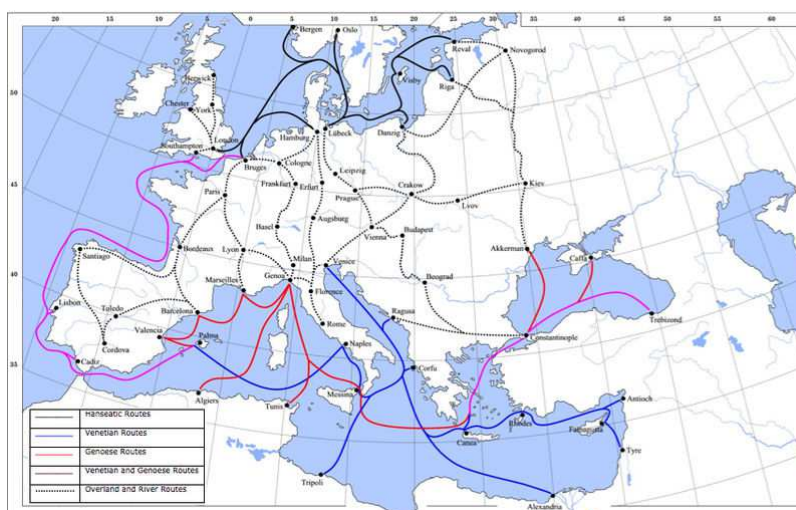
The production-possibility frontier (PPF) is an expository figure for representing scarcity, cost, and efficiency. In the simplest case an economy can produce just two goods (say "guns" and "butter"). The PPF is a table or graph (as at the right) showing the different quantity combinations of the two goods producible with a given technology and total factor inputs, which limit feasible total output. Each point on the curve shows potential total output for the economy, which is the maximum feasible output of one good, given a feasible output quantity of the other good.

Scarcity is represented in the figure by people being willing but unable in the aggregate to consume beyond the PPF (such as at X) and by the negative slope of the curve. If production of one good increases along the curve, production of the other good decreases, an inverse relationship. This is because increasing output of one good requires transferring inputs to it from production of the other good, decreasing the latter.

The slope of the curve at a point on it gives the trade-off between the two goods. It measures what an additional unit of one good costs in units forgone of the other good, an example of a real opportunity cost. Thus, if one more Gun costs 100 units of butter, the opportunity cost of one Gun is 100 Butter. Along the PPF, scarcity implies that choosing more of one good in the aggregate entails doing with less of the other good.

Still, in a market economy, movement along the curve may indicate that the choice of the increased output is anticipated to be worth the cost to the agents.

By construction, each point on the curve shows productive efficiency in maximizing output for given total inputs. A point inside the curve (as at A), is feasible but represents production inefficiency (wasteful use of inputs), in that output of one or both goods could increase by moving in a northeast direction to a point on the curve. Examples cited of such inefficiency include high unemployment during a business-cycle recession or economic organization of a country that discourages full use of resources. Being on the curve might still not fully satisfy allocative efficiency (also called Pareto efficiency) if it does not produce a mix of goods that consumers prefer over other points. Much applied economics in public policy is concerned with determining how the efficiency of an economy can be improved. Recognizing the reality of scarcity and then figuring out how to organize society for the most efficient use of resources has been described as the "essence of economics", where the subject "makes its unique contribution."



*A map showing the main trade routes for goods within late medieval Europe.*

Specialization is considered key to economic efficiency based on theoretical and empirical considerations. Different individuals or nations may have different real opportunity costs of production, say from differences in stocks of human capital per worker or capital/labour ratios. According to theory, this may give a comparative advantage in production of goods that make more intensive use of the relatively more abundant, thus relatively cheaper, input. Even if one region has an absolute advantage as to the ratio of its outputs to inputs in every type of output, it may still specialize in the output in which it has a comparative advantage and thereby gain from trading with a region that lacks any absolute advantage but has a comparative advantage in producing something else.

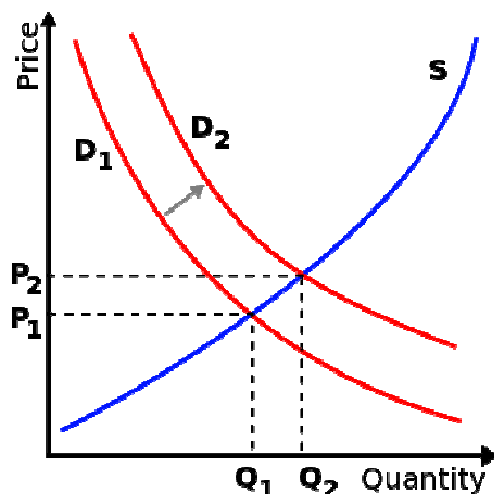
It has been observed that a high volume of trade occurs among regions even with access to a similar technology and mix of factor inputs, including high-income countries. This has led to investigation of economies of scale and agglomeration to explain

specialization in similar but differentiated product lines, to the overall benefit of respective trading parties or regions.

The general theory of specialization applies to trade among individuals, farms, manufacturers, service providers, and economies. Among each of these production systems, there may be a corresponding division of labour with different work groups specializing, or correspondingly different types of capital equipment and differentiated land uses.

An example that combines features above is a country that specializes in the production of high-tech knowledge products, as developed countries do, and trades with developing nations for goods produced in factories where labour is relatively cheap and plentiful, resulting in different in opportunity costs of production. More total output and utility thereby results from specializing in production and trading than if each country produced its own high-tech and low-tech products.

Theory and observation set out the conditions such that market prices of outputs and productive inputs select an allocation of factor inputs by comparative advantage, so that (relatively) low-cost inputs go to producing low-cost outputs. In the process, aggregate output may increase as a by-product or by design. Such specialization of production creates opportunities for gains from trade whereby resource owners benefit from trade in the sale of one type of output for other, more highly valued goods. A measure of gains from trade is the increased income levels that trade may facilitate.



*The supply and demand model describes how prices vary as a result of a balance between product availability and demand. The graph depicts an increase (that is, right-shift) in demand from  $D_1$  to  $D_2$  along with the consequent increase in price and quantity required to reach a new equilibrium point on the supply curve (S).*

Prices and quantities have been described as the most directly observable attributes of goods produced and exchanged in a market economy. The theory of supply and demand is an organizing principle for explaining how prices coordinate the amounts produced and consumed. In microeconomics, it applies to price and output determination for a market with perfect competition, which includes the condition of no buyers or sellers large enough to have price-setting power.

For a given market of a commodity, demand is the relation of the quantity that all buyers would be prepared to purchase at each unit price of the good. Demand is often represented by a table or a graph showing price and quantity demanded (as in the figure). Demand theory describes individual consumers as rationally choosing the most preferred quantity of each good, given income, prices, tastes, etc. A term for this is "constrained utility maximization" (with income and wealth as the constraints on demand). Here, utility refers to the hypothesized relation of each individual consumer for ranking different commodity bundles as more or less preferred.

The law of demand states that, in general, price and quantity demanded in a given market are inversely related. That is, the higher the price of a product, the less of it people would be prepared to buy of it (other things unchanged). As the price of a commodity falls, consumers move toward it from relatively more expensive goods (the substitution effect). In addition, purchasing power from the price decline increases ability to buy (the income effect). Other factors can change demand; for example an increase in income will shift the demand curve for a normal good outward relative to the origin, as in the figure. All determinants are predominantly taken as constant factors of demand and supply.

Supply is the relation between the price of a good and the quantity available for sale at that price. It may be represented as a table or graph relating price and quantity supplied. Producers, for example business firms, are hypothesized to be profit-maximizers, meaning that they attempt to produce and supply the amount of goods that will bring them the highest profit. Supply is typically represented as a directly proportional relation between price and quantity supplied (other things unchanged).

That is, the higher the price at which the good can be sold, the more of it producers will supply, as in the figure. The higher price makes it profitable to increase production. Just as on the demand side, the position of the supply can shift, say from a change in the price of a productive input or a technical improvement. The "Law of Supply" states that, in general, a rise in price leads to an expansion in supply and a fall in price leads to a contraction in supply. Here as well, the determinants of supply, such as price of substitutes, cost of production, technology applied and various factors inputs of production are all taken to be constant for a specific time period of evaluation of supply. Market equilibrium occurs where quantity supplied equals quantity demanded, the intersection of the supply and demand curves in the figure above. At a price below equilibrium, there is a shortage of quantity supplied compared to quantity demanded. This is posited to bid the price up. At a price above equilibrium, there is a surplus of quantity supplied compared to quantity demanded. This pushes the price down. The model of supply and demand predicts that for given supply and demand curves, price and quantity will stabilize at the price that makes quantity supplied equal to quantity demanded. Similarly, demand-and-supply theory predicts a new price-quantity combination from a shift in demand (as to the figure), or in supply.

For a given quantity of a consumer good, the point on the demand curve indicates the value, or marginal utility, to consumers for that unit. It measures what the consumer

would be prepared to pay for that unit. The corresponding point on the supply curve measures marginal cost, the increase in total cost to the supplier for the corresponding unit of the good. The price in equilibrium is determined by supply and demand. In a perfectly competitive market, supply and demand equate marginal cost and marginal utility at equilibrium.

On the supply side of the market, some factors of production are described as (relatively) variable in the short run, which affects the cost of changing output levels. Their usage rates can be changed easily, such as electrical power, raw-material inputs, and over-time and temp work. Other inputs are relatively fixed, such as plant and equipment and key personnel. In the long run, all inputs may be adjusted by management. These distinctions translate to differences in the elasticity (responsiveness) of the supply curve in the short and long runs and corresponding differences in the price-quantity change from a shift on the supply or demand side of the market.

Marginalist theory, such as above, describes the consumers as attempting to reach most-preferred positions, subject to income and wealth constraints while producers attempt to maximize profits subject to their own constraints, including demand for goods produced, technology, and the price of inputs. For the consumer, that point comes where marginal utility of a good, net of price, reaches zero, leaving no net gain from further consumption increases. Analogously, the producer compares marginal revenue (identical to price for the perfect competitor) against the marginal cost of a good, with marginal profit the difference. At the point where marginal profit reaches zero, further increases in production of the good stop. For movement to market equilibrium and for changes in equilibrium, price and quantity also change "at the margin": more-or-less of something, rather than necessarily all-or-nothing.

Other applications of demand and supply include the distribution of income among the factors of production, including labour and capital, through factor markets. In a competitive labour market for example the quantity of labour employed and the price of labour (the wage rate) depends on the demand for labour (from employers for production) and supply of labour (from potential workers). Labour economics examines the interaction of workers and employers through such markets to explain patterns and changes of wages and other labour income, labour mobility, and (un)employment, productivity through human capital, and related public-policy issues.

Demand-and-supply analysis is used to explain the behavior of perfectly competitive markets, but as a standard of comparison it can be extended to any type of market. It can also be generalized to explain variables across the economy, for example, total output (estimated as real GDP) and the general price level, as studied in macroeconomics. Tracing the qualitative and quantitative effects of variables that change supply and demand, whether in the short or long run, is a standard exercise in applied economics. Economic theory may also specify conditions such that supply and demand through the market is an efficient mechanism for allocating resources.



People frequently do not trade directly on markets. Instead, on the supply side, they may work in and produce through firms. The most obvious kinds of firms are corporations, partnerships and trusts. According to Ronald Coase people begin to organise their production in firms when the costs of doing business becomes lower than doing it on the market. Firms combine labour and capital, and can achieve far greater economies of scale (when the average cost per unit declines as more units are produced) than individual market trading.

In perfectly competitive markets studied in the theory of supply and demand, there are many producers, none of which significantly influence price. Industrial organization generalizes from that special case to study the strategic behavior of firms that do have significant control of price. It considers the structure of such markets and their interactions. Common market structures studied besides perfect competition include monopolistic competition, various forms of oligopoly, and monopoly.

Managerial economics applies microeconomic analysis to specific decisions in business firms or other management units. It draws heavily from quantitative methods such as operations research and programming and from statistical methods such as regression analysis in the absence of certainty and perfect knowledge. A unifying theme is the attempt to optimize business decisions, including unit-cost minimization and profit maximization, given the firm's objectives and constraints imposed by technology and market conditions.

Uncertainty in economics is an unknown prospect of gain or loss, whether quantifiable as risk or not. Without it, household behavior would be unaffected by uncertain employment and income prospects, financial and capital markets would reduce to exchange of a single instrument in each market period, and there would be no communications industry. Given its different forms, there are various ways of representing uncertainty and modeling economic agents' responses to it.

Game theory is a branch of applied mathematics that considers strategic interactions between agents, one kind of uncertainty. It provides a mathematical foundation of industrial organization, discussed above, to model different types of firm behavior, for example in an oligopolistic industry (few sellers), but equally applicable to wage negotiations, bargaining, contract design, and any situation where individual agents are few enough to have perceptible effects on each other. As a method heavily used in behavioral economics, it postulates that agents choose strategies to maximize their payoffs, given the strategies of other agents with at least partially conflicting interests. In this, it generalizes maximization approaches developed to analyze market actors such as in the supply and demand model and allows for incomplete information of actors. The field dates from the 1944 classic *Theory of Games and Economic Behavior* by John von Neumann and Oskar Morgenstern. It has significant applications seemingly outside of economics in such diverse subjects as formulation of nuclear strategies, ethics, political science, and evolutionary biology.

Risk aversion may stimulate activity that in well-functioning markets smoothes out risk and communicates information about risk, as in markets for insurance, commodity

futures contracts, and financial instruments. Financial economics or simply finance describes the allocation of financial resources. It also analyzes the pricing of financial instruments, the financial structure of companies, the efficiency and fragility of financial markets, financial crises, and related government policy or regulation.

Some market organizations may give rise to inefficiencies associated with uncertainty. Based on George Akerlof's "Market for Lemons" article, the paradigm example is of a dodgy second-hand car market. Customers without knowledge of whether a car is a "lemon" depress its price below what a quality second-hand car would be. Information asymmetry arises here, if the seller has more relevant information than the buyer but no incentive to disclose it. Related problems in insurance are adverse selection, such that those at most risk are most likely to insure (say reckless drivers), and moral hazard, such that insurance results in riskier behavior (say more reckless driving).

Both problems may raise insurance costs and reduce efficiency in driving otherwise willing transactors from the market ("incomplete markets"). Moreover, attempting to reduce one problem, say adverse selection by mandating insurance, may add to another, say moral hazard. Information economics, which studies such problems, has relevance in subjects such as insurance, contract law, mechanism design, monetary economics, and health care. Applied subjects include market and legal remedies to spread or reduce risk, such as warranties, government-mandated partial insurance, restructuring or bankruptcy law, inspection, and regulation for quality and information disclosure.



*Pollution can be a simple example of market failure. If costs of production are not borne by producers but are by the environment, accident victims or others, then prices are distorted.*

The term "market failure" encompasses several problems which may undermine standard economic assumptions. Although economists categorize market failures differently, the following categories emerge in the main texts.

Information asymmetries and incomplete markets may result in economic inefficiency but also a possibility of improving efficiency through market, legal, and regulatory remedies, as discussed above.

Natural monopoly, or the overlapping concepts of "practical" and "technical" monopoly, is an extreme case of failure of competition as a restraint on producers. Extreme economies of scale are one possible cause.

Public goods are goods which are undersupplied in a typical market. The defining features are that people can consume public goods without having to pay for them and that more than one person can consume the good at the same time.

Externalities occur where there are significant social costs or benefits from production or consumption that are not reflected in market prices. For example, air pollution may generate a negative externality, and education may generate a positive externality (less crime, etc.). Governments often tax and otherwise restrict the sale of goods that have negative externalities and subsidize or otherwise promote the purchase of goods that have positive externalities in an effort to correct the price distortions caused by these externalities. Elementary demand-and-supply theory predicts equilibrium but not the speed of adjustment for changes of equilibrium due to a shift in demand or supply.

In many areas, some form of price stickiness is postulated to account for quantities, rather than prices, adjusting in the short run to changes on the demand side or the supply side. This includes standard analysis of the business cycle in macroeconomics. Analysis often revolves around causes of such price stickiness and their implications for reaching a hypothesized long-run equilibrium. Examples of such price stickiness in particular markets include wage rates in labour markets and posted prices in markets deviating from perfect competition.



