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Economic Psychology: History and Application

Overview

This chapter introduces the general theme of the book. It starts out with the presentation of different markets as an exchange of resources between households and firms (or institutions), which will serve as a framework for the following chapters. It outlines economic expectations as an example of how individual perceptions are influenced by the economy and how they influence the economy in turn. It then turns to the disciplinary perspectives: it defines economics, lists the research fields in economics, and describes economists' basic assumptions about human behaviour. The general theoretical and empirical research approaches of economics and psychology are contrasted. This section also includes a short history of economic psychology as an academic discipline and closes with an overview of current research topics in the field.

Markets are places where goods are exchanged. They are commonly defined as the intersection of supply and demand for goods and services, labour, land, capital, rights and other exchangeable resources. Actors' behaviour in the marketplace depends upon their expectations for the future, and these expectations are informed by actors' past and current experiences.

Economics and psychology as social sciences are both concerned with human behaviour. While economics concentrates on behaviour in commercial and financial contexts, psychology investigates behaviour (and experience) in a variety of life areas. There are multiple points of contact between the two disciplines; however, their scientific developments have taken different trajectories. One distinction between economics and psychology is that economics is based on a normative model of human behaviour and is concerned with behaviour in the aggregate – such as at the level of the market or of the state. Conversely, psychology concentrates on the individual, on differences between people and on (small) group dynamics.

Economic psychology attempts to build a bridge between economics and psychology. It is concerned with individual decisions, deviations from the economic (rational) model of human behaviour, with lay theories and markets, and also with welfare and well-being. The first steps towards the establishment of economic psychology as a discipline were taken at the beginning of the twentieth century but forgotten shortly thereafter. Economic psychology was briefly resuscitated in the middle of the last century before falling into obscurity once again. In the past few decades, however, especially since the awarding of the Nobel Prize to Daniel Kahneman, economic psychology has gained acceptance within the field of psychology. At the same time, behavioural economics – which shares similarities with economic psychology – has been accepted into the larger discipline of economic science.

Introduction

Various disciplines including economics and psychology attempt to understand and predict human behaviour on markets. Though there are some similarities between all these different approaches, they usually take different points of view. The focus of this chapter is to contrast the economic and psychological views on human behaviour and decision-making. It emphasises that the two approaches do not necessarily exclude each other, but can complement each other. This sets the course for an exciting research field.

Markets

An economy is determined by the activities of households, firms and the state as well as by global economic developments. While households and firms are decision-makers in the private sector, the state is a public decision-making body.

One critical state decision is whether to steer the economy by instituting central planning or to put faith in the market's self-regulation and interfere as little as possible with market forces. Fundamentally, interactions between households and firms can be regulated as either centralised or decentralised. This means that interactions between the two groups can be planned either by the state or by market participants themselves, leaving the market to its own devices. The first case is referred to as a centrally managed or a planned economy; the second defines a market economy. In planned economies, the production and distribution of goods is not left up to households and companies, but is determined by a centralised plan. In market economies, households and firms plan for themselves and try to bring these plans to fruition. Suppliers of goods and services, land, labour and capital encounter market participants who demand these goods. This meeting of supply and demand, the formation of prices for tradable goods and the exchange of them, is referred to as the market.

Economics differentiates between two groups of markets: (a) factor markets for land, labour and capital and (b) product markets for goods and services (Figure 1.1; Woll, 1981). In product markets in which suppliers encounter a high degree of competitive pressure due to a large number of competing suppliers, producers must develop strategies to market and distribute their goods widely in order to persevere in the struggle against their competitors. Similarly, households must make decisions as to how to make the best use of their available – usually limited – budgetary resources. Specifically, they need to decide how much of their income they will spend and save, which investments they will make, which goods they will purchase, and whether or not they will take out a loan to do so. In the same way, suppliers and demanders in factor markets must make decisions regarding available land, labour or capital. For example, workers make decisions about the circumstances under which they will offer up their labour, and firms make decisions about the conditions under which they will be able to employ workers.

