

SPACE Working Paper Series

Working Paper No. 7 (May 2021)

Claudius Gräbner and Stephan Pühringer

Competition universalism: historical origins and timely alternatives

About SPACE

SPACE investigates the impact of an increasing reliance on “competitiveness” as a prime mode of social organization and as a core concept for designing institutions on different ontological levels of social reality. The approach taken is interdisciplinary and SPACE scholars come from economics, sociology, and ethnology, among others. For more information about SPACE visit www.spatial-competition.com. SPACE is funded by the Austrian Science Fund under grant ZK-60.

About the series

The SPACE Working Paper Series presents ongoing research results of the project “Spatial Competition and Economics Policies” funded by the Austrian Science Fund (FWF) under grant ZK-60. The content of the working papers does not necessarily reflect the views of the FWF of the institutions the authors are affiliated with. For all working papers visit www.spatial-competition.com

Competition universalism: Its historical origins and timely alternatives

Claudius Gräbner^{a,b,c*} and Stephan Puehringer^{a,d},

May 14 2021

^a *Institute for Comprehensive Analysis of the Economy, Johannes Kepler University of Linz, Austria;*

^b *Institute of Socio-Economics, University of Duisburg-Essen;*

^c *ZOE. Institute for future-fit economies, Bonn;*

^d *Institute of Economics, Cusanus Hochschule, Bernkastel-Kues, Germany*

Abstract

This paper discusses the actual relevance and historical origins of ‘competition universalism’. In economics, competition is conceptualized as a nearly ubiquitous element of societies, or, at least, used to study a wide array of social and political relations, including competition between firms for market shares, between individuals for prestige, countries for resources, athletes for victory, or politicians for influence. This trend towards ‘competition universalism’ was facilitated by the increasing dominance of an economic approach that places less weight on descriptive accuracy and a consideration of socio-historical specificities, but instead focuses on the development of general and tractable mathematical models. Thereby, the paper links the trend to competition universalism to developments in the epistemological orientation in economics. It first explicates the historical genesis of competition universalism, then discusses the extent it has reached today, and concludes with critical remarks and the proposition of an alternative, more particularist approach to study competition.

Keywords: competition universalism; economic and social sphere; economic imperialism; economic methodology

JEL: B0; B4; Z1

License: Creative-Commons CC-BY-NC-ND 4.0

*: Corresponding authors email address: claudius@claudius-graebner.com.

1 Introduction

Competition has always been a central topic in economic political economy. The dictum of John Stuart Mill (1909 [1848]), according to whom “only through the principle of competition has political economy any pretension to the character of a science” (p. 191) continues to be relevant until today. But not only has competition preserved its analytical relevance, the scope of phenomena analyzed via reference to the concept of competition has significantly widened since Mill wrote his *Principles of Political Economy*. In fact, many economists consider competition to be a nearly ubiquitous element of today’s economies, or, at least, use competition to study a wide array of social and political relations, such as competition among firms for market shares, between individuals for prestige, countries for resources, or politicians for democratic influence. Today, competition and competition policies, as well as the ubiquitous political debates about the importance of competitiveness for individuals, firms and nation states alike continue to be important topics in the political economy literature, e.g. in the context of the debate about protectionist measures and economic nationalism (Siles-Brügge, 2011; Helleiner, 2020), the market dominance of big-tech multinational corporations (Rahman and Thelen, 2019; Atal, 2020) as well as the geopolitical rise of China (Bishop and Xiaotong, 2020). This nearly ubiquitous application of the concept of competition may be termed ‘competition universalism’¹ and is the central topic of this paper. More precisely, the paper is meant to explicate the historical genesis of competition universalism, to describe the extent that it has reached today, and to discuss the methodological status of such a universalist approach.

The guiding hypothesis is that the trend towards competition universalism is not by accident but has been facilitated by the growing dominance of an economic approach that places less weight on descriptive accuracy and a consideration of socio-historical specificities, but

rather prioritizes the development of generally applicable and analytically tractable mathematical models. The trend towards competition universalism can, thereby, be aligned with changes in the dominant epistemological orientation in economics, yet it has neither been linear nor universal. Rather, it can be characterized as an ‘wave-like’ dynamics:² In the 19th century, when J.S. Mill first stressed the relevance of competition for economic analysis, economics as such was part of the broader discipline of political economy and scholars used to distinguish and investigate competition in different social spheres, such as the ‘economic’ or the ‘political’ sphere. Here, the methods of investigation were quite distinct and kept separate by the authors.

Later, through the “mathematization of economics” after the second World War (Debreu, 1991b), economists focused more and more on what Walras (2003 [1874]) had termed ‘pure economics’, i.e. an abstract and theoretical investigation of competition, which prioritized general applicability and analytical rigor over descriptive accuracy and socio-historical specificities. The realm of applicability was then widened again through a new generation of economists such as Gary Becker, George Stigler or James Buchanan from the late 1960s to the 1980s: during the time of *economic imperialism*, the topics studied with the economic method were broadened, however, without regaining the conceptual and methodological diversity as well as the socio-historical contextualization of the economic classics in the 18th century. The result is a rather narrow methodological toolkit that is applied to a wide range of phenomena. Competition as a concept is a central element of this methodological toolkit.

This development has not been followed by all economists, however: some paradigms kept the conceptual and methodological diversity of the classical economists with regard to the topic of ‘competition’ and stressed the role of distinct institutional arrangements for economic action.³ This practice shows similarities to related social sciences and humanities, which also did not experience a mathematization of their theory as it has happened in most of economics. Correspondingly,

explicitly into economic theory formation (Bradley 2010; Dennis 1975).

³ For the sake of clarity these alternative paradigms in economics will be referred to as ‘heterodox’, while the rest of economics as ‘mainstream’. The adequateness of the respective approaches is discussed in section 4. Until then, these terms are not meant in a strictly positive or negative sense.

¹ The term was inspired by Hodgson’s (2019) treatment of ‘market universalism’.

² While rivalry among nation states was also a core issue for mercantilist thinkers, the historical sketch of the genesis of competition in economic thought in section 3 begins with Adam Smith and his concept of a *System of Natural Liberty*, who first translates the everyday-language use of competition

the phenomenon of competition universalism is important, but not universal in economics today.

The rest of the paper elaborates on this historical sketch of the concept and locates it within an analytical framework. This framework also allows for a critical discussion about the methodological attractiveness of such a universalist approach, and what it means practically for interdisciplinary collaboration today. To this end, the paper proceeds as follows: Section 2 contains a historical analysis of how competition has been conceptualized within mainstream economic thought, and which explicates the wave-like dynamics sketched in the introduction in more detail. Against the backdrop of this historical sketch, section 3 delineates the elements a definition of competition that allows the distinction of ‘economic’ competition from other types of competition. It, thereby, serves as an alternative to a universalist approach to competition and helps highlighting the potential methodological problems of the universalist approach. Finally, section 4 comprises a discussion about the relevance and implications of competition universalism today and concludes the paper.

2 Competition in mainstream economic theorizing

This section describes the role and the conceptualization of competition in economic theory formation over time. By scrutinizing the contributions of core proponents of mainstream economic thought throughout roughly the last 200 years, as well as their epistemological and ontological approach to competition, one can identify what we call a “wave dynamic” of the scope of competition in economics: periods, in which competition was solely applied for the analysis of an “economic sphere”, and periods of expansion where the concept of economic competition was also applied to phenomena in a “social sphere”.⁴ In the second half of the 20th

century this classical economic view of different, balanced spheres of human conduct blurred, culminating in universalist concepts of competition. As will be shown below in section 4, this universalist approach also survived, although slightly altered, the so called ‘empirical’ or ‘applied turn’ (Backhouse and Cherrier, 2017).

2.1 Classic: Smith, Mill, Walras

Economic theorizing on competition since the period of Classical Political Economy is closely related to the conceptualization of markets (Backhouse, 1990; Blaug, 2001; Hodgson, 2019). Adam Smith was among the first who, against the historical background of the early industrial revolution, supply shortages and the rise of the bourgeoisie, introduced the concept of competition from everyday language into economic theorizing (Dennis, 1975). In Smith’s analysis of wealth production markets, by offering economic actors a place and possibility to interact and barter their products, are understood as the natural form of organizing economic affairs. While this allows for an intensified division of labor and, thereby, enables producers to maximize their outputs, it also confronts them with an increased number of other producers at the marketplace. The resulting *rivalry* or *competition* among producers forces them to offer their products according to the “market price” – understood as the price, which can be quoted at the physical market. Consequently, in order to make profits, producers will have to further increase production – not least through new modes of production, such as division and new organization of labor, which in turn are expected to increase overall wealth. Wealth accumulation according to Smith is, thereby, based on two fundamental principles: First, the *market* principle leading to a price level evolving around the natural price and, second, *competition* as the characteristic feature of his normatively preferred *System of Natural Liberty* (Bradley, 2010; Kurz, 2016). Hence, while Smith normatively prefers a “free” market system, he is stressing the condition of competition in order to prevent economic affairs from the “wretched spirit of monopoly” (Smith, 1976

In this paper, however, the “economic sphere” will be considered as the place, where social interactions are primarily concerned with the material provisioning process, whereas interactions in the “social sphere” are not. For a detailed discussion of the role of markets in the separation of the two spheres see section 3.

⁴The separation of an “economic” and a “social” sphere ultimately goes back to John St. Mill’s distinction between the laws of production and the laws of distribution. According to Vallier (2010, p. 107) this separation “was intended to illuminate the fact that while increasing or decreasing production is mainly a scientific enterprise, distribution is primarily a social phenomenon not strictly governed by economic laws.”

