

# Introduction

## L. Randall Wray and Mathew Forstater

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This volume contains a selection of the papers that were presented at the 9th International Post Keynesian Conference, organized by Jan Kregel, Mathew Forstater, and L. Randall Wray and held at the University of Missouri–Kansas City (UMKC) in September 2006. The conference was jointly sponsored by the *Journal of Post Keynesian Economics*, UMKC's Center for Full Employment and Price Stability (CFEPS), and the Economics Department of UMKC. The conference is normally part of a workshop that takes place every other year, carrying on the long tradition that was begun in the 1980s by Jan Kregel, Piero Garegnani, and Sergio Paranello. The workshops were originally held in Trieste, Italy, and were continued by Paul Davidson at the University of Tennessee–Knoxville before finally settling in Kansas City.

Traditionally, the workshop includes both a conference and a summer school, combined over a 10–14-day period. However, because the 2006 conference would be celebrating several significant anniversaries, it was scheduled for September, and the summer school was held separately in June. The summer school was a smashing success, with over 70 graduate students and faculty from around the world discussing not only a wide range of topics in Post Keynesian economics but also institutionalist, Marxian, and feminist economics. In addition, anthropology, sociology, and Black studies were included in the curriculum, reflecting the interdisciplinary nature of UMKC's PhD program. Many of the students and faculty would return to Kansas City for the conference in September.

We are most grateful to the members of the summer school faculty for volunteering their time: Morteza Ardebili, Barbara Bonnekessen, Robert Brazelton, S. 'Charu' Charusheela, Jerry Courvisanos, Colin Danby, Eliseo Fernandez, Mathew Forstater, Scott Fullwiler, Michael K. Green, John F. Henry, Jan Kregel, Frederic S. Lee, John Marangos, Donald Matthews, Jesús Muñoz, Christopher Niggle, Erik Olsen, Tanya Y. Price, Michael J. Radzicki, Jim Sturgeon, Linwood Tauheed, Pavlina Tcherneva, James Webb, and L. Randall Wray.

More than 150 economists from around the world attended the September conference, which celebrated: the 60th anniversary of Keynes's

death, the Employment Act, the formation of the World Bank and the International Monetary Fund (IMF) and the Bretton Woods meeting; and the 40th anniversary of the Freedom Budget. Most importantly, it marked the 70th anniversary of the publication of Keynes's *General Theory*. The usual conference was followed by an extraordinary day-long series of keynote speeches by the world's foremost Keynes scholars. In recognition of the significance of the timing of the conference, we have selected those papers most closely related to Keynes and to *The General Theory* for this conference volume. Topics covered herein include the relations between Keynes and heterodox economics, the founding fathers of Post Keynesian economics, models inspired by the economics of Keynes, Keynesian policy, and modern developments and extensions of Keynes's economics. Obviously, these represent only a small fraction of the interesting papers that were presented at the 33 panels organized for the conference, and we would like to thank all of the other presenters whose papers covered a much wider range of topics than we could include in this volume.

As always, the editors would like to thank, in particular, Louise and Paul Davidson for their advice in the planning and organization of the conference. And we are grateful to Jan Kregel, who took time off from his busy schedule to help plan the workshop, teach at the summer school, and give a presentation during the conference Keynote Session.

The faculty and students of UMKC's Economics Department and the staff of CFEPs also played an important role in helping to make the conference possible. In particular, we thank Robert Brazelton, Karol Gil-Vasquez, Charlene Heinen, John Henry, Stephanie Kelton, Fred Lee, Ergun Meric, Gerald J.B. Mupingo, Michael Murray, Kelly Pinkham, Gianluca Rossi, Alla Semenova, Natalia Speer, Heather Starzynski, Jim Sturgeon, and Pavlina Tcherneva. Most of all, we thank Heather Starzynski for excellent editorial assistance in preparation of the manuscript and for keeping the authors to a tight schedule. Without all of her work, the volume would have been impossible.

In the remainder of this introduction, we shall summarize the main points of the chapters collected in this volume.

## PART I: KEYNES AND HETERODOX ECONOMICS

### 1. King: What Are We Against?

In his chapter, Professor John King responds to claims by Bateman and Colander that heterodox economists are critiquing a straw man version of orthodoxy because they ignore the substantial changes made in the

mainstream approach to macroeconomics over the past 40 years. According to the Bateman and Colander view, the now dominant new consensus macroeconomics (NCM) is solidly based on behavioral economics, having abandoned the older neoclassical synthesis with ad hoc assumptions, inadequate treatment of expectations formation, and a flawed view of the operation of monetary policy. The NCM adopts a reconfigured IS (investment–savings) curve, replaces the old LM liquidity curve with a Taylor-type monetary policy rule, and includes a short-run Phillips curve. It is supposed to be based on solid microfoundations, incorporating an intertemporal general equilibrium model immune to the Lucas critique and other problems that brought about the downfall of the neoclassical synthesis.