This interaction between individuals and households on the one side and firms and institutions on the other side is reflected by economic expectations and consumer sentiment. In the marketplace, individual and household behaviour depends upon knowledge of the economy and ideas about economic relationships. Expectations about the future influence consumers' and producers' decision-making. When the assumption is that economic conditions will worsen, it seems wise to save; however, when economic prosperity is expected, it might be reasonable to take the risk of

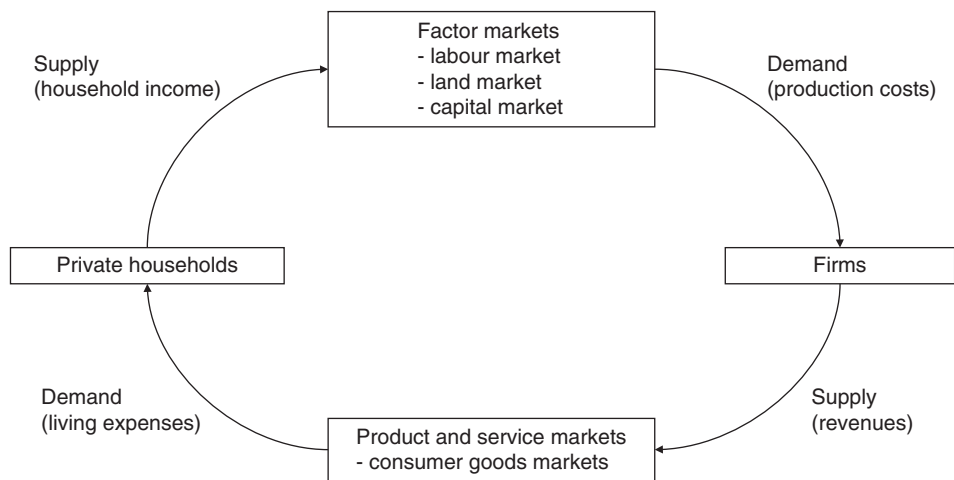


Figure 1.1 Planning in the market economy (adapted from Woll, 1981, p. 69)

buying goods on credit. Expectations about future developments in the economy determine behaviour, and behaviour determines actual economic developments.

Expectations in general were defined as ‘an anticipation in the style of a daydream, and a visualisation of upcoming experiences related to the themes of our aspirations’ (Lersch, 1962, p. 286). Wärneryd (2001) summarised the state of research on **economic expectations** and introduced a model integrating various theoretical currents. Economic expectations are conjectures about future economic events. They build upon forward projections of the past, meaning that attempts to predict the future are based upon extrapolations from past events. Expectations are also viewed, however, as the result of complex considerations about various possible future paths of development and of well-founded, informed decisions about the most likely path. According to Wärneryd, expectations are formed on the basis of information from three sources: (a) past experiences, (b) learning processes and (c) knowledge and opinions about new circumstances. Opinions about future events are extrapolated from past experiences. Discrepancies between expectations for past events and their actual outcomes lead to a recognition of mistakes and to learning and adjustment processes, which influence one’s subjective outlook on the future. Finally, newly emerging circumstances – economic, political and social changes – can additionally influence opinions about future developments and therefore shape expectations. Kuß (1980, building on Strümpel, Schmiedeskamp & Schwartz, 1973) illustrated interactions between different variables related to sentiments and expectations, the economic context, and consumer reactions that stem from it (Figure 1.2).