*Environmental scientist sampling water*

Some specialised fields of economics deal in market failure more than others. The economics of the public sector is one example. Much environmental economics concerns externalities or "public bads".

Policy options include regulations that reflect cost-benefit analysis or market solutions that change incentives, such as emission fees or redefinition of property rights.

Public finance is the field of economics that deals with budgeting the revenues and expenditures of a public sector entity, usually government. The subject addresses such matters as tax incidence (who really pays a particular tax), cost-benefit analysis of government programs, effects on economic efficiency and income distribution of different kinds of spending and taxes, and fiscal politics. The latter, an aspect of public choice theory, models public-sector behavior analogously to microeconomics, involving interactions of self-interested voters, politicians, and bureaucrats.

Much of economics is positive, seeking to describe and predict economic phenomena. Normative economics seeks to identify what economies ought to be like.

Welfare economics is a normative branch of economics that uses microeconomic techniques to simultaneously determine the allocative efficiency within an economy and the income distribution associated with it. It attempts to measure social welfare by examining the economic activities of the individuals that comprise society.

Macroeconomics examines the economy as a whole to explain broad aggregates and their interactions "top down", that is, using a simplified form of general-equilibrium theory. Such aggregates include national income and output, the unemployment rate, and price inflation and subaggregates like total consumption and investment spending and their components. It also studies effects of monetary policy and fiscal policy.

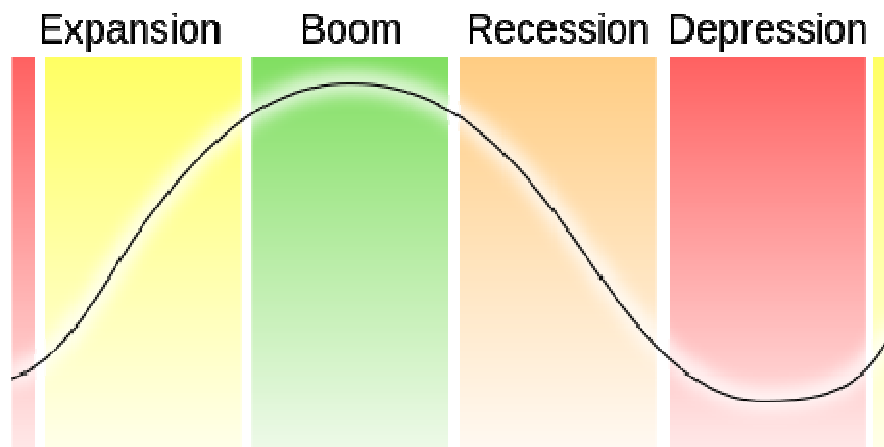
Since at least the 1960s, macroeconomics has been characterized by further integration as to micro-based modeling of sectors, including rationality of players, efficient use of market information, and imperfect competition. This has addressed a long-standing concern about inconsistent developments of the same subject.

Macroeconomic analysis also considers factors affecting the long-term level and growth of national income. Such factors include capital accumulation, technological change and labour force growth.

Growth economics studies factors that explain economic growth – the increase in output per capita of a country over a long period of time. The same factors are used to explain differences in the level of output per capita between countries, in particular why some countries grow faster than others, and whether countries converge at the same rates of growth.

Much-studied factors include the rate of investment, population growth, and technological change. These are represented in theoretical and empirical forms (as in the neoclassical and endogenous growth models) and in growth accounting.

The economics of a depression were the spur for the creation of "macroeconomics" as a separate discipline field of study. During the Great Depression of the 1930s, John Maynard Keynes authored a book entitled *The General Theory of Employment, Interest and Money* outlining the key theories of Keynesian economics. Keynes contended that aggregate demand for goods might be insufficient during economic downturns, leading to unnecessarily high unemployment and losses of potential output. He therefore advocated active policy responses by the public sector, including monetary policy actions by the central bank and fiscal policy actions by the government to stabilize output over the business cycle. Thus, a central conclusion of Keynesian economics is that, in some situations, no strong automatic mechanism moves output and employment towards full employment levels. John Hicks' IS/LM model has been the most influential interpretation of *The General Theory*.



*A basic illustration of economic / business cycles.*

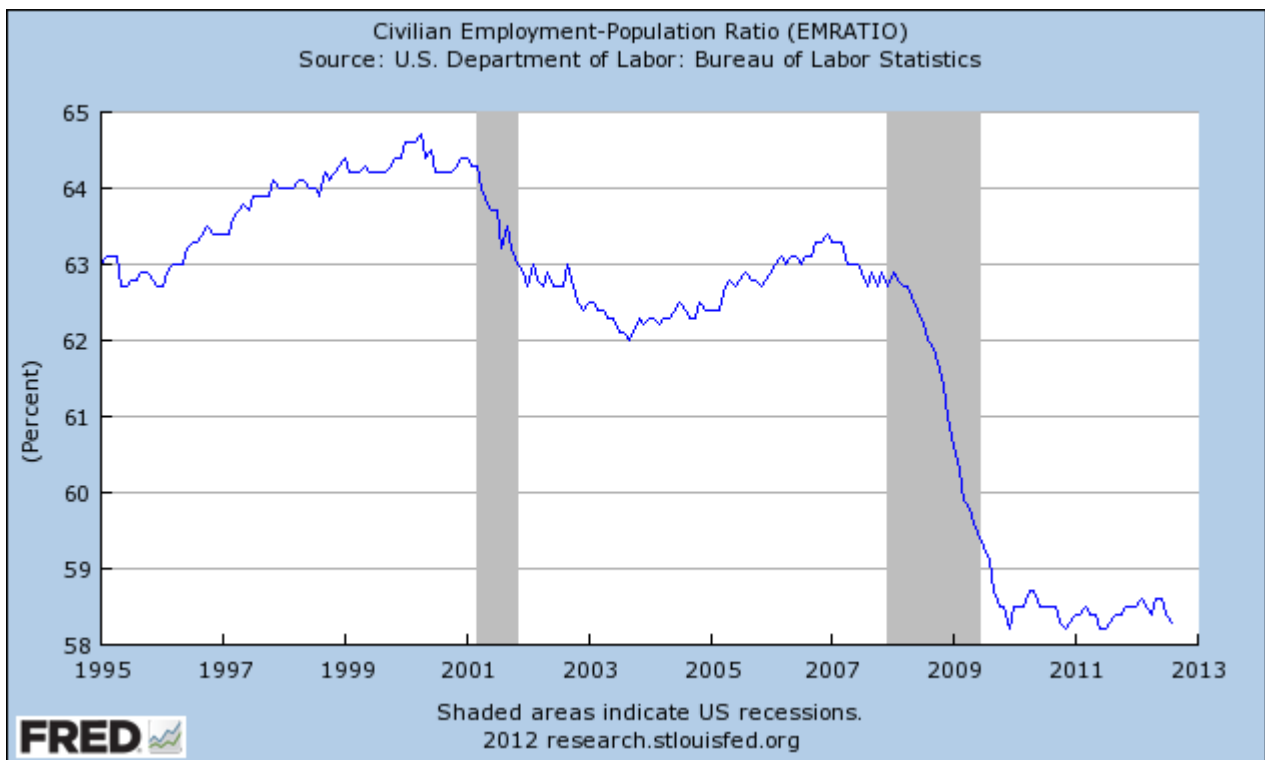
Over the years, understanding of the business cycle has branched into various research programs, mostly related to or distinct from Keynesianism. The neoclassical synthesis refers to the reconciliation of Keynesian economics with neoclassical economics, stating that Keynesianism is correct in the short run but qualified by neoclassical-like considerations in the intermediate and long run.

New classical macroeconomics, as distinct from the Keynesian view of the business cycle, posits market clearing with imperfect information. It includes Friedman's permanent income hypothesis on consumption and "rational expectations" theory, lead by Robert Lucas, and real business cycle theory.

In contrast, the new Keynesian approach retains the rational expectations assumption, however it assumes a variety of market failures. In particular, New Keynesians assume prices and wages are "sticky", which means they do not adjust instantaneously to changes in economic conditions.

Thus, the new classicals assume that prices and wages adjust automatically to attain full employment, whereas the new Keynesians see full employment as being automatically achieved only in the long run, and hence government and central-bank policies are needed because the "long run" may be very long.

The amount of unemployment in an economy is measured by the unemployment rate, the percentage of workers without jobs in the labour force. The labour force only includes workers actively looking for jobs. People who are retired, pursuing education, or discouraged from seeking work by a lack of job prospects are excluded from the labor force. Unemployment can be generally broken down into several types that are related to different causes.



*The percentage of the US population employed, 1995–2012.*

Classical models of unemployment occurs when wages are too high for employers to be willing to hire more workers. Wages may be too high because of minimum wage laws or union activity. Consistent with classical unemployment, frictional unemployment occurs when appropriate job vacancies exist for a worker, but the length of time needed to search for and find the job leads to a period of unemployment.

Structural unemployment covers a variety of possible causes of unemployment including a mismatch between workers' skills and the skills required for open jobs. Large amounts of structural unemployment can occur when an economy is transitioning industries and workers find their previous set of skills are no longer in demand. Structural unemployment is similar to frictional unemployment since both reflect the problem of matching workers with job vacancies, but structural unemployment covers the time needed to acquire new skills not just the short term search process.

While some types of unemployment may occur regardless of the condition of the economy, cyclical unemployment occurs when growth stagnates. Okun's law represents the empirical relationship between unemployment and economic growth. The original version of Okun's law states that a 3% increase in output would lead to a 1% decrease in unemployment.

Money is a means of final payment for goods in most price system economies and the unit of account in which prices are typically stated. A very apt statement by Professor Walker, a well-known economist is that, " Money is what money does!. Money has a general acceptability, a relative consistency in value, divisibility, durability, portability, elastic in supply and survives with mass public confidence. It includes currency held by

the nonbank public and checkable deposits. It has been described as a social convention, like language, useful to one largely because it is useful to others.

As a medium of exchange, money facilitates trade. It is essentially a measure of value and more importantly, a store of value being a basis for credit creation. Its economic function can be contrasted with barter (non-monetary exchange). Given a diverse array of produced goods and specialized producers, barter may entail a hard-to-locate double coincidence of wants as to what is exchanged, say apples and a book. Money can reduce the transaction cost of exchange because of its ready acceptability. Then it is less costly for the seller to accept money in exchange, rather than what the buyer produces.

At the level of an economy, theory and evidence are consistent with a positive relationship running from the total money supply to the nominal value of total output and to the general price level. For this reason, management of the money supply is a key aspect of monetary policy.

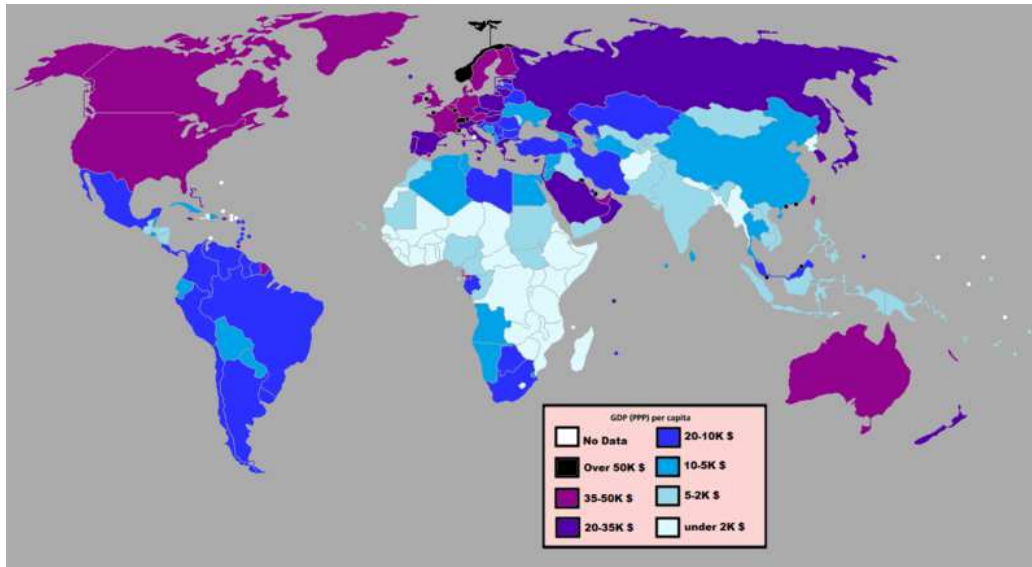
Governments implement fiscal policy by adjusting spending and taxation policies to alter aggregate demand. When aggregate demand falls below the potential output of the economy, there is an output gap where some productive capacity is left unemployed. Governments increase spending and cut taxes to boost aggregate demand. Resources that have been idled can be used by the government.

For example, unemployed home builders can be hired to expand highways. Tax cuts allow consumers to increase their spending, which boosts aggregate demand. Both tax cuts and spending have multiplier effects where the initial increase in demand from the policy percolates through the economy and generates additional economic activity.

The effects of fiscal policy can be limited by crowding out. When there is no output gap, the economy is producing at full capacity and there are no excess productive resources. If the government increases spending in this situation, the government use resources that otherwise would have been used by the private sector, so there is no increase in overall output. Some economists think that crowding out is always an issue while others do not think it is a major issue when output is depressed.

Skeptics of fiscal policy also make the argument of Ricardian equivalence. They argue that an increase in debt will have to be paid for with future tax increases, which will cause people to reduce their consumption and save money to pay for the future tax increase. Under Ricardian equivalence, any boost in demand from fiscal policy will be offset by the increased savings rate intended to pay for future higher taxes.

International trade studies determinants of goods-and-services flows across international boundaries. It also concerns the size and distribution of gains from trade. Policy applications include estimating the effects of changing tariff rates and trade quotas. International finance is a macroeconomic field which examines the flow of capital across international borders, and the effects of these movements on exchange rates. Increased trade in goods, services and capital between countries is a major effect of contemporary globalization.



*A world map showing GDP (PPP) per capita, 2011.*

The distinct field of development economics examines economic aspects of the economic development process in relatively low-income countries focusing on structural change, poverty, and economic growth. Approaches in development economics frequently incorporate social and political factors.

Economic systems is the branch of economics that studies the methods and institutions by which societies determine the ownership, direction, and allocation of economic resources. An economic system of a society is the unit of analysis.

Among contemporary systems at different ends of the organizational spectrum are socialist systems and capitalist systems, in which most production occurs in respectively state-run and private enterprises. In between are mixed economies. A common element is the interaction of economic and political influences, broadly described as political economy. Comparative economic systems studies the relative performance and behavior of different economies or systems.

Gross Domestic product means the total value of goods produced and services provided in a country in a year. GDP is customarily reported on annual basis.

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

Contemporary economics uses mathematics. Economists draw on the tools of calculus, linear algebra, statistics, game theory, and computer science. Professional economists are expected to be familiar with these tools, while a minority specialize in econometrics and mathematical methods.

Mainstream economic theory relies upon a priori quantitative economic models, which employ a variety of concepts. Theory typically proceeds with an assumption of ceteris paribus, which means holding constant explanatory variables other than the one under consideration. When creating theories, the objective is to find ones which are at least as



simple in information requirements, more precise in predictions, and more fruitful in generating additional research than prior theories.

In microeconomics, principal concepts include supply and demand, marginalism, rational choice theory, opportunity cost, budget constraints, utility, and the theory of the firm. Early macroeconomic models focused on modeling the relationships between aggregate variables, but as the relationships appeared to change over time macroeconomists, including new Keynesians, reformulated their models in microfoundations.

The aforementioned microeconomic concepts play a major part in macroeconomic models – for instance, in monetary theory, the quantity theory of money predicts that increases in the money supply increase inflation, and inflation is assumed to be influenced by rational expectations. In development economics, slower growth in developed nations has been sometimes predicted because of the declining marginal returns of investment and capital, and this has been observed in the Four Asian Tigers. Sometimes an economic hypothesis is only qualitative, not quantitative.

