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Economic Theory and its History

Edited by
Giuseppe Freni, Heinz D. Kurz,
Andrea Mario Lavezzi and
Rodolfo Signorino

ROUTLEDGE

Economic Theory and its History

This collection brings together leading economists from around the world to explore key issues in economic analysis and the history of economic thought. This book deals with important themes in economics in terms of an approach that has its roots in the works of the classical economists from Adam Smith to David Ricardo. The chapters have been inspired by the work of Neri Salvadori, who has made key contributions in various areas including the theory of production, the theory of value and distribution, the theory of economic growth, as well as the theory of renewable and exhaustible natural resources.

The main themes in this book include production, value and distribution; endogenous economic growth; renewable and exhaustible natural resources; capital and profits; oligopolistic competition; effective demand and capacity utilization; financial regulation; and themes in the history of economic analysis. Several of the contributions are closely related to the works of Neri Salvadori. This is demonstrated with respect to important contemporary topics including the sources of economic growth, the role of exhaustible resources in economic development, the reduction and disposal of waste, the redistribution of income and wealth, and the regulation of an inherently unstable financial sector.

All contributions are brand new, original and concise, written by leading exponents in their field of expertise. Together this volume represents an invaluable contribution to economic analysis and the history of economic thought. This book is suitable for those who study economic theory and its history, political economy and philosophy.

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Essays in honour of Neri Salvadori

Edited by Giuseppe Freni, Heinz D. Kurz, Andrea Mario Lavezzi and Rodolfo Signorino

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1 Introduction

Giuseppe Freni, Heinz D. Kurz, Andrea Mario Lavezzi and Rodolfo Signorino

This collection of essays is a tribute to Neri Salvadori, the man and scholar, teacher and friend, whom the scientific community owes important works in the tradition of Piero Sraffa's revival of the classical economists' approach to the problems of value, income distribution, capital accumulation, technical progress, scarce natural resources, economic development and growth. The essays in this book have all been freshly written and contain original work with novel ideas in the areas mentioned.

In this introduction we first summarize briefly Neri Salvadori's academic career, his work and his intellectual and organizational activities, and then provide a short overview of the essays collected in this volume.

Academic career and work

Neri Salvadori was born on 3 February 1951 in Naples, Italy, where he studied economics at the Facoltà di Economia e Commercio of the University of Naples and graduated in 1976 with the highest marks. He received two study grants, one from the Fondazione Einaudi for the academic year 1976/77 the other from the Banca d'Italia for 1977/78, which he used to study at the University of Manchester with Ian Steedman and then at the University of Cambridge. In 1978 he became a research assistant for the chair of Financial Mathematics at the University of Naples and then a researcher at the Institute of Finance. In 1979 he joined the Faculty of Political Science of the University of Catania, Sicily, as a lecturer of economic analysis; in 1985 he was promoted to the position of associate professor. In 1987 he moved to the Istituto Navale di Napoli, where in 1990 he was appointed to the chair of Political Economy. In 1991 he joined the University of Pisa, where he teaches and researches.

Early on in his career Neri Salvadori became deeply fascinated with the writings of the classical economists from Adam Smith to David Ricardo, and with Piero Sraffa's revival of the classical approach to the theory of value and distribution. Sraffa's work has been a major source of inspiration for virtually all his research activities ever since. With regard to various problems studied, Neri Salvadori elaborated new solutions and moved the frontier of research outward. These concern, in particular, the problem of the choice of technique, the determination of long-period prices and income distribution, the role of the quantities of commodities in effectual demand in the case of joint production, fixed capital and scarce natural resources, and the problem of renewable and exhaustible resources. The upshot of his respective endeavour and intellectual achievements is his book (co-authored by Heinz D. Kurz), *Theory of Production: A Long-Period Analysis*. The book is now widely considered a *locus classicus* of the literature of classical orientation. However, Neri Salvadori also contributed novel insights to several other fields of research. He studied the problem of price formation in the short period in a Kaleckian framework. He extended the Sraffian approach to deal with the problem of economic growth and development. He thereby did not limit the analysis to one-good models, as is typically the case in much of growth economics, whether old or new, but tackled the intricate case of economies with many industries. A major focus of his work was on neo-Keynesian contributions in the tradition of Nicholas Kaldor and Joan Robinson to the theory of economic growth and functional income distribution. Several of his contributions deal with what is known as 'new' or 'endogenous' growth theory. He showed that some of the new growth models, while couched in neoclassical terms, contain an analytical structure that is 'classical' in spirit. In all these works Neri Salvadori made effective use of his remarkable mathematical skills and analytical sharpness, and demonstrated an amazing knowledge of the economics literature, both modern and ancient. In more recent times he got interested in the theory of oligopoly and has produced a number of papers with new results.