In the advanced industrialised countries of the West, the proportion of private expenditures on goods and services that are not exclusively needed to satisfy basic human needs is high. Consumers have wide latitude in making decisions on how to spend their income and therefore in influencing the gross national product. For this reason, predictions and plans to take political measures related to macroeconomic processes are based on observations and analyses of consumer behaviour (Kuß, 1980). Consumers’ expectations and intended actions are investigated, and built into an index of consumer sentiments upon which predictions about economic changes are based:

Analogous to the term ‘climate’ in meteorology, which describes an amalgamation of seasonally and geographically specific elements of the atmospheric condition (e.g., temperature, precipitation level,

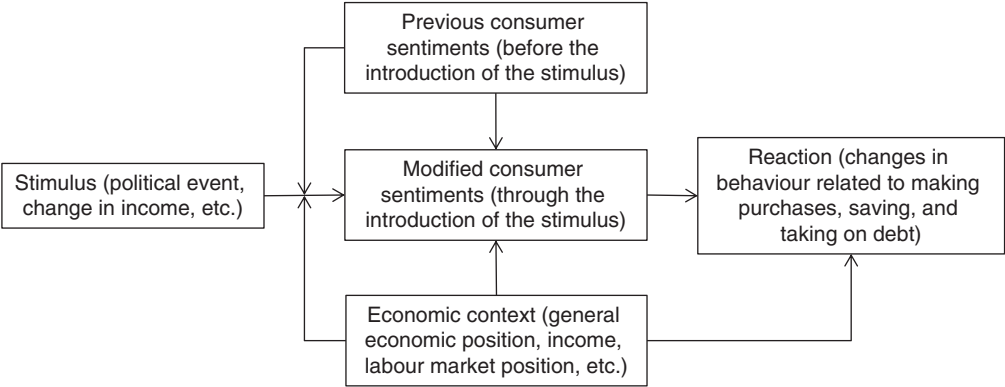


Figure 1.2 Interactions between various stimulus variables and the economic context (Kuß, 1980, p. 103)

sunshine duration), a variety of consumer attitudes and expectations, especially those important to private consumption in a given economic sphere, can be compiled to form a ‘consumer climate’. (Kuß, 1980, p. 101)

Between the two World Wars, John Maynard Keynes strove to make more realistic assertions about the behaviour of economic actors than was the case in classical economic theory. His approach placed more emphasis on consumers’ and firms’ attitudes and expectations. However, while Keynes limited himself to a mechanical perspective based on economic theory, George Katona (1951), working after the Second World War, attempted to connect psychology and economics. He was also the person who laid the methodological foundation for measuring consumer sentiments through his work at the University of Michigan’s Survey Research Center. Since 1946, this institution has regularly conducted consumer surveys in which a few important questions have remained the same. As a result, fluctuations in consumer confidence over the course of time can be observed (Katona, Strümpel & Zahn, 1971). The **Consumer Sentiment Index** measures consumers’ subjective feelings about their individual financial situation and overall economic conditions at present and in the future. The index was normalised to the value of 100 in 1964. Figure 1.3 shows the trajectory of the Consumer Sentiment Index over time. For example, the recent drop around 2007/8 coincides with the economic crisis.

Since the 1970s, the countries of the European Union have been collecting data for similar sentiment indices. Questions are asked about consumers’ subjective views on the following points:

- evaluation of general economic conditions in the past year
- expectations for general economic conditions in the coming year
- expectations for changes in the unemployment rate in the coming year
- evaluation of price changes in the past year
- expectations for price developments in the coming year
- evaluation of their own household’s economic position in the past year
- expectations for their household’s economic position in the coming year
- evaluation of the current advisability of making larger purchases
- evaluation of whether it makes sense to save
- plans to save in the upcoming year.

