

Aalborg University Business School

Macroeconomic Methodology, Theory and Economic Policy

(MaMTEP)

Working Paper Series

No. 2, 2026

The Role of Historical Time in Victoria Chick's Reconstruction of Keynesian Theory

Mogens Ove Madsen



BUSINESS SCHOOL
AALBORG UNIVERSITY

The Role of Historical Time in Victoria Chick's Reconstruction of Keynesian Theory

“There are many ways in which economists deal with time, and they may be worth spelling out to see if equilibrium and history are totally irreconcilable or not”,

Victoria Chick (2007)

Abstract

In her groundbreaking book *Macroeconomics After Keynes* from 1983, Victoria Chick draws serious attention to the importance of time perceptions in economic thought. This requires both a critical confrontation with traditional equilibrium-based economics and a fundamental reconsideration of the role and meaning of time within the discipline. Motivated by a desire for economics to be grounded in real-world conditions, Chick highlights the special significance of the concept of historical time. She introduces several approaches to developing and clarifying this concept, including examining the modes of reasoning used in theories, understanding economies as open systems, and drawing inspiration from natural science.

Keywords: Victoria Chick; Methodology: concepts of time

JEL codes: B22, B41, E12

1. Introduction

Victoria Chick has, in many ways, revitalized and developed John Maynard Keynes's economic thinking, particularly through her influential 1983 book *Macroeconomics After Keynes*¹. One of the central themes she highlights is the treatment of the concept of time in economics. Although she acknowledges Keynes's meaningful use of an equilibrium concept, she is deeply concerned with understanding in what sense such a concept can legitimately be applied. To put it differently, and to pose the key question explored in this article:

¹ Olesen (2023) describes how Victoria Chick was a macroeconomist who was greatly inspired by the writings of John Maynard Keynes and has summarized her research interests to cover in particular aspects of monetary theory, banking, and methodology, but she was particularly known for conducting post-Keynesian economic research. See also Lavoie (2020) interview and Geoff Tily (2023).

- How far can the use of an equilibrium concept be stretched in examining an economic process that is constantly changing?

This problem was of central interest to Keynes, and it inspired Chick to pursue further research on economics conducted in historical time. She argues that a theory which merely specifies equilibrium positions is insufficient, since it neglects adjustment processes and causality.

The structure of the discussion that follows is as follows. First, some relevant definitions of time are presented. The intention is then to outline a few predecessors who treated the concept of historical time seriously - most notably Keynes, but also John Hicks and GLS Shackle.

This leads into an examination of Chick's extensive and persistent work on the concept of time and her efforts to bring economic reasoning closer to historical time.

2. Definitions of Time

There is an interesting connection between the Italian economist Valeria Termini², who has worked extensively with time concepts in economics, and Victoria Chick. In fact, Chick commented on Termini's 1981 paper on time concepts, which also forms the starting point here³. Definitions of time serve primarily to clarify concepts and their relationships.

We begin with definitions of logical time, mechanical time, and historical time.

Logical time⁴ refers to a logical structure of relations that connect variables in a single direction, implying a causal sequence among them. A set of foundational variables is defined in a causal order that allows the logical dynamics of the system to be observed. Three features characterize this method:

- Causality is unidirectional, the approach cannot handle changing situations, and most importantly,
- No real temporal reference is included in its laws.
- Only the values of dependent and independent variables in equilibrium states can be compared.

In contrast, the defining trait of mechanical time⁵ is that it implicitly assumes the mechanical extension of a set of invariant relations through time. This approach is not

² Termini, Valeria A. (1981): Logical, mechanical and historical time in economics. Economic Notes, volume 10, no. 3, Munich

³ This of course means that Chick is already familiar with the various concepts of time that can be used in economics at this point.

⁴ Termini (1981), p. 4

⁵ Ibid, p. 6

used to investigate the forces driving a process nor to isolate its logical structure. Rather, its purpose is to describe the process step by step, giving variable values at every intermediate point between two specified times. The method enables us to follow a process as it unfolds precisely because it assumes a mechanical notion of time.

This view parallels Keynes's philosophical inspiration from McTaggart's B-series⁶, which organizes time according to the relations earlier than and later than, properties that are permanent. For example, if event M is earlier than N, it will always be so.

