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The Market in Economics: Behavioural Assumptions and Value Judgments

BY

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The Market in Economics: Behavioural Assumptions and Value Judgments*

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Abstract

This paper tries to convey the essence of the economic theory of behaviour of individuals and firms to an audience of non-economists. The hypotheses of utility and profit maximization and their use as building blocks in the theory of market equilibrium are explained. The paper discusses the efficiency of the market mechanism and sources of market failure. It considers the origin of preferences and the role played by ethical and religious views for consumer demand and labour supply. It concludes by discussing the role of economic theory in the design of institutions and considers the view that the introduction of market incentives in new areas may be harmful to society.

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1. Introduction

The study of markets plays a central role in economics; naturally enough in view of the fact that the market mechanism is of crucial importance for modern economies and has been so throughout history. There are to be sure examples of economic systems – most notably the communist economies of the Soviet Union and its sphere of influence - where governments have tried to suppress the operation of the market mechanism and replace it with central planning. However, it is a remarkable feature of these attempts that they have not proved to be viable; detailed central planning has turned out to encounter so many difficulties that the market system has reestablished itself in the reformed economies of Russia and Eastern Europe. Another notable aspect of central planning is that the theory of the market economy has been an important point of reference for the proper understanding of how a system of economic planning works. This reference has sometimes taken the form of setting the efficient market up as a contrast to an inefficient system of central planning, but it has also played a more subtle role in the debate about alternative economic systems. Thus, in the interwar period, the Polish economist Oskar Lange coined the phrase "market socialism" to describe his interesting blueprint for an efficiently functioning socialist economy. In Lange's system, the central planning committee of the socialist state would design its system so that it would work like a smoothly functioning market economy but without the market failures that are important features of real market economies and which also lie in the central field of interest of the theoretical economist (see Lange and Taylor 1938).

There are obviously a large number of markets in the modern economy, and many of these have special features that distinguish them from the markets for other goods. Markets for services have characteristics that make them different from the markets for physical commodities, and within the service sector there are a number of differences between e.g. the market for financial services and that for health care. In the markets for ordinary consumer goods, agricultural markets in many countries operate in an institutional framework that is different from the markets for industrial

products, and in order to fully understand the markets for durable goods like housing and paintings one has to acquire specialized knowledge that goes beyond a general insight in economic theory.

In spite of these complexities, economists have since the beginning of their science assumed that there are some general features of all markets that can form a useful framework for the study both of individual markets and of their interaction with other markets, and it is this general framework that I will focus on in the following discussion. This must not be taken to mean that there is a fixed body of theory that all academic economists adhere to in every respect. In an evolving science there must necessarily be a number of researchers that are dissatisfied with the present state of the subject and are engaged in its further improvement. In addition, there is naturally less than complete agreement about the new directions that economics in general and the economic theory of markets in particular should take. If this were not the case, economics would be a stationary subject with little appeal to the intellectually curious. But within the confines of a single paper I cannot possibly cover all new developments in the study of the market economy and have to limit my focus to what the majority of the profession would probably agree on as being the central features of the study of markets.

What we usually refer to as the market economy cannot be understood by focusing on markets alone. In any market economy there is a substantial public sector that allocates resources by the use of planning and bureaucracy without the use of markets, and some parts of resource allocation take place within firms, families and voluntary organizations. Throughout the history of economics there has been a lively debate on the appropriate roles of the private and public sectors in the economy, especially on the role of markets versus planning. This requires a normative analysis of what markets can and cannot do and to what extent the achievements of markets are in accordance with some notion of social welfare or the common good. Thus, the theory of markets has both positive (descriptive) and normative aspects, and both aspects will be discussed in the following. I begin with positive economics.

2. Supply and demand

In the centre of the theory of markets is the concept of a commodity (which could be a physical good, a service or even a financial asset or liability). Grouped around the commodity are the market agents, i.e. the consumers and producers or buyers and sellers. Consumers are buyers in the markets for consumer goods and sellers in the markets for factors of production, in particular in the labour market. For producers it is the other way round; they are sellers in the markets for consumer goods and buyers in the markets for factors of production[1]. Whatever the market, we can identify a set of buyers and sellers. For the buyers, it is natural to assume that they will wish to buy more of the commodity in question the lower is the price, assuming that all other prices remain the same. For sellers, an equally natural assumption is that they will wish to sell more, the higher is the price. The price that is such that the quantity demanded equals the quantity supplied is the *equilibrium price*. If the actual price is higher than this, there is excess supply, and the price will tend to fall. If the price is lower than the equilibrium price, there is a situation of excess demand, and the price will rise. The equilibrium price is in other words that towards which the actual market price will tend to converge, although at a particular moment of time it might deviate from it.

This account depicts the theory of supply, demand and price determination with reference to a single market and is therefore often referred to as partial equilibrium theory. But markets are interrelated: The demand for cars depends not only on the price of cars but also on the prices of petrol and railway tickets, just like the demand for petrol depends on the prices of cars and railway tickets. In fact, since on the demand side all consumer goods compete for the consumers' money, the demand for every consumer good depends in principle on the prices of all consumer goods. Likewise, on the supply side an increase in the price of a particular good tends to lead producers to produce more of it, while an increase in the price of a factor of production creates incentives for producers to use less

[1] In addition, there are the markets for intermediate goods where firms produce factors of production, like machinery and raw materials, for use in production by other firms.

of it and instead use more of other factors of production that have become relatively cheaper. Production decisions with regard to inputs and outputs therefore depend on the prices of all inputs and outputs in the economy. If we try to construct a model of the whole economy, or at least of the whole market system in the economy, we have to introduce the notion of the equilibrium set of prices instead of just the equilibrium price, and this set of prices is such that it leads to equality of supply and demand in all markets. This is the definition of *general equilibrium*.

