

Editor's introduction

Thomas Cate

In a letter to George Bernard Shaw dated 1 January 1935, Keynes wrote:

To understand *my* state of mind, however, you have to know that I believe myself to be writing a book on economic theory which will largely revolutionize – *not*, I suppose, at once but in the course of the next 10 years – the way the world thinks about economic problems.

J. M. Keynes, *Collected Writings*, Vol. XIII, p. 492 (emphasis in original)

While the question of a revolution in the Kuhnian or Lakatosian sense has yet to be completely resolved, the economic profession has experienced a dramatic transformation since the publication of *The General Theory of Employment, Interest, and Money* (Keynes 1936).¹ As Samuelson notes: ‘*The General Theory* caught most economists under the age of 35 with the unexpected virulence of a disease first attacking and decimating an isolated tribe of south sea islanders’ (Samuelson 1966, p. 1517).

At least three differences distinguish *The General Theory* from some of Keynes's earlier books. First, there is the difference in audience: *The Economic Consequences of the Peace* (Keynes, CW, vol. I) and *A Tract on Monetary Reform* (Keynes, CW, vol. IV) were written for a much larger audience: Fellow economists, policy makers and sophisticated readers who were aware of the issues being raised in each book; whereas *The General Theory* was written for his fellow economists. Second, there is the difference in tone and style of writing: *Economic Consequences* and the *Tract* are much more engaging, lively, and literary; whereas *The General Theory* is a very difficult read. Third, there is the difference in the plan of the book: *Economic Consequences* and the *Tract* may be divided into three distinct parts: a statement of the problem, a thorough examination of the problem and a specific public policy proposal designed to resolve the problem; whereas *The General Theory* revolved around several versions of a simple macroeconomic model of the English economy.²

KEYNES'S SIMPLE MODEL³

The economics of Keynes is distinctly different from Keynesian economics, otherwise known as bastard Keynesianism, the term coined by Joan Robinson for the neoclassical synthesis (Robinson 1962, 1980). While both theories investigate the macroeconomic implications of decision making in the face of uncertainty, the crucial difference between them lies in their respective definitions of uncertainty. So . . . what is meant by the term uncertainty?

Formal Logic and Uncertainty

Formal logic is a process associated with the calculus of probabilities, and relies on equivalent certainties – the weighted average of each potential outcome by its objective probabilities. In this process uncertainty is objective, the variance of some probability distribution, as illustrated by Hicks in ‘The Theory of Uncertainty and Profit’ where he states that

The co-operating parties are divided into two groups, only one of which receives a remuneration depending on the firm's success (that is to say, receiving a share of profits). The members of the other group receives a remuneration which is not directly contingent on the results of the operations in which they collaborate, but which is fixed before the act of collaboration is performed. The first group receives profit; the second group receives wages, interest, or rent. (Hicks 1931, p. 176)

Thus, Hicks's theory of profit, which can be traced to Cantillon through Cannon, does not resort to metaphysical foundations to explain the existence of profit. Unlike Knight (1921) who defines uncertainty as being not measurable and associated with estimates, Hicks uses a frequency theory of probability and defines uncertainty as an increase in the variance in a share of the expected net return on an investment position taken by an entrepreneur in an on-going collaborative business operation (Hicks 1931, pp. 176–83).⁴ Entrepreneurs' reward for making decisions in the face of Hicks's uncertainty is profit.

This approach to uncertainty can easily be incorporated into a mathematical model, as illustrated by the quants who borrowed a concept from physics – Brownian motion, to model the prices of stocks and structured financial instruments (Patterson 2010, pp. 28–9). However, as the Great Recession spread to Main Street from Wall Street, at least three sources of systemic error are revealed in these models: trivial contradictions are rooted in the core of mathematics and logic (Godel 1931), the act of measurement alters the physical properties of the system (Heisenberg 1927) and

a system of well-defined and well-behaved equations may exhibit over time movements that cannot be predicted (Lorenz 1972).

