

# Economics and Ageing

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*To Lili*

# Preface

The influence of economists and economic discourse on public policy and opinion has a long history. A telling example is the series of writings by the British historian and writer Thomas Carlyle about slavery. It is well known that Carlyle dubbed economics ‘the dismal science’. In fact, he went farther: for him, economics was not only dismal but rueful, dreary, desolate, abject, and distressing (Carlyle 1849)—see also Levy (2002). What is not as widely known is why. The reason was that economists such as Adam Smith, James Steuart, and John Stuart Mill had been advocating the end of slavery—for economic reasons—and their ideas were becoming influential in moulding public opinion, so that Carlyle took on the role of propagandist of the pro-slavery lobby. Those economists were dreaming of a slave-free world. Little must have changed in 200 years for British economist Alan Williams to write in 2004: ‘experience has taught me that it is not uncommon for an-economist’s-dream-come-true to be seen as a nightmare by everyone else’ (Williams 2004, p. 3).

I present this textbook with this influential role of economics in mind. I aim to explain the main policy topics and discussions, theories and hypotheses, empirical findings, and moot points on questions regarding economics and ageing. If successful, at least future influence will be better informed and more solidly rooted. The ultimate aim is that our thoughts about ageing and economics may reach beyond what they tend to do nowadays—in the words of Australian psychologist Lynne Segal: *Ageing encompasses so much, and yet most people’s thoughts about it embrace so little* (Segal 2014, p. 2). Furthermore, it is peremptory that we delve into the depths of what it means to get older as individuals and societies and how ageing intersects with economic

processes. The alternative is to remain in the ‘mere surface of things’, as Spanish philosopher Aurelio Arteta reflected:

Is there a middle ground between meditating on ageing as the unavoidable task of learning to live (which is to learn to die), but with the risk of sorrow that comes with it, and escaping from all reflection that goes beyond the present, of limiting to *carpe diem*, although to the likely price of remaining in the mere surface of things?<sup>1</sup>

(Arteta 2015, p. 184)

I do not concur with the tenuous epistemological position that enthrones economics above other social sciences. What I do accept,<sup>2</sup> regrettably, is that economics ‘is the theology of our age, the language that all interests, high and low, must speak if they are to win a respectful hearing in the courts of power’ (Skidelsky and Skidelsky 2012, p. 92). Furthermore, I consider it a fair description of an economic adviser a ‘partisan advocate for efficiency *even when the result is significant income losses for particular groups*’ (Schultze 1982, p. 82, italics in the original), and only slightly exaggerated the assertion that influential economists act as ‘the priesthood of a modern secular religion of economic progress that serves many of the same functions in contemporary society’ (Nelson 2014, p. xv). These authors have a point, and I think they are correct, but it is a rather sad truth indeed. Yes, economic considerations do have their place in public discourse, but economics should not be *the* language to communicate with decision-makers. This book also seeks to further objectivity in Gunnar Myrdal’s sense (Myrdal 1969) in the study of economics and ageing: that is, any value judgements or value-laden premises are made explicit. Concomitantly, the book is meant to help discern those underlying value judgements that economists tend to keep well hidden, which is tantamount to the ultimate goal that British economist Joan Robinson ascribed to studying economics—in her famous words: ‘to learn how to avoid being deceived by economists’ (Robinson 1978, p. 75).

Economists, commentators, and decision-makers seem to concur that individual and population ageing have profound economic consequences, and I agree. It is also the case that economic decisions and factors have profound consequences for the processes of individual and population ageing. And it may be that because of either of these relationships (or both), you are holding this book before your eyes. But, before we go any further...is it ‘economics *and* ageing’ or ‘economics *of* ageing?’ I proclaim:

‘Economics *and* ageing!’

Why?

