Old and New Growth Theories

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An Assessment

Edited by

Neri Salvadori

Professor of Economics, University of Pisa, Italy

Edward Elgar
Cheltenham, UK • Northampton, MA, USA

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Contributors

Nelson H. Barbosa-Filho (Federal University of Rio de Janeiro, Brasil)

Alberto Bucci (University of Milano, Italy and University of Louvain, Belgium)

Maria Rosaria Carillo (University of Napoli 'Parthenope', Italy)

Ramesh Chandra (University of Strathclyde, Glasgow, UK)

Giacomo Costa (University of Pisa, Italy)

Guido Cozzi (University of Rome 'La Sapienza', Italy)

Amitava Krishna Dutt (University of Notre Dame, USA)

Theo S. Eicher (University of Washington, USA)

Cecilia Garcia-Peñalosa (GREQAM and CNRS, Marseille, France)

Francesco Guala (University of Trento, Italy, and University of Exeter, UK)

Michael A. Landesmann (Vienna Institute for International Economic Studies, WIIW, and Johannes Kepler University, Austria)

Carlo Panico (University of Napoli 'Federico II', Italy)

Andrea Salanti (University of Bergamo, Italy)

Roger J. Sandilands (University of Strathclyde, Glasgow, UK)

Mark Setterfield (Trinity College, CT, USA)

Ian Steedman (Manchester Metropolitan University, UK)

Robert Stehrer (Vienna Institute for International Economic Studies, Austria)

Anthony P. Thirlwall (University of Kent, UK)

Stephen J. Turnovsky (University of Washington, USA)

Alberto Zazzaro (University of Ancona, Italy)

Introduction

Neri Salvadori

The interest in the study of economic growth has experienced remarkable ups and downs in the history of economics. It was central in Classical political economy from Adam Smith to David Ricardo, and then in the critique of it by Karl Marx, but was moved to the periphery during the so-called 'marginal revolution'. John von Neumann's growth model and Roy Harrod's attempt to generalise Keynes's principle of effective demand to the long run re-ignited an interest in growth theory. Following the publication of papers by Robert Solow and Nicholas Kaldor in the mid-1950s, growth theory became one of the central topics of the economics profession until the early 1970s. After a decade of dormancy, since the mid-1980s, economic growth has once again become a central topic in economic theorising. The recent 'new' growth theory (NGT) is also called 'endogenous growth theory', since according to it the growth rate is determined from within the model and is not given as an exogenous variable.

An analysis of recent developments in growth theory, and their status in the history of the field, has been the main goal of a Conference held in Pisa in the autumn of 2001. This book is the main product of the conference. Other papers will soon appear in special issues of three journals: *History of Economic Ideas* (2002), *Metroeconomica* (2003), and *The European Journal of the History of Economic Thought* (2003). The conference was hosted by a research group, and several of the papers elaborated by members of the group were delivered at the conference. The main product of the research group is a companion book on *The Theory of Economic Growth: A 'Classical Perspective* (Salvadori, 2003). There is, of course, no overlapping among all the mentioned publications, which constitute the proceedings of the Conference. In this volume I have inserted the papers with a more direct relation with the title of the Conference, which is also the title of the book. The result is that the book analyses the recent developments in the theory of economic growth and compares them with older theories. I have also inserted a few other papers with the explicit aim to provide on the whole a balanced representation of the views stemming from scholars of different persuasions.

The book opens with a chapter by Stephen J. Turnovsky, who discusses some of the recent theoretical developments in growth theory, tying them to the earlier growth theories. He sets out a general model able to encompass both an endogenous growth model and a non-scale growth model. He shows how the issue of endogeneity of the labour supply is crucial in determining the equilibrium growth rate and its responsiveness to macroeconomic policy. Then we have three short chapters which investigate the new growth theory from a critical point of view. Anthony P. Thirlwall argues that the typical NGT's explanation of non-diminishing returns to capital in terms of externalities of various kinds associated with human capital formation, R&D expenditure etc. is reminiscent of Alfred Marshall's attempt to reconcile increasing returns and competition by means of the concept of external economies. He maintains that Kaldor's technical progress function fully anticipated the NGT's claim that capital accumulation and technical progress are two deeply interrelated processes. Finally, he remarks that the NGT is a supply side theory of growth: no role is left to demand factors such as export growth and balance of payments considerations. The question of demand is also central to the chapter by Carlo Panico. He deals with the role played by aggregate demand in different theories of growth and pays particular attention to those schools of thought, such as the post-Keynesian and Kaleckian ones, which emphasise the influence on growth by the autonomous components of aggregate demand. The triplet is concluded by a chapter by Amitava Krishna Dutt who reviews the NGT from the perspective of post-Keynesian growth theories. He also maintains that the NGT largely ignores issues relating to effective demand and unemployment and shows that its claim to novelty is based on a narrow reading of 'old' growth theory that ignores a number of contributions. A different point of view is expressed in the chapter by Giacomo Costa who recalls from oblivion some results by Trevor W. Swan about the class of production functions which are compatible with steady-state growth in order then to review the recent literature and to provide a generalisation of the 'Swan Proposition'. He also explores the intriguing connection between such a proposition and the 'learning by doing' model by Arrow.

