Jerry Courvisanos

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PATH TO SUSTAINABLE DEVELOPMENT – A KALECKIAN-SCHUMPETERIAN SYNTHESIS

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Jerry Courvisanos

Associate Professor of Innovation and Entrepreneurship, The Business School, University of Ballarat, Victoria, Australia

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This book is dedicated to my family:

Carmel Anne Hurley for love, affection and tolerance
Madeline Courvisanos for encouragement and optimism
Eleni Areti Courvisanos for thoughtfulness and practicality

Foreword

Economics is a study that consciously, but usually unconsciously, devotes a very large amount of time to recovering the ideas of past thinkers. This is because economists spend too much time in ignorance of what Keynes called 'the history of opinion' that, in his view, 'is a necessary preliminary to the emancipation of the mind'. In the so-called 'mainstream', technique and current events distract from the systematic consideration of theory that is necessary to give substance to technique, and illuminate current events. At the same time, with distinguished exceptions, heterodox economists, affixed to their respective schools of thought, tend to disengage from ideas or theoretical history that they find uncongenial or just boring, while immersing themselves in the minutiae of past opinion that accords with their preferences. Thus many economists astonish themselves, and their ignorant fellows, with insights of spurious originality, rediscovering the ideas of forgotten thinkers, often never realizing that their 'discovery' may in fact be found in the works of some 'defunct economist'.

Schumpeter and Kalecki represent contrasting approaches to 'the history of opinion' in economics. Both stand out as seminal figures in twentieth-century economics. But they could not be more different. Schumpeter seems to have read everything in economics and tried to synthesize it all. At the other extreme, Kalecki read only what was necessary to develop his next idea. However, his extraordinary ability to identify and think through the central economic problems of his (and our) time produced a body of theory in which elements of previous ideas may be found (most notably, Marxian political economy, or even the monetary doctrines of the nineteenth-century Banking School), but whose substance, structure and insights remain deeply original.

In their theoretical work, Schumpeter and Kalecki had in common a preoccupation with the business cycle as a process involving change in markets that was both an approach to applied economics, in the sense of the study of particular conjunctures in markets, and an explanation of how these conjunctures succeed each other through time. (The German word *konjunktur* really has no equivalent in the English language, and English language economics is impoverished by its absence). For both of them the theory is supposed to show how one market conjuncture gives way to another one, in a manner that is not possible in general equilibrium theory, whose theorists have to resort to 'shocks' or changes in taste and technology to recreate change in their analysis.

Schumpeter and Kalecki, however, differed in their approach to the business cycle. Schumpeter, in his classic 1939 study *Business Cycles*, portrays them as statistical phenomena driven by supply or stock adjustments, investment in fixed capital and, in the case of the longest business cycles, technological change. Kalecki, however, while accepting that technological change may affect long-term trends in the economy, was sceptical of a systematic connection between new technologies becoming available and investment and growth. Behind these differences lay a fundamental divergence between the two theorists over their respective visions of the driving force behind capitalist development. For Schumpeter it was the personality of the entrepreneur, seized with the commercial possibilities of new technology, who then raises capital to realize those possibilities. Emulation by more timid capitalists sets off a long boom of investment in new equipment. Kalecki, the son of a failed industrial capitalist, had fewer illusions about the ability of the capital market to supply finance for such imaginative entrepreneurs. In his view, the ownership of capital is the precondition for becoming an entrepreneur – hence his view that only under socialism can there be systematic investment in new technology. For Kalecki, capitalism is driven not by personalities, but by firms with balance sheets, calculating the liquidity and profitability of those balance sheets.

The two theorists also diverged in their view of business organizations and how these would approach new technological possibilities. Schumpeter believed that large corporations would invest in new technology with greater financial security. Kalecki was more sceptical because he thought large firms would be inhibited in their investment in new technology by unused capacity in their existing productive equipment. After Kalecki's death, his friend, Josef Steindl, working within the framework of the Kalecki business theory, came to realize that the notion that new technology merely determined the technology embodied in new industrial investment, was not really tenable. To some extent, innovations in technology affect the amount of investment that firms are willing to undertake, given firms' calculations about their respective liquidity and profitability.