Human Logic and Uncertainty

Human logic is a process associated with heuristics and unknown unknowns. In this process human knowledge of future events is spread along an ordinal continuum, the end points being known and unknown. Along this continuum,

Fundamental uncertainty refers to situations in which at least some essential information about future events cannot be known at the moment of decision because this information does not exist and cannot be inferred from any existing data set. (Dequech 1999, pp. 415–16)

Fundamental uncertainty may have epistemological or ontological origins, and clearly there is a lack of objective knowledge, a key variable for formal logic. Keynes's uncertainty is an example of fundamental uncertainty and can be explained by either epistemological uncertainty or ontological indeterminacy because either approach captures the spirit of Keynes's position (Skidelski 2009, pp. 83–8). Keynes made his position on uncertainty quite clear. In *The General Theory*, when he defined the term 'very uncertain' Keynes referred the reader to *The Treatise on Probability*: 'By "very uncertain" I do not mean the same thing as "very improbable." See my *Treatise on Probability*, chapter 6, on "The Weight of Arguments"' (Keynes 1936, p. 149, note 1). He repeated this definition in his 1937 *Quarterly Journal of Economics* article

By 'uncertain' knowledge, let me explain, I do not mean merely to distinguish what is known for certain from what is merely probable . . . The sense in which I am using the term is that in which the price of copper and the rate of interest twenty years hence, or the obsolescence of a new invention are uncertain. About these matters there is no scientific basis on which to form any calculable probability whatever. We simply do not know. (Keynes 1937, p. 214)

When confronted with a decision in the face of Keynes's uncertainty, what does an individual do?

We have devised for this purpose a variety of techniques, of which the most important are the three following:

- We assume that the present is a much more serviceable guide to the future than a candid examination of past experience would show it to have been hitherto. In other words, we largely ignore the prospect of future changes about the actual character of which we know nothing.

- We assume that the *existing* state of opinion as expressed in prices and the character of existing output is based on a *correct* summing up of future prospects, so that we can accept it as such unless and until something new and relevant comes into the picture.
- Knowing that our own individual judgment is worthless, we endeavor to fall back on the judgment of the rest of the world, which is perhaps better informed. That is, we endeavor to conform with the behavior of the majority or the average. The psychology of a society of individuals each of whom is endeavoring to copy the other leads to what we may strictly term a *conventional* judgment (ibid.; emphasis in original).

That is, in the face of fundamental uncertainty the decision maker uses heuristics. What is a heuristic? It is not an optimization rule like the least cost rule or the utility maximization rule: the decision maker is not seeking the best possible outcome. No, the decision maker is making a constrained choice, the constraint being Keynes's uncertainty. The decision maker is a satisficer seeking an outcome that is good enough (Simon 1955). In this process decision makers use heuristics, rules of thumb, for example a 'tit for tat' strategy.

The process of human logic can be modelled *ex post*. For example a mathematical model of Keynes's marginal efficiency of capital (MEC) schedule can be developed, and while the mathematical symbols used to represent the decision variables in the resulting formula give the appearance of a mathematical model of a formal logic process, a reification of human logic into formal logic has taken place. Ignoring the process (human logic) whereby the numbers that are dropped into the MEC formula are created is just asking for trouble: one should not expect humans to exhibit the same behaviour as Brown's pink fairies (Patterson 2010, pp. 291–3; Wilmott 2000).⁵

Uncertainty, Confidence and Future Events

One of the roles played by humans is that of entrepreneurs, and as Schumpeter has shown, entrepreneurs are the driving force of capitalism (Schumpeter 1934) or as Dequech states, they '... possess the ability to see and do things in a novel way' (Dequech 1999, p. 422). That is, entrepreneurs possess creativity, a key variable in developing expectations, the other two being knowledge and the optimistic disposition to face uncertainty. Together with the confidence that the entrepreneur has in a set of expectations, a state of expectation for a plan of future events can be developed and decisions in the face of Keynes's uncertainty can be undertaken and implemented.