Expositions of economic reasoning often use two-dimensional graphs to illustrate theoretical relationships. At a higher level of generality, Paul Samuelson's treatise *Foundations of Economic Analysis* (1947) used mathematical methods to represent the theory, particularly as to maximizing behavioral relations of agents reaching equilibrium. The book focused on examining the class of statements called operationally meaningful theorems in economics, which are theorems that can conceivably be refuted by empirical data.

Economic theories are frequently tested empirically, largely through the use of econometrics using economic data. The controlled experiments common to the physical sciences are difficult and uncommon in economics, and instead broad data is observationally studied; this type of testing is typically regarded as less rigorous than controlled experimentation, and the conclusions typically more tentative. However, the field of experimental economics is growing, and increasing use is being made of natural experiments.

Statistical methods such as regression analysis are common. Practitioners use such methods to estimate the size, economic significance, and statistical significance ("signal strength") of the hypothesized relation(s) and to adjust for noise from other variables. By such means, a hypothesis may gain acceptance, although in a probabilistic, rather than certain, sense. Acceptance is dependent upon the falsifiable hypothesis surviving tests. Use of commonly accepted methods need not produce a final conclusion or even a consensus on a particular question, given different tests, data sets, and prior beliefs.

Criticism based on professional standards and non-replicability of results serve as further checks against bias, errors, and over-generalization, although much economic research has been accused of being non-replicable, and prestigious journals have been accused of not facilitating replication through the provision of the code and data. Like theories, uses of test statistics are themselves open to critical analysis, although critical

commentary on papers in economics in prestigious journals such as the American Economic Review has declined precipitously in the past 40 years. This has been attributed to journals' incentives to maximize citations in order to rank higher on the Social Science Citation Index (SSCI).

In applied economics, input-output models employing linear programming methods are quite common. Large amounts of data are run through computer programs to analyze the impact of certain policies; IMPLAN is one well-known example.

Experimental economics has promoted the use of scientifically controlled experiments. This has reduced long-noted distinction of economics from natural sciences allowed direct tests of what were previously taken as axioms. In some cases these have found that the axioms are not entirely correct; for example, the ultimatum game has revealed that people reject unequal offers.

In behavioral economics, psychologist Daniel Kahneman won the Nobel Prize in economics in 2002 for his and Amos Tversky's empirical discovery of several cognitive biases and heuristics. Similar empirical testing occurs in neuroeconomics. Another example is the assumption of narrowly selfish preferences versus a model that tests for selfish, altruistic, and cooperative preferences. These techniques have led some to argue that economics is a "genuine science."

The professionalization of economics, reflected in the growth of graduate programs on the subject, has been described as "the main change in economics since around 1900". Most major universities and many colleges have a major, school, or department in which academic degrees are awarded in the subject, whether in the liberal arts, business, or for professional study.

In the private sector, professional economists are employed as consultants and in industry, including banking and finance. Economists also work for various government departments and agencies, for example, the national Treasury, Central Bank or Bureau of Statistics.

The Nobel Memorial Prize in Economic Sciences (commonly known as the Nobel Prize in Economics) is a prize awarded to economists each year for outstanding intellectual contributions in the field.

Economics is one social science among several and has fields bordering on other areas, including economic geography, economic history, public choice, energy economics, cultural economics, family economics and institutional economics.

Law and economics, or economic analysis of law, is an approach to legal theory that applies methods of economics to law. It includes the use of economic concepts to explain the effects of legal rules, to assess which legal rules are economically efficient, and to predict what the legal rules will be. A seminal article by Ronald Coase published in 1961 suggested that well-defined property rights could overcome the problems of externalities.

Political economy is the interdisciplinary study that combines economics, law, and political science in explaining how political institutions, the political environment, and the economic system (capitalist, socialist, mixed) influence each other. It studies questions such as how monopoly, rent-seeking behavior, and externalities should impact government policy. Historians have employed political economy to explore the ways in the past that persons and groups with common economic interests have used politics to effect changes beneficial to their interests.

Energy economics is a broad scientific subject area which includes topics related to energy supply and energy demand. Georgescu-Roegen reintroduced the concept of entropy in relation to economics and energy from thermodynamics, as distinguished from what he viewed as the mechanistic foundation of neoclassical economics drawn from Newtonian physics. His work contributed significantly to thermoeconomics and to ecological economics. He also did foundational work which later developed into evolutionary economics.

The sociological subfield of economic sociology arose, primarily through the work of Émile Durkheim, Max Weber and Georg Simmel, as an approach to analysing the effects of economic phenomena in relation to the overarching social paradigm (i.e. modernity). Classic works include Max Weber's *The Protestant Ethic and the Spirit of Capitalism* (1905) and Georg Simmel's *The Philosophy of Money* (1900). More recently, the works of Mark Granovetter, Peter Hedstrom and Richard Swedberg have been influential in this field.

Economic writings date from earlier Mesopotamian, Greek, Roman, Indian subcontinent, Chinese, Persian, and Arab civilizations. Notable writers from antiquity through to the 14th century include Aristotle, Xenophon, Chanakya (also known as Kautilya), Qin Shi Huang, Thomas Aquinas, and Ibn Khaldun. The works of Aristotle had a profound influence on Aquinas, who in turn influenced the late scholastics of the 14th to 17th centuries. Joseph Schumpeter described the latter as "coming nearer than any other group to being the 'founders' of scientific economics" as to monetary, interest, and value theory within a natural-law perspective.

Two groups, later called "mercantilists" and "physiocrats", more directly influenced the subsequent development of the subject. Both groups were associated with the rise of economic nationalism and modern capitalism in Europe. Mercantilism was an economic doctrine that flourished from the 16th to 18th century in a prolific pamphlet literature, whether of merchants or statesmen. It held that a nation's wealth depended on its accumulation of gold and silver. Nations without access to mines could obtain gold and silver from trade only by selling goods abroad and restricting imports other than of gold and silver. The doctrine called for importing cheap raw materials to be used in manufacturing goods, which could be exported, and for state regulation to impose protective tariffs on foreign manufactured goods and prohibit manufacturing in the colonies.



*A 1638 painting of a French seaport during the heyday of mercantilism.*

Physiocrats, a group of 18th century French thinkers and writers, developed the idea of the economy as a circular flow of income and output. Physiocrats believed that only agricultural production generated a clear surplus over cost, so that agriculture was the basis of all wealth. Thus, they opposed the mercantilist policy of promoting manufacturing and trade at the expense of agriculture, including import tariffs. Physiocrats advocated replacing administratively costly tax collections with a single tax on income of land owners. In reaction against copious mercantilist trade regulations, the physiocrats advocated a policy of *laissez-faire*, which called for minimal government intervention in the economy.

Modern economic analysis is customarily said to have begun with Adam Smith (1723–1790). Smith was harshly critical of the mercantilists but described the physiocratic system "with all its imperfections" as "perhaps the purest approximation to the truth that has yet been published" on the subject.



*The publication of Adam Smith's *The Wealth of Nations* in 1776 is considered to be the first formalisation of economic thought.*

The publication of Adam Smith's *The Wealth of Nations* in 1776, has been described as "the effective birth of economics as a separate discipline." The book identified land, labor, and capital as the three factors of production and the major contributors to a nation's wealth, as distinct from the Physiocratic idea that only agriculture was productive.

Smith discusses potential benefits of specialization by division of labour, including increased labour productivity and gains from trade, whether between town and country or across countries. His "theorem" that "the division of labor is limited by the extent of the market" has been described as the "core of a theory of the functions of firm and industry" and a "fundamental principle of economic organization." To Smith has also been ascribed "the most important substantive proposition in all of economics" and foundation of resource-allocation theory – that, under competition, resource owners (of labour, land, and capital) seek their most profitable uses, resulting in an equal rate of return for all uses in equilibrium (adjusted for apparent differences arising from such factors as training and unemployment).

In an argument that includes "one of the most famous passages in all economics," Smith represents every individual as trying to employ any capital they might command for their own advantage, not that of the society, and for the sake of profit, which is necessary at some level for employing capital in domestic industry, and positively related to the value of produce. In this:

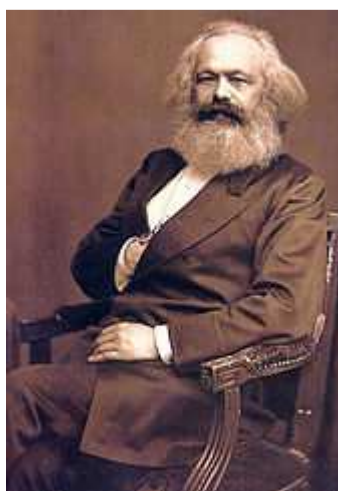
He generally, indeed, neither intends to promote the public interest, nor knows how much he is promoting it. By preferring the support of domestic to that of foreign industry, he intends only his own security; and by directing that industry in such a manner as its produce may be of the greatest value, he intends only his own gain, and he is in this, as in many other cases, led by an invisible hand to promote an end which was no part of his intention. Nor is it always the worse for the society that it was no part of it. By pursuing his own interest he frequently promotes that of the society more effectually than when he really intends to promote it.

Economists have linked Smith's invisible-hand concept to his concern for the common man and woman through economic growth and development, enabling higher levels of consumption, which Smith describes as "the sole end and purpose of all production." He embeds the "invisible hand" in a framework that includes limiting restrictions on competition and foreign trade by government and industry in the same chapter and elsewhere regulation of banking and the interest rate, provision of a "natural system of liberty" — national defence, an egalitarian justice and legal system, and certain institutions and public works with general benefits to the whole society that might otherwise be unprofitable to produce, such as education and roads, canals, and the like. An influential introductory textbook includes parallel discussion and this assessment: "Above all, it is Adam Smith's vision of a self-regulating invisible hand that is his enduring contribution to modern economics."

The Rev. Thomas Robert Malthus (1798) used the idea of diminishing returns to explain low living standards. Human population, he argued, tended to increase geometrically, outstripping the production of food, which increased arithmetically. The force of a rapidly growing population against a limited amount of land meant diminishing returns to labour. The result, he claimed, was chronically low wages, which prevented the standard of living for most of the population from rising above the subsistence level. Economist Julian Lincoln Simon has criticised Malthus's conclusions. While Adam Smith emphasized the production of income, David Ricardo (1817) focused on the distribution of income among landowners, workers, and capitalists. Ricardo saw an inherent conflict between landowners on the one hand and labour and capital on the other. He posited that the growth of population and capital, pressing against a fixed supply of land, pushes up rents and holds down wages and profits. Ricardo was the first to state and prove the principle of comparative advantage, according to which each country should specialize in producing and exporting goods in that it has a lower relative cost of production, rather relying only on its own production. It has been termed a "fundamental analytical explanation" for gains from trade.

Coming at the end of the Classical tradition, John Stuart Mill (1848) parted company with the earlier classical economists on the inevitability of the distribution of income produced by the market system. Mill pointed to a distinct difference between the market's two roles: allocation of resources and distribution of income. The market might be efficient in allocating resources but not in distributing income, he wrote, making it necessary for society to intervene.

Value theory was important in classical theory. Smith wrote that the "real price of every thing ... is the toil and trouble of acquiring it" as influenced by its scarcity. Smith maintained that, with rent and profit, other costs besides wages also enter the price of a commodity. Other classical economists presented variations on Smith, termed the 'labour theory of value'. Classical economics focused on the tendency of markets to move to long-run equilibrium.



*The Marxist school of economic thought comes from the work of German economist Karl Marx.*

Marxist (later, Marxian) economics descends from classical economics. It derives from the work of Karl Marx. The first volume of Marx's major work, *Das Kapital*, was

published in German in 1867. In it, Marx focused on the labour theory of value and the theory of surplus value which, he believed, explained the exploitation of labour by capital. The labour theory of value held that the value of an exchanged commodity was determined by the labour that went into its production and the theory of surplus value demonstrated how the workers only got paid a proportion of the value their work had created. The U.S. Export-Import Bank defines a Marxist-Leninist state as having a centrally planned economy. They are now rare, examples can still be seen in Cuba, North Korea and Laos.

A body of theory later termed "neoclassical economics" or "marginalism" formed from about 1870 to 1910. The term "economics" was popularized by such neoclassical economists as Alfred Marshall as a concise synonym for 'economic science' and a substitute for the earlier "political economy". This corresponded to the influence on the subject of mathematical methods used in the natural sciences.

Neoclassical economics systematized supply and demand as joint determinants of price and quantity in market equilibrium, affecting both the allocation of output and the distribution of income. It dispensed with the labour theory of value inherited from classical economics in favor of a marginal utility theory of value on the demand side and a more general theory of costs on the supply side. In the 20th century, neoclassical theorists moved away from an earlier notion suggesting that total utility for a society could be measured in favor of ordinal utility, which hypothesizes merely behavior-based relations across persons.

In microeconomics, neoclassical economics represents incentives and costs as playing a pervasive role in shaping decision making. An immediate example of this is the consumer theory of individual demand, which isolates how prices (as costs) and income affect quantity demanded. In macroeconomics it is reflected in an early and lasting neoclassical synthesis with Keynesian macroeconomics.

Neoclassical economics is occasionally referred as orthodox economics whether by its critics or sympathizers. Modern mainstream economics builds on neoclassical economics but with many refinements that either supplement or generalize earlier analysis, such as econometrics, game theory, analysis of market failure and imperfect competition, and the neoclassical model of economic growth for analyzing long-run variables affecting national income.



*John Maynard Keynes (right), was a key theorist in economics.*

Keynesian economics derives from John Maynard Keynes, in particular his book *The General Theory of Employment, Interest and Money* (1936), which ushered in contemporary macroeconomics as a distinct field. The book focused on determinants of national income in the short run when prices are relatively inflexible. Keynes attempted to explain in broad theoretical detail why high labour-market unemployment might not be self-correcting due to low "effective demand" and why even price flexibility and monetary policy might be unavailing. The term "revolutionary" has been applied to the book in its impact on economic analysis.

Keynesian economics has two successors. Post-Keynesian economics also concentrates on macroeconomic rigidities and adjustment processes. Research on micro foundations for their models is represented as based on real-life practices rather than simple optimizing models. It is generally associated with the University of Cambridge and the work of Joan Robinson.

New-Keynesian economics is also associated with developments in the Keynesian fashion. Within this group researchers tend to share with other economists the emphasis on models employing micro foundations and optimizing behavior but with a narrower focus on standard Keynesian themes such as price and wage rigidity. These are usually made to be endogenous features of the models, rather than simply assumed as in older Keynesian-style ones.

The Chicago School of economics is best known for its free market advocacy and monetarist ideas. According to Milton Friedman and monetarists, market economies are inherently stable if the money supply does not greatly expand or contract. Ben Bernanke, current Chairman of the Federal Reserve, is among the economists today generally accepting Friedman's analysis of the causes of the Great Depression.

Milton Friedman effectively took many of the basic principles set forth by Adam Smith and the classical economists and modernized them. One example of this is his article in the September 1970 issue of *The New York Times Magazine*, where he claims that the social responsibility of business should be "to use its resources and engage in activities designed to increase its profits ... (through) open and free competition without deception or fraud."

Other well-known schools or trends of thought referring to a particular style of economics practiced at and disseminated from well-defined groups of academicians that have become known worldwide, include the Austrian School, the Freiburg School, the School of Lausanne, post-Keynesian economics and the Stockholm school. Contemporary mainstream economics is sometimes separated into the Saltwater approach of those universities along the Eastern and Western coasts of the US, and the Freshwater, or Chicago-school approach.

Within macroeconomics there is, in general order of their appearance in the literature; classical economics, Keynesian economics, the neoclassical synthesis, post-Keynesian economics, monetarism, new classical economics, and supply-side economics.



Alternative developments include ecological economics, constitutional economics, institutional economics, evolutionary economics, dependency theory, structuralist economics, world systems theory, econophysics, feminist economics and biophysical economics.