King examines the ‘new’ orthodoxy in detail and wonders why money is included in the models at all, since every conceivable state of the world is presumed known by agents in the models. He concludes that the newer approaches are not much different from the old ones. In some ways they are better, but in other respects they are much worse. For example, in the new approaches, there is no possibility of ever being out of equilibrium because markets clear continuously. King argues that the new approach to macro policy leaves virtually no room for behavioral economics – one of the advantages claimed by Bateman and Colander. Hence, ‘Mainstream macroeconomics has not progressed very much in recent years, and where it has advanced it has been towards positions already established by heterodox (read: Post Keynesian) theorists’.

## 2. Muñoz and Bonales: Lakatosian Insight

Professors Muñoz and Bonales use Lakatosian methodology to identify the scientific research program (SRP) that is embedded in Keynes’s *General Theory* to anticipate the direction he might have taken after 1937 if he had not become ill, with his time absorbed in important policy matters. They find that Keynes’s SRP was based on a number of important concepts, such as animal spirits, market clearing as a special case, irreversibility, uncertainty, money non-neutrality, and liquidity preference. However, the most important of his insights was that equilibrium can be achieved without full employment. His probable directions after the publication of *The General Theory* would have included work in the area of endogenous money, inflation, open-economy macroeconomics, growth and cycles, and distribution. The authors doubt that Keynes would have pursued either microfoundations of macro (a trendy topic for the mainstream 40 years later), or imperfect competition (taken up by some of Keynes’s followers). The authors conclude that Keynes would not have altered the fundamental vision of *The General Theory* in this

later research – nor should he have done so, because its core has never been seriously challenged.

## PART II: FOUNDING FATHERS OF POST KEYNESIAN ECONOMICS

### **3. Lourenço: Minsky and Keynes on Volatility**

Professor Lourenço examines the emphasis placed by Keynes and by Hyman Minsky on the volatility of investment. Minsky proposed what he called the ‘investment theory of the cycle’ and the ‘financial theory of investment’. Lourenço contrasts Minsky’s ‘two-price model’ approach, which utilizes an investment ‘demand price’ curve and an investment ‘supply price’ curve to determine the level of investment, with Keynes’s exposition that relies on the marginal efficiency of capital and the interest rate. He faults Minsky for barely distinguishing between the demand price for new investment and the market price for equity shares. Further, Minsky’s analysis relies on shocks to explain the business cycle, rather than on endogenous generation of the cycle as in Keynes’s approach. Minsky’s analysis is thus criticized as more ‘mechanistic’. Further, the economic agents in Minsky’s model are more rational in the neoclassical sense, unable to deviate from strict profit maximization. However, because Minsky assumes that agents tend to hold homogeneous expectations, herd behavior leads to highly volatile investment – growing explosively in a euphoric boom or crashing when expectations reverse. On the other hand, Keynes recognized that economic stability requires heterogeneity of expectations – diversity of opinion helps to hold the economy in check so that it does not oscillate between one extreme and the other. While the editors of this volume believe that Lourenço has misinterpreted Minsky on some points and ignored the importance in Minsky’s model of institutional ‘ceilings and floors’ in constraining the endogenous instability that is inherent in market economies that use sophisticated capital equipment and financing techniques, we include Lourenço’s chapter in this volume to spark debate on this important and timely topic.

### **4. Sau: Two Founding Fathers**

Professor Sau argues that Keynes and Kalecki are two founding fathers of the critique of the notion that markets are necessarily self-regulating in the sense that they are equilibrium seeking. In particular, they deny that wage and price flexibility will generate an equilibrium position with full

employment. Indeed, the market forces can – in at least some significant situations – generate instability, moving the economy away from equilibrium. For example, if falling wages generate falling prices, this is likely to depress business expectations to the extent that prices are expected to be even lower in the future, thus reducing aggregate demand. By the same token, falling prices increase the burden of money-denominated debt; while creditors are richer in real terms, this is only true if debtors do not default. Hence, the net impact could be lower aggregate demand. Further, falling output prices would lead to falling asset prices – possibly to a Fisher debt deflation – and financial market instability. Kalecki rejected the so-called ‘Pigou effect’ (falling prices increase wealth through a real balance effect, stimulating consumption) on the basis that rising debt burdens would increase uncertainty and push up the long-term interest rate (falling investment could then more than compensate for any induced consumption). Hence, not only does price flexibility fail to move the economy toward equilibrium but it actually generates instability. Sau concludes the analysis by linking the arguments of Keynes and Kalecki to those made later by Tobin, Minsky, and Caskey and Fazzari.