The general equilibrium theory of the market economy, as it was first formulated by Léon Walras (1874-77), is a very ambitious theory. In principle, it claims to determine the quantities produced and consumed of all goods and factors of production in the economy as well as the distribution of income as the result of the interplay of the forces of supply and demand. The general model has a number of special versions that can be adapted to the study of particular aspects of economic life. The purpose of these models is typically to study the effects on prices, industrial structure and income distribution of changes in such exogenous data as world market prices, various types of technical progress and the discovery of new supplies of natural resources. They offer a framework for the study of why some industries decline and others expand, why the wages of some professions fall and others rise, and why the holdings of some forms of capital become more profitable while others become less attractive to investors.

Two remarks are in order at this point. First of all, as regards the issue of what the model determines, I must emphasize strongly the qualification implicit in the term “in principle”. Naturally, the economist cannot possibly claim that he is able to explain or predict all prices and quantities in the market economy; such a claim would border on the ridiculous. What the analysis provides is a general framework for analysis, a certain way of thinking, that can be applied to more concrete cases both by theoretical adaptation of the general model and numerical calculation. One set of cases relates to the problems that arise in an open economy, where models address issues like the effects of trade liberalization or increases in migration on the domestic economy. Another class of models is

especially adapted to study the interaction between the private and public sectors and is concerned e.g. with the effect of alternative tax systems on the allocation of labour and capital between industries.

A second point worth emphasizing is that the theory of general equilibrium in the market economy outlined above is strictly speaking only valid for a special case of a market economy, viz. that of perfect competition. Perfect competition is the case where no agent has sufficient power to have appreciable influence on the market prices; instead he takes the prices of goods and factors of production as determined by impersonal market forces. The real market economy is not quite like that. In some branches there are just a few producers, sometimes no more than one, and these often do have the power to influence market prices and sometimes even the power to influence the choice of economic policies adopted by the government.

Whatever the market form, it remains a general conclusion of the analysis that prices are determined by the interplay of supply and demand forces. To better understand what these forces are, we need to go behind the notions of supply and demand and look at what the theory says about the goals and incentives of consumers and producers.

3. Utility maximization and consumer behavior

In the early days of economic theory the demand side of the economy was not given very much attention, and theorists of the market economy were not much concerned with explaining the decisions made by consumers[2]. Thus, Adam Smith in his great work *The Wealth of Nations* (Smith 1776) refers rather loosely to the individual as pursuing his own interest, but he does not go deeper into the question of what the individual's interest is or exactly how he goes about pursuing it. The establishment of such a deeper theory was a task left for economists of the 19th and 20th centuries and is based on the notion of utility maximization.

[2] For simplicity I refer to individual agents as consumers, although, as indicated above, the explanation of individual behaviour covers both the demand for consumer goods and the supply of factors of production like labour.

Utility is not an easy concept, and its conceptual content has changed greatly over time. To begin with it was seen as a property that goods possessed, and this was why goods were desired. This perception of the concept gradually changed to become a measure of the consumer's preferences; that one good had more utility than another was simply an expression of the fact that the first good was more preferred that the second. Naturally, the new view led to the realization that since utility must be seen as a subjective and not an objective property of goods, it could not be directly compared between persons. But it could still function as a basis for the theory of consumer demand. The most interesting property of utility then became that of *marginal utility* as first suggested by Gossen (1854). Marginal utility is the increase in utility that you get by consuming an extra unit of the commodity. It is reasonable to assume that marginal utility is decreasing; the more you consume, the less valuable is the extra unit. Would you be willing to buy the extra unit? This requires a comparison between marginal utility and price. As long as marginal utility is higher than the price, you would like to buy more of the good. If marginal utility is lower than the price, you would wish to reduce your consumption. Your optimal level of consumption is where price and marginal utility coincide. This is very abstract. But note that the theory has an empirical implication that is empirically testable: If, at your chosen optimum, the price of a particular commodity goes up the quantity demanded will fall; similarly, if the price goes down demand will increase. The assumption of utility maximization, together with that of decreasing marginal utility, implies the hypothesis that the demand curve – the curve showing the relationship between the quantity demanded and the price – is downward sloping.

The theory as sketched here, which roughly corresponds to its state at the end of the 19th century, is in many respects unsatisfactory. During the following decades it was refined in a number of ways. First of all, it was realized that one had to take account of the consumer's budget constraint, requiring that the sum of expenditure on all goods cannot exceed his income[3]. This implies that one

[3] In an extension of the theory, one can analyze the consumer's expenditure over time. Then, although equality between expenditure and income must hold over the consumer's lifetime, in any one period such as a week or

cannot simply analyze the demand for one commodity at a time; one has to study the joint determination of the demand for all commodities. The second refinement relates to the concept of utility. Many economists felt uneasy about this both because it came to associate economics too closely with utilitarian philosophy and because it seemed to build on some very simplistic psychological assumptions. Beginning with Vilfredo Pareto (1909), economics gradually began to discard the traditional concept of utility and substitute the notion of a preference ordering. The only assumption that was required for a theory of rational consumer choice was that the individual was able to rank all available alternatives in terms of preferences. The principle of choice then became to choose that among all available alternatives which is ranked highest in the consumer's preference ordering. Remarkably, even this extremely general approach turned out to have implications for demand behavior that were empirically meaningful. But although this meant that economic theory could do without the concept of utility, utility maximization survived as a convenient representation of the more general but cumbersome principle of choosing among available alternatives according to one's preference ordering.

