

## MARGINALISM AND SCOPE IN THE EARLY *METHODENSTREIT*

Jens van 't Klooster

Abstract: Recent interpretations of the early *Methodenstreit* (1871 – 1883) between Gustav Schmoller and Carl Menger no longer identify a substantial point of controversy. I reconstruct the debate to show that the pivotal was topic of the scope of economics. Menger claims that his *Principles of Economics* more or less capture the full scope of the discipline, which Schmoller denies. I also discuss recent Menger scholarship, which follows Friedrich Hayek in situating Menger at the edges or even outside the marginalist mainstream. I argue that the Hayekian account of Menger draws on flawed evidence and wrongly denies Menger his pioneer status as, possibly the first, marginalist.

### I. INTRODUCTION

The marginal revolution is the founding moment of the economic discipline as we know it today. It was not the origin of economic science per se, but the start of a distinct professional field focused on agents optimizing under conditions of scarcity. Although recent developments have done a lot to broaden the scope of the discipline, the marginalist conception of the field remains influential in both research and teaching. It has also been the object of vigorous debate ever since.

In its founding moment, marginalism was genuinely surprising to economists who first heard about it, raising questions not unlike those of undergraduates taking their first Economics course. This magical period is the topic of this article, in which I discuss one of the earliest and most prominent of debates over the shape of the discipline: The “*Methodenstreit*” (“Battle of

Methods”). The *Methodenstreit* was a sprawling debate between many parties and across continents over the period between 1870 and 1914. The debate was initiated by an early, highly polemical, exchange between Gustav Schmoller and Carl Menger in the 1870s and 1880s. In contrast to later debates, their disagreement pivoted on one central question: Should economics be a narrow discipline that focuses on the optimizing behavior of individual agents? Or should it take account of the full complexity of human psychology, institutions and their historical development? Where it concerned these questions, both Menger and Schmoller did their best to engage with the views of their opponent, even if, in the end, their debate was inconclusive.

This is not how their exchange is usually described. Instead, recent accounts of the debate tend to fall into two groups. The first focuses on philosophical background assumptions regarding the justification of theoretical claims. For example, authors still follow John Neville Keynes’ sketch of a confrontation between inductive and deductive approaches to economics. This interpretation is not in line with the historical facts: while both sides certainly privileged their own avenue of research, Schmoller did not reject deduction from an idealized representation of economic reality and Menger empathically endorsed the legitimacy of generalizations based on collected data. The absence of substantial epistemological disagreement motivates the second strand of interpretations, which denies that the debate had any intellectual core to begin with. Such authors see the *Methodenstreit* as “at bottom a debate about the admissibility of social reform and other activist social policy” (Grimmer-Solem, 2003, p. 246) or a “clash [] of temperaments and of intellectual bents”, where both sides were “fighting [...] harmless windmills” (Schumpeter, 1954, p. 783).

My article rejects both accounts. Though there was little substantial debate on the justification of theories, there was in fact an entirely different point of disagreement at its core: The scope of the economic discipline. Menger seeks to delimit the scope of economics to the availability of goods, given needs and choices by idealized economic agents. Rather than

engaging with the marginalist theory of prices or the laissez-faire economic policy Schmoller associated with these views, his criticism focuses on an entirely different point: accepting that the marginalist price theories are an adequate way to explain prices, Schmoller considers it “characteristic of an unworldly and naive armchair academic” to stop the investigation at this point and exclude many other, more fundamental factors influencing human satisfaction of needs. Instead, he argues, the discipline should explain economic phenomena as part of social reality and as subject to the laws of human psychology.

My historical claim is not just that scope was one of the issues at stake, intermixed with theoretical and political considerations. Rather, I show that it was its central topic by discussing (i) Menger’s *Principles*, (ii) Schmoller’s critical 1873 review, (iii) Menger’s 1883 *Investigations* response to Schmoller’s criticisms, (iv) Schmoller’s 1884 review of Menger’s *Investigations* and, finally, a short letter from Schmoller that ends the debate. My reconstruction will bring out that between the publication of Menger’s *Principles of Economics* (1871) and Schmoller’s review of his *Investigations into the Method of the Social Sciences* (1883), each new contribution thinker clarifies the author’s views on the scope of economic science in ways that provided substantial replies to prior criticisms issued by their opponent. In this way, a meaningful debate on scope emerges. Thus, I do not merely claim that scope was one of the topics at issue in the debate; I argue that it is was the pivotal topic around which the exchange evolved from 1871 to 1883. By showing that Menger was preoccupied with defending the marginalist conception of the discipline, I vindicate Menger as a, perhaps the first, self-conscious marginal revolutionary.

The historical claim of the paper also allows me to make a historiographic contribution concerning the recent development of Menger scholarship. It has been recognized for some time that recent scholarship has had difficulties in pinning Menger down on a specific recognizably contemporary position precisely where scope is concerned (Vaughan 1994, p.

12f). In the first decades of the twentieth century, this was not the case and the terms “marginalist” and “Austrian” were often used interchangeably. But, while recognizing that some statements of Menger are clearly marginalist, recent Menger scholarship holds that other parts of his work support a different reading. This reading, originally put forward by Friedrich von Hayek, situates Menger outside the marginalist mainstream; a view endorsed by influential historians of economic thought such as Marc Blaug, William Jaffé, and Erich Streissler. Against these authors, I point out that support for this reading is weak and, in parts, based on a misrepresentation of the available sources. Hayek’s false narrative, I argue, explains the oversight of scope as the core topic of disagreement in the *Methodenstreit*.

The rest of the article is structured as follows. In section II, I distinguish my account from interpretations that focus on methods, or those that deny there is a central point of disagreement. In section III, I present my reading of the *Methodenstreit*, which brings out the crucial role of scope. Section IV discusses recent Menger scholarship and rejects anti-marginalist accounts.

## II. WHAT WAS THE METHODENSTREIT ABOUT?

The *Methodenstreit*, I claim, was a debate about scope. Although many commentators have noted that scope is one of the topics of the debate, they have not recognized its pivotal status. In this section, I argue that existing methods-based and sceptic accounts of the *Methodenstreit* fail to accurately identify a central topic of disagreement.

First, *methods-based* accounts. The *Methodenstreit* is often described as a confrontation between inductive and deductive modes of theorizing.<sup>1</sup> The origin of this reading of the debate

---

<sup>1</sup> Claims about the core of the debate along these lines can be found in Hansen (1968), Milford (1988), Steissler and Milford (1993, p. 73), Mäki (1997, p. 475f), Peukert (2001, p.

is not in these works themselves, but in later phases of the *Methodenstreit*. In later phases of the debate Menger's followers such as Eugen Böhm-Bawerk and Friedrich von Wieser ascribed to their historical school opponents a flatout rejection of economic theorizing. More nuanced accounts follow this focus on methods, but ascribe to both side somewhat simplistic views. But, despite some disagreement on the relative importance of these different techniques of inquiry, it did not feature in any prominent way in the actual *Methodenstreit*. In fact, both Menger and Schmoller explicitly rejected such an interpretation of the debate.

A paradigmatic author who put forward a methods-based interpretation is John Neville Keynes. Keynes, who could not read German and depended largely on discussions with his mentor Alfred Marshall and translations and summaries produced by his wife (Moore, 2003), defends his own, itself roughly marginalist, conception of the discipline by contrasting it with two extreme alternatives:

The first is “positive, abstract and deductive” (1897, p. 9), premised on the belief that “the method of specific experience is regarded as altogether inefficacious for the discovery of economic laws” (1897, p. 17). Rather, such laws should be established through deduction from “a limited number of fundamental assumptions” (1897, p. 15). Within the German economic sciences, this alternative is ascribed to the Austrian school, which “insists very emphatically on the necessity of an abstract treatment of the science”. Noting that Menger and his fellow Austrian economist do not actually use formal tools, he nonetheless describes them as strong

---

82), Caldwell (2004, p. 64f), Campagnolo (2008, p. 123f) Milonakis and Fine (2009, p. 107), and Louzek (2011, p. 455). This review of the literature focuses on more recent treatments because, as argued in section 8, the failure to find a point of disagreement in the *Methodenstreit* originates in Hayek's 1934 interpretation.

proponents of “pure theory” (1897, p. 21f), stating that they were “mathematical in tone, though not in language” (1897, p. 262).

The second alternative conception of the discipline is that of historical authors, whose work is “ethical, realistic, and inductive” (1897, p. 9f) and premised on belief in “the necessity of appealing constantly to specific observation of the actual economic world, and generalizing therefrom”. This conception is ethical in the sense that it denies any firm distinction between “what ought to be” and “what is” (1897, p. 23). Keynes describes Schmoller as member of a “revolutionary” wing of the historical school that denies all value in the deductive approach, going so far as to “identify political economy and economic history” (1897, p. 27).

While recognizing that the actual work of “the best economist of either school” contained elements of both, Keynes described the disputes of the time on the method of the discipline, particularly the German ones, as revolving around the opposition of deductive and inductive methods. As a depiction of the initial phases of the *Methodenstreit*, at least, this focus is flawed.

For Schmoller, theorizing was an explicit and highly valued part of research. Moreover, his understanding of natural sciences clearly suggests a friendly attitude towards idealization. It is thus not surprising that, in his review of the *Investigations*, Schmoller is clear that he thinks that there should not be any controversy between him and Menger on this issue: “What he [Menger] says about the permissibility of isolating observed phenomena is without any doubt true; it must be admitted that such isolation has led to great progress in our science” (1883, 280). Nor does Menger deny the importance of finding empirical regularities based on data. It is true that in his *Investigations*, Menger does not hide his low esteem for the theoretical work of the historical economists. Their aims compare unfavorably to what he sees as the highest aim of theoretical economics, namely to establish an exact theory. Nonetheless, he explicitly states that he is far from “falling into the opposite one-sidedness” of “denying usefulness and

significance to the realistic orientation” (1883 [1985], p. 64). Menger thus sees justification of theories through both generalization from data and idealization as legitimate.

In the absence of a reconstruction that provides a substantial point of disagreement, some authors trace the *Methodenstreit* to social and political disagreements, which do not connect in any clear way to scientific positions. On such *sceptic* interpretations, there was no debate on any mutually recognized point of contention.

Such sceptic reading recognize that even if Menger and Schmoller indeed had quite divergent views on deeper philosophical issues, such topics were not explored in depth in the debate.

A paradigmatic proponent of this view is Joseph Schumpeter, who explains the debate in terms of three different properly extra-scientific causes. The first is misunderstandings between the respective parties, on account of which a “great part of the fighting is directed against [...] harmless windmills” (1954, p. 783). The second is a difference in personality. Some prefer “the colors of historical processes and of individual cultural patterns” (*idem*), others “prefer a neat theorem to everything else” (*idem*). Thirdly, scientific schools have important roles in structuring social antagonism, where concepts are used in a way to label adherence to one school or another. In fact, any attempts to find a point of substantial agreement is doomed. The reason for this, Schumpeter thinks, is that while it may be the case that Menger preferred idealization, whereas Schmoller pleaded for historical data, “there cannot be any serious question” about the permissibility and relevance of either approach. Thus, for Schumpeter, the *Methodenstreit* was “substantially a history of wasted energies, which could have been put to better use” (1964, p. 782).

A combination of the skeptical and method-based interpretation recognizes that Menger and Schmoller did disagree over the methods, but that the differences were in fact so minute as to not warrant the fuss. Hansen and Backhaus (2000) and Tribe (2007, 66f), for example, claim

that the *Methodenstreit* revolves around differences in emphasis, exacerbated by misunderstandings of each side's positions. Tribe (2007), for example, shows that Menger and Schmoller disagree over their preferred way of doing research: Menger aimed to formulate the propositions of economics in their highest possible degree of idealization, while Schmoller thought that collecting more data was crucial to making scientific progress. But this was never what the debate was about. In fact, both sides repeatedly sought to steer the debate away from these issues, which they saw as tangential to the core of their disagreement.

Recent research on the societal and scientific project of the Historical School has complemented the sceptical account with a better understanding of the political views of Menger and Schmoller (Peukert, 2001). In this literature, Grimmer-Solem (2003) shows that Schmoller and the wider *Verein für Sozialpolitik* emphasized the practical use of science for public policy and were active proponents of the social reform movement. In this, they were far removed from Menger, who as a conservative liberal, favored free markets and limited state intervention. Moreover, both parties actively used their academic and administrative positions to frustrate the careers of their opponents.

Although his account has the merit of contextualizing the debate, Grimmer-Solem overstates his case in claiming that the *Methodenstreit* was “at bottom a debate about the admissibility of social reform and other activist social policy” (Grimmer-Solem, 2003, p. 246). The same goes for Robbin's (1932, p. 82) claim that the motivation of the historical economist was “political in nature” coming from “men with an axe to grind [...] wishing to pursue courses which the acknowledgement of law in the economic sphere would have suggested to be unwise”.

First, the fact that there was a political dimension to the *Methodenstreit* does not prove the absence of disagreement regarding scientific method. Political disagreement can motivate specific methodological positions even though their justification is formulated in terms of



scientific considerations. Alternatively, political and methodological disagreement can exist alongside each other. Second, if the debate was indeed at its core political, then why did no substantial engagement over political issues enter into it? One would expect the political dimension of the debate to surface at least somewhere in the exchange between its protagonists, but this is not the case. To find a proper topic of disagreement, we need to focus on the texts of the debate itself, which is my aim in the next section.

### III. A DEBATE ABOUT SCOPE

Menger and Schmoller did not have a meaningful exchange on their deeper epistemological differences nor was their debate about political issues of the day. Instead, they debated (and recognized that they debated) this specific question: what should be the scope of the discipline of economics?<sup>2</sup> I now to show that scope was indeed the central topic of the *Methodenstreit*, by following the arguments put forward by Menger and Schmoller and showing how their positions respond to their interlocutors previous move.

#### *The importance of scope*

The scope of a scientific discipline is a prescriptive conception of (i) the *explananda* and (ii) the *explanantia* that are specific to an individual scientific discipline. A theory explains events by subsuming them or taking them to instantiate more general regularities. Within such theories, some phenomena or occurrences serve as *explananda*. The theory explains their occurrence. A typical *explanandum* of economic science is the price of a good. Such an *explanandum* is

---

<sup>2</sup> The prominence of scope was widely recognized until recently, as section 8 will discuss in more detail. Recent authors who have made a similar claim are Winch (1972), Häuser (1988), Reiss (2000) and Screpanti and Zamagni (2007, p. 189).

explained in terms of other phenomena or occurrences: the *explanantia*. For marginalists, the central *explanans* of economics is human need, but this is only one of the many phenomena that may be taken to stand in a causal relation to prices. Briefly stated, the disagreement of Menger and Schmoller on scope can be characterized as follows: where Menger thought that only certain *explanantia*, those typical of marginalism, should be used in economic science, Schmoller thought that such a restriction on the scope of the discipline was a mistake.

The view that the real debate was about scope is not just my own. It can readily be discerned from different statements by both Menger and Schmoller that will be discussed in the following. The most explicit claim to this effect is made by Menger, who more than 20 years after the publication of his *Principles* wrote:

The conflict that arose between the Austrian School and part of the historical economists in Germany was not one on method in the usual sense of the word. Though historical German economists are – also in scientific works – often referred to as representatives of an inductive and the Austrian economists as representing a deductive approach, this does not reflect the facts about the relative positions. What grounds the differences between the two schools, which have not been completely solved to this day, is something much more important: it concerns different opinions regarding the goals of research, the system of problems that the science of the economy should solve (1894, p. 279)

In spelling out what he takes to be the crucial topic of debate, Menger seeks to correct authors who have focused on the issue of deduction and induction by pointing to the importance of scope. This claim is not a later interpretation on the part of Menger: he already used a very similar formulation in the Preface of his *Investigations* (1883 [1985], p. 25f).

Seeing the *Methodenstreit* as a debate about scope strikes a middle ground between an internalistic focus on logical techniques and externalistic sociological explanations. While the *Methodenstreit* was more than a clash of characters or world views, the actual debate was directly linked to and informed by the political views of both Menger and Schmoller. It takes place against the background of the professionalization of the social sciences (Lindenfeld, 1998; Ross, 2003). Then, as now, choices regarding the subject-matter of individual disciplines in research and teaching had clear political dimensions. For a laissez-faire liberal such as Menger, it made sense to focus on contract-based exchange on markets and price mechanisms as the means for an efficient allocation of goods. By contrast, Schmoller was in favour of pro-active social reforms, making a wider set of legal and social conditions for the satisfaction of needs relevant.

Menger directly ties politics to scope in the *Investigations* (p. 83f), where he writes of the desirability of a conception of scientific method that would defend “existing economic schools and interests against the exaggerations of reform thought in the field of economy, [...] especially against socialism” (1883 [1985], p. 92f). Menger thus makes some effort to connect his own methodological position to his rejection of political views he ascribes to opponents, who he accuses of socialist sympathies. But, as I show, policy issues do not come up, nor is politics at the centre of the exchange. Instead, the debate revolves around scope.

### *Menger’s revolution*

In the Preface of his *Principles*, Menger claims that it covers “the most general teachings of our science” and constitutes a “reform of the most important principles of our science (1950 [1871], p. 49). Accordingly, he invokes the aim of making a new start and denounces “the sterility of all past endeavors” (1950 [1871], p. 46).

How exactly this reform should be understood is not immediately apparent. Menger goes to great length in his footnotes to present his work as continuous with the existing tradition in economics. He also dedicates the *Principles* to Wilhelm Roscher, who had introduced the very idea of a historical approach that he would criticize vehemently in later works. Rather than trumpeting differences, Menger is keen to stress continuity. The conciliatory tone of the *Principles* may explain in part why not all contemporaries recognized the reform that Menger aimed to bring about.<sup>3</sup> Indeed, a reading of the *Principles* as a founding document of marginalism is to this day controversial in the secondary literature.

Nonetheless, from the Preface it is clear that Menger was of the opinion that his *Principles* were roughly coextensive with the proper scope of the discipline. Menger writes that the economic character of goods is determined solely by the “difference, capable of exact determination, in the relationship between demand for and available quantities of these goods” (1950 [1871], p. 101, translation modified). The choices of economic agents [*wirtschaftende Subjekte*] are similarly explained by invoking only given needs and available goods. Actual choices can be found at “a limit [*Grenze*] at which the full economic gains to be obtained from the exploitation of a given ratio are reached, and beyond which any exchange of further portions begins to become uneconomic.” (1950 [1871], p. 182).

For Menger, choices of economic agents between different available goods approximate the point where no exchange can improve satisfaction of needs: all available goods have the same marginal utility. In this way, his theory explains economic actions in terms of choices by economic agents regarding available goods and given needs. This fulfils the stated aim of the *Principles*, as they are articulated in the Preface, namely that of “placing all price phenomena [...] under one unified point of view” (1950 [1871], p. 49). If the claim is accepted that this

---

<sup>3</sup> For the failed reception of Menger by Roscher see Hansen (1968, p. 161).

theory indeed covers the entire “field” of economics (idem), then Menger has successfully delimited the proper *explanantia* of theoretical economics to the availability of goods, given needs and choices by idealized economic agents.

*(ii) Schmoller’s Challenge*

While Menger’s 1871 *Principles* are generally read as a contribution to economic science, what interested Schmoller most in his review was its stated aim of reforming the economic discipline. He responded with a short, critical review that stresses differences between his approach and that of Menger. Schmoller’s remarks touch on scope in two ways. Firstly, Schmoller suggests that the highly abstract nature of the *Principles* makes it practically irrelevant: “The results are the indubitable product of a not ordinary acumen [*Scharfsinn*]; but they amount to no more than new formulations of abstract conventional topics rather than actual solutions to real problems.” (2003 [1873], p. 407).

Secondly, Schmoller thinks that the *Principles* mistakenly claim to cover the whole range of questions that belong to the discipline:

It consists of ingenious [*scharfsinnig*] analyses of some of the basic concepts of economics. For a text book that would claim to be current, the entire direction of the study is already too one-sided. And perhaps the author would have done better not to have presented his studies to the public in textbook form” (idem., p. 408)

Schmoller’s repeated talk of “acumen” [*Scharfsinn*] suggests a certain admiration for Menger’s overall scientific theorizing. At the same time, Schmoller seems acutely aware of how the stated aim of reform and the format of a text book imply a conception of proper scope. At the very least, Schmoller does not seem particularly impressed by this aspect of Menger’s

work. The historical economist Bruno Hildenbrandt echoes this verdict in his review of the *Principles* when he writes that “it would be in the interest of our science if its younger and aspiring researchers [*Kräfte*] would focus on writing monographs rather than splintering their force [*Kraft*] in textbooks.” (Anon. 1872, 345; cf Grimmer-Solem, p. 251). It is well documented that Menger was infuriated by the generally cold reception of his *Principles* (Grimmer-Solem 2003, p. 246f). Nonetheless, it must somehow have made him acutely aware that the *Principles* provide no explicit account, let alone defense, of his reform of economics. As I will now show, this lacuna is addressed head-on in Menger’s second book.

### *Menger’s reply*

Menger’s *Investigations* of 1883 defends a conception of scope against opponents, such as Schmoller, who are not convinced by the strictly demarcated subject-matter of his 1871 textbook.

Prefiguring the formulations of Menger’s 1894 claim that the *Methodenstreit* was a debate on scope, the Preface of the *Investigations* state that the work:

is primarily concerned with determining the nature of political economy, of its subdivisions, of its truths, in brief, with the goals of research in the field of our science. Methodology in the narrower sense of the word is chiefly to be reserved for future investigations (1883 [1985], p. 25f)

Before stating the concern of the *Investigations* with the aims of science, Menger discusses why this topic is particularly timely. Menger’s complains extensively about the hostility of his contemporaries towards theory. However, this is not his only worry. Historicists have thought that the “phenomena of national economy are to be treated in inseparable connection with the total social and political development of nations” (1883 [1985], p. 25).

Worse, they have even asked whether “political economy in general is to be dealt with as an independent science and not rather as an organic part of a universal social science” (idem). Menger thus explicitly worries about the historicist conception of the *explananda* and *explanantia* that are specific to economics.

By arguing against these opponents, Menger is able to address both challenges raised by Schmoller. Against the objection of practical irrelevance, Menger responds by distinguishing theoretical from practical science. Just like historical sciences, practical economic science also considers particular phenomena, but with the aim of addressing policy problems. This means that the practical sciences should not aim to develop knowledge of what is the case, but only of means to bring about given ends (1883 [1985], p. 38). Though a practical science involves factual statements, Menger thinks that its research should be guided by practical rather than epistemic aims. As the theoretical sciences do not have such practical aims, Menger goes far in conceding Schmoller’s first criticism: though it may be used for such purposes by other disciplines, theoretical economics does not have direct practical relevance.

The distinction between practical and theoretical sciences also plays a crucial role in the answer to Schmoller’s second criticism. Because the aims of theory are purely epistemic, they are not to be judged by their relevance in real world application. For Menger, the aim of theoretical science is knowledge of types and their explanatory relations independent of specific historical conditions. Invoking his ideal of exact theory, Menger argues that the regularities described by the historical economists will never hold without exception and are therefore of lesser scientific value. They only provide: “results which are formally imperfect, however important and valuable they may be for human knowledge and practical life” (1883 [1985], p. 59). To be able to develop a pure theory, theoretical disciplines need to focus on one particular aspect of social reality. Only through a proper division of labor between the sciences will it become possible to find the exact theories that describe reality as a whole: “considering the

lagging state of the theoretical social sciences - there is no other way to reach the great goal” of a theoretical understanding of society (1883 [1985], p. 62f).

This position, if accepted, does not yet justify Menger’s specific conception of scope. This conception was not entirely controversial. Tribe (2007, p. 66f) has shown that by the middle of the 19<sup>th</sup> century, exchange, consumption, and production were widely seen as the proper *explananda* of economics. Menger’s true innovation at this point is to delimit the *explanantia* of the discipline. As a pioneer of methodological individualism, Menger that social theory should take the decisions of individuals as final *explanantia*. The task of the theoretical economist is to explain human action by describing the ‘most elementary factors in human economy, in their isolation from other factors exerting influence on the real human phenomena.’ (idem) To do this, as Menger had demonstrated in his *Principles*, the economist need only focus on given needs and available goods, while assuming that agents satisfy their needs as efficient as possible:

The most original factors of human economy are the needs, the goods offered directly to humans by nature (both the consumption goods and the means of production concerned), and the desire for the most complete satisfaction of needs possible (for the most complete covering of material needs possible).  
(1883 [1985], p. 63)

In these passages, Menger proposes in rough outline the marginalist conception of discipline that Robbins would later canonize, explicitly citing the *Investigations* as its origin (Robbins, 1935, p. 16). Its innovation is that Menger uses the notion of “economic” not only to prescribe specific *explananda* to economic science, but also a specific set of *explanantia*. This claim can be seen as part of an argument that proves, against Schmoller, that the *Principles* did actually cover the entire scope of theoretical economics. In a footnote, Menger explicitly refers



to his claim in the *Principles* that this book applies the exact method to the domain of economic phenomena (1883 [1985], p. 63n). The close connection that Menger draws between his claims regarding the aims of economic science and the *Principles* suggests that for Menger, the work does not merely present one possible theory of the economy amongst others. Rather, it presents an exemplary contribution of properly *economic* research.

### *Schmoller's rejoinder*

Before outlining how Schmoller responded to the *Investigations*, it is important to discuss the points of agreement that Schmoller emphasizes in his second, 1884 review. In this review, Schmoller puts considerable effort into downplaying the existing differences between him and Menger. He explicitly accepts Menger's views on three important points.

First, he stresses their agreement on the proper *explananda* of economics. Schmoller shared the view that was common to 19<sup>th</sup> century German economists that human satisfaction of needs was the proper *explanandum* of economics. He invokes this shared understanding when he states that “our science” should only provide “a theory of the economic side of society” (1883, p. 282).

Second, he emphasizes the value of finding universal regularities. As already discussed, Schmoller did not deny the importance of theorizing. More generally, his responses to the arguments of Menger on this issue concede a great deal of ground. Thus, regarding the difference between the naïve empiricism that Menger criticizes and the exact method, Schmoller writes that it is “without doubt justified to a certain extent” (1883, p. 278). Equally, he agrees that the value of theoretical work in economics should not be underestimated and that “the historical movement may have exaggerated its precautions against generalizations and theories” (1883, p. 279). Schmoller certainly does not deny that Menger's price theory offers important insights. Indeed, it seems that despite Schmoller's earlier dismissal of the *Principles*,

he was more than happy to draw on Menger's theory of value in his later lectures (Tribe, 2007, p. 79).

Third, Schmoller agrees that research on social reality was to be pursued by separate disciplines that have specific aspects of social reality as their remit. Already in his 1867 review on Lorenz von Stein, Schmoller stated that his wide ranging discussions were antiquated (Siclován, p. 255). Instead, this time was one of careful empirical investigations of different parts of social reality. On the basis of such studies, individual social theories should be developed to prepare for "a new epoch" where a theoretical understanding of society as a whole would be available (1883, p. 279). Thus, any arguments by Menger that invoked the need for a scientific division of labor were welcomed by Schmoller, who is at pains to stress the need for small steps in the development of science: "only through one-sidedness can we mortals achieve anything" (*idem*).

Schmoller's most forceful critique in his 1883 review of the *Investigations* focuses on undermining Menger's narrow conception of *explanantia*. In stark contrast to his conciliatory tone on other issues, Schmoller does not mince words when it comes to the scope of economics: "it is – in my subjective impression – characteristic of an unworldly and naive armchair academic to see human needs or the desire for acquisition or self-interest as final, most basic elements in the scientific sense of the word" (1883, p. 281f).

Though Schmoller clearly does not believe that needs are the most fundamental *explanantia* for a theory of economic action, he recognizes that there are no scientific reasons to reject such a theory. Rather, Schmoller focuses his critique on the very aim of demarcating individual sciences in terms of a narrow set of *explanantia*:

What he [Menger] says about the permissibility of isolating observed phenomena is without any doubt true; it must be admitted that such isolation has led to great progress in our science. It is, however, quite crooked to see an

irreconcilable contradiction between isolation and the universal consideration of all relevant causes. [...] No sane man will demand that an isolation that is successfully applied once should be binding for all further investigations in the same scientific discipline. (1883, p. 280)

By pointing to the legitimacy of pursuing different scientific interests, Schmoller seeks to stress that subjective theories of value may very well have a place in the economics discipline but cannot be taken to define it. He therefore concludes that Menger has mistaken “a small corner of the big building of our discipline, that only he knows best and in which he has nested himself with acumen [*Scharfsinn*] and erudition, for the whole building.” (1883, p. 293f).

### *The aftermath*

After Schmoller’s second review, the substantial exchange between Menger and Schmoller ends. In his *Errors of Historicism* (1884), Menger merely increases his polemical tone while iterating his earlier arguments. Even Hayek, who talks of its “extraordinary power and brilliance of expression”, admits that it “adds little in substance to the *Untersuchungen*” (1934, p. xxii). Schmoller did not review it, but only printed a short letter in his *Jahrbuch* asking to stop further escalation of the debate. Menger’s followers Böhm-Bawerk (1890) and Wieser (1891) avoided engagement with Schmoller’s views on scope by misrepresenting the historical authors as opponents of economic theorizing altogether.

### *Menger the marginal revolutionary*

To conclude, I want to briefly show how Menger’s position in the *Methodenstreit* provides an important background to his work on other topics. His views on the predominance of spontaneous organization, his theory of choice, and his treatments of specific economic phenomena such as goods, prices and production can be seen as tactical moves in a duel whose

stakes were a radically new understanding of the discipline. Menger's treatment of money constitutes a case in point.<sup>4</sup> Explaining the origins of money solely through his limited set of *explanantia* validates Menger's marginalist conception of scope. Indeed, these stakes were clear to both Menger and his contemporaries. Opposing the marginalist landgrab, the German economist Georg Gustav Knapp's explicitly identifies the assimilation of money to political science as the main aim of his *The State Theory of Money* (1924 [1905]; cf. Semenova, 2014, p. 126f). The debate on scope in the background also explains the relative facility with which Menger could accommodate a secondary role for the state: he does not need to deny that social reality in its totality is complex and involves opaque causal interrelations. For Menger it is primarily important that the economist can provide an exact theory of this paradigmatically economic phenomenon. This Menger could do, even while accepting that the state played a role in later stages of monetary development.

#### IV. RECENT ANTI-MARGINALIST INTERPRETATIONS

Section III shows the important role of the marginalist conception of scope in both Menger's *Principles* and the *Investigations*. This claim stands in striking contract with the more recent interpretation of his work, which situate him outside the marginalist mainstream. I will now trace the origins of this view of Menger as an opponent of the marginalist conception of scope to the interpretation of Friedrich Hayek. I also show that this interpretation is substantially mistaken.

