1. Introduction

Philip Arestis, Michelle Baddeley and John S.L. McCombie

In September 2005, the *Cambridge Centre for Economic and Public Policy* – based in the Land Economy department of the University of Cambridge, UK – hosted its second official conference. The theme selected for this conference focused on the nature, causes and features of economic growth across a range of countries and regions. This volume is a collection of some of the key papers presented at this conference, and they address a broad range of growth-related topics – from theoretical analyses of economic growth in general to empirical analyses of growth in the OECD, transition economies and developing economics.

In Chapter 2, this volume begins with 'Is growth theory a real subject?', in which Franklin Fisher presents the paper given at the conference as an after-dinner talk. It has been left in that form rather than making it more formal because the anecdotes are interesting as well as amusing. But the paper's informality should not conceal that fact that, together with the sugar, it is administering very strong and bitter medicine to growth theory and to macroeconomics generally. Franklin Fisher questions the widespread use of aggregate production functions in growth theory and also raises the issue of what is meant by the words 'capital', 'investment', 'labor', 'productivity' and 'output'. These concepts cannot be freely used as though they are related by a production function. Macroeconomic theories must question these links if they are to be more than a spurious application of microeconomic theory.

In Chapter 3, 'What is endogenous growth theory?', Mark Roberts and Mark Setterfield provide a critical survey of the literature on endogenous growth theory. Two definitions of endogenous growth theory are initially identified, on the basis of which the substantive content of various different models of endogenous growth is then explored. A particularly important point that emerges from this analysis is that endogenous growth can be either 'Keynesian' or 'neoclassical' in nature. A third definition of endogenous growth theory is then introduced that permits identification and exploration of a special subset of endogenous growth models in which the growth process is path dependent.

In Chapter 4, 'Is the natural rate of growth exogenous', Miguel Leon-Ledesma and A.P. Thirlwall examine the question of whether the natural rate of growth is exogenous or endogenous to demand, and whether it is input growth that causes output growth or vice versa. This question lies at the heart of the debate between neoclassical growth economists on the one hand, who treat the rate of growth of the labour force and labour productivity as exogenous to the actual rate of growth, and economists in the Keynesian/post-Keynesian tradition on the other, who maintain that growth is primarily demand-driven because labour force growth and productivity growth respond to demand growth. The latter view does not imply that demand growth determines supply growth without limit; rather, aggregate demand determines aggregate supply over a range of full employment growth rates. In most countries, demand constraints tend to bite long before supply constraints are ever reached. This paper shows that there is an easy way to discriminate between these competing hypotheses by using a simple technique to estimate the natural growth rate, and then estimating whether the natural growth rate is significantly higher in periods when the actual growth rate exceeds the natural rate, and lower when the actual growth rate is below the natural rate. The model is tested for 15 OECD countries, and the results support the view that the natural rate of growth is not independent of the actual rate of growth – just as the 'natural' rate of unemployment is not independent of the actual rate of unemployment! The theoretical message is that to understand growth-rate differences between countries, even over substantial periods of time, there needs to be as much focus on demand as well as supply (the focus of 'new' growth theory). The policy message for slow-growing countries is that they need to identify constraints on demand (such as the balance of payments, and an obsession with low inflation, for example, within the EU at the present time), as well as investing in the capacity to supply.

In Chapter 5, 'The representative firm and increasing returns: then and now', Stephanie Blankenburg and G.C. Harcourt return to the debates from the 1920s about the concept of increasing returns and the role of the representative firm, which culminated in the 1930 symposium in the *Economic Journal*. Underlying them were confusion about whether theory could or could not be applied to 'real world' happenings, clarity about which was often obfuscated by 'Marshall's desire to be read by businessmen' (*sic*). Many of the issues that were raised and the confusions that occurred in these debates surfaced again in the developments in the last 20 years of endogenous growth theory. The objects of the paper are to try to clarify the exchanges between the protagonists in the 1920s and then to relate the findings to the re-emergence of similar issues and confusions in the last 20 years.

In Chapter 6, 'A dynamic framework for Keynesian theories of the business cycle and growth', Pedro Leão argues that the Keynesian multiplier-accelerator model of the cycle fails to account for the self-sustained nature of real-world booms and recessions. He recasts multiplier-accelerator models in a dynamic framework, inspired by Harrod's theory of economic growth. The results are twofold. First, the resulting model provides a satisfactory explanation for the observed self-sustained nature of booms and recessions. Second, the dynamic framework suggests that a change in investment has a greater effect on aggregate demand than on aggregate supply. This is what lies at the root of booms and recessions.