## 5. Harcourt: On Asimakopulos

According to Professor Harcourt, Tom Asimakopulos came over to the heterodox side as a result of attending Robert Solow’s lectures in 1965–66, apparently disgusted by the increasingly unrealistic assumptions adopted in what passed for economics in the name of Keynes at the centers of higher learning. Asimakopulos insisted that all economic discussions need to be grounded in a recognizable economy with history, institutions, and rules of the game, and with investment and consumption, wages and profits, and workers and capitalists. In his later work, he came to recognize the ‘crucial organizing concept of the surplus’, although he rejected long-period analysis and the notion that there is convergence to centers of gravity – both of which are adopted by many other economists who take a surplus approach. He linked the surplus to questions about distribution, effective demand, and employment. He always emphasized that, in discussion of a causal model, one must use historical time, not equilibrium – which can only describe equilibrium relations while merely assuming that there must be forces to move the economy to the position of equilibrium. In other words, equilibrium methodology is useless for matters of causation – which is what is usually of greatest interest. Of course, there was a close affinity between his argument and Joan Robinson’s distinction between equilibrium and history.

Asimakopulos set off something of a firestorm of controversy in the pages of the *Cambridge Journal* and the *Journal of Post Keynesian*

*Economics* when he criticized Keynes's notion of the saving–investment relation. This was unintentional and surprising to Asimakopulos. One of the editors of this volume (Wray) recalls several later conversations with Asimakopulos, who was still hurt by the reaction and remained convinced that he had said nothing that should have been controversial. As Harcourt explains, Asimakopulos believed that Keynes's exposition was a *specific* theory, applicable only in the presence of unemployed resources and unused capacity in the financial sector, so that real resources could be mobilized for investment. Further, Keynes's argument was not a historical analysis, because it ignored the time required for the multiplier to raise income and induce saving. Only at the end of the historical process would investment have been able to create an equivalent amount of saving. Harcourt does not find Asimakopulos's argument to be completely comprehensible and so offers his own view on the relation: ‘“Yesterday's” saving may influence “today's” investment, and “today's” saving may influence “tomorrow's” investment, but it is “today's” investment which is responsible for “today's” saving’. This is not the place to try to defend or criticize the position taken by Asimakopulos, but the editors note that Keynes very specifically addressed the issue concerning investment and the time required for the multiplier to operate in section IV of chapter 10 of *The General Theory* (pp. 122–5), which makes it quite clear that the saving–investment equality does not depend on any sleight of hand such as an instantaneous multiplier (or, as Asimakopulos believed, on ignoring history). In any case, Harcourt is correct in his argument that Asimakopulos stands as a giant among the second generation of the followers of Keynes.

## 6. Slifi: On Asimakopulos

Slifi also revisits Asimakopulos's critique of the Keynesian saving–investment relation. However, Slifi proposes a different, two-pronged solution. First, he argues that Keynes did want to use historical time but this created a tension with his short-period equilibrium approach; hence, he was forced to define a period as a length of time long enough to allow all income received to be spent. Clearly, this favors equilibrium analysis over historical analysis. If we drop this peculiar definition of period, then it is not true that investment equals saving no matter what the level of income happens to be, breaking the saving–investment identity. Slifi thus proposes to recast the formulation by combining the fundamental equations of the *Treatise on Money* with the identities from *The General Theory*, specified dynamically. The dynamic formulation (for example, spending this period depends on income from the last period) allows saving to deviate from

investment except at the equilibrium level of income that is achieved only after the multiplier operates, resolving the problem identified by Asimakopulos in Keynes's presentation. While the editors are not convinced that there is any problem in Keynes's approach that requires correction, this chapter makes an interesting contribution to the controversy first spurred by Asimakopulos.

## PART III: KEYNESIAN MODELS

### 7. Richardson and Courvisanos: Keynes and Kalecki

Colin Richardson and Jerry Courvisanos continue their important work on both Kalecki and the use of computer simulations in 'Modeling Keynes with Kalecki'. After rejecting the standard neoclassical interpretation of Keynes embodied in the IS–LM model, the authors argue that a Keynes–Kalecki synthesis can prevent the hijacking of Keynes by neoclassical economics, in part made possible by the remnants of Marshallian micro theory found in *The General Theory*. For Richardson and Courvisanos, the Kaleckian contributions that must be wedded to Keynes's framework are the dynamics of investment and profits and class-based income distribution. After laying out the model, the authors then subject it to computer simulations in three alternative institutional settings, with entrepreneurs, trade unionists, and Kaleckians in control of economic policy formulation.