In the early decades of the twentieth century, Menger was universally perceived to be a proponent of marginalism. This view was not only emphatically defended by Austrian

---

<sup>4</sup> This topic was recently debated by Ikeda (2008) and Semenova (2014).

followers<sup>5</sup>, but also routinely invoked by opponents<sup>6</sup> and more or less neutral outsiders<sup>7</sup>, all using the terms “marginalist” and “Austrian” interchangeably. On this traditional view, Menger is often portrayed as a less sophisticated version of Stanley Jevons and Léon Walras, particularly for using words rather than mathematical formalism (e.g. Knight, 1950, p. 11f). But what Menger lacked in technical sophistication, he made up in philosophical reflection on the presuppositions of marginal analysis. As touched on earlier, Robbins repeatedly insisted that his definition of the discipline should be traced to Menger, not himself. In a 1938 contribution to the debate on his *Essay*, Robbins writes:

In recent years, following Menger, some of us have canvassed the claims of definitions which explicitly draw attention to that fundamental limitation of goods in relation to wants which is the condition of the existence of conduct having an economic aspect. Economics, we have suggested, is essentially the study of the disposal of scarce goods and services. (1938, p. 344)

Robbins is surely aware that Menger talks about phenomena such as error, uncertainty, technology and the complexities of human psychology. But from his view, which I take to be largely correct, such topics do not occur as the subject-matter of the economic discipline. Rather, Menger discusses them to explain what an exact economic theory ought to abstract from. That

---

<sup>5</sup> E.g., Boehm-Bawerk (1890, p. 265), Wieser (1891, p. 108), Mises, (1969, p. 1). It may also have been Hayek’s considered view, see Hayek (1972).

<sup>6</sup> E.g., Veblen (1898, p. 389) and Bucharin (1919, p. 33)

<sup>7</sup> E.g., Keynes (1897, p. 262) and Wicksell (1934, p. 28). Schumpeter sees Menger as a marginalist theorist of value but denies any novelty with regard to the scope of the discipline of economics, which he considers identical to that of Smith and Mill (1954, p. 859).

this is his main interest is very clear from the *Investigations*, but less so when reading the *Principles* in isolation. The distinction between *explanantia* in a theory and *abstracta* of a theory is subtle, but when confused, this can lead to a crucial mistake concerning Menger's views on scope.

The positions that are ascribed to Menger in my reconstruction of the *Methodenstreit* provide decisive support for the traditional view: Menger was a defender of the marginalist conception of scope, and therefore a marginalist if the term has any meaning. As a consequence, my reconstruction is squarely at odds with some views expressed in more recent Menger scholarship.

These views can be traced to Hayek's introduction to the 1934 *Collected Works of Carl Menger*. Hayek finds in the *Principles* a developed account of production and an extended meditation on the problems of economic planning, prefiguring his own position in the Socialist Calculation Debate. According to Hayek, Menger sees economic activity as "essentially planning for the future" (xiii), subject to strong uncertainty and error. He thereby portrays Menger as theorist of the psychological and institutional phenomena that are ignored in theorizing marginalism's maximizing agent. Hayek also suggests that Menger was "sceptical" about the use of mathematics in economics (i). Instead of a marginal revolutionary, Menger suddenly appears as a committed proponent of a pluralist conception of scope.

Hayek's interpretation has proven of immense influence over Menger scholarship. Consider the Marc Blaug's claim that Menger:

was not self-consciously aware, as Jevons and Walras were, of being a revolutionary; he eschewed mathematical formulations and hence the pure logic of extremum problems; [...] but, on the other hand, was deeply suspicious of all determinate theories of pricing and underlined discontinuities, uncertainties and bargaining around the market price. (1972, p. 275)

William Jaffé (1976), similarly, questions the usefulness of the very term “marginal revolution” in understanding Menger’s role in the history of economic thought. Erich Streisser positively denies that Menger was a marginalist. To this aim, he cites the *Principles* as follows: “to put it in Menger’s own words, it was ‘not merely [!] his endeavor to create a unified theory of price.’” (1972, p. 426- 427). But, in contrast to what Streissler’s referencing leads the reader to believe, the 1950s translation by Dingwall and Hoselitz does not contain the quoted passage (see Menger 1950 [1871], p. 49), nor does the original German leave room for a translation along the lines that Streissler proposes.

By suggesting that marginal analysis is only tangential to Menger’s economics, these authors move far beyond Hayek. Hayek points to what he sees as neglected non-marginalist aspects of Menger, while at the same time he is clear that these are meant to ‘prepare the way for that main task’ namely ‘as he [Menger] says in the Preface [...] a uniform theory of price’ (1934, p. xii). Nonetheless, Hayek introduced a tradition of interpretation that persists to this day in denying that the main topic of the *Principles* is a marginalist explanation of prices.<sup>8</sup>

One influential claim that Hayek (1934) introduces and is regularly echoed by more recent authors concerns Menger’s views on mathematics.<sup>9</sup> Jaffé, for example, claims that ‘Menger avoided the use of mathematics in his economics not because he did not know any better, but out of principle’ (1976, 521). As Jaffé and others argue, the absence of formalism in

---

<sup>8</sup> More recent authors who see marginal analysis as tangential to Menger’s economics include Peart (1998), Gloria-Palermo (1999, 11), Caldwell (2004, 17f) and Campagnolo (2010, 302f).

<sup>9</sup> Recent authors who ascribe a principled objection to mathematics to Menger are Streissler (1972, p. 440), Blaug (1973, p. 275), Mirowski (1989, p. 259f), Gloria-Palermo (1999, p. 2), Caldwell (2004, p. 31) and Campagnolo (2010, p. 303f).

Menger's work betrays a methodological choice, but this inference is questionable. The mere absence seems to be adequately explained by Menger's education at the Law faculty in Austria, as a consequence of which he and his fellow Austrians did not share the natural sciences background of Jevons, Walras, and indeed, Schmoller. Menger's son, the mathematician Karl Menger, provides the following directly relevant biographical evidence:

in the 1890s my father indeed started such a self-study, as is clear from a three-page introduction into the elements of differential calculus in his handwriting, which he had bound into his copy of the second edition of Walras's *Elements d'économie politique pure*. But I am afraid that he did not acquire an operative knowledge, let alone a critical insight into calculus (1973, 44f)

There are also good non-biographical reasons that speak against Hayek's claim. In spelling out his exact method, Menger is clear that he is not merely interested in finding a qualitative account of causal relations, but also explicitly in doing so in a quantifiable way. The term that Menger uses for such a quantifiable relation is the 'measure' (*das Maß*) of an exact relation (1985 [1883], 60). Where Menger talks of mathematics in connection to his own exact method, he emphasized its role as a precondition for the application of mathematics (Reiss, 2000). This, if anything, speaks against any principled objections to its use in economic science.

