DE GRUYTER Analyse & Kritik 2026; 48(1): 111–131

Arnis Vilks*

The Late and Tragic Triumph of an Economic Myth

https://doi.org/10.1515/auk-2026-3002

Abstract: The paper argues that the Classical Liberal Paradigm with its core tenet that the 'invisible hand of the market' allocates resources in a socially optimal way, has been the dominant paradigm of mainstream economics for more than 200 years, and has given rise to research associated with the names of Cournot, Marshall, Walras, Pareto, Arrow, Debreu and many others. However, the insights produced by economic theory by around 1970 must be regarded as a refutation of the invisible hand tenet. Nevertheless, propagandists of the neoliberal version of the Classical Liberal Paradigm succeeded in convincing political authorities around the world, ironically at about the same time, to implement policies suggested by the outdated paradigm. The tragedy of its late triumph lies in the fact that it has contributed to a political neglect of environmental pollution and ensuing global warming on the one hand, and to a bizarre degree of concentration of wealth and the power that comes with it, on the other hand.

Keywords: invisible hand; classical liberal paradigm; welfare economics; Adam Smith; Pareto; Arrow-Debreu model

1 Introduction

It is 250 years ago that Adam Smith published his *Inquiry into the Nature and Causes of the Wealth of Nations*, commonly referred to as *The Wealth of Nations*. Even though, according to Schumpeter (1994, 185), the book "contained no really novel ideas and … cannot rank with Newton's *Principia* or Darwin's *Origin of Species* as an intellectual achievement", among economists it is nevertheless regarded as the first great classic in economics, and shares at least two features with the works of Newton and Darwin.

***Corresponding author: Arnis Vilks**, Chair of Microeconomics, HHL Leipzig Graduate School of Management, Leipzig, Germany, E-mail: vilks@hhl.de

Just like Newton's theory of mechanics and Darwin's theory of evolution, Smith's work has had an enormous influence far beyond academia, and has fundamentally shaped the worldviews of educated laypeople around the world. And just like the work of Newton and Darwin, Smith's economics may serve to illustrate the intricate interaction between the scholarly endeavour to explain and understand the world on the one hand and extra-scientific authorities and institutions such as those of politics or religion on the other hand.

Just as Newton and Darwin, Smith (1776) may be said to have established a scientific paradigm, research programme or even part of a *weltanschauung,* to use the terminology of Kuhn (1970), Lakatos (1970), and Suppe (1974), respectively. While Smith's work was, just like the ones of Newton and Darwin, built on previous work by others, each of these thinkers' work may at any rate be regarded as a focal point in the history of scholarship. Within the respective scientific community, their works are regarded as outstanding achievements and have shaped the way in which the respective subject is perceived, scientific problems are formulated, and proposed solutions assessed.

However, there are also notable differences between the place that Smith occupies in economics and the place that Newtonian physics or Darwinian biology occupy in the natural sciences. Whereas the latter replaced much older paradigms of Aristotle and Ptolemy or the biblical account of creation, Smith rather marks the beginning of economics as an academic discipline. I will argue in what follows that the paradigm associated with Adam Smith has shaped mainstream economics and thereby also economic policies for more than 200 years, but has long ago reached a phase that in Kuhnian terms must be regarded as a period of crisis. While it is still mentioned as a great achievement in the textbooks, by many economists it is more and more regarded as a myth – which is quite in line with the fate of outdated paradigms in the natural sciences (Kuhn 1970, 2). To what extent a "revolution" has taken place by which a new paradigm replaces the outdated one, will be discussed towards the end of the paper.

2 The Classical Liberal Paradigm in the *Wealth of Nations*

At the core of the paradigm associated with Adam Smith lies his metaphor of the "invisible hand" of free competition. Though famous, it is mentioned only once in the *Wealth of Nations* (Book IV, Chapter II):

> As every individual … endeavours as much as he can both to employ his capital in the support of domestic industry, and so to direct that industry that its produce may be of the greatest

> value; every individual necessarily labours to render the annual revenue of the society as great as he can, he generally … neither intends to promote the public interest, nor knows how much he is promoting it. By preferring the support of domestic to that of foreign industry, he intends only his own security; and by directing that industry in such a manner as its produce may be of the greatest value, he intends only his own gain, and he is in this, as in many other cases, led by an invisible hand to promote an end which was no part of his intention.

Very often, the following quote (from Book I, Chapter II) is adduced to explain what Smith meant:

> … man has almost constant occasion for the help of his brethren, and it is in vain for him to expect it from their benevolence only. He will be more likely to prevail if he can interest their self-love in his favour, and show them that it is to their own advantage to do for him what he requires of them. Whoever offers a bargain of any kind, proposes to do this. Give me that which I want, and you shall have this which you want, is the meaning of every such offer. … It is not out of the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from their regard to their own interest.