Whether one considers the theory of utility maximization in its 19th century version or in its most recent and more general formulation, the picture that it presents of the individual consumer in the market economy is basically the same. The individual attempts to achieve the best possible result for himself, given the constraints imposed by his resources. This perspective is applied not only to the allocation of his household budget between consumer goods, but also to saving and portfolio decisions and to the explanation of labour supply and occupational choice. In recent decades there has also been a strong tendency to apply the economic theory of utility maximization and rational choice to areas that were previously considered to lie outside the scope of economic analysis. This tendency, which has been characterized as "economic imperialism" (Lazear 2000) is particularly associated with Gary Becker, who has applied the theory to such areas as crime and punishment

a year, expenditure could be either greater than or less than income, depending on the adjustment of cash balances and borrowing and lending transactions.

(Becker 1968) and family decisions, including marriage, child-bearing and divorce (Becker 1981). While Becker's work has been very influential, the fruitfulness of these extensions of the economic approach to social questions has been a disputed issue in the economics profession.

4. Profit maximization and producer decisions

The theory of utility maximization attempts to describe demand behavior in the market. On the supply side, the corresponding assumption is that of profit maximization. The firm is assumed to maximize the difference between sales revenue and costs. A central concept in this theory is the production function, which relates output to the input of factors of production like various types of labour and capital. The effect on output of a unit's increase in the input of a particular factor of production is called the factor's *marginal productivity*. The standard assumption is that marginal productivity is positive and decreasing; with successive increases of a particular factor of production, the marginal effect on output goes down. In considering whether or not to add an additional unit of input, the firm will compare the value of the additional output that this generates with the cost of the additional unit, which is simply its price. If the value of marginal productivity exceeds the price of the factor, the additional unit should be bought. If the reverse inequality holds, input should be reduced. The firm's optimum is achieved where the value of the marginal productivity is equal to the factor price. An obvious implication of this is that an increase in the price of the factor will lead to a reduction in demand. In other words, the demand curve for a factor of production is downward sloping. By using a similar reasoning, one can show that the supply curve, showing the relationship between the price of the output and the amount produced, is upward sloping.

The theory can be reformulated in a number of ways relative to the simple textbook version that has been sketched here. The time dimension can be taken into account by assuming that the firm maximizes the present value of future revenues and costs, and there is a large body of literature which is based on the view that the firm maximizes its stock market value. A common feature of all these formulations is that they see the firm's objective as being the maximization of the income from

the firm that accrues to the owners, while these are assumed to have no other interest in the firm than as a source of private income.

Compared to the hypothesis of utility maximization, profit maximization is a much more specific assumption. One could imagine a much richer formulation of the firm's objectives to include a number of additional elements. Some of these could be of a social nature, such as the provision of meaningful jobs, environmental responsibility and product quality, while others could relate to the private concerns of the management, including on the one hand their personal morality, the size and prestige of the firm and managers' salaries. So why focus on the narrower hypothesis? One line of defense is that of explanatory power: If the simple assumption can explain commodity supply and factor demand in a way that is consistent with empirical observation, there is no need for a more complex hypothesis about objectives. Another line of defense is based on the "rules of the game" in the market economy. If the present owners and managers of the firm fail to exploit its earnings potential, there will be investors in the market who realize that they can make a profit through a take-over bid: By offering the present owners to buy the firm at its present market valuation and install a new management they can make a financial gain by running the firm according to the principles of profit maximization. According to this logic, if owners and managers want the firm to survive in their own hands, they have in fact no choice about which objective to adopt: The only alternative is profit maximization.

These are fairly convincing arguments in favour of the realism of this hypothesis. However, it would perhaps be hasty to conclude that there is no need to think further along these lines. On the one hand, there may be sectors of the economy where the competitive pressure is not so high as to exclude the possibility of pursuing alternative or additional objectives. Second, from the point of view of social organization, some people would take the position that government should encourage a modification of the competitive system to allow more scope for firms to take account of wider

objectives. In order to understand where such a policy might lead, it is clearly necessary to explore what implications it would have for firm behavior.

5. The market mechanism and the public interest

The foregoing has been a sketch of the economist's positive theory of the market economy: How do markets work? What are the assumptions underlying the economic theory of market behavior? But ever since its beginnings, economics has also approached the study of markets from another angle which raises normative and critical questions about its social function.

The question of whether the market mechanism functions in the public interest – whether it can be considered to promote social welfare – is a question that has concerned economists at least since the time of Adam Smith. The question is a natural one because, in a free market where there are no forced transactions, all parties to a particular trade must be assumed to gain from it; otherwise, they would be better off abstaining from the transaction. If individuals are free to enter into any type of transaction with each other, all possibilities for mutually advantageous transactions will be exploited, and the result will be the best possible use of society's resources. This set of ideas must have been at the back of the minds of many economists when they considered the meaning of the famous pronouncement of Adam Smith:

> "Every individual necessarily labours to render the annual revenue of society as great as he can. He generally, indeed, neither intends to promote the publick interest, nor knows how much he is promoting it. … He intends only his own gain, and he is in this, as in so many other cases, led by an invisible hand to promote an end which was no part of his intention." (Smith 1776; 1976, p. 456.)

The invisible hand became Smith's most famous single formulation and has become a popular point of reference for both market enthusiasts and critics ever since.