The Consumer Sentiment Index reports the confidence private households have in the national economy. It is considered a leading indicator of future economic developments in a country. It has

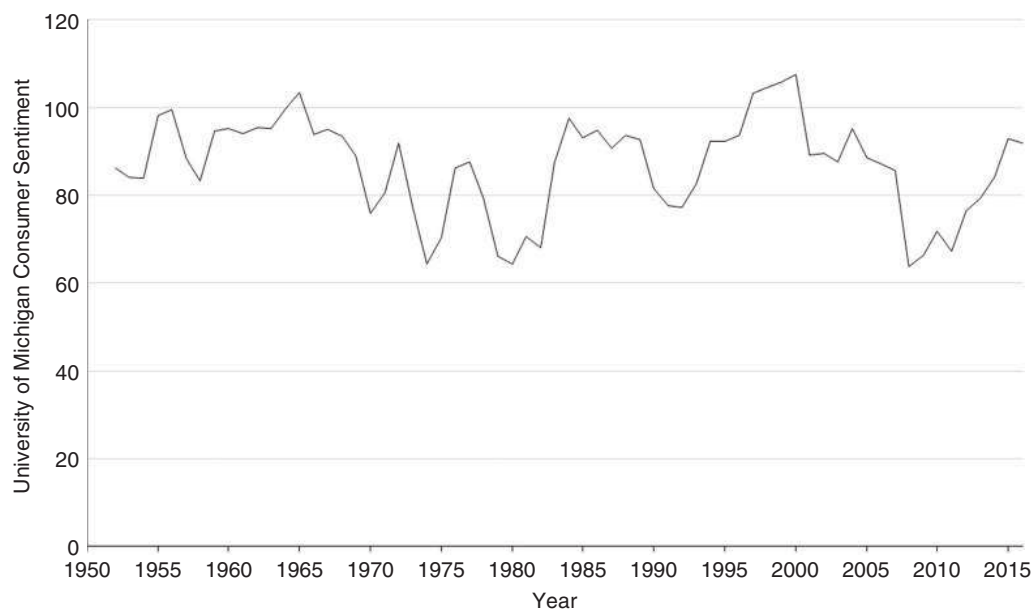


Figure 1.3 United States Consumer Sentiment Index (1952–2016, yearly average). Data from Surveys of Consumers, University of Michigan, retrieved from FRED, Federal Reserve Bank of St. Louis; <http://fred.stlouisfed.org/series/UMCSENT/> and <http://research.stlouisfed.org/fred2/series/UMCSENT1/> (accessed 19 July 2016)

been confirmed repeatedly that it makes sense to ask consumers questions about the future of the economy, and the Consumer Sentiment Index has proven its ability to predict economic developments (Fischer & Fischer, 1988). This is exemplified by the correlation between consumer sentiment and retail sales in the UK, found in the publications of the Office for National Statistics (Figure 1.4). Further examples providing impressive evidence for the correlation between consumer sentiment, expectations and economic changes can be found in Curtin (1979) and in Katona et al. (1971).

As a sensitive psychological indicator, the Consumer Sentiment Index has received approval. However, several points of criticism were raised as well: The index is a coarse, simplified measure of consumer sentiments. Attitudes and expectations are more complex than can be adequately captured in the few questions listed above. Changes in the economy come about as a result of complex interactions between subjective perceptions and objective economic factors, which is why changes in income and in tax revenue and changes in the tax code need to be considered in addition to sentiments.

Despite these critical limitations, it is important to emphasise that the Consumer Sentiment Index and its ability to predict further economic developments prove that changes in the economy can be based on psychological phenomena. More detailed techniques allow for an improved measurement of the subjective economic climate. By order of the European Commission, all nations of the EU periodically collect data on measures such as consumer confidence, savings climate, price and income expectations, expectations regarding the business cycle, and intentions to make major purchases in order to anticipate future economic trends. Notably, this discussion of consumer sentiment demonstrates effects in two directions: on the one hand, economic activities influence individual perceptions, and on the other hand, individual perceptions translate into economically relevant activities. Hence, psychological concepts and phenomena have an important role in both directions.