Economics ‘and’ ageing implicitly allows for the reverse formula—ageing and economics—inviting a conversation between economics and other disciplines that study individual or population ageing. ‘Economics of’, in contrast, denotes a one-way traffic: the application of tools and models from economics onto a particular topic; behind the phrase ‘economics of’, an epistemological closure looms large (Chick and Dow 2005; Lawson 2006). In a reply to a book review published in the academic journal *Economics and Philosophy*, Lawrence Berger pointed out that the title of the journal meant ‘that a conversation requiring an openness and attentiveness is called for between *economics and philosophy*’ and concluded:

If economics could risk its understanding of what it is about—if it could risk its ‘success’ in conversation with other disciplines—only then could it aspire to grow beyond its current limitations and be open to what it could become.

(Berger 1989)

This textbook should be read—and assessed—as an attempt to further such a growth. In a paper on economic analysis of the family, Bergstrom (1996, p. 1904) reflected that

It is easy to convince most economists that economic analysis would greatly enrich all other academic disciplines, but economists are surprisingly reluctant to believe that reading anthropology, biology, history, psychology, or sociology is important for doing good economic analysis.

and he went on: ‘One objective of this paper is to show samples from these literatures that may help to convince economists to expand their reading’. As I am an economist surprisingly convinced that those disciplines are important for good economic analysis, this is also one objective of this textbook.

In his introduction to the textbook *Recent Advances in Organic Chemistry* by A.W. Stewart, J. Norman Collie—a British chemist—remarked, back in 1909:

If one wants to know a new piece of country, to obtain a large number of photographs all taken from the same place is obviously a foolish thing to do. Yet book after book...is published, covering the same ground, with a fine disregard of the fact that to the pioneers the outlook is constantly changing. A book that has practically nothing new in it except the description of a few more compounds is unnecessary. Fortunately, however, there are some text-books which are not

mere narrations of facts, and which do point out not only what has been done, but what might be accomplished, and which do make the reader think. At no time, however, is a change wanted in the method of writing textbooks more than at present. Deluged as we are with unnumbered facts that have often neither explanation nor obvious connection with one another...How, out of all this undigested mass, is the writer of a text-book to glean what is of interest or tell what ought to be taken and what left? The result is that many text-books are not much more than abridged...dictionaries. The only tax on the reader's mind is to remember as many facts as possible. The text-book is rare that stimulates its reader to ask, Why is this so? or, How does this connect with what has been read elsewhere?

(Collie 1909, p. 341)

'Book after book' on economics and ageing has not been published lately. In fact, there are no recent textbooks that cover comprehensively the economic causes and implications of individual and population ageing, despite the increasing relevance of both processes in and for current economic theory and practice, and public policy. The syllabus of the 2012 course by the late Professor Robin Neill<sup>3</sup> on 'The economics of ageing in an ageing society' at the University of Prince Edward Island, Canada, put it thus:

Few texts cover explicitly and exclusively the economic aspects of ageing. Fewer still cover the economic considerations of the rise in the average age of populations in the current Great Recession. Fewer again cover the economic considerations associated with all ages, young, middle, and old (all societies have ageing populations, some have populations in which the average age is rising); and still fewer, if any, consider the ageing of the economic institutions in which individual ageing occurs.<sup>4</sup>

In this regard, this textbook is safe from Collie's initial criticism. On the other hand, my starting condition was not an 'abysmal gap' similar to which the US economist Allan Drazen heroically tried to fill with his 2000 textbook *Political Economy in Macroeconomics*: Drazen moaned that '[w]riting a text in a field where none previously existed presents a special challenge, even more so when the text covers the interaction of two fields' (Drazen 2004, p. xi). The situation in my case is not as dire, because even though this textbook covers the interaction between economics and several fields, there is some valuable precedent to hand: James H. Schulz's (1974) *The Economics of Aging*, John Creedy's (1995) *The Economics of Ageing*, William Jackson's (1998) *The Political Economy of Population Ageing*, Robert Clark et al.'s (2004) *The Economics of an Aging Society*, Steven A. Nyce and Sylvester J. Schieber's (2005) volume

*The Economic Implications of Aging Societies: The Costs of Living Happily Ever After*, and, more recently, Grégory Ponthière's (2017) slick volume in French, *Économie du vieillissement*. However, as Neill noted, none of these books encompasses the multiplicity of topics and issues covered under the umbrella of economics of/and ageing. The two-volume *Handbook of the Economics of Population Aging* (Piggott and Woodland 2016) does offer comprehensive expositions on a diversity of subjects but is written by different authors and without the purpose to serve as an introductory textbook to the topic.