Finally, historical time⁷ is defined by the idea that the past, present, and future are qualitatively distinct, connected by expectations and plans. The future differs qualitatively from the past not simply because of a general state of uncertainty in which the economy operates, but because uncertainty demands analytical relationships capable of addressing it. Variables refer to an uncertain future whose definitions and values depend on subjective evaluations. In addition, functions must explain how economic agents respond to actual outcomes and to changes in expectations and confidence. The process studied is cumulative: the latest value of any variable contains the influence of previous values (both expected and realized) yet does not mechanically determine any future value. Relations grounded in historical time cannot easily be converted into neat and synthetic formulas.

In this context, there is also a parallel to McTaggart's A-series⁸, which includes the properties past, present, and future, characteristics that are temporary rather than permanent. For instance, if an event is present now, it will not always remain present.

These three definitions demonstrate how carefully time must be handled in economic analysis. The following section presents several examples of how time was treated prior to Chick's major contribution. Indeed, working with time takes time⁹.

3. Predecessors before Chick

It is impossible to discuss the treatment of time in economics without mentioning John Maynard Keynes, John Hicks, and G. L. S. Shackle. Their work constitutes a significant part of the attempts to move away from equilibrium thinking and was the intellectual context in which Victoria Chick developed her ideas.

Keynes wrote a short paper on Time in 1903¹⁰, in which he rejected Kant's notion of absolute time. For Keynes, it was impossible to conceive of time independently of

⁶ John Ellis McTaggart (1908): *The Unreality of Time*, p. 458

⁷ Termini (1981), p. 10

⁸ McTaggart (1908), p. 458

⁹ A general introduction to the work with time concepts in macroeconomics can be found in Madsen (2023).

¹⁰ Madsen, Mogens Ove (2012): *Keynes' early cognition of the concept of time and Keynes (1903)*.

change. He recognized that he was touching upon “one of the greatest stumbling blocks in every metaphysical system”¹¹. The paper was written while he was studying mathematics, McTaggart as one of his instructors¹². This philosophical foundation continued to influence his later economic work.

In Keynes’s intellectual inheritance from Marshall, time also plays a significant role. As he famously wrote:

“Unfortunately, Marshall, in his anxiety to push economic theory on to the point where it regains contact with the real world, was a little disposed sometimes to camouflage the essentially static character of his equilibrium theory with many wise and penetrating obiter dicta on dynamical problems. The distinction between the long period and the short period is a first step towards the theory of a moving system”¹³.

The distinction between the short and long run has since become widespread in economic thinking—an implicit introduction of mechanical time. Keynes continued in *A Treatise on Money* (1930):

“... a new step forward ... an advance to an understanding of the detailed behavior of an economic system which is not in static equilibrium. This treatise, in contrast to older work on monetary theory, is intended to be a contribution to this new phase of economic science”¹⁴

This approach carried into his preparatory work for *The General Theory*, where he argued:

“I should, I think, be prepared to argue that, in a world ruled by uncertainty with an uncertain future linked to an actual present, a final position of equilibrium, such as one deal within static economics, does not properly exist”¹⁵

Here Keynes issued a striking challenge to the concept of equilibrium itself.

In *The General Theory*, Keynes¹⁶ shifted to the question of what determines aggregate output and employment. This required a complete theory of a monetary economy. He therefore proposed a division between stationary equilibrium and shifting equilibrium,

¹¹ For further considerations about the complexity of the concept of time see Carabelli and Cedrini (2016, 2018)

¹² The inspiration comes from McTaggart who says in a later and very famous article: “Past, present, and future are incompatible determinations. Every event must be one or the other, but no event can be more than one. This is essential to the meaning of the terms ... For time, as we have seen involves change, and the only change we can get is from futures to present, and from present to past”, McTaggart, 1908, p. 468.

¹³ J. M. Keynes (1930): *A Treatise on Money*, II, p. 365

¹⁴ *Ibid*, p. 365

¹⁵ Keynes in Tilton-papers (1933), *Collected Writings XXIX*, p. 222.

¹⁶ J. M. Keynes (1936), p.293

the latter referring to a system in which changing views about the future influence the present. This represents a movement from mechanical time toward historical time.

Keynes's theory of shifting equilibrium implies high complexity: the economic system shifts along aggregate demand and supply curves while those same curves shift in response to revisions in expectations. As Kregel (1976) argues, Keynes sought through shifting equilibrium to tame the real economic system.