[1776], p. 461). However, in contrast to the later neo-classical concept of perfect competition, for Smith “free competition” as part of the *System of Natural Liberty* rests upon entrepreneurial behavior and an active competitive process, which is necessarily to be embedded into a broader institutional framework (Backhouse, 1990; Blaug, 2001; Bradley, 2010): a functioning market requires a *System of Natural Liberty*, and only a sufficiently high level of competition among producers prevents monopoly rents and forces prices down to their “natural level”. Or, in the words of Smith: “the price of monopoly is upon every occasion the highest which can be got. The natural price, or the price of free competition, on the contrary, is the lowest” (Smith, 1976 [1776], p. 78).

Thus, Smith provides a rather harmonious view of economic development in a *System of Natural Liberty* such that competition among producers also leads to raising wage levels and finally also to a reduction of poverty (Aspromourgos, 2009; Medema, 2009). At the same time, Smith was well aware that competition activates not only *centripetal* forces, such as the convergence of

the price level to the natural price (the classical “law of one price”), but also *centrifugal* forces (Kurz, 2016), which was later taken up by Marx in his analysis of the “falling rate of profit” and later prominently by Schumpeter’s concept of “creative destruction”.

Though given the historical context of the commence of the industrial revolution Smith’s predictions of a harmonious interaction of economic actors might have been rather naïve, Smith obviously provides a comprehensive approach to economic analysis, where economic affairs are implicitly embedded in social and political contexts. Hence, rather than as quite often being labelled the father of economic analysis in economics textbooks, Smith’s main academic endeavor was that political economy should help to develop a social beneficiary economic system (Kurz, 2016). Thus, he interprets economic wealth creation as important part of the overall goal of “social surplus” (Aspromourgos, 2010) – very similar to modern definitions of economic heterodoxy as the “science of the social provisioning process” (Jo *et al.*, 2012).

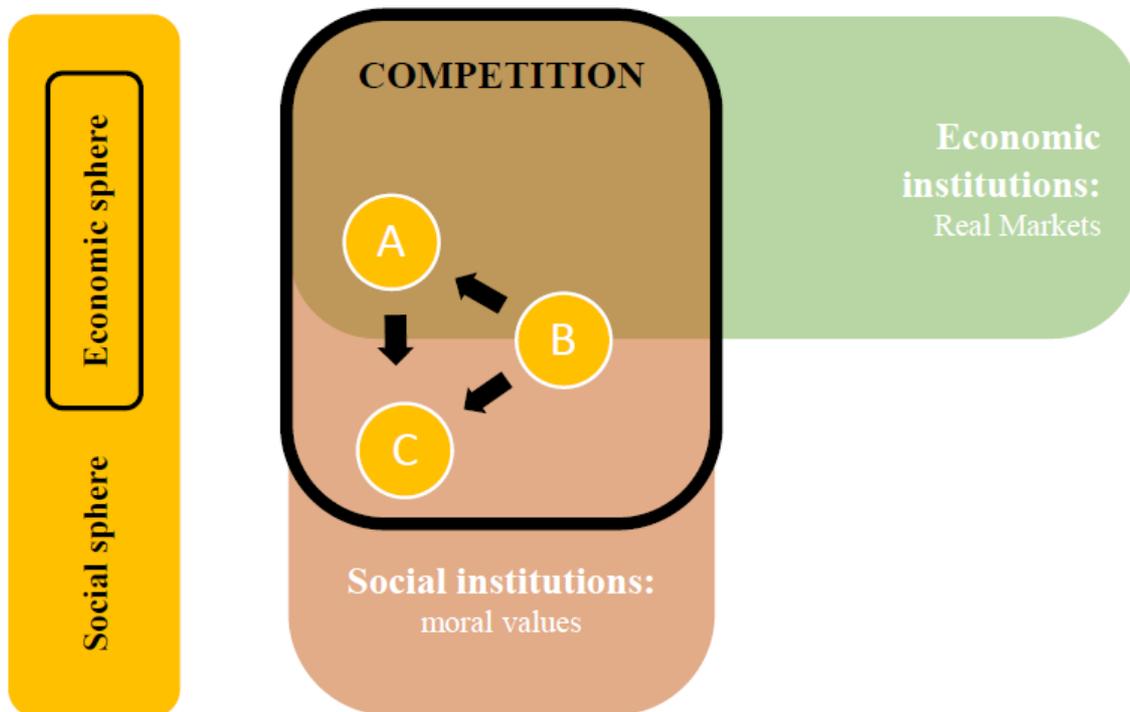


Figure 1: Adam Smith’s conception of a *System of Natural Liberty*. In all figures, the box on the left-hand side indicates the author’s conceptualization of a social and an economic sphere. On the right-hand-side, capital letters denote economic agents, whose interactions are governed by a set of social and economic institutions (brown/green box). The frame indicates the area where a distinct form of competition takes place.

In this vein, in Smith there is no theoretical differentiation between an economic and a social sphere. In contrast to later classical economists, Smith did not elaborate on a strict separation of an economic and a social

sphere: the economic sphere, understood by him as the sphere characterized by institutions governing the exchange and provision of goods, was considered as a

subset of the social sphere, the latter being characterized by institutions governing the interaction of individuals and the definition of values and morals more generally (see also section 4). Here, not only are economic institutions a subset of social institutions, non-economic and economic institutions are closely interlinked. Thus, economic actions are – and should be – accommodated within an overreaching morality on the individual and the societal level alike (Figure 1). The selfishness of human beings, when entering the market place and deciding about production and consumption should be mandated by moral consideration, not least reflected in his two seminal books *The Theory of Moral Sentiments* from 1759 and *An Inquiry into the Nature and Causes of the Wealth of Nations* from 1776. Thus while competition enhances economic progress and is directly related to human interactions in the economic sphere (Figure 1), it also serves as a kind of safeguard for amoral behavior, because it again limits the power of landlords and the gentry, who Smith accuses of economic immorality and of spreading the “wretched spirit of monopoly” and thus purely selfish behavior.

John St. Mill, quite similar to Adam Smith, is critical of landlords and the gentry and also sees increasing competition as one possible solution to their accumulation of profits and rents. Although Mill is very sympathetic to socialist ideas of a more equal distribution of wealth and income (Medema, 2009; Vallier, 2010), as, for instance, claimed by Saint Simon’s early meritocratic argument, he also highlights the virtues of private property and the preservation of individual freedom (notably in Mill, 2001 [1844]).

This way, Mill stresses the benefits of competition as a governing principle of contracts in 19th century societies. However, this central role of competition is closely connected to institutional arrangements such as laws or an effective government (Medema, 2009). Hence, Mill

points to the need for an institutional setting with comprehensible rules that secure a just competition among different producers. In the absence of such arrangements, the power of the stronger actors is only constrained by customs, i.e. shared moral standards and social norms.

Mill’s conceptualization of competition, however, is ambiguous with regard to its normative connotation. On the one hand, Mill praised competition from a classical liberal perspective for potentially increasing individual liberty as well as for its positive impact on productivity, especially against the background of socially destructive supply shortages (Riley, 1998). On the other hand, Mill also pointed to negative consequences of increased competition in the economic sphere of distribution, especially when it comes to justice and, thereby, to social cohesion (Dennis, 1975; Medema, 2009). Thus, in contrast to Smith’s rather harmonious view of competition as an ethical imperative sanctioning immoral economic behavior, Mill, influenced by French Utopian Socialists, also sees the potential harmful consequences of intensified market competition for the poor, as outlined by his younger contemporaries Marx (e.g. 1959[1844]) and Engels (e.g. 1969[1891]) (see also: Wendling, 2009; Kurz, 2020)

Mill provides a social liberal critique against 19th century capitalism, yet in his economic writings he claimed to be able to separate descriptive analyses of economic phenomena from policy prescriptions.⁵ His analysis of the process of production is geared towards the identification of “natural laws” of economic activity. and his use of the concept of competition must be seen as an attempt to arrive at a more accurate positivist analysis of the process of price formation. In contrast, economic analysis in the sphere of distribution is based on ethical considerations about justice and thus is essentially normative.

⁵ This is his well-known separation of a sphere of production and a sphere of distribution through which he introduced the

distinction between positivist and descriptive on the one, and normative economics on the other hand Vallier (2010).