The context in which the quotation appears has given rise to some controversy about "what Smith really meant": It is to be found in a chapter on home versus foreign investment and not as part of a general analysis of the social benefits of markets. But the conventional interpretation of the invisible hand metaphor gains support from the presence of a number of similar statements elsewhere in the *Wealth of Nations.*[4] The reasonable interpretation is that Smith meant it as a general characterization of the workings of a market economy with free competition or, as he expressed it, "a system of perfect liberty." The challenge for later economists has been partly to consider in more depth how one could arrive at a more precise definition of the public interest, and partly to explore the issue of what kind of market competition that is required for Smith's statement to be true.

Smith did not himself propose any definition of the public interest, although the term "annual revenue of society" suggests that what he had in mind was something like the modern concept of national income or product. Obviously, the maximization of national income implies that the total amount of resources available for the population is as large as possible. Nevertheless, this measure of the public interest also raises some difficult issues. Many of Smith's policy recommendations involved the dismantling of private and public regulation of competition in favour of free markets. It is easy to imagine that a reform in this direction, although leading to an increase in national income, would at the same time boost the real income for some citizens and lower it for others. Is it reasonable to conclude that the reform is unequivocally in the public interest if the gains to the winners exceed the losses to the losers? In particular, is this true even if the winners are rich and the losers poor? Some economists found an escape from this dilemma in the principles of utilitarian philosophy. Suppose that we identify the total welfare of society with the sum of utility enjoyed by its members rather than the sum of their income. Further, let us assume that the marginal utility of income is greater for the poor than for the rich. A reform in the direction of market liberalization then leads to a gain for society only if total utility increases, but the possible losses to the poor are

[4] For a more detailed discussion of the interpretation of the quotation and references to later discussions of it see Sandmo (2011).

now given more weight than the gains to the rich. Thus, even if national income were to increase it might be that social welfare could go down, since the utilitarian measure takes account both of the size of the national income and its distribution between individuals[5].

The utilitarian approach to social welfare is in many ways an attractive one, but many economists have been skeptical about the underlying assumption that utility is objectively measurable and comparable between persons. If utility is simply a measure of preferences, it is hard to see that it makes sense to speak of sums of utility. Pareto took a strong point of view regarding this issue:

> "The utility for one individual and the utility for another individual are heterogeneous quantities. We can neither add them together nor compare them. A sum of utility enjoyed by different individuals does not exist; it is an expression which has no meaning." (Pareto 1909; 1971, p. 192.)

If we accept this view, is there then no way on the basis of which we can conclude that a social reform will lead to a gain for society? According to Pareto, the only case in which such a conclusion is possible is where everyone gains from the reform, or at least that some gain and nobody loses. From this idea follows the criterion for social efficiency that is known as *Pareto optimality*: A Pareto optimum or an efficient use of resources is such that it is not possible to reallocate resources so as to increase the utility of some without decreasing the utility of others. Note that this criterion does not require the possibility of interpersonal comparisons of utility. Whether utility for an individual goes up or down is simply an expression of his or her preferences.

Using only the criterion of Pareto optimality there are unlikely to be many reforms or other developments in the economy that could be clearly identified as representing progress regarding the public interest - or social welfare, to use a more modern terminology. But many economists would be prepared to go further and identify social progress with reforms or events that improve life for the

[5] There are a number of passages in *The Wealth of Nations* where Smith expresses his sympathy for the poor in society, so one may guess that he would have been sympathetic to the utilitarian approach.

great majority of citizens, or that clearly lead to a more egalitarian distribution of resources, even if some individuals lose in the process. This may mean overstepping the line between neutral economic judgment and moral philosophy[6], but many economists have taken this step over the years – with greater or less awareness of what they are doing.

Turning now to the nature of competition, Adam Smith's notion of free competition was somewhat loose. The crucial element of his definition was freedom of entry. A single firm that for some reason enjoyed protection from competition was a monopoly and as such had the ability to charge higher prices than would be possible under free competition; in fact, he states that the price that the monopolist will charge is "the highest that can be squeezed out of the buyers" (Smith 1776; 1976, p. 79). But if an attempt to charge monopoly prices could be challenged by new entrants, the monopoly position would become worthless. So the absence of limits to entry in this sense leads to a market equilibrium that is similar to that of perfect competition even with only one or a few producers[7]. Later developments in economic theory presented a more diversified picture of competition where firms had the possibility to exert market power although they did not have a monopoly. In the limit, the absence of market power was identified with the case of perfect competition where all consumers and producers make their buying and selling decisions on the assumption that market prices are beyond their control. When market prices are such that demand is equal to supply in all markets, we have a situation of *competitive equilibrium*.

One of the main insights of economic theory is now that a competitive equilibrium is a Pareto optimum. This means that in such a state of the economy it is not possible to reallocate resources between individuals so as to make some of them better off while making no one worse off. In other words, the competitive equilibrium is socially efficient; there is no waste of resources.

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[6] It is possible to argue, however, that the criterion of Pareto optimality is not ethically neutral either, since the view that individuals are the best judges of their own interests is itself based on a certain conception of social welfare.

[7] For further discussion of Smith's thoughts on the nature of competition see Sandmo (forthcoming).

Note that this result says nothing about the justice or fairness of the distribution of resources or income between individuals. The competitive market economy makes it possible for all individuals to do as well for themselves as their resources and the market prices allow. But the distribution of income and wealth may be equally or unequally distributed. The equivalence between Pareto optimality and competitive equilibrium has nothing to say about justice in the distribution of resources between individuals.