"The dismal science" is a derogatory alternative name for economics devised by the Victorian historian Thomas Carlyle in the 19th century. It is often stated that Carlyle gave economics the nickname "the dismal science" as a response to the late 18th century writings of The Reverend Thomas Robert Malthus, who grimly predicted that starvation would result, as projected population growth exceeded the rate of increase in the food supply. However, the actual phrase was coined by Carlyle in the context of a debate with John Stuart Mill on slavery, in which Carlyle argued for slavery, while Mill opposed it.

Some economists, like John Stuart Mill or Léon Walras, have maintained that the production of wealth should not be tied to its distribution.

In *The Wealth of Nations*, Adam Smith addressed many issues that are currently also the subject of debate and dispute. Smith repeatedly attacks groups of politically aligned individuals who attempt to use their collective influence to manipulate a government into doing their bidding. In Smith's day, these were referred to as factions, but are now more commonly called special interests, a term which can comprise international bankers, corporate conglomerations, outright oligopolies, monopolies, trade unions and other groups.

Economics per se, as a social science, is independent of the political acts of any government or other decision-making organization, however, many policymakers or individuals holding highly ranked positions that can influence other people's lives are known for arbitrarily using a plethora of economic concepts and rhetoric as vehicles to legitimize agendas and value systems, and do not limit their remarks to matters relevant to their responsibilities. The close relation of economic theory and practice with politics is a focus of contention that may shade or distort the most unpretentious original tenets of economics, and is often confused with specific social agendas and value systems.

Notwithstanding, economics legitimately has a role in informing government policy. It is, indeed, in some ways an outgrowth of the older field of political economy. Some academic economic journals are currently focusing increased efforts on gauging the consensus of economists regarding certain policy issues in hopes of effecting a more informed political environment. Currently, there exists a low approval rate from professional economists regarding many public policies. Policy issues featured in a recent survey of AEA economists include trade restrictions, social insurance for those put out of work by international competition, genetically modified foods, curbside recycling, health insurance (several questions), medical malpractice, barriers to entering the medical profession, organ donations, unhealthy foods, mortgage deductions, taxing internet sales, Wal-Mart, casinos, ethanol subsidies, and inflation targeting.

In *Steady State Economics* 1977, Herman Daly argues that there exist logical inconsistencies between the emphasis placed on economic growth and the limited availability of natural resources.

Issues like central bank independence, central bank policies and rhetoric in central bank governors discourse or the premises of macroeconomic policies (monetary and fiscal policy) of the state, are focus of contention and criticism.

Deirdre McCloskey has argued that many empirical economic studies are poorly reported, and she and Stephen Ziliak argue that although her critique has been well-received, practice has not improved. This latter contention is controversial.

A 2002 International Monetary Fund study looked at "consensus forecasts" (the forecasts of large groups of economists) that were made in advance of 60 different national recessions in the 1990s: in 97% of the cases the economists did not predict the contraction a year in advance. On those rare occasions when economists did successfully predict recessions, they significantly underestimated their severity.

Economics has been subject to criticism that it relies on unrealistic, unverifiable, or highly simplified assumptions, in some cases because these assumptions simplify the proofs of desired conclusions. Examples of such assumptions include perfect information, profit maximization and rational choices. The field of information economics includes both mathematical-economical research and also behavioral economics, akin to studies in behavioral psychology.

Nevertheless, prominent mainstream economists such as Keynes and Joskow have observed that much of economics is conceptual rather than quantitative, and difficult to model and formalize quantitatively. In a discussion on oligopoly research, Paul Joskow pointed out in 1975 that in practice, serious students of actual economies tended to use "informal models" based upon qualitative factors specific to particular industries. Joskow had a strong feeling that the important work in oligopoly was done through informal observations while formal models were "trotted out ex post". He argued that formal models were largely not important in the empirical work, either, and that the fundamental factor behind the theory of the firm, behavior, was neglected.

In recent years, feminist critiques of neoclassical economic models gained prominence, leading to the formation of feminist economics. Contrary to common conceptions of economics as a positive and objective science, feminist economists call attention to the social construction of economics and highlight the ways in which its models and methods reflect masculine preferences. Primary criticisms focus on failures to account for: the selfish nature of actors (*homo economicus*); exogenous tastes; the impossibility of utility comparisons; the exclusion of unpaid work; and the exclusion of class and gender considerations. Feminist economics developed to address these concerns, and the field now includes critical examinations of many areas of economics including paid and unpaid work, economic epistemology and history, globalization, household economics and the care economy. In 1988, Marilyn Waring published the book *If*

Women Counted, in which she argues that the discipline of economics ignores women's unpaid work and the value of nature; according to Julie A. Nelson, *If Women Counted* "showed exactly how the unpaid work traditionally done by women has been made invisible within national accounting systems" and "issued a wake-up call to issues of ecological sustainability." Bjørnholt and McKay argue that the financial crisis of 2007–08 and the response to it revealed a crisis of ideas in mainstream economics and within the economics profession, and call for a reshaping of both the economy, economic theory and the economics profession. They argue that such a reshaping should include new advances within feminist economics that take as their starting point the socially responsible, sensible and accountable subject in creating an economy and economic theories that fully acknowledge care for each other as well as the planet.

The imperatives of the orthodox research programme [of economic science] leave little room for maneuver and less room for originality. ... These mandates ... Appropriate as many mathematical techniques and metaphorical expressions from contemporary respectable science, primarily physics as possible. ... Preserve to the maximum extent possible the attendant nineteenth-century overtones of "natural order" ... Deny strenuously that neoclassical theory slavishly imitates physics. ... Above all, prevent all rival research programmes from encroaching ... by ridiculing all external attempts to appropriate twentieth century physics models. ... All theorizing is [in this way] held hostage to nineteenth-century concepts of energy.

In a series of peer-reviewed journal and conference papers and books published over a period of several decades, John McMurtry has provided extensive criticism of what he terms the "unexamined assumptions and implications [of economics], and their consequent cost to people's lives."

Nassim Nicholas Taleb and Michael Perelman are two additional scholars who criticized conventional or mainstream economics. Taleb opposes most economic theorizing, which in his view suffers acutely from the problem of overuse of Plato's Theory of Forms, and calls for cancellation of the Nobel Memorial Prize in Economics, saying that the damage from economic theories can be devastating. Michael Perelman provides extensive criticism of economics and its assumptions in all his books (and especially his books published from 2000 to date), papers and interviews.

## **ECONOMY OF INDIA : PAST, PRESENT AND FUTURE**

The Economy of India is the tenth-largest in the world by nominal GDP and the third-largest by purchasing power parity (PPP). The country is one of the G-20 major economies and a member of BRICS. On a per-capita-income basis, India ranked 141st by nominal GDP and 130th by GDP (PPP) in 2012, according to the IMF. India is the 19th-largest exporter and the 10th-largest importer in the world. The economy slowed to around 5.0% for the 2012–13 fiscal year compared with 6.2% in the previous fiscal. According to Moody's, the Economic Growth Rate of India would be 5.5% in 2014-15. On 28 August 2013 the Indian rupee hit an all time low of 68.80 against the US dollar. In order to control the fall in rupee, the government introduced capital controls on

outward investment by both corporates and individuals. India's GDP grew by 9.3% in 2010–11; thus, the growth rate has nearly halved in just three years. GDP growth rose marginally to 4.8% during the quarter through March 2013, from about 4.7% in the previous quarter. The government has forecast a growth rate of 6.1%–6.7% for the year 2013–14, whilst the RBI expects the same to be at 5.7%. Besides this, India suffered a very high fiscal deficit of US\$ 88 billion (4.8% of GDP) in the year 2012–13. The Indian Government aims to cut the fiscal deficit to US\$ 70 billion or 3.7% of GDP by 2013–14.

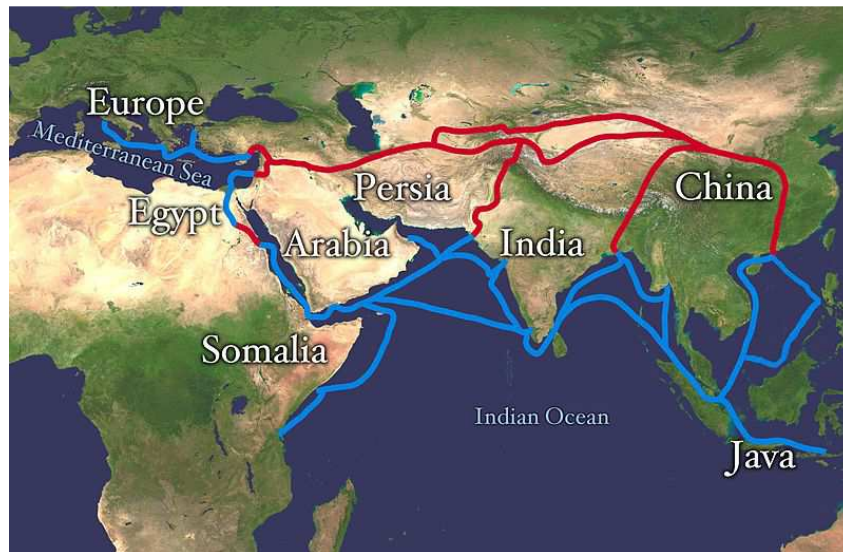
The independence-era Indian economy (from 1947 to 1991) was based on a mixed economy combining features of capitalism and socialism, resulting in an inward-looking, interventionist policies and import-substituting economy that failed to take advantage of the post-war expansion of trade. This model contributed to widespread inefficiencies and corruption, and the failings of this system were due largely to its poor implementation.

In 1991, India adopted liberal and free-market principles and liberalised its economy to international trade under the guidance of Former Finance minister Manmohan Singh under the Prime Ministry of P.V.Narasimha Rao, prime minister from 1991 to 1996, who had eliminated Licence Raj, a pre- and post-British era mechanism of strict government controls on setting up new industry. Following these major economic reforms, and a strong focus on developing national infrastructure such as the Golden Quadrilateral project by former Prime Minister Atal Bihari Vajpayee, the country's economic growth progressed at a rapid pace, with relatively large increases in per-capita incomes. The south western state of Maharashtra contributes the highest towards India's GDP among all states. Mumbai (Maharashtra) is known as the trade and commerce capital of India.

The combination of protectionist, import-substitution, and Fabian social democratic-inspired policies governed India for sometime after the end of British occupation. The economy was then characterised by extensive regulation, protectionism, public ownership of large monopolies, pervasive corruption and slow growth. Since 1991, continuing economic liberalisation has moved the country towards a market-based economy. By 2008, India had established itself as one of the world's fastest growing economies. Growth significantly slowed to 6.8% in 2008–09, but subsequently recovered to 7.4% in 2009–10, while the fiscal deficit rose from 5.9% to a high 6.5% during the same period. India's current account deficit surged to 4.1% of GDP during Q2 FY11 against 3.2% the previous quarter. The unemployment rate for 2010–11, according to the state Labour Bureau, was 9.8% nationwide. As of 2011, India's public debt stood at 68.05% of GDP which is highest among the emerging economies. However, inflation remains stubbornly high with 7.55% in August 2012, the highest amotrade (counting exports and imports) stands at \$606.7 billion and is currently the 9th largest in the world. During 2011–12, India's foreign trade grew by an impressive 30.6% to reach \$792.3 billion (Exports-38.33% & Imports-61.67%).

The citizens of the Indus Valley civilisation, a permanent settlement that flourished between 2800 BC and 1800 BC, practiced agriculture, domesticated animals, used uniform weights and measures, made tools and weapons, and traded with other cities.

Evidence of well-planned streets, a drainage system and water supply reveals their knowledge of urban planning, which included the world's first urban sanitation systems and the existence of a form of municipal government.



*The spice trade between India and Europe was the main catalyst for the Age of Discovery.*

Maritime trade was carried out extensively between South India and southeast and West Asia from early times until around the fourteenth century AD. Both the Malabar and Coromandel Coasts were the sites of important trading centres from as early as the first century BC, used for import and export as well as transit points between the Mediterranean region and southeast Asia. Over time, traders organised themselves into associations which received state patronage. Raychaudhuri and Habib claim this state patronage for overseas trade came to an end by the thirteenth century AD, when it was largely taken over by the local Parsi, Jewish and Muslim communities, initially on the Malabar and subsequently on the Coromandel coast.



*Atashgah is a temple built by Indian traders before 1745.  
The temple is west of Caspian Sea, between West Asia and Eastern Europe.  
The inscription shown is in Sanskrit (above) and Persian.*

Other scholars suggest trading from India to West Asia and Eastern Europe was active between 14th and 18th century. During this period, Indian traders had settled in Surakhani, a suburb of greater Baku, Azerbaijan. These traders had built a Hindu temple, now preserved by the government of Azerbaijan. French Jesuit Villotte, who lived in Azerbaijan in late 1600s, wrote this Indian temple was revered by Hindus; the

temple has numerous carvings in Sanskrit or Punjabi, dated to be between 1500 and 1745 AD. The Atashgah temple built by the Baku-resident traders from India suggests commerce was active and prosperous for Indians by the 17th century.

Further north, the Saurashtra and Bengal coasts played an important role in maritime trade, and the Gangetic plains and the Indus valley housed several centres of river-borne commerce. Most overland trade was carried out via the Khyber Pass connecting the Punjab region with Afghanistan and onward to the Middle East and Central Asia. Although many kingdoms and rulers issued coins, barter was prevalent. Villages paid a portion of their agricultural produce as revenue to the rulers, while their craftsmen received a part of the crops at harvest time for their services.



*Silver coin of the Maurya Empire, 3rd century BC.*



*Silver coin of the Gupta dynasty, 5th century AD.*

Sean Harkin estimates China and India may have accounted for 60 to 70 percent of world GDP in the 17th century.

Assessment of India's pre-colonial economy is mostly qualitative, owing to the lack of quantitative information. The Mughal economy functioned on an elaborate system of coined currency, land revenue and trade. Gold, silver and copper coins were issued by the royal mints which functioned on the basis of free coinage. The political stability and uniform revenue policy resulting from a centralised administration under the Mughals, coupled with a well-developed internal trade network, ensured that India, before the arrival of the British, was to a large extent economically unified, despite having a traditional agrarian economy characterised by a predominance of subsistence agriculture dependent on primitive technology. After the decline of the Mughals, western, central and parts of south and north India were integrated and administered by the Maratha Empire. After the loss at the Third Battle of Panipat, the Maratha Empire disintegrated into several confederate states, and the resulting political instability and armed conflict severely affected economic life in several parts of the country, although this was compensated for to some extent by localised prosperity in the new provincial kingdoms. By the end of the eighteenth century, the British East India Company entered the Indian political theatre and established its dominance over other European powers. This marked a determinative shift in India's trade, and a less powerful impact on the rest of the economy.



*An aerial view of Calcutta Port taken in 1945. Calcutta, which was the economic hub of British India, saw increased industrial activity during World War II.*

There is no doubt that our grievances against the British Empire had a sound basis. As the painstaking statistical work of the Cambridge historian Angus Maddison has shown, India's share of world income collapsed from 22.6% in 1700, almost equal to Europe's share of 23.3% at that time, to as low as 3.8% in 1952. Indeed, at the beginning of the 20th century, "the brightest jewel in the British Crown" was the poorest country in the world in terms of per capita income.

— Manmohan Singh

Company rule in India brought a major change in the taxation and agricultural policies, which tended to promote commercialisation of agriculture with a focus on trade, resulting in decreased production of food crops, mass impoverishment and destitution of farmers, and in the short term, led to numerous famines. The economic policies of the British Raj caused a severe decline in the handicrafts and handloom sectors, due to reduced demand and dipping employment. After the removal of international restrictions by the Charter of 1813, Indian trade expanded substantially and over the long term showed an upward trend. The result was a significant transfer of capital from India to England, which, due to the colonial policies of the British, led to a massive drain of revenue rather than any systematic effort at modernisation of the domestic economy.

India's colonisation by the British created an institutional environment that, on paper, guaranteed property rights among the colonisers, encouraged free trade, and created a single currency with fixed exchange rates, standardised weights and measures and capital markets. It also established a well-developed system of railways and telegraphs, a civil service that aimed to be free from political interference, a common-law and an adversarial legal system. This coincided with major changes in the world economy – industrialisation, and significant growth in production and trade. However, at the end of colonial rule, India inherited an economy that was one of the poorest in the developing world, with industrial development stalled, agriculture unable to feed a

rapidly growing population, a largely illiterate and unskilled labour force, and extremely inadequate infrastructure.