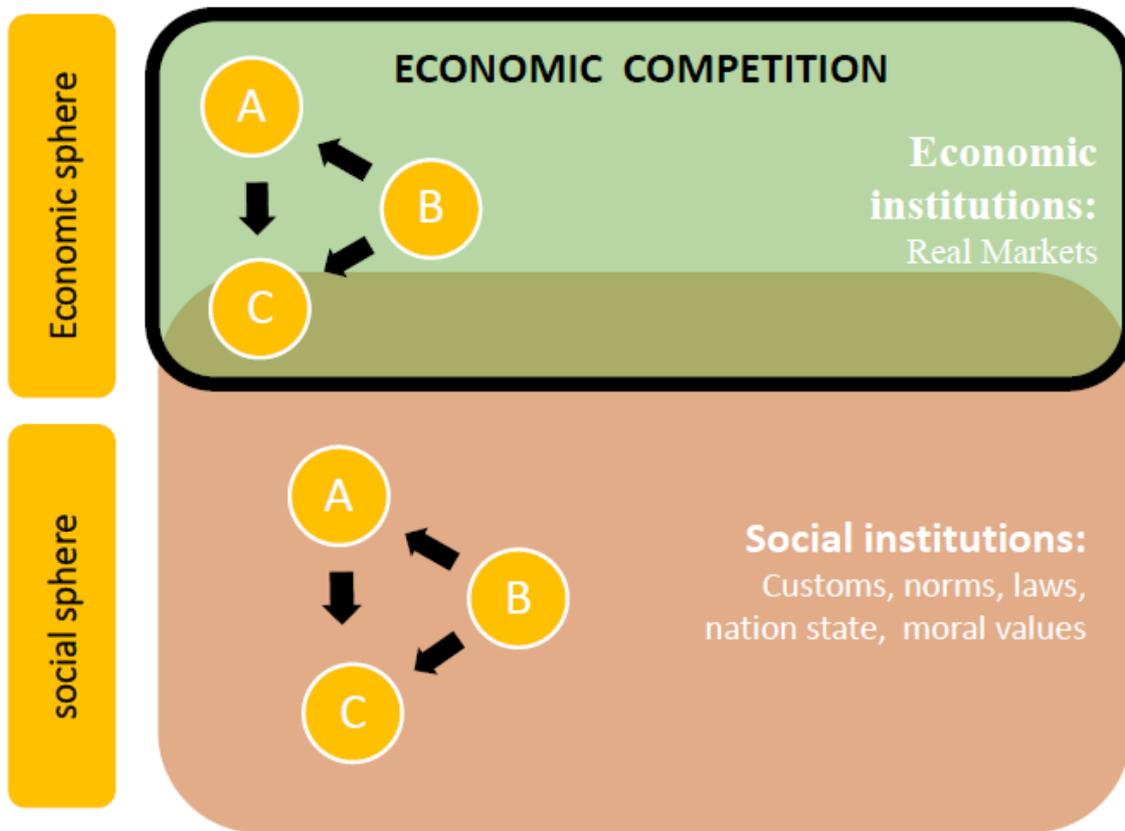


Figure 2: John St. Mill's separation of a sphere of production and a sphere of distribution

Against this background the distinction and separation, as well as the interconnectedness of positive and normative economics – and, thereby, of descriptive and prescriptive conceptions of competition as prime mode of economic organization – is intricate: on the one hand, for Mill the separation is central since it is a prerequisite for the status of economics as proper science: it is particularly the analysis of the productive sphere that has the potential to produce ‘hard’ scientific insights.⁶ On the other hand, in his analysis of the economic sphere of distribution, Mill elaborates at length on negative consequences of increased competition for justice and thus for social cohesion (Dennis, 1975; Medema, 2009). Thus, notwithstanding the primacy of the productive sphere in terms of pure ‘scientificity’, both spheres must be considered to reach a comprehensive understanding and assessment of the phenomenon of ‘competition’. Nevertheless, Mill’s separation of an “economic” and a “social” realm breaks with

Smith’s comprehensive account of political economy as “moral sciences”. With regard to his conceptualization of competition, Mill limits the applicability of a formal concept of competition to the economic sphere (Figure 2). This way, competition for Mill essentially is an economic concept, which does not affect human behavior in the social sphere.

While Mill’s distinction of an economic and a social sphere of human activity is widely discussed, the contributions of Leon Walras on this subject has received less attention. His seminal contribution “Elements of a Pure Economics”, however, not only represents a foundational work of neoclassical economics, it also contains a quite comprehensive conceptualization of political economy. More precisely, he distinguished the ‘kinds’ of economics: first, economics as *pure science* (Walras, 2003 [1874]), second, *applied economics* as a more

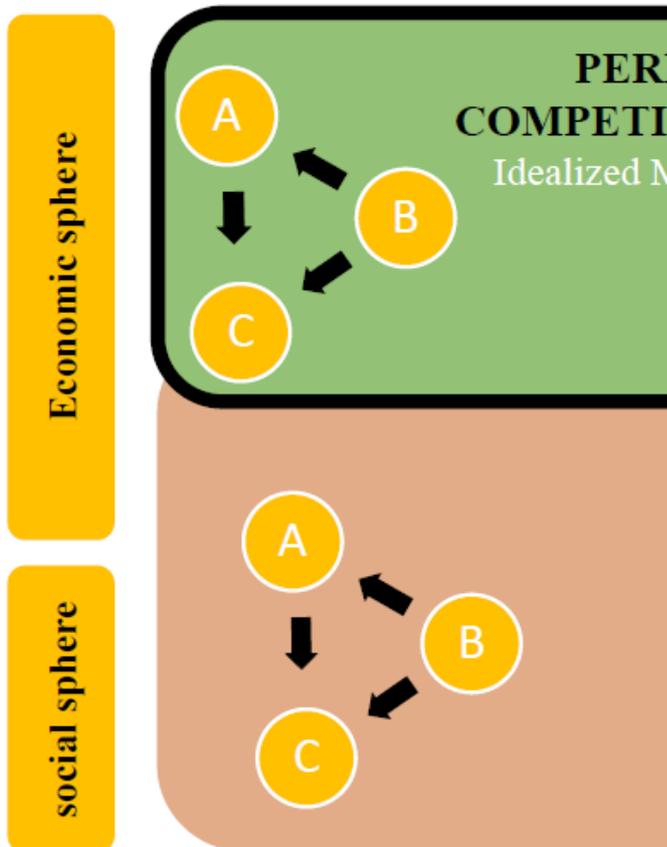
⁶ Several research programs following a more comprehensive understanding of economics and stressing the social and institutional embeddedness of economic action, such as “original institutionalism” or “economic sociology”, have been marginalized to the boundaries of mainstream economic

thought. This way, the process of formalization and mathematization of economics paved the way to the (self-)image of economics as more accurate than other social sciences (e.g. Colander (2005); Fourcade *et al.* (2015))

practical approach to what is useful and, third, *social economics*, which is concerned with justice and *ethics*. Thus, the overall aim of Walras was not (only) the foundation of economics as a “physico-mathematical science” (Walras, 2003 [1874]) as laid down in his *Elements*, but rather an attempt to bridge the valuable insights of liberal and socialist economic ideas (Jaffé, 1965; Koppl, 1995)⁷. Far from following a universalist account on competition, Walras was well aware of the far-reaching

implications of the abstract assumption of “perfect competition” and its methodological individualistic approach, which he followed mainly for pragmatic and analytical reasons since it allowed for a rather concise mathematical treatment. At the same time, he clearly restricted the applicability of the resulting *General Equilibrium Theory* (GET) to particular subsets of the economic sphere (

Figure 3).



⁷ However, Jaffé as well as Koppl argue that normative considerations are not only present in Walras’ studies of ethics but at the very base of his studies of “pure economics” as

science and, thus, highlight a “normative bias” or even a “Walras Paradox”.

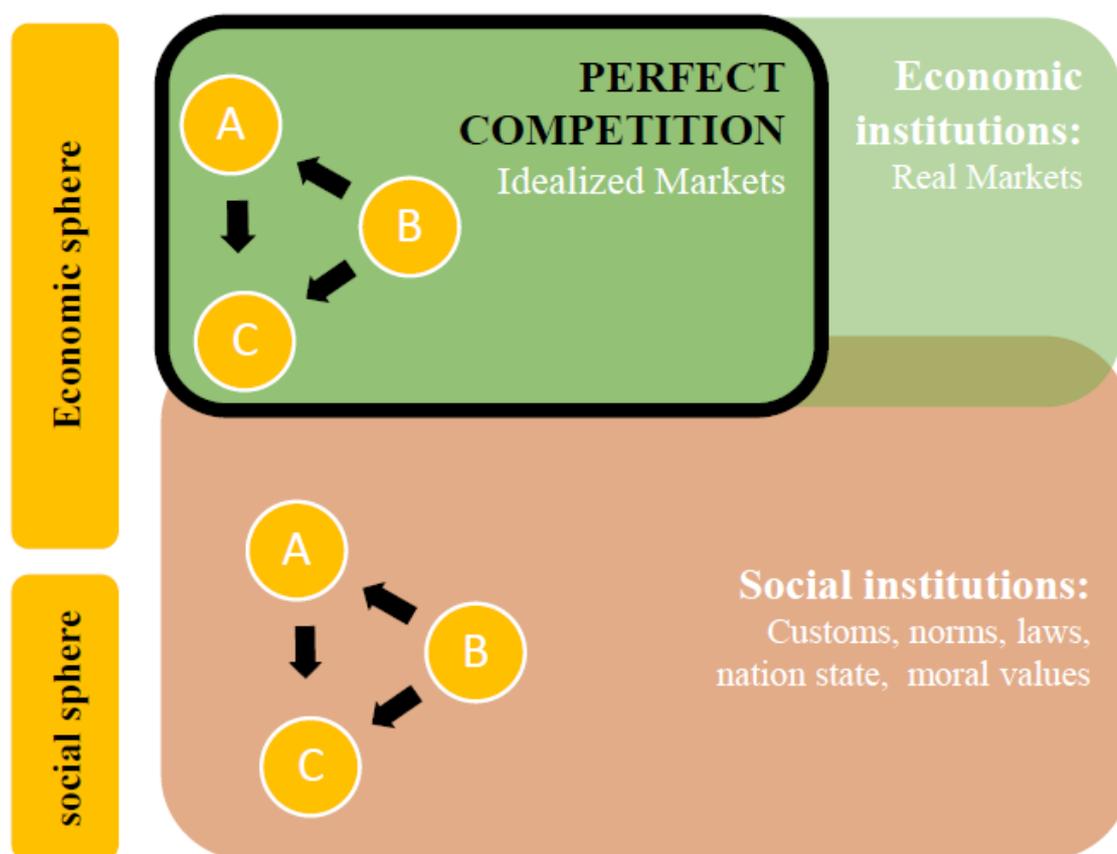


Figure 3: Leon Walras' comprehensive view.

Thus, Walras' himself still aimed at a comprehensive account of political economy, which necessarily comprises a pure, applied and social type of analysis. It was, however, mainly his concept of pure economics and his formulation of the GET as a result of “perfect competition” that became influential and paved the way to further formalization and mathematization of neoclassical economics. The neglect of his applied and social economics, however, led to a much narrower focus of economic theorizing, dedicated to study the formal implications of perfect competition in the economic sphere, and a fundamental shift in the unit of economic analysis from groups and classes to individual economic actors.