A further point worth emphasizing is the following: Since the market equilibrium is socially efficient, it might be tempting to conclude that the market agents themselves must have adequate incentives to sustain competition. But it is easy to see that this is not the case. The producers in a particular line of industry might find in their interest to combine to form a monopoly so as to reap the extra profits that such a position allows. This possibility was clearly realized by Adam Smith, who wrote:

> "People of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in a conspiracy against the publick, or in some contrivance to raise prices. It is impossible indeed to prevent such meetings, by any law which either could be executed, or would be consistent with liberty and justice. But though the law cannot hinder people of the same trade from sometimes assembling together, it ought to do nothing to facilitate such assemblies; much less to render them necessary." (Smith 1776; 1976, p. 145.)

So even if competition is beneficial to society (abstracting from the complications of distributive justice) the market agents do not themselves have the proper incentives to uphold the system. Even though Smith apparently took a pessimistic view of the state's ability to take on this task, it is hard to escape the conclusion that there is no other agent that can do so. An efficiently functioning market economy must be based on a symbiosis between the market and the state.

6. What markets cannot do

As we have seen, a central conclusion of economic theory is that markets have the ability to allocate goods efficiently both with regard to production and consumption. But this conclusion has its limitations which have to do with the nature of the goods that we consider. The most obvious case where markets fail is that of public goods. A public good is such that once it has been provided everyone is able to benefit from it. A classic example is national defense. Your defense is my defense. If I were able to buy more defense for myself, you would benefit from it as much as I do. Consequently, if in such a situation I am mainly guided by my own interests, I have very weak private incentives to provide national defense, since the cost of my effort would fall entirely on me while the benefits would accrue to the whole population. But since all agents face the same incentives, a system of public goods provision that were based on voluntary contributions would be likely to result in underprovision of these goods. For national defense as well as for other cases of national infrastructure related to e.g. political institutions, police, courts of law and basic research, and for the wide class of cases that concerns the protection of the natural environment, one needs an agent that can overcome these adverse incentives. This agent is the state, which can take a broader view of benefits and costs than any individual consumer or firm. The market as a system is inadequate when it comes to the allocation of resources to public goods.

Another class of market failure emerges with so-called externalities that may arise both with regard to consumption and production decision. In the present context, the most relevant case of externalities is where private decisions have as a side effect a negative or positive effect on the available quantity or quality of a public good. The most obvious examples relate to the natural environment. To take just one: Hunting for endangered species presumably provides private benefits for the hunter and for the people who buy his trophies. But hunting also imposes costs (or negative benefits) on the wider group of individuals who appreciate the public good of biological diversity. For that reason, hunting must be regulated in some way in order to improve the alignment of social benefits and costs, and the agents themselves cannot in general be relied upon to do it. There are basically two reasons for this. One is that individual incentives are not right: The individual huntsman

may see little point in restraining his hunting since he compares the possibly substantial loss of income to himself with the infinitesimal increase in benefits that he derives from his own contribution to the public good (assuming that he too cares about biological diversity). The other reason lies in the cost of organization: If huntsmen realize that a solution to the problem lies in forcing themselves to act together, they face the cost of organizing collective action. If there are many huntsmen – more generally many agents who are involved in the process that contribute to the deterioration of the public good – this cost may be so large that individually organized common action may be difficult to achieve[8]. Once again, we need the power of the state as a supplement to the market mechanism.

This conclusion may need some modification. If the number of individuals involved in the process is not too large, and if the sets of agents who bear the costs and reap the benefits of collective action coincide, there are reasons to expect that both the incentives and organization problems may be overcome. Cases where this actually happens have been documented and analyzed in the research of Elinor Ostrom; see e.g. the survey presented in her Nobel lecture (Ostrom 2009).

7. Equality versus efficiency

The strong point of the market economy from the broader social perspective is that markets – with some qualifications – generate an efficient allocation of resources. But in addition the allocation of resources has implications for the distribution of income and standards of living between individuals in society. The shape of this distribution is not mainly the result of moral deliberations about fairness and rights (although ideas about fair wages and reasonable differentials undoubtedly play some role in wage formation) but of market forces that reward productivity and ownership. These factors are only partly under the control of the individual, especially since the crucial point about them is not physical productivity and ownership, but the *value* of productivity and ownership as determined by market prices. The rewards to work and investment, as seen from the point of view of the individual,

[8] This class of cases is sometimes referred to as the tragedy of the commons, a term introduced in a famous article by Garret Hardin (1968).

are therefore determined partly by skill and effort, partly by historical accident and sheer luck. On this background, it is not surprising that governments in modern societies have seen it as one of their tasks to modify the distribution of income and wealth to which the market economy gives rise. They do this through such policies as income support, social security arrangements and progressive income taxation. The objective of all these measures is to shift the market distribution of income in the direction of more equality and modify the impact of market movements on individual standards of living.

Implicit in this line of argument is the belief that the market mechanism generates inequality. But this is a view that should be considered with a great deal of care. It is certainly true that a system that systematically rewards productivity necessarily leads to some inequalities of income. However, if the presumption is that the market economy leads to more inequality than would otherwise have been the case, it is important that one asks what "otherwise" means. What is the alternative system against which the inequality of the market economy is to be judged? This has to be one that systematically rewards work and investment on some other basis. Of the systems that have actually been tried out in practice, we know that the ideology of communist societies was to break the link with productivity by rewarding each according to his needs, but by doing this one also severed the link between income and effort, thereby causing adverse effects on productivity. In practice, moreover, the system of rewards tended to a considerable extent to reflect political privilege. It is far from clear that this was a more attractive system from the point of view of egalitarianism.