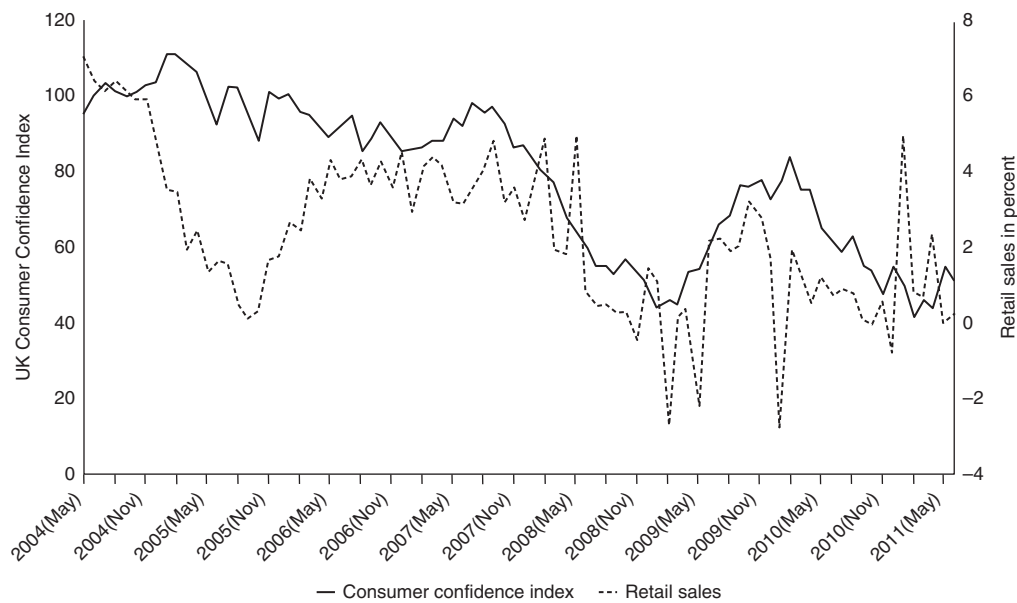


Figure 1.4 UK Consumer Confidence Index and retail sales (2004–11). Office for National Statistics, Nationwide; retrieved from www.ercouncil.org/chart-of-the-week/tag/consumer-confidence (accessed 14 July 2015)

1.2 Economics and Psychology

Like psychology, economics is concerned with behaviour, decisions, and the selection of one alternative from a set of various alternatives. In his essay on the nature and significance of economic science, Robbins (1932, p. 15) succinctly characterised the field as an academic discipline ‘which studies human behaviour as a relationship between ends and scarce means which have alternative uses’. Samuelson (1980; see also Samuelson & Nordhaus, 2007) elaborated:

Economics is the study of how men and society end up choosing, with or without the use of money, to employ scarce productive resources which could have alternative uses, to produce various commodities and distribute them for consumption, now or in the future, among various people and groups in society. (Samuelson, 1980, p. 4)

Because resources are scarce whereas wants and needs are abundant, our limited resources must be used rationally. However, it is difficult to say when a decision is rational and when it is not. Forester (1984) tells the following story by way of analogy: A man who mistakes a vending machine for a slot machine puts in one coin after another, and drinks keep falling out. His co-worker admonishes him to just drink something and stop wasting his money. Annoyed, the man tells his colleague not to bother him – he’s on a winning streak! What appears irrational to one person might be considered rational and profitable by another.

Various disciplines (theology, jurisprudence, medicine, ecology, etc.) have differing perspectives as to what behaviour counts as rational or reasonable and what the goals of human action should be. Economics, however, defines goals of action from the perspective of the individual trying to reach them. Whatever persons do, they do so because it helps them reach their current specific goal, which

is defined as the result of the action undertaken. This sometimes leads to situations in which, to an outside observer, rather strange goals seem to be pursued – even though they follow the rules of logic, and therefore are ‘rational’!