Reflection on the 'history of opinion', and its application to our contemporary world and controversies over technology and our environmental difficulties, is the distinguishing feature of the thoughtful economist. If the reader of this book is moved to reflect on the work of Schumpeter and Kalecki, the author of this book will have succeeded. Even more important than this, if the reader of this book comes to a changed and deeper understanding of how technology changes in our faltering capitalist economies, and of how the environment is affected by production and may be improved with better ways of satisfying our personal and productive needs, then the author will have done an even greater service to his profession and humanity.

Jan Toporowski
Professor of Economics and Finance
School of Oriental and African Studies, University of London,
London, United Kingdom
16 November 2011

The world economy is undergoing one of its periodic crises of structural change. Symptoms include the meltdown of the US subprime mortgage market, the collapse of Lehman Brothers, the bankruptcy of General Motors and austerity regimes of unprecedented magnitude in Europe and elsewhere. At the same time there are repeated warnings of impending ecological disaster due to climate change. Why are these things happening and, more importantly, what can be done to achieve stability and sustainability?

Jerry Courvisanos provides us with a timely analysis of the forces behind the crises of capitalism and the tendency towards ecologically unsustainable growth. He draws on the work of two of the most creative, if not most recognized, economists of the twentieth century, Michał Kalecki and Joseph Schumpeter. In place of mainstream analysis with its emphasis on marginal conditions for optimization around well-defined equilibrium, we have a world of innovation, structural change, creative destruction, business cycles, financial crises, changing income distribution and many other inconvenient developments that plague modern economies.

Courvisanos takes the work of Kalecki and Schumpeter forward into the twenty-first century by incorporating the impact of the information and communication technology revolution, the rise of the high-tech service economy, the extension of globalization and the increasing rate of destruction of the ecosystem among other features of structural change in the world economy. What emerges is an analysis that points to the centrality of the use and abuse of power in shaping the future. Courvisanos thus concludes that tackling the problems of the present and preparing for the future requires a political economy perspective that is lacking in the discussion of short-term palliatives in mainstream economics.

In addition to shifting towards a political economy approach, Courvisanos argues there is need for a methodology that has a critical realist focus, examining the real social world as it negotiates an open system of social structures and agents. With this approach and method, Courvisanos then examines the innovation process in its various institutional settings from individual small entrepreneurs, to publicly funded science research, and then on to intrapreneurship (entrepreneurship within the large and complex corporation). The political economy dimension clearly emerges through the influence of business cycles, infrastructure, and industry policy. In the final chapter, there emerges a blueprint for dealing with ecological sustainable development, regional disparities, technological obsolescence and complexity.

Harry Bloch
John Curtin Distinguished Professor and Professor of Economics
Curtin University,
Perth, Australia
16 November 2011

Preface

When I first investigated innovation, it came out of my work on investment. I quickly found out that the cyclical and volatile nature of capital investment is due to the level of innovation embedded in investment. Without innovation, capital investment ends up only as replacement of capital stock. This has two crucial demand side effects. First, investment demand is limited by the amount of funding required merely to replace depreciated stock. Second, consumer demand is limited to adding more of the product (how many cars and toasters are you prepared to spend money on?), and replacement of the product (what is the extent of planned obsolescence that consumers are prepared to accept?). This investigation ended up as my first book: *Investment Cycles in Capitalist Economies: A Kaleckian Behavioural Contribution*.