The approach employed by Richardson and Courvisanos is Post Keynesian not only in its substance but in its method as well. Keynes's warnings about the pitfalls of overly formal and problematic mathematical techniques are well known, and the authors reject a standard econometric approach on these and related grounds. In its place, they employ a version of an approach increasingly popular in Post Keynesian circles: system dynamics. System dynamics complements rather than replaces verbal reasoning, and it can deal with both real-world complexity and disequilibrium (or non-equilibrium) dynamics, such as those characterized by cumulative causation.

Richardson and Courvisanos examine five different policies within the three institutional settings over what they call an 'era' (defined as 100 simulated short periods). Entrepreneurs promote moderate money wage growth and/or increased productivity. The first results in lower employment, a higher unemployment rate, and unacceptable excess capacity, as well as deflation. The last is only slightly better, with employment lower at the end of the era than at the beginning. Trade unionists back an approach

based on money wage-led aggregate demand stimulus and/or job sharing. The first results in desirable employment and unemployment outcomes, but only with the attainment of an impossible negative excess capacity utilization rate, and severe price and wage cost inflation far outpaces increased profit margins. The latter policy does provide price and wage stability, but it also results in slow employment growth and an unacceptable unemployment rate. Kaleckians support a policy program comprising increased investment planning and an incomes policy. Their simulation shows that this approach provides full employment and price stability, with rising real wages and strong employment growth.

## **8. Atesoglu: A Model for the 21st Century**

In his chapter, 'A Keynesian model for the 21st century', H. Sonmez Atesoglu, known to Post Keynesians for his empirical work, especially in the area of monetary policy, attempts to provide an alternative to both the standard neoclassical IS–LM and the Post Keynesian Weintraub–Davidson aggregate supply–aggregate demand models. For Atesoglu, such an alternative must include what he considers to be the fundamental Keynesian insights: the possibility of the economy being in macroeconomic equilibrium below the full employment level of output; monetary non-neutrality in the short and long runs; and aggregate demand driven by autonomous spending. Following his development of this model of output and employment, Atesoglu considers the policy implications and then introduces a monetary sector and uses it to discuss monetary policy in the United States.

The model of output and employment put forward by Atesoglu has some family resemblances to the 'Keynesian Cross', but there are some important differences. In the traditional version, there is no variable for employment, and both technology and labor productivity are considered given, so employment simply moves up and down with GDP in constant proportions. In Atesoglu's version, there is an explicit variable for employment, as well as for the employment–output ratio (inverse of labor productivity). The fiscal policy implications are standard Keynesian, with tax cuts and/or increases in government spending stimulating output and employment, given the likelihood of the economy operating below the full employment level of output. Atesoglu goes beyond this standard Keynesianism in considering the 'socialization of investment', however, and he makes the important point of citing important real-life examples, including the interstate highway system, aerospace, and the Internet.

In his model of the monetary sector, Atesoglu offers a partial equilibrium alternative to the general equilibrium IS–LM model. He also employs a 'neutral interest rate rule' as an alternative to the Taylor rule for monetary

policy. Atesoglu admits that his results for the monetary model are not as reliable as those for his model of output and employment and that further work needs to be done, especially for understanding issues such as the determination of long-term interest rates.

## 9. Carvalho and Oreiro: A Post Keynesian Macrodynamic Model

Luciano Dias Carvalho and José Luís Oreiro offer a Post Keynesian macrodynamic model of capital accumulation, income distribution, technical progress and endogenous money. While there have been models of growth, distribution, and technical change, few have combined these with endogenous money, now one of the most widely accepted theoretical contributions in Post Keynesian theory. This allows the authors to include some highly original propositions in their model, such as the influence of technical progress on the banking mark-up. Carvalho and Oreiro then employ computer simulations to track the dynamic path of the economy according to their model. In this, they use real-world values where there exist reliable estimates and the correspondence principle where there do not.

Carvalho and Oreiro's model is an attempt to combine the so-called 'Cambridge' (that is, Kaldor–Pasinetti) model of growth and distribution with Post Keynesian monetary theory (associated with the endogenous money approach of Basil Moore, Randy Wray, and others). As already stated, one of their original contributions is to link technical change and the banking mark-up. The authors thus bring a Schumpeterian element into their model, with its important role for bank credit in technological innovation. In terms of the results of their simulations, one of the most interesting, perhaps, is that a low propensity to save is more important than a high rate of technical progress for macroeconomic stability. Thus, the paradox of thrift continues to be a prime feature of the model, demonstrating the continuing relevance of Keynes's insights in *The General Theory*.