His interest and expertise in the history of economic analysis materialized in a number of essays dealing with major economists, such as Adam Smith, David Ricardo, Léon Walras, Knut Wicksell, John von Neumann, Wassily Leontief, Kenneth Arrow and Gérard Debreu, and especially Piero Sraffa. A characteristic feature of his contributions is his analytical grip on their works, which allows him to put into sharp relief similarities and differences and to elaborate on aspects these authors left undeveloped. His interest in past authors is not antiquarian; he rather wishes to know in which way economic theory has developed, and why, and what can still be learned from the masters of our discipline. Involved in editing the unpublished papers and correspondence of Piero Sraffa, Neri Salvadori has managed to solve a number of puzzles concerning the interpretation of Sraffa's analysis and has explored the latter's collaboration with his 'mathematical friends', Frank P. Ramsey, Abram S. Besicovitch and Alister Watson. In addition he has published on questions of methodology in the context under consideration.

Neri Salvadori's publication record is outstanding. He has published and edited numerous books, several hundred papers (well over a hundred of them in peer-reviewed journals), many entries in dictionaries, book reviews etc. (See the list of his publications at the end of this book.) His work has been widely appreciated in the literature, reflected in numerous citations and references to it and by translations of his works into other languages. His excellent standing in the profession is also documented by several prizes he received, including the Premio Linceo (a lifetime achievement award given by the Accademia dei Lincei, the Italian Academy of Science) in 2004, several visiting professorships in many countries, numerous invitations to give keynote lectures, talks and seminars all over the world, several participations as lecturer in international summer schools, and highly appreciated work as referee by leading economic journals and publishing houses. Neri Salvadori also organized highly successful serial annual lectures in economic growth and development published by Cambridge University Press. Since 2004 Neri Salvadori has served as general editor (together with Heinz D. Kurz) of *Metroeconomica*; in addition he is a member of several editorial boards of economic journals, including *The European Journal of the History of Economic Thought*.

Neri Salvadori has earned himself not only the respect of his peers and colleagues, but also of his students because of the care with which he looked after them and the support he gave them. An inspiring academic teacher, he attracted numerous bright young people and interested them in promising approaches and themes, irrespective of whether they were fashionable in the profession or not. He was able to instil into them his standards of rigour, meticulousness and dedication; several of them made an academic career. His social competence is reflected in many joint papers with former students of his.

The contents of this book

Chapter 2 contains 'personal reminiscences' of one of us, who has had the privilege of collaborating with Neri Salvadori over more than thirty years (and expects to continue to do so) and whose intellectual life is closely interrelated with his.

The thematic essays are subdivided in four parts that reflect well Neri Salvadori's main areas of interest and research. Part 1 is dedicated to 'economic growth and income distribution' and has four chapters. Chapter 3, by Pasquale Commendatore, Ingrid Kubin and Carmelo Petraglia, elaborates on the standard footloose capital model by Martin and Rogers and allows for two groups of capital owners (workers and capitalist rentiers). Following the insights of Pasinetti and Kaldor, the authors assume that capital ownership is more diffused at home than abroad and that the two groups exhibit different consumption patterns. On the basis of these assumptions new results on the impact of free trade on the long-run international distribution of capital and welfare are derived. Chapter 4, by Andrea Mario Lavezzi, argues that Adam Smith's theory of the division and labour and economic growth, and its development by Alfred Marshall, Allyn Young and Nicholas Kaldor, exhibits characteristics that allow one to classify it as belonging to complexity economics. This claim is supported by a historical reconstruction of Smith's growth theory against the background of complex systems analysis. This novel perspective is confronted with the traditional one, rooted, as it is, in general equilibrium economics, and a simple alternative model is proposed. Chapter 5 is by Sergio Parrinello and deals with attempts to extend Keynes's theory of effective demand from the short- to the long-run and to the theory of economic growth. A useful description of a normal state of a growing capitalist economy, the author insists, must not be confined to a pure steady growth, despite the fact that such a state can be used as an ideal configuration for some preliminary analytical purpose. The main analytical result derived is that in the presence of obsolete machines, the margins of changes in capacity utilization, driven by changes in effective demand, are wider if prices and distribution are allowed to deviate from their long-period values associated with free competition and a given conventional wage rate. Chapter 6, by Stefan Schubert and Stephen Turnovsky, proposes a model in which search unemployment and wage bargaining are introduced into an endogenous growth model to analyse the effects of a permanent and a temporary negative total factor productivity (TFP) shock on growth, unemployment and public debt. Motivated by the recent Italian experience following the global financial crisis, the model is calibrated to approximate that economy, showing that both the permanent and the temporary TFP shocks have long-lasting effects on unemployment and on growth and debt dynamics. The model describes well the Italian economy's performance in the immediate aftermath of the crisis and is particularly successful in tracking the time path of the unemployment rate.

Part 2 turns to 'resource economics' and has three chapters. Chapter 7, by Silvia Faggian and Giuseppe Freni, has a new look at the famous forestry problem. It uses the tools of the modern literature on optimal forest management to provide a continuous time 'Ricardian' model of forestry. It is assumed that the land on which timber is produced is not uniform in quality and it is shown that in response to an increase in timber demand forest cultivation is progressively intensified on the most fertile lands and/or extended to less fertile lands. At a given level of the rate of interest, a set of 'breakthrough timber prices' gives the order of fertility – the order in which the different qualities of land are taken into cultivation – while a set of 'threshold timber prices' gives the order in which timber contained in the old trees standing on the different lands is extracted. It turns out that for each land the breakthrough price is higher than the threshold price. The properties of the model are used to discuss a claim of Ricardo's that the compensations received by the owners of marginal forestlands in Norway following the rise of timber demand (and hence of timber price) in southern countries of Europe were not rents. Chapter 8, by Eiji Hosoda, explores the choice of technique problem for an economic system confronted with a problem of post-consumption waste disposal. If households are supposed to pay for the waste disposal at post-consumption stage and there is no constraint on waste generation, then waste is discharged as much as possible. In this case, without any environmental restriction, the existence of a gap between the wage–profit and consumption–growth frontiers implies that per capita consumption is not maximized. To cut an excessive amount of waste discharge, authorities in many countries have introduced an upstream policy represented by extended producer responsibility (EPR). A proper EPR policy can make the gap between the two frontiers disappear, internalizing the waste disposal cost in the price of the consumption commodity which generates waste at the post-consumption stage. Chapter 9, by Alessandro Roncaglia, looks at the oil market as a test in order to assess alternative interpretations of prices of production ('long-period method' and 'photograph'). The story of the oil sector is sketched, stressing the role of technical change on both the production and the utilization side, and the complex and changing nature of the market forms prevailing in the sector (including the influence of antitrust policies). The (marginalist) interpretation of oil as a scarce natural resource is criticized. Although oil should better be treated as a produced and reproducible commodity rather than as a non-reproducible natural resource, the Ricardo–Sraffa approach presupposes free competition, and the oil sector is far from that. The conclusion is that this kind of approach is useful for a critique of the mainstream (scarcity) approach, but is not directly applicable to the oil market.

Part 3 is devoted to 'capital theory and marginalism' and has six chapters. Chapter 10, by Christian Bidard, introduces so-called 'ghost goods' in the analysis; that is, goods that do not appear on markets, but are positively priced. Various cases of ghost goods are discussed: from Sraffa's 'beans' to intermediate goods which are specific to non-operated processes of production, from 'tractors' (intermediate goods in neo-Austrian models) to intermediate goods in two-period Austrian models. It is shown that while the price of a ghost good may generally vary within a certain interval, the price of some intermediate ghost goods in Austrian models can be calculated exactly. Chapter 11 was not written for this book, but has been included upon the recommendation of Edwin Burmeister, who knows how much the late Paul A. Samuelson appreciated Neri Salvadori's work. It can be surmised, would Samuelson still be with us and in good health, that he would have written a piece for this volume. In this unfinished handwritten Samuelson manuscript kindly transcribed by Edwin Burmeister, Samuelson sketches a non-neoclassical model in which output (corn) is producible by a finite number of alternative known techniques, each involving, along with labour and corn seed, non-reproducible land (and where possibly each category of inputs could involve heterogeneous varieties: male and female labours; more fertile and less fertile acreages; coal, iron, and durable produced machines). It is suggested that for the case of homogeneous one-quality land, homogeneous one-quality labour, and homogeneous one-quality corn seed, the corn–labour–land–capital competitive factor pricing can be reduced down to a primal and dual linear programming problem. It is stated that as the interest rate falls from one steady state to another, as soon as there are *joint* products and/or *multiple* heterogeneous capital goods, there need *not* be an induced rise in the plateau of permanently consumable output. In Chapter 12, by Edward J. Nell, it is pointed out that since the classical approach represents the total labour used by society during any period of production as a single, homogenous quantity, we are faced with a fundamental epistemological question: to what common measure are the various grades and kinds of labour reducible? In the chapter it is argued that the only possible common denominator is exchange value. But if this is correct, it requires a reconsideration of Sraffa's construction of the 'invariant measure of value' because his standard system cannot be shown to exhibit the linear inverse relation between wages and the rate of profit if the 'quantity of labour' is expressed in terms of value and not as a homogenous and given quantity that is independent of value and capable of being set equal to unity as a numéraire. Sraffa's derivation of the standard system is therefore said to fail. Chapter 13, by Arrigo Opocher, examines some preliminary aspects of long-period duality in the simple case of an individual, isolated industry. It is shown that firms earning maximum profits of zero can be characterized not by strict constant returns to scale, but by local constant returns, at the bottom of u-shaped average cost curves. If all inputs are 'primary' and the generating technology is perfectly smooth, only a lower dimensional region of the 'true' production function can ever be active, however variable primary input prices can be. If an industry's own output is an input and the rate of interest is zero, then an isoquant cannot be inferred from any number of real primary input prices even under strictly constant returns. A positive and variable rate of interest gives *more* information on the generating technology and, in the case of a Leontief unit isoquant, the generating technique can be inferred from knowledge of a sufficient number of different real primary input price–rate of interest combinations. Chapter 14, by Ian Steedman, examines corn/tractor, Wicksellian and simple input–output models of production. Varying the rate of interest to yield alternative long-period positions, the relationship between capital per unit of output and labour per unit of output are traced out in the consumer good industry. Reswitching is strictly excluded. Remarkably enough, it is found repeatedly that the consumer good isoquant need not be downward sloping and convex from above; it need not even be monotonic. This spells trouble for conventional assumptions in production theory. In Chapter 15, Takashi Yagi studies income distribution in a system with fixed capital and depreciation and introduces a new surplus approach in the theory of distribution and capital. The ratio of the rate of profit and the wage rate, called the surplus rate, is distinguished from the rate of profit for capital. The properties of the standard system introduced by Sraffa are then used to analyse the shares in distribution and the measurement of the aggregate value of capital in an actual system with fixed capital.

'Sraffian themes' are dealt with in Part 4, which has four chapters. Chapter 16, by Enrico Bellino, starts from Pasinetti's 1960 mathematical formulation of the Ricardian system, which is reformulated in such a way as to provide a mathematical formulation of the income distribution theory contained in Ricardo's early writings. This analytical formulation of Ricardo's early writings has the pedagogical function of fully appreciating the final objective that Sraffa was pursuing with his standard commodity: that of studying the relation concerning income distribution independently of prices. In simpler terms, Sraffa sought to depict the economy as a system where the division of the social product, or 'cake', does not affect the magnitude of the cake. In Chapter 17 Christian Gehrke investigates whether Sraffa's unpublished manuscripts provide some hints for interpreting his reaction to Joan Robinson's objections to the use of the concept of 'subsistence-cum-surplus wages'. It is shown that Sraffa regarded the problem emphasized by Robinson of specifying the amounts of commodities consumed for subsistence independently of the consumption out of surplus wages as nonexistent, because he conceived of subsistence requirements as notional parts of the commodities actually consumed. Chapter 18, by Carlo Panico, Antonio Pinto, Martín Puchet Anyul and Marta Vazquez Suarez, presents a Sraffian interpretation of the evolution of the US financial regulation after the Second World War, in which it is emphasized that the formation of monetary policy and legislation is affected by the conflicts over the distribution of income. This approach has been widely overlooked in the literature. The chapter argues that during the period considered, financial regulation evolved from a 'discretionary' to a 'rules-based' regime. That conversion was gradual and reflected the strengthening position of the financial industry. It is also stressed that the ability of the financial industry to affect political life has influenced the reforms proposed and adopted after the crisis. Chapter 19, by Man-Seop Park, starts from an accounting equation that is widely used in the recent neoclassical literature modelling production and growth. The models are set in continuous time and the equation refers to a productive process (or an aggregate economy) at 'time *t*' where (ultimately) both a nondurable input and a durable input are utilized. Two characteristics of the equation in particular attract our attention. The first is that the user cost of the nondurable input does not, whereas that of the durable input does, involve the rate of interest. The second is that the quantities appearing in the equation are all treated as real quantities. The present essay draws the attention to the logical difficulties besetting the first characteristic and concludes that the approach cannot be sustained as it is.

Part 5 deals with 'imperfect competition' and has three chapters. Chapter 20, by Antonio d'Agata, develops a simple model of product differentiation *à la* Hotelling with quantity-setting firms in which producers of identical goods collude because of kinks in demand. It is shown that producing homogeneous goods may be optimal because of the existence of collusion-supporting kinks in demand. The results achieved suggest also that positioning can be strategically used for generating kinks in demand and, therefore, collusion. Chapter 21, by Simone d'Alessandro and Luciano Fanti, analyses a vertically integrated industry with a monopolistic upstream firm and two downstream firms choosing their capacity for strategic reasons and then competing *à la* Bertrand in the final product market with differentiated products. It is shown that the common wisdom according to which (i) the profit of the monopolistic supplier is higher when it is price-discriminating, and (ii) consumers' surplus and social welfare are higher when it is non-price-discriminating, is always contradicted. Moreover, interpreting the monopolistic upstream firm as a centralized union, it is shown that an 'egalitarian' wage policy is preferred not only by the union but also by consumers and society as a whole. Both results hold in certain conditions even when strategic entry is taken into consideration. In Chapter 22 Rodolfo Signorino provides a close textual comparison between the 1957 second Italian edition and the 1962 first American edition of *Oligopoly and Technical Progress*, showing that Sylos Labini added to the later edition some sections concerning new firms' entry and incumbent firms' reaction, which partially contradict Modigliani's 1958 presentation of the Sylos Postulate. The theoretical differences between Sylos Labini and Modigliani with regard to the assumption of constant output are traced back to their different modelling strategies on how to tackle the issue of external firms' conjectures in determining the long-run oligopoly equilibrium price.

Part 6 deals with the 'history of economic analysis' and has five chapters. Chapter 23, by Amitava K. Dutt, examines whether there is anything useful left in Malthus's analysis of population and economic growth. Distinguishing between theoretical frameworks of analysis and specific predictions made using such frameworks, it argues that even though Malthus's predictions proved to be incorrect, his theoretical framework has much to offer, and deserves careful attention. Moreover, using this framework can be useful in addressing whether his fears are still justified. This is done by developing a simple formulation of Malthus's theory of population and economic growth and by extending it to examine a number of relevant and important issues that were neglected or not sufficiently emphasized by him, that is, technological change, the demographic transition, aggregate demand and the environment. In Chapter 24 Riccardo Faucci reconstructs the evolution of the thought of the Italian economist Federico Caffè, born in 1914, who mysteriously disappeared between 14 and 15 April 1987. Federico Caffè was among the most important post-1945 Italian economists. As a professor at the University of Rome for almost thirty years, he authored more than 150 academic publications. An outstanding teacher, he supervised the diploma theses of a huge number of students and educated many excellent scholars, including Mario Draghi, Ignazio Visco, Guido M. Rey, Ezio Tarantelli, Marcello De Cecco, and Nicola Acocella (his successor in the Rome chair). A militant intellectual, his opinions leaned strongly toward the left. The chapter reconstructs his political commitments, his post-war economic policy and economics contributions, his warm admiration of Cambridge economics and his hostility to monetarism. Chapter 25, by Duncan Foley, revisits the labour theory of value developed by classical economists and Marx. It claims that classical political economists and Marx conceptualized human labour in terms of the subjective cost of production, but regarded labour nonetheless as comparable and aggregatable across individuals. Labour in this sense is both universal across workers and fungible among different productive employments. In commodity-producing systems where labour is mobile among different employments, the rate of exploitation in the sense of the ratio of labour effort to money income will tend to be equalized across employments. This proportionality is sufficient to establish a proportionality between value added and labour effort over a commodity-producing system, and the conservation of surplus value in a capitalist commodity-producing system, despite the competition of capitals to maximize their share of the pool of surplus value. Chapter 26, by Bruno Jossa, argues that the establishment of a system of cooperative firms reversing the current capital–labour relation is tantamount to a revolution, in that it results in the introduction of a new production mode. It then asks whether the idea of a revolution enacted by peaceful and democratic means is fully compatible with Marx and Engels's writings. Although the best proxy for the system imagined by Marx is doubtless an economy in which labour-managed firms operate within a centrally planned system, the chapter argues that a system with self-managed firms would be consistent with Marx's theoretical edifice even if it should fail to adopt central planning. In Chapter 27 Alberto Quadrio Curzio analyses the works of two Italian 'institutional economists', Carlo Cattaneo (1801–1869) and Giuseppe Colombo (1836–1921), who, in the nineteenth and twentieth century, contributed significantly to building an industrialized nation. Attention is drawn to the Italian industrial development, which 150 years after national unification has not yet spread to the whole country. Cattaneo and Colombo were both influenced by the civil ethics of the *Risorgimento* and had a structural concept of political economy in which economics (in particular industrial growth with a focus on technological innovation) and finance were seen to be complementary rather than alternative. Finally, they both were conscious that overcoming the existing territorial dualism was a step on the way to national unification.

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