2.2 The advent of pure economics

After the second World War, economics as a discipline underwent a change in terms of content and scope, as well as its academic structures. With regard to content, large parts of economics witnessed a “mathematization” (Debreu, 1991a). Gerard Debreu is among the

most representative figures for this transformation.⁸ He was a mathematician trained in the Bourbakist tradition – an approach to mathematics that stressed analytical rigor, a fully deductive form of research, and a strict separation of syntactic structure and semantic meaning – and became an economist (or, ‘applied mathematician’, according to his own terminology) only later. He brought with him his research style of a very particular kind of mathematics, in which abstraction and careful derivation of theorems take precedence over intuition and applicability. For Debreu this meant that in the work of any economist, there was a complete “divorce between mathematical form and economic content” (Debreu, 1986).

The rise of this kind of mathematics that Debreu brought into economics must be understood against the crisis of mathematics during the beginning of the 20th century. This crisis was closely related to the proof of Gödel that absolute mathematical truth is impossible to attain, but that the truth of any statement is necessarily

⁸ But neither was he among the first who advocated such mathematization, nor was there complete agreement on what

such a mathematization should entail. Such details are beyond the scope of the present analysis, but are discussed in depth in, e.g., Weintraub (2002).

relative to the axioms that make up the logical structure within which this statement was made (for more details see, e.g., Weintraub, 2002). In the following, mathematicians have tended to derive ‘truth’ from logical consistency with certain axioms, rather than any congruence with empirical observations. With this came a distinctive view on what science in general should achieve:

“in the first decades of the twentieth century a rigorous argument was reconceptualized as a logically consistent argument instead of as an argument that connected the problematic phenomenon to a physical phenomenon by use of empirical data: propositions were henceforth to be ‘true’ within the system considered (because they

were consistent with the assumptions) and not ‘true’ because they could be grounded in ‘real phenomena’” (Weintraub, 2002, p. 51).

Debreu was heavily influenced by this kind of mathematical reasoning, and he brought it into the economics of the Post-War period. Here, the influence of Debreu via his own work in the Cowles commission was considerable, and the precedence of analytical rigor over empirical adequacy became widely dominant in economics. The resulting work has been, therefore, quite similar to what Walras has termed ‘pure economics’ at the end of the previous century. The implication was a narrowing of economics both in terms of topics, but also in terms of method and research style, which was now almost exclusively focused on formal models (Figure 4): “every analysis is a model.” (Arrow, 2005, p. 16).

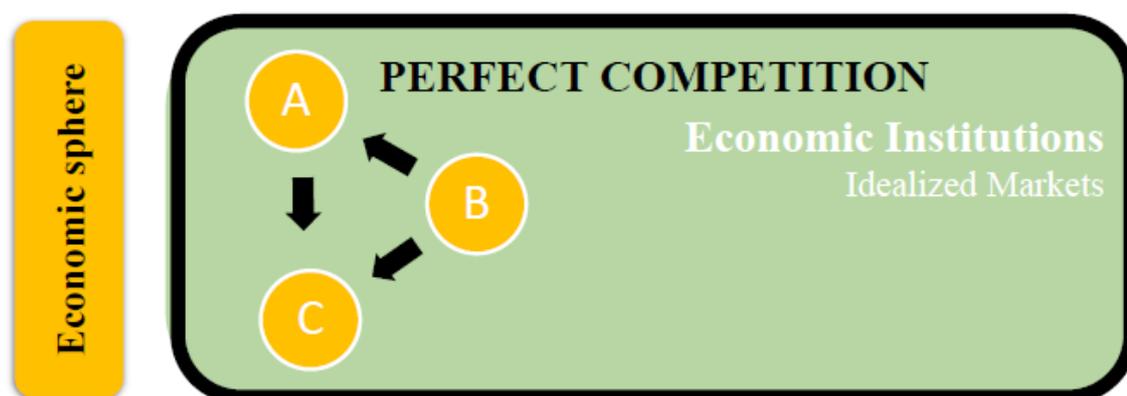


Figure 4: General Equilibrium Theory in the spirit of Debreu as later applied to the economic sphere by applied general equilibrium scholars.

The vision of Debreu and his colleagues was to ground economic inquiry on one point of intellectual departure – the theory of general equilibrium, which was at its core a general theory of competition. The best illustration for this approach is Debreu’s main work *The Theory of Value* (Debreu, 1959). It represents the epistemological ideal of economics as applied mathematics: the derivation of new theorems from a general baseline ‘structure’, in this case the static general equilibrium model with perfect competition. Also, the theory was not developed to be immediately applicable to real economies, but first of all a scientific tool, which prioritizes internal consistency over everything else. And even when economics became more applied after the 1960s, the movement towards more applied work was materialized within the theoretical framework of general equilibrium theory, or, more precisely, *applied* or *computable* general

equilibrium theory. This work goes back to the contributions of Herbert Scarf, who developed the first algorithm to compute general equilibria from data (Scarf, 1973). This paved the way to new applications of the newly developed ‘economic method’, yet at its core “the essential perspective on the world of CGE models is indeed a world of perfect competition” (Arrow, 2005, p. 15).

And despite the fact that the Bourbakist rigor of Debreu did not survive until the 1990s, and that there were considerable changes in the style of mathematics used within the profession (especially during the rational expectations revolution in macroeconomics), the epistemological focus on a particular (model-based) method that strived for internal consistency and generality and that guided subsequent applied analysis remained intact, at least in the mainstream of economics.

However influential this trend towards an analytical or formalist economics was, however, it was neither universal nor undisputed: there are numerous examples for economic paradigms that rejected the formalist and exclusively model-based analysis à la Debreu, but stressed the precedence of empirical and descriptive adequacy over theoretical consistency, as well as the need for non-formalized analysis. This is most evident for the evolutionary-institutional school in the spirit of Veblen, which was dominant in the period after the second World War in the US and continued to be influential via scholars such as Wesley Mitchell or Gunnar Myrdal, who strongly opposed the formalist trend in economics. As will be argued below, the different epistemological basis of these paradigms – which stresses descriptive adequacy over generality and consistency – coincides with much more reservations against a universal treatment of competition, than the generalist program of the economic mainstream in the spirit of Debreu. But these ‘heterodox’ paradigms were marginalized after the 1950s, and their academic influence was small as compared the dominant and ‘mathematized’ mainstream (e.g. Lee, 2009).

2.3 *The era of economic imperialism and the concept of competition universalism*

While the ultimate roots of “competition universalism” may be traced back to Lionel Robbins’ famous definition of economics as “the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses” (Robbins, 1932, p. 16), it was not before the pioneering work of rational choice economics from the 1970s onwards that a historically almost unique expansion of the subject area of economic – consequently dubbed as “economic imperialism” (Fine, 2002; Mäki, 2009; Davis, 2016) – took place.

On the one hand, this development was achieved by radicalizing an understanding of science that focuses on ‘the’ economic-scientific method or perspective and not on a specific subject area: “I believe that what most distinguishes economics as a discipline from other disciplines in the social sciences is not its subject matter but its approach” (Becker, 1976, p. 5). On the other hand, in the course of the rational choice revolution this kind

of economic thinking also found more and more followers in other social science disciplines (Satz and Ferejohn, 1994; Voss and Abraham, 2000). Thus, fundamental axiomatic assumptions of economics, such as those of perfect rationality of economic actors and the belief in utility maximizing under idealized competitive markets, were carried over from the realm of genuine economics into a wide variety of areas. In particular, Gary Becker, George Stigler, James Buchanan and other economists from the Chicago School of Economics were successful in extending their universalist account on competition to social phenomena such as marriage (Becker, 1973), the death penalty (Becker, 1968), the desire for children (Becker, 1981), democracy (Buchanan and Tullock, 1962; Stigler, 1972) or education (Mincer, 1958). This self-understanding led not least to a feeling of superiority on the part of many economists, which is expressed both implicitly in the far-reaching ignorance of empirical, methodological and epistemological findings of other social sciences (Fourcade *et al.*, 2015), as well as in explicit self-assessments of individual economists:

“By almost any market test, economics is the premier social science [...]. The ascension of economics results from the fact that our discipline has a rigorous language that allows complicated concepts to be written in relatively simple, abstract terms”⁹ Edward P. Lazear (2000, p. 99).

It was precisely the mathematical clarity centered around the basic concept of perfect competition in connection with a supposedly broad explanatory power of the assumed economic utility motive and the competitive nature of every kind of “market interactions” that was used as a justification for economic imperialism in other social sciences. This way, in this universalist account there is no epistemological distinction between social and economic phenomena (Figure 5). In Becker’s Nobel Lecture entitled “The economic way of looking at life” he demonstrates the application of the rational choice model of human behavior on a great variety of social issues and concludes that this model “provides

⁹ It is therefore not surprising that at the beginning of the 2000s 77% of the economics students at elite American universities surveyed agreed with the statement “Economics is

the most scientific of the social sciences”, 50% of them strongly (Colander (2005, p. 184).

the most promising basis presently available for a unified approach to the analysis of the social world by scholars from the social sciences” (Becker, 1992, p. 52).