In Chapter 7, 'A Keynesian model of unemployment and growth: theory', John Cornwall presents a theory of long-run unemployment, output and productivity as a two-stage recursive process generated by the interaction of aggregate demand and aggregate supply. Institutions and the distribution of power determine the strength of aggregate demand policy, and through it the level of aggregate demand and unemployment in any period. The demand-side variables as well as supply-side variables determine the productivity growth rate. Aggregate demand change, via its impact on unemployment and investment behaviour, always induces change in aggregate supply in the same direction. The dominant role of aggregate demand defines the Keynesian character of the model, which emphasizes the direct effect of policy on aggregate demand and unemployment, and its indirect impact on growth. Also, the included structural features are determinants of performance in the short run but are changed by the system's performance in the longer run, a path-dependent process that generates transformational growth rather than the steady state growth of the neoclassical model.

In Chapter 8, 'A Keynesian model of unemployment and growth: an empirical test', Wendy Cornwall presents an empirical companion to John Cornwall's chapter. She empirically assesses John Cornwall's model, using standard econometric techniques to test the model's ability to explain unemployment and growth in a group of developed OECD economies during the second half of the twentieth century. She focuses on the level and growth of aggregate demand as the outcome of policy choices endogenous to this model – with growth of aggregate demand inducing endogeneity in aggregate supply growth too. The econometric results strongly support the importance of institutions and the distribution of power on aggregate demand outcomes as well as the link between aggregate demand and supply as emphasised in John Cornwall's chapter.

In Chapter 9, 'The relevance of the Cambridge–Cambridge controversies in capital theory for econometric practice', G.C. Harcourt returns with an assessment of the modern relevance of capital theory. By assuming that the short period and long period may be viewed as if they had collapsed into one, neoclassical economists have been able to specify econometric models and use actual data in order to estimate values of parameters that are not directly observable. This is the basis, for example, of the procedures adopted by Arrow et al. (1962) in their work on CES production functions. The capital theory results show that this procedure is not acceptable, even if all neoclassical assumptions except the presence of vintages are accepted. The same sort of conceptual doubts are relevant for the specification procedures implied in co-integration.

In Chapter 10, 'Foreign direct investment and productivity spillovers: a sceptical analysis of some OECD economies', Carlos Rodríguez, Carmen Gomez and Jesus Ferreiro argue that one of the channels through which inward FDI can promote economic growth in host economies is the existence and absorption of productivity spillovers. This chapter is an attempt to evaluate the existence, size and direction of these externalities. Although there exists in the literature a high number of papers related to this issue, this chapter incorporates an OECD database not used in previous papers: 'Measuring Globalisation: the Role of Multinationals in OECD Economies'. This database is used to calculate the productivity of foreign and local firms in the economies/industries for which data are available. They estimate whether or not a relationship exists between the evolution of the productivity gap between foreign and local firms (a proxy for the existence and direction of productivity spillovers) and the presence (and its change) of foreign firms in the local economy/industry. Although they do not detect a generalized outcome about the existence and sign of the spillovers effect, there exist more probabilities of negative spillovers leading to a wider productivity gap between foreign and local firms (dependent on the industry under analysis).

In Chapter 11, 'Increasing returns and the distribution of manufacturing productivity in the EU regions', Bernie Fingleton and Enrique López-Bazo estimate an empirical model motivated by recent theoretical developments in urban and geographical economics. This model allows for the effects of technological externalities such as knowledge spillovers and congestion. The model emphasizes the diverse causes of regionally differentiated manufacturing productivity growth rates but provides empirical support for increasing returns to scale, which lies at the heart of contemporary theory. The effects of increasing returns are illustrated by simulations, the density function and stochastic kernels, which show how equilibrium productivity level distributions alter across EU regions assuming different degrees of returns to scale. They conclude by making some speculative suggestions about possible causes of changes in increasing returns.

In Chapter 12, 'The role of wage setting in a growth strategy for Europe', Andrew Watt argues that growth performance, particularly in the euro area, has been extremely disappointing. This chapter expounds the view that, contrary to the conventional wisdom, failures in the macroeconomic policymaking regime are largely responsible. In particular a lack of coordination between wage-setting and monetary policy is identified as a weakness that leads to tighter-than-necessary macroeconomic policy – and thus slower growth – to contain inflation. Given the extreme difficulty of achieving fundamental changes in the policy architecture, Andrew Watt examines the scope for behavioural changes in wage setting, and monetary (and to a lesser extent fiscal) policy, and for developing the coordination mechanisms between these two policy areas necessary to achieve faster non-inflationary growth in the euro area. Key elements are the coordination of wage policy around a productivity norm and the expansion and extension of an existing coordination instrument: the 'Macroeconomic Dialogue'. This chapter shows, using a simple model, that such changes, which do not require changes to the European Treaty, would be effective in terms of growth and employment. This raises numerous implementation issues. Problems of actor incentives, commitment and inter-country adjustment are discussed, focusing on the scope for trade unions to add a European dimension to their wage-bargaining strategies.