After completing that book, I began to realize that research into innovation – whether from the disciplines of economics, management or entrepreneurship – did not view innovation from the investment perspective. For innovation to become successfully commercialized, it requires significant investment in two areas. One is well understood – that is investment in the creation of the innovation (called 'invention') through formal R&D and informal non-R&D (new uses of existing knowledge and ad-hoc 'on-the-job' changes). The other is not well understood – that is the implementation of the innovation through capital investment by private enterprise and infrastructure investment by the public sector (sometimes in partnership with private enterprise). The two together form the backbone of productivity improvements that lift sustainable living standards. The technical nature of the book's content, related as it is to the investment perspective, involves specific terms (or 'jargon') across a variety of discipline areas that generally do not interact, for this reason a glossary is provided at the end of the book.

Investment in innovation is the focus of this book. Where is this investment being committed under the current era of powerful monopoly capital supported dialectically by creative entrepreneurial entities? Does this investment commitment support and further entrench the dominant technologies sustained by the current organizational and innovation systems? To what extent can this dominance be challenged in the modern capitalist world of financial, economic and ecological crises stretching across from the 'free enterprise' of the USA to the 'corporatism' of Europe and the 'communism' of China? Can investment in ecological sustainability provide a new pathway out of the current crises facing the world economy? These are the questions that propel this book.

This book is the accretion of ideas developed over many years. In the process, many journal articles, book chapters, conference papers, commissioned studies, book reviews and PowerPoint presentations were prepared. In the final writing, all this 'prior art' provided the bedrock theories and analyses that are assembled in the book's stance and argumentation. Although there have been significant changes in this prior research, I need to acknowledge the major works where these ideas were initially explored in some detail:

- Chapter 1: 'In search of New Atlantis: what can HET on innovation reveal about the path out of the 2009 Great Recession?', paper presented at the 22nd Conference of the History of Economic Thought Society of Australia, University of Notre Dame, 14–17 July 2009, Fremantle.
- Chapter 2: 'The ontology of innovation: human agency in the pursuit of novelty', *History of Economics Review*, Volume 45, Winter 2007, pp.41–59.
- Chapter 3: 'Political economy of entrepreneurship and innovation with application to the Global Financial Crisis', paper presented at the 6th AGSE International Entrepreneurship Research Exchange, University of Adelaide, 3–6 February 2009, Adelaide.
- Chapter 4: 'The political economy of R&D in a global financial context', in Laperche, B. and Uzunidis, D. (eds), *Powerful Finance and Innovation Trends in a High-Risk Economy*, Basingstoke: Palgrave Macmillan, 2008, pp.88–109.
- Chapter 5: 'The dynamics of innovation and investment, with application to Australia 1984–1998', in Holt, R. and Pressman, S. (eds), *Empirical Post Keynesian Economics: Looking at the Real World*, Armonk: M. E. Sharpe, 2007, pp.141–77.
- Chapter 6: 'Political aspects of innovation', *Research Policy*, Volume 38 (7), 2009, pp.1117–24; and 'Political aspects of innovation in an ecologically unsustainable world', *The Journal of Economic Analysis*, Volume II (1), 2011, pp.1–16.
- Chapter 7: 'A post-Keynesian innovation policy for sustainable development', *International Journal of Environment, Workplace and Employment*, Volume 1 (2), 2005, pp.187–202; and 'Regional innovation for sustainable development: an Australian perspective', *Journal of Innovation Economics*, Volume 3 (1), 2009, pp.119–43.
- Chapter 8: 'Innovation for regional communities: a research framework', paper presented at the Sustainable Economic Growth for Regional Australia (SEGRA) 2003 Conference, 16 September 2003, Gold Coast.

I wish to acknowledge participants at the conferences identified above and in prior conferences that led to the publications listed above. Also, I appreciate the opportunities that the publishers of the above publications provided me in presenting earlier, less refined versions of the total story presented in this book.