There have also been exhaustive book-length treatments of specific topics—for example, pension economics (Blake 2006a; Creedy 1998), the implications of population ageing for development economics (Dyson 2010; Lloyd-Sherlock 2014), fiscal policy (Ihori 1996), and economic growth theory (Croix and Michel 2002; Gruescu 2007; Lang 2012; Weber 2010). However, some of these works are highly advanced treatises aimed at graduate students and experts in the field, whilst others, rather than textbooks, consist of edited collections of previously published academic papers, also targeted primarily to experts.

It is a fair approximation to the current state of affairs, then, to say that an overall and comprehensive pedagogical exposition of economics and ageing aimed at non-specialists is lacking. And this is precisely the purpose of this book: that it may become the first port of call to study the economic aspects and implications of individual and population ageing. Hence, it is written for students, professionals, and practitioners of a wide array of fields, including economics, social epidemiology, social gerontology, sociology, health-related sciences, social care, public policy, actuarial science, and demographics. It is also meant for journalists, commentators, analysts, and policy-makers working or interested in ageing issues.

Not only did Collie complain about badly written and redundant textbooks, but he also threw a daring gauntlet as well, which I have humbly but conscientiously picked up: not to present an 'undigested mass' of unconnected facts but to make its readers think and wonder and seek new answers in this exciting and ever-changing field.

The Israeli social gerontologist Haim Hazan opened a paper with this insightful gambit:

Gaining access into the ever fascinating, never explicable world of aging and the aged has become an increasingly challenging preoccupation for behavioral scientists. No intellectual effort has been spared in formulating grand theories, developing intricate methodologies and establishing massive data bases. Naturally as the panoply and the diversity of research tools and perspectives are

augmented, the common ground for fruitful exchange of ideas and free discussion seems to be diminishing. However if, heretic as it might appear, we suspend belief in the validity and valuableness of that complex edifice of variables, modes of analysis and sets of hypotheses, we may well be confronted with a rather uncomfortable realization. Our scholarly configurations seem indelibly imbued with vocabulary whose linguistic semantics and cultural connotations are often inconsistent and obscure, not to say cryptic.

(Hazan 1988, p. 1)

Economists are increasingly fascinated with and challenged by the ‘world of aging and the aged’ (although many would object that it can never be explained), and they have also formulated theories and hypotheses, developed methods, and compiled data bases. Sadly, the ‘common ground for fruitful exchange of ideas and free discussion’ has also diminished within the profession—not to mention between economists and other scientists. One of the aims of this textbook is to clear the path to understanding the current state of the conversation of ‘the complex edifice of variables, modes of analysis and sets of hypotheses’, which sometimes block the way. The last of Hazan’s exhortations about the use of ‘inconsistent and obscure, not to say cryptic’ vocabulary is not pertinent to economics, or is it?

## Pedagogical Approach

Whether economics has a distinct domain or consists of a set of methods is an epistemological discussion I am not going to get involved in here.<sup>5</sup> However, I must briefly outline at the outset two elements of the epistemological framework (despite British economist Sir Roy Harrod’s warning that economic methodology provides ‘the greatest opportunity for internecine strife!’<sup>6</sup>) into which my pedagogical approach is grounded.

Firstly, the definition of economics. In very broad terms, which I trust should suffice here, we must consider that there exists a distinction about how economics is defined: some authors define it in terms of its subject matter or scope, whilst others define it in terms of its method. To illustrate with two Nobel Prize winners, an exponent of the former was the British economist Ronald Coase, who understood that the distinguishing element of the economics profession is the common interest in ‘the social institutions which bind the economy together: firms, market for goods and services, labour markets, capital markets, the banking system, international trade, and so on’ (Coase 1978, pp. 206–207). In the latter camp, we find the US economist

Gary Becker, for whom the distinguishing feature of the ‘economic approach’ is ‘the combined assumptions of maximizing behavior, market equilibrium, and stable preferences’ (Becker 1976, p. 5). This book covers theoretical and empirical developments reflecting both understandings of economics—that is, I do not rule out one or the other as ‘not economics’.