## PART IV: KEYNESIAN POLICY

### 10. Panico: Keynes on Control of Money Supply and Interest Rates

Panico examines Keynes's position concerning the ability of the central bank to control monetary aggregates and interest rates, as presented in *The General Theory*, the *Treatise on Money*, and elsewhere. Followers of Keynes have long stressed the accommodative nature of the money supply while focusing on the central bank's ability to achieve lower interest rates in order to stimulate effective demand. Basil Moore has gone even further, arguing

that the central bank has no direct influence on the quantity of money, while the interest rate is said to be set exogenously by policy. Indeed, the money supply is supposed to be horizontal, with the quantity of money determined solely by borrowers. According to Panico, the position taken by Keynes is that the central bank *could* control the money supply if it adopted the appropriate procedures; however, he provided several caveats. In the *Treatise on Money*, he recognized that the supply of central bank reserves at the discount window would be mostly nondiscretionary ('horizontal' in modern parlance) in practice because the central bank sets a discount rate and then accommodates demand. In open market operations, the central bank has some control over reserves; however, this is attenuated by the necessity to respond to impacts on reserves arising from fiscal operations as well as from the external balance. At the time of the writing of the *Treatise on Money*, the government budget was generally in balance; hence, the main issue was the external balance of the nation operating on a gold standard. In this case, the interest rate is exogenously determined by the need to maintain external balance; thus the central bank would have to accommodate the demand for reserves at that interest rate. According to Panico, Keynes's conclusions on control of the money supply did not change with the publication of *The General Theory*: while it would be technically possible to control the supply of money, the central bank would instead choose to control the interest rate, in order to finance fiscal operations (internal balance) and achieve international objectives (external balance).

However, Keynes's approach to control of the interest rate did change substantially after the publication of the *Treatise on Money*. In that book, he argued that the central bank has the ability to identify the natural interest rate consistent with full employment and price stability. It would then set the policy rate at the natural rate, with short-term rates falling in line. Its ability to influence longer-term interest rates was believed to be more problematic because banks could resist central bank efforts to drive rates down. According to Panico, in *The General Theory*, Keynes abandoned the notion of a natural rate. (The editors would put this more precisely: in *The General Theory*, Keynes argued that there is a different natural rate for each level of effective demand, only one of which – the neutral rate – is consistent with full employment [*The General Theory*, p. 243].) So long as it is believable, it will be able to hit an interest rate target. However, again, the setting of the target will depend on international constraints; with a gold standard, the central bank's discretion is limited. Panico concludes that, while Keynes's *General Theory* analysis changed significantly from that of the *Treatise on Money* (most importantly, Keynes embraced a monetary theory of production), this did not require any major change to his views on the central bank's control over the money supply or interest rates.

Hence, the relatively new ‘horizontalist’ approach to money is not necessary in order to challenge neoclassical theory.

## 11. Bresser-Pereira and Gomes da Silva: Inflation Targeting

Professor Bresser-Pereira and Gomes da Silva offer a very interesting analysis of inflation targeting in Brazil. Rather than critiquing inflation policy in general, they argue that it can only be implemented in the proper economic environment. In Brazil’s case, inflation targeting (IT) was adopted prematurely and has contributed to sluggish growth, fiscal constraints, high unemployment, and an overvalued exchange rate. While many credit IT for Brazil’s recent lower inflation rate, the authors argue that the country could have had lower inflation with far lower costs and without forgoing economic development if it had pursued an alternative set of policies. They reject the old Tinbergen notion that the central bank can target only one variable per policy instrument. A simple inflation target would be unacceptable, for the central bank must also be concerned with the exchange rate and with unemployment. However, the main point they want to make is that adopting an inflation target can be a part of a monetary policy regime but an inflation target cannot be used to switch from one regime to another. In other words, Brazil should have first shifted to a monetary policy regime with low inflation and then adopted IT, rather than trying to use IT to achieve low inflation.

Bresser-Pereira and Gomes da Silva have long argued that Brazil’s typically high inflation experience has more to do with what should be called fiscal policy than with monetary policy. In this chapter, they explain that indexation of public services was a major contributing factor. Thus, they propose that the government stop indexing public services as well as any other prices over which government has control – either as provider or regulator. Brazil’s inflation is generated mostly on the supply side by pricing behavior and is not due to excessive aggregate demand. However, policy has wrongly focused on contracting demand to fight inflation, rather than tackling pricing directly. They would also eliminate indexing of government bonds, which keeps market interest rates and government debt service high. Given interest costs, the government must run a large primary surplus to keep the debt-to-GDP ratio from exploding. Bresser-Pereira and Gomes da Silva would lower interest rates and then reduce government spending as a signal that the government would not allow excessive demand to renew inflation. This would allow Brazil to escape from what the authors see as a high interest rate trap: the high rate encourages capital inflows that cause overvaluation of the currency. While this does help to lower inflation (by reducing import costs), the central bank is afraid to lower interest rates

even as inflation comes down because this would reverse capital flows and generate pass-through inflation as the currency depreciates. Hence, achieving low inflation *first* by formulating an alternative monetary regime (rather than trying to achieve low inflation through high interest rates alone) would allow for a lower *level* of interest rates within which IT could operate.

## **12. Kelton: Social Security**

Professor Kelton focuses on Albert Eisner's examination of the US social security system as an example of particularly clear thinking inspired by Keynes's insights. Like the story about money arising to reduce the transactions costs of barter, or the orthodox belief that supply and demand determine price, the claim that a trust fund finances social security benefits is a fairy tale. Eisner insisted that any projected shortfall of trust funds is just an accounting phenomenon with easy accounting fixes. The trust fund itself is just an accounting entity with no *ex ante* significance; payroll taxes do not 'go into' the trust fund and benefit payments do not 'come out of' it. Indeed, no tax revenue is used to make any federal government payments, for all payments are made by check or direct bank deposit. There is no possibility that a federal government program can go bankrupt or face any financing problem whatsoever. All benefit payments can be made when they come due, whether the trust fund is in surplus, balance, or deficit. Hence, there is no need to create private accounts, cut benefits, raise taxes, increase the retirement age, eliminate cost-of-living adjustments, or impose means tests to 'restore solvency' to the social security program. Unfortunately, Eisner's clear analysis is ignored even by supporters of the program, as Kelton demonstrates by exposing several fallacies promulgated by Paul Krugman, one of the most widely read economists involved in the social security debate in the US today.

## **PART V: MODERN DEVELOPMENT AND EXTENSIONS OF KEYNESIAN ECONOMICS**

### **13. Cho: Finance**

Bokhyun Cho's contribution investigates the impact of the evolution of financial structure on the formation of investor expectations and therefore investment. Cho's argument is that market liberalization and accompanying financial innovation have increased the instability of investment finance and decision making. This has created an environment of stagnating investment and sluggish economic growth. The policy implications of such a view call for the crafting of an alternative financial system and support macroeconomic

stabilization policies. The chapter begins with a recounting of Keynes's and Post Keynesian views on these matters. As is well known, in *The General Theory*, investment is the independent variable determining the level of output, income, and employment in the economy. Cho argues that the financial sector can affect investment through two processes. The first is through the influence of the financial system on investor expectations, the second by way of the supply of credit. Some Post Keynesians, such as Moore and Asimakopulos have challenged some of Keynes's positions. However, Cho, following Wray, Kregel, and others, rejects these challenges and defends Keynes's original views. On the one hand, Cho rejects the extreme horizontalist view, instead combining endogenous money theory with a position that banks' liquidity preference can affect the supply of credit. On the other hand, Cho rejects Asimakopulos's claim that, under some circumstances, increased savings may be necessary to achieve a higher level of investment. Investment may be constrained by a shortage of credit but not by a shortage of savings.

Cho then turns to his analysis of the development of the financial sector and the implications for investment finance and expectations. He examines developing and industrialized economies since the mid-1970s and concludes that their financial sectors have been characterized by deregulation and market liberalization. Prior to that time, financial regulation provided some stability to the system. The period also has seen significant financial innovation. Cho argues that such financial liberalization and innovation have increased volatility of interest rates and stock prices, and they have shifted the financial sector's center of gravity from banks to capital markets. These developments have affected the liquidity preference of banks and individuals and altered banks' lending patterns. As a result, there has been greater instability of investment finance and a more uncertain environment under which investor expectations are formed. Cho concludes that these two developments have resulted in stagnating investment and sluggish growth. These factors have been further exacerbated by changes in both investment allocation and investor objectives brought on by the changed financial structure. Under the circumstances, Cho sees no alternatives to constructing a different financial system and supporting strong macroeconomic stabilization policies to promote economic prosperity.

#### **14. Dickens: Probability, Investment Behavior, and Behavioral Finance**

In his chapter, Edwin Dickens takes on a topic that has received significant attention: Keynes's writings on probability and their link to his theory of investment. Dickens draws on recent developments in the behavioral finance literature, including the winner's curse, betting quotients, preference reversals,

and loss aversion, to argue that for any given investment project, the probability of the payoff, and therefore the expected profits, according to Keynes, will be lower than the estimates of orthodox economists. For Dickens, what is at issue is the orthodox versus Keynes's notion of risk. While the orthodox concept of risk is derived from viewing probability in terms of the principle of non-sufficient reason or the law of large numbers, Keynes's version of the concept is derived from viewing probability in terms of the logical relationship between propositions, which allows Keynes to introduce the idea of the weight of arguments.

Dickens begins by deriving the orthodox notion of risk from the definition of probability in terms of the principle of non-sufficient reason; he then uses the idea of the winner's curse from the behavioral finance literature to refute this version, as applied to investment decision making. The winner's curse states that anyone who makes a bid on an asset for what they think the asset is worth, will lose out. This implies, however, that no rational person would ever undertake investment. While Keynes may have believed that not very much investment would take place if it had to completely rely on cold calculation, he did not think that none would take place. Therefore, this version of the orthodox approach to probability and risk is rejected by Dickens. The author then turns to the orthodox definition of probability in terms of the law of large numbers, drawing on empirical data on betting quotients to invalidate this version (again, as applied to investment decision making). The law of large numbers applies to some types of gambling. For example, in the case of a coin toss, according to this approach, (rational) people should be willing to pay 50 cents for the opportunity to earn a payoff of \$1 if a coin turns up heads and nothing if it turns up tails. But the empirical results of the betting quotient literature show that people are willing to pay not 50 cents but 40 cents. Dickens later argues that this result is consistent with the weight of argument approach, but it means that this second orthodox approach, too, is inapplicable to investment decision making. Finally, Dickens uses the definition of probability as a logical relationship between propositions to explain Keynes's notions of risk and the weight of an argument, drawing on the ideas of preference reversals and loss aversion from the behavioral finance literature to argue for their validity. Dickens concludes that Keynes's version of probability encompasses the orthodox version. Since Keynes recognizes the potential that investment decisions may operate in an environment of fundamental or radical uncertainty, it may not be possible to assign a numerical value to his estimate of the probability of the payoff from an investment project. Dickens argues, however, that it is still possible to demonstrate that Keynes's estimates of probability and expected profit are less optimistic than those of orthodox economists.

## 15. Gala: Real Exchange Rate Levels, Investment and Growth

Paolo Gala offers a Keynesian perspective on the relation of real exchange rate levels, investment, and economic growth, arguing that an undervalued currency can contribute to investment and capital accumulation. The chapter begins by examining two possible channels through which real exchange rates may affect growth in the long run: technological upgrading and capital accumulation. Drawing on Bhaduri and Marglin, Gala constructs a macro model in which investment depends on capacity utilization and profit margins and consumption depends on real wages. The real exchange rate is thus introduced, since, given productivity, it will define the level of real wages by setting the relative price of tradable to non-tradable goods in the worker consumption bundle. A relatively appreciated (undervalued) currency will mean lower (higher) tradable prices, higher (lower) real wages, lower (higher) profit margins, higher (lower) consumption, and lower (higher) investment. An undervalued currency may also lead to higher employment and investment by increasing capacity utilization through higher exports. Thus, investment-led growth would characterize the economy.

Alternatively, the technological argument is based on the idea that an undervalued currency may stimulate the nontraditional tradable sector of developing nations, which then could climb the technological ladder via learning by doing and cumulative technological change in the manufacturing sector. Such an argument, as is found in Williamson's 'development approach to exchange rates', is especially relevant for resource-rich countries. On the other hand, appreciated currencies would prevent the development of the manufacturing sector, with its associated economies of scale and technological spillovers.

Gala then turns to a discussion of East Asian experiences on the one hand, and African and Latin American experiences on the other, to support his theoretical argument. East and Southeast Asian growth strategies, which have been relatively successful, have been associated with undervalued currencies and investment-led growth. Most Latin American and African nations have suffered from balance-of-payments crises due to exchange rate overvaluation, and consumption- rather than investment-led growth cycles, as well as instability.

## 16. Huang: Liquidity Preference

Liquidity preference is the topic of the chapter by Wenge Huang, who seeks to reinterpret, remedy, and develop the concept as presented by Keynes in *The General Theory*. Huang reviews the debates regarding liquidity preference that followed the publication of *The General Theory*, and

Keynes's identification of the finance motive as an additional source of money demand. The author points out that the finance motive was soon forgotten – until its 'rediscovery' by Davidson in 1965 – and instead the IS–LM model became the most popular presentation of the Keynesian framework. But the IS–LM model has been criticized as misrepresenting Keynes and suffering from internal incoherence. Huang thinks the problem is due, at least in part, to the fact that the finance motive was not introduced in *The General Theory*, where the transactions motive was introduced first and emphasized. Subsequent presentations continued to introduce and emphasize the transactions motive and to ignore or de-emphasize the finance motive, a problem magnified by the fact that, in the investment–realization period – the time between when entrepreneurs make their investment decisions and when that investment is realized – the increase in the finance motive comes first and is of primary importance.

Huang argues that, if liquidity preference theory is reconstructed with the finance motive playing a stronger role than the transactions motive, it can be demonstrated that, in a capitalist economy with a modern banking system, the interest rate is determined by the supply of and demand for bank reserves rather than money supply and money demand.