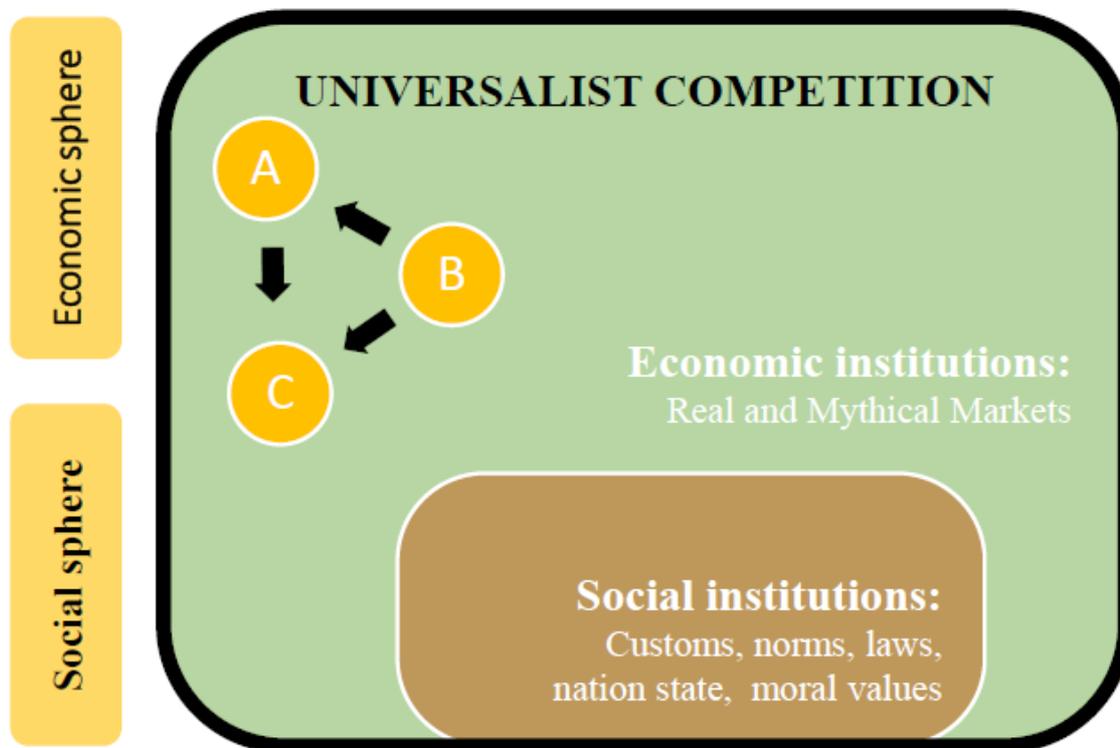


Figure 5: Gary Becker's conceptualization of competition universalism in rational choice economics.

According to such a universalist conception of competition every human action can be interpreted as the consequence of a competitive pressure on individuals exposed on different “markets”.¹⁰ This way, it implicitly rejects any other forms of social and economic organisation based on social norms of shared moral values. education, for instance, is solely interpreted as investment in one’s human capital to be offered at the labor market and the choice of the love partner is operationalized as the solution to an intertemporal utility maximization problem where the love of your life corresponds to the person associated with the highest discounted utility value – mediated via the marriage market. This form of competition universalism, however, has not only led to troublesome developments in mainstream economic theorizing, it also bears some severe political and social implications.

In the second half of the 20th century, parallel to the expansion of competition universalism in economics, an increase in the social and political significance of *the economic* can be observed. This phenomenon, termed

“economization” of the social or political sphere (Morgan, 2003; Çalışkan and Callon, 2009) can be described as a social and at the same time political process that is designed and carried out on the basis of economic categories. This way, core economic concepts such as competition and the reference to the market logic serve as guiding principles for regulations and policy-making in various policy fields (see e.g. Fourcade, 2009; Jessop, 2015; Pühringer and Griesser, 2020). This trend on the one hand is a consequence of the internationalization and institutionalization (Fourcade, 2009) as well as the development and increased political importance of economic indicators after the second World War such as for instance National Income Accounting (Tily, 2009; Linsi and Mügge, 2019) or economic growth (Schmelzer, 2016; Barry, 2020). This increasing societal and political impact of economic concepts, such as competition, is based on the performativity of a distinct style of economic reasoning, narratives, and “economic imaginaries” as argued in the social studies of economics (e.g. Callon, 2006; MacKenzie, 2008; Sum and Jessop, 2013). Furthermore

¹⁰ Moreover, different kinds of markets, such as competitive markets, monopolistic markets or oligopolistic markets are

theoretically distinguished via the degree of competition present.

the political success story of this economic style of thought was closely related to the rise of the neoliberal movement. Becker, Buchanan and Stigler as presidents of the Mont Pèlerin Society are some of its main proponents'. Finally, as will be argued in section 4, the universalist approach to competition also survived, although slightly altered, the so called 'empirical' or 'applied turn' that economics has witnessed during the end of the 20th century (Backhouse and Cherrier, 2017).

3 The problem of a 'competition universalism' and the need for institutional specificity

The previous section has described the historical trend towards a universalist conception of 'competition' in mainstream economic thought from classical political economy to contemporary neoclassical economics before its so called 'empirical turn'. The perspective of the present section is different: it delineates an analytical framework to evaluate the epistemological and ontological implications of such a universalist approach, and to clearly distinguish between 'economic' and other types of competition. This framework then helps to highlight the peculiarities and shortcomings of the universalist approach by illustrating the heterogeneity of phenom-

ena that are necessarily subsumed under the single umbrella of 'competition'. This provides not only the analytical apparatus for the discussion in section 4 of whether competition universalism is still relevant today and what role the alleged 'empirical turn' actually plays in this regard, but also points to an alternative to competition universalism, i.e. an approach that takes seriously the distinction between different spheres of economic classics and is compatible with modern contributions in the fields of political economy and institutional economics.

3.1 Minimal conditions of a definition of competition

Due to its wide application, a universally accepted definition of competition is not straightforward to derive, and it is debatable whether a truly general definition would be practically useful. The present section, therefore, follows the strategy of Hodgson (2019) in the context of 'markets' and delineates some minimal elements of competition, i.e. elements that should be present such that one can meaningfully denote something as 'competition' (see also Altreiter *et al.* (2020)). This would not only provide for some kind of summary of more detailed definitions of competition, but also for the elements that help to distinguish competition from other kinds of social relations (for a summary see Figure).

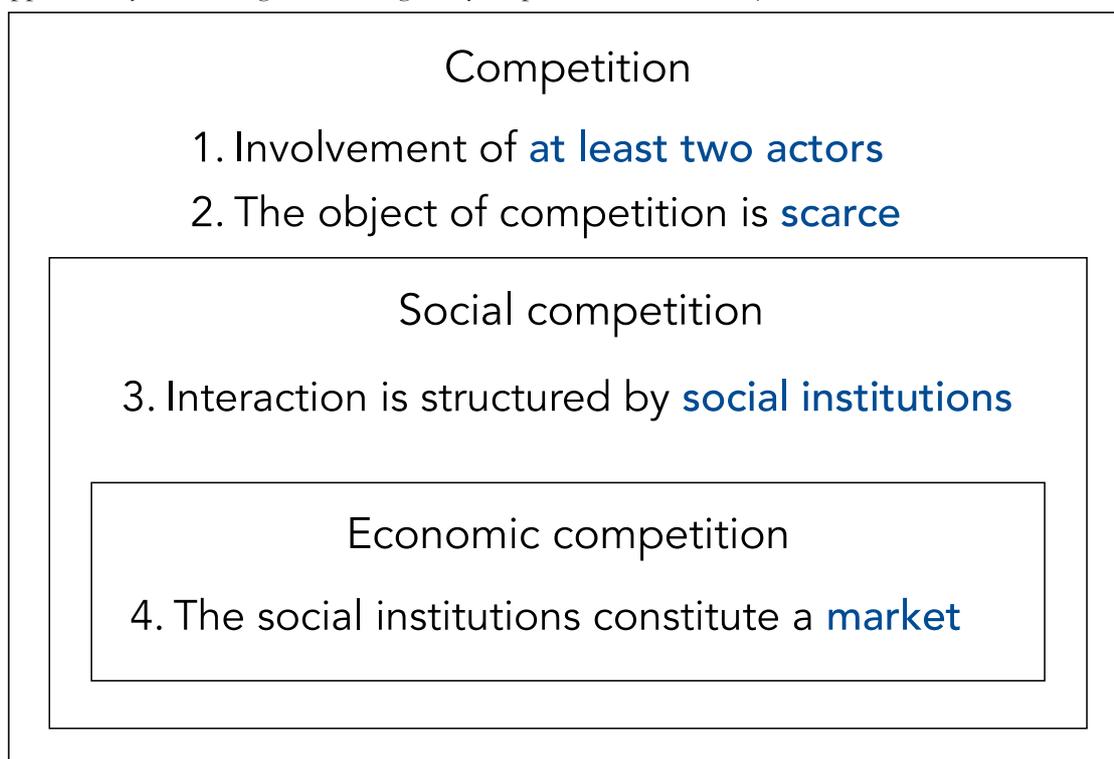


Figure 6: Minimal conditions for competition, social competition, and economic competition. The latter is always a subset of the former.

First, as also argued in Altreiter *et al.* (2020), competition is a process that *involves at least two actors*. If only a single agent is considered, talking about competition becomes meaningless, since the (direct or indirect) interaction between the parties involved is a key element in all accounts of competition. In practice, one can usually concretize the specific kind of competition by explicating the particular actors involved (such as individuals, firms, nation states, etc.), yet a general definition can safely remain agnostic on this matter.

Second, competition requires some sort of *natural or artificial scarcity* that gives rise to an *allocation problem*. In other words, the object for which the parties involved compete for must not be available in an amount that serves the desires of all agents involved, for in this case a process of competition could not arise: competition requires the existence of a conflict of interest about the distribution of the good among the competing parties and, thereby, an allocation problem, to which competition is often considered a potential solution mechanism. This does not mean that the object of competition is necessarily a tangible object. If parties are competing for social status, for instance, the object of competition ('status') is intangible (e.g. Witt, 2010; Altreiter *et al.*, 2020). Moreover, the scarcity of the object can be naturally given – such as in the case of a lack of resources

to feed an entire population – or it can be artificially constructed – e.g. via the development of social norms such as a ranking system that creates an artificial scarcity for higher positions on the ranking scheme.