Secondly, the type of scientific knowledge produced by economics. Hollis (1994) classified scientific knowledge into explanation and understanding, each in turn divided into holistic or individualistic. Holistic approaches account for individual actions in relation to structures or systems, whereas individualist approaches confine the account for individual actions to the human agents themselves. Explanation looks for causes of behaviour or events, whereas understanding (i.e. hermeneutics) seeks the intended or unintended meaning of actions. Depending upon their epistemological viewpoint, economists have presented findings and defended conjectures according to their different conceptualisations of scientific knowledge, but confined overwhelmingly to explanatory approaches.<sup>7</sup> For example, it has been noted that average earnings tend to reach a maximum when workers are in their late 40s or early 50s after which they tend to fall (the inverted U-shape of age-wage profiles—see Chap. 1 in Volume III). The ‘political economy of ageing’ approach offers a holistic explanation: the fall in earnings in old age would be a consequence of the social relationships embedded in institutions and processes in the labour market—see, for example, Walker (1981). An individualistic explanation, in turn, is provided by Mincer (1974), for whom the declining profile at older ages would reflect reductions in productivity as a consequence of human capital depreciation.

This epistemological distinction between scientific knowledge as explanation and understanding stems from alternative ontological conceptualisations of economics as a science, which we are not going to dwell upon here.<sup>8</sup> Nevertheless, I must make explicit where this book stands in relation with the related discussions around the delimitation (or closure) of economics and its sub-disciplines and the so-called ‘imperialism’ and ‘reversed imperialism’ of economics (Davis 2012; Mäki 2009).

The US economist Jack Hirshleifer set out two themes in his 1985 comments on economic ‘imperialism’—the second, of less concern here, was that economics and biology are intertwined, but the first one is worth quoting in full:

...it is ultimately impossible to carve off a distinct territory for economics, bordering upon but separated from other social disciplines. Economics interpenetrates them all, and is reciprocally penetrated by them. There is only one

social science. What gives economics its imperialist invasive power is that our analytical categories—scarcity, cost, preferences, opportunities, etc.—are truly universal in applicability. Even more important is our structured organization of these concepts into the distinct yet intertwined processes of optimization on the individual decision level and equilibrium on the social level of analysis. Thus economics really does constitute the universal grammar of social science. But there is a flip side to this. While scientific work in anthropology and sociology and political science and the like will become increasingly indistinguishable from economics, economists will reciprocally have to become aware of how constraining has been their tunnel vision about the nature of man and social interactions. Ultimately, good economics will also have to be good anthropology and sociology and political science and psychology.

(Hirshleifer 1985, p. 53)

From this perspective, economics ‘both requires knowledge of institutions and of social, political, and historical phenomena and requires the ability to use available data in a reasonable way in discussing real-world economic issues’ (Dalen 1996, p. 158).<sup>9</sup>

I agree. Most mainstream economists would concur with Binder (1974, p. 17) that a *homo economicus* is ‘a rational calculating machine that seeks to maximize utility’. However, what van Dalen, Hirshleifer, Keynes, and many others insisted on is in going beyond this narrowly defined intellectual strait-jacket. Hence, this book covers institutional, social, political, and historical elements in its study of the interactions between ageing and economics. By necessity, I will stop short of looking deeply into the neighbouring areas of scholarship because I cannot profess expertise in all of them and also because doing otherwise would turn this book into a futile ‘textbook of everything’, and I would surely share the fate of Julio Cortázar’s world-famous, accomplished scholar with a minuscule hole in his memory<sup>10</sup>—and it would be much well deserved in my case. Moreover, I hope alongside Gullette (2004, p. 115) that ‘if we err or omit and someone objects, the field grows’.<sup>11</sup> However, restricting the exposition to theories, models, and results exclusively produced by economists is not admissible either. I have opted, then, for venturing right up to the intellectual confines of economics and ageing-related scientific thinking, even though some theoretical lucubrations from other sciences may not be suited for direct adoption within economics, because as Akerlof and Dickens (1982, p. 307) noted, ‘insofar as studies in these other disciplines establish that people do not behave as economists assume they do, economics should endeavor to incorporate these observations’. The risk of doing otherwise, as the same

author remarked two years later, ‘may make differences of practical importance’ (Akerlof 1984, p. 5).