In the actual writing of this book, I would like to sincerely thank the following valued colleagues who provided significant input as encouragement, advice and feedback, and suggested clarity to the book. All that remains is mine alone. Any concerns and problems that remain are not due to their excellent input, but to my own ability to embrace this input. In alphabetical order these colleagues are: Philip Arestis, Anthony Arundel, Allan Card, Dona Cavagnoli, Pranoto Effendi, Jamie Holroyd, Ric Holt, Can Huang, Jana Jagodick, Ameeta Jain, Ainsley Jolley, René Kemp, Stefan Kesting, John King, Wesley Kozlowski, Blandine Laperche, Frank La Pira, Stuart Mackenzie, Douglas Mair, Panayotis Michaelides, Joan Muysken, Allen Oakley, Paul Oslington, Jaloni Pansiri, David Primrose, Peter Sheehan, Adam (Eddy) Szirmai, Jackie Tuck, Nikos Vernardakis and Bart Verspagen. Particular thanks to Colin Richardson who read through the whole manuscript in order to provide meticulous editing advice, recommend clarifications and also correct errors of mine.

I would like to express my gratitude to my employer, the University of Ballarat, and in particular former Deputy Vice-Chancellor Wayne Robinson and current Deputy Vice-Chancellor Andy Smith, for providing encouragement and support (both physical and financial), including the valuable Outside Studies Program (OSP) leave. All the staff at The Business School within my university have been supportive and patient during the research and writing of this book. Although they are well aware of what it takes to produce such a large piece of research, having to put up with the foibles of an emotional author is another matter.

Four centres need to be thanked for offering me Visiting Scholar status with academic space, computer and library facilities, as well as the necessary scholarly environment during the writing of this book. The four centres in order of visitation were: United Nations University – Maastricht Economic Research into Innovation and Technology (UNU-MERIT), Maastricht, the Netherlands; Research Unit on Industry and Innovation (Laboratoire de Recherche sur l'Industrie et l'Innovation – Lab.RII), Université du Littoral Côte d'Opale, Dunkerque, France; Department of Land Economy, University of Cambridge, Cambridge, United Kingdom; and Centre for Strategic Economic Studies (CSES), Victoria University, Melbourne, Australia. I provided seminars at various times to each of these centres on aspects of the book and I appreciate all the input provided by members of all the four faculties to my work.

Enormous appreciation also to Sonia Ben Slimane for inviting me as keynote speaker to the International Meeting on Innovation and Sustainable Development (EIIDE Conference) on the theme 'Sustainable development in the Mediterranean economies – stakes, actions and perspectives', 5–6 May 2011, Tunis, Tunisia. This provided me with the final platform for exposing my work in a political environment immediately after the Arab Spring that was born in this wonderful country. Visiting this country and its inspiring people (especially Nejla Yacoub, Baccouri Mouna and Hatem Hamouda) offered me the insight that there is 'room to move' in every situation. Tunisians have shown transformational innovation of the highest order and it inspires me to see eco-innovation to sustainable development as achievable.

The book is motivated by deep appreciation of nature, which has been influenced by the generous folk who exposed me to the wonders of the natural environment. They are Warwick Evans, Don Nicholson, Peter Campbell and Robert Close. The economic and technology systems that society builds need to be in concert with the beauty of nature. This is where economics and innovation begin and end for me.

I am indebted to Jan Toporowski and Harry Bloch for providing the Foreword. Jan provides a Kaleckian perspective to my work. It is this perspective that is the focus of the book. Harry has been a mentor and provides the Schumpeterian perspective that is the revelation for change in this book. Both have kindly agreed to support this project. I value this greatly, because both have inspired me, provided constructive input into the research surrounding this book, and also add their thoughtful words at the start of this book. Thank you both for sharing this journey with me.

Finally, I would like to thank Edward Elgar Publishing for the patience and support given to me to complete this book. Special thanks to Edward Elgar, Matthew Pitman, Alexandra O'Connell, Laura Seward and Joanne Betteridge. I know their patience has been tested. I can only hope that this book will justify their support.

