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:


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.