Ideally, one could imagine a society where there is a perfect distribution of tasks between the market and the state. While competitive markets ensure the efficient use of resources with regard to private goods, the government imposes taxes and transfers that are designed both to finance public expenditure and to redistribute incomes so as to achieve a high degree of equality. The challenge that this ideal solution faces is that almost all taxes tend to reduce the efficiency of the market mechanism. A good example is the progressive income tax which involves taxing the rich at higher

rates than the poor. This modifies the distribution of income in the direction of more equality but at the same time it tends to discourage labour effort and saving by reducing the private returns to these activities. An increase in the degree of progression in order to achieve more equality tends to reduce the efficiency of the economy: Aggregate income falls and the total amount available for redistribution shrinks. This is what Arthur Okun (1975) referred to as "the big tradeoff": More equality has a cost in the form of less efficiency. In other words, the more equally one wishes to divide the pie, the more it shrinks. How large the cost of redistribution actually is, is of course an empirical question, depending on such issues as the effectiveness of the progressive tax in redistributing income and the sensitivity of labour supply to high tax rates.

The equality-efficiency tradeoff facing public policy in a market economy is a fundamental insight. However, there may be cases where progressive taxation and other redistributive policies are efficiency-enhancing rather than the opposite. One such case is where inequalities of income are not mainly explained by productivity differences, but rather by protected monopoly positions and other privileges; in this case progressive taxation may actually serve to bring after-tax wages more in line with productivity. Another case whose importance has been argued by a number of researchers is where the experience of living in a society with small income differentials increases productivity because it fosters a spirit of solidarity and cooperation between social classes and diminishes the amount of social conflict. Several economists have seen this as the main explanation of why the Scandinavian welfare states with their compressed wage structure and large tax distortions have nevertheless been able to do so well in terms of productivity and economic growth.

8. The nature of preferences

The economic analysis of markets has always come in for a good deal of criticism. Some of the criticism has clearly been misguided in that the critics have mistaken analysis for apology: The economic explanation of how markets work has been misinterpreted as a justification for all that the critics see as the negative aspects of the market economy. But much of the critical literature – which

has originated both inside and outside of the economics profession - has also been well taken and should be seriously considered.

Part of the criticism has been aimed at the assumptions that economists use to explain the driving forces of market behavior: These are said to reflect a simple view of man as greedy and self-seeking. Some of the responsibility for this kind of interpretation should clearly be placed in the economics community itself; there are examples of textbooks that use a very similar terminology to describe the theory of market behavior. At the same time, leading economists have always been sensitive to this kind of criticism. In his debates with the critics of economics in the early nineteenth century, John Stuart Mill strongly emphasized the point that the effort to understand and predict actual social and economic developments did not involve any moral acceptance of them. Half a century later, in his influential treatise on economic theory Alfred Marshall took a broad view of human motivation when he wrote that

> "[e]veryone who is worth anything carries his higher nature with him into business; and, there as elsewhere, he is influenced by his personal affections, by his conceptions of duty and his reverence for high ideals." (Marshall 1890; 1920, p. 14.)

It is fair to say, however, that this broad view of man's nature plays a fairly minor role in Marshall's more analytical contributions to economic analysis, as it does in the economic theory that is presented in much of the modern literature. In the textbook accounts of the utility-maximizing consumer whose preferences only concern the amount of different goods that he himself consumes, and the firm whose only concern is with the maximization of income for the owners, the critical reader may well ask what has become of the "higher nature" of economic agents that Marshall refers to.

However, a point that should be born in mind when interpreting modern economic theory is that economists are keen adherents of the principle of Occam's razor: Never use complicated theories to explain your observations when simpler theories will do. When applied to the economics of

consumer behavior, the principle implies that it is unnecessary to take account of people's preferences over public goods like defense, law enforcement and biological diversity if the object of the analysis is simply to study how the demand for consumer goods depends on prices and incomes. Nevertheless, when one moves from the study of consumption demand to the field of public finance and the analysis of public goods, this more general assumption about the nature of preferences becomes of essential importance. Several economists have also taken an interest in the analysis of charitable giving. In order to provide a theoretical basis for empirical studies in this area it becomes imperative to postulate that the individual consumer has preferences that take account not only of his own consumption but also of that of others, although this interdependence may be neglected in many other applications of utility maximization to consumer behaviour. All of this shows that the theory of the utility-maximizing consumer is not in the nature of a specific hypothesis of what the individual cares about; it is an analytical approach that can be applied to a wide variety of issues. It does not by necessity incorporate a general view of man as egoistic and self-seeking; in any particular theoretical application, the specific assumptions made about the nature of preferences reflect the context in which the theory is to be used. In some arenas of economic activity a narrow view of preferences is sufficient to explain behavior, while in others a broader set of assumptions will be necessary. But economists have not been very good at explaining the connection between the broader view of economic behavior and the more narrow assumptions that are adopted for the explanation of specific problems. This failure no doubt lies at the root of at least some of the criticism that has been directed against the economist's allegedly simplistic view of human nature.

These remarks should not be taken to imply that there is nothing in the standard theory of market behaviour that is in need of revision and extension. Thus, a view that is mostly implicit in the literature is that the individual's preferences are autonomous. They appear to have their origin in his or her personality and can be analyzed in isolation from the social context. Social influences, norms, ethical concerns and religious convictions are usually absent from the analysis. A few examples are sufficient to illustrate this point.