One place where Menger makes this claim is in his letters to Walras (1965 [1884]). These letters are sometimes used to situate Menger outside the marginalist mainstream. In particular, authors have misrepresented a passage where Menger here distances himself from his contemporary Hermann Gossen (1810-1858), who proposes a version of marginal analysis a few year earlier:

I would be otherwise be happy to send you my 'Principles 1871', so that you could compare my work with that of Gossen. There is, as I have determined,



agreement between us, or rather likeness in opinion, in some respects but not on the decisive questions. I will make this clear in the next edition of my Principles and give due recognition to the achievements of Gossen. (1965 [1887])

Kauder (1956, p. 100) and more recent authors cite the second sentence from this passage in isolation to create the impression that Menger rebukes Walras.<sup>10</sup> Not only is this a misleading way of representing this passage, it also goes against the wider spirit of the exchange. After outlining his view on the relation between economics and mathematics Menger had already concluded: “I know, my esteemed colleague, that you will find nothing new in my explanations! I know that you and I are in full agreement on this point” (1965 [1884]).

A final claim made by Hayek is that to Menger, the world was a subject for study much more than for action, and it was for this reason only that he had intensely enjoyed watching it at close range. In his written work one can search in vain for any expressions of his political views. (1934, xxxv)

This claim, again is reflected in existing Menger scholarship, which has treated his work primarily as that of an economic theorist (cf. Grimmer-Solem 2003). But, my historical account shows that Menger was particularly keen on shaping the scientific discipline. Indeed, there is considerable agreement that little, if anything, in his marginalism was original (Ekelund & Hébert 2002). The shape that the marginalists gave to economics, the questions that they took to fall within its remit and those that stayed out, are, for better or, probably worse, with us to this day. It is simply naïve to focus on the content of economic theorizing of an author whose

---

<sup>10</sup> See Gloria-Palermo (1999, p. 20), Campagnolo (2008, p. 84; cf. 2010, 310; p. 371), Infantino, (2010, p. 169), and Wagner, (2010, p. 183). On this, Streissler (1972, p. 439).

political effects have been so profound. That, however, is not just my view, it is also that of Hayek, who himself wrote only one year before publishing his preface on Menger that economic analysis has never been the product of detached intellectual curiosity about the why of social phenomena, but of an intense urge to reconstruct a world which gives rise to profound dissatisfaction (1933, 122)

## V. CONCLUDING REMARKS

The foregoing discussion shows that the initial phases of the *Methodenstreit* revolved around a substantial and mutually recognized point of contention. Where Menger thought that only certain *explanantia* should be used in economic science, Schmoller rejected such a restriction of the scope of the discipline. Importantly, the position of both parties developed during the debate. The *Principles* do not yet explicitly address the professional ethos of the economist. This claim is only formulated in the *Investigations*. In the *Principles*, Menger does not discuss economic phenomena to establish a conception of proper subject-matter, but as elements within a specific theory of social reality. In this sense, Menger's arguments in the *Investigation* can be understood as replying in a cogent way to Schmoller's 1874 review. Schmoller's 1883 review then serves to push home the point that, though Menger has provided reasons for his claim, Schmoller is not convinced. In doing so, he explicitly rejects one premise in Menger's argument, while at the same time stressing agreement on many other issues not pertinent to proper scope. My aim here is not to deny that large parts of the later debate may indeed have been a "substantially a history of wasted energies" (1954, p. 782), but at least, as I hope to have shown, rather than a knight fighting a windmill, as Schumpeter has it, the initial phases featured two discussants engaged in a messy but argumentative joust. Recent Menger scholarship has failed to appreciate this following Hayek's suggestive, but fundamentally flawed, interpretation of Menger as an opponent of marginalism.

## REFERENCES

Anon. (1872). “Drei neue Handbücher der Volkswirtschaftslehre”, *Jahrbücher für Nationalökonomie und Statistik*, 18: 342 – 345.

Backhaus, J. and Hansen, R. (2000). “Methodenstreit in der Nationalökonomie”, *Journal for General Philosophy of Science*, 31: 307–336.

Blaug, M. (1972) “Was there a marginal revolution?” *History of Political Economy*, 4 (2): 269 – 280.

Böhm-Bawerk. E. (1890-1891). The Historical vs. Deductive Method in Political Economy, *Annals of the American Academy*, 1: 244 - 271.

Bukharin, N. (1919/1972). *Economic Theory of the Leisure Class*. New York/London: Monthly Review Press.

Caldwell, B. (2004). *Hayek's Challenge*. Chicago: University of Chicago Press.

Grimmer-Solem, E. (2003). *The Rise of Historical Economics and Social Reform in Germany, 1864-1894*. Oxford: Clarendon Press.

Campagnolo, G. (2008). *Carl Menger: Entre Aristote et Hayek*. Paris: CNRS Édition.

Campagnolo, G. (2010). *Criticisms of Classical Political Economy: Menger, Austrian Economics and the German Historical School*. London and New York: Routledge.

Ekelund Jr, R. B., & Hébert, R. F. (2002). Retrospectives: The Origins of Neoclassical Microeconomics. *Journal of Economic Perspectives*, 16, 197–215.

Hansen, R. (1968). “Der Methodenstreit in den Sozialwissenschaften zwischen Gustav Schmoller und Carl Menger. Seine wissenschaftshistorische und wissenschaftstheoretische Bedeutung” (137- 173), In: Diemer, A. (eds.) *Beiträge zur Entwicklung der Wissenschaftstheorie im 19. Jahrhundert*, Verlag Anton Hain: Meisenheim am Glan

Hayek, F. (1933) “The trend of economic thinking”, *Economica* 40: 121-137.

Hayek, F. (1934). “Carl Menger (1840–1921)” In F.A. Hayek (Ed.), *The Collected Works of Carl Menger*. Vol. I. 1934. London: The London School of Economics and Political Science,

Hayek, F. (1972). “Die Stellung von Mengers "Principles" in der Geschichte der Volkswirtschaftslehre”, *Zeitschrift für Nationalökonomie*, 32: 3 - 9.

Häuser, K. (1988). Historical School and Methodenstreit. *Journal of Institutional and Theoretical Economics* 144:532–42.

Ikeda, Y. (2008). Carl Menger’s monetary theory: A revisionist view. *European Journal of the History of Economic Thought*, 15 (3): 455-473.