The standard theory of choice provides a set of conditions for rationality that may be necessary, but are hardly sufficient: they allow many foolish decisions to be called rational. (Kahneman, 1994, p. 32)

Using the metaphor of ‘*homo economicus*’, economics as a social science focuses on the production, distribution and consumption of goods and services. While microeconomics investigates the behaviour and interactions of economic agents such as households and firms, buyers and sellers or markets, macroeconomics studies how economies work. It focuses on labour and unemployment, money, fiscal policy, inflation, economic growth, etc. This focus on decisions and on selection behaviour in a world of scarce resources and a multitude of wants and needs has generated a number of lines of research and bodies of theory within economics. The American Economic Association categorises economic research into several different fields. In the following, selected fields that are relevant for economic psychology are described according to the website of the American Economic Association (www.aeaweb.org/jel/guide/jel.php):

- ‘Microeconomics’ refers to the functioning of markets and the role of prices. The behaviour of individual households, firms and prices and quantities of specific products are studied. Recently, behavioural economics as the study of the cognitive and emotional dimensions of economic decisions has gained considerable momentum in microeconomics (for a detailed review of the beginning of behavioural economics in the late 1950s until the present see Angner & Loewenstein, 2012).
- ‘Macroeconomics and Monetary Economics’: The actions of individual agents can be summed to encompass total activity in the economy as a whole. Macroeconomics focuses on the aggregative level, the total amount of products consumed by households and firms, which must equal the total amount produced, and the total amount firms pay to workers and investors, which must equal the amount households receive in income. Economic growth, the role of money and interest rates, changes in the overall level of prices and the aggregate level of unemployment are central concerns of macroeconomics.
- ‘Financial Economics’ studies the process of saving and investing with a specific concern for how individuals and firms deal with risk.
- ‘Public Economics’ considers the role of government in the economy. It focuses on evaluating government programmes and on the design of tax systems. Issues of national security and defence appear here as well as the study of state and local governments.
- ‘Labour and Demographic Economics’ studies employers’ decisions to hire workers and employees’ decisions to work. It studies how wages are set, the nature of incentives workers face, and the role of minimum wage laws, unions, pension plans and training programmes. It is also interested in the formation of families, determinants of birth rates, migration, population change and aging.
- ‘Industrial Organisation’ refers to the study of individual markets, the nature of competition and the role of prices. Specific issues are anti-trust policy, advertising and pricing policies, as well as how costs vary with the scale of operations.
- ‘Business Administration and Business Economics, Marketing, Accounting’ refers to studies of firms’ decision-making, of entrepreneurship and of leadership.

Economics uses several general principles to answer questions about the behaviour of households, firms, markets and state institutions. According to these principles, economic activity is defined as decision-making on the basis of specific criteria – in other words, as the selection of one alternative

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out of many. Individuals, firms and institutions engaged in economic activity (economic actors) typically cannot satisfy all of their wants and needs. They have to choose between several alternatives and are aware that selecting one of them means forgoing all the others and their respective benefits. Every choice involves **opportunity costs**, that is, the costs that arise from selecting one alternative and therefore renouncing all other alternatives and their corresponding benefits.

Opportunity costs are not exclusively relevant for individuals. Groups of people, organisations and national economies must also make decisions about which alternatives they will choose in the case when all resources are being used at full capacity, as total production cannot directly be increased. At the level of the state, it must be decided which goods out of a multitude of possible goods will be produced with the limited resources available. A graphical example from Woll's (1981) introductory economics textbook makes this clear: suppose that the so-called 'basket of goods' was reduced to two categories, private consumer goods and defence goods. With the given quantity of resources, it is possible to produce goods in one of the two categories, or in a combination of both. Therefore, it must be decided which goods will be produced in which quantities. If the production costs are exactly the same across the two categories, a production possibilities curve like the one depicted in Figure 1.5 exists. If the state selects production combination B, 'b' defence goods and 'c' consumer goods will be produced. If more consumer goods are requested, the state must forgo a specific number of defence goods. As the production combination A on the production possibilities curve shows, it is only possible to produce 'a' number of defence goods and 'd' number of consumer goods at position A. Each production combination – A ('a', 'd'), B ('b', 'c'), or any other combination – on the production possibilities curve can be attained, but only one can be attained at any one time. Hence, it must be decided which production combination will be realised. Even with complete use of all productive forces, quantity 'd' consumer goods and quantity 'b' defence goods cannot be produced at the same time. The maximum possible production combinations lie on the curve including points A and B.