I understand that, regardless of its level, a textbook, particularly on a social science such as economics, has to expose its readers to the central theoretical elaborations and empirical endeavours within its field but also provide an overview of the state of the art in the frontier of analysis as well as enough stimulus to venture yonder. Besides, it has to incorporate those advances from other disciplines germane to its topic and discuss their inter-relationships, as the history of science bears witness of many a ‘eureka moment’ within a discipline thanks to cross-fertilisation of ideas or insights from other sciences. The Argentine economist Aldo Arnaudo wrote that in questions of formal training, lecturers in economics aim at three different models of economist (Aldo 1968): a middle-of-the-road, jack-of-all-economist’s-trades competent economist; a highly trained specialist on a narrow branch of economics; and an economist with both characteristics. Arnaudo felt inclined to prepare economists of the third category—and so am I through this textbook.

A textbook has to present an integrated and integral view of its subject to avoid what the Austrian economist Karl Polanyi warned against: ‘All particulars become meaningless if we lose sight of the pattern they jointly constitute’.<sup>12</sup> Moreover, it should help acquire the many instrumental and liberal skills needed to fulfil the description of an economist set out above—and if an economist needs to acquire deep understanding of social, political, and historical phenomena as well as of the methods and techniques that make up Becker’s ‘economic approach’, textbooks have to reflect this. As the German economist Peter de Gijzel contended:

...education in economics that does not stimulate students to look beyond their own discipline runs the risk of missing efficient solutions of economic problems that can be found by a multidisciplinary approach. And it neglects the increasing demand for graduates who are able to communicate and co-operate with graduates from other fields.

(Gijzel 2005, pp. 3–4)

de Gijzel talks of a ‘multidisciplinary’ approach. It is worth noting that ‘multidisciplinary’ is not the same as ‘cross-disciplinary’, ‘interdisciplinary’, or ‘transdisciplinary’. For US economist Myra Strober, both cross-disciplinary and multidisciplinary mean that different disciplines are used, but not integrated; interdisciplinary indicates a partial integration of method, theory, content, and perspectives that nonetheless keeps the separate disciplines distinguishable from each other; and transdisciplinary is a fuller integration

that makes it difficult to discern the contents or traits of the different disciplines (Strober 2006). I am not going to endorse any of these approaches in particular: when scholars have not juxtaposed economics and other sciences in any way, I will expand the exposition to whatever of relevance other disciplines may have to say, leaving the door open for the readers to embark on multidisciplinary, interdisciplinary, or transdisciplinary work, should they wish.

The quest for knowledge in the field, as I understand it, does involve understanding the economic system as an open system and the boundaries between economics and ageing as changing, malleable, and porous. An open-systems approach is more taxing for teachers and students. Teachers may not agree with this pedagogical pluralism (Freeman 2009; Fullbrook 2013; Reardon 2009; Salanti and Screpanti 1997), or, perhaps, they may be more familiar with or advocate one particular theory or group of theories within one school of thought. Needless to say, I am not against teachers making their mark upon their students, except if this comes at the expense of exposing the students to viewpoints other than theirs. I totally agree with Atkinson (2014, p. x) who said that the ‘increasing sub-division into specialist groups with heavy emphasis on an agreed set of positions and approach to economics’ made him uneasy and went on to ‘stress the need for open-mindedness since economics today seems to have become less open-minded’. This book can be seen as a very humble exercise in open-mindedness. Á propos, that oft-repeated quote by German author Johann Wolfgang von Goethe comes to mind and is worth repeating once again:

A school of thought is to be viewed as a single individual who talks to himself for a hundred years and is quite extraordinarily pleased with himself, however silly he may be.

(Goethe 2005, p. 14)

In turn, the challenge for students, as the British economist Sheila Dow noted, lies in that apart from having to learn additional material, they also need to learn ‘the art of judgement’ (Dow 2013) that being an economist entