1 Classical economics and modern theory

An introduction

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This volume contains a set of chapters written by the two of us, by one of us alone, or by one of us in collaboration with some other co-author, plus a letter to the author by Kenneth Arrow, here published as an appendix to one of the chapters. With the exception of Chapters 2 and 9 all chapters have been previously published. The collection is a follow-up to the 1998 volume with essays from us entitled *Understanding 'Classical' Economics. Studies in Long-period Theory* (Kurz and Salvadori, 1998a). Since the introduction to the latter contains a detailed discussion of what we mean by 'classical' economics and why we think it necessary to resurrect the 'standpoint of the old classical economists from Adam Smith to Ricardo', we can be brief here. The interested reader is asked to kindly consult our previous book.[1] Since several of the chapters reprinted in this volume contain essentially a continuation of arguments developed in chapters published in the previous volume – some directly in response to critics of our work – the reader might find it useful to have also the previous volume at hand when reading this one.

The material is subdivided in five parts.

Part I deals with 'Classical theory and its interpretations' and has five chapters. Chapter 2 is a paper written in response to Mark Blaug's criticism of the 'Sraffian' interpretation of the classical economists published in 1999 in *HOPE* (Blaug, 1999; see also Blaug, 1987). A considerably shortened version of our chapter was published in the same journal entitled 'The surplus interpretation of the classical economists: a reply to Mark Blaug' (Kurz and Salvadori, 2002).[2] In the chapter we show that Blaug's criticism cannot be sustained and that (unwittingly) he has himself adopted a very special variant of Sraffa's surplus-based interpretation of the classical economists' approach to the theory of value and distribution. Chapter 3 presents a short prehistory of input–output analysis. It is argued that the concepts of circular flow and physical real costs can be traced back far in the history of political economy. In addition it is argued that modern input–output analysis has lost sight of important problems raised and solutions provided by classical

1 For a still more complete picture of our ideas on the matter, see also Kurz and Salvadori (1995) and our entries in Kurz and Salvadori (1998b).

2 See also the rejoinder by Blaug (2002) and the reply to Blaug by Garegnani (2002).

economics. These concern first and foremost the determination of the system of relative (normal) prices and all shares of income other than wages, starting from the given system of production in use and a given real wage rate. The idea of given value-added coefficients as it is entertained in price models of input–output analysis is rejected on the ground that these coefficients have to (and actually can) be ascertained endogenously. Chapter 4 deals with the contribution of the German economist Friedrich Benedikt Wilhelm Hermann to the theory of capital and income distribution. Hermann was a contemporary of Johann Heinrich von Thünen and was rightly considered one of the most excellent German economic theorists of the nineteenth century. Hermann's writings reflect a period in travail. Theoretically, there are several elements in Hermann's analysis which contribute to the further development of classical theory, but there are also important elements which involve a sharp break with it and point in the direction of marginalism. Chapter 5 is a review of André Burgstaller's book *Property and Prices. Toward a Unified Theory of Value* (Burgstaller, 1994) in which the claim has been put forward that, seen from a higher perspective, classical theory and neoclassical theory are fully compatible with one another. This claim is critically assessed.

Part II is devoted to the problem of 'Growth theory and the classical tradition' and has four chapters, one of which is a newly written post-script to one of the others. Chapter 6 is a paper that was given by us as an invited lecture at the Eleventh World Congress of the International Economic Association in Tunis in 1995. The chapter provides an historical perspective on old and 'new' growth theories. It is argued that Adam Smith, David Ricardo, Robert Torrens, Thomas Robert Malthus and Karl Marx up to John von Neumann regarded the balanced and the actual rates of capital accumulation and thus both the balanced and the actual rates of growth of output as depending on agents' behaviour, that is, as endogenously determined. On the contrary, neoclassical theory, which determines distribution on the basis of the demand and supply of all 'factors of production', is naturally inclined to approach the problem of economic growth from the prespective of exogenous growth. Finally it is shown that the new growth theory revolves essentially around a set of important ideas which have been anticipated by earlier economists, most notably Adam Smith and David Ricardo. Chapter 7 reprints the Economic Issues Lecture given by one of us on the occasion of the 1997 Annual Conference of the Royal Economic Society in Stoke-on-Trent. The argument is developed in terms of a fictitious dialogue between Adam Smith and David Ricardo serving on a research assessment committee asked to evaluate the contribution of the so-called 'new' growth theory. Kenneth Arrow has kindly sent the author a letter with detailed comments on the paper. With his kind permission we publish the letter as an appendix to the chapter. Chapter 8 elaborates a linear multisector model of 'endogenous' growth with heterogeneous capital goods. The purpose of this exercise is to show that this kind of model is exempt from the capital theory critique put forward against the conventional long-period neoclassical growth model *à la* Solow. This confirms previous claims that at least some of the 'new' growth models are somewhat extraneous to neoclassical analysis and actually exhibit the logical structure of classical theory. In addition it is shown that the use of an intertemporal

analysis to establish a correct long-period position is not necessary and that the adoption of the long-period method may speed up the elaboration of new scientific results. The model of Chapter 8 was further elaborated by one of us in collaboration with Giuseppe Freni and Fausto Gozzi and also by these two scholars alone or in collaboration with others. Chapter 9 provides some of the results of this further research, which are also partially critical of the presentation of Chapter 8.

The three chapters of Part III have a closer look at 'Sraffa's contribution'. To the reader of the preface of Sraffa's 1960 book it will perhaps come as a surprise that there is no expression of gratitude to any of his fellow economists for comments, suggestions, or assistance during the long period over which the book had been in preparation. The only people Sraffa thanks are three mathematicians: 'My greatest debt is to Professor A. S. Besicovitch for invaluable mathematical help over many years. I am also indebted for similar help at different periods to the late Mr Frank Ramsey and to Mr Alister Watson' (Sraffa, 1960: vi–vii). Chapter 10 is devoted to the discussions Sraffa had with Ramsey from the late 1920s until Ramsey's untimely death from an attack of jaundice on 19 January 1930 and with Watson in the first half of the 1940s and in the second half of the 1950s when Sraffa prepared the manuscript of his book for the publisher. There is no doubt that amongst the three mathematicians Sraffa owed Besicovitch the greatest intellectual debt. Yet a proper treatment of the assistance Sraffa received from Besicovitch is beyond the scope of this chapter and is the object of another work of ours. Chapter 11 compares Sraffa's 1960 analysis with John von Neumann's model (von Neumann, [1937] 1945). It is argued that despite some important analitico-mathematical differences the two share a similar conceptual framework which is 'classical' in substance. The chapter comments also on references to von Neumann's model and Champernowne's commentary published alongside with the English version of it (Champernowne, 1945) in Sraffa's unpublished papers and correspondence. Chapter 12 contains a summary account of important propositions contained in Sraffa's book. The emphasis is on single production in a two-sector framework and the problems of fixed capital and capital utilization in the most simple conceptualizations possible.

Part IV is devoted to 'Exhaustible resources and the long-period method'. In our book *Theory of Production* (Kurz and Salvadori, 1995) we included a chapter entitled 'Limits to the long-period method' in which we discussed several cases the analysis of which, we contended, made it necessary to transcend the received long-period method. One of the cases under consideration was that of exhaustible resources. It is obvious that with the depletion of the stocks of the resources their prices and therefore the real wage rate and/or the 'rate of profits' cannot be assumed to be stationary. A somewhat more correct presentation of our argument was published two years later (Kurz and Salvadori, 1997). Our analysis received some attention and criticism in the literature. The chapters in this part are essentially responses to our critics in which we attempt to clarify more precisely the difficulties at hand and the way we think is appropriate to deal with them. Chapter 13 contains our contribution to a symposium in the journal *Metroeconomica*. We discuss exhaustible resources in terms of a simple model. Chapter 14 contains a dynamic input–output model with exhaustible resources and discusses the development of relative prices, royalties and quantities, given the real wage rate.

Part V has four chapters devoted to a 'Criticism of neoclassical theory'. Chapter 15 discusses the implication of reverse capital deepening for neoclassical theory, placing special emphasis on the role of the numéraire. It is shown that under certain assumptions a supply function of and a demand function for capital can be built up that are independent of each other. The question is whether a change in the numéraire can affect the mathematical properties of the economic system under consideration. We argue that this is not possible. In particular we show that a change of numéraire affects both the supply and the demand functions for 'capital' in marginalist theory but leaves the stability property of equilibrium, if there is one, unaffected. The chapter was inspired by a note by Paola Potestio which was later published (1999; see also our reply, 2001, to her). Chapter 16 is rather technical and simplifies the famous numerical example of reswitching presented in Garegnani (1970). Chapter 17 is a review of the collected papers by Franklin Fisher entitled *Aggregation: Aggregate Production Function and Related Topics* (Fisher, 1994). The chapter illustrates the difficulties involved in aggregating capital as studied by Fisher and remarks that if firms produce different commodities and labour is the only primary factor, then the aggregate production function exists if and only if the labour theory of value holds. This is a result which played some role in the reswitching debate: Garegnani (1970), for instance, proved that the marginalist theory was exempt from criticism only in this case. Nevertheless Fisher mentions the UK Cambridge contributors to the debate only in order to criticize them. Chapter 18 deals with Knut Wicksell's theory of capital and interest and contributes to the recent debate on Wicksell's so-called 'missing equation'. It is argued that there is no equation missing in Wicksell: he took as given the 'quantity of capital' the relative scarcity of which was taken to hold the key to an explanation of the rate of interest. However, Wicksell became increasingly aware of the fact that he could take as given only the *value* of capital, measured in some consumption unit. This destroyed the alleged analogy between the factor of production (heterogeneous) 'capital' and its remuneration, interest or profit, on the one hand, and that of (homogeneous) land and its remuneration, (intensive) rent, on the other.

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