The **production possibilities curve** or **production transformation curve** describes the maximum producible combinations of goods, given a specific level of resources that are used at full capacity. Production levels inside the curve are also possible (point C). When not all production possibilities are used to exhaustion, less than the maximum producible combination of goods will be produced. This occurs when some productive forces lie fallow due to unemployment or a downturn in the business cycle, but also when simply used inefficiently. Producing a combination of goods outside the production possibilities curve (for example, point D) is not possible in the short run. In the middle or long run, however, more goods can be produced with the same number of resources if they are used more efficiently – for example, through innovation and technological advance.

The production transformation curve serves to clarify challenges and problems that arise, for example, from the allocation of scarce resources to fulfil various wants and needs, or from the full use of production factors. In addition, challenges posed by an inefficient usage of production factors or changes due to economic growth can be illustrated.

Classical economic assumptions regarding the transformation curve are based on the assumption that the relevant actors will seek to deploy resources in the best possible way. According to the **profit maximisation principle**, the maximum possible result with the given quantity of resources should be achieved. At the same time, the **cost minimisation principle** dictates that resources should be deployed as economically as possible; in other words, a given result should be achieved with minimal resources.

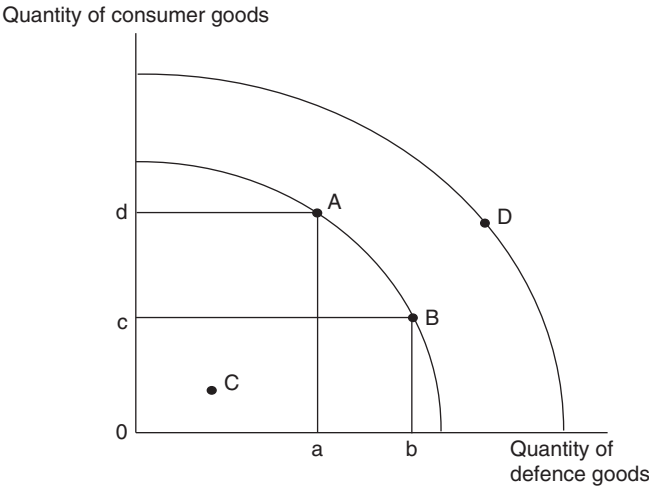


Figure 1.5 Production possibilities curve (adapted from Woll, 1981, p. 52)

The goal of economically efficient action confronts economic actors with an optimisation problem. In order to describe optimisation behaviour, economists must first attempt to understand the goals of economic actors, as optimisation can only be defined relative to the goals of an individual actor. It is assumed that, out of a bundle of possible courses of action, economic actors select the alternative that brings them maximum utility. A description of optimisation behaviour is then derived from a small number of axioms. When actors behave in accordance with these axioms, their behaviour can be described as the maximisation of a goal function. These goals can be selfish or altruistic and are commonly described using the term ‘utility’. Utility does not necessarily mean profit for persons themselves. As even indirect or future harms to an actor (if these are the actor’s goals) can be included in the definition of utility, the term can be confusing. Hence, instead of utility, this text will speak of goals. For the most part it is assumed not that people want to inflict harm upon themselves, but rather that they would like to optimise (that is to say, maximise) their personal utility – or, in lay terms, their goals for improving their situation.