Having implemented her or his plan the entrepreneur compares the ex post results to the ex ante expected results for the purpose of closing the planning cycle loop. This comparison has three possible outcomes: the ex post results are greater than, equal to, or less than the ex ante expected results. These outcomes lead to the following questions: What did you learn? What went right? What needs to be fixed? What can be done with the windfall profits? How to cover the unexpected losses? Given Dequech's state of expectation scheme (Dequech 1999, p. 418), both confidence and expectations may be revised in light of two of the possible outcomes: windfall profits and unexpected losses. In the case of windfall profits, expectations may be upgraded because the optimistic disposition to face Keynes's uncertainty may improve, and the entrepreneur's confidence in the revised set of expectations may increase because he or she may become less adverse with respect to uncertainty and/or have a better perception of uncertainty. While these adjustments to confidence and expectations occur at the entrepreneurial (microeconomic) level, a herd mentality could come into play resulting in a wave of optimism at the macroeconomic level (Bateman 1996, pp. 71–140; Marshall 1890/1953, pp. 119–20; Pigou 1920/1952, p. 773). A similar explanation can be developed for a wave of pessimism.

MACROECONOMIC IMPLICATIONS OF KEYNES'S UNCERTAINTY

There are two macroeconomic implications of decision making in the face of Keynes's uncertainty. The first implication is that business cycles are endogenous not exogenous as postulated by real business cycle theory. As Keynes explained, it is '... important to understand the dependency of the marginal efficiency of a given capital stock on changes in expectation, because it is chiefly this dependency which renders the marginal efficiency of capital subject to the somewhat violent fluctuations which are the explanation of the Trade Cycle' (Keynes 1936, pp. 143–4). The second implication is that monetary economies are prone to liquidity crises because of the potential conflict between private sector liquidity demanders and private sector liquidity suppliers.

In a monetary economy both enterprise and speculation play a role. Enterprise involves '... the activity of forecasting the prospective yields of assets over their whole life' (*ibid.*, p. 158). Speculation, on the other hand, involves '... the activity of forecasting the psychology of the market' and is '... largely concerned, not with making superior long-term forecasts of the prospective yield of an investment over its whole life, but with forecasting

changes in the conventional basis of valuation a short time ahead of the general public' (ibid., pp. 158, 154). Both enterprise and speculation are associated with decision making in the face of Keynes's uncertainty and affect the operation of a monetary economy's financial markets (liquidity preference) through three categories of risk. First, there is borrower's risk: '... doubts in the borrower's mind as to the probability of his actually earning the prospective yield for which he hopes' (ibid., p. 144). Second, there is lender's risk: '... this may be due either to moral hazard, *i.e.* voluntary default or other means of escape, possibly lawful, from the fulfillment of the obligation, or to the possible insufficiency of the margin of security, *i.e.* involuntary default due to the disappointment of expectations' (ibid.). Third, there is system risk: '... a possible adverse change in the value of the monetary standard which renders a money-loan to this extent less secure than a real asset' (ibid.). Keynes's warning is ignored: '... speculators may do no harm as bubbles on a steady stream of enterprise. But the position is serious when enterprise becomes the bubble on a whirlpool of speculation' (ibid., p. 159). The 'numbers' developed in response to human logic and dropped into the MEC formula, itself an example of the reification process, take on a life of their own. With each success, the downside effects inherent in the three categories of risk are discounted or forgotten in the euphoria of the expansion.