*Estimates of the per capita income of India (1857–1900) as per 1948–49 prices.*

The 1872 census revealed that 91.3% of the population of the region constituting present-day India resided in villages, and urbanisation generally remained sluggish until the 1920s, due to the lack of industrialisation and absence of adequate transportation. Subsequently, the policy of discriminating protection (where certain important industries were given financial protection by the state), coupled with the Second World War, saw the development and dispersal of industries, encouraging rural-urban migration, and in particular the large port cities of Bombay, Calcutta and Madras grew rapidly. Despite this, only one-sixth of India's population lived in cities by 1951.

The impact of British occupation on India's economy is a controversial topic. Leaders of the Indian independence movement and economic historians have blamed colonial occupation for the dismal state of India's economy in its aftermath and argued that financial strength required for industrial development in Europe was derived from the wealth taken from colonies in Asia and Africa. At the same time, right-wing historians have countered that India's low economic performance was due to various sectors being in a state of growth and decline due to changes brought in by colonialism and a world that was moving towards industrialisation and economic integration.

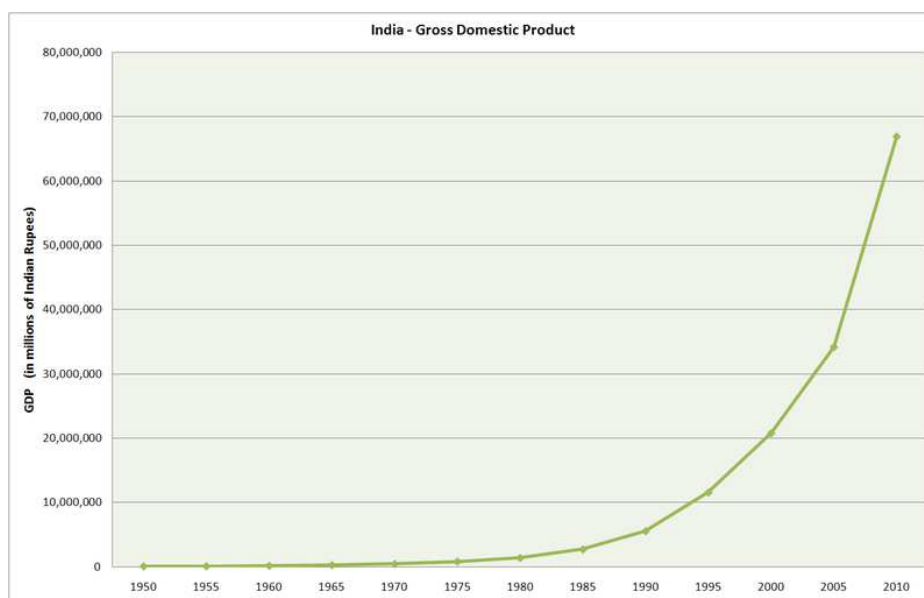
Indian economic policy after independence was influenced by the colonial experience, which was seen by Indian leaders as exploitative, and by those leaders' exposure to British social democracy as well as the planned economy of the Soviet Union. Domestic policy tended towards protectionism, with a strong emphasis on import substitution industrialisation, economic interventionism, a large public sector, business regulation, and central planning, while trade and foreign investment policies were relatively liberal. Five-Year Plans of India resembled central planning in the Soviet Union. Steel, mining, machine tools, telecommunications, insurance, and power plants, among other industries, were effectively nationalised in the mid-1950s.



Jawaharlal Nehru, the first prime minister of India, along with the statistician Prasanta Chandra Mahalanobis, formulated and oversaw economic policy during the initial years of the country's independence. They expected favourable outcomes from their strategy, involving the rapid development of heavy industry by both public and private sectors, and based on direct and indirect state intervention, rather than the more extreme Soviet-style central command system. The policy of concentrating simultaneously on capital- and technology-intensive heavy industry and subsidising manual, low-skill cottage industries was criticised by economist Milton Friedman, who thought it would waste capital and labour, and retard the development of small manufacturers. The rate of growth of the Indian economy in the first three decades after independence was derisively referred to as the Hindu rate of growth by economists, because of the unfavourable comparison with growth rates in other Asian countries.

Since 1965, the use of high-yielding varieties of seeds, increased fertilisers and improved irrigation facilities collectively contributed to the Green Revolution in India, which improved the condition of agriculture by increasing crop productivity, improving crop patterns and strengthening forward and backward linkages between agriculture and industry. However, it has also been criticised as an unsustainable effort, resulting in the growth of capitalistic farming, ignoring institutional reforms and widening income disparities.

Subsequently the Emergency and Garibi Hatao concept under which income tax levels at one point rose to a maximum of 97.5%, a record in the world for non-communist economies, started diluting the earlier efforts.



*GDP of India has risen rapidly since 1991.*

In the late 1970s, the government led by Morarji Desai eased restrictions on capacity expansion for incumbent companies, removed price controls, reduced corporate taxes and promoted the creation of small scale industries in large numbers. However, the subsequent government policy of Fabian socialism hampered the benefits of the

economy, leading to high fiscal deficits and a worsening current account. The collapse of the Soviet Union, which was India's major trading partner, and the Gulf War, which caused a spike in oil prices, resulted in a major balance-of-payments crisis for India, which found itself facing the prospect of defaulting on its loans. India asked for a \$1.8 billion bailout loan from the International Monetary Fund (IMF), which in return demanded de-regulation.<sup>[73]</sup>

In response, Prime Minister Narasimha Rao, along with his finance minister Manmohan Singh, initiated the economic liberalisation of 1991. The reforms did away with the Licence Raj, reduced tariffs and interest rates and ended many public monopolies, allowing automatic approval of foreign direct investment in many sectors. Since then, the overall thrust of liberalisation has remained the same, although no government has tried to take on powerful lobbies such as trade unions and farmers, on contentious issues such as reforming labour laws and reducing agricultural subsidies. By the turn of the 21st century, India had progressed towards a free-market economy, with a substantial reduction in state control of the economy and increased financial liberalisation. This has been accompanied by increases in life expectancy, literacy rates and food security, although urban residents have benefited more than agricultural residents.

While the credit rating of India was hit by its nuclear weapons tests in 1998, it has since been raised to investment level in 2003 by S&P and Moody's. India enjoyed high growth rates for a period from 2003 to 2007 with growth averaging 9% during this period. Growth then moderated due to the global financial crisis starting in 2008. In 2003, Goldman Sachs predicted that India's GDP in current prices would overtake France and Italy by 2020, Germany, UK and Russia by 2025 and Japan by 2035, making it the third largest economy of the world, behind the US and China. India is often seen by most economists as a rising economic superpower and is believed to play a major role in the global economy in the 21st century.

Starting in 2012, India entered a period of more anemic growth, with growth slowing down to 4.4%. Other economic problems also became apparent: a plunging Indian rupee, a persistent high current account deficit and slow industrial growth. Hit by the U.S. Federal Reserve's decision to taper quantitative easing, foreign investors have been rapidly pulling out money from India.

Industry accounts for 26% of GDP and employs 22% of the total workforce. India is 11th in the world in terms of nominal factory output according to data compiled through CIA World Factbook figures. The Indian industrial sector underwent significant changes as a result of the economic liberalisation in India economic reforms of 1991, which removed import restrictions, brought in foreign competition, led to the 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 2nd largest source of employment after agriculture and accounts for 20% of manufacturing output, providing employment to over 20 million people. A previous Indian Minister of Textiles Shankersinh Vaghela, has stated that the transformation of the textile industry from a declining to a rapidly developing one has become the biggest achievement of the central government. After freeing the industry in 2004–2005 from a number of limitations, primarily financial, the government gave a green light to massive investment inflows – both domestic and foreign. During the period from 2004 to 2008, total investment amounted to 27 billion dollars. By 2012, this figure was predicted to reach 38 billion and was expected to create an additional 17 million jobs. However, demand for Indian textiles in world markets continues to fall. 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. Considering the Rs 15,000,000,000 revenue from textile sales with an approximate of a nominal 20% net profit and with around 257,572 residents of the city, per capita income of Ichalkaranji is 116,472, among one of the highest per capita incomes in the country. Textile Development Cluster : To enhance and improve the infrastructure facilities of the city, the Municipal Council along with Ichalkaranji Co-operative Industrial Estate, Laxmi Co-operative Industrial Estate, Parvati Industrial Estate and DKTE Textile and Engineering Institute have jointly come together and formed a Special Purpose Vehicle (SPV) company viz. Ichalkaranji Textile Development Cluster Limited (ITDC). The individual members will contribute to the extent of about 50% of the project cost and the balance amount would come in from the grant in aid from Department of Industrial Promotion and Policy, Government of India, under the Industrial Infrastructure up-gradation Scheme (IIUS).

India's textile industries depend on child labour from the the fields to the mills to remain competitive.

India is 13th in services output. The services sector provides employment to 27% of the work force and is growing quickly, with a growth rate of 7.5% in 1991–2000, up from 4.5% in 1951–80. It has the largest share in the GDP, accounting for 57% in 2012, up from 15% in 1950. Information technology and business process outsourcing are among the fastest growing sectors, having a cumulative growth rate of revenue 33.6% between 1997 and 1998 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.

Retail industry is one of the pillars of Indian economy and accounts for 14–15% of its GDP. The Indian retail market is estimated to be US\$ 450 billion and one of the top five retail markets in the world by economic value. India is one of the fastest growing retail market in the world, with 1.2 billion people.

India's retailing industry essentially consists of the local mom and pop store, owner manned general stores, convenience stores, hand cart and pavement vendors, etc. Organised retail supermarkets account for 4% of the market as of 2008. Regulations prevent most foreign investment in retailing. In 2012 government permitted 51% FDI in multi brand retail and 100% FDI in single brand retail. 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 a high growth sector. It contributes 6.23% to the national GDP and 8.78% of the total employment. The majority of foreign tourists come from USA and UK. India's rich history and its cultural and geographical diversity make its international tourism appeal large and diverse. It presents heritage and cultural tourism along with medical, business and sports tourism. India has one of the largest and fastest growing medical tourism sectors.

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.

India ranks second worldwide in farm output. Agriculture and allied sectors like forestry, logging and fishing accounted for 17% of the GDP in 2012, employed 51% of the total workforce, and despite a steady decline of its share in the GDP, is still the largest economic sector and a significant piece of the overall socio-economic development of India. Crop yield per unit area of all crops have grown since 1950, due to the special emphasis placed on agriculture in the five-year plans and steady improvements in irrigation, technology, application of modern agricultural practices and provision of agricultural credit and subsidies since the Green Revolution in India. However, international comparisons reveal the average yield in India is generally 30% to 50% of the highest average yield in the world. Indian states Uttar Pradesh, Punjab, Haryana, Madhya Pradesh, Andhra Pradesh, Bihar, West Bengal, Gujarat and Maharashtra are key agricultural contributing states of India.

India receives an average annual rainfall of 1,208 millimetres (47.6 in) and a total annual precipitation of 4000 billion cubic metres, with the total utilisable water resources, including surface and groundwater, amounting to 1123 billion cubic metres. 546,820 square kilometres (211,130 sq mi) of the land area, or about 39% of the total cultivated area, is irrigated. India's inland water resources including rivers, canals, ponds and lakes and marine resources comprising the east and west coasts of the Indian ocean and other gulfs and bays provide employment to nearly six million people in the fisheries sector. In 2008, India had the world's third largest fishing industry.

India is the largest producer in the world of milk, jute and pulses, and also has the world's second largest cattle population with 175 million animals in 2008. It is the second largest producer of rice, wheat, sugarcane, cotton and groundnuts, as well as the second largest fruit and vegetable producer, accounting for 10.9% and 8.6% of the world fruit and vegetable production respectively. India is also the second largest producer and the largest consumer of silk in the world, producing 77,000 tons in 2005.

The Indian money market is classified into the organised sector, comprising private, public and foreign owned commercial banks and cooperative banks, together known as scheduled banks, and the unorganised sector, which includes individual or family owned indigenous bankers or money lenders and non-banking financial companies. The unorganised sector and microcredit are still preferred over traditional banks in rural and sub-urban areas, especially for non-productive purposes, like ceremonies and short duration loans.

Prime Minister Indira Gandhi nationalised 14 banks in 1969, followed by six others in 1980, and made it mandatory for banks to provide 40% of their net credit to priority sectors like agriculture, small-scale industry, retail trade, small businesses, etc. to ensure that the banks fulfill their social and developmental goals. Since then, the number of bank branches has increased from 8,260 in 1969 to 72,170 in 2007 and the population covered by a branch decreased from 63,800 to 15,000 during the same period. The total bank deposits increased from ₹59.1 billion (US\$960 million) in 1970–71 to ₹38309.22 billion (US\$620 billion) in 2008–09. Despite an increase of rural branches, from 1,860 or 22% of the total number of branches in 1969 to 30,590 or 42% in 2007, only 32,270 out of 500,000 villages are covered by a scheduled bank.

India's gross domestic saving in 2006–07 as a percentage of GDP stood at a high 32.8%. More than half of personal savings are invested in physical assets such as land, houses, cattle, and gold. The public sector banks hold over 75% of total assets of the banking industry, with the private and foreign banks holding 18.2% and 6.5% respectively. Since liberalisation, the government has approved significant banking reforms. While some of these relate to nationalised banks, like encouraging mergers, reducing government interference and increasing profitability and competitiveness, other reforms have opened up the banking and insurance sectors to private and foreign players.



*As of 2010, India imported about 70% of its crude oil requirements. Shown here is an ONGC platform at Mumbai High in the Arabian Sea, one of the sites of domestic production.*

As of 2009, India is the fourth largest producer of electricity and oil products and the fourth largest importer of coal and crude-oil in the world. Coal and oil together account for 66% of the energy consumption of India.

India's oil reserves meet 25% of the country's domestic oil demand. As of 2012, India's total proven oil reserves of 5.5 million barrels (870 million litres), while gas reserves stood at 43,800 million cubic feet (1,240 million cubic metres). Oil and natural gas fields are located offshore at Mumbai High, Krishna Godavari Basin and the Cauvery Delta, and onshore mainly in the states of Assam, Gujarat and Rajasthan. India is the fourth largest consumer of oil in the world and imported ₹726386 crore (US\$120 billion) worth of oil in 2011-12, which had an adverse effect on its current account deficit. The petroleum industry in India mostly consists of public sector companies such as Oil and Natural Gas Corporation (ONGC), Hindustan Petroleum Corporation Limited (HPCL), Bharat Petroleum Corporation Limited (BPCL) and Indian Oil Corporation Limited (IOCL). There are some major private Indian companies in the oil sector such as Reliance Industries Limited (RIL) which operates the world's largest oil refining complex.

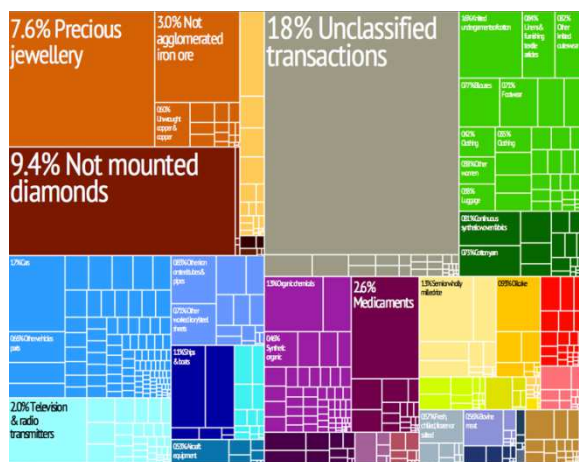
As of December 2011, India had an installed power generation capacity of 233.929 GW as of December 2013, of which thermal power contributed 68.31%, hydroelectricity 17.05%, other sources of renewable energy 12.59%, and nuclear power 2.04%. India meets most of its domestic energy demand through its 106 billion tonnes of coal reserves. India is also rich in certain alternative sources of energy with significant future potential such as solar, wind and biofuels (jatropha, sugarcane). India's dwindling uranium reserves stagnated the growth of nuclear energy in the country for many years. Recent discoveries of natural uranium in Tummalapalle belt, which promises to be one of the top 20 of the world's reserves, and an estimated reserve of 846,477 metric tons (933,081 short tons) of thorium – about 25% of world's reserves – are expected to fuel the country's ambitious nuclear energy program in the long-run. The Indo-US nuclear deal has also paved the way for India to import uranium from other countries.