No doubt there is an insight here: As both parties agree to a market transaction, it must be perceived as advantageous by both – at least *prima facie*. To conclude from this insight that any market transaction must be beneficial for society, however, is a *non sequitur*. While the phrase *laissez faire* is nowhere used by Smith, he clearly did argue in favour of what he called the “system of natural liberty” (Book IV, Chapter IX):

> All systems either of preference or of restraint … being … completely taken away, the obvious and simple system of natural liberty establishes itself of its own accord. Every man, as long as he does not violate the laws of justice, is left perfectly free to pursue his own interest his own way, and to bring both his industry and capital into competition with those of any other man …

Thus the role of the state should be somewhat limited (ibid.):

> According to the system of natural liberty, the sovereign has only three duties to attend to; … first, the duty of protecting the society from the violence and invasion of other independent societies; secondly, the duty of protecting, as far as possible, every member of the society from the injustice or oppression of every other member of it, or the duty of establishing an exact administration of justice; and, thirdly, the duty of erecting and maintaining certain public works and certain public institutions, which it can never be for the interest of any individual, or small number of individuals, to erect and maintain; because the profit could never repay the expence to any individual or small number of individuals, though it may frequently do much more than repay it to a great society.

The limited means to finance these duties of the sovereign should be gathered by a proportional income tax (Book V, Chapter II).

Smith's "system of natural liberty" soon became a normative ideal that was more or less thoroughly implemented in Britain, the United States of America and most of continental Europe, forming the ideological basis of industrial capitalism. Its core belief may be summed up in what we will call the 'invisible hand tenet' (IHT): If private citizens are left to freely compete and contract with each other, while the state limits itself to the tasks indicated, goods will be produced and resources used in a way that is socially optimal.[1]

3 Economics Becomes a Science: From Cournot to Pareto

According to Fisher (1898), it was Cournot (1838) who first treated demand for a commodity as a function of its price and used the demand function to formulate mathematical models of monopoly, oligopoly and 'unlimited competition'. However, his work was almost completely ignored for about 40 years, and it was Marshall (1922) who popularized the supply-and-demand analysis of an isolated market that is today found in every introductory textbook. It was due to Marshall's endeavours that an "economics" tripos was established at the University of Cambridge, and his *Principles of Economics* became the standard textbook of the new academic discipline for at least 30 years. Arguably, his analysis of so-called consumers' and producers' surplus was an attempt to indicate the beneficial effects the equilibrium of a 'normal' competitive market would have for society. His frequent reference to Adam Smith, the "wellbeing of society regarded as a whole" (Marshall 1922, 477), the "doctrine of maximum satisfaction" and its limitations (470–2) are evidence that Marshall attempted to cautiously substantiate a version of the IHT. However, two issues became logical obstacles to such an attempt. One was the aggregation of utilities, the other one the partial character of Marshall's approach.

While it had been recognized by Cournot (1838, Section 74) that analysis of a single market ignores the interdependence of markets and prices of different commodities, he considered it beyond the "powers of mathematical analysis" to analyse the determination of prices for all the goods simultaneously. It was thus left to the mathematically less profound, but more daring (Walras 1874) to embark on an

1 It goes without saying that 'Classical Liberalism' may be taken to include much more than the IHT. As my focus here is on economics, I am ignoring a number of issues, such as freedom of speech and freedom of association. However, it is the IHT that unites Classical Liberalism and its neoliberal cousin. Much has been written on the latter from a history and/or political science perspective, e.g., Foucault 2008, Stedman Jones 2012, Slobodian 2018, 2025, Appelbaum 2019, Biebricher 2019, Brown 2019.

analysis that would occupy mathematical economists for more than half a century. In fact, a mathematically satisfactory analysis proved to be beyond the mathematical machinery available to 19th century economists. Nevertheless, Walras succeeded in distinguishing and formulating three problems of what would come to be known as 'general equilibrium theory' (GET): existence, uniqueness and stability of a price system that would make excess demand for all the different commodities vanish simultaneously. To some extent, it is a matter of interpretation if Walras also held some version of the IHT (cf. Jaffé 1977). Quite explicitly, however, he stated the following: "Our demonstration of free competition, while giving a prominent place to the question of utility, leaves the question of justice completely aside" (Walras 2014 [1874], 249–50). Thus, at least to the extent that social optimality requires justice, Walras did not subscribe to the IHT. He also contended that "the principle of free competition … is not applicable to the production of things of public interest" and that it "is also not necessarily applicable to the production of things that are produced by a natural and necessary monopoly" (249).

The Gordian knot of aggregating individual utilities into something representing 'social optimality' was cut by Walras' successor Vilfredo Pareto. While Marshall and his Cambridge successor Pigou had been happy to use the 'measuring rod of money' to represent individual utility and thus regarded national income as an imperfect measure of the nation's 'aggregate sum of satisfaction', it had been insisted, e.g., by Jevons (1871, 21), that the utilities of different people cannot be compared. Meaningful summation of individuals' utilities as envisaged by utilitarian philosophers was thus out of the question. Pareto (1906) therefore defined a situation as socially optimal, if any possible change that is preferred by some individual, must necessarily make at least one other individual worse off. It is this notion, dubbed 'Pareto optimality,' that found its way into the economics literature.