Bursting bubbles may be associated with a decline in business confidence (enterprise and speculation), or a decline in the state of credit, or both. For a revival to occur both business confidence and the state of credit must be revived. However, cutting money wages as a means of reviving business confidence is not revival strategy because of the adverse effect on consumer income and spending. Also, when bubbles burst and individuals begin to implement their risk management policies in an attempt to achieve some position of liquidity their actions expose the economic system to another problem: the potential conflict between money demanders for whom time is more important than price (they need cash now) and money suppliers for whom price is more important than time (they can wait for a better price) becomes a reality and the system may seize up: a liquidity crisis occurs, the price of financial assets decline, and further pressure is placed on organizations' cash flows, margins of safety and balance sheets. If the private money suppliers are unable or unwilling to meet the needs of the private money demanders, and if the public money suppliers, the Central Bank and the Treasury, are ideologically opposed to supplying the requisite liquidity, The Slump is the only result.

If the two macroeconomic implications of decision making in the face of Keynes's uncertainty are that business cycles are endogenous and that

monetary economies are prone to liquidity crises, then what macroeconomic policies could be implemented to mitigate their adverse effects? The answer to that question is linked to the answer to another question: What is the purpose of economic growth? Keynes would say that the purpose of economic growth is, first to solve the economic problem, and second, to '... allow people to learn to live wisely, agreeably, and well' (Keynes, CW, vol. XXVII, p. 322).

In the case of liquidity crises, when private money demanders need cash now and private money suppliers are willing to wait for a better price, the public money suppliers must realize that it may be in their self-interest to meet the demands of the private money demanders. A triage system could be implemented: solvent and liquid; solvent and not liquid; and not solvent and not liquid. The second group may have a good case for an injection of money; whereas the third group must be dealt with on a case-by-case basis, just in case some are 'too big to fail'. Thus, sometimes the central bank must play the role of supplier of money of last resort.⁶

The case of endogenous business cycles is more complicated because they cannot be eliminated: the best that can be done is for the government to design a macroeconomic risk management plan designed to reduce their adverse effects.⁷ To that end, Keynes noted that gross domestic investment is the sum of gross private and gross public domestic investment. On occasion, gross private domestic investment declines because of a decline in business confidence (enterprise and speculation) and/or the state of credit. Keynes's proposal for restoring business confidence and the state of credit involved a three-part macroeconomic risk management proposal. Three institutions would play an important role in this risk management proposal: the Bank of England, the central government, and the public corporations that at that time controlled approximately two-thirds to three-quarters of Britain's capital stock.⁸ The first part of Keynes's plan requires that the Chancellor of the Exchequer modify the government's budget accounting system along the following lines. The total budget should be divided into two sub-budgets, current and capital expenditures, with the proviso that the current budget always be balanced.

The capital budget would be sub-divided into four sections: The Exchequer Capital Budget tracks the capital expenditures made by the central government; the Public Capital Budget tracks the capital expenditures made by Local, Borough, and County Authorities; the Investment Budget tracks the total capital expenditures, private and government; and the Remnant Budget tracks the liquidation of war expenditures. The capital budget may be in deficit or surplus, and is countercyclical.

The second part of Keynes's plan involves the creation of a Board of Public Investment. In conjunction with the first part of the plan, this Board develops and implements an investment inventory/needs assessment mechanism whereby the government identifies what investments are scheduled or currently in progress, by whom, for what purpose, and how they are funded. From this data the government is able to develop and modify as needed plans for future self-liquidating capital expenditures undertaken by the government; and, when, for whatever reason, gross private domestic investment declines, the government would *encourage* the public corporations to increase their capital expenditures.

The third part of Keynes's plan has the Bank of England implementing a policy of stable low long-term interest rates. Such a policy is designed to encourage gross private domestic investment, and would lower the cost to the various levels of government and the public corporations when undertaking their capital expenditures, for example constructing and maintaining a national system of highways, electrical transmission, and port facilities. These investment projects would benefit not only emerging industries like automobiles and consumer electronics but also existing industries like cotton textiles and coal.

