Session 2 (one of 3 INEM sessions): Economic methodology and history of economic thought
Organizer Michiru Nagatsu

This session concerns both historical and philosophical aspects of economic methodology. Hands explicitly examines the relationship between history and philosophy of economics during the last fifty years, and identifies comparative episodes in the 1970s and 80s' Kuhnian and Popperian influence on HET and the use of historical examples in the recent philosophical literature on economic models and modeling (such as Lehtinen and Marchionni in Session 1). Hands carefully compares these two episodes, and identify factors that make the new episode significantly different from the old one. Hands provides a useful groundwork on which future interactions between HET and PoE can be planned. Takami introduces Hands's (2001) idea of informing HET with post-Kuhnian naturalistic and pragmatic philosophy of science, and illustrate how this can be done using his own study of Arthur Pigou's early life and work. Małecka and Nagatsu aim at demonstrating how getting history right can matter to philosophy of economics, in the recent methodological debates on behavioral economics. Hands (2010) showed that 'psychology out, psychology in' as a simplistic and false history of the development of economic theory of choice in the 20th century. Małecka and Nagatsu argue that 'behaviorism in, behaviorism out' is a similarly misleading history of the psychology that gave rise to behavioral economics. This matters because understanding its methodological underpinnings is crucial for evaluating the empirical success and relevance of behavioral economics, which is still being debated.

Philosophy of Economics Without History of Economics is Empty; History of Economics Without Philosophy of Economics is Blind: The Relationship Between History and Philosophy of Economics During the Last Half Century

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Abstract: This paper will examine the interaction between research in the history of economics and research in the philosophy of economics during the last fifty or so years. Since both the history and the philosophy of economics are extremely diverse, it will not attempt to provide a grand narrative that captures the vast array of interactions that have taken place between these two fields during this period. Rather it will focus on two particular literatures and the character of their history-philosophy interaction: one from the history of economic thought during the fourth quarter of the twentieth century and one associated with more recent work in the philosophy of economics. The first is a fairly narrow body of literature – the Popperian-, Lakatosian-, and Kuhnian-inspired research in the history of economic thought from the 1970s and 1980s – while the second is more diverse – the use of historical examples in the recent philosophical literature on economic models and modeling. We will find these two literatures have significant differences. A number of the developments that have contributed to these differences – developments within the history of economics, within the philosophy of science, within economic science itself, and within social and intellectual life more generally – will be examined.

Outline:

I. Introduction

The relationship between the history of science and the philosophy of science has been a controversial issue going back to at least the early years of logical positivism (where it surfaced in controversies about naturalism vs. foundationalism as well as the so-called protocol sentence debate), but of course the debate took a more dramatic turn following the publication of Thomas Kuhn's *The Structure of Scientific Revolutions* and other historical work that argued – quite persuasively for many readers – that the actual history of successful science did not exhibit the characteristics that either positivist-inspired or Popperian philosophy of science claimed were necessary for the scientific knowledge. This generated various responses within the science theory literature. Some, such as Lakatos's "methodology of scientific research programs," tried to forge a new middle way between history and philosophy of science; others turned toward more naturalistic, pragmatic, and locally-focused, but still normative, philosophical investigations; while still others turned toward sociological approaches to the investigation of scientific practice. Ideas from all of these approaches spilled over, to various degrees, into the history and philosophy of economics during the last quarter of the 20th century. This literature included a number of Popperian-, Lakatosian-, and Kuhnian-inspired studies within the history of economic thought. Although some of this literature continues to be produced, interest has waned significantly in recent decades, while at the same time the history-philosophy connection has become more important within the philosophy of economics: particularly in the literature on economic models and modeling. This paper will contrast the research of these two periods with respect to the history-philosophy relationship.

2. Main Argument

Given the extent of these two literatures, it will not be possible to examine a broad range of different authors and topics. Rather than trying to be exhaustive, I will try to be representative. For the late 20th century literature I will focus on Mark Blaug's philosophically-inspired studies in the history of economic thought. In many ways Blaug's research during the 1970s and 1980s, which used Popperian and Lakatosian philosophy of science to analyze various topics within the history of economic thought, was an *exemplar* of the literature connecting the history of economics and philosophy of science during that period. Many books and papers were written – and many with specific conclusions quite different than Blaug's – but the general frame of reference for this literature (particularly that written by economists) was well-represented in Blaug's work. Blaug is also a reasonable choice since his writings crossing the history of economic thought and economic methodology covered a wider range of historical topics than most other authors. He also wrote several papers where he tried to explain what he was doing – historiographically and methodologically – in a way that cut across his individual studies. For the early 21st century literature, a body of research that

is more likely (although not exclusively) written by philosophers rather than economists, and more likely (again, although not exclusively) appearing in journal articles rather than books, I focus on a single topic within the history of modern economics rather than the work of a single author. Why this is necessary, or at least appropriate, is itself one part of the story of the differences between the two literatures. The topic is Thomas Schelling's game theoretic (or tipping) models of housing market discrimination from the late 1960s and 1970s. This model is (or these models are, since the ideas can be instantiated in a number of different ways) probably the most discussed economic model in the recent philosophy of economics literature (and is also used as an example of successful scientific modelling in general). The paper will contrast the way that philosophical issues (particularly questions about normative philosophy of science) interact with historical issues (from particular examples of economic theory and practice) within the context of these two literatures. There are a number of significant differences, and even though a brief outline is not the place to try to discuss them all, it is useful to note a few of the most striking. If we take literature I (L_I) to be the philosophically-inspired history of economic thought from the end of the 20th century (with Blaug's work as an exemplar) and literature II (L_{II}) to be the use of examples from the history of economics within recent philosophy of economics (with the use of Schelling's model of discrimination as an exemplar), a non-exhaustive list of the differences would include:

- L_I was written primarily by (and for) economists and L_{II} is written primarily by (and for) philosophers.
- L_I was generally critical of standard economics and L_{II} generally presupposes that the relevant part of standard economics is successful science. Put alternatively, L_I often emphasized how economics should change to be successful science, while L_{II} often emphasizes understanding certain characteristics of successful scientific modeling through economics.
- Related to, but slightly different from the previous: L_I generally presumed the adequacy of particular accounts of scientific knowledge and used them to challenge the theoretical practice of certain economists, while L_{II} generally presumed the scientific adequacy of particular theoretical practices within modern economics and then used to challenge certain philosophical accounts of scientific modeling.
- L_I generally emphasized grand theorizing in economics (Ricardian economics, Keynesian economics, Walrasian general equilibrium theory, etc.) while L_{II} emphasizes specific economic models or a small class of such models (Schelling's discrimination model, Hotelling's location model, Akerlof's lemons model, etc.).
- L_I was concerned with economics per se (although sometimes heterodox economics) while L_{II} is often concerned with scientific modeling in general and economic models are of interest because of their similarity to models in other sciences (particularly biology).
- L_I was more straightforwardly normative: starting from specific standards for the demarcation of science from non-science and examining history to see if

particular economic theories did, or did not, satisfy those standards. L_{II} is normative but in a weaker, more naturalistic, and more context-specific sense: starting from examples of economic modeling that are considered successful by economists (as well as some philosophers) and trying to understand how those models work to achieve various scientific goals (explanation, representation, understanding, prediction, unification, various pragmatic purposes, etc.).

These and other differences will be discussed along with some suggestions for additional research.

Professor Hands' s *Reflection without Rules* and its Significance to the History of Economics

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OUTLINE:

This presentation will give a selective summary of Professor Hands' s *Reflection without Rules* (its Japanese translation will be published this spring) and discuss how we historians of economic thought can benefit from it. This book is a survey of economic methodology and meta science theory in the twentieth century, but its overall suggestion is not only to become informed of the recent literature in these fields, but also to work with a new perspective that reflects the naturalistic/pragmatic turns in meta-science theory in the late twentieth century. This presentation will emphasize three of the major themes in the book: namely, (1) J. S. Mill's economic methodology, (2) W. V. O. Quine' s criticism of empiricism and (3) C. S. Peirce' s classical pragmatism.

This presentation will also attempt to discuss the implications of the book to the history of economic thought. Quite fortunately, the recent shift in meta science theory made history of science, including history of economics, more relevant to the central interest of the field. This is because under this new perspective, science should be approached with greater sensitivity to the historical and social contexts of specific scientific practice. This presentation will use my own work on Arthur Pigou' s early life and work to illustrate how we can use this perspective. It will be noted that this essay' s motivation was to examine the intellectual environment Pigou was situated in and to suggest the possible contextual motivations behind his work.

In conclusion, this presentation will note that the recent economic methodology and meta science theory can create new uses (and therefore new significance) of various historical materials in our field.

The significance of *Reflection without Rules* lies in the following point. Since the nineteenth century, economic methodology has, at least partly, served as a proxy war between different schools or different subdisciplines of economics. In the

twentieth century, a few convenient doctrines of philosophy of science, such as logical positivism, Popper, and Lakatos, have been applied to economics for this purpose. However, this book has broadened the scope of economic methodology by offering an in-depth survery of contemporary philosophy of science and science studies. It is now difficult to work in this field without considering the major insighs presented in the book, such as naturalism, sociological turn, pragmatism, and realism.

The book begins with discussing traditional methodological ideas. The one most highlighted here is John Stuart Mill, and this is due to his great influence to the later generations of economists as well as modern-day philosophers of science working on economics. In the book's account, Mill was a radical empiricist in maintaining that all the proper knowledge must be based on sense data, but he was also committed to Ricardian economics. Therefore, Mill needed to perform a difficult task of defending deductive economics on an empiricist basis. Mill's argument was, in short, that in economics, the complexity of social phenomena prevented any controlled experiments but on the other hand, a limited understanding of human beings, namely that human beings exclusively pursue wealth, is adequate for the range of phenomena covered by the discipline. Mill's empiricism required that prediction of deductive theory must be compared with reality; however, he did not call for abandoning the theory if it is contradicted by reality, but instead instructed to identify disturbing causes that were not assumed in the theory. Mill thus viewed economic laws as only capturing general tendencies that can easily become unobservable in the presence of counterveiling forces in concrete situations. Unlike the twentieth-century positivist approaches, Mill's methodology is concerned with understanding the reality in organized ways rather than establishing or undermining scientific status of economic theory.

Next, Willard Van Orman Quine's underdetermination thesis is the pivotal idea in the overall narrative of the book. This concept was formulated in Quine's classical essay, "Two Dogmas of Empiricism," but as the title suggests, this essay was intended to undermine the very basis of empiricist philosophy of science. For Vienna Circle's logical positivism, synthetic statements, namely statements whose truthness can be judged by the correspondence to the reality, were central for their

entire project. Quine attacked this idea by arguing that a single statement cannot be compared with reality. This is because we humans face the real world through a "web of beliefs," a complex of plural beliefs intertwined with each other; therefore, when judging the correspondence of a single statement with reality, other statments must be (at least implicitly) assumed to be true. In this case, when contradicted by factual observation, one cannot be sure whether it was the first statement or other(s) that was not true. Of course, in real-life scientific experiments, arrangements will be made to deal with this problem as much as possible; nevertheless, testing (or falsification) of theory by observation will not be as simple as postivist philosophy of science tended to assume.

Third, pragmatism is now highly influential in meta-science theory and receives ample treatment from the book. Charles Sanders Peirce's and John Dewey's classical work has a strong affinity to the modern, post-positivistic, understanding of science and has also offered inspiration to post modernism thinkers (especially Richard Rorty); and for these two reasons, pragmatism is witnessing a revival in modern philosophy. Peirce's 1870s classic essays---"The Fixation of Belief" and "How to Make our Ideas Clear"---views our intellectual inquiry as an action to eliminate the discomfort inherently arising from doubt or disbelief and characterizes the method of empirical science as the most desirable process to collectively and gradually acquire stable knowledge. After Thomas Kuhn, meta-science has focused more and more on social and psychological aspects of science; but on the other hand, this type of new meta-science could easily fall into a rather dubious position called relativism, namely the position that science does not capture any objective essence of nature and varies with human vagaries just as culture and art. The significance of Peirce's work thus consists of the fact that he incorporated both of the highly important aspects of science to the modern-day science studies but he did not slip into relativism.

These three major underlying concepts in the book---Mill's tendency law approach, Quine's underdetermination, Peirce's classical pragmatism---combined to offer an important insight to the history of economic thought: that is to say, just as any other scientific inquiry, economics is a collective and psychological enterprise always influenced by various contexts. This presentation illustrates

this point by using my own essay---"The Sanguine Science: The Historical Contexts of A. C. Pigou's Welfare Economics." This essay attempted to reproduce Pigou's immediate intellectual environment up to the early 1910s when he published a book called *Wealth and Welfare*. The contexts treated in the paper include a wide range of historical facts: such as, (1) Pigou's strong involvement in the Cambridge Union, a student debating club at Cambridge, (2) his participation in the nation-wide policy debate on import tariffs, (3) his modest approval on the progressive tax system around 1910, and (4) the lively activities of a student socialist association linked with the Fabian Society. Following the discussion of these contexts, the essay concludes that Pigou was directly facing a highly polarized political environment and that this will show at least some of the reason why he launched the project of welfare economics, a field in which normative judgment is explicitly discussed.

In conclusion, this presentation brings out three of the major lessons one can receive from Professor Hands's *Reflection without Rules*. Mill's methodology views economic laws as tendency laws, and this still remains an importat insight in today's economic methodology. Quine's underdetermination definitively rejected the simplistic understanding of science based on positivism or empiricism and opened the door for social or contextual analysis of scientific practice. Peirce's belief fixation process presented a penetrating general picture of how we humans believe things or how we suddenly jump to a completely new idea. These views liberates our inquiry in the history of economics by inducing us to see the on-site process of creation/propagation/modification of economic (or any other scientific) ideas.

(1332 words)

The behavioral origins of behavioral economics: re-examination
Outline

Magdalena Małecka and Michiru Nagatsu

1 Introduction

In this paper we critically re-evaluate the standard historical account that "[b]ehavioral economics is a product of the cognitive revolution" (Angner 2016, p.6) and provide an alternative historical reconstruction of the origins of the behavioural economics. Sent (1994) distinguished 'old' and 'new' behavioral economics, associating Herbert Simon's systematic criticism of neo-classical economics with the former - 'old' behavioral economics that never picked up- while identifying Amos Tversky and Daniel Kahneman's judgement and decision making research as the foundation of the latter, 'new' behavioral economics. Notwithstanding this widely accepted distinction (e.g. Thaler 2015, p.23; Heukelom 2014), the term "bounded rationality" that Simon coined is often invoked as the theoretical foundation of the 'new' behavioral economics as well (e.g. Kahneman 2002). This fact suggests a common origin of the 'old' and 'new' behavioral economics, which is the cognitive turn in the 1970s and the demise of behaviorism that ensued in psychology. Indeed, this narrative fits with the "behaviorist myth" (Edwards 2016) among economists, according to which revealed preference theory was directly influenced by behaviorism in psychology. In other words, the behaviorist myth describes the process of 'psychology out', and behavioral economics caused by the cognitive revolution embodies the process of 'psychology in' in economics (Hands 2010), mirroring the process of 'behaviorism in, behaviorism out' in psychology.

This popular narrative about the cognitive origin of behavioral economics, however, has several limitations, in particular as a framework to understand contemporary behavioral economics. For example, Edwards (2016) points out the affinities between "nudging"---the most successful policy application of behavioral economics---and the behavior-control techniques proposed by Skinner, the founder of behaviorism. We thus aim at providing a better account of the origins of behavioral economics in two ways. First, we examine behavioral economics in the wider (in terms of disciplines involved) and deeper (in terms of years) contexts of *the behavioral sciences movement* since the 1950s. This will enable us to understand what really is 'behavioral' about behavioral economics. Second, we analyze the way in which contemporary behavioral economics is institutionalized in standard textbooks, and reveal heterogeneous origins of the field, as well as its disciplinary

character as a subfield of economics. The potentials and limitations of behavioral economics as a scientific field is better understood once we give up associating it with the cognitive revolution, and instead adopt the wider and deeper framework.

We proceed as follows: in section 2, we detail the behavioral sciences movement from the 1950s onwards and show that 'the behavioral' was not eradicated from the behavioral sciences by the cognitive revolution, and instead survived in various forms, including as behavioral economics. In section 3, we analyze the standard textbook organization of behavioral economics into three main domains, namely risk preferences, time preferences, and social preferences. We show that these domains did not develop evenly or in a similar way, and that the cognitive revolution was not the main driver of all the domains. Section 4 concludes with some reflections on the implications of our reevaluation of the history of behavioral economics on its contemporary methodology and policy applications.

2 The development of the behavioral sciences

We start our historical reconstruction of the origins of the behavioral economics from the analysis of the development of the behavioral sciences. The behavioral sciences, as that term was originally intended in the 1950s, included sociology, anthropology, psychology, and the behavioral aspects of biology, economics, geography, law, psychiatry, and political science. The aim of this interdisciplinary movement was to establish a unifying theory of human behavior that would explain the main mechanisms of people's behavior (Miller 1955). Behavioral scientists were thus interested in wide-ranging topics such as motivation, perception, values and norms, learning, attitudes and opinion, personality, social organization, group practices, and social institutions. They collected original data on the direct behavior of individuals and groups through the use of diverse empirical methods, such as experiments, surveys, questionnaires, and interviews (see Berelson & Steiner 1964)). In this sense, economics was already 'behavioral' in a distinct way from the theoretical and methodological commitments of Skinnerian behaviorism.