4 Chicago Economics and the Cowles Commission

In the 20th century, the USA was becoming not only the main stronghold of capitalism, but also of academic economics, and it was in particular the University of Chicago that was instrumental in this. Frank H. Knight, who is considered as the founder of the 'Chicago School' (Reder 1982; Van Overtfeldt 2007; Cord 2022) described the model of perfect competition in a landmark book of 1921. While he was familiar with Pareto's work which he judged to be "fairly satisfactory" and remarked that "economics … is the only one of the social sciences which has aspired to the distinction of an exact science" (Knight 1921, 3), his own work was thoroughly nonmathematical. In fact, he wrote that "mathematical economics … seems likely to remain little more than a cult, a closed book to all but a few of the 'initiated'" (14). The younger generation of Chicago economists such as George Stigler, Milton Friedman and Ronald Coase did use some mathematics, but it was essentially limited to the differential calculus which was almost unavoidable to explain and work with notions such as marginal utility and marginal cost that had been introduced by the 'marginalists' Jevons, Carl Menger and Walras.

In fact, economists of the Chicago School were even somewhat hostile towards the more advanced mathematics that was used by economists in the Cowles commission. This was a privately funded research commission also located at the University of Chicago (Van Overtfeldt 2007, 36–9, 93–6) in the 1940s and the first half of the 1950s, but devoted to developing econometric techniques and using topological set theory in an attempt to provide a mathematically rigorous model of general market equilibrium. Led by Jakob Marschak, the commission's members were "extraordinarily talented young economists" (Van Overtfeldt 2007, 37), over time including Tjalling Koopmans, Kenneth Arrow, Lawrence Klein, Herbert Simon, Trygve Haavelmo, James Tobin, Gerard Debreu, Franco Modigliani – all of which received the Nobel prize in economics in the course of their lives.

It was not only the mathematical machinery that divided economists at the Cowles commission on the one hand and the Chicago School economists at the economics faculty on the other hand. Cowles commission members were also opposing Friedman's instrumentalist methodology which held that it was only the empirical adequacy of a theory's predictions that counted, while its assumptions could be wildly unrealistic. In fact, Friedman (1953, 14) claimed that "in general, the more significant the theory, the more unrealistic the assumptions". Moreover, most members of the Cowles Commission were "left-leaning" in that they sympathized with the views of John Maynard Keynes who argued in his *General Theory of Employment, Interest and Money*, published in 1936, that unemployment would not necessarily be eliminated by market forces, but instead might require government intervention by means of increased spending even if this could only be financed by a temporary budget deficit.

By contrast, the Chicago School economists continued to adhere to some version of the Classical Liberal Paradigm (CLIP), but were quite divided on important details. E.g., Henry Simons, sometimes regarded as the "Crown Prince of the Chicago School" (Stigler 1974, 1), wrote a booklet entitled "A Positive Program for Laissez Faire" (1934) that supported some redistribution of income by means of a progressive income tax, "socialization of the railroads and utilities and of every other industry where competitive conditions cannot be preserved". He also argued that corporations should be limited in size and not allowed to hold stock of other corporations. By contrast, Friedman rejected the slogan 'laissez-faire' and instead was happy to accept the label 'Neo-liberalism'. He described his position as follows (Friedman 1951):

> Neo-liberalism would … substitute for the nineteenth century goal of laissez-faire … the goal of the competitive order. It would seek to use competition among producers to protect consumers from exploitation, competition among employers to protect workers and owners of property, and competition among consumers to protect the enterprises themselves. The state would police the system, establish conditions favourable to competition and prevent monopoly …

Friedman was very much opposed to Keynesianism. In this he sided with Friedrich von Hayek who taught at the London School of Economics and argued in *The Road to Serfdom* (Hayek 2005 [1944], 39–40) that „the rise of fascism and Marxism was not a reaction against the socialist trends of the preceding period *but a necessary outcome of those tendencies*", and that any state intervention into the "spontaneous collaboration of free men" (Hayek 1948, 7) that goes beyond the mere provision of "a framework within which free … collaboration of men has the maximum of scope" (22), would already constitute such a socialist trend. On Hayek's initiative, the "Mont Pèlerin Society" (MPS) was founded in 1947 in order to promote the CLIP. Among its founding members were Knight, Stigler, Friedman and Aaron Director from Chicago, but also Lionel Robbins, Ludwig von Mises, Maurice Allais, Michael Polanyi, Walter Eucken and Wilhelm Röpke from Europe. A 'statement of aims' for the MPS, suggested by Hayek, Eucken and some others, read:

> Individual freedom can be preserved only in a society in which an effective competitive market is the main agency for the direction of economic activity. … The freedom of the consumer in choosing what he shall buy, the freedom of the producer in choosing what he shall make, and the freedom of the worker in choosing his occupation and his place of employment, are essential not merely for the sake of freedom itself, but for efficiency in production. Such a system of freedom is essential if we are to maximize output in terms of individual satisfaction. … each extension of the power of the state gradually erodes the minimum basis for the maintenance of a free society. (Mirowski and Plehwe 2015, 22–3)

In 1950, Hayek joined the Committee on Social Thought, which was also a privately funded research institution at the University of Chicago.

5 The 'Fundamental Theorems' and the Arrow-Debreu Model

According to Reder (1982, 11), the Chicago School economists were working on the basis of what he called the 'tight prior equilibrium' hypothesis:

> that decision makers so allocate the resources under their control that there is no alternative allocation such that any one decision maker could have his expected utility increased without a reduction occurring in the expected utility of at least one other decision maker.

The claim that free competition actually produces an allocation with this 'Pareto optimum' property had been stated and/or proved under various sets of assumptions by Pareto himself, Barone (1908), Hicks (1939), Lerner (1934) and by Lange (1942) who was a professor at the University of Chicago but also affiliated with the Cowles commission and an ardent socialist who held that Pareto optimality could also be achieved by means of central planning. Gradually, the claim assumed the status of a 'fundamental theorem of welfare economics'. In the words of Lerner (1934, 162):

> the competitive position … is the position in which the 'Invisible Hand' has exerted its beneficial influences to the utmost. It has become the symbol for the social optimum.

While economists had got used to the differential calculus, in the first half of the 20th century new developments had taken place in mathematics. Georg Cantor's theory of sets, nowadays taught in any high school, had not only been given an axiomatic foundation, but was soon also providing the standard framework for advanced mathematical inquiry, not least because a group of French mathematicians by the collective pseudonym of Bourbaki had begun to demonstrate in detail that virtually all of mathematics could be inferred from that foundation. Whereas the older generation of economists was quite unfamiliar with the 'New Math', Gerard Debreu had studied with one of the Bourbaki group members and joined the Cowles commission in 1950 where he produced a paper (Debreu 1951) that used the new mathematics to prove the 'fundamental theorem' without assuming differentiability. At the same time and independently of Debreu, Arrow (1951, 509) who had studied with Harold Hotelling and Abraham Wald found a similar proof that "the use of the price system under a regime of perfect competition will lead to a socially optimum allocation of economic resources". It had become commonplace to interpret a "socially optimum allocation" according to the Pareto criterion. Actually, Arrow also proved a partial converse to the 'first fundamental theorem': Any allocation that is 'optimal' according to the Pareto definition, is a competitive equilibrium allocation, provided only that the initial ownership of resources is suitably modified.

It was a few years later that collaboration of Arrow and Debreu (1954) resulted in a paper that also gave a rigorous proof of the existence of a competitive general equilibrium price system. The model they used became a cornerstone of mathematical economics and was described, together with all the required mathematics, a few years later in the monograph of Debreu (1959), which developed the theory "with the standards of rigor of the contemporary formalist school of mathematics" (Debreu 1959, x).

The Arrow-Debreu model defines a 'private ownership economy' as a set-theoretic structure that consists of a finite number of consumers and firms which form their consumption and production plans on the basis of a price system for the given finite set of commodities. Firms are assumed to maximize profits, taking into account technological constraints, and consumers are assumed to choose a most preferred consumption plan among those that satisfy their budget constraint, that constraint resulting from the evaluation at given prices of their initial endowments and any profit shares in firms they may own.

Even though the Arrow-Debreu model was considered a very general one, several issues have gradually shattered the confidence in the IHT.

6 Problems Galore

While the 'first fundamental theorem of welfare economics' has often been regarded as a precise version of the IHT and thus translated into ordinary language as the claim that free competition will lead to a socially optimal allocation of resources, there are at least seven problems that show this translation to be inadequate. (For more details and some of the pertinent mathematics cf. Vilks 2025.)

1. Competitive equilibria may not be attained. Even if the AD-Modell is considered general enough to capture essential features of a real-world competitive economy, the mere existence of an equilibrium state in that model does in no way ensure that the equilibrium state will be somehow more likely to obtain than the disequilibrium ones. As was already clearly seen by Walras, one would also have to assume that market forces tend to establish an equilibrium. This issue gave rise to the so-called 'stability' literature, i.e., the search for a plausible dynamic process that would re-establish equilibrium if some arbitrary disturbance would initially enforce a disequilibrium situation. The natural assumption was that in any disequilibrium situation prices would always change in the direction of excess demand: the price of any good with a positive excess demand would increase, while it would decrease in the case of negative excess demand. It turned out, however, that this

assumption by itself did not guarantee stability of equilibrium prices. While various assumption on the so-called ‘tâtonnement’ process were found that did ensure stability, Scarf (1960) produced simple examples of ‘global instability’ of the equilibrium price vector, i.e., cases where the price adaptations would always be in the natural direction, but would never even approximate the equilibrium price system. Various other, ‘non-tâtonnement’ processes were also explored, but general stability of equilibrium prices could not be established. After 50 years of attempts to find general conditions that would ensure stability, Fisher (2011, 43) summed up: “The search for stability at great levels of generality is probably a hopeless one.” However, he also remarked: “Milton Friedman remarked to me a long time ago that the study of the stability of general equilibrium is unimportant, … because it is obvious that the economy is stable.”

2. It was soon realized that the Arrow-Debreu model has several implicit assumptions which are crucial for the result that equilibria satisfy the Pareto-criterion. One of them is that any consumer’s preferences are completely independent of the actions chosen by other consumers and by firms. This is easy to explain by means of elementary game theory. Assuming that there are only two consumers, a ‘good girl’ G and a ‘bad guy’ B, who each have to decide if they buy a gun or not, we have a situation that can be described by the following matrix:

B G	Buy gun	Don’t buy
Buy gun	2 2	1 3
Don’t buy	4 1	3 4

While G chooses a row of the matrix, B chooses a column, and the numbers in the resulting cell indicate the two players’ preferences: the numbers in the lower left corner of a cell indicate G’s preferences, the numbers in the upper right corner B’s preferences. Thus, the good girl G most prefers a situation where nobody has a gun; she least prefers a situation where only B has a gun; having a gun herself results in situations in between those extremes, but if B has a gun, G prefers to also have one. By contrast, B most prefers to have a gun and G to be unarmed, and he least prefers a situation where he is unarmed while G has a gun. He moreover prefers to confront an unarmed G without having a gun himself to confronting G when both are armed. Clearly, B will buy a gun in any case, and if he does, G will also. The resulting free market equilibrium, however, is worse than the outcome in the lower right corner of the matrix according to both players’ preferences. A government intervention that prevents the buying of guns improves the situation for both.

Of course, preferences which depend on other agents' actions as in our example are not at all an exception. Whether I prefer to build a fence around my garden, will depend on what my neighbours do, whether I wear a tie may depend on other peoples' attire, etc. Mainstream economics, however, christened cases where preferences depend on other peoples' choices 'externalities'. They were recognized already by Pigou (1932), but mostly they were treated as special cases which give rise to 'market failure' (Bator 1958). The very terminology suggests that the normal case is that markets do not 'fail'.

3. Another implicit assumption of the Arrow-Debreu model is that agents are fully informed about the quality of all commodities. After all, a voluntary exchange may not be advantageous to both parties if they are mistaken about the quality of the exchanged goods. Imperfect or asymmetric information is thus another source of 'market failure'. It is telling that an essay about asymmetric information by Akerlof (1970) which was the main reason he was awarded the Nobel prize in 2001, was initially rejected by two renowned journals because the referees judged it to be trivial (Akerlof 2003; cf. also Stiglitz 2001).

4. An explicit assumption of the Arrow-Debreu model is that the production possibility sets of firms are convex. Technologies where doubling the inputs more than doubles the output – so-called 'economies of scale' – are thereby excluded. As such economies of scale are one of the main reasons for 'natural monopolies', and the model is meant to be a model of perfect competition, this may not be surprising. However, if the model excludes such technologies by assumption, the 'fundamental theorem' does not support the claim that equilibrium allocations of competitive markets always have the Pareto property. A very simple thought experiment may serve to illustrate that technological efficiency may require production by a monopoly. Imagine a technology that allows one to produce n^2 units of a product by means of n units of labour. If 10 units of labour are available, 100 units of the product could be produced by a monopoly, but if it is split up into two smaller competitors, each of which would use only 5 units of labour, the total production quantity would clearly be $25 + 25 = 50$. As economies of scale or 'subadditivity of cost functions' do prevail in a number of industries, such as railways or 'utilities', the latter are often organized as monopolies and known as 'public utilities' (Ely et al. 1922, 189–210; Sharkey 1982).

5. Another feature of the Arrow-Debreu model that is grossly at odds with reality is that it assumes all firms and consumers to participate in economic planning and transactions from the outset. A slightly different model where new generations of consumers continually enter the markets while old ones die, was suggested by Samuelson (1958) and initiated research into 'overlapping generations' models. It turned out that even if it is assumed that in each period all markets are in

equilibrium and that plans are made under perfect foresight, the resulting allocations need not be not ‘Pareto optimal’ (cf. Vilks 2025, 65–70).

6. Above all, it was gradually realized that the Pareto criterion does not at all characterize socially optimal situations, as it completely ignores any consideration of distributional justice. Welfare economics from Pigou (1932) to Graaf (1957) more or less explicitly followed classical utilitarianism in using ‘the aggregate sum of satisfaction’ or some other function of individual utilities to represent what is overall ‘just’ or ‘optimal’, and more or less explicitly recognized that distributional judgements of an ethical nature would thereby be made. By contrast, Pareto’s rejection of any comparability of individual utilities – and *a fortiori* of meaningful summation of them – also discarded distributional issues altogether, and mainstream economics followed Pareto, but kept the label ‘optimal’. Again, a simple thought experiment illustrates the problem: If there is only one desirable commodity, say ‘pie’, an allocation where one lucky guy gets all the pie, but all others starve, is Pareto ‘optimal’ – provided only that the lucky one is completely selfish, i.e., any redistribution of the pie would make him worse off. This had been clearly seen already by Samuelson (1947), but the phrase ‘Pareto optimal’ continued to be used unchallenged until the GET textbook by Arrow and Hahn (1971) suggested to use the term ‘Pareto efficient’ instead. A systematic study of the literature by Berthonnet and Delclite (2015) shows that this terminology has been gradually accepted – but only very slowly so. As can be seen from Figure 1, even in 2011 almost half of the pertinent literature still used the misleading phrase ‘Pareto optimal’.

7. In 1970, Amartya Sen published a paper showing that the Pareto criterion may actually conflict with a different principle that Sen (1970) called ‘minimal liberalism’. He took this to be the principle that every member of society should be the sole authority over certain private issues. E.g., other people’s preferences should not be allowed to affect the colour of my bedroom walls. He illustrated the issue with the choice of whether to read *Lady Chatterley’s Lover*, which at the time was considered obscene by some people, but as valuable literature by others. Again, a simple game may be used to explain the example.

L P	Read	Don’t read
Read	4 1	3 3
Don’t read	2 2	1 4

This time it is a game between the Prude and the Lewd. Not surprisingly, the most preferred situation for the Prude is that nobody reads the book, and the least preferred one that both read. For the Lewd, it is just the other way round.

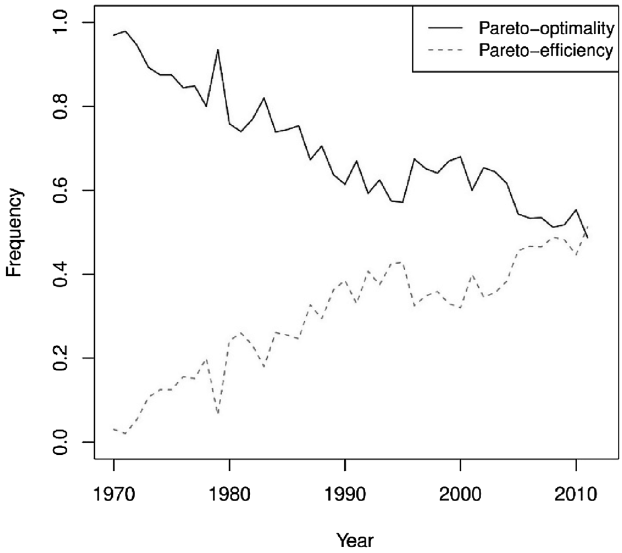

Figure 1: Source: Berthonnet and Delclite (2015).

However, if only one of the two can and must read it, the Prude abhors the thought of Lewd enjoying the read and would rather read himself. At the same time, the Lewd enjoys the thought of Prude having to read a book he considers obscene, and prefers it to being the only one that reads. Now, if both decide for themselves whether they read or don't, Lewd will read, and Prude will not. According to liberal values, that is how things ought to be, but apparently the Pareto principle recommends against it. Should the state or some other authority really force the Prude to read and prevent the Lewd from reading the book – just because they both care about what the other player is doing? Here, the interdependence of preferences hardly suggests state intervention to restore Pareto efficiency. Rather, it is the Pareto criterion itself that must be recognized as more problematic than it is often suggested by economists.

7 The Inertia of Mainstream Economics

Towards the end of his *General Theory* Keynes (1973 [1936], 383–4) wrote the following remarkable sentences:

> …the ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed the world is ruled by little else. Practical men, who believe themselves to be quite exempt from any intellectual

> influences, are usually the slaves of some defunct economist. Madmen in authority, who hear voices in the air, are distilling their frenzy from some academic scribbler of a few years back. I am sure that the power of vested interests is vastly exaggerated compared with the gradual encroachment of ideas. Not, indeed, immediately, but after a certain interval; for in the field of economic and political philosophy there are not many who are influenced by new theories after they are twenty-five or 30 years of age, so that the ideas which civil servants and politicians and even agitators apply to current events are not likely to be the newest.

Since the 1930s, economics has become a field with many scientific subcommunities which only partially overlap and, in some cases, hardly communicate with each other. In fact, the high degree of specialization, along with the constant pressure to publish within one's field of specialization, has led to a situation where many economists have only a vague idea of what is going on in other subcommunities of economists. Those engaged in macroeconomics and policy-making hardly understand what mathematical economists are discussing, while many mathematical economists are not very interested in day-to-day issues of economic policy. And it is also true for many academics that "there are not many who are influenced by new theories after they are 25 or 30 years of age". As a result, the process by which the insights of theoretical economists are transferred to the laypersons has become much slower than Keynes suggested. While by 1970 all of the above problems were well-known to the experts, textbooks continued to explain the IHT and referred the student to high-brow theory's 'fundamental theorem' as a mathematically precise statement of what was, by then, already a myth – the claim that free competition ensures a social optimum.

A few quotes from much-used textbooks may serve as evidence. The second edition of an introductory economics textbook by Mankiw and Taylor (2011), explains the IHT on page 10, and comments as follows: "Smith is saying that participants in the economy are motivated by self-interest and that the 'invisible hand' of the marketplace guides this self-interest into promoting general economic well-being. Many of Smith's insights remain at the centre of economics." A more specialized textbook on microeconomic theory by Henderson and Quandt (1971) begins a chapter on welfare economics by a lengthy discussion of the "Pareto conditions for maximum welfare and the possible fulfilment of these conditions under perfect competition" (255). To be sure, it is admitted that "the analysis of Pareto optimality accepts the prevailing income distribution" (264) and that one has to assume the absence of public goods and of external economies or diseconomies, but to the student these may easily appear to be anomalous special cases, when the summary of the chapter reiterates (289) that "perfect competition normally results in the fulfilment of the first-order conditions for Pareto optimality. It is in this sense that perfect competition represents a welfare optimum." Another, more advanced textbook on microeconomic theory by Mas-Colell et al. (1995), also states (on 524) that "the first fundamental theorem provides, for competitive market economies, a formal expression of Adam Smith's 'invisible hand'", and that it is a "formal and very general confirmation" thereof (549), because "a single, very weak assumption…, is all that is required for the result". One has to be a careful reader of the pages that follow to notice that "our theoretical structure already incorporates two strong assumptions" which may be violated in the case of externalities, market power, or asymmetric information, and that the theorem "is entirely silent about the desirability of the equilibrium allocation from a distributional standpoint" (550).

Many other textbooks that were published since the 1960s quite similarly suggest – at least to a somewhat inattentive student – that, in a sense that can be 'made precise', perfect competition normally results in an allocation that maximizes social welfare. They include mathematically advanced treatments of GET such as Aliprantis et al. (1989, 52), which state: "The classical intuition, that decentralized competitive markets produce out of the self-interested behavior of economic agents an optimal distribution of resources, dates back at least to Adam Smith's 'invisible hand'. This intuition is made precise in the two welfare theorems of K. J. Arrow … and G. Debreu …". They likewise include intermediate textbooks of microeconomics such as Varian (2010, 602): "The two theorems of welfare economics are among the most fundamental results in economics."

8 Academic Scribblers and Mad(wo)men in Authority

Textbook authors like the ones quoted above cannot necessarily be blamed for outright mistakes. After all, at least some of the problems with the IHT that we listed above, are mentioned in their volumes. However, it definitely takes a rather careful reading of them to recognize the limited status of the 'fundamental theorem', and very careful reading of sophisticated textbooks is hardly the rule among students, let alone among people in authority who look for academic support for their political inclinations. In the 1960s and 1970s, plenty of academic economists with moderate mathematical sophistication who subscribed to a sweeping version of the IHT were around.

In particular, it was Friedrich von Hayek and Milton Friedman who would play an instrumental role in turning the IHT into a policy vision. Along with other members of the MPS such as Henry Hazlitt who published his best-selling *Economics in One Lesson* in 1946, they had agitated for years against Keynes' theory with its recommendations of governmental economic intervention by means of fiscal and monetary policy. While their respective criticism of Keynesianism was quite different, it gained increasing recognition when Keynesian policies proved unable to cope with the stagflation of the 1970s. Moreover, in 1968, Sweden's Riksbank had established a 'Prize in Economic Sciences in Memory of Alfred Nobel' which was awarded to Hayek in 1974, although it was not at all universally agreed among academic economists that he deserved it. After all, Hayek's books *Prices and Production* of 1931 and *The Pure Theory of Capital* of 1941 had met with heavy criticism. Not only Keynes (1931, 394) considered the former 'a frightful muddle', but even Friedman called himself "an enormous admirer of Hayek, but not for his economics. I think *Prices and Production* is a very flawed book. I think his capital theory book is unreadable. On the other hand, The *Road to Serfdom* is one of the great books of our time" (Ebenstein 2001, 81). In fact, in the 1940s Hayek had ceased to write anything that could be considered economic theory proper, and instead had begun to embed the theses of his 1944 bestseller in a system of legal, social and political philosophy that resulted in his *The Constitution of Liberty* (Hayek 1960), a lengthy book that was meant to "picture an ideal" (ix) of a free society which relies on the "self-steering mechanism of the market" (283) to coordinate the individuals' choices. In Hayek's ideal society, the government would only "provide a favourable framework for individual decisions" (195) but abstain from any attempt to modify the income and wealth distribution. Unavoidable taxation must "leave the relative recompenses that will be received for particular services as the market determines them" and thus cannot be progressive (274–5). In fact, Hayek (1976, 96) later devoted a whole book to an explanation of his view that "in a society of free men … the term 'social justice' is wholly devoid of meaning or content".

At any rate, being awarded the 'Nobel prize in economics', as it came to be called, increased Hayek's reputation enormously and beyond academia (cf. Offer and Söderberg 2016). His influence on the thinking of Margaret Thatcher could have been hardly more profound and is well-documented (cf. Ranelagh 1991). When the Tories won the elections in 1979, the 'Iron Lady' began to transform British society accordingly (cf. Evans 2018). On the other side of the Atlantic Ocean, Milton Friedman was propagating his version of the CLIP in a 10-part TV-series *Free to Choose* and a book by the same title. When Ronald Reagan became US president in 1981, he acknowledged the Neoliberals' influence in a speech at the 'Conservative Political Action Conference':

> Intellectual leaders like Russell Kirk, Friedrich Hayek, Henry Hazlitt, Milton Friedman, James Burnham, Ludwig von Mises – they shaped so much of our thoughts. (https://www.reaganlibrary.gov/archives/speech/remarks-conservative-political-action-conference-dinner.)

But Thatcherism and Reaganomics are just the best-known attempts to shape the world according to the CLIP. In Latin America they range from Pinochet's 'Chicago

Boys' to Javier Milei's chain-saw politics, in Europe from Helmut Kohl's Chancellorship in Germany to the shock therapies of post-communist countries (cf. Vilks 2025, 92–98) and the rise of the oligarchies.

One has to agree with Stiglitz (2024, 216):

> The great irony of history is that neoliberalism became a global ideology just as economic theory was helping us to understand the limitations of markets.

Rather than being informed by available economic theory, neoliberal politicians have been 'distilling their frenzy' from propagandists of an economic myth for half a century. Privatization, deregulation and tax cuts have resulted in a state of affairs where the 'external effects' of greenhouse gases and other pollutants are threatening to make large parts of the world uninhabitable, and the escalating concentration of wealth threatens to undermine democracy. While the spread of the early CLIP had gone hand in hand with the struggle for democracy and against the oppressive institutions of feudalism, the late triumph of its neoliberal cousin has had the tragic consequence of re-establishing a global society where again a few thousand billionaires own more than the poorer half of the world's population and wield the power that comes with excessive wealth.[2]

9 In Search of a New Paradigm?

One may be tempted to suggest that the CLIP with its IHT core has proved so stubborn in economics because no superior alternative is in sight. As Kuhn (1970, 145) has claimed for the natural sciences, "paradigm-testing … occurs only after the sense of crisis has evoked an alternate candidate for paradigm." To be sure, quite a number of approaches may be said to 'compete' with the CLIP. Keynesian economics was and still is regarded by quite a few as an alternative to mainstream economics (cf. Skidelsky 2010). Keynes himself and many of his early followers confidently believed that his theory would revolutionize economics. In some ways, it did. With its emphasis on monetary aggregates, it gave rise to – or at any rate boosted – macroeconomics, national accounting and econometrics. It also induced models of market disequilibrium such as Malinvaud (1977) and Benassy (1982). However, when it was no longer unemployment, but rather inflation that was perceived as the main policy problem, the "Monetarist counter-revolution" (Johnson 1971) managed to re-integrate Keynesianism into a macroeconomic version of the CLIP.

2 For a detailed analysis of inequality, its history and how it might be overcome cf. Piketty 2014; Atkinson 2015; Detel 2025.

A second candidate for paradigm is certainly game theory that originated with von Neumann and Morgenstern (1944) and the equilibrium concept suggested by Nash (1951). Just like econometrics, it has gradually developed into a multi-faceted and very flexible toolbox for economic analysis, and today forms an indispensable part of mainstream economics. As the notion of 'abstract economy' used by Arrow and Debreu (1954) generalizes that of an 'n-person game' as defined by Nash, one might in fact argue that game theory is a new paradigm that explains why the old one is just a special case. However, rather than being an attempt to model the essential features of the real economic world, game theory comprises a multitude of concepts that can be used to analyse different types of markets, but also many other scenarios of economic, other social or even animal interaction.[3] Thus, if game theory is a paradigm, it is one of a very different kind than what we called the CLIP.

Moreover, outside of macroeconomics and game theory there are a few other approaches which constitute separate research programmes at odds with the CLIP and GET. Notably, there is behavioural economics which follows Simon (1957) in considering economic agents' rationality as bounded, and typically proceeds by means of behavioural experiments (cf. Wilkinson 2008). Neuroeconomics, which to some extent overlaps with behavioural economics, might also be regarded as a relatively recent research programme (cf. Glimcher et al. 2009).

However, it seems that none of these candidates is likely to become the dominant, let alone unifying, paradigm of economics. Economists may have to live with the fact that no 'grand unifying theory' can be expected. The situation seems to be somewhat similar to post-Newtonian physics, where neither relativity theory nor quantum mechanics have replaced the old paradigm. Rather, multiple specialized approaches have to be used for more or less well-defined fields of application, even though they may, strictly speaking, be logically incompatible.

What must be expected of the experts, is that they be aware of the limitations of any model or theory. Rather than trying to shape the world according to a normative ideal and aim at a somehow 'optimal' state of affairs, post-paradigmatic economists might try and use their box of sophisticated, though imperfect, tools to help avoid the disasters that threaten our 21st century.

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3 To name just a few, game theory distinguishes between games in strategic form, games in extensive form, Bayesian games, coalitional-form games, evolutionary games, and also many 'solution concepts' in addition to Nash equilibrium. Cf. e.g., Myerson 1991 or Osborne and Rubinstein 1994.

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