Some people would never consider having pork meat on their plate or drink wine with their meal. In a few cases this might be because they simply do not like pork or wine but a more likely explanation is that they are obeying the demands of their religion. They might actually know from previous experience that they like pork and wine; nevertheless, the preferences revealed in their market behaviour suggest that they do not. What are their "true" preferences? The majority of economists would probably argue that whatever the true preferences are, the ones that are relevant for the study of market behavior are the revealed preferences, and for this purpose it is irrelevant whether these preferences have their origin in the individual's physiological and psychological makeup or in his religious views. But this argument may be too superficial. On the one hand, taking account of religious views could play a role in positive economics since predictions of the rise or decline of religious convictions might be helpful for long run forecasts of consumer demand. From a normative perspective, moreover, peoples' judgments concerning social welfare might be heavily influenced by religious views that do not respect the principle of consumer sovereignty, i.e. the principle that it is the individual's own preferences that should count in an evaluation of what is good for society.

A second example concerns the analysis of labour supply. Understanding individual decisions about how much and what kind of work to supply is central for the understanding of how modern economies work. It is crucial for the analysis of welfare state policies and for long run economic development. The economic theory of labour supply is based on a model of utility maximization where the individual makes his choice of hours worked on the basis of an evaluation of the utility of consumption on the one hand and leisure on the other. The more leisure he gives up to work, the higher becomes his earnings and the more he is able to consume. His optimum choice is where his subjective valuation of leisure in terms of consumption is equal to the hourly wage rate. The model leads to the prediction that a higher wage rate leads to increased labour supply while a lower wage rate leads to a contraction of labour supply[9]. Note that the relevant wage rate is the after-tax wage.

[9] A qualification is in order: The increase in the wage rate means that the worker has higher earnings at his initial level of labour supply. He might react to this by wanting to buy more leisure, i.e. to reduce his labour

Thus, a positive incentive to supply more labour could come about both as a result of an increase in the market wage or though a reduction of the marginal tax rate on earnings.

Where do these labour-leisure preferences come from? Most expositions of the theory are silent on this point but leave one with the impression that the preferences originate in some way with the individuals themselves and that it is unnecessary to consider the social environment in which they live. However, there have been alternative and influential views on this issue. The sociologist and economist Max Weber (1904) claimed that the protestant ethic led to attitudes to work, saving and economic activity that in turn generated economic prosperity for society, and similar views were advanced by the economic historian Richard Tawney (1926). Neither Weber nor Tawney presented their views in the formalized manner of modern economic theory, but their basic idea clearly implies that the labour-leisure preferences of modern textbooks must be seen as being formed by the social environment, in this case by the work ethic inspired by peoples' religious views. One could imagine this set of ethical beliefs leading to e.g. a higher rate of labour market participation, later retirement, and less utilization of social security benefits than would otherwise have been the case.

The general point that the two examples illustrate is that the individual preferences that are expressed in people's market behavior cannot be seen in isolation from ethical and religious convictions; more generally, they are conditioned by the social environment in which people live. A purely individualistic approach to the study of labour supply may come to neglect important influences on long-run economic development.

9. Economics as an influence on society

Positive economics is concerned with the study of how the actual economy works. Normative economics, on the other hand, tries to derive criteria for economic welfare and to design reforms that can make the economic system perform better. One should not be surprised that the

supply. This income effect pulls in the opposite direction from the incentive or substitution effect. Although the substitution effect may be the most relevant for predicting short-run changes in labour supply, the income effect is more relevant for understanding the long-run trend towards reduced hours of work.

conclusions of normative economic studies often turn out to be more controversial that the findings of positive economics. This is especially true in recent times when many observers have argued that economists tend to recommend the introduction of the mindset of the market in areas of life where this way of thinking is misplaced. Before turning to the recent debate, however, I will consider a historical case that may throw some light on modern concerns[10].

Edwin Chadwick (1800-1890) was an English civil servant who was much influenced by the utilitarian philosopher Jeremy Bentham as well as by the economist and philosopher John Stuart Mill, and in his work in various areas of social reform he was keen to utilize the ideas that he found in the literature on economics. During his long and very active career as a public administrator he made a number of important contributions to the design of policy and pioneered both in the creative design of incentive-based mechanisms and in the use of empirical data. An interesting example of Chadwick's inventiveness in the exploitation of incentives for administrative improvement is his initiative regarding the transportation of British criminals to Australia. According to the account of Ekelund and Hébert (1997), the captains of the vessels in charge of the transports were originally paid a flat fee per prisoner taken on board in the port of departure. When at Sidgwick's suggestion the scheme was changed so that the captains were paid per prisoner who disembarked alive in Australia, the survival rate among the convicts increased from 40 per cent to 98.5 per cent! Most economists would not hesitate in characterizing this as a triumph of economic analysis in designing a reform based on market incentives that conveys obvious benefits on all parties concerned as well as on society as a whole[11].

[10] More or less implicit in this line of criticism is the view that the mindset of the market should be seen as negative from a social perspective. But this is far from obvious; 18th century thinkers like Montesquieu and Condorcet believed that the market economy produced a type of man that was likely to be reliable, honest, friendly and helpful. The historical development of this view has been presented in an interesting article by Hirschman (1982).

[11] In his popular book on the history of everyday life, Bill Bryson (2010, p. 510) writes that Chadwick was an "intense and cheerless figure" and that almost nobody liked him. But as this story shows, some had good reason to like him very much, at least if they judged him by the results of his efforts.

On second thoughts, however, perhaps there is an aspect of the story that may be a cause for concern. When we look at the initial system of incentives, the captains would seem to have had virtually no economic motivation to keep the prisoners alive during the sea voyage; still, 40 per cent of the convicts were in fact alive on arrival in Australia. Since the 40 per cent was an average for all transports, the survival rate for some voyages must have been considerably higher, indicating that some captains must after all have taken reasonably good care of their charges without the type of incentives embodied in Sidgwick's scheme. For these captains, the new financial incentives took the place of the moral incentives that had previously guided their behavior. To use the concepts of Bénabou and Tirole (2003), the extrinsic incentives of the new payments system "crowded out" the intrinsic incentives that apparently guided the behavior of at least some of the captains. As the point has been formulated in a different context by Bruno Frey "a constitution for knaves crowds out public virtues" (Frey 1997).