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Prologue

Cycles, crises and innovation are the major economic forces that shape capitalist economies. These forces need to be harnessed for the daunting task of shifting the juggernaut of industrial and economic development away from the technological and organizational systems that have created an ecologically unsustainable world. Innovation for transforming the world's industrial system into an ecologically sustainable society is the clarion call in this book. Creative destruction is required on a massive scale to open the market space for eco-innovation (ecologically-based innovations).

This narrative reveals how innovation is created, implemented and diffused through the globally dominant capitalist economic system. Based on these revelations, the second half of the book covers the public and private innovation strategies that form a transformational path towards sustainable development. Predicting the sustainable economic society that eventuates from this paradigm shift is not the purpose of this book. That will become apparent soon enough if (and as) the shift occurs. What this book aims to achieve is a framework for this paradigm shift. Whether the final destination is capitalist or some alternative is irrelevant to this discussion. The world community needs to plot a course towards sustainable development with many variations within it.

By revealing the nature of innovation and how it operates to support unsustainable economic development, the framework for a strategic shift becomes evident. Thus, this is an economics book in the sense of providing an economic foundation to the innovation process and what is needed for paradigm shift. The book, however, covers much more than economics, since understanding the multidimensional nature of innovation also requires knowledge of the 'disciplines' in innovation management, entrepreneurship and creativity. The literature in these disciplines is engaged to build innovation frameworks. The ecologically-based sustainable development literature in this book provides the rationale for paradigm shift. Thus, readers from all these disciplines hopefully will find scholarly relevance and insightful views. Practitioners in business and strategic management can profit from understanding the signals in society for business opportunities in eco-innovation. Politicians and policy makers in the public sphere who need to plan infrastructure and advance innovation policy towards sustainable development can find frameworks to guide their deliberations.

The book begins with the history of economic thought on innovation and its relation to ecological sustainability. This provides the political economy outlook on the elements of the frameworks contained within this book. The economic forces of cycles and crises that underpin this book have been the focus of attention of Western philosophers and political economists since the encapsulation of innovation in the *New Atlantis* fable by Francis Bacon in 1623 (published 1626). Central to this story are two giant figures of the twentieth century in the field of political economy: Michał Kalecki and Joseph Schumpeter. Kalecki is recognized as developing the same 'effective demand' approach to economics (initially in Polish and French) that John Maynard Keynes developed under 'Keynesianism' in the English-speaking world, but unlike Keynes, Kalecki had a clear non-neoclassical epistemology. Schumpeter is known for recognizing the creative destruction aspect to innovation. Both Kalecki and Schumpeter identify cycles, crises and innovation as the three dynamic forces plotting the path of economic development. Kalecki with his class-based Marxian economics roots and Schumpeter with his agency-based Austrian economics roots seem strange bedfellows. Nevertheless, the starting point for both is to view innovation as being the implementation of new ideas that address specific problems and/or identifiable opportunities that occur on the basis of the economic boom and bust of cycles. Where Schumpeter is known for opening up the evolutionary approach to innovation and economic development, it is Kalecki's 'adaptation mechanism' through investment in innovation which forms the central contribution of this book.

From the standpoint of the mid-twentieth century, Schumpeter and Kalecki understood that the manufacturing industry played the leading role of investment in the innovation process, but also recognized that such investment would eventually wane, retarding capitalist development. The other great economist of the twentieth century, John Maynard Keynes, concentrated on the impacts of this investment on cycles through effective demand – a macroeconomic perspective that heavily underlies the whole economic analysis in this book. Cycles and crises, which have been always part of industrial society, were effectively addressed by these economists in their own accounts of economic development.

From the standpoint of the early twenty-first century, the depiction of cycles, crises and innovation needs to be revisited and reconstructed in the context of massive developments that had not been identified by Schumpeter, Keynes or Kalecki. These developments include: the rise of the high-tech service economy on the back of the information and communication technology revolution; the intensification of globalization as a commercial reality; the increasing rate of destruction of Earth's ecosystems through economic growth in both developed and developing economies; and deep over-accumulation and financial instability that lead to economic recession with accompanying unemployment and regional inequalities.