The two elements discussed so far are extremely broad and would, in principle, also entail competition between species in the biological sphere. Since the topic of the present paper is, however, firmly rooted in the area of social sciences a fourth element is added that helps to distinguish *social* from *biological* competition: the criterion that *competition requires a set of institutions*, which are considered as codifiable systems of social structures such as norms and rules, that structure the competitive interaction of the parties involved (see also Greif, 2006; Gräbner and Ghorbani, 2019). This distinguishes not only social competition from biological competition, but also social competition from mere social conflict, where parties might 'solve' the allocation problem via pure force. This distinction between 'competition' and 'conflict' has played a central role in many social theories of competition, most notably in the seminal work

of Simmel who stresses that competition leads opponents to increase their efforts in order to perform better than the others, which altogether adds value to social life (Simmel, 1995 [1903]). In a similar way, Simmel's contemporary Weber (1978 [1922]) understood competition as the "peaceful attempt to attain control over opportunities and advantages which are also desired by others" (p. 38). In all these cases, the competitive interaction between the parties involved is structured by social institutions, which one cannot observe in non-social systems.

The three necessary conditions leave us with a very broad notion of competition that encompasses diverse processes such as athletic competition, competition between countries on global markets or competition among people for social status. At this point, three implications deserve mentioning: first, there is no clear 'opposite' of competition. Rather, the social relations or processes that fall short of one or more of the four minimal conditions are very broad, and usually there will be more than one alternative to competition, for instance when a social allocation problem has to be solved. Second, the question of whether one can speak of competition or not must be distinguished from the question about the *degree* of competition: in all instances where the four minimal conditions outlined above are satisfied, one can then further distinguish between more or less intense degrees of competition among the parties involved. This suggests a two-stage procedure: first, clarify whether there is competition at all, and if yes, determine the precise degree of competition in this area. Finally, since social competition is a necessarily very broad category, the purpose of the present paper seems to make it necessary to delineate a particular kind of social competition – *economic* competition.

3.2 What constitutes 'economic competition'?

In the following, economic competition will be understood as a subset of social competition. At first sight, this might be at odds with the idea of universal competition, which is precisely characterized by the *absence* of such delineation of social and economic competition. For the present purpose, this delineation is important, however, for two reasons: first, it allows to contrast the approach of universal competition with alternative, more particularistic approaches discussed below. Sec-

ond, the distinction actually helps to define more precisely what universal competition is about: it advances the proposition that no special tools or theories are needed to study social and/or economic competition. This way the distinction between the latter actually helps to clarify rather than shallow the constitutive aspects of universal competition.

The distinctive feature of economic (as a subset of social) competition resides in the related institutions, i.e. the set of norms and rules that structure the competition between the parties involved: what distinguishes competition between firms for market shares – which one would clearly classify as economic competition – from the competition between two track and field athletes – which is social, but not economic competition – are the different institutions that structure their interaction. In the economic case, *the competitive interaction takes place via a market*.

The reference to markets makes the delineation of economic competition dependent on an adequate definition of markets. Unfortunately, just as competition, the concept of a market has become nearly universal, blurring what markets actually are and aggravating the task to distinguish them from non-market interactions. Hodgson (2019) speaks of “mythical markets”, i.e. phenomena that are described as markets, but are not markets, at least if one takes some reasonable minimal requirements for the definition of a market.¹¹ The minimum requirements he suggests and which we also use in the present case are (a) the existence of a system of accepted rules that allow traders to enter voluntary agreements on mutual obligations, (b) the fact that the trading parties can identify and communicate with each other, (c) that these obligations lead to an agreed upon delivery of assets in exchange for a payment and (d) that the agreement among the traders involves allocations of mutually endorsed rights.

This has the important implication that if one followed this line of reasoning, not only the term ‘market’ was reserved only for institutional arrangements that meet all four of these minimal criteria, but one would also exclude everything from the definition of ‘economic

competition’ that does not take place within the institutional framework of a market thus defined.¹² This comes with a gain in analytical rigor (since the definitions are more precise), but with a loss of generality (since fewer phenomena are subsumed under the topic of competition). This trade-off is an important part of the debate about the pros and cons of a universal approach to competition, which will be the topic of the next section.

3.3 *The problem with, and alternatives to ‘competition universalism’*

The fact that Gary Becker received the economic Nobel prize for “for having extended the domain of microeconomic analysis to a wide range of human behavior and interaction, including nonmarket behavior” (Les Prix Nobel, 1993) might call into question the distinction between social and economic competition made at the end of the previous question. Wouldn’t a unified treatment of all forms of competition be desirable from a scientific perspective? There are some arguments that suggest caution with regard to such a conclusion.

First, while a universal approach to competition comes with a gain in terms of theoretical generality since more phenomena can be subsumed under the same topic of competition, it also comes with a loss in analytical rigor since the definitions are necessarily less precise because they need to be applicable for a wider range of phenomena. Thus, there is a clear trade-off between generality and clarity, and choosing the option with maximum generality comes with considerable (most likely excessive) analytical ambiguity.

Second, the mechanisms operating in different areas of competition are clearly distinct: competition between states works according to different rules than competition among athletes. A universal approach likely blurs these distinctions. Given the different set of actors and mechanisms, it is also a priori unlikely that the same theories and models can be applied to all these areas. Even within the same social sphere it seems necessary to distinguish different forms of competition, at least with regard to different ontological levels: competition among nation states works according to different mechanisms than competition among firms, although the

¹¹ Examples for mythical markets that are discussed by Hodgson (2019) are ‘markets for ideas’ or ‘markets for laws’.

¹² As in the case for social competition, the distinction between competition and non-competition is different to the distinction between different degrees of competition. In all

instances where we can reasonably speak of ‘economic competition’ thus defined, we can usually distinguish degrees of economic competition, a fact that is reflected in the different theories about perfect, imperfect, or monopolistic competition in microeconomic theory.

two might be interrelated. While the mechanisms on the different ontological levels should be kept apart, special attention should be given to specific “bridging mechanisms” that link the different areas with each other. Such a nuanced approach would also be consistent with a systemist approach to social research (Bunge, 2000; Gräbner and Kapeller, 2015).

Third, since a universal notion of economic competition suggests interpreting nearly everything as competition, it becomes nearly impossible to study an actual *expansion* of the institutions of competition in society. Many social scientists would, however, diagnose such an expansion (Çalışkan and Callon, 2009; Jessop, 2015; Davies, 2017). A universalist approach would leave one with the potential diagnose that competition becomes (quantitatively) more intense, but the argument made by scholars such as Gane (2019), Jessop (2012) or Lavrence and Lozanski (2014) are qualitative: areas that earlier were not subject to institutions of competition (e.g. the social security system, educational institutions) are being transformed qualitatively to areas characterized by such competition. This process seems to be of high relevance, and a universal account to competition is not helpful in understanding them.

Fourth, a universal notion of competition also blurs the normative debate about where competition is the right mechanism to solve allocation problems, and where it is not. Social rules are not naturally given, but they are socially constructed and, thereby, contingent. Questions such as whether organs should be traded competitively are highly relevant, and to discuss them thoroughly requires to distinguish a competitive form of distribution from a non-competitive one; a universalist approach to competition aggravates this distinction.

Finally, in the course of the 20th century with the expansion of statistical tools and indicators such as the GDP economic knowledge and economic reasoning in general has gained political and societal impact (Fourcade, 2009; Schmelzer, 2016; Christensen, 2017). This has not only lead to a wide-spread self-perception of being the leading social science among economists (Freeman, 1999; Lazear, 2000), but also bears some severe implications for public discourses on economic issues as well as processes of economic policy making, as outlined in the literature on the “performativity of economics” (Callon, 2006; MacKenzie, 2008). Yet, a universal concept of competition not only further strengthens this dominance of an isolated economic perspective, but even prevents to think about other-than economic personal motives or alternative systems to organize society.

All these arguments indicate that a naïve form of competition universalism can be scientifically harmful, yet, as has been described in section 2, such an approach remains to be surprisingly widespread.

4 Discussion

The previous two sections first delineated the emergence of ‘competition universalism’ in economics, i.e. the idea that theories of competition from economics can be used to study social interactions more generally, and then introduced an analytical apparatus to demarcate economic from other types of competition. Against this background, four aspects of this trend are notable: first, this trend has not been a linear one. Second, it has not been ubiquitous. Third, it continues to be relevant, despite the alleged ‘empirical turn’ in economics. And, fourth, despite the trend *towards* competition universalism, there are considerable drawbacks of such an universalist approach.

With regard to the nonlinearity of the trend one may observe that the period after the second world war was first characterized by the emergence of a strict mathematization of the discipline of economics. This mathematization was of a very special kind and followed the idea of the Bourbakist school of mathematics, in which strong axiomatic rigor was of highest importance. Representative for this trend was Gerard Debreu, whose main work *The Theory of Value* (Debreu, 1959) shows the epistemological ideal of this kind of economics as applied mathematics: the derivation of new theorems from a general baseline ‘structure’, in this case the static general equilibrium model with perfect competition. This theory was not meant to be immediately applicable to real economies, but first of all a scientific tool, which prioritizes internal consistency over everything else. Only later emerged the literature on *applied* or *computable* general equilibrium, which, although more applied, was firmly rooted in the theory of general equilibrium and perfect competition. This paved the way for scholars such as Gary Becker who then broadened the scope of applicability of this economic approach to a wide array of social phenomena. In some sense, economics regained the comprehensive view on competition from the classical period, only now with a single methodological apparatus that was applied to any phenomena, regardless of the sphere it belongs to. Thus, the trend

towards competition universalism has been a non-linear one.