With regard to this particular historical example, the concern for the weakening of moral motivation may seem absurd. The documented effects of the new set of incentives were so overwhelmingly positive that any such objection to it must be regarded as being of minor importance if not cynical. However, the example is not without relevance for the understanding of some of the criticism of more recent proposals to introduce economic incentives and markets in fields that have traditionally been governed by different principles. In the words of the philosopher Michael Sandel, "market values and market reasoning increasingly reach into spheres of life previously governed by nonmarket norms." He goes on to argue that "this tendency is troubling; putting a price on every human activity erodes certain moral and civic goods worth caring about" (Sandel 2013, p. 121). He lists a number of areas where market thinking has been introduced and where in his opinion it has adversely affected attitudes and values. These areas include pregnancy for pay, trade in human organs, the sale of lobbying services, selling the right to kill endangered species and many others. A basic objection to these practices, in Sandel's view, is that subjecting the activity or good in question

to market thinking degrades it from a social and moral point of view; reorganizing society to extend the domain of the market should not be regarded as a value neutral reform[12].

This line of argument is of course not new; thus, slavery and corruption have been denounced by leading economists since the early days of the subject. In the case of slavery it is clear that slaves are forced to be part of a transaction that does not serve their own interests. Corrupt dealings are deliberately designed so as to harm third parties. If one thinks of slave trade and corruption as market transactions, they are clearly inconsistent with the market paradigm that lead economists to think of the market mechanism as being beneficial to society, and the classical economists took a strong position against such practices.

When thinking about the issues raised by Sandel and others the main difficulty that one encounters is obviously where to draw the line between desirable and undesirable applications of the market paradigm. A general answer is difficult to provide, but a couple of examples may illustrate the challenges involved.

The first example concerns the environment. The problem of global warming is undoubtedly the most massive case of market failure that the world has ever seen. Economists have proposed a number of market-based incentive mechanisms to try to come to grips with the problem, including "green taxes" on environmentally harmful goods and activities as well as tradable emission quotas. These policy instruments have great potential for achieving substantial results, and to argue that they are socially inferior to appeals to individual morality represents a severe underestimation of the incentive problems that arise with regard to individual provision of a global public good. In this case, the argument that extrinsic incentives crowd out intrinsic motivation seems to me to carry little weight relative to the enormity of the social problems that are at stake and that need to be solved within a fairly short time horizon.

[12] For critical discussions of Sandel's views see Besley (2013) and Bruni and Sugden (2013). A more descriptive analysis of the social legitimacy of different systems for the allocation of resources that respond to both efficiency and equity concerns can be found in Elster (1993).

The second example relates to the debate about the possibilities for improving performance in the public sector. Creating stronger incentives in the workplace has been a central topic for discussion in proposals to make public institutions in areas like health and education perform more efficiently. Good performance should according to these proposals be rewarded, as when academics are paid a bonus for publication in a high-quality journal. Among the objections that have been raised against this practice is the argument that it instils an attitude that you are not expected to perform well if you are not paid for it. Since academics are employed in institutions where they are expected to perform multiple tasks (such as administration, teaching and popular writing), monetary reward for one type of activity may lead them to downgrade the importance of the other activities. A possible response to this objection is obviously to introduce rewards for good performance in the other activities also, but this easily leads into a system that is too complicated to operate efficiently.

There is obviously much more to be said about the introduction of market incentives and mechanisms in areas where they have not previously been tried. But the two examples may at least indicate that there is no easy conclusion to be drawn regarding its desirability. The environmental case is one where the conscious use of market incentives has the promise to do a lot of good for society, and where the concern for the effects on intrinsic incentives must be considered to be of the second order of importance. The discussion of incentives in the workplace makes us aware that extrinsic incentives may sometimes have undesirable side effects and that in ensuring a high quality of work performance one cannot do without a strong work ethic and intrinsic incentives. The validity of this conclusion must certainly hold beyond the case of formalized employment relationship and be at least as relevant for the voluntary sector that plays such a large role in our societies.

10. Concluding remarks

The analysis of the market economy in terms of the interplay between utility-maximizing consumers and profit-maximizing producers plays a central role in modern economics. Since the time of Adam Smith economists have been concerned with the development of the internal logic of their models of

markets, sometimes with the consequence that too little attention has been paid to the broader social context in which market transactions take place. However, some of this social context is in fact implicit in the standard models, and the present paper has attempted to bring some of these hidden assumptions out in the open. A common criticism of economists is that they base their analyses and policy recommendations on a narrow view of man as egoistic and self-seeking. No doubt there are some economists who in fact hold this view, but it is not a necessary implication of economic theory. For an enlightened understanding of economic theory it is essential to keep in mind that economists do not find it necessary to present a full account of human motivation in the analysis of each and every piece of analysis. We may subscribe to Alfred Marshall's view of man's "higher nature" and at the same time acknowledge that he was right in leaving it out from his analysis of the demand for fish.

The normative study of the properties of the market mechanism has over time led to a deeper understanding of what markets can do and what they cannot do. In recent years there has developed an increased interest in extending the market paradigm to areas that have traditionally been governed by other systems of resource allocation. The wisdom of some of these extensions has been questioned by critics both from the inside and outside of the economics profession, and the debate has raised important issues that will no doubt be discussed further in the years ahead.

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