The Keynesian advance did not meet immediate acceptance. As Joan Robinson remarked in 1962:

“The General Theory broke through the unnatural barrier and brought history and theory together again. But for theorists the descent into time has not been easy. After twenty years the awakened Princess is still dazed and groggy”¹⁷

4. John Hicks

One of the fighters against the unnatural barriers was John Hicks¹⁸, who is an example of how the attempt to integrate time, and equilibrium can become a lifelong project. In *Value and Capital* (1939), he offered a framework for theorizing processes in time, but not yet an analysis of the economy as a process in time. In his later work, such as *Capital and Time* (1973), he moved closer to connecting economic history with theory. Here, he introduced a time-path for the model economy—capturing time of succession (events following each other)—but at the cost of losing time of intention, meaning that the role of decision-making was neglected.

Later, in *Causality in Economics* (1980), Hicks advanced an analytical focus on causation through time. In doing so, he went beyond Keynes's *General Theory*, defining it as a model based on contemporaneous causality.

According to Madsen (2018), Hicks devoted his life to introducing an element of humanity into economics, bringing it closer to real-world conditions. This required recognizing the limits of static theory. From his early review of *The General Theory* (1936), he emphasized expectations and noted the need to view time as irreversible. Hicks's continued exploration of time becomes central to understanding how he moved closer to a post-Keynesian interpretation of Keynes.

Throughout his long career, Hicks was keenly aware of the limits of steady-state theory. His humility and self-criticism enabled him to continuously refine his ideas and open new questions, particularly about sequential causality. He left both unanswered

¹⁷ Joan Robinson (1962): *Economic Philosophy*, p. 75

¹⁸ Learn more about John Hicks' time “travel” in Madsen (2018).

challenges and valuable directions for future development. Some of these exceptions were, as will be described later, taken up by Victoria Chick.

5. G. L. S. Shackle

Another important perspective comes from G. L. S. Shackle, especially in *Time in Economics* (1958) and *A Scheme of Economic Theory* (1965). Shackle offered a general framework for classifying economic theories according to their treatment of time. Of special significance is his discussion of Keynes and his movement from Marshallian equilibrium tools to a system grounded in unstable expectations.

Shackle introduced the idea of kaleidics as an alternative to Marshallian equilibrium analysis¹⁹. While the method of *The General Theory* appears to be an equilibrium analysis, its meaning, according to Shackle, is that such rational order is impossible because individuals face an unknown and unknowable future. In the well-known 1937 QJE article, Keynes referred to fundamental or radical uncertainty, summarized in the statement: “We simply do not know.”

To illustrate the instability of expectations, Shackle²⁰ used the metaphor of a kaleidoscope:

A kaleidoscope generates temporary patterns from random fragments, changing suddenly with each movement. The analogy captures Keynes’s method: a sequence of precarious pseudo-equilibria constantly disrupted by new information.

He named Keynes’s method kaleido-statics, describing the economy as repeatedly settling into fragile patterns of expectation - “a card-house of momentary immobility” - until “the news” triggers another disturbance²¹. What Keynes left unexplained, however, were the abrupt transitions between these phases.

Shackle’s work thus marks a preliminary but incomplete movement away from mechanical time toward historical time. It is precisely this challenge that Victoria Chick takes up, and how she develops it will be examined in the next section.

6. The Development of Chick’s Analysis of Time

This review of Chick’s contribution is based on an attempt to outline the historical development of her work, with explicit emphasis on her treatment of equilibrium and time concepts.

¹⁹ See Madsen (2016b) for in-depth analysis of Shackle's concept of time

²⁰ Shackle, GLS (1965): *A Scheme of Economic Theory*, p. 47.

²¹ *Ibid*, p. 48

In *The Theory of Monetary Policy* (Chick, 1973), Victoria Chick sought to provide a theoretical confrontation with Friedman's monetarism from a Keynesian perspective. Part of the comparison is carried out using a standard IS–LM framework to discuss the operation of monetary policy. Although she refers to the short and long run, Chick²² stresses that these distinctions have nothing to do with calendar time; instead, they concern the dual role of investment. The reasoning therefore takes place in logical time.