Gravelle and Rees (1981) described several **axioms** as basic assumptions about preferences. These axioms are the point of departure for a description of optimisation behaviour and form the core of the rationality assumption:

- (a) **Completeness:** If actors must choose a preferred alternative out of several alternatives, the characteristics and consequences of the various alternatives must be clear to them. These consequences must be evaluated, and all available alternatives must be compared with one another. According to the assumption of completeness, actors must be capable of ranking these alternatives in a preference order. In other words, they must be able to generate relationships between alternatives, according to which Alternative A is either better than or just as good as Alternative B ($A \succsim B$), Alternative B is just as good as or better than Alternative A ($A \precsim B$), or the two alternatives are viewed indifferently ($A \sim B$).
- (b) **Transitivity:** It is further assumed that actors create consistent preference orders, and that their preferences in a decision-making scenario do not change arbitrarily. A transitive relation means that a consumer who believes that Alternative A is better than or just as good as Alternative B and that Alternative B is better than or just as good as Alternative C also believes A is better than or just as good as C (if $A \succsim B$ and $B \succsim C$, then $A \succsim C$). If Alternative A is just as good as B and B

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is just as good as C, the actor must also show indifference between A and C (if $A \sim B$ and $B \sim C$, then $A \sim C$). This means that any single alternative can belong to one and only one set of alternatives to which the actor is indifferent (indifference set).

- (c) **Reflexivity:** The reflexivity assumption postulates that every bundle of alternatives is just as good as itself ($A \sim A$). This assumption seems trivial, but it is necessary in order to guarantee that every alternative only belongs to one indifference set. This set can consist of a single alternative.

Taken together, these three axioms – the three characteristics of the preference–indifference relationship – lead to the conclusion that every alternative (completeness) belongs to one (reflexivity) and only one indifference set (transitivity).

- (d) **Non-satiation:** Gravelle and Rees (1981) cite non-satiation as a further basic assumption, according to which one bundle of alternatives is preferred to another when the first bundle contains at least one good in a higher quantity than the second bundle and the same quantity of all other goods. This assumes that actors prefer to possess more of a good and not less.
- (e) **Continuity:** The continuity axiom claims that it is possible to compensate for the loss of a specific quantity of Good A with a specific quantity of Good B. Accordingly, the quantity combination (a, b) is just as good as the quantity combination (a – x, b + y) to an actor viewing the two combinations indifferently.
- (f) **Convexity:** Finally, it is assumed that individuals possessing a small amount of Good A and a large amount of Good B will only be indifferent to the loss of parts of A if they receive a proportionally larger quantity of B in return. The axiom of convexity corresponds to the law of diminishing marginal utility, according to which the relative increase in utility that comes from possessing more of a good decreases with increasing quantities of that good.

Based on these assumptions, economics has developed a complex system of dictates allowing the prediction of human behaviour under changing conditions (as long as people do indeed make decisions rationally and maximise their utility). According to the basic assumptions of neoclassical theory, whichever alternative an economic actor selects from a set of alternatives is the alternative that the actor prefers.

Actors seek to maximise their utility. This means that people who engage in economic activity, having full awareness of their goals, first form a consistent and stable preference order and subsequently select from all available possibilities. Under these conditions, economics speaks of rational, utility-maximising behaviour.

The basic assumptions of economics are, therefore, utility maximisation and rationality. Within this framework, economic actors are viewed in isolation from one another; they are not considered within their social context, which might determine their behaviour. Hence, economic actors are viewed as if they were in a social vacuum (Etzioni, 1988).

The neoclassical paradigm of *homo economicus* as a utility-maximising and rationally behaving actor has been the inspiration not only for the field of economics, but also for several branches of psychology. For example, based on this paradigm, theories of the need for achievement and of interpersonal interaction in the public sphere or in intimate relationships have been formulated. These have been celebrated as ‘de-romanticised’ universal theories, while at the same time being derided as techno-economic elaborations divorced from reality. Most notably, the exchange theories (Adams, 1965; Blau, 1964; Homans, 1961; Thibaut & Kelley, 1959) purporting to explain social behaviour are based on economic thought regarding rationality and utility maximisation.

As early as the beginning of the twentieth century, Simmel (1923/1996, p. 45) considered human interaction under the lens of greed and taking: ‘Thus an individual, perhaps, gives “spirit,” that is,