India has the world's third largest road network, covering more than 4.3 million kilometers and carrying 60% of freight and 87% of passenger traffic. Indian Railways is the fourth largest rail network in the world, with a track length of 114,500 kilometers. India has 13 major ports, handling a cargo volume of 850 million tonnes in 2010.

India has a national teledensity rate of 74.15% with 926.53 million telephone subscribers, two-thirds of them in urban areas, but Internet use is rare, with around 13.3 million broadband lines in India in December 2011. However, this is growing and is expected to boom following the expansion of 3G and WiMAX services.

Until the liberalisation of 1991, India was largely and intentionally isolated from the world markets, to protect its economy and to achieve self-reliance. Foreign trade was subject to import tariffs, export taxes and quantitative restrictions, while foreign direct investment (FDI) was restricted by upper-limit equity participation, restrictions on technology transfer, export obligations and government approvals; these approvals were needed for nearly 60% of new FDI in the industrial sector. The restrictions

ensured that FDI averaged only around \$200 million annually between 1985 and 1991; a large percentage of the capital flows consisted of foreign aid, commercial borrowing and deposits of non-resident Indians. India's exports were stagnant for the first 15 years after independence, due to general neglect of trade policy by the government of that period. Imports in the same period, due to industrialisation being nascent, consisted predominantly of machinery, raw materials and consumer goods.<sup>[140]</sup>



*Graphical depiction of India's product exports in 28 color-coded categories.*

Since liberalisation, the value of India's international trade has increased sharply, with the contribution of total trade in goods and services to the GDP rising from 16% in 1990–91 to 47% in 2008–10. India accounts for 1.44% of exports and 2.12% of imports for merchandise trade and 3.34% of exports and 3.31% of imports for commercial services trade worldwide. India's major trading partners are the European Union, China, the United States of America and the United Arab Emirates. In 2006–07, major export commodities included engineering goods, petroleum products, chemicals and pharmaceuticals, gems and jewellery, textiles and garments, agricultural products, iron ore and other minerals. Major import commodities included crude oil and related products, machinery, electronic goods, gold and silver. In November 2010, exports increased 22.3% year-on-year to ₹850.63 billion (US\$14 billion), while imports were up 7.5% at ₹1251.33 billion (US\$20 billion). Trade deficit for the same month dropped from ₹468.65 billion (US\$7.6 billion) in 2009 to ₹400.7 billion (US\$6.5 billion) in 2010.

India is a founding-member of General Agreement on Tariffs and Trade (GATT) since 1947 and its successor, the WTO. While participating actively in its general council meetings, India has been crucial in voicing the concerns of the developing world. For instance, India has continued its opposition to the inclusion of such matters as labour and environment issues and other non-tariff barriers to trade into the WTO policies.

Since independence, India's balance of payments on its current account has been negative. Since economic liberalisation in the 1990s, precipitated by a balance of payment crisis, India's exports rose consistently, covering 80.3% of its imports in 2002–03, up from 66.2% in 1990–91. However, the global economic slump followed by a general deceleration in world trade saw the exports as a percentage of imports drop to 61.4% in 2008–09. India's growing oil import bill is seen as the main driver behind the

large current account deficit, which rose to \$118.7 billion, or 11.11% of GDP, in 2008–09. Between January and October 2010, India imported \$82.1 billion worth of crude oil.

Due to the global late-2000s recession, both Indian exports and imports declined by 29.2% and 39.2% respectively in June 2009. The steep decline was because countries hit hardest by the global recession, such as United States and members of the European Union, account for more than 60% of Indian exports. However, since the decline in imports was much sharper compared to the decline in exports, India's trade deficit reduced to ₹252.5 billion (US\$4.1 billion). As of June 2011, exports and imports have both registered impressive growth with monthly exports reaching \$25.9 billion for the month of May 2011 and monthly imports reaching \$40.9 billion for the same month. This represents a year on year growth of 56.9% for exports and 54.1% for imports.

India's reliance on external assistance and concessional debt has decreased since liberalisation of the economy, and the debt service ratio decreased from 35.3% in 1990–91 to 4.4% in 2008–09. In India, External Commercial Borrowings (ECBs), or commercial loans from non-resident lenders, are being permitted by the Government for providing an additional source of funds to Indian corporates. The Ministry of Finance monitors and regulates them through ECB policy guidelines issued by the Reserve Bank of India under the Foreign Exchange Management Act of 1999. India's foreign exchange reserves have steadily risen from \$5.8 billion in March 1991 to \$283.5 billion in December 2009.

<b>Share of top five investing countries in FDI inflows. (2000–2010)</b>			
<b>Rank</b>	<b>Country</b>	<b>Inflows (million USD)</b>	<b>Inflows (%)</b>
1	Mauritius	50,164	42.00
2	Singapore	11,275	9.00
3	USA	8,914	7.00
4	UK	6,158	5.00
5	Netherlands	4,968	4.00

As the third-largest economy in the world in PPP terms, India is a preferred destination for FDI; During the year 2011, FDI inflow into India stood at \$36.5 billion,



51.1% higher than 2010 figure of \$24.15 billion. India has strengths in telecommunication, information technology and other significant areas such as auto components, chemicals, apparels, pharmaceuticals, and jewellery. Despite a surge in foreign investments, rigid FDI policies were a significant hindrance. However, due to positive economic reforms aimed at deregulating the economy and stimulating foreign investment, India has positioned itself as one of the front-runners of the rapidly growing Asia-Pacific region. India has a large pool of skilled managerial and technical expertise. The size of the middle-class population stands at 300 million and represents a growing consumer market.

During 2000–10, the country attracted \$178 billion as FDI. The inordinately high investment from Mauritius is due to routing of international funds through the country given significant tax advantages; double taxation is avoided due to a tax treaty between India and Mauritius, and Mauritius is a capital gains tax haven, effectively creating a zero-taxation FDI channel.

India's recently liberalised FDI policy (2005) allows up to a 100% FDI stake in ventures. Industrial policy reforms have substantially reduced industrial licensing requirements, removed restrictions on expansion and facilitated easy access to foreign technology and foreign direct investment FDI. The upward moving growth curve of the real-estate sector owes some credit to a booming economy and liberalised FDI regime. In March 2005, the government amended the rules to allow 100% FDI in the construction sector, including built-up infrastructure and construction development projects comprising housing, commercial premises, hospitals, educational institutions, recreational facilities, and city- and regional-level infrastructure. Despite a number of changes in the FDI policy to remove caps in most sectors, there still remains an unfinished agenda of permitting greater FDI in politically sensitive areas such as insurance and retailing. The total FDI equity inflow into India in 2008–09 stood at ₹ 1229.19 billion (US\$20 billion), a growth of 25% in rupee terms over the previous period. India's trade and business sector has grown fast. India currently accounts for 1.5% of world trade as of 2007 according to the World Trade Statistics of the WTO in 2006.

Exchange rate policy in India evolved over time. After independence the Indian rupee was pegged to the British currency pound sterling. In the aftermath of the two wars in 1962 and 1965 and severe drought, the Government devalued the rupee by 35% in 1966. The rupee was delinked from the pound sterling in 1975. In 1991 India faced the major foreign exchange crisis and the rupee was devalued by around 19% in two stages on 1 and 2 July. In 1992 a Liberalized Exchange Rate Mechanism – LERMS- was introduced. Under LERMS exporters had to surrender 40 percent of their foreign exchange earnings to the RBI at the RBI determined exchange rate. The balance 60% was allowed to be converted at the market determined exchange rate. In 1994 the rupee was convertible on the current account. It is not yet fully convertible on the capital account. Thus, over the years India has moved from a fixed exchange rate regime to a managed float regime. Central Bank intervenes in the foreign exchange market to curb excessive volatility.

After the sharp devaluation in 1991 and transition to current account convertibility in 1994, the value of the rupee is largely determined by the market forces. The rupee has been fairly stable during the decade 2000 to 2010 even though there were sharp swings in 2008 following the Lehman collapse and the capital flight that it triggered. In June 2012 the rupee touched an all time low 57.33 to the dollar. The sharp depreciation in the rupee has been caused by the rising and unsustainable current account deficit which touched 4.5% for 2011–12. Port folio flows showed down following the risk aversion caused by the European debt crisis. The adverse impact on the investor sentiment caused by the General Anti-Avoidance Rule (GAAR) legislation introduced in the 2012 union budget also impacted capital inflows. Another major factor has been the cross currency movements caused by global risk aversion. Dollar again become the safe haven and the consequent flight to safety depreciated many Emerging Market currencies.

<b>Year</b>	<b>Rupee Per Unit of \$ (average annual)</b>
1975	8.4058
1980	7.8800
1985	12.3640
1990	17.4992
1995	32.4198
2000	44.9401
2005	44.1000
2010	45.7393



*The RBI's new headquarters in Mumbai*

The Indian rupee (₹) is the only legal tender in India, and is also accepted as legal tender in the neighbouring Nepal and Bhutan, both of which peg their currency to that

of the Indian rupee. The rupee is divided into 100 paise. The highest-denomination banknote is the ₹1,000 note; the lowest-denomination coin in circulation is the 50 paise coin; with effect from 30 June 2011 all denominations below 50 paise have ceased to be legal currency. India's monetary system is managed by the Reserve Bank of India (RBI), the country's central bank. Established on 1 April 1935 and nationalised in 1949, the RBI serves as the nation's monetary authority, regulator and supervisor of the monetary system, banker to the government, custodian of foreign exchange reserves, and as an issuer of currency. It is governed by a central board of directors, headed by a governor who is appointed by the Government of India.

The rupee was linked to the British pound from 1927 to 1946 and then the U.S. dollar till 1975 through a fixed exchange rate. It was devalued in September 1975 and the system of fixed par rate was replaced with a basket of four major international currencies – the British pound, the U.S. dollar, the Japanese yen and the Deutsche mark. From 2003 to 2008, the rupee appreciated against the U.S. dollar; thereafter, it has sharply depreciated. Between 2010 and 2012, the rupee value had depreciated by about 30% of its value to the U.S. dollar in 2010.

India's gross national income per capita had experienced high growth rates since 2002. India's Per Capita Income has tripled from Rs. 19,040 in 2002–03 to Rs. 53,331 in 2010–11, averaging 13.7% growth over these eight years peaking 15.6% in 2010–11. However growth in the inflation adjusted Per capita income of the nation slowed to 5.6% in 2010–11, down from 6.4% in the previous year. As of 2010, according to World Bank statistics, about 400 million people in India, as compared to 1.29 billion people worldwide, live on less than \$1.25 (PPP) per day. These consumption levels are on an individual basis, not household.

Per 2011 census, India has about 330 million houses and 247 million households. The household size in India has dropped in recent years, with 2011 census reporting 50% of households have 4 or less members. Some households have 6 or more members, including the grandparents. These households produced a GDP of about \$1.7 Trillion. The household consumption patterns per 2011 census: approximately 67% of households use firewood, crop residue or cow dung cakes for cooking purposes; 53% do not have sanitation or drainage facilities on premises; 83% have water supply within their premises or 100 metres from their house in urban areas and 500 metres from the house in rural areas; 67% of the households have access to electricity; 63% of households have landline or mobile telephone connection; 43% have a television; 26% have either a two wheel (motorcycle) or four wheel (car) vehicle. Compared to 2001, these income and consumption trends represent moderate to significant improvements. One report in 2010 claimed that the number of high income households has crossed lower income households.

India has about 61 million children under the age of 5 who are chronically malnourished, compared to 150 million children worldwide. Majority of malnourished children of India live in rural areas. Girls tend to be more malnourished than boys. Malnourishment, claims this report, is not a matter of income, rather it is education as in other parts of the world. A third of children from the wealthiest fifth of India's

population are malnourished. This is because of poor feeding practices – foremost among them a failure exclusively to breastfeed in the first six months – play as big a role in India's malnutrition rates as food shortages. India's government has launched several major programs with mandated social spending programs to address child malnourishment problem. However, Indian government has largely failed. A public distribution system that targets subsidised food to the poor and a vast midday-meal scheme, to which 120 million children subscribe —are hampered by inefficiency and corruption. Another government-paid program named Integrated Childhood Development Service (ICDS) has been operating since 1975 and it too has been ineffective and a wasteful program. A 2011 UNICEF report claims recent encouraging signs. Between 1990 to 2010, India has achieved a 45 percent reduction in under age 5 mortality rates, and now ranks 46 in 188 countries on this metric.

According to World Bank international poverty line methodology, India's poverty dropped from 42% of its total population in 2005 to about 33% in 2010. In rural India, about 34 percent of the population lives on less than \$1.25 a day, down from 44 percent in 2005; while in urban India, 29 percent of the population lived below that absolute poverty line in 2010, down from 36 percent in 2005, according to the World Bank report.

Since the early 1950s, successive governments have implemented various schemes to alleviate poverty, under central planning, that have met with partial success. All these programmes have relied upon the strategies of the Food for work programme and National Rural Employment Programme of the 1980s, which attempted to use the unemployed to generate productive assets and build rural infrastructure. In 2005, Indian government enacted the Mahatma Gandhi National Rural Employment Guarantee Act, guaranteeing 100 days of minimum wage employment to every rural household in all the districts of India. The question of whether these government spending programs or whether economic reforms reduce poverty, by improving income of the poorest, remains in controversy. In 2011, the Mahatma Gandhi National Rural Employment Guarantee programme was widely criticised as no more effective than other poverty reduction programs in India. Despite its best intentions, MGNREGA is beset with controversy about corrupt officials, deficit financing as the source of funds, poor quality of infrastructure built under this program, and unintended destructive effect on poverty.

India's labour regulations – among the most restrictive and complex in the world – have constrained the growth of the formal manufacturing sector where these laws have their widest application. Better designed labour regulations can attract more labour-intensive investment and create jobs for India's unemployed millions and those trapped in poor quality jobs. Given the country's momentum of growth, the window of opportunity must not be lost for improving the job prospects for the 80 million new entrants who are expected to join the work force over the next decade.

— *World Bank: India Country Overview 2008.*

Agricultural and allied sectors accounted for about 52.1% of the total workforce in 2009–10. While agriculture has faced stagnation in growth, services have seen a steady

growth. Of the total workforce, 7% is in the organised sector, two-thirds of which are in the public sector. The NSSO survey estimated that in 2004–05, 8.3% of the population was unemployed, an increase of 2.2% over 1993 levels, with unemployment uniformly higher in urban areas and among women. Growth of labour stagnated at around 2% for the decade between 1994 and 2005, about the same as that for the preceding decade. Avenues for employment generation have been identified in the IT and travel and tourism sectors, which have been experiencing high annual growth rates of above 9%.

Unemployment in India is characterised by chronic (disguised) unemployment. Government schemes that target eradication of both poverty and unemployment (which in recent decades has sent millions of poor and unskilled people into urban areas in search of livelihoods) attempt to solve the problem, by providing financial assistance for setting up businesses, skill honing, setting up public sector enterprises, reservations in governments, etc. The decline in organised employment due to the decreased role of the public sector after liberalisation has further underlined the need for focusing on better education and has also put political pressure on further reforms. India's labour regulations are heavy even by developing country standards and analysts have urged the government to abolish or modify them in order to make the environment more conducive for employment generation. The 11th five-year plan has also identified the need for a congenial environment to be created for employment generation, by reducing the number of permissions and other bureaucratic clearances required. Further, inequalities and inadequacies in the education system have been identified as an obstacle preventing the benefits of increased employment opportunities from reaching all sectors of society.