This first part of the book is complemented with two methodological chapters. Francesco Guala and Andrea Salanti first explicate the notion of robustness and articulate it on three different dimensions and then apply it to old and new growth theories. NGT offers a number of possible explanations of mechanisms generating growth processes, but in this case robustness to changes in the implied causal mechanism is more in the nature of a vice than of a virtue, particularly from the perspective of economic policy. Ian Steedman focuses on the analytical treatment of the concept of knowledge

within NGT. According to him, no justification is given to the use of this concept as a homogeneous quantity with a cardinal measure.

The second part of the book is concerned with technical change. Theo S. Eicher discusses the microfoundations of technological change in order to integrate the production of new technology into the study of economic growth and compares this approach with previous ideas about technological change since Adam Smith. His main task is a description of plausible mechanics of the research process and the introduction of an evolutionary algorithm as a search procedure for researchers to manage the universe of ideas. The problem of technical change is also central in the chapter by Michael A. Landesmann and Robert Stehrer, who develop a model with classical, Schumpeterian and Keynesian features.

Endogenous growth theory based on R&D purposefully carried out by profit maximising firms in competitive situations has derived much inspiration from Joseph A. Schumpeter's ideas about the innovative process. However, there has been a general theoretical neglect of the role of private money creation in the growth process which Schumpeter considered instead as crucial. Guido Cozzi tries to fill this lacuna. Financial intermediaries lend newly created bank money to R&D firms challenging the current monopolist. This credit creation process fuels obsolescence that limits bank capital and thereby credit. Hence the ultimate variable that equilibrates private money demand and supply is R&D investment. This is the main channel through which Cozzi builds a bridge between modern Schumpeterian theory and Schumpeter's own monetary ideas.

The third part of the book deals with economic policy. Cecilia García-Peñalosa emphasises that NGT extends the scope of economic policy beyond the boundaries imposed by the 'old', Solovian, growth theory. NGT examines how the decisions of agents determine the economy's rate of growth: economic policy, by exerting an impact on these decisions, may significantly affect growth. Moreover, if in a laissez-faire regime the rate of growth is less than socially desirable, as it is usually concluded in most of the literature on NGT, growth-enhancing policies are called forth. Finally, NGT jointly determines factor rewards and growth. Thus, policy may influence the distribution of income across agents. On the other hand, Ramesh Chandra and Roger J. Sandilands investigate empirically the relationship between investment and GDP in India. They find that causality goes from growth to investment and not the other way round as predicted by mainstream development literature. They suggest an approach to Indian development, inspired by Allyn Young's famous theory of increasing returns, that gives greater prominence to demand-side factors.

Finally there are four chapters dealing with various issues in growth economics. Alberto Bucci analyses the steady-state predictions of an

endogenous growth model with both purposive R&D activity and human capital accumulation, whereas the majority of models focus on only one of these engines of growth at a time. Starting from a description of the experience of medieval craft guilds, Maria Rosaria Carillo and Alberto Zazzaro present a simple variety-based model of endogenous growth in which they assume that an institution (the craft guild) which represents the interests of the existing industrial élite (the masters) undertakes social and political lobbying to enhance its prestige and prevent the entry of new firms. Nelson H. Barbosa-Filho presents a one-sector model where autonomous expenditure drives growth and determines the level of economic activity and income distribution. The aim is to investigate under which conditions growth can be demand-led and stable. Mark Setterfield introduces variations in the state of long-run expectations into the adjustment dynamics of neo-Kaleckian growth theory and obtains that the outcomes of the model are path dependent and, in particular, that the rate of growth is determined by sequential processes unfolding in historical time. He also re-examines the Kaleckian paradox of costs and shows that changes in the state of long-run expectations may make it harder to generate faster growth by redistributing income towards wages while at the same time reinforcing the negative growth consequences of redistribution towards profits.

Almost all the chapters of this book as well as all the papers included in the mentioned special issues of the three journals have been peer-reviewed (the exceptions are the invited lectures to the conference). I would like to take this opportunity to thank all the referees who contributed to improving the published papers and advised me on the publishability of the papers. The following scholars helped me with this task: Bruno Amable (University of Paris X, France), Kenneth J. Arrow (Stanford University, USA), Roger Backhouse (University of Birmingham, UK), Nelson Barbosa-Filho (Federal University of Rio de Janeiro, Brasil), Enrico Bellino (Università Cattolica del Sacro Cuore, Italy), Daniele Besomi (independent researcher, Gola di Lago, Switzerland), Carlo Bianchi (University of Pisa, Italy), Annetta Binotti (University of Pisa, Italy), Adriano Birolo (University of Padua, Italy), Mark Blaug (University of Amsterdam, Netherlands), Luciano Boggio (Università Cattolica del Sacro Cuore, Italy), Alberto Bucci (University of Milan, Italy), André Burgstaller (Barnard College, USA), Mauro Caminati (University of Siena, Italy), Rabindra N. Chakraborty (University of St. Gallen, Switzerland), Pasquale Commendatore (University of Naples 'Federico II', Italy), Guido Cozzi (University of Rome 'La Sapienza', Italy), Antonio D'Agata (University of Catania, Italy), John Davis (Marquette University, USA), Amitava K. Dutt (University of Notre Dame, USA), Guido Erreygers (University of Antwerpen, Belgium), Rainer Franke (University of Bremen, Germany), Antonio Gay (University of Florence, Italy), Christian Gehrke

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