This changes in a more substantial article, *The Nature of the Keynesian Revolution* (Chick, 1978), where she argues that *The General Theory* concerns macroeconomics, which cannot be reduced to a merely microeconomic foundation, and that it deals with disequilibrium economics. The article also directly challenges Clower's interpretation of Keynes:

“To make the case that Keynes's Revolution lies in his choice of analytical method. Keynes applied a rudimentary process analysis to an economy characterized by a definite sequence of decisions and events through time”²³.

Chick demonstrates that Clower's dual-decision hypothesis is inconsistent with Keynes's method, that it misrepresents household behavior, and that Keynes's analysis cannot be reconciled with general equilibrium theory. She writes:

“... The General Theory presents a model of a production economy, using money, moving through time, subject to uncertainty and the possibility of error”²⁴.

Here, time enters economics in a significant way. Chick refers directly to the work of Joan Robinson and G. L. S. Shackle. The method of economic analysis shifts from solutions based on simultaneous equations to process analysis, especially regarding the interaction between households and firms. She concludes her critique of Clower's Walras-inspired model by stating:

“Walras' Law holds in models constructed so that everything of consequence takes place at a point in time, when all plans of households and firms are made known and mutually agreed. In an ongoing economy there is no such point in time”²⁵.

Chick thus emphasizes that Keynes would reject orthodox teaching by adopting a sequential analysis of decisions and interactions between households and firms.

²² Chick, 1973, p. 3

²³ Chick, 1978, p. 3

²⁴ Ibid.

²⁵ Ibid., pp. 18-19

7. Time is the key

This article stands as a prelude to her major work *Macroeconomics After Keynes* (1983). Here, Chick reiterates the time-consuming nature of production²⁶. The Keynesian revolution as the rejection of Say's Law²⁷ is emphasized again, grounded in the behavioral patterns of households and firms. Time creates fundamental problems, because commitments depend on future demand, costs, and prices. Chick argues that time is the key:

“That The General Theory is a static model of a dynamic process of production”²⁸.

And further:

“In the process being modelled, events, their cause and effect, are temporally ordered. A great deal happens at the beginning of the period which is irrevocable for the span of the period... Thus, the static equilibrium, though modeled in terms of a single period, presupposes a run of periods underlying it”²⁹.

This indicates Chick's movement away from logical time toward mechanical time.

A later article develops a more advanced conception of time through an analysis of the evolution of the banking system³⁰, extending the approach of *Macroeconomics After Keynes*. The point of departure is the reversal of the saving–investment relation proposed by Keynes (1936), which Chick supports theoretically and historically through analysis of banking evolution. Here the challenge is to capture key features of a complex system in continuous change and to identify when these become theoretically significant.

Financial markets differ fundamentally from goods markets. The demand for credit is potentially limitless, making it impossible to define supply and demand relationships for loans. A competitive solution therefore becomes impossible³¹.

This problem is developed into a more direct confrontation with traditional theory (Chick, 1995). Here she argues that bank credit plays a central role in an economy, linking saving–investment causality to the finance motive and to extensive work on endogenous money.

Chick is explicit that strong arguments exist in support of post-Keynesian economics. She addresses criticisms and formulates three central principles³²:

²⁶ Chick, 1983, p. 5

²⁷ Ibid., p. 10

²⁸ Ibid., p. 11

²⁹ Ibid., p. 11

³⁰ Chick (1986)

³¹ Ibid., 9.199

³² Chick (1995a), p. 23

- Theory should be a realistic abstraction, not a model of an imaginary economy.
- The economic system operates through actual historical time, which must be reflected in theory.
- Macroeconomics possesses its own independent validity alongside microeconomics.

It is the explicit introduction of historical time that is most significant. For Chick, the economy unfolds in actual, irreversible historical time, and theory must capture this fact. The future is inherently unknown; the process is open-ended and evolving. Consequently, explanation takes precedence over prediction.

Outcomes depend on decisions made along the way. Chick states that the economic system is path-dependent, although she does not fully elaborate the concept.

The fight against equilibrium thinking continues—for example, in *A Struggle to Escape: Equilibrium in The General Theory* (1996), where she³³ argues that Keynes’s worldview differed from the dominant perspective, grounded instead in an uncertain future.

“It is in *The General Theory* that time and uncertainty finally have their day in economic theory. There are valid concepts of equilibrium which are compatible with uncertainty, but they conform to the dominant concept of neither the neoclassical nor the classical school. Nor is equilibrium more than just a part of *The General Theory* story”³⁴

One of Keynes’s lasting contributions was his development of an equilibrium concept compatible with open-system theorizing³⁵. According to Chick, this concept requires further explanation because it is poorly understood—particularly Keynes’s aim to model the economy as a time-bound, open system. The paradox is that in *The General Theory*, the equilibrium concept appears static, although the model is in fact a static representation of a dynamic process (Chick, 1983). Equilibrium was necessary for different reasons, primarily as an organizing device and, even more importantly, as a tool of persuasion³⁶:

“Equilibrium is a point of rest, and what causes the rest is a combination of a lack of desire to change (on the part of firms) with a lack of power to effect change (on the part of workers).”

What is crucial is the recognition that determination and equilibrium are separate in Keynes’s system. Equilibrium is only the endpoint of an economic process, during which dynamic interactions occur—from investment increasing income and

³³ Chick, 1996, p. 360

³⁴ *Ibid.*, p. 360

³⁵ Chick, 1996, p. 184

³⁶ Chick, 1996, p. 186

consumption to firms adjusting production. The multiplier does not express a balance but rather a sequence describing adaptation.

8. Open and closed systems

A few years later, Chick (1998), in a discussion of formalism in economics, again stresses that the economy is clearly an open, evolving system³⁷:

“Open systems are path-dependent and non-ergodic and may exhibit neither event regularities nor unique equilibrium. These problems are beginning to find their way into economics, apparently well behind science.”

Chick occasionally turns directly to the natural sciences, drawing on Prigogine and Stengers’ *Order Out of Chaos* to reflect on economics. This involves reassessing the goals, methods, and epistemology of science, and includes studying the second law of thermodynamics. In physics, equilibrium is the homogeneous state toward which a closed system tends³⁸. Chick finds reasons to argue the opposite: that self-organizing systems resist entropy and instead exhibit increasing complexity. As she writes:

“As regards the treatment of time, the essential conflict is between Newtonian mechanics, based on timeless laws, and traditional thermodynamics, with its irreversibly increasing entropy”³⁹.

Chick believes that clear parallels exist between these scientific debates and economics, since the tension between time and timelessness is central to economic theory—between what was once assumed to be eternal and what is embedded in time. She refers to Hicks (1976), who noted that the IS-LM diagram reduces *The General Theory* to timeless equilibrium thinking.

Chick also emphasizes that, since the scientific status of economic theories is established in a manner comparable to physics, any attempt at synthesis such as that in *Order Out of Chaos* is premature for economics⁴⁰.

Her conceptual universe was later broadened by two important areas of study: the distinction between open and closed systems, and the modes of thought in theoretical construction⁴¹. Both areas illuminate how post-Keynesian theory differs from neoclassical theory. This work was undertaken in collaboration with Sheila Dow.

³⁷ Chick, 1998, p. 186

³⁸ Chick, 1995, p. 27

³⁹ Chick, 1995, p. 30

⁴⁰ Chick, 1995, p. 34

⁴¹ See Chick, 2003

According to Chick⁴², there is a close connection between ontology, epistemology, and time in economic reasoning. In Keynes's case, she argues, his mode of thinking is grounded in uncertainty, organicism, and time—an area insufficiently explored:

“Keynes's respect for time manifests itself in the concern with uncertainty and, through that, feeds directly into two types of expectations and the associated aggregation scheme. Time, the source of uncertainty, also dictates the open-system mode of theorizing”⁴³.

Keynes refers as mentioned earlier to short- and long-run expectations. For Chick, these are open in time, path-dependent, and not necessarily convergent. The General Theory is thus viewed as an open system, which she defines using the Oxford English Dictionary: an incomplete or alterable system, in contrast with a closed system, which is complete and fixed.

An open system can have multiple dimensions⁴⁴: openness to non-economic factors, openness within economic theory itself, interaction between micro- and macroeconomic levels, and, critically, the treatment of time⁴⁵.

How, then, do open-system theories handle time? Two overarching considerations apply. First, history manifests itself through changing networks, institutions, conventions, social structures, and behavior. Second, it becomes the task of the theorist to decide whether a period possesses sufficient coherence to be theorized.

With extended discussion of openness, the essential nature of The General Theory becomes clearer:

“So, the system is path-dependent, but since there are many possibilities, a precise path is (wisely) not chosen and modelled, so nothing definite can be said”⁴⁶

Keynes resolved the dilemma of limitless possibilities by adopting short-period equilibrium, allowing for partial and provisional closures suited to the needs of analysis.

9. Equilibrium, Time, and Path Dependence

This leads to the need for a closer clarification of the relationship between equilibrium and time. Static analyses are timeless—but what about the study of an economy that moves through time? The very idea of establishing causal relations between variables requires time. For example, in Keynes's analysis, everything begins with money and

⁴² Chick, 2003, p. 307

⁴³ Chick, 2003, p. 320

⁴⁴ Chick, 2004, p. 3 and Olesen (2023), pp. 334-336

⁴⁵ For a more comprehensive analysis of Path dependence, see Madsen (2016). The first version of this paper was discussed with Chick at a conference at the University of Sterling, September 2008.

⁴⁶ Chick, 2004, p. 13

expectations, followed by the principle of effective demand, which in turn determines employment and real wages⁴⁷.

Chick⁴⁸ draws on both Kaldor and Robinson, who viewed equilibrium as antithetical to history. However, she offers a more nuanced approach, arguing that equilibrium has both an indispensable function and an aspect that demands caution. In particular, she sees Keynes's use of equilibrium as valuable within a path-dependent system:

"...Equilibrium is usually seen as a desirable state of affairs, in which everyone is at their optimal position and there are no unexploited opportunities. This comfortable picture ignores power ... Equilibrium as an end point plays down that instinctive drive to action that will overturn any equilibrium in due course"⁴⁹.

Chick does not reject equilibrium entirely; rather, she argues that equilibrium thinking makes sense when causality and process do not play a central role.

In a later article⁵⁰, she moves closer to a definition of path dependence. Within economics, she stresses that this concept should not be limited to lock-in situations but must also encompass hysteresis and cumulative causation. When behavior is sufficiently stable, it is possible to construct path-dependent models, in which agents make decisions that shape the future. She also emphasizes that no system can be completely open: boundaries must exist, and here partial or provisional closures become essential. This sharply distinguishes her work from traditional approaches such as general equilibrium theory, which brings the future back into the present through initial assumptions. Chick⁵¹ concludes:

"What I hope can be seen in the above account is that the open system constructed by Keynes bears a closer relation to reality than most closed-system models. This is in large part due to the wise choice of temporary and partial closures."

Rational choice theory is of little help here, since the fundamental principle of The General Theory is:

"that the past is irrevocable, and the future is uncertain... Mainstream 'rational choice' theory collapses time at the outset"⁵².

A central recurring theme for Chick is the complexity of the equilibrium concept, as there are multiple approaches to it—meaning that no single answer can be definitive, even within heterodox economics⁵³. She rejects the analogy of the centre of gravity, but

⁴⁷ Chick and Dow, 2001, p. 712

⁴⁸ Chick, 2008, p. 232

⁴⁹ Chick, 2008, p. 238

⁵⁰ Chick, 2013

⁵¹ Chick, 2013, p. 70

⁵² Chick, 2016, p. 109

⁵³ Chick, 2023, p. 108

points to the usefulness of stationary equilibrium understood as a sequence of periods in which flow variables evolve. More generally:

“General equilibrium should go, and with it static equilibrium (because it has no story of process behind it)”⁵⁴

Thus, the main analytical achievement of Keynes—and the methodological foundation for later work—may be summarized:

“The main analytical outcome of GT is a sequence of short-period equilibria adding up to a long-period path-dependent system that Keynes also created in the GT. This is an example of an open-system analysis, building on sequential semi-closed short-period analysis moving forward into an increasingly uncertain future, which cannot be predicted”⁵⁵

This final statement captures what Chick has achieved in regard to time and equilibrium. Her work shows that the exploration of time is ongoing. Among the concepts that will continue to develop, path dependence stands out as a central theme⁵⁶.

The crucial point is that Chick has created a viable alternative to General Equilibrium Theory—an alternative intellectual path that challenges the static imaginary world of timeless equilibrium models.

10. Summary

This article examines Victoria Chick’s contribution to economic theory, focusing on her development of time concepts and their implications for macroeconomics after Keynes. Chick argues that mainstream economics relies on static equilibrium models that neglect real-world economic processes unfolding in time. Building on Keynes, she contends that economic theory must incorporate irreversible historical time, uncertainty, and sequential causation.

Chick’s research demonstrates that equilibrium should not be eliminated entirely, but used cautiously as a provisional analytical tool within a path-dependent and evolving economic system. She distinguishes between open and closed systems, emphasizing that real economies are open, non-ergodic, and influenced by changing expectations, institutional structures, and historical developments. Through the analysis of monetary processes and the evolution of the banking system, she shows how saving and investment causality operates dynamically over time rather than in static balance.

⁵⁴ Ibid., p. 109

⁵⁵ Chick & Jespersen (2023), p. 190

⁵⁶ For further work on Path Dependence see e.g. Chytil and Maslo (2017) and Setterfield (2023)

Chick develops an alternative to General Equilibrium Theory by presenting macroeconomics as a sequence of short-period equilibria forming a long-term, uncertain path. Her work highlights the necessity of explanation rather than prediction, the importance of partial closures in theory-building, and the centrality of uncertainty, expectations, and time to economic behaviour.

In sum, Chick provides a powerful methodological foundation for post-Keynesian economics and offers a compelling critique of static, timeless economic modeling. Her work establishes a theoretical approach grounded in real historical processes and continues to influence contemporary research on open systems and path dependence.

References

- Carabelli, Anna M., and Mario A. Cedrini. "This Time Is... Complex. Keynes on Time." ESHET XX Annual Conference, Paris. 2016.
- Carabelli, Anna M., and Mario A. Cedrini. "Expectations, equilibrium and time in General Theory." *The General Theory and Keynes for the 21st Century*. Edward Elgar Publishing, 2018. 70-83.
- Chick, V. (1973): *The Theory of Monetary Policy*, Parkgate Books, Oxford
- Chick V. (1978/1992) 'The Nature of the Keynesian Revolution: A Reassessment, *Australian Economic Papers*, June', reprinted in V. Chick on Money, Method and Keynes, pp. 56–79. Basingstoke and London: Macmillan.
- Chick, V. (1983) *Macroeconomics after Keynes*. Cambridge, MA: The MIT Press.
- Chick V. (1986/1992) 'The Evolution of the Banking System and the Theory of Saving, Investment and Interest, *Économies et Sociétés, Série MP*, no, 3', reprinted in V. Chick on Money, Method and Keynes, pp. 193–205. Basingstoke and London: Macmillan.
- Chick, V. (1995) 'Is There a Case for Post Keynesian Economics?', *Scottish Journal of Political Economy* 42(1): 20–36.
- Chick, V. (1995): "Order out of Chaos" in economics? In *Keynes, Knowledge and Uncertainty*. Ed by S. Dow and John Hillard, Edward Elgar, Aldershot
- Chick, V. (1996): *A Struggle to Escape: Equilibrium in the General Theory*. *Ekonomiska misao i praksa* 5.3 (1996): 345-362.
- Chick, V. (1998) 'On Knowing One's Place: The Role of Formalism in Economics', *Economic Journal* 108(451): 1859–1869.
- Chick, V. (2003): *Theory, method and mode of thought in Keynes's General Theory*. *Journal of Economic Methodology*, Volume 10, 2003 - Issue 3, p. 307-327

Chick, V. (2004): On open systems, *Brazilian Journal of Political Economy*, vol. 24 (1), pp. 3-17

Chick V. (2007): *Equilibrium in Economics, Scope and Limits*, Edited by Valeria Mosini, Routledge, London.

Chick, Victoria (2008) *Equilibrium in economics: some concepts and controversies*. In: *Equilibrium in Economics*. Routledge, 2008. p. 250-265, (224-239)

Chick, V (2013): *The future is open: on open-system theorizing in economics*, chapter 3 in *Teaching Post Keynesian Economics*. Edited by Jesper Jespersen and Mogens Ove Madsen. Edward Elgar, London

Chick, V. (2016): On Microfoundations and Keynes' Economics. *Review of Political Economy*, Volume 28, Issue 1, pp. 99-112

Chick, V. (2023) 'Should Equilibrium Be Abandoned by Heterodox Economists?', in I. Negru and P.A. Hawkins (eds) *Economic Methodology, History and Pluralism: Expanding Economic Thought to Meet Contemporary Challenges*, pp. 108–121. London and New York: Routledge.