Child labour in India is a complex problem that is basically rooted in poverty, coupled with a failure of governmental policy, which has focused on subsidising higher rather than elementary education, as a result benefiting the privileged rather than the poorer sections of society. The Indian government is implementing the world's largest child labour elimination program, with primary education targeted for ~250 million. Numerous non-governmental and voluntary organisations are also involved. Special investigation cells have been set up in states to enforce existing laws banning the employment of children under 14 in hazardous industries. The allocation of the Government of India for the eradication of child labour was \$21 million in 2007. Public campaigns, provision of meals in school and other incentives have proven successful in increasing attendance rates in schools in some states.

In 2009–10, remittances from Indian migrants overseas stood at ₹2500 billion (US\$41 billion), the highest in the world, but their share in FDI remained low at around 1%. India ranked 133rd on the Ease of Doing Business Index 2010, behind countries such as China (89th), Pakistan (85th), and Nigeria (125th).

Women in India are mainly employed in agriculture and caring for livestock with only about 20% of the employed women engaging in activities outside agriculture. When employed, women earn substantially less than men, only about 66% of the male incomes in agriculture and 57% of the male incomes outside agriculture.

In the revised 2007 figures before the global financial crisis, based on increased and sustaining growth, more inflows into foreign direct investment, Goldman Sachs predicted 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. In spite of the high growth rate, the report stated that India would continue to remain a low-income country for decades to come but could be a "motor for the world economy" if it fulfills its growth potential. World growth has since slowed substantially.

According to the official estimates, Indian economy was expected to grow at 7.6% (+/- 0.25%) in the fiscal year 2012–2013. However, leading financial organisations and economic think-tanks expect Indian economy to grow slower than official projections. In the end, India ended up growing 5% during the 2012–2013 fiscal year.

A media report in early October 2013 stated that five major Indian IT (information technology) companies have established offices in Guadalajara, Mexico, while several other Indian IT companies continue to explore the option of expanding to Mexico. Due to the competitiveness in the Indian IT sector, companies are expanding internationally and Mexico offers an affordable opportunity for Indian companies to better position themselves to enter the United States market. The trend emerged after 2006 and the Mexican government also offers incentives to foreign companies.

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"*

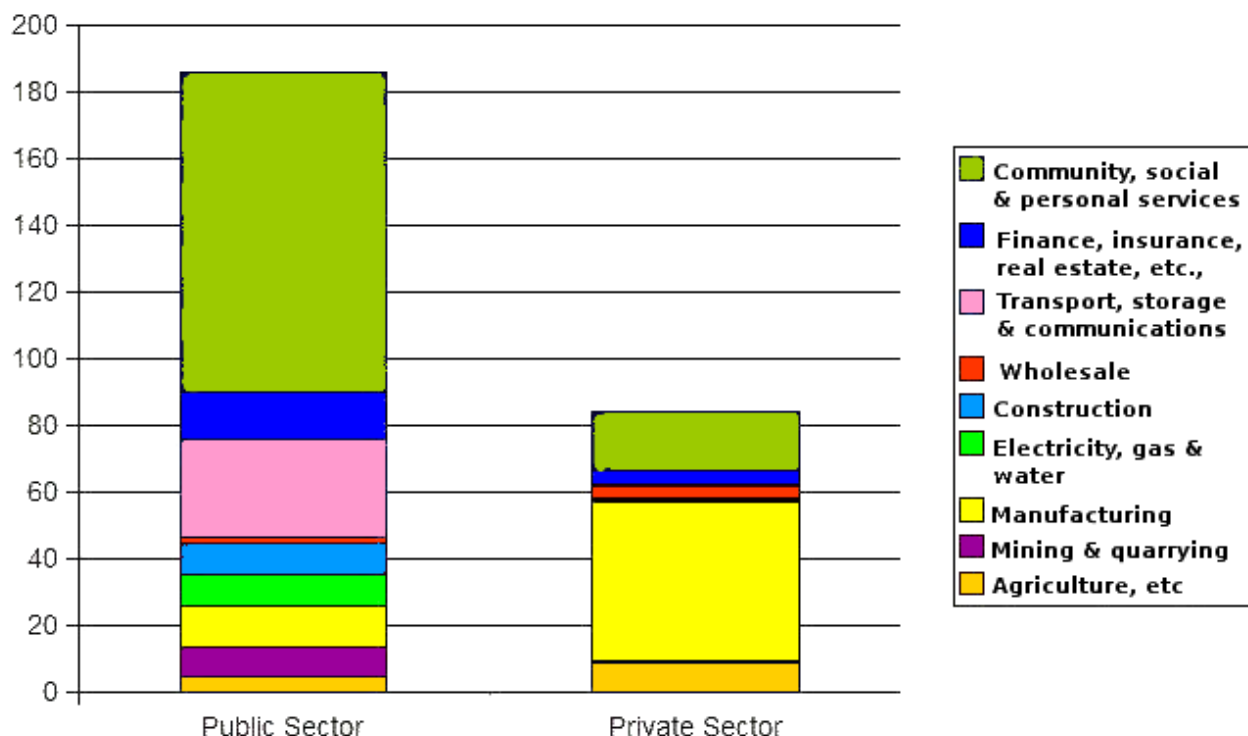
Agriculture is an important part of Indian economy. In 2008, a New York Times article claimed, with the right technology and policies, India could contribute to feeding not just itself but the world. However, agricultural output of India lags far behind its potential. The low productivity in India is a result of several factors. According to the World Bank, India's large agricultural subsidies are hampering productivity-enhancing investment. While overregulation of agriculture has increased costs, price risks and uncertainty, governmental intervention in labour, land, and credit markets are hurting the market. Infrastructure such as rural roads, electricity, ports, food storage, retail markets and services are inadequate. Further, the average size of land holdings is very small, with 70% of holdings being less than one hectare in size. The partial failure of land reforms in many states, exacerbated by poorly maintained or non-existent land records, has resulted in sharecropping with cultivators lacking ownership rights, and consequently low productivity of labour. Adoption of modern agricultural practices and use of technology is inadequate, hampered by ignorance of such practices, high costs, illiteracy, slow progress in implementing land reforms, inadequate or inefficient finance and marketing services for farm produce and impracticality in the case of small land holdings. The allocation of water is inefficient, unsustainable and inequitable. The

irrigation infrastructure is deteriorating. Irrigation facilities are inadequate, as revealed by the fact that only 39% of the total cultivable land was irrigated as of 2010, resulting in farmers still being dependent on rainfall, specifically the monsoon season, which is often inconsistent and unevenly distributed across the country.

Corruption has been one of the pervasive problems affecting India. A 2005 study by Transparency International (TI) found that more than half of those surveyed had firsthand experience of paying bribe or peddling influence to get a job done in a public office in the previous year. A follow-on 2008 TI study found this rate to be 40 percent. In 2011, Transparency International ranked India at 95th place amongst 183 countries in perceived levels of public sector corruption.

In 1996, red tape, bureaucracy and the Licence Raj were suggested as a cause for the institutionalised corruption and inefficiency. More recent reports suggest the causes of corruption in India include excessive regulations and approval requirements, mandated spending programs, monopoly of certain goods and service providers by government controlled institutions, bureaucracy with discretionary powers, and lack of transparent laws and processes.

The Right to Information Act (2005) which requires government officials to furnish information requested by citizens or face punitive action, computerisation of services, and various central and state government acts that established vigilance commissions, have considerably reduced corruption and opened up avenues to redress grievances.



*The number of people employed in non-agricultural occupations in the public and private sectors. Totals are rounded. Private sector data relates to non-agriculture establishments with 10 or more employees.*

The current government has concluded that most spending fails to reach its intended recipients. A large, cumbersome and tumor-like bureaucracy sponges up or siphons off spending budgets. India's absence rates are one of the worst in the world; one study found that 25% of public sector teachers and 40% of public sector medical workers could not be found at the workplace.

Corruption is also endemic in the Indian technology and scientific development industries. CSIR has been flagged in ongoing efforts to root out corruption in India. Prime minister Manmohan Singh spoke at the 99th Indian Science Congress and commented on the state of the sciences in India, after an advisory council informed him there were problems with "the overall environment for innovation and creative work" and a 'warlike' approach was needed. There are many issues facing Indian scientists, with some – such as MIT systems scientist VA Shiva Ayyadurai – calling for transparency, a meritocratic system, and an overhaul of the bureaucratic agencies that oversee science and technology.

The Indian economy has an underground economy, with an alleged 2006 report by the Swiss Bankers Association suggesting India topped the worldwide list for black money with almost \$1,456 billion stashed in Swiss banks. This amounts to 13 times the country's total external debt. These allegations have been denied by Swiss Banking Association. James Nason, the Head of International Communications for Swiss Banking Association, suggests "The (black money) figures were rapidly picked up in the Indian media and in Indian opposition circles, and circulated as gospel truth. However, this story was a complete fabrication. The Swiss Bankers Association never published such a report. Anyone claiming to have such figures (for India) should be forced to identify their source and explain the methodology used to produce them."

India has made huge progress in terms of increasing primary education attendance rate and expanding literacy to approximately three-fourths of the population. India's literacy rate had grown from 52.2% in 1991 to 74.04% in 2011. The right to education at elementary level has been made one of the fundamental rights under the eighty-sixth Amendment of 2002, and legislation has been enacted to further the objective of providing free education to all children. However, the literacy rate of 74% is still lower than the worldwide average and the country suffers from a high dropout rate. Further, there exists a severe disparity in literacy rates and educational opportunities between males and females, urban and rural areas, and among different social groups.

India continues to grow at a rapid pace, although the government recently reduced its annual GDP growth projection from 9% to 8% for the current fiscal year ending March 2012. The slowdown is marked by a sharp drop in investment growth resulting from political uncertainties, a tightening of macroeconomic policies aimed at addressing a high fiscal deficit and high inflation (going well beyond food and fuel prices), and from renewed concerns about the European and US economies. Although the Government was quite successful in cushioning the impact of the global financial crisis on India, it is now clear that a number of MDG targets will only be met under the Twelfth Five Year Plan (2012–17).



A critical problem facing India's economy is the sharp and growing regional variations among India's different states and territories in terms of poverty, availability of infrastructure and socio-economic development. Six low-income states – Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Odisha and Uttar Pradesh – are home to more than one-third of India's population. Severe disparities exist among states in terms of income, literacy rates, life expectancy and living conditions.

The five-year plans, especially in the pre-liberalisation era, attempted to reduce regional disparities by encouraging industrial development in the interior regions and distributing industries across states, but the results have not been very encouraging since these measures in fact increased inefficiency and hampered effective industrial growth. After liberalisation, the more advanced states have been better placed to benefit from them, with well-developed infrastructure and an educated and skilled workforce, which attract the manufacturing and service sectors. The governments of backward regions are trying to reduce disparities by offering tax holidays and cheap land, and focusing more on sectors like tourism which, although being geographically and historically determined, can become a source of growth and develops faster than other sectors. In fact, the economists fail to realize that ultimately the problem of equitable growth or inclusive growth is intricately related to the problems of good governance and transparency.

In 2011 Engineering Jobs in India have been showing signs of steady growth.

Critics of the neoliberal turn to policymaking in India, and the world in general, since the mid-1980s have pointed out that the growth process under a neoliberal regime is inherently anti-poor. Most of the dividends of economic growth is cornered by the already well off. In parallel with an inegalitarian growth process, neoliberalism also whittles down whatever welfare State measures might have been in place before its adoption. Inegalitarian growth and erosion of State assisted welfare provisioning increases socio-economic inequality drastically. Drawing on some recent research, this article has provided empirical evidence in support of such a view.

Two comparison groups provide a powerful and disturbing insight into India's growth process. First, there are many countries which have grown at rates very similar to India's but which have managed to register marked declines in socio-economic inequalities. In stark contrast to this, India has witnessed an increase in socio-economic inequality since 1990. Second, in comparison to its close neighbours, with whom India has many geographical, climactic, cultural and social commonalities, India emerges as the worst performer among the South Asian countries.

The growth process currently underway in India is inherently biased against the poor, the marginalized and underprivileged. If economic growth is to lead to substantial improvements in the living standards (measured by indicators of well being like life expectancy, literacy, infant mortality) of the vast majority of the world's population, a radically different socio-economic paradigm must be put in place of the currently dominant neoliberal one.

There are 23 private-sector firms providing life insurance, who have commenced operations over the period 2000–10. The industry which reported in annual growth rate of 19.8% during the period 1996–97 to 2000–01 has, post opening up the sector reported in an annual growth rate of 23.4% during 2001–02 to 2010–11. There has been an average growth of 34% in the first premium in the insurance sector between 2001–02 and 2010–11. The life insurers underwrote new business of Rs 1,26,381 crore during financial year 2010–11 as against Rs 1,09,894 crore during the year 2009–10, recording a growth of 15%. Of the new business premium underwritten, LIC accounted Rs 87012.65 crore (68.9% market share). The market share of these insurers was 65.1% and 34.9% respectively in the corresponding period 2009–10.

The industry which reported a growth rate of around 10 percent during the period 1996–97 to 2000–10 has, post opening up the sector, reported average annual growth of 15.85% over the period 2001–02 to 2010–11. In addition, the specialized insurers Export Credit Guarantee Corporation and Agriculture Insurance Company (AIC) are offering credit guarantee and corp insurance respectively. AIC, which has initially offering coverage under the National Agriculture Insurance Company (NAIS), has now started providing crop insurance cover on commercial line as well. It has introduced several innovative products such as weather insurance and specific crop related products. The premium underwritten by the non life insurers during 2010–11 was Rs 42,576 crore as against Rs 34,620 crore in 2009–10. The growth was satisfactory, particularly in the view of the across the broad cuts in the tariff rates. The private insurers underwrote premium of Rs 17,424 crore as against rs Rs 13,977 crore in 2009–10. The public sector insurers on the other hand, underwrote a premium of Rs 25,151.8 in 2010–11 as against Rs 20,643.5 crore in 2009–10, i.e. a growth of 21.8% as against 14.5% in 2009–10.

The growth of insurance sector is internationally measured based standard of insurance penetration. Insurance Penetration is defined as the ratio of premium underwritten in a given year to Gross Domestic Product. Likewise, insurance density is another well recognized benchmark and is defined as the ratio of premium underwritten in a given year to total population (measured in US dollars for convenience of comparison). The Indian insurance business has in the past remained under developed with low levels of insurance penetration. Post liberalization=, sector has succeeded in raising the levels of insurance penetration from 2.3 (life 1.8 and non life 0.7) in 2000 to 5.1 (life 4.4 and non life 0.7) in 2010.

The Indian Securities Market dates back to the 18th century when the securities of the East India Company were traded in Mumbai and Kolkata. However, orderly growth of the capital market began with setting up of the Stock Exchange, Mumbai in July 1875 and Ahmedabad Stock exchange in 1894 and 22 other exchange in various cities over the years.

During the financial year 2011–12 (up to 31 December 2011) resource mobilization through primary market witnessed a sharp decline over the year 2010–11. The cumulative amount mobilized as on 31 December 2011 through equity public issues stood at Rs 9683 crore as compared to 48564 crore in 2011. During 2011–12 30 new

companies were listed at the National Stock Exchange (NSE) and Bombay Stock Exchange (BSE) amounting to Rs 5043 crore as against 53 companies amounting to Rs 3559 crore listed in 2011–12. The mean IPO size of the year 2011–12 was Rs 168 crore as compared to Rs 671 crore. in 2010–11. Further, only Rs 4791 crore was mobilized through debt issue as compared to Rs 9451 crore in 2010–11. The amount of capital mobilized through private placement in corporate debt in 2011–12 (April – December) was Rs 188530 crore as compared to Rs 218785 crore in 2010–11.