Infantino, L. (2010). 'Hayek and the Evolutionary Tradition Against Homo Oeconomicus' *Advances in Austrian Economics*, 13: 159–177.

Jaffé, W. (1976) "Menger, Jevons and Walras De-Homogenised", *Economic Inquiry*, 14 (1): 511–24.

Kauder, E. (1956). *A History of Marginal Utility Theory*. Princeton: Princeton University Press.

Keynes, J. N. (1897). *The Scope and Method of Political Economy*. London: Macmillan and Co.

Knapp, G.F. (1924 [1905]). *The State Theory of Money*. (H.M. Lucas and J. Bonar Trans.). London: Macmillan and Co., Ltd

Louzek, M. (2011). "The Battle of Methods in Economics. The Classical Methodenstreit-Menger vs. Schmoller: The Battle of Methods in Economics." *American Journal of Economics and Sociology*, 70(2), 439–463.

Lindenfeld, D. (1999) *The Practical Imagination*. Chicago: University of Chicago Press.

Mäki, U. (1998). "Universals and the Methodenstreit: a Re-examination of Carl Menger's Conception of Economics as an Exact Science", *Studies in History and Philosophy of Science Part A*, 28 (3): 475-495

Milford, K. (1989). *Zu den Lösungsversuchen des Induktionsproblems und Abgrenzungsproblems bei Carl Menger*. Vienna: Verlag der Österreichische Akademie der Wissenschaften.

Milonakis, D., and Fine, B. (2009). *From political economy to economics: method, the social and the historical in the evolution of economic theory*. London ; New York: Routledge.

Menger, C. (1950 [1871]). *Principles of Economics*. (J. Dingwall and B. Hoselitz, Trans.). New York: The Free Press.

Menger, C. (1883 [1985]). *Investigations into the method of the social sciences, with special reference to economics*. New York: New York University Press.

Menger, C. (1965 [1884]) Menger to Walras, February 1884. In: Jaffé, W. (1965) *The Correspondence of Walras and Related Papers*, vol. II 1884 – 1897. Amsterdam: North Holland Publishing Company.

Menger, C. (1887) “Zur Kritik der Politischen Oekonomie”. In: Menger In F.A. Hayek (Ed.), *The Collected Works of Carl Menger*. Vol. III. 1935. London: The London School of Economics and Political Science.

Menger, C. (1965 [1887]) Menger to Walras, 27 January 1887 In: Jaffé, W. (1965) *The Correspondence of Walras and Related Papers*, vol. II 1884 – 1897. Amsterdam: North Holland Publishing Company.

Menger, C. (1887) *Zur Kritik der Politischen Oekonomie* In: Menger In F.A. Hayek (Ed.), *The Collected Works of Carl Menger*. Vol. III. 1935. London: The London School of Economics and Political Science.

Menger, C. (1894) “Wilhelm Roscher”. In: Menger In F.A. Hayek (Ed.), *The Collected Works of Carl Menger*. Vol. III. 1935. London: The London School of Economics and Political Science.

Moore, G.C. (2003). “John Neville Keynes and the English Methodenstreit”. *Journal of the History of Economic Thought*. 25 (1): 5-38.

Peart, S.J. (1998). “Jevons and Menger Re-Homogenized?: Jaffé after 20 Years”. *American Journal of Economics and Sociology* 57, 307–325.

Peukert, H. (2001). “The Schmoller Renaissance”, *History of Political Economy*, 33 (1): 71 - 116.

Reiss, J. (2000). Mathematics in economics: Schmoller, Menger and Jevons. *Journal of Economic Studies*, 27(4/5), 477–491.

Robbins, L. (1932/1935). *An Essay on the Nature and Significance of Economic Science*, London: MacMillan.

Ross, D. (2003). "Changing Contours of the Social Science Disciplines" In: Ross, D. and Porter, T. *The Cambridge History of Science. The Modern Social Sciences (Vol. VII)*. Cambridge: Cambridge University Press

Schmoller, G. (1873) "Menger, Dr. Carl, Principles der Volkswirthschaftslehre. *Literarisches Zentralblatt*, 5, 1. Translation by T. Caldwell in: Caldwell (2004), pp. 407-408.

Schmoller, G. (1883). "Die Schriften von K. Mengers und W. Dilthey zur Methodologie der Staats- und Socialwissenschaften" In: des. *Zur Literaturgeschichte der Staats- und Sozialwissenschaften*. Leipzig: Duncker & Humblot. Selective translation in: Small, A. (1924) *Origins of Sociology*, Chicago: University of Chicago Press

Schmoller, G. (1884). "Menger, Dr. Karl: Die Irrthümer des Historismus in der deutschen Nationalökonomie. Wien 1884 händler. 8. 87 S." *Jahrbuch Für Gesetzgebung, Verwaltung Und Volkswirtschaft Im Deutschen Reich*, 8.

Schumpeter, J.A. (1954/1981). *History of Economic Analysis*. London: Routledge.

Screpanti, E. and Zamagni, S. (2007). *An Outline of the History of Economic Thought*. Oxford/New York: Oxford University Press.

Semenova, A. (2014). Carl Menger's theory of money's origins: Responding to revisionism. *The European Journal of the History of Economic Thought*, 21, 107–141.



Siclovan, D. (2015) *Lorenz Stein and German Socialism 1835-1872*. Unpublished PhD Dissertation. University of Cambridge.

Streissler, E. W. (1972). "To what Extent was the Austrian School Marginalist?", *History of Political Economy*, 4 (2): 426 – 441.

Streissler, E.W., and K. Milford. (1993). "Theoretical and Methodological Positions of German Economics in the Middle of the Nineteenth Century" *History of Economic Ideas* 1:43–79.

Tribe, K. (2007) *Strategies of Economic Order: German Economic Discourse, 1750-1950*. (Ideas in Context, no. 33.) Cambridge and New York: Cambridge University Press.

Wagner, R. (2010). 'Change within permanence' In: Koppl, R., Horwitz, S. and Desrochers, P. (ed) *What is so Austrian about Austrian Economics*. (181 - 203) Bingley: Emerald Group Publishing Limited.

Wieser, F. (1891) The Austrian School and the Theory of Value. *The Economic Journal*, 1: 108–121.

Winch, D. (1972). "Marginalism and the Boundaries of Economic Science", *History of Political Economy*, 4 (2): 326-343.