Chick, V and S.C. Dow (2001): Formalism, logic and reality: a Keynesian analysis. *Cambridge Journal of Economics*, 25, 705-721

Hicks, J. R. (1936): "Review of The General Theory." *Economic Journal* 253 .

Hicks, John R. (1939) *Value and Capital: An Inquiry into Some Fundamental Principles of Economic Theory*. New York: Oxford University Press

Hicks, John Richard (1973/1987): *Capital and time: a neo-Austrian theory*. Clarendon Press, 1987.

Hicks, John (1980): *Causality in economics*. Australian National University Press.

Keynes, John M. (1903): *Essay on Time*. King's College Archive, Cambridge, UK, JMK/UA/17

Keynes, John M. (1930): *A Treatise on Money*. The Collected writings of John Maynard Keynes, Vol. V & VI. The Macmillan Press Ltd

Keynes, John M. (1933): *Monetary Theory of Production*. In *Der Stand und die nachste Zukunft der konjunkturforschung*. Festschrift fur Arthur Spiethoff. 1933. Reprinted in JMK, vol XIII. Donald Moggridge (ed.). *The General Theory Part I, Preparation*. London: Macmillan

Keynes, John M. (1936): *The General Theory of Employment Interest and Money*. The Collected writings of John Maynard Keynes, Vol. VII. The Macmillan Press Ltd

Keynes, John Maynard (1937): "The general theory of employment." *The quarterly journal of economics* 51.2: 209-223.

Kregel, Jan (1976) "Economic methodology in the face of uncertainty: the modelling methods of Keynes and the Post-Keynesians." *The Economic Journal* 86.342 (1976): 209-225.

Lavoie, Marc (2020): If you are convinced that post-Keynesian economics is a good way of thinking, get on with it. Interview with Victoria Chick. *European Journal of Economics and Economic Policies: Intervention*, Vol. 17 No. 1, p.p. 1-8.

Madsen, Mogens Ove (2012): Keynes' early cognition of the concept of time. In *Keynes's General Theory for Today, Contemporary Perspectives*. Ed. Jesper Jespersen & Mogens Ove Madsen, Edward Elgar, Cheltenham

Madsen, Mogens Ove (2016a). "Two generations of path dependence in economics?" *Macroeconomics After the Financial Crisis*. Routledge, pp. 171-191.

Madsen, Mogens Ove (2016b): "Shackle in Time—Time in Shackle on Challenging the Art of Making Predictions." *Journal of Business and Economics* 7.6 1000-1008.

Madsen, Mogens Ove (2018): Hicks's progress from statics to historical time. Chapter 10 in *Money, Method and Contemporary Post-Keynesian Economics* Edited by Sheila Dow, Jesper Jespersen, and Geoff Tily. Pp. 120-133. Edward Elgar, London

Madsen, Mogens Ove (2023): "Time in macroeconomics." *Routledge Handbook of Macroeconomic Methodology*. Routledge. 75-84.

McTaggart, J. Ellis. "The unreality of time." *Mind* 17.68 (1908): 457-474.

Olesen, F. (2023). Victoria Chick (1936-2023): an eminent post-Keynesian scholar—some retrospective remarks. *Brazilian Keynesian Review*, 9(2), 328-340.

Robinson, Joan (1962): *Economic Philosophy*, Aldine Publ. Co, Chicago

Setterfield, Mark. "Path dependency." *Routledge Handbook of Macroeconomic Methodology*. Routledge, 2023. 100-107.

Shackle G. L. S. (1958). *Time in Economics*, North-Holland Publishing Company, Amsterdam.

Shackle, G.L.S. (1965): *A Scheme of Economic Theory*. Cambridge University Press. Cambridge

Termini, Valeria A. (1981): Logical, mechanical and historical time in economics. *Economic Notes* volume 10, no. 3, Munich Personal RePEc Archive. Monte Paschi di Siena

Tily, Geoff (2023): Victoria Chick's Keynes in Time. *Development and Change*, 54(5), pp. 1296-1330. International Institute of Social Studies, The Hague