The three keys for the effective implementation of this proposal are associated with the quality of the individuals chosen to lead these institutions. First, they should be knowledgeable about the finer points of economic theory and day-to-day business operations and practices. Second, because the financial markets are highly interconnected and new products are being developed, they should take a holistic approach to decision making. These two points are captured by Keynes in his description of requisite skills of an economist (Keynes 1951, pp. 140–1). Third, they must possess the political will to act.

Thus the principal difference between the economics of Keynes and modern macroeconomic theory – either the New Classical or the New Keynesian version – lies in their respective views on uncertainty: epistemological or ontological indeterminacy vs. the variance in an objective probability distribution. The former cannot be modelled mathematically whereas the latter can be with the result that the economics profession has decided to train generations of economists who believe that Brown's pink fairies provide a solid foundation for modelling human behaviour. The Great Recession exposed the fallacy of that assumption. Economics is a difficult discipline because it is intimately linked not only to Keynes's theory of uncertainty but also requires knowledge of a wide variety of other disciplines (*ibid.*). Unless the profession is willing to change the way it produces future generations of economists, we should expect more of the same (Cate 2011).

THE RESEARCH AGENDA

This simple model contained an immense research agenda:

- To develop a method for measuring the stream of output: Richard Stone's (1947) work on the system national income accounts earned him a Nobel Prize in 1984;
- To verify and, if necessary, revise Keynes's consumption hypothesis: Modigliani's (1963) work with Ando on the life-cycle saving model earned him a Nobel Prize in 1985;
- To verify and, if necessary, modify Keynes's investment hypothesis: Tobin's (1969) work on the investment function earned him a Nobel Prize in 1981;
- To explore the growth implications of this model: Solow's (1956) work in the area of economic growth earned him a Nobel Prize in 1987; and
- To explore the model's public policy implications: Lucas's (1976) work on the implications of the rational expectations hypothesis earned him a Nobel Prize in 1995.

Work on each of these agenda items continues to this day.

ENTRIES IN THIS VOLUME

The entries in this volume are divided into four categories. What follows is a brief description of the entries in each of the four categories.

The General Theory and Fundamental Uncertainty

Asensio argues that Keynes's seminal innovation and hence key contribution to economic theory is the concept of fundamental uncertainty – the absence of any objective anchor for expectations. A competitive model with fundamental uncertainty would be subject to violent instability which could be constrained and restricted but not eliminated by the use of heuristics and social forces and regulatory institutions.

Hayes explores three aspects of *The General Theory*: the meaning of competitive equilibrium in a monetary economy, the central role and nature of expectation, and the meaning of liquidity. Hayes argues that these aspects have been unduly neglected by theorists and suggests that there needs to be far reaching change in economic theory and policy making.

Muchlinski defends Keynes against the charge that he constructed an imprecise and therefore a non-scientific economy theory. Muchlinski argues that Keynes's approach to economic theory was influenced by contemporaneous debates between Wittgenstein and Russell, Keynes and Moore, and Ramsey and Johnson. The influences of these debates are seen in three specific characteristics of Keynes's theoretical reasoning: the concept of vagueness, the idea of a state of confidence and the demand that a model's assumptions be grounded in the world of contemporary facts. Keynes's models and theories are examples of the art of economics – models and theories designed with policy makers in mind.

The General Theory and the History of Macroeconomics

DeVroey uses two main but conflicting conceptions – defending the free market and defending economic liberalism, to describe the emergence of and the rise to prominence of Keynesian macroeconomics and the subsequent successful attacks by Friedman and Lucas which brought about its fall. DeVroey then examines the three phases of the dynamic stochastic general equilibrium (DSGE) approach to macroeconomics – Lucas and New Classical macroeconomics and the vain attempt by the new Keynesian macroeconomics to address the issues posed by New Classical macroeconomics, Kydland and Prescott and real business cycle theory which transformed Lucas's qualitative approach to modelling into a quantitative approach and the emergence of what may be called New neoclassical synthesis or New Keynesian Phillips Curve models. DeVroey concludes his examination of the history of macroeconomics since *The General Theory* with the suggestion that the injunctions of Skidelsky and Krugman will not impact the future development of macroeconomic theory.