The argument is simple and applies whether the interest rate is market determined or determined by the central bank – in other words, by whether it is a fixed or floating rate regime.

## **17. Keen: Revolving Fund of Finance**

Steve Keen's chapter incorporates Keynes's notion of a revolving fund of finance into a circuit framework. Like Huang, Keen sees the finance motive as central to an understanding of Keynes's system. Investment must be financed, and so investment must be preceded by the demand for credit. If the loans are forthcoming, workers are hired and materials are purchased, causing incomes to rise. Some of the income is spent, but what is not is saved, and thus investment determines savings through changes in income. Savings does not determine investment, as finance is not savings. To confuse the two is – among other things – to confuse a stock and a flow. In addition, the finance–investment–income–savings process of Keynes is consistent with the endogenous view of the money supply. Keen argues that there are contradictions between this interpretation of Keynes and the circuit theory and that, where the two diverge, Keynes is correct and the circuit school is incorrect, due to the latter's confusion of stocks and flows, but that, nevertheless, the circuit approach is still indispensable to a full depiction of what Keynes in his lectures and early drafts of *The General Theory* called a 'monetary production economy'.

Beginning with what he calls the ‘three canonical circuitist insights’ (a commodity money-using economy is not a monetary economy; transactions in a monetary economy are three-sided, single-commodity exchanges; money is not defined in terms of different types of bank deposits), Keen argues that the circuit school derives the incorrect results that (i) a constant level of production requires an increasing stock of money; (ii) debts cannot be repaid in money; and (iii) aggregate money profits cannot be positive. He then shows that, from the same point of departure, a formal mathematical model can be erected that contradicts the circuit school and vindicates Keynes on all three of these results. In doing so, Keen not only draws on the circuit school, but he claims to reconcile horizontalist and structuralist approaches to endogenous money.

### **18. Le Heron: Monetary and Fiscal Policies**

In his ‘Monetary and fiscal policies in a Post Keynesian stock–flow consistent model’, Edward le Heron seeks to reconcile liquidity preference and endogenous money approaches by simulating capitalist dynamics in a model now familiar to Post Keynesians, the stock–flow consistent macroeconomic model. The author builds a more ‘realistic’ version of the model (by taking into account, for example, Minsky’s concepts of borrowers’ and lenders’ risks, and the amortization of circulating capital) and then uses it to examine the impact of contractionary monetary policy on banks and firms under three different (neutral, weak, and strong) counter-cyclical fiscal policy regimes.

In both the neutral and the weak counter-cyclical fiscal policy regimes, le Heron’s simulations show that contractionary monetary policy (a rise of the central bank’s short-term lending rate from 2 percent to 4 percent) results in marked economic contraction. This is explained by financial factors as the higher finance costs reduce cash flows and increase interest payments (increased borrowers’ and lenders’ risks), and credit rationing ensues. With strong counter-cyclical fiscal policy, however, bigger government budget deficits increase cash flows and, along with banks’ unlimited willingness to lend to government, counter-balance the effects of contractionary monetary policy. While most Post Keynesians have viewed the money supply and the interest rate as a situation in which one variable is endogenous and the other exogenous, le Heron puts forward the idea that both may be endogenous if the liquidity preference of banks is considered.

### **19. Nevile and Kriesler: Expectations and Unemployment**

J.W. Nevile and Peter Kriesler take on the topic of expectations and employment in their contribution, in which they argue – contra mainstream

macroeconomics – that money, expectations, and macro policy can affect ‘real’ variables such as growth, output, and employment, even in the long run. When considered at all by conventional economics, expectations are confined to monetary phenomena and even to discussions of the Phillips curve. Ironically, this area where expectations sometimes are taken up by the mainstream is severely lacking, the authors contend, as there is no coherent story of the transmission mechanism linking expectations to inflation, and inflationary expectations may have no significant impact on actual rates of inflation. In Keynes, the most important area in which expectations play a role is investment determination, and therefore they can influence not only short-run but also long-run ‘real’ output and employment in the economy. Since money, expectations, and macro policy – on their own or in interaction – may affect investment, they may have a real, long-run impact.

In the case of macro policy, if government can effectively communicate that it is committed to using, for example, the fiscal and monetary policy tools at its disposal, to maintain high levels (or rates of growth) of demand in the economy, especially in the event of a downturn, this can ensure steady, higher rates of investment through stabilizing business expectations. Likewise, government failure to do so can just as well increase investor uncertainty, subjecting the economy to greater fluctuations in investment. In both cases, what Nevile and Kriesler rightly emphasize is that this is all the more urgent and important because investment determines employment and unemployment. If this is not the economics of Keynes, nothing is.