

PHD THESIS SUMMARY:

Economics as a “tooled” discipline: Lawrence R. Klein and the making of macroeconometric modeling, 1939-1959

ERICH PINZÓN-FUCHS

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Université Paris 1 Panthéon-Sorbonne

Large-scale macroeconometric models have played a paramount role in the transformation of US-American macroeconomics in the political, academic, and intellectual spheres since the 1940s. In an era of progressive liberalism that pursued economic stability through the advocacy of government intervention, macroeconometric models provided powerful tools for economic planning and forecasting. In addition, these models changed the way macroeconomics was done, emphasizing empirical orientation and technical sophistication in the context of “big science”, growing computerization, and fundamental transformation of scientific practices, which increasingly relied on teamwork effort and a new kind of expertise.

Taking Lawrence R. Klein as a focal point, I travel across the economics discipline of the 1940s and 1950s to study the intersection between the history of macroeconomics and the history of econometrics. I thus provide a new understanding of 20th century economics as a “tooled” discipline, in which theory, application, and policy become embedded within a scientific tool: a macroeconometric model. This new understanding presents the history of macroeconomics not as the product of ideological and purely theoretical issues, but rather of divergent epistemological views and modeling strategies that go back to the debates between US-Walrasian and US-Marshallian approaches to empirical macroeconomics.

My dissertation is divided in two parts, each composed of three chapters. In the first part (chapters 2-4), I explore Klein’s intellectual trajectory, and present how he constructed his identity as a macroeconometrician, contributing to the development of macroeconometric modeling. Indeed, in chapter 2, I revisit the intellectual situation of the economics discipline at the time, and the relations that Klein established with different institutions and personae,

which marked the formation of his identity as a macroeconometrician. In particular, I study Klein's passage through the University of California, Berkeley, the Massachusetts Institute of Technology (MIT), the Cowles Commission, the National Bureau of Economic Research (NBER), and the University of Michigan, as well as his encounters with people like Jerzy Neyman, Griffith C. Evans, Edwin B. Wilson, Paul A. Samuelson, Jacob Marschak, and Trygve Haavelmo, among others.

In chapter 3, I consider Klein's project to "redo" Jan Tinbergen's macroeconomic work as a well-informed reaction to John Maynard Keynes's criticism of Tinbergen, and as one that decisively contributed to the development of macroeconomic modeling. As an expert in Keynesian thought and a leading figure of Cowles's macroeconomic program, Klein surmounted the difficult task of reconciling Tinbergen's world, which strove for the implementation of technical and rigorous devices from which to draw inferences, with Keynes's world, which showed a clear aversion to this kind of technicality, although not necessarily to empirical work.

Chapter 4 provides an account of Klein's distinctive way of doing econometrics. Focusing on his time at the Cowles Commission (1944-47), I discuss a series of publications and events that were decisive in shaping his *image* of econometrics. In particular, I argue that Klein's adoption of a flexible and practice-oriented methodology, and his endorsement of pluralistic economic theories, resulted from his participation in empirical model-building. Furthermore, I show that Klein's flexible approach contrasts with the prescriptive methodology used in the abstract and theoretical work led by his colleagues at Cowles. I conclude that Klein's distinctive *image* of econometrics allowed him to enrich the process of model specification, to pursue the macroeconomic program beyond the 1940s, and to remain optimistic about what he thought was the political objective of econometrics: economic planning and social reform.

The second part of my dissertation (chapters 5-7) revisits the longstanding opposition between the econometrics program à la Klein, and the statistical economics program à la Milton Friedman. Following Ted Porter's (1994, p. 128) idea that "the modern history of American economics" is fundamentally a history of "rival ideals of quantification" rather than a history of rival theories or ideas of economic analysis, I study the opposition between the Cowles's and the NBER's approaches

to empirical macroeconomics, and in particular between Klein and Friedman.

Indeed, in chapter 5, I consider the Marshall-Walras divide as the point of departure and center of the methodological debate between these two empirical approaches to macroeconomics. I argue that the transformation of economics into a “tooled” discipline changed the relations between economic theory, applied economics, and the policy sphere, and insist on the fact that rather than bridging the gap between theory and data, macroeconometrics radically transformed the preeminence of theory over application, data, and political issues in economics. I conclude that independently from the economist himself, the macroeconomic practice of the 20th century (which implies adherence to the econometric tool) does not allow for a dissociation of theory, application, and policy, but instead combines and fuses these elements into a single system of reasoning: macroeconomic modeling.

Chapter 6 clarifies the differences between the Cowles’s Walrasian and the NBER’s Marshallian modeling strategies. These differences, I argue, consist not only in the use of diverse statistical methods, economic theories, or political ideas, but also in deeply rooted methodological principles and modeling strategies that raise questions on both the way macroeconometricians represent and understand the world, and on how they deal with problems of operationality and concrete problem-solving. While Cowles’ Walrasian approach necessarily considers the economy as a whole, despite the economist’s inability to observe or understand the system in all its complexity, the Bureau’s Marshallian approach takes into account this inability and considers that economic models should be perceived as a way to construct systems of thought based on the observation of specific and smaller parts of the economy.

Focusing on the 1957-1958 controversy between Gary Becker, Friedman, and Klein, chapter 7 provides an account of the discussions on how to evaluate the performance of macroeconomic models. At this occasion, Friedman and Becker questioned Keynesian macroeconomic models for their inappropriate treatment of the consumption function, and for their inability to yield accurate predictions of income, resulting from the adoption of the “misleading” (Becker and Friedman, 1957, p. 64) criterion to judge models’ performance. While macroeconometricians adopted reduced form

extrapolations to evaluate their models, Friedman and Becker insisted on the necessity of carrying out full model simulations to conduct sound model selection. Independently of Friedman and Becker's critical tone, I conclude that their argument can be interpreted as a constructive critique and as a precursor of a criterion to evaluate models' performance that became common ground among macroeconometricians in the subsequent decades.

In a nutshell, my thesis is that Klein was the most important figure in the creation of a new way to produce scientific knowledge that consisted in the construction and use of complex tools (macroeconomic models) within specific institutional configurations (econometric laboratories) for explicit policy and scientific objectives, in which well-defined roles of experts (scientific teams) were embodied within a new scientific practice (macroeconomic modeling).

REFERENCES

- Becker, Gary S., and Milton Friedman. 1957. A statistical illusion in judging Keynesian models. *Journal of Political Economy*, 65 (1): 64-75.
- Porter, Theodore M. 1994. Rigor and practicality: rival ideals of quantification in nineteenth-century economics. In *Natural images in economic thought*, ed. Philip Mirowski. Cambridge: Cambridge University Press, 128-172.

Erich Pinzón-Fuchs received his PhD in economics under the supervision of Prof. Annie L. Cot from the University Paris 1 Panthéon-Sorbonne in March 2017. His areas of expertise span the fields of history and methodology of recent economics, macroeconomics, and econometrics. Specifically, his research focuses on the history and methodology of large-scale macroeconomic modeling. He is currently a research fellow at the Center for the History of Political Economy at Duke University, and a postdoctoral researcher at the Economics Department of Universidad de los Andes in Bogotá, Colombia.

Contact e-mail: <erich.pinzon@gmail.com>

Website: <<http://ssrn.com/author=2587813>>