Dimand, building on historical studies, examines the recurrence of certain approaches, problems, and debates in macroeconomics, how they are transformed in their later guises, and how theoretical innovation occurs within a background of earlier contributions. The recurrence of problems in macroeconomics, combined with both cycles and innovation in approaches to analysing these problems, accounts for the saying that it is easier to set graduate comprehensive exams in macroeconomics than in microeconomics: in macroeconomics, the questions can be kept the same from year to year, only the answers change. Because of the pattern of recurrent concerns, themes, and analyses (such as whether the source of instability is government intervention or volatile expectations of the profitability of investment), developments in postwar macroeconomics

are not only the consequence of new empirical evidence and policy experience and of advances in formal technique, but are also to be understood in light of the discipline's prior evolution. Macroeconomics has a useful past, and macroeconomists would have a better understanding of what they do if they knew more about what macroeconomists have done in the past.

Docherty reviews the evolution of macroeconomic theory from Keynes to the New Keynesian synthesis and explores the implications for modelers of interest rate rules and the assumptions of endogenous and exogenous money supply. Docherty concludes that care must be taken when comparing any of these models to the model developed by Keynes in *The General Theory*.

Luzzetti and Ohanian discuss why *The General Theory* had such a long-lasting impact on economic theory and policymaking: Keynes was in the right place at the right time. They then detail the reasons for the decline of *The General Theory* among research economists, the principal one being the problems posed by stagflation and identify the theoretical innovations in equilibrium macroeconomics that helped supplant *The General Theory* as the primary macroeconomics paradigm, in particular the impact of Kydland and Prescott's paper. They conclude that *The General Theory's* model, as viewed through the lens of neoclassical economics (the idea of the inflation-unemployment tradeoff and the policy prescription of aggregate demand management) remains alive and well at most Central Banks.

Ramrattan and Szenberg review Keynes's writings, identify his critical train of thought and the central ideas contained therein. They propose that these ideas may be nested into Smith's vision of capitalism, a novel way of linking these two great English political economists.

***The General Theory* and Friedman, Kaldor, Marx and Sraffa**

Backhouse and Bateman note deep-seated differences between Friedman and Keynes – Friedman believed that economics is a positive science and that the market can regulate the economy; whereas Keynes believed that economics is a moral science and that the market, by itself, cannot regulate the economy. They examine the similarities – both believed in the dangers posed by inflation, the importance of monetary policy and their informal approach to modelling. They conclude that both developed models and policies that were consistent with their individual albeit different visions of capitalism.

Camara-Neto and Vernengo analyse to what extent Keynes was successful in showing that the economic system tends to fluctuate around

a position of less than full employment. They argue that a successful extension of Keynes's principle of effective demand must be based on an understanding of Sraffa's dismissal of the natural rate of interest and Kaldor's work on the super multiplier and Verdoorn's Law.

Dostaler relates the debate between Keynes and Shaw over Marx and Stalin to the 'Ricardian foundations of Marxism'. Dostaler uses this expression to show a contradiction – Marx as a non-classical economist and a precursor of the theory of effective demand, and to demonstrate that Keynes's 'monetary theory of production' is borrowed from Marx. Dostaler argues that Keynes, Marx and Freud are in the same camp relative to the questions of the nature of money, the love of money and the drive to accumulation. Dostaler then examines the impact of *The General Theory* on Marxism in Western countries and the Soviet Union and its satellites and identifies the reasons for the evolution of Keynes's perception of the Soviet Union.

The General Theory and New Interpretations

Hamouda develops his version of Keynes's model of a monetary economy as set forth in *A Treatise on Money* and *The General Theory* and describes how his version differs from the models advocated by the Post Keynesians and Marshallian/Walrasian economists. Hamouda forcefully argues that those writers did not – and still do not – take the time to master the master's original model.

