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# The history of economic thought as a living laboratory

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We propose a novel and constructive way to conceptualise the history of economic thought and appreciate its value within economics more broadly. Drawing on the work of economists spanning nearly a century, we explore the idea of the history of economic thought as a *living laboratory* of theorising. It is living in that it is a persistently relevant method of doing economic theory, as opposed to a separable field or even a dead branch of economics. It is a laboratory in that it provides a constrained space for examining, comparing, critiquing, combining, and developing theories. Following an initial explanation, we explore the roots of this conceptualisation in the works of some twentieth-century economists. We then illustrate it using the example of the development of neo-Wicksellian macroeconomics. We conclude with a discussion of the advantages and limitations of the living laboratory approach.

*Key words:* History of economic thought, Living laboratory, Neo-Wicksellian macroeconomics

*JEL classifications:* B20, E40, E52

## 1. Introduction

Historians of economic thought are usually keen to demonstrate the value of their field to the broader economics profession and to argue for returning it to a prominent place in economics teaching and research. Despite valiant efforts at persuasion over the past 50 years, however, this crusade has proved unsuccessful. Of course, in some ways, the history of thought is thriving as a distinct field, but, as it has grown, it has also grown apart, to the point that it has almost entirely disappeared from economics curricula and top-ranked publications. Given this lack of progress, it is worth reconsidering how the history of economic thought is conceptualised and marketed to the profession at large, and how these things might be done differently. This will naturally be beneficial for historians of thought as such, but it is also crucial for members of heterodox traditions which, while flourishing in the history of ideas, are currently neglected by the

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mainstream. At the very least, experimenting with different ways of thinking about the history of thought is one way to periodically inject the overall debate with new energy and insight.

This article proposes one such novel approach to the history of economic thought. We argue that the history of thought can be conceived as a *living laboratory of economic theorising*. It is *living* in that it is a vital and valuable part of economics rather than a dead branch of it. It is a *laboratory* in that it functions as a proving ground in which theories from many different times and contexts can be examined, compared, critiqued, combined and developed. In other words, history of thought can be conceived as a method of doing economics rather than an isolated or niche field within it. This living laboratory approach has been hinted at by many twentieth-century economists on whose work we draw to tease out the analogy. In that sense, what we are proposing is not revolutionary but is rather an elaboration and systematization of thus-far nascent ideas and intuitions. It is our hope that developing this conceptualisation will offer some clarity about what the history of thought is, what it can be, what it can do, and where it can or should stand in relation to economics in general.

In the following [Sections 2](#) and [3](#), we develop the idea of the living laboratory. In [Section 4](#), we explore the historical roots of this idea in the works of a wide range of twentieth-century economists. [Section 5](#) provides an illustrative example of the laboratory at work, the development of neo-Wicksellian macroeconomics. [Section 6](#) discusses the advantages and limitations of the living laboratory approach and suggests several ways in which it can prove useful to historians of thought and economists in the mainstream. [Section 7](#) concludes.

## 2. The history of economic thought as a living economics

We use ‘history of economic thought’ (HET) in a broad and inclusive way to refer to the study of economic ideas from the past. We thus aim to capture elements of different research programs and perspectives, including ‘history of economic thought’, ‘history of economic analysis’, ‘history of economics’, ‘intellectual history’, and similar terms defining different aspects of the subject area.

We begin with the idea that HET can and should be thought of as a ‘living’ part of economics rather than a separate or dead branch of it. In other words, contra the Whig theory,<sup>1</sup> older ideas have something to offer modern researchers ([Backhouse, 1994](#); [Waterman, 1997](#); [Boettke, 2012](#); [Boettke et al., 2014](#); [Freeman et al., 2014](#)). Fully appreciating this point leads naturally to the conclusion that HET is not a stale and hermetically sealed-off part of the discipline, as there should be ‘no separation between learning about the theories of the past and *doing* economic theory today’ ([Bellofiore, 2018](#), p. 65; emphasis in the original). Instead, it is inextricably intertwined with doing economics, and is essential to the production of research and to the teaching that accompanies it ([Bellofiore, 2018](#)); in fact, in a sense, they are the same thing ([Shionoya,](#)

<sup>1</sup> Whig historiography sees history as a journey of successful progress from a ‘benighted’ past to a ‘glorious present’ ([Butterfield, 1965](#)). The history of economics, for example, is viewed as a ‘history of the continuous expulsion of errors and glorious processual construction of the unique (neoclassical) Truth’ ([Bellofiore, 2018](#), p. 69). The term ‘whig’, or ‘whiggish’ is thus applicable to progressive theories and histories of science that judge the past only by its relevance to the accomplishments of the present, focussing exclusively on the theories that emerged victorious, and ignoring the historical context in which they developed, as well as the insights of those who opposed them at the time (cf. [Alvargonzález, 2013](#)).

2009). As Mark Blaug puts it, ‘History of economic thought is not a specialisation within economics. It *is* economics—sliced vertically against the horizontal axis of time’ (Blaug, 2001, p. 157; emphasis in original).<sup>2</sup> At their best, historians of thought do economic theory in a ‘fruitfully retrospective way’ (Porta, 1994, p. 172) that illustrates its dynamic and constantly changing nature (Forget, 1997, p. 200). It has even been claimed that HET ‘brings economics to life where before it was dead’ (Kates, 2013, p. 5).

This living view of the history of ideas is not new, although it has been expressed in many different ways by various authors. In fact, if anything, it reflects the way that most economists thought about historical doctrines until about the mid-twentieth century (Goodwin, 2018), when methodological and technical developments steered the profession in a different and more Whiggish direction (as encapsulated in works like Stigler, 1969). As Sheila Dow shows, ‘The norm before the ahistorical formalism that came to dominate in the second half of last century was for history of economic thought to be integral to economics’ (Dow, 2002, p. 333). Craufurd Goodwin likewise explains that, ‘Economics faculty began their courses on almost any subject with an introduction to the evolution of relevant theory. Indeed, HET was thought of as simply an historical extension of theory, and practitioners as simply a special kind of theorist with a long time horizon’ (Goodwin, 2018, p. 5887). It was not therefore a distinct discipline, but a facet of a discipline that offered a plurality of approaches (Bellofiore, 2018). Some of the most influential economics teachers, such as Edwin Cannan, Wesley Mitchell, Lionel Robbins, Frank Taussig and Jacob Viner, approached the subject in this way (Leijonhufvud, 2006, p. 1; Winch, 1983; O’Brien, 1999). Irwin Collier’s archival project *Economics in the Rear-View Mirror* provides countless examples of syllabi and examination questions from the early twentieth century that evidence this inseparability of the history of thought from economic theory.

Nor was this trend limited to the classroom: economists as different as Adam Smith, Eugen von Böhm-Bawerk, Frank Knight, F.A. Hayek, Piero Sraffa, John Hicks and John Kenneth Galbraith (to name only a few) developed original theories by starting from the history of thought (Boettke, 2001, 2018; Porta, 2013, pp. 10–11; Goodwin, 2018; Dow, 2020).<sup>3</sup> These earlier economists ‘did not think of HET as a separate new sub-discipline, as ultimately it was to become, but as an overlay of all economics, *a distinct approach to all economic problems that should be explored as fully as other theoretical and empirical approaches*’ (Goodwin, 2018, p. 5892; emphasis added). This approach remains prominent among post-Keynesians, Austrians and other (especially heterodox) traditions whose work blurs the distinction between doing economics and doing history of thought (Boettke, 2002; Dow, 2002).

Despite its distinguished pedigree, however, there is still room to clarify and extend the living approach to HET. For example, Axel Leijonhufvud similarly conceived of economics as a vast decision tree with many branches, each of which can be traced back to earlier choices by economists in a sequence potentially centuries

<sup>2</sup> Moreover, much downplaying of HET rests on an artificial distinction between past and present: HET is not just about what economists wrote in the distant past—it runs right up to what they were doing yesterday (Blaug, 2001, p. 154), or in other words, ‘every history is contemporary history’ (Bellofiore, 2018, pp. 69–70). To take one example, even if economics is based squarely on hypothesis testing (a position with which we disagree), then as long as a hypothesis has not been (sufficiently) tested, it is irrelevant when it was first formulated (Corry, 1975, p. 256).

<sup>3</sup> Goodwin (2018) lists many more examples of major economists who engaged deeply with HET when developing their own work.

long (Leijonhufvud, 2006). This is consistent with our own approach in that it views modern economics (the topmost branches of the tree) as embodying and reflecting a rich, living history of past choices and paths not taken (the lower branches or bits of tree trunk). Our approach expands some elements of the tree metaphor. In particular, our view is that HET is the tree itself rather than one of its dead branches or forgotten roots: there is no arbitrary point at which a branch becomes historical and therefore separate from the rest. Even the most recent branches exist synchronously with older ones. The decision tree of economics is dynamic, and old or seemingly withered branches can grow healthily again even after years of neglect.

Along similar lines, we agree that the history of thought deserves to be treated as a part of what Kenneth Boulding called ‘the extended present’ of the profession, or the ‘historical range within which active communication is taking place’ (Boulding, 1971, pp. 227–228). Studying the history of thought increases the scope of the extended present beyond parochial boundaries to include a greater range of time and space, thus enriching the discipline (Boulding, 1971; pp. 233–234; cf. also Boettke *et al.*, 2014, p. 538). However, as we discuss below, Boulding’s approach is somewhat question-begging, as it does not explain how the appropriate limits of the extended present should be set, or by whom. To use his example, Adam Smith will exist in the extended present for a long time to come. Yet he implies that there will indeed come a day when there is no longer any need to study his ideas. But it is unclear when and why we should cease ‘active communication’ with Smith.

### 3. The history of economic thought as a laboratory

In the previous Section we discussed a general relationship between economics and HET. However, there are different ways in which the notion of ‘living’ history might be relevant within economics. In this section, we take the argument a step further by proposing that HET can be conceived as a living *laboratory* of economic theory. We begin this discussion with some caveats. First, we are drawing an analogy and therefore are not simply equating HET with the experimental laboratories that are found in the natural sciences or those used in experimental economics.<sup>4</sup> Second, as we explain in Section 6, there are limitations to our analogy. Most importantly, our historical laboratory does not produce linear progress in the Whiggish sense, as in the idealised picture of the natural sciences.

#### 3.1 What is a laboratory?

To better understand the laboratory analogy (and its limits) it is useful to mention some functions of scientific laboratories. Ideally, a laboratory is a ‘site of invention and intervention’ in the production of knowledge (Miller and O’Leary, 1994, p. 470). In the natural sciences, it is a ‘space for interfering under controllable and isolable conditions with matter and energy’ (Hacking 1992, p. 36).<sup>5</sup> More generally, ‘the role of

<sup>4</sup> Likewise, we are not using the term ‘living laboratory’ in the sense in which it is used in innovation and sustainability research (e.g. Liedtke *et al.*, 2012). And although we draw some concepts from the laboratory studies literature, that body of work has different assumptions and goals than ours, e.g. we are not deconstructing the meaning of economic laboratories or of scientific research (Latour and Woolgar, 1979).

<sup>5</sup> Similarly, Miller and O’Leary (1994, p. 491) define laboratories as, ‘locales in which attempts are made to act upon and transform the world by means of diverse instruments, ideas, and calculations’.

laboratories [lies] in *grounding* and *constraining* knowledge practices' (Weintraub, 2007, p. 274; emphasis added). This idea of a site for invention and intervention, grounded and constrained through controlled efforts, is the foundation of our analogy.

In the natural sciences, laboratories *ground* research through repeated testing and corresponding trial and error, which hopefully lead to refined assumptions and measurements, better controls, etc. In the social sciences, the history of ideas provides a definite space economists can use to ground their ideas and 'find their bearings' (Goodwin, 2018, p. 5893), a space in which theories are repeatedly examined, compared, critiqued, combined and developed using the past (Waterman, 1997). History of thought is a 'testing-ground for methodology' (Backhouse, 1992, p. 28). We 'experiment' with theories in the sense that we subject them to tests of truth and relevance.

*Constraint* (containment) is also important because experiments are in some sense discrete and subject to the control of the researcher. In the natural sciences, this is done through the physical direction of matter and energy. In economics, historical ideas are constrained in the sense that they were produced in the past and are thus fixed in time. Economists survey historical texts just as scientists survey their available physical materials and lab equipment. No matter their exact period of origin, they exist for contemporary economists as synchronic lab specimens. Economists have control over these materials (e.g. texts), which they examine, compare, critique, combine and develop, in 'a contained development of economic theorizing' (Dixon, 2011, p. 5).

A possible objection to this laboratory approach is that it is not related to HET specifically: the logic of the lab that we suggest could apply equally well to theory in general, without any need for history. This view has essentially been proposed by economists such as Robert Lucas. However, it is open to the criticisms raised above: if economics is a living thing, and if the boundaries between doing economics and doing HET have been drawn too sharply, then the two are part and parcel of the same scientific endeavour. Adam Smith may be long dead, but his ideas still exist synchronously with ours. A similar point has been argued by Mark Blaug (see below on both Lucas and Blaug). If anything, what this objection shows is that HET deserves a place in the larger economics profession.

In any case, the essence of the laboratory approach has been hinted at through the decades, apparently independently, by a variety of economists who 'were committed to understanding problems through use of HET as an analytical device [and who] saw HET as heuristically significant' (Goodwin, 2018, p. 5892). Yet none of them developed it at any length. In the next section, we survey these early hints and distil them into a more robust account of the historical laboratory.

## 4. Origins of the living laboratory approach

### 4.1 Frank A. Fetter and Lord Lauderdale

The first explicit mention of the laboratory analogy of which we are aware dates to the 1940s, to a paper by Frank A. Fetter that appeared in the *American Economic Review*. It was a study of the macroeconomic doctrines of the Earl of Lauderdale (James Maitland, 1759–1838), doctrines that Fetter rescued from near-oblivion only to sharply criticise as naïve proto-Keynesianism (Fetter, 1945). He justified this seemingly strange approach on the grounds that HET is a laboratory in which both failed and successful experiments are valuable:

Something of worth to present thought is, therefore, often to be gained by a restudy of past opinions, even though the first result may seem to be merely to expose their error. Showing that a thing cannot be done in a way that looks promising is often a service of laboratory research second only in value to showing how it can be done. *The history of economic thought is the experimental laboratory of economics, or as near to that enviable agency of the physical sciences as social students are able to come.* In view of the overshadowing importance of the business-cycle problem and of the place of the oversaving theory in its discussion; in view of the staggering volume of public debt and of influential opinions favoring its permanency; in view of the doctrine of the mature economy and its relation to the oversaving theory, this examination of Lauderdale's original ideas may have not merely antiquarian interest, but may be of practical pertinence in the consideration of contemporary problems. (Fetter, 1945, p. 283; emphasis added)

Economics offers 'experiments' in the form of historical artefacts economists can use as raw materials for theorising. Some experiments we regard as successes and some as failures, but both are valuable because scientific progress occurs through trial and error. Fetter was not a Whig theorist, and he also did not believe economics was a natural experimental science in which the scientific method could be applied straightforwardly to ensure linear progress. However, he did think that by revisiting past theoretical experiments, even failed ones, economists could gain insights for modern research.<sup>6</sup> Lauderdale's case was an early experiment in macroeconomic theorising that, in Fetter's view, could be proved a failure by reason and empirical evidence. Yet it was crucial to remember it for the same reason it is crucial to keep complete records of any experiment: without them, we cannot track progress and accumulate knowledge. In Eric Schleisser's words,

evidence is never discarded forever and is thus historical in nature... [H]istory enters in the current research practice of science... as a source of "the data." Here "the data" is not so much understood as the Quine-ian "tribunal" in front of which theory is held accountable or which it is "tested" against; it is seen rather as one of the sources of the generation of theories and their continuous, ongoing development. (Schleisser, 2008, pp. 105-106)

Hence, the importance of HET as a living thing: if we view it as integral to economics, it follows that it has a role to play in theory development alongside the most recent innovations—both are examples of raw materials for theorising. And all exist synchronously from the perspective of theory development. Lauderdale was in a sense contemporary with Fetter, and Fetter is likewise contemporary with us. The role of the historian of economic thought 'is similar to that of comparative literary studies, or general cultural criticism, with a focus on the texts or models or theories of evidence of economists instead of the canvasses of painters, or... the experiments and lab records of biologists' (Weintraub, 1989, p. 491). The materials used for experiments in HET may be different from those used in other types of economic research, but they are no less important.

In fact, if anything, studying the history of ideas has an advantage over a myopic focus on only the most recent trends, because the historical record already exists and

<sup>6</sup> Perhaps ironically, some contemporary researchers who argue against the idea of literal economic laboratories also express views similar to the living laboratory approach when it comes to HET. For example, Steven Kates clearly states that 'There are no laboratory experiments in economics', yet he also uses the imagery of the laboratory when pointing out that HET has 'the effect of putting existing ways of looking at economic issues under the microscope' (Kates, 2013, p. 125). Waterman also denies the existence of experiments that can answer the 'big' questions of economics, yet observes that doing HET is just as fun as 'playing with test-tubes and computers' (Waterman, 1997, p. 248).

does not need to be created anew with each research project. In the Lauderdale example, his failed experiment relied on ideas that were prominent in the 1940s under different names: in Fetter's view at least, there was already an established experimental record available in which these ideas had been tested.

#### 4.2 Joseph Schumpeter, scientific method, and scientific vision

Joseph Schumpeter also approached the living laboratory view. As he explains, the history of economics is important because,

our minds are apt to derive new inspiration from the study of the history of science. Some do so more than others, but there are probably few that do not derive from it any benefit at all. A man's mind must be indeed sluggish if, standing back from the work of his time and beholding the wide mountain ranges of past thought, he does not experience a widening of his own horizon... But, besides inspiration every one of us may glean lessons from the history of his science that are useful, even though sometimes discouraging. We learn about both the futility and the fertility of controversies; about detours, wasted efforts, and blind alleys; about spells of arrested growth, about our dependence on chance, about how not to do things, about leeways to make up for. We learn to understand why we are as far as we actually are and also why we are not further. And we learn *what succeeds and how and why*. (Schumpeter, 1954, pp. 4-5; emphasis in original)

Schumpeter's account nicely captures the experimental or laboratory aspects of HET. In addition, his broader view of the development of scientific procedure contains similar hints:

[T]he general science of science... is not only applied logic but also a laboratory for pure logic itself. That is to say, scientific habits or rules of procedure are not merely to be judged by logical standards that exist independently of them; they contribute something to, and react back upon, these logical standards themselves. To convey the point by the useful device of exaggeration: a sort of pragmatic or descriptive logic may be abstracted from observation and formulation of scientific procedures—which of course *involve*, or merge into, the study of the history of sciences. (Schumpeter, 1954, p. 5; emphasis in original)<sup>7</sup>

Importantly, in this quote Schumpeter is speaking about scientific procedures rather than the theories derived from them. He is not, therefore, addressing the same issue of theory development that we are proposing in the living laboratory. Nevertheless, the logic of his claim about the relationship between scientific methods and the history of science can reasonably be applied to economic theory.

Schumpeter's notion of scientific 'vision' evokes similar themes:

[I]n order to be able to posit to ourselves any problems at all, we should first have to visualize a distinct set of coherent phenomena as a worth-while object of our analytic efforts... [A]nalytic effort is of necessity preceded by a preanalytic cognitive act that supplies the raw material for the analytic effort... called Vision. It is interesting to note that vision of this kind not only must precede historically the emergence of analytic effort in any field but also may re-enter the history of every established science each time somebody teaches us to *see* things in a light of which the source is not to be found in the facts, methods, and results of the preexisting state of the science. (Schumpeter, 1954, p. 41; emphasis in original)

Schumpeter wrote about vision as a foundation of economic analysis, but his idea also expresses the laboratory function of HET. First, HET reveals the 'worthwhile... coherent

<sup>7</sup> Schumpeter's *History of Economic Analysis* (1954) was being drafted at the same time Fetter was working on his own book on HET, of which his paper on Lauderdale was to be one chapter (Fetter, unpublished).



phenomena' and 'raw materials' on which theorising depends. Second, careful study of HET allows us to revisit these foundations by enabling us to 'see things in a light of which the source is not to be found in the facts, methods, and results of the preexisting state of the science' (*ibid.*). This last captures the essence of the living laboratory. Notably, vision is practically inseparable from ideology, which 'enters on the very ground floor, into the preanalytic cognitive act [vision]... Analytic work begins with material provided by our vision of things, and this vision is ideological almost by definition' (Schumpeter, 1954, p. 42). Yet Schumpeter also optimistically states that 'the rules of procedure that we apply in our analytic work are almost as much exempt from ideological influence as vision is subject to it' (Schumpeter, 1954, p. 43). In fact, he asserts confidently that dispassionate scientific method will 'crush out ideologically conditioned error' (Schumpeter, 1954, p. 43). In other words, although his view of HET does have similarities to and tangencies with the living laboratory, his faith in abstract scientific method led him to more whiggish conclusions.

#### 4.3 Mark Blaug and economic humility

Nearly two decades after Schumpeter wrote, Mark Blaug took the laboratory metaphor a step further in the final pages of his *Economic Theory in Retrospect*, using it to emphasise the need for humility in economics, and for acknowledging the inescapable influence of the history of ideas:

One justification for the study of the history of economics, but of course only one, is that it provides a more extensive 'laboratory' in which to acquire methodological humility about the actual accomplishments of economics. Furthermore, it is a laboratory that every economist carries with him, whether he is aware of it or not. When someone claims to explain the determination of wages without bringing in marginal productivity, or to measure capital in its own physical units, or to demonstrate the benefits of the Invisible Hand by purely objective [i.e., without resorting to subjective value judgments] criteria, the average economist reacts almost instinctively but it is an instinct acquired by the lingering echoes of the history of the subject. (Blaug, 2013, p. 704)<sup>8</sup>

In this version, the laboratory functions as a way of keeping economists grounded and avoiding mistaken claims of originality or inflated assertions of significance.<sup>9</sup> It is also noteworthy that Blaug describes the history of thought as a 'more extensive' laboratory, implying the existence of a less extensive version. That version most likely refers to contemporary theorising without the benefit of history. In other words, Blaug too is suggesting that the history of ideas provides a richer and more expansive range of knowledge and 'tools' for economists to use. It is a crucial part of the economic record that gives us far more material to work with when determining the successes and failures of economic theory.

<sup>8</sup> This passage was added in the second edition of the book and appears in all subsequent editions. In its earlier forms, however, the final sentence included the added example of an economist who tries to 'specify a macroeconomic model without writing all the variables in all the equations' (Blaug, 1968, p. 682).

<sup>9</sup> Ekelund and Hébert echo the views of Fetter and Blaug:

[A] study of the historical aspects of economic analysis forces a rethinking of the foundations of theoretical ideas which we (often too uncritically) accept today. The achievements, capabilities, and limitations of theory and of the discipline are thereby exposed. A knowledge of past 'dead ends' in analysis is also important in lowering the probability of error in the development of contemporary analysis. Positive (or unfinished) avenues of attack are often suggested in history of thought. (Ekelund and Hébert, 1975, p. 11)

In addition, Blaug emphasises the living and even inescapable nature of the history of ideas. His version of the laboratory expands and strengthens Kenneth Boulding's notion of the extended present. Boulding suggested that the extended present had limits and was malleable to some extent. For example, Adam Smith was likely to be a part of the extended present for many decades; nevertheless, in Boulding's view, someday, he would pass out of it and become irrelevant. Blaug, however, implies that the extended present is more permanent: Adam Smith is always with us, whether we like it or not.

#### 4.4 Robert Lucas and macro policy

Robert Lucas also used the laboratory metaphor, albeit in a different way, in a 1980 discussion of business cycle research:

One of the functions of theoretical economics is to provide fully articulated, artificial economic systems that can serve as laboratories in which policies that would be prohibitively expensive to experiment with in actual economies can be tested out at much lower cost. (Lucas, 1980, p. 696)

Although this comment appears in a discussion of historical macroeconomic doctrines, Lucas's use of the laboratory metaphor referred to formal theoretical economics, not HET. This is because he took the Whiggish view that technical and computational advances are the crucial enablers of new insight. His thus rejects the kind of laboratory suggested by Fetter, Schumpeter and Blaug. His view is more like a distortion of the laboratory that narrows it and subjects it to arbitrary gatekeeping.

If anything, Lucas's point about using theory to test policy hints at the HET laboratory in an ironic way. Writing in 1980, Lucas could not have foreseen that the macroeconomic theories that were then rising to prominence would help guide monetary policy in the following decades, and would play a role in creating the financial crisis of 2007–08 and ensuing Great Recession (e.g. Boettke *et al.*, 2014). HET, however, could have provided the laboratory in which to test those macro theories; in fact, it did, especially for those economists in heterodox traditions who were vocal critics of the macro theories of the 1980s, 1990s and early 2000s. Economists interested in the works of Hayek, Minsky and others rang early warning bells and were among the first to develop plausible accounts of the origins of the crisis (Boettke *et al.*, 2014). In other words, attention to HET could have incurred far lower costs than theorising in the historical blind.

#### 4.5 Summary of the living laboratory approach

The idea of living history breaks down the barriers between old and new in economics. This paves the way for viewing HET as a laboratory in which doctrines of all eras can be examined synchronously as part of the experimental record of economic ideas. In this sense, HET functions as a uniquely contained or controlled space for evaluating theories. It stands in contrast to the most recent advances, which are still developing and are therefore open-ended. In other words, HET is a method of viewing economic questions and of doing economics. It is an 'approach rather than a discipline' (Jolink and Blaug, 2002, p. 153), and it 'plays a much broader and active methodological role in both the development of economic theory and debate between different approaches to developing theory' (Dow, 2020, p. 33). It is a proving ground for theory that encourages humility and relevance. The following section illustrates this laboratory approach using the example of neo-Wicksellian macroeconomics.

## 5. The living laboratory, illustrated: the development of neo-Wicksellian macroeconomics

At least through the early 1990s, there was still widespread acceptance of Milton Friedman's dictum that 'substantial inflation is always and everywhere a monetary phenomenon' (Nelson, 2003, p. 1033). As the decade progressed, New Keynesian dynamic stochastic general equilibrium (NK-DSGE) models began to de-emphasise money, although they remained within a 'neo-monetarist framework' which 'usually comprised a well-defined demand for money, and took the supply of money as an instrument of monetary policy' (Clerc and Boianovsky, 2023, p. 2). In NK-DSGE models, the monetary authority targets a short-term nominal interest rate and there is therefore no need 'to specify the equilibrium condition for the money market, but... it is lurking in the background. When the central bank decides to change the interest rate, it is also committing itself to change the money supply accordingly' (Mankiw, 2010, pp. 414–415). The money supply thus becomes endogenized in these models with a Taylor-esque monetary policy rule equation replacing the liquidity preference–money supply (LM) equation to solve for the nominal interest rate (Barbaroux, 2008, p. 161).<sup>10</sup>

This was the consensus view that inspired Goodfriend and King (1997) to declare a grand 'New Neoclassical Synthesis' (NNS). NNS combines elements of new classical macroeconomics, real business cycle theory (RBC) and New Keynesian (NK) economics. Significantly, NNS 'also embodies the insights of monetarists, like Milton Friedman and Karl Brunner, regarding the theory and practice of monetary policy' (Goodfriend and King 1997, p. 232). In the neo-monetarist transmission mechanism incorporated into the NNS, changes in the money supply have an indirect effect on the price level and inflation rate through its impact on the 'average mark-up', defined as 'the ratio of the average [monopolistic competitive] firm's price to marginal cost of production' (Goodfriend and King 1997, p. 256).

The publication of Michael Woodford's book *Interest and Prices* (2003) initiated a reconfiguration of the NNS, which involved a jettisoning of the neo-monetarist approach to the monetary policy transmission mechanism.<sup>11</sup> Woodford's stated intention was 'to resurrect a view that was influential among monetary economists prior to the Keynesian revolution... best articulated by the noted Swedish economic theorist Knut Wicksell' (Woodford, 2003, p. 6).<sup>12</sup> In particular, Woodford sought to formulate a monetary policy rule that does not entail 'control of a monetary aggregate' but rather

<sup>10</sup> As Fischer notes, 'the money stock dropped out of many models in the 1980s because standard relationships between money and real variables became unstable and because money aggregates became difficult to control' (Fischer, 2016, p. 15).

<sup>11</sup> To avoid potential confusion, we note here that Woodford's version of the New Neoclassical Synthesis (NNS) does not differ from what has been called the 'New Consensus Macroeconomics' (NCM). Woodford (2003, 2009, 2022) borrowed the former term from the seminal article by Goodfriend and King (1997), and it has since been widely adopted by neo-Wicksellians. NCM is the term applied to the Woodfordian position by heterodox critics, including post-Keynesians, Circuitists and other proponents of the endogenous money view (Fontana, 2006, 2009; Arestis and Sawyer, 2008; Arestis, 2009), although the term seems to have been coined by the neo-monetarist Laurence Meyer (2001). Both terms refer to the now standard NK-DSGE model composed of a modified IS curve, a Phillips curve, and a Taylor-esque monetary policy equation (Woodford, 2003; Fontana, 2009). According to Fontana (2006, p. 270), 'Basically, the "New Consensus" view endorses a modified version of the old neoclassical synthesis... New Keynesian scholars have accepted and built on the dynamic stochastic general equilibrium (DSGE) proposed by New Classical scholars in the 1970's and 1980's'.

<sup>12</sup> Woodford (2003, p. 6) mentions others influenced by Wicksell who also articulated this view, including Wicksell's 'followers in the Stockholm school' Erik Lindahl and Gunnar Myrdal, as well as Friedrich Hayek.

follows Wicksell in considering ‘monetary policies that are described in terms of rules for setting a nominal interest rate’ (Woodford, 2003, p. 31).

What is important for our purposes is that Woodford’s conscious use of the history of economic thought to gain new insights into the theory of monetary policy not only led to a revolution in macroeconomic modelling but initiated a series of fruitful debates on fundamental concepts and doctrines in contemporary macroeconomics. Perhaps more significant, it also inspired a re-examination and clarification of the exact nature of Wicksell’s original contribution and its development by one of his early followers, Ludwig von Mises, which can generate further implications for current macroeconomic research (cf. also Bellofiore, 1998 for some commentary).

The latter, in effect, represents an attempt to use these historical artefacts as raw materials for experimenting with new theories. While the orthodox quantity theory branch of Fisher, Cassel, and Hawtrey proved hardy and engendered offshoots that flourished throughout the twentieth century, the non-neutral money branch of Mises, Hayek, and the Stockholm school became stunted, withering and almost dying off by the late 1930s. Woodford’s contribution, like others after it (Boettke *et al.*, 2021) recognised the living nature of the latter tradition, and the need to include it in his theoretical laboratory where the ideas could be examined, combined and developed anew.

What distinguishes Woodford’s version of the NNS from the original version is the absence of real balance effects because in the Woodfordian framework ‘money does exist but has only a single actual function, namely that of unit of account’ (Clerc and Boianovsky, 2023, p. 4; also see Barbaroux, 2008, p. 161). Put another way, Woodford formulates a theory of monetary policy for a central bank ‘within a decision-making framework in which the role not just of high-powered money, but of monetary aggregates in general... is by-passed’ (Laidler, 2006, p. 151). As Barbaroux perceptively notes, ‘what macroeconomics remembers today from Wicksell is the cashless framework. This is precisely what allows Woodford to define his own work under the label of *Neo-Wicksellian*’ (Barbaroux, 2008, p. 157; emphases in original). Using Wicksell’s analytical construct of a ‘pure credit economy’,—or ‘cashless economy’ in Woodford’s terminology—opens the door to attributing the cause of inflation to a discrepancy between two interest rates, the natural rate and the market rate, ‘which can be eliminated by the use of an interest rate feedback rule’ (Barbaroux, 2008, p. 157n3).<sup>13</sup>

Woodford’s neo-Wicksellian revival generated controversy about the importance of the real balance effect in modern theory. Laidler, for example, argued that even if the demand for money function lacks sufficient stability ‘to provide a fulcrum for the conduct of policy, that does not mean that the interaction of the demand and supply of money does not lie at the heart of the policy transmission mechanism’ (Laidler, 2006, p. 154). Nelson, in contrast, contended that leading monetarists such as Friedman, Schwartz, Brunner and Meltzer held ‘that there are many transmission channels of monetary policy’ and did not ‘claim importance for the real balance effect’ (Nelson, 2003, p. 1047). According to Nelson, therefore, the importance of the money stock is not due to its direct impact on aggregate demand via the real balance effect, ‘but because money can serve as an index of the “spectrum of rates” [of return on financial and real assets]’ (Nelson, 2003, p. 1047). Thus, Nelson states, ‘a monetarist model

<sup>13</sup> Similarly, Fontana has characterised Woodford’s contribution as ‘a modern restatement and development of Wicksell’s two-interest-rate analysis, as famously set out in [Wicksell’s] *Interest and Prices* when discussing the case of a “pure credit economy”’ (Fontana, 2007, p. 45). Tamborini described it as ‘a modern restatement and refinement of Wicksell’s interest-rate theory of prices’ (Tamborini, 2006, p. 1).

does not require the existence of the real balance effect or any explicit term involving the money stock in the IS equation'. The responses to Woodford's de-emphasising of monetary aggregates and real balance effects were part of a much broader debate about the extent to which Woodford's neo-Wicksellian framework is compatible with monetarism (Barbaroux, 2008, pp. 164–167). This in turn led to attempts by both the neo-monetarist critics of Woodford, including Meyer (2001), Nelson (2003), Laidler (2006) and McCallum (2005), and Woodford (2008) himself to attempt to clarify and reassess the essential features of monetarism. Thus, in addition to providing a breakthrough in the contemporary theory of monetary policy, the results that Woodford obtained from his experimentation in the HET laboratory elicited commentary that gave 'birth to a new debate on the nature of monetarism' (Barbaroux, 2008, p. 165).

Important as they were, these developments in modern theory did not exhaust the effects of Woodford's laboratory research. Woodford's adoption of the label 'neo-Wicksellian' to denote the policy transmission mechanism central to his version of the NNS sparked renewed research into Wicksell's contribution to monetary economics and, further, into the reactions of his contemporaries in the Stockholm and Austrian schools. This research raised doubts about the extent to which Woodford's NNS model is genuinely Wicksellian. Laidler pointed out that, in contrast to Woodford's model, 'Wicksell's pure credit economy is not a moneyless economy' because Wicksell did not consider checkable deposits to be money although they were indeed held and used as a medium of exchange (Laidler, 2006, p. 154). In the pure credit economy, therefore, it was shown by Wicksell and others who held a two-interest rate theory of monetary policy transmission that 'the interaction of supply and demand for deposit-money along quantity theoretic lines, can continue to play a key role in the transmission of monetary impulses' (Laidler, 2006, pp. 153–154).<sup>14</sup> Amato was most emphatic about the distinction between Wicksell's and the neo-Wicksellians' accounts of inflation dynamics with respect to the role of the money stock and real balance effects, arguing that 'Even though it is the real rate gap that 'gets the ball rolling', price increases do not occur... without the expansion of deposits by banks... [P]rice movements occur entirely through real balance effects' (Amato, 2005, p. 5). These differences were further analysed based on a more fundamental and broad-based *equilibrium* distinction by Tamborini (2006).

The attempt to delineate the differences between Wicksell and the neo-Wicksellians in conjunction with empirical research into variations in the natural rate of interest (NRI) stimulated a flurry of new activity in the HET laboratory. One new experiment involves testing whether the evolution of Wicksell's *original* concept of the NRI and Ludwig von Mises's refinement and incorporation of Wicksell's two-interest-rate mechanism into business cycle theory can resolve empirical challenges to neo-Wicksellian DSGE models. As Nadal de Simone (2023) points out, empirical research has revealed inconsistencies with the theoretical foundations of these models. He thus undertakes a rigorous assessment of Woodford's interpretation of Wicksell's concept of the NRI and concludes that 'Woodford's definition of Wicksell's NRI is incompatible with Wicksell's views on the NRI, and that consequently, more attention may need to be paid both to

<sup>14</sup> Humphrey (1997, p. 78) had earlier described Wicksell's analytical construct as a 'mixed cash-credit economy', as 'Wicksell sought to supplement the quantity theory with a description of the mechanism through which monetary equilibrium is disturbed and subsequently restored in mixed cash-credit, or currency-deposit, economies'.

the evolution of the NRI concept in Wicksell's thinking and to its key differences with von Mises' business cycle theory' (Nadal de Simone, 2023, p. 6).

This research does not refer to 'a mere historical curiosity' but suggests a radical new test for modern macroeconomic theory in the HET laboratory. In effect, Nadal de Simone wants to bring together in the theoretical laboratory the Hicks-Hansen-Samuelson equilibrium branch of macroeconomics and the now withered branch of the disequilibrium business cycle theories of the Austrian, Stockholm and (pre-*General Theory*) Cambridge schools. How much this research in the doctrinal laboratory will attract fellow researchers and revitalise the latter theoretical approach, we cannot yet tell. What is clear to us, however, is that the history of economic thought has been a crucial laboratory in macroeconomic theory over the past two decades.

## 6. Discussion

### 6.1 *Advantages of the living laboratory approach*

In exploring the living laboratory approach, we are recommending more than simply a passive switch in the way we conceptualise HET. We are also suggesting a more active change: making a conscious choice to embrace HET as a way of doing economic theory—recognising that it offers this opportunity, and serves this purpose. The living laboratory represents one way that historians of thought can make the case for their relevance to the mainstream. As exemplified in the case of neo-Wicksellian macro, it is possible to bridge the gap between HET and economics generally. Of course, we are not suggesting that this approach is a panacea for the mainstream decline of HET, which has no quick and easy solution. Nevertheless, it provides both rhetorical and practical grounds on which to constructively promote HET—in other words, it is a start. Along these lines, there are several advantages of adopting the living laboratory approach that we believe can help ease tensions inside and outside contemporary HET.

First, the living laboratory view takes a conciliatory approach to the relationship between historians of economic thought and mainstream economists. Other scholars have observed that it is unlikely that either side will positively engage with the other if each perceives the opposition as permanently antagonistic critics with an axe to grind (Weintraub, 2002, p. 6; Lodewijks, 2003). Yet by looking at HET as a living, vital way to do economic theory, the laboratory approach expands the horizons of theorising by offering a wider and richer range of 'experiments' available to economists of all stripes. It opens rather than closes avenues of investigation. Of course, this is not to say that HET cannot be critical of work in the mainstream: quite the contrary. As an example, some scholars argue that heterodox economists should not consider themselves solely as 'internal dissenters' (Bellofiore, 2018, p. 71) simply encouraging pluralism while carving out a space for heterodoxy in specialised journals. The task of heterodoxy, these writers argue, should not be to struggle for a lukewarm pluralism, but to embrace a stronger, bolder and more 'heretical', effort to replace the mainstream with new theories (Bellofiore, 2018, pp. 67, 71–72), through collaboration between heterodox streams, through critique and through teaching.<sup>15</sup> If pluralism is taken as an end in itself, it runs the risk of multiplying mutually inconsistent and unsatisfactory theories. Instead, pluralism 'works' to the extent that it allows economists to avoid the dual traps of dogmatism and eclecticism. If the differences between mainstream and

<sup>15</sup> We are grateful to two anonymous reviewers for suggesting that we include a more nuanced account of the role of pluralism and heterodoxy.

heterodox are fundamental and conflictual, pluralism may be insufficient, and a ‘revolution’ is necessary, much like those proposed by works like Bohm-Bawerk’s *Capital and Interest*, Schumpeter’s *History of Economic Analysis*, or Sraffa’s *Production of Commodities by Means of Commodities: Prelude to a Critique of Economic Theory* (Bellofiore, 2018). Whatever the case, our approach seeks to bring economists of all stripes into a more expansive, unified laboratory in which to develop and debate theory. In this setting orthodoxy and heterodoxy each have a place and a voice, and the barrier between them can be softened (see also Bellofiore, 1994, p. 134).

Second, embracing the ethos of the laboratory also helps address a long-standing controversy: the problem of using HET only to adore or to savage past economists (Boulding, 1971; Heilbroner, 1979; Boettke *et al.*, 2014, p. 539). Yet as Fetter explained, the laboratory necessarily includes both failed and successful experiments, *both of which contribute to advancing knowledge*, especially when taken together with a faithful reconstruction of the context of the different theories and the specific methods of their authors (Bellofiore, 2018). In Fetter’s words, ‘Showing that a thing cannot be done in a way that looks promising is often a service of laboratory research second only in value to showing how it can be done’ (Fetter, 1945, p. 283). This runs counter to the more conventional view in which, ‘The value of discarded error is set at close to zero’ (Kates, 2013, p. 2). The ethos of the laboratory thus diffuses some of the tension around competing ideas by emphasizing these dual sources of insight. It provides perspective, or what Warren Samuels describes as ‘a sense of distance without alienation’ (Samuels, 1974, pp. 307–308).

The spirit of the laboratory is one of exploration and discovery; recognising that success and failure each have their uses makes it easier to find value within the process of researching and not merely in arriving at a particular conclusion.<sup>16</sup> It also discourages blanket acceptance or rejection of thinkers and theories in favour of recognising the intermingling of insight and error, and understanding that economic theory today must grapple with its doctrinal antecedents and the inherent difficulties, contradictions, achievements and shortcomings it may have thus inherited. As an example, Fetter’s critique of Lauderdale was written alongside a book chapter on Lauderdale’s value theory in which Fetter recognised some useful criticisms of Adam Smith and the seeds of a more subjectivist theory (Fetter, unpublished). Edwin Cannan, a harsh critic of the classical economists, also recognised and praised their accomplishments (O’Brien, 1999). Contemporary economists can likewise benefit from the living laboratory view if it leads to a more collaborative and less insular attitude amongst groups or ‘schools’. Our illustration of neo-Wicksellian macro provides a useful example of a laboratory that brought together a wide range of economists from many different theoretical and ideological perspectives. To take some other recent examples, Austrians can acknowledge institutionalist perspectives on capital (Hodgson, 2019) or work toward synthesis with Chicago’s monetary economics (Salin, 2022); post-Keynesians can accept insights from Austrians on pricing and the firm (Machaj, 2018); and the economic mainstream can take more seriously the challenges of evolutionary dynamics and uncertainty emphasised by heterodox economists and business school researchers (Pitelis and Runde, 2017).<sup>17</sup> This is all much easier said than done, of course, but the

<sup>16</sup> This hints at a further analogy with economic theory itself: between history of economic thought theorising (a process approach) on the one hand, and Whiggish theorising (an equilibrium approach) on the other. Exploring this analogy is beyond the scope of this article; however, cf. Goodwin (1972, esp. p. 411).

<sup>17</sup> See also the articles in the special issue of the *Cambridge Journal of Economics* for May 2017, available at: <https://academic.oup.com/cje/issue/41/3>.

laboratory is nevertheless a worthwhile ideal toward which we can strive, even if we have no hope of achieving perfection. Doing so may also help encourage scholars to migrate to HET for its intrinsic interest and value, as opposed to those ‘refugees’ who use it to advance a thinly veiled ideology (Goodwin, 2002).

Third, the living laboratory carries implications for the ongoing debate about how to position HET in relation to economics generally, especially the question of which institutions or university departments provide the best home for it. HET is not best preserved by moving it out of economics altogether and into the history of philosophy or the philosophy of science (Hamilton, 1962; Winch, 1962, pp. 203–204; Schabas, 1992; and to some extent, Weintraub, 2002). HET is a living thing, meaning it is difficult if not impossible to surgically remove it from economics proper without damaging both. Such an approach would also ensure (in fact, has ensured) that any benefits of HET will be lost to official economics departments: it is equivalent to carting off half the lab equipment while in the middle of an experiment. In this situation, HET is likely to become focussed on highly specialised minutiae for their own sake, in turn making it even more insular and irrelevant to mainstream research (in much the same way that mainstream theory has itself become hyper-specialised).

Yet we also differ from those who recommend keeping HET as a separate subfield within economics (cf. Marcuzzo and Rosselli, 2002; Kates, 2013). Even if this is sometimes useful for practical purposes (e.g. in JEL classifications), in our view, the benefits of embracing HET will diminish the more that historians self-consciously identify as doing something fundamentally different than ‘normal’ economists. This leads to a kind of self-imposed isolation. In fact, it may be the case that making HET into an independent subfield contributed to its increasing marginalisation (Davis, 2002, p. 75). If we may stretch the metaphor a bit further, HET should be part of a common central laboratory: even though to some extent there will be competition for research space, there will also be space for collaboration. The HET lab deserves better than to be consigned to a dank basement in a building far across campus from the main facilities. We readily acknowledge that marketing HET in this way will still be a hard sell. But it is better than no sale at all.

### 6.2 *Limitations of the living laboratory approach*

Finally, it is appropriate to discuss the limitations of the living laboratory approach and suggest some ways in which it can be developed. First, it is important to note that analogies are by nature imperfect comparisons. They are, moreover, open to misunderstanding, as the history of metaphors in economics readily attests. We must be clear then that in speaking of HET as a laboratory, we are not establishing a strict equivalence. We are especially not suggesting a Whiggish view of economics. The social sciences can never perfectly replicate the type of progress found in the natural sciences—which rely on different purposes, rules, conventions, facts and methods (Emmett, 1997)—nor should they try.

Second, even the idealised image of scientific progress has been questioned repeatedly, for example, in the laboratory studies literature. Economists are certainly no less flawed or biased than natural scientists, and this of course influences the way HET is done (Samuels, 1974, p. 316). There is therefore significant room for extending these studies to the laboratory of HET as well.

Third, because the living aspect of the laboratory breaks down barriers between past and present, it runs the risk of downplaying the difference between ‘historical



reconstructions' and 'rational reconstructions'. If we view texts from throughout the history of economics synchronously, it is easy to fall into the trap of interpreting them only from our own present standpoint. Yet as historians have long argued, it is also important to attempt to understand the past as it was understood by those who lived it. Fortunately, the living laboratory does not trap us in a 'presentist' perspective, and it does allow us to appreciate the value of historical reconstructions; in fact, historical understanding is essentially a way to expand the supply of raw materials for experiments, thus enriching them and increasing the range of questions that can be studied.

Fourth, the laboratory metaphor does not capture everything that HET is or does. There is a large body of research that is not part of the 'experimental' process we have discussed; for example, research on the personal lives of economists that plays no role in past or present theorising. Further, some research is undertaken for its own sake, for intrinsic interest, or for the sheer personal joy it provides to researchers (Samuels, 1997). There should of course be a place in HET for such work, and for other types of studies that do not directly fit within the living laboratory. The unfortunate trade-off is that such works are unlikely to benefit from the advantages of the laboratory view.

## 7. Conclusion

We have offered an alternative way to conceptualise the history of economic thought, one that seeks to remove barriers between it and 'normal' economics. We argued two points in particular: first, HET is a living part of social science rather than a piece of the dead past. Second, it can be conceived as a laboratory of economic theorising in which texts from different eras can be read and worked with synchronously, as with the materials of a physical experiment. A key implication is that HET is more a method of doing economics than a field of study. By explicating it, we hope to encourage additional interest in historical work within the economic mainstream while also promoting a more conciliatory relationship between what are rapidly becoming two very different types of economists.

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## Bibliography

- Alvargonzález, D. 2013. Is the history of science essentially Whiggish?, *History of Science*, vol. 51, no. 1, 85–99.
- Amato, J. D. 2005. 'The Role of the Natural Rate of Interest in Monetary Policy', BLS Working Papers No. 171. [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=699221](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=699221)
- Arestis, P. 2009. 'New Consensus Economics: A Critical Appraisal', Levy Economics Institute Working Paper No. 564 (May). [https://www.levyinstitute.org/pubs/wp\\_564.pdf](https://www.levyinstitute.org/pubs/wp_564.pdf)
- Arestis, P. and Sawyer, M. 2008. A critical reconsideration of the foundations of monetary policy in the new consensus macroeconomics framework, *Cambridge Journal of Economic*, vol. 32, no. 5, 761–79.
- Backhouse, R. E. 1992. How should we approach the history of economic thought, fact, fiction or moral tale?', *Journal of the History of Economic Thought*, vol. 14, no. 1, 18–35.
- Backhouse, R. E. 1994. Why and how should we study the history of economic thought?', *History of Economic Ideas*, vol. 2, no. 2, 115–23.
- Barbaroux, N. 2008. The Wicksellian Flavour in macroeconomics, *Perfil de Coyuntura Económica*, vol. 11, no. 1, 155–70.
- Bellofiore, R. 1994. History of economic thought as a problem, *History of Economic Ideas*, vol. 2, no. 2, 124–46.

- Bellofiore, R. 1998. Between Wicksell and Hayek: Mises' Theory of money and credit revisited, *American Journal of Economics and Sociology*, vol. 57, no. 4, 531–78. doi:10.1111/j.1536-7150.1998.tb03380.x
- Bellofiore, R. 2018. Eleven theses on political economy and “Rethinking Economics”: the role of the history of economic thought in the ‘Italian Tradition’, pp. 65–74 in Tavasci, D. and Ventimiglia, L. (eds), *Teaching the History of Economic Thought*, Cheltenham, UK, Edward Elgar. doi:10.4337/9781788113489.00009
- Blaug, M. 1968. *Economic Theory in Retrospect*, 2nd ed., Homewood, IL, Richard D. Irwin.
- Blaug, M. 2001. No history of ideas, please, we’re economists, *Journal of Economic Perspectives*, vol. 15, no. 1, 145–64.
- Blaug, M. 2013. *Economic Theory in Retrospect*, 5th ed., Cambridge, Cambridge University Press.
- Boettke, P. 2001. F.A. Hayek as an intellectual historian of economics, pp. 117–27 in Medema, S. and Samuels, W. (eds), *Historians of Economics and Economic Thought: The Construction of Disciplinary Memory*, New York, Routledge.
- Boettke, P. J. 2002. The use and abuse of the history of economic thought within the Austrian School of Economics, *History of Political Economy*, vol. 34, no. 5, 337–60.
- Boettke, P. J. 2012. *Living Economics*, Oakland, CA, Independent Institute.
- Boettke, P. J. 2018. *F.A. Hayek: Economics, Political Economy and Social Philosophy*, London, Palgrave Macmillan.
- Boettke, P. J., Coyne, C. J. and Leeson, P. T. 2014. Earw(h)ig: I can’t hear you because your ideas are old, *Cambridge Journal of Economics*, vol. 38, no. 3, 531–44.
- Boettke, P. J., Salter, A. W. and Smith, D. J. 2021. *Money and the Rule of Law: Generality and Predictability in Monetary Institutions*, Cambridge, Cambridge University Press.
- Boulding, K. E. 1971. After Samuelson, who needs Adam Smith?, *History of Political Economy*, vol. 3, no. 2, 225–37.
- Butterfield, H. 1965. *Whig Interpretation of History*, New York, WW Norton & Company.
- Clerc, P. and Boianovsky, M. 2023. ‘Michael Woodford’s Interest and Prices After Twenty Years’. <https://ssrn.com/abstract=4340476>. Accessed 17 January 2025.
- Corry, B. A. 1975. Should economists abandon HOPE?, *History of Political Economy*, vol. 7, no. 2, 252–60.
- Davis, J. B. 2002. The history of economics as a subdiscipline: the role of the history of economics society meetings, *History of Political Economy*, vol. 34, no. 5, 62–76.
- Dixon, W. 2011. From Ricardo to Keynes: a history of economic thought as a laboratory for understanding the interaction between economics and economy, paper presented at the annual meeting of the History of Economic Thought Society of Australia. [https://www.hetsa.org.au/hetsa2011/conference\\_papers/hetsa%202011%20-%20paperpdf%20-%20dixon%20-%20from%20ricardo%20to%20keynes.pdf](https://www.hetsa.org.au/hetsa2011/conference_papers/hetsa%202011%20-%20paperpdf%20-%20dixon%20-%20from%20ricardo%20to%20keynes.pdf). Accessed 5 March 2024.
- Dow, S. 2020. The methodological role of the history of economic thought, pp. 21–37 in Marcuzzo, M. C., Deleplace, G. and Paesani, P. (eds), *New Perspectives on Political Economy and its History*, Cham, Switzerland, Palgrave Macmillan.
- Dow, S. C. 2002. History of economic thought in the Post-Keynesian tradition, *History of Political Economy*, vol. 34, no. 5, 319–36.
- Ekelund, R. B. Jr. and Hébert, R. F. 1975. *A History of Economic Theory and Method*, New York, McGraw-Hill.
- Emmett, R. B. 1997. Reflections on “Breaking Away” economics as science and the history of economics as history of science, *Research in the History of Economic Thought and Methodology*, vol. 15, no. 1, 221–36.
- Fetter, F. A. Unpublished. *Development of Economic Theory from Adam Smith to John Stuart Mill*. Frank A. Fetter mss., 1875–1988. Lilly Library, Indiana University Bloomington. Box 12, Folder: Research and Writings, Drafts, Book, Development of Economic Theory, Chapters 1–8.
- Fetter, F. A. 1945. Lauderdale’s Oversaving Theory, *American Economic Review*, vol. 35, no. 3, 264–83.
- Fischer, S. 2016. (Money), Interest and Prices: Patinkin and Woodford, speech presented at a Conference in Honor of Michael Woodford’s Contributions to Economics, New York, New York, USA (May 19). <https://www.federalreserve.gov/newsevents/speech/fischer20160519.htm>.
- Fontana, G. 2006. The ‘New Consensus’ view of monetary policy: a Wicksellian connection? *Intervention, Zeitschrift fuer Okonomie/Journal of Economics*, vol. 3, no. 2, 263–78.

- Fontana, G. 2007. Why money matters: Wicksell, Keynes, and the new consensus view on monetary policy, *Journal of Post Keynesian Economics*, vol. 30, no. 1, 43–60.
- Fontana, G. 2009. ‘Whither New Consensus Macroeconomics? The Role of Government and Fiscal Policy in Modern Macroeconomics’, Levy Economics Institute Working Paper No. 563 (May). [https://www.levyinstitute.org/pubs/wp\\_476.pdf](https://www.levyinstitute.org/pubs/wp_476.pdf).
- Forget, E. L. 1997. Why should a professional economist study the history of economic thought? *Research in the History of Economic Thought and Methodology*, vol. 15, 199–207.
- Freeman, A., Chick, V. and Kayatekin, S. 2014. Samuelson’s Ghosts: Whig history and the reinterpretation of economic theory, *Cambridge Journal of Economics*, vol. 38, no. 3, 519–29.
- Goodfriend, M. and King, R. G. 1997. The new neoclassical synthesis and the role of monetary policy, pp. 231–83 in Bernanke, B. S. and Rotemberg, J. (eds), *NBER Macroeconomics Annual*, Cambridge, MA, MIT Press.
- Goodwin, C. D. 1972. Economic theory and society: a plea for process analysis, *American Economic Review*, vol. 62, no. 1/2, 409–15.
- Goodwin, C. D. 2002. The future of publication in the history of economic thought: the view from HOPE, *History of Political Economy*, vol. 34, no. 5, 179–89.
- Goodwin, C. D. 2018. History of economic thought, pp. 5886–900 in *The New Palgrave Dictionary of Economics*, 3rd ed., London, Palgrave Macmillan.
- Hacking, I. 1992. The self-vindication of the laboratory sciences, pp. 29–64 in Pickering, A. (ed.), *Science as Practice and Culture*, Chicago, University of Chicago Press.
- Hamilton, H. 1962. Mr. Winch’s article: a comment, *Scottish Journal of Political Economy*, vol. 9, no. 2, 205–7.
- Heilbroner, R. L. 1979. Modern economics as a chapter in the history of economic thought, *History of Political Economy*, vol. 11, no. 2, 192–8.
- Hodgson, G. M. 2019. Austrian Economics is still not institutional enough, *Advances in Austrian Economics*, vol. 24, no. 1, 101–10.
- Humphrey, T. M. 1997. Fisher and Wicksell on the quantity theory, *Federal Reserve Bank of Richmond Economic Quarterly*, vol. 83, no. 4, 71–90.
- Jolink, A. and Blaug, M. 2002. A brief history of history of economic thought teaching in the Netherlands, *History of Political Economy*, vol. 34, no. 5, 148–53.
- Kates, S. 2013. *Defending the History of Economic Thought*, Cheltenham, UK, Edward Elgar.
- Laidler, D. 2006. Woodford and Wicksell on interest and prices: the place of the pure credit economy in the theory of monetary policy, *Journal of the History of Economic Thought*, vol. 28, no. 2, 151–9.
- Latour, B. and Woolgar, S. 1979. *Laboratory Life: The Social Construction of Scientific Facts*, Beverly Hills, Sage.
- Leijonhufvud, A. 2006. ‘The Uses of the Past’, Annual Conference of the European Society for the History of Economic Thought, Oporto, Portugal. <https://core.ac.uk/download/pdf/11829511.pdf>.
- Liedtke, C., Welfens, M. J., Rohn, H. and Nordmann, J. 2012. LIVING LAB: user-driven innovation for sustainability, *International Journal of Sustainability in Higher Education*, vol. 13, no. 2, 106–18.
- Lodewijks, J. 2003. Research in the history of economic thought as a vehicle for the defense and criticism of orthodox economics, pp. 655–68 in Samuels, W., Biddle, J. and Davis, J. (eds), *A Companion to the History of Economic Thought*, Oxford, Blackwell.
- Lucas, R. E. 1980. Methods and problems in business cycle theory, *Journal of Money, Credit, and Banking*, vol. 12, no. 4, 696–715.
- Machaj, M. 2018. Costs and pricing: an Austro-Post-Keynesian synthesis?, pp. 191–203 in McCaffrey, M. (ed.), *The Economic Theory of Costs: Foundations and New Directions*, London, Routledge.
- Mankiw, N. G. 2010. *Macroeconomics*. 7th ed., New York, Worth Publishers.
- Marcuzzo, M. C. and Rosselli, A. 2002. Economics as history of economics: The Italian Case in Retrospect, *History of Political Economy*, vol. 34, no. 5, 98–109.
- McCallum, B. 2005. ‘Michael Woodford’s Interest and Prices: A Review Article’, University of Ontario Working Paper. <https://www.semanticscholar.org/paper/Michael-Woodford’s-Interest-and-Prices%3A-A-Review-Mccallum/a33ecd4edb17000a9d11c298e79a0781607c8b01>

- Meyer, L. H. 2001. Does money matter?, *Federal Reserve Bank of St. Louis Review*, vol. 83, no. 5, 1–15.
- Miller, P. and O’Leary, T. 1994. The factory as laboratory, *Science in Context*, vol. 7, no. 3, 469–96.
- Nadal de Simone, F. 2023. ‘The Natural Rate of Interest: An Exploration of the Selective Conceptual Differences between Wicksell and Woodford with Policy Implications’. <https://ssrn.com/abstract=4354536>. Accessed 5 March 2024.
- Nelson, E. 2003. The future of monetary aggregates in monetary policy analysis, *Journal of Monetary Economics*, vol. 50, no. 5, 1029–59.
- O’Brien, D. P. 1999. Edwin Cannan: economic theory and the history of economic thought, *Research in the History of Economic Thought and Methodology*, vol. 17, no. 1, 1–21.
- Pitelis, C. and Runde, J. 2017. Capabilities, resources, learning and innovation: a blueprint for a post-classical economics and public policy, *Cambridge Journal of Economics*, vol. 41, no. 3, 679–91.
- Porta, P. L. 1994. The present as history in economic analysis, *History of Economic Ideas*, vol. 2, no. 2, 165–72.
- Porta, P. L. 2013. ‘What Remains of Sraffa’s Economics?’, Dems Working Paper No. 242. [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2288064](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2288064)
- Salin, P. 2022. The monetary economics of the Austrian School and the Chicago School, *Quarterly Journal of Austrian Economics*, vol. 25, no. 3, 281–96.
- Samuels, W. J. 1974. The history of economic thought as intellectual history, *History of Political Economy*, vol. 6, no. 3, 305–23.
- Samuels, W. J. 1997. The work of historians of economic thought, *Research in the History of Economic Thought and Methodology*, vol. 15, no. 1, 181–97.
- Schabas, M. 1992. Breaking away: history of economics as history of science, *History of Political Economy*, vol. 24, no. 1, 187–203.
- Schliesser, E. 2008. Philosophy and a scientific future of the history of economics, *Journal of the History of Economic Thought*, vol. 30, no. 1, 105–16.
- Schumpeter, J. A. 1954. *History of Economic Analysis*, New York, Oxford University Press.
- Shionoya, Y. 2009. The history of economics as economics? *European Journal of the History of Economic Thought*, vol. 16, no. 4, 575–97.
- Stigler, G. J. 1969. Does economics have a useful past?, *History of Political Economy*, vol. 1, no. 2, 217–30.
- Tamborini, R. 2006. *University of Trento, Department of Economics Working Paper 0602*. [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=932978](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=932978). Accessed 17 January 2025.
- Waterman, A. M. C. 1997. Recycling old ideas: economics among the humanities, *Research in the History of Economic Thought and Methodology*, vol. 15, no. 1, 237–49.
- Weintraub, E. R. 1989. Methodology doesn’t matter, but the history of thought might, *Scandinavian Journal of Economics*, vol. 91, no. 2, 477–93.
- Weintraub, E. R. 2002. Will economics ever have a past again?, *History of Political Economy*, vol. 34, no. 5, 1–14.
- Weintraub, E. R. 2007. Economic science wars, *Journal of the History of Economic Thought*, vol. 29, no. 3, 267–82.
- Winch, D. N. 1962. What price the history of economic thought?, *Scottish Journal of Political Economy*, vol. 9, no. 2, 193–204.
- Winch, D. N. 1983. Jacob Viner as intellectual historian, *Research in the History of Economic Thought and Methodology*, vol. 1, no. 1, 1–17.
- Woodford, M. 2003. *Interest and Prices: Foundations of a Theory of Monetary Policy*. Princeton, NJ: Princeton University Press.
- Woodford, M. 2008. How important is money in the conduct of monetary policy? *Journal of Money, Credit, and Banking*, vol. 40, no. 8, 1561–98.
- Woodward, M. 2009. Convergence in macroeconomics: elements of the new synthesis, *American Economic Journal: Macroeconomics*, vol. 1, no. 1, 267–79.
- Woodford, M. 2022. The new neoclassical synthesis and the role of monetary policy, pp. 323–44 in King, R. G. and Wolman, A. L. (eds), *Essays in Honor of Marvin Goodfriend: Economist and Central Banker*, Richmond, VA, Federal Reserve Bank of Richmond