## **FUTURE PROGRAMMES AND ACTIVITIES OF THE NATIONAL INSTITUTE OF ECONOMICS (NIE)**

The National Institute of Economics (NIE) has decided to bring out occasional monographs and case books on the following topics :

1. Accountancy
2. Accounting Reforms
3. Actuary
4. Adam Smith
5. Adaptive Expectations
6. Adverse Selection
7. Agent in the Context of Economics
8. Agent-based Computational Economics
9. Aggregate Demand
10. Aggregate Supply
11. Agricultural Policy
12. Anglo-Saxon Economy
13. Appropriate Technology
14. Arbitrage
15. Aristotle
16. Arrow's Impossibility Theorem
17. Antitrust
18. Attention Economics
19. Auction
20. Austrian School
21. Autarky
22. Backward Induction
23. Balance of Payments
24. Balance of Trade
25. Bank
26. Bankruptcy
27. Barter
28. Behavioural Economics
29. Bellman Equation
30. Bequest Motive
31. Big Mac Index
32. Big Push Model
33. Bioeconomics

34. Black Market
35. Black-Scholes
36. Bretton Woods System
37. British Enlightenment
38. Bullionism
39. Business
40. Business Cycle
41. Bertrand-Edgeworth Model
42. Canadian and American Economies Comparison
43. Capital
44. Capital Asset
45. Capital (Economics)
46. Capital Intensity
47. Capitalism
48. Capitalist Economy
49. Cartel
50. Cash Crop
51. Catch-up Effect
52. Celtic Tiger
53. Ceteris Paribus
54. Charity Shop
55. Classical Economics
56. Classical General Equilibrium Model
57. Closed Economy
58. Coase Conjecture
59. Coase Theorem
60. Cobweb Model
61. Collective Action
62. Collusion
63. Commodity
64. Commodity Markets
65. Community-based Economics
66. Communist Economy
67. Comparative Advantage
68. Comparative Statics
69. Compensating Differential
70. Competition
71. Competition Law
72. Competitive Advantage
73. Complementary Good
74. Complement Good
75. Complementarity
76. Comprehensive Income Policy Agreement
77. Computational Economics
78. Community Currency
79. Concentration Ratio
80. Consumer

81. Consumer and Producer Surplus
82. Consumer Price Index
83. Consumer Sovereignty
84. Consumer Theory
85. Consumption
86. Consumerism
87. Constitutional Economics
88. Contestable Market
89. Contract Curve
90. Contract Theory
91. Cooperative
92. Corporate Economy
93. Cost
94. Cost-Benefit Analysis
95. Cost Curve
96. Cost of Living Index
97. Cost-of-Production Theory of Value
98. Cost Overrun
99. Cost Push Inflation
100. Cost Underestimation
101. Cournot Competition
102. Cross Elasticity of Demand
103. Cultural Ecology
104. Currency
105. Damages
106. Dead Cat Bounce
107. Deadweight Loss
108. Debt
109. Decentralization
110. Deflation
111. Demand-pull Inflation
112. Depression in the Context of Economics
113. Devaluation
114. Development Economics
115. Differentiated Bertrand Competition
116. Dirty Subsidy
117. Disinflation
118. Dispersed Knowledge
119. Disposable Income
120. Distribution (Business)
121. Dividend Imputation
122. Dual Economy
123. Dynamic Programming
124. Dynamic Stochastic General Equilibrium
125. Ecological Economics
126. Econometrics
127. Economic Base Analysis

128. Economic Calculation Problem
129. Economic Data
130. Economic Equilibrium
131. Economic Geography
132. Economic Graph
133. Economic Growth
134. Economic History
135. Economic Impact of Immigration to Canada
136. Economic Indicator
137. Economic Model
138. Economic Modeling
139. Economic Policy
140. Economic Profits
141. Economic Problem
142. Economic Rent
143. Economic Reports
144. Economic Surplus
145. Economic System
146. Economics Subjectivism
147. Economics in the Middle Ages : Feudalism and Manorialism
148. Economics of the Renaissance : Mercantilism
149. Economics of the Age of Enlightenment
150. Economics of Classical Antiquity
151. Economics of the Industrial Revolution : Classical Economics, Political Economy
152. Economics Terminology that differs from common usage
153. Economies of Agglomeration
154. Economies of Scope
155. Economy of Scale
156. Economy
157. Econophysics
158. Ecosystem Services
159. Ecotax
160. Edgeworth Box
161. Edgeworth's Limit Theorem
162. Education Economics
163. Efficiency Wages
164. Efficiency Wage Hypothesis
165. Efficient-Market Hypothesis
166. Elasticity in the Context of Economics
167. Electricity Market
168. Employment
169. Endogeneity (Economics)
170. Endogenous Growth Theory
171. Energy Economics
172. Entrepreneur
173. Entrepreneurial Economics

174. Entrepreneurship
175. Environmental Economics
176. Environmental Finance
177. Equilibrium Selection
178. Ethical Consumerism
179. Event Study
180. Evolutionary Economics
181. Exceptionalism
182. Experience Economy
183. Excess Burden of Taxation
184. Exogenous Growth Model
185. Expected Utility Hypothesis
186. Export
187. The Experience Economy
188. Experimental Economics
189. Externality
190. Factor Price Equalization
191. Factors of Production
192. Factor Price Equalisation
193. Fair Trade
194. Fascist Economy
195. Federal Reserve
196. Feminist Economics
197. Finance
198. Financial Astrology
199. Financial Crisis
200. Financial Capital
201. Financial Economics
202. Financial Instrument
203. Fiscal Neutrality
204. Fiscal Policy
205. Fisher Equation
206. Fisher Separation Theorem
207. Forecasting
208. Fractional-Reserve Banking
209. Francois Quesnay
210. Free Good(s)
211. Free Rider Problem
212. Free Trade
213. French Enlightenment : Physiocracy
214. Friedman Rule
215. Full-Reserve Banking
216. Game Theory
217. Gandhian Economics
218. General Equilibrium
219. Geographical Pricing
220. Gerschenkron Effect

221. Giffen Good
222. Gift Economy
223. Gini Coefficient
224. Global Game
225. Globalization
226. Gold Standard
227. Goods
228. Good in the Context of Economics
229. Goodhart's Law
230. Government Debt
231. Government-Granted Monopoly
232. Gresham's Law
233. Green Economics
234. Gross Domestic Product
235. Gross National Product
236. Gross Value Added
237. Growth Accounting
238. Happiness Economics
239. Harris-Todaro Model
240. Hauser's Law
241. Hedonic Regression
242. Herfindahl Index
243. Heterodox Economics
244. Historical School of Economics
245. History of Economic Thought
246. Home Economics
247. Homo Economics
248. Hotelling's Law
249. Human Capital
250. Human Development Index
251. Human Development Theory
252. Human Resources
253. Hunter Gatherer Economy
254. Hyperinflation
255. Imperfect Competition
256. Implied in Fact Contract
257. Import
258. Import Substitution Industrialization
259. Imputation in the Context of Economics
260. Incentive
261. Income
262. Income Elasticity of Demand
263. Income Inequality Metrics
264. Income Elasticity of Demand
265. Income Velocity of Money
266. Income Tax
267. Independent Goods



268. Indifference Curve
269. Individual Capital
270. Induced Demand
271. Industrial Organization
272. Industrial Policy
273. Industrial Revolution
274. Industrialisation
275. Interior Goods
276. Inflation
277. Informal Economy
278. Informal Sector
279. Information Asymmetry
280. Information Economics
281. Information Economy
282. Infrastructural Capital
283. Input-output Model
284. Instructional Capital
285. Institutional Economics
286. Interest
287. Interest Rate Parity
288. International Economics
289. International Trade
290. International Year of Microcredit
291. Intertemporal Choice
292. Intertemporal Equilibrium
293. Investment
294. Investment Policy
295. Investment Specific Technological Progress
296. Invisible Hand
297. Islamic Economics
298. Islamic Economic Jurisprudence
299. IS/LM Model
300. Isoquant
301. Ithaca Hours
302. Jane Jacobs
303. JEL Classification Codes
304. Job Hunting
305. Joint Product Pricing
306. Just Price
307. Kaldor-Hicks Efficiency
308. Keynes, John Maynard
309. Keynesian Economics
310. Keynesian Formula
311. Knowledge-based Economy
312. Labour Theory of Value
313. Labour Economics
314. Labour Market

315. Laffer Curve  
316. Laissez-Faire  
317. Land  
318. Land in the Context of Economics  
319. Land Value Tax  
320. Law and Economics  
321. Legal Origins Theory  
322. Lerman Ratio  
323. Limit Price  
324. Living Wage  
325. Local Currency  
326. Local Purchasing  
327. Lorenz Curve  
328. Low-carbon Economy  
329. Lucas Critique  
330. Macroeconomics  
331. Managerial Economics  
332. Marginal Cost  
333. Marginalism Revolution  
334. Marginal Rate of Substitution  
335. Marginal Revenue  
336. Marginal Utility  
337. Marginalism  
338. Market  
339. Market Anomaly  
340. Market Concentration  
341. Market Economics  
342. Market Economy  
343. Market Failure  
344. Market Form  
345. Market Power  
346. Market Share  
347. Market Structure  
348. Market System  
349. Market Transparency  
350. Marxian Economics  
351. Mathematical Economics  
352. Means of Production  
353. Measures of National Income and Output  
354. Measuring Well-Being  
355. Mechanism in the Context of Sociology  
356. Medium of Exchange  
357. Mental Accounting  
358. Menu Cost  
359. Mercantilism  
360. Mergers and Acquisitions  
361. Merger Simulation

362. Methodenstreit  
363. Methodological Individualism  
364. Microcredit  
365. Microeconomics  
366. Minimum Wage  
367. Missing Market  
368. Mixed Economy  
369. Model Economics  
370. Model Macroeconomics  
371. Modern Portfolio Theory  
372. Modigliani-Miller Theorem  
373. Monetarism  
374. Monetary Economics  
375. Monetary Policy  
376. Monetary Reform  
377. Money  
378. Money Supply  
379. Money Creation  
380. Money Multiplier  
381. Monopoly  
382. Monopoly Profit  
383. Monopsony  
384. Monopolistic Competition  
385. Moral Hazard  
386. Moral Purchasing  
387. Multiplier Economics  
388. NAIRU  
389. Nakamura Number  
390. Nanoeconomics  
391. Nash Equilibrium  
392. National Income and Product Accounts  
393. National Gross Domestic Product  
394. Natural Capital  
395. Natural Capitalism  
396. Natural Economy  
397. Natural Monopoly  
398. Natural Resource Economics  
399. Neo-Classical Economics  
400. Neo-Keynesian Economics  
401. Neoliberalism  
402. Network Effect  
403. Network Externality  
404. Neuroeconomics  
405. New Classical Macroeconomics  
406. New Industrial Economics  
407. New Keynesian Economics  
408. Nicomachean Ethics

409. Nobel Memorial Prize in Economic Sciences
410. Normal Goods
411. Okun's Law
412. Oligopoly
413. Oligopsony
414. Operations Research
415. Open Economy
416. Opportunity Cost
417. Output in the Context of Economics
418. Overhead in the Context of Business
419. Pacman Conjecture
420. Palace Economy
421. Parable of the Broken Window
422. Pareto Efficiency
423. Participatory Economics
424. Participatory Economy
425. Peltzman Effect
426. Perfect Competition
427. Perspectives on Capitalism
428. Petrocurrency
429. Phillips Curve
430. Pigovian Tax
431. Plantation Economy
432. Planned Economy
433. Policy Ineffectiveness Proposition
434. Political Economy
435. Potential Output
436. Poverty
437. Poverty Level
438. Poverty Threshold
439. Praxeology
440. Preference
441. Price
442. Price Discrimination
443. Price Elasticity of Demand
444. Price Point
445. Price Specie Flow Mechanism
446. Principal–Agent Problem
447. Primitive Communism
448. Principles of Economics
449. Prisoner's Dilemma
450. Production
451. Product Bundling
452. Production Function
453. Production-Possibility Frontier
454. Production Theory Basics
455. Productivism

456. Productivity
457. Profit in the Context of Economics
458. Profit Maximization
459. Property Rights in the Context of Economics
460. Prospect Theory
461. Public Choice Theory
462. Public Bad
463. Public Debt
464. Public Economics
465. Public Finance
466. Public Good
467. Purchasing Power Parity
468. Quality of Life
469. Quasi-market
470. Quantitative easing
471. Quantity Theory of Money
472. Rate of Return Pricing
473. Rational Choice Theory
474. Rational Expectations
475. Rational Pricing
476. Reaganomics
477. Real Business Cycle
478. Real Business Cycle Theory
479. Real Estate Economics
480. Real Estate Investor
481. Real *versus* Nominal Value in the Context of Economics
482. Recession
483. Regenerative Economic Theory
484. Regional Science
485. Regression Analysis
486. Remanufacturing
487. Representative Agent
488. Repugnancy Costs
489. Reserve Currency
490. Resource Economics
491. Return to Scale
492. Ricardian Equivalence
493. Risk Premium
494. Risk-Free Bond
495. Risk-Free Interest Rate
496. Road Pricing – Robin Hood Effect
497. Safe Trade
498. Sales Tax
499. Saving
500. Scarcity
501. School of Economic Thought
502. Search Theory

503. Self-Revelation  
504. Seven Generation Sustainability  
505. Shock Therapy in the Context of Economics  
506. Signalling in the Context of Economics  
507. Singer-Prebisch Thesis  
508. Slavery  
509. Social Capital  
510. Social Cost  
511. Social Credit  
512. Social Finance  
513. Social Market Economy  
514. Social Mobility  
515. Social Welfar  
516. Social Welfare Function  
517. Social Welfare Provision  
518. Socialism  
519. Socialist Economics  
520. Socioeconomics  
521. Specialization in the Context of Economics  
522. Spending Multiplier  
523. Stagflation  
524. Standard of Deferred Payment  
525. Standard of Living  
526. Stock Exchange  
527. Store of Value  
528. Strategic Complements  
529. Subgame Perfect Equilibrium  
530. Subjective Theory of Value  
531. Subsidy  
532. Subsistence Agriculture  
533. Subsistence Economy  
534. Substitute Good  
535. Sunk Costs  
536. Sunspot Equilibrium  
537. Sunspots in the Context of Economics  
538. Supermodular Function  
539. Supply and Demand  
540. Supply-side Economics  
541. Surplus Value  
542. Sustainable Competitive Advantage  
543. Sustainable Development  
544. Sweatshop  
545. Tableau Economique  
546. Tariff  
547. Tax  
548. Tax, Tariff and Trade  
549. Taylor Rule

550. Technostructure  
551. Terms of Trade  
552. Theory of the Firm  
553. Thermoeconomics  
554. Time-Based Currency  
555. Time Preference Theory of Interest  
556. Time Value of Money  
557. Token Economy  
558. Total Cost of Ownership  
559. The Theory of Moral Sentiments by Adam Smith  
560. Trade  
561. Trade Bloc  
562. Trade Facilitation  
563. Trade Pact  
564. Trader Ethic  
565. Traditional Economy  
566. Tragedy of the Anticommons  
567. Tragedy of the Commons  
568. Transaction Cost  
569. Transition Economy  
570. Transfer Payment  
571. Transfer Pricing  
572. Transformation Problem  
573. Transparency in the Context of Market  
574. Transport Economics  
575. Triple Bottom Line  
576. Trust in the Context of Economics  
577. Trust in the Context of Social Sciences  
578. Two-Part Tariff – Tying in the Context of Commerce  
579. Underground Economy  
580. Uneconomic Growth  
581. Unemployment  
582. UN Human Development Index  
583. Unit of Account  
584. Utilitarianism  
585. Utility  
586. Utility Maximization Problem  
587. Value  
588. Value in the Context of Economics  
589. Value Added  
590. Value Added Tax  
591. Value of Earth  
592. Value of Life  
593. Veblen Good  
594. Velocity of Money  
595. Virtual Economy  
596. Virtuous Circle and Vicious Circle

- 597. Wage
- 598. Wage Rate
- 599. Wealth
- 600. Wealth Effect
- 601. Wealth of Nations
- 602. Welfare Economics
- 603. World Economy
- 604. Workers' Self-Management
- 605. X-Efficiency
- 606. Yield
- 607. Yield in the Context of Finance
- 608. YOYO Economics
- 609. Zero Sum Game
- 610. Zero-Sum
- 611. Zone Pricing