In Chapter 13, 'Economic growth and beta-convergence in the East European Transition Economies', Nigel Allington and John McCombie examine the question of whether the transition economies have exhibited any recent evidence of catching up with the EU15 countries in terms of productivity over the period 1994 to 2002. This is accomplished by estimating a number of specifications of the neoclassical beta-convergence growth model. An alternative measure of convergence, sigma-convergence, which we do not report here, measures whether or not the cross-country variation of group per capita income shrinks over time. Finding β-convergence is a necessary, although not a sufficient, condition for σ-convergence to occur.

In Chapter 14, 'Knowledge externalities and growth in peripheral regions', Fabiana Santos, Marco Crocco and Frederico Jayme Jr argue that in some models of the so-called endogenous growth theory, externalities play an important role because they are the main rationalization for the emergence of increasing returns to scale. Usually, endogenous growth models neglect the spatial dimension of these externalities, assuming that externalities and spillovers are perfectly mobile within national boundaries. This hypothesis has been a matter of debate among geographers and economists, since the former have pinpointed the role of institutional factors in constraining externalities. The aim of this chapter is to contribute to this debate by shedding light on the fact that these institutional aspects should include the centre–periphery dimension. Having this theoretical approach in mind, the paper analyses stimuli and constraints to the emergence and absorption of externalities in a peripheral environment. The authors' claim is that peripheral conditions – rather than underdevelopment conditions – constrain the generation and absorption of externalities and impose limits on their contributions to economic growth.

In Chapter 15, 'Knowledge, human capital and foreign direct investment in developing countries: recent trends from an endogenous growth theory perspective', Diana Barrowclough describes new trends in foreign direct investment (FDI) into developing countries, with a particular focus on investment in the highest value-added forms of human capital, such as knowledge, experience and technical expertise. These forms of human capital are important because they are key elements in the process of innovation and technological change, feeding into productivity, competitiveness and, ultimately, human and social development. Empirical evidence from economic activities in research and development (R&D) in developing countries is presented, against the counterpoint of trends of investment in tourism. The different experiences in each group of activities reflects the differing sources of comparative advantage, which for the most part stem from developing countries' endowments of expertise, knowledge and experience. In the R&D sector, developing countries are essentially acting as sellers of their endowments of human capital and expertise. In tourism, they are rather buyers. There is also a new and surprising extension of the trend, which sees developing countries beginning to invest outwards, into other countries. Hosts include both developed and developing countries, and the determinants of investment vary in each case, reflecting the home and host countries' respective endowments of human capital.

In Chapter 16, 'Is growth alone sufficient to reduce poverty? In search of the trickle down effect in rural India', Santonu Basu and Sushanta Mallick present a theoretical analysis of growth and poverty in rural India. They employ several econometric tests to examine whether the trickle-down effect took place in rural India over a long time-period. They find little evidence to suggest that the trickle-down effect did occur, suggesting that the emergence of capital–labour substitution was primarily responsible for preventing growth from reducing poverty. The decline in poverty and a higher growth rate that took place during the late 1970s and 1980s were largely a result of government anti-poverty measures and the more equitable distribution of credit and inputs to smaller and marginal farmers.

In Chapter 17, 'Strategy for economic growth in Brazil: a Post Keynesian approach', José Luís Oreiro and Luiz Fernando de Paula present a Keynesian strategy for public policies aiming at higher, stable and sustained economic growth in Brazil. They hypothesize that the current poor growth performance of the Brazilian economy is due to macroeconomic and structural constraints rather than to the lack of microeconomic reforms. They recommend a strategy in which the basic features are to adopt: firstly, a crawling-peg exchange rate regime in which devaluations in domestic currency are set by the Central Bank at a rate equal to the difference between the target inflation and the average inflation rate of Brazil's most important trade partners; secondly, market-based capital controls in order to increase the autonomy of the Central Bank to set nominal interest rates according to domestic objectives (mainly to promote a robust growth); thirdly, reduction of nominal interest rates to a level compatible with a real interest rate of 6.0% per year; and fourthly, reduction of the primary surplus from the current 4.5% of GDP to 3.0% of GDP. These elements are fundamental for the required increase in the investment rate of Brazilian economy from the current 20% of GDP to 27% of GDP needed for a sustained growth of 5% per year.

We would like to thank everyone at Edward Elgar for their encouragement in the publication of this volume. Our particular gratitude and appreciation go to Warren Mosler of Valance Inc., who is also Senior Associate Fellow at the Cambridge Centre for Economic and Public Policy, University of Cambridge.