Regarding the second point, not all paradigms within economics followed this trend to a competition universalism, which means this trend is by no means inevitable. Interestingly, the deviation of this expansionist strategy is closely related to the rejection of the methodological changes within the economic mainstream. This is most obvious for the field of evolutionary-institutional economics, which took serious issues with the precedence of theoretical consistency and generality over empirical adequacy and relevance. Scholars such as Wesley Mitchel or Gunnar Myrdal rejected the kind of mathematization of economics on a fundamentally epistemological level: for them the value of a scientific argument was not solely a question of axiomatic consistency, but also of consistency with empirical observations. Such a view, in turn, was fundamentally at odds with the Bourbakist mathematics where Debreu was coming from. In effect, evolutionary institutionalists did not develop the kind of general theories of competition as did mainstream economists after the second world war, but they paid close attention to the actual socio-historic specificities of different forms of competition. The institutionalist analysis of competition regularly stressed that economic competition usually takes place within markets, but that markets are institutions and thereby highly heterogeneous (Hodgson, 2019). A general theory of market competition was neither aspired nor considered especially valuable within this paradigm. Not all 'heterodox' paradigms took such a strong position, however. Yet, the wave-like trend towards competition universalism in the mainstream seems to be closely related to the very specific methodology that emerged after the second World War.

With regard to the second point, some economists might doubt that competition universalism is still relevant today. The reason is that most mainstream economists believe that economists recently underwent a "credibility revolution" or an "empirical turn" (Angrist and Pischke, 2010; Angrist *et al.*, 2017) Therefore, it is argued that the theoretical vantage point has lost relevance as compared to rigorous empirical analysis. From this perspective, one might argue that even if there has been a universalist approach to competition from a theoretical viewpoint, any such universalist approach has lost relevance since economists now study the effects and implications of competition – or however you would want to call it – mainly empirically. There are at

least two fundamental problems with this argument, however, which is why ultimately the issue of competition universalism remains relevant: first, the idea of theory-free research is a chimera. Especially in the economic context, data is theory-laden (see the literature on the theory-ladenness of observation such as Kuhn (1970) to Schumpeter's (1994 [1943]) account on pre-analytical visions). One cannot measure socio-economic data without a prior theory of how to conceptualize the variables to be measured, and how the measurement can be undertaken. Moreover, most statistical models used in practice are parametric, i.e. the research delineates the parameters to be estimated and the data to be used from prior theory, which in itself cannot be fundamentally tested.

Second, and more importantly, historical analysis suggests that there has never been an empirical turn in economics after the second world war – if anything, there has been an *applied* turn (Backhouse and Cherrier, 2017; Aistleitner and Pühringer, 2021). This means that economists have applied their models more and more to actual phenomena. This reading is consistent with both the idea of competition universalism outlined above, as well as the literature on economic imperialism: economists have been extending the variety of topics studied using their own particular economic methodology, and the core elements of this methodology continue to be *utility maximization*, *equilibrium* and *competition*. Kenneth Arrow put it nicely when he described the trend towards applied general equilibrium modelling after the development of the Scarf algorithm in the 1980s: "the essential perspective on the world of CGE models is indeed a world of perfect competition" (Arrow, 2005, p. 15). While economists now pay closer attention to empirical data, the interpretation of this data is done via a particular theoretical perspective, for which in turn competition universalism is central.

According to the third point mentioned above, such a central role of competition universalism in the research practice of economics is not necessarily desirable since it comes with a number of potential disadvantages (see also section 2.3): first, such a universalist approach makes it difficult to account for the institutional specificities that distinguish competition among firms for market shares from the 'competition' of politicians for public position. This is because of the trade-off between generality and specificity. Despite obvious advances in the field of New Institutional Economics, market institutions are poorly represented in economic theory, with only selected institutions, such as property

rights or contract enforcement, receiving (sometimes) explicit treatment.

Second, a universalist approach aggravates the study of competition, i.e. the expansion of competition as a tool to solve societal allocation problems. There is, however, considerable evidence that such expansionary processes are relevant or, at least, deserve close theoretical attention (e.g. Jessop, 2015).

Third, competition universalism also bears some severe political and societal implications for modern capitalist societies. Several studies in the field of social studies of economics and the performativity of economics impressively showed that throughout the second half of the 20th century economic reasoning and theories had a formative impact on political processes but also on the way economic phenomena are perceived by ordinary people (for a recent overview see: Maesse *et al.*, 2021). As MacKenzie and Millo (2003, p. 108) put it “economics does not *describe* an existing external 'economy', but brings that economy into being: economics performs the economy, *creating the phenomena it describes*”. This way competition universalism is not only an inadequate and problematic theoretical account, but also potentially re-configures human action.

Finally, the necessarily normative debate about the adequacy of competition as a coordination device is at its core about what parts of society should belong to the economic sphere and which do not, and where competition is the right way to organize the allocation of scarce resources and where it does not. Conceptualizing basically all allocation mechanism as ‘competitive’ on some level, unnecessarily complicated this fundamentally important debate.

For these reasons, the wave-like dynamics within economic thought sketched above suggests that a re-consideration of how to best conceptualize competition within economic analysis is promising. Other disciplines, such as the field of Political Economy or Economic Sociology, where competition is also a central object of investigation, yet the theoretical conceptualization is much less universalistic, might offer inspiring examples of how to do so.

5 Acknowledgements

The paper was presented at the ICAE Research Seminar at the Johannes Kepler University Linz and the SPACE Discussion Series. We are grateful to all the helpful comments we received during these events. The

authors also acknowledge most helpful comments of Matthias Aistleitner, Carina Altreiter, Susanna Azevedo, Theresa Hager, Katrin Hirte, Anna Hornykewycz, Raphaela Kohout, Sarah Kumnig, Katharina Litschauer, Laura Porak, and Johanna Rath, Ana Rogojanu and Georg Wolfmayr on earlier drafts of this paper. All remaining error are our own. The authors acknowledge funding by the Austrian Science Fund (FWF) under grant number ZK 60-G27.

References

- Aistleitner, M. and Pühringer, S. (2021) ‘The Trade (Policy) Discourse in Top Economics Journals’, *New Political Economy*, 1–17.
- Altreiter, C., Gräbner, C., Pühringer, S., Rogojanu, A. and Wolfmayr, G. (2020) ‘Theorizing Competition: An Interdisciplinary Framework’, *SPACE Working paper series*.
- Angrist, J., Azoulay, P., Ellison, G., Hill, R. and Lu, S.F. (2017) ‘Economic Research Evolves: Fields and Styles’, *American Economic Review*, **107**, 293–297.
- Angrist, J.D. and Pischke, J.-S. (2010) ‘The Credibility Revolution in Empirical Economics: How Better Research Design is Taking the Con out of Econometrics’, *Journal of Economic Perspectives*, **24**, 3–30.
- Arrow, K.J. (2005) ‘Personal Reflections on Applied General Equilibrium Models’. In Kehoe, T. J., Srinivasan, T. N. and Whalley, J. (eds) *Frontiers in applied general equilibrium modeling. In honor of Herbert Scarf*, Cambridge, UK, New York, CAMBRIDGE UNIVERSITY PRESS, pp. 13–23.
- Aspromourgos, T. (2009) *The science of wealth. Adam Smith and the framing of political economy*, London, New York, Routledge.
- Aspromourgos, T. (2010) ‘“Universal opulence”: Adam Smith on technical progress and real wages’, *The European Journal of the History of Economic Thought*, **17**, 1169–1182.
- Atal, M.R. (2020) ‘The Janus faces of Silicon Valley’, *Review of International Political Economy*, 1–15.
- Backhouse, R. (1990) ‘Competition’. In Creedy, J. (ed) *The Foundations of Economic Thought*, Blackwells, pp. 58–86.
- Backhouse, R.E. and Cherrier, B. (2017) ‘The Age of the Applied Economist’, *History of Political Economy*, **49**, 1–33.
- Barry, J. (2020) ‘A Genealogy of Economic Growth as Ideology and Cold War Core State Imperative’, *New Political Economy*, **25**, 18–29.
- Becker, G. S. (1976) *The economic approach to human behavior*, Chicago, Univ. of Chicago Press.
- Becker, G. S. (1981) *A Treatise on the Family*, Cambridge, Harvard Univ. Press.
- Becker, G. S. (1992) ‘The Economic Way of Looking at Life: Nobel Lecture’, accessed at <https://www.nobelprize.org/uploads/2018/06/becker-lecture.pdf> on March 10, 2020.
- Becker, G.S. (1968) ‘Crime and Punishment: An Economic Approach’, *Journal of Political Economy*, **76**, 169–217.
- Becker, G.S. (1973) ‘A Theory of Marriage: Part I’, *Journal of Political Economy*, **81**, 813–846.
- Bishop, M.L. and Xiaotong, Z. (2020) ‘Why is China a Reluctant Leader of the World Trade Organization?’, *New Political Economy*, **25**, 755–772.