In the 1950s, when the behavioral sciences entered the scene of scientific research in the social sciences they were understood as mathematical, behavioral-functional, problem-centred, and interdisciplinary (Crowther-Heyck 2006: 431). The behavioral-functional approach studied individual behaviors as responses to some interventions on the elements of the system to which he/she belongs. Behaviors were described as functions (in a mathematical sense). The critical reaction to the behavioral-functional approach in psychology came in the 1960s, with the development of cognitive psychology. Psychologists working within this research

programme adopted a model of mind based on the computer, inspired by information theory, computer modelling approach and the generative linguistics. They started studying pattern recognition, attention, categorization, memory, reasoning, decision-making, problem solving, and language as information-processing in the mind (see Gardner 1985; Baars 1986 for detail). In the early 1970s the field of studies on memory and on language began to intersect. Psychologists became aware of related developments in linguistics and AI, and researchers in the latter disciplines became aware of pertinent work in psychology. Thus evolved the interdisciplinary movement called 'cognitive science'. Cognitive scientists started to study mental representations. It was pointed out that in order to understand human behavior, it is not enough to study how an individual's behavior is reinforced by outside stimuli, but rather emphasis should be put on the way in which the environment or learning history is internally represented by the individual.

In general, however, theoretical developments in the behavioral sciences shows neither radical nor gradual shift of the focus from behavior to cognition. Rather, the functional understanding of behavior has remained relatively stable, while its exact representative formulation has been influenced by new trends such as connectionism and neurobiology. Similarly, economics has not been radically changed by the cognitive revolution. In fact, it is surprising how much contemporary economics, *including behavioral economics*, still heavily relies on theoretical foundations made by von Neumann and Morgenstern in 1944/47 in both game theory and decision theory. Economics' focus on functional representations of behavior seems unquestioned. Different kinds of psychology (introspective, behavioral, cognitive, neuroscientific) have come in and out from economics, but such trends have not changed economists' behavioral orientation whose origin can be traced in the behavioral sciences movement.

3 Heterogeneous components of behavioral economics

But what kind of psychology is in contemporary behavioral economics? In this section, we analyze the emerging components of contemporary behavioral economics. We can identify two kinds of convergence in mainstream behavioral economics textbooks (e.g. Angner 2016; Wilkinson and Klaes 2018). First, most textbooks identify the rise of behavioral economics as a turning point of the process of 'psychology out (behaviorism in), psychology in (behaviorism out)' in economics. Second, these textbooks organize behavioral economics into three main choice domains, namely risky choice, strategic choice, and intertemporal choice, each domain mostly explained in terms of models of *risk*, *social* and *time* preferences,

respectively. This tripart organization around different kinds of choice behavior, rather than some cognitive principles, is in tension with the first converging point that behavioral economics embodies the shift from behaviorist psychology to cognitive psychology in economics. Moreover, the historical origin of each domain does not fit in this account, either. First, models of risky choice originate in mathematical psychology and behavioral decision research, directly influenced by von Neumann and Morgenstern's Expected Utility Theory, rather than the cognitive revolution. Second, many models of social preferences are similar to economic models of altruism developed since 1960s, with little connection to the cognitive revolution. Social preferences models are largely based on economists' intuitions rather than social or cognitive psychology (Lisciandra forthcoming). Bounded rationality is used supplementarily as modifications to game-theoretic assumptions, not as an organizing principle. Finally, models of time preferences originate in Skinner's Pigeon lab at Harvard and its link to the cognitive revolution is very weak (Grüne-Yanoff 2012). In sum, the textbook representation of the cognitive origin of behavioral economics contradicts how it is taught in practice, and also obscures its heterogeneou theoretical influences, both actual and potential.

4 Conclusion

In this paper we critically examined the cognitive and behavioral origins of behavioral economics. We suggest that our analysis is a first step toward a better understanding of the methodological and policy implications of behavioral economics. In particular, it enables us to envision behavioral economics' more engagement with contemporary developments in other disciplines.