Rochon examines the question – In *The General Theory*, did Keynes have a theory of endogenous money or did he merely assume the money supply as exogenous and under the control of the Bank of England? Rochon begins by reviewing the debate on endogeneity succinctly summarizing the positions taken by the participants, the circuitists, the horizontalists, and the structuralists and restates his 'revolutionary' definition of endogenous money. Rochon then examines passages from *The General Theory* and two *Economic Journal* articles for textual evidence that Keynes had a theory of endogenous money and concludes that Keynes's theory of endogenous money is incomplete.

Smithin argues that the distinction between interest and profit is not always very clear. To that end he examines four theories of interest and profit (classical, neoclassical, Keynesian/Kaleckian and Marxian). He develops a synthetic theory of profit, one that avoids the problems identified in the previous theories and shows that his theory provides a reasonable explanation of the empirical evidence associated with the operation of the modern economy.

Wray provides an overview of alternative approaches to money, then

focuses in more detail on two main categories: the orthodox approach to money that views money as an efficiency-enhancing innovation of markets and the Chartalist approach that sees money as a creature of the state. Wray then examines the implications of viewing money as a public monopoly and links that view back to Keynes, arguing that extending Keynes along these lines would bring his theory up to date.

NOTES

1. While Klein asserted the existence of a revolution in economics (*The Keynesian Revolution* (Klein 1966)) a huge body of literature has been generated on this issue. The interested reader may begin with Kuhn (1970) and Lakatos (1969, 1970).
2. In his remarks about the *Tract*, Schumpeter notes:

He knew for certain that it would soothe and that return to a gold system at pre-war parity was more than *his* England could stand. If only people could be made to understand this, they would also understand that practical Keynesianism is a seedling which cannot be transplanted into foreign soil: it idles there and becomes poisonous before it dies. But in addition they would understand that, left in English soil, this seedling is a healthy thing and promises both fruit and shade. Let me say at once and for all: all this applies to every bit of advice Keynes ever offered. (Schumpeter 1969, p. 275, emphasis in original).

3. See Robinson (1933) for one of the first public articulations of this simple model.
4. Haavelmo (1944) formalized the integration of objective probability and econometrics.
5. 'The flexibility of the human to consider as-yet-unforeseen consequences during critical decision making, go with the gut when problem-solving under uncertainty and other such abstract reasoning behaviours built up over the years of experience will not be readily displaced by a computer algorithm' (Schmorrow 2010).
6. It is necessary to distinguish between two aspects of a liquidity crisis. The first aspect is associated with short-run cash flow problems that are confined to a few businesses and financial institutions. Black Monday would be an example of this aspect. The second aspect is associated with a potential collapse of a nation's financial system stemming from the failure to price a wide variety of financial instruments, the existence of questionable and unregulated financial practices and the intimate interconnection among financial institutions and their counterparties. The solution to this aspect of a liquidity crisis involves more than an injection: the actions taken by the Fed and the Treasury to prevent the systemic failure of financial institutions in the United States would be an example.
7. What follows is a brief summary of one of Keynes's many plans for the socialization of investment.
8. The specific references for the items in Keynes's risk management plan are: Memorandum to Sir Richard Hopkins and others dated 15 May 1942 'Budget Policy' pp. 277–80; Letter to James Meade dated 25 April 1943 pp. 319–20; Memorandum to Sir Wilfred Eady dated 10 June 1943 'Maintenance of Employment: The Draft Note for the Chancellor of the Exchequer' pp. 352–7; and Memorandum to Sir Richard Hopkins dated 21 June 1945 'National Debt Enquiry: The Concept of a Capital Budget' pp. 403–15. These documents may be found in Keynes, CW, vol. XXVII. See Cate (2011) for additional comments on this proposal.

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