- Blaug, M. (2001) 'No History of Ideas, Please, We're Economists', *Journal of Economic Perspectives*, **15**.
- Bradley, M. (2010) 'Adam Smith's System of Natural Liberty: Competition, Contestability, and Market Process', *Journal of the History of Economic Thought*, **32**, 237–262.
- Buchanan, J. and Tullock, G. (1962) *The Calculus of Consent: Logical Foundations of Constitutional Democracy*, Ann Arbor, MI.
- Bunge, M. (2000) 'Systemism: the alternative to individualism and holism', *The Journal of Socio-Economics*, **29**, 147–157.
- Çalışkan, K. and Callon, M. (2009) 'Economization, part 1: shifting attention from the economy towards processes of economization', *Economy and Society*, **38**, 369–398.
- Callon, M. (2006) 'What does it mean to say that economics is performative?', *CSI Working Papers Series*.
- Christensen, J. (2017) *The Power of Economists within the State*, Stanford, Stanford University Press.
- Colander, D. (2005) 'The Making of an Economist Redux', *Journal of Economic Perspectives*, **19**, 175–198.
- Davies, W. (2017) *The limits of neoliberalism. Authority, sovereignty and the logic of competition*, Los Angeles, London, New Delhi, Singapore, Washington, DC, Melbourne, Sage.
- Davis, J.B. (2016) 'Economics imperialism versus multidisciplinary', *History of economic ideas*, **24**, 77–94.
- Debreu, G. (1959) *Theory of value. An axiomatic analysis of economic equilibrium*, New York, Wiley.
- Debreu, G. (1986) 'Theoretic Models: Mathematical Form and Economic Content', *Econometrica*, **54**, 1259–1270.
- Debreu, G. (1991a) 'The mathematization of economic theory', *The American Economic Review*, **81**, 1–7.
- Debreu, G. (1991b) 'The Mathematization of Economic Theory', *American Economic Review*, **81**, 1–7.
- Dennis, K. (1975) *"Competition" in the History of Economic Thought*, University of Oxford.
- Engels, F. (1969[1891]) *The condition of the working-class in England in 1844*, Moscow, Panther Edition.
- Fine, B. (2002) "'Economic imperialism": a view from the periphery', *Review of Radical Political Economics*, **34**, 187–201.
- Fourcade, M. (2009) *Economists and societies: discipline and profession in the United States, Britain, and France, 1890s to 1990s*, Princeton, Princeton University Press.
- Fourcade, M., Ollion, E. and Algan, Y. (2015) 'The Superiority of Economists', *Journal of Economic Perspectives*, **29**, 89–114.
- Freeman, R.B. (1999) 'It's Better Being an Economist (But Don't Tell Anyone)', *Journal of Economic Perspectives*, **13**, 139–146.
- Gane, N. (2019) 'Competition: A Critical History of a Concept', *Theory, Culture & Society*, 026327641987824.
- Gräbner, C. and Ghorbani, A. (2019) 'Defining institutions – A review and a synthesis', *ICAE Working Paper Series*.
- Gräbner, C. and Kapeller, J. (2015) 'New Perspectives on Institutional Pattern Modeling: Systemism, Complexity, and Agent-Based Modeling', *Journal of Economic Issues*, **49**, 433–440.
- Greif, A. (2006) *Institutions and the path to the modern economy. Lessons from medieval trade*, Cambridge, CAMBRIDGE UNIVERSITY PRESS.
- Helleiner, E. (2020) 'The Diversity of Economic Nationalism', *New Political Economy*, 1–10.
- Hodgson, G.M. (2019) 'How mythical markets mislead analysis: an institutionalist critique of market universalism', *Socio-Economic Review*.
- Jaffé, W. (1965) *Correspondence of Leon Walras and Related Papers*, Amsterdam, North-Holland.
- Jessop, B. (2012) 'Understanding the "economization" of social formations'. In Schimank, U. and Volkmann, U. (eds) *The marketization of society: economizing the non-economic*, Bremen, University of Bremen, pp. 5–36.
- Jessop, B. (2015) 'The course, contradictions, and consequences of extending competition as a mode of (meta-)governance: towards a sociology of competition and its limits', *Distinktion: Scandinavian Journal of Social Theory*, **16**, 167–185.
- Jo, T.-H., Chester, L. and King, M.C. (2012) 'Beyond market-fundamentalist economics: An agenda for heterodox economics to change the dominant narrative', *On the Horizon*, **20**, 155–163.
- Koppl, R. (1995) 'The Walras Paradox', *Eastern Economic Journal*, **21**, 43–55.
- Kuhn, T. S. (1970) *The structure of scientific revolutions*, Chicago, University of Chicago Press.
- Kurz, H. D. (2020) *Der junge Engels über die „Bereicherungswissenschaft“, die „Unsittlichkeit“ von Privateigentum und Konkurrenz und die „Heuchelei der Ökonomen“*, unpublished manuscript.
- Kurz, H.D. (2016) 'Adam Smith on markets, competition and violations of natural liberty', *Cambridge Journal of Economics*, **40**, 615–638.
- Lawrence, C. and Lozanski, K. (2014) "'This Is Not Your Practice Life": lululemon and the Neoliberal Governance of Self', *Canadian Review of Sociology/Revue canadienne de sociologie*, **51**, 76–94.
- Lawson, T. (2003) *Reorienting economics*, New York, Routledge.
- Lazear, E.P. (2000) 'Economic Imperialism', *The Quarterly Journal of Economics*, **115**, 99–146.
- Lee, F. S. (2009) *A history of heterodox economics. Challenging the mainstream in the twentieth century*, London, New York, Routledge.
- Les Prix Nobel (1993) 'The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 1992', accessed at <https://www.nobelprize.org/prizes/economic-sciences/1992/becker/biographical/> on February 4, 2021.
- Linsi, L. and Mügge, D.K. (2019) 'Globalization and the growing defects of international economic statistics', *Review of International Political Economy*, **26**, 361–383.
- MacKenzie, D. (2008) *An engine, not a camera. How financial models shape markets*, Cambridge, Mass., MIT.
- MacKenzie, D. and Millo, Y. (2003) 'Constructing a Market, Performing Theory: The Historical Sociology of a Financial Derivatives Exchange', *American journal of sociology*, **109**, 107–145.
- Maesse, J., Pühringer, S., Rossier, T. and Benz, P. (eds) (2021) *Power and Influence of Economists: Contributions to the Social Studies of Economics*, London, Routledge.
- Mäki, U. (2009) 'Economics Imperialism: Concept and Constraints', *Philosophy of the Social Sciences*, **39**, 351–380.
- Marx, K. (1959[1844]) *Economic and Philosophic Manuscripts*, Moscow, Progress Publishers.
- Medema, S. G. (2009) *The hesitant hand. Taming self-interest in the history of economic ideas*, Princeton, Princeton Univ. Press.
- Mill, J. S. (1909 [1848]) *Principles of Political Economy with some of their Applications to Social Philosophy*, New York, Bombay and Calcutta, Longmans, Green and Co.
- Mill, J. S. (2001 [1844]) *On Liberty*, Kitchener, Batoche Books.

- Mincer, J. (1958) 'Investment in Human Capital and Personal Income Distribution', *Journal of Political Economy*, **66**, 281–302.
- Morgan, B. (2003) 'The Economization of Politics: Meta-Regulation as a Form of Nonjudicial Legality', *Social & Legal Studies*, **12**, 489–523.
- Pühringer, S. and Griesser, M. (2020) 'From the 'planning euphoria' to the 'bitter economic truth': the transmission of economic ideas into German labour market policies in the 1960s and 2000s', *Critical Discourse Studies*, **17**, 476–493.
- Rahman, K.S. and Thelen, K. (2019) 'The Rise of the Platform Business Model and the Transformation of Twenty-First-Century Capitalism', *Politics & Society*, **47**, 177–204.
- Riley, J. (1998) 'Mill's political economy'. In Skorupski, J. (ed) *The Cambridge companion to Mill*, Cambridge, UK, Cambridge Univ. Press, pp. 293–337.
- Robbins, L. (1932) *An Essay on the Nature and Significance of Economic Science*, London, Macmillan & Co.
- Satz, D. and Ferejohn, J. (1994) 'Rational Choice and Social Theory', *Journal of Philosophy*, **91**, 71–87.
- Scarf, H. (1973) *The computation of economic equilibria*, London, Yale University Press.
- Schmelzer, M. (2016) *The hegemony of growth. The OECD and the making of the economic growth paradigm*, Cambridge, Cambridge Univ. Press.
- Schumpeter, J. A. (1994 [1943]) *Capitalism, socialism, and democracy*, London, New York, Routledge.
- Siles-Brügge, G. (2011) 'Resisting Protectionism after the Crisis: Strategic Economic Discourse and the EU–Korea Free Trade Agreement', *New Political Economy*, **16**, 627–653.
- Simmel, G. (1995 [1903]) 'Soziologie der Konkurrenz'. In Simmel, G. (ed) *Aufsätze und Abhandlungen 1901–1908*, Frankfurt a. M., pp. 221–246.
- Smith, A. (1976 [1776]) *The wealth of nations*, Middletown, DE, [CreateSpace Independent Publishing Platform].
- Stigler, G. (1972) 'Economic competition and political competition', *Public Choice*, **13**, 91–106.
- Sum, N.-L. and Jessop, B. (2013) *Towards a cultural political economy. Putting culture in its place in political economy*, Cheltenham, UK, Northampton, MA, Elgar.
- Tily, G. (2009) 'John Maynard Keynes and the development of National Income Accounts in Britain, 18985–1941', *Review of Income and Wealth*, **55**, 331–359.
- Vallier, K. (2010) 'Production, Distribution, and J. S. Mill', *Utilitas*, **22**, 103–125.
- Voss, T. and Abraham, M. (2000) 'Rational choice theory in sociology: A survey', *The international handbook of sociology*, **49**, 50.
- Walras, L. (2003 [1874]) *Elements of pure economics, or, The theory of social wealth*, London, Routledge.
- Weber, M. (1978 [1922]) *Economy and Society. An Outline of Interpretive Sociology*, Berkely, Los Angeles, New York, University of California Press.
- Weintraub, E. R. (2002) *How economics became a mathematical science*, Durham, London, Duke Univ. Press.
- Wendling, A. E. (2009) *Karl Marx on technology and alienation*, Basingstoke, Hampshire, New York, NY, Palgrave Macmillan.
- Witt, U. (2010) 'Symbolic consumption and the social construction of product characteristics', *Structural Change and Economic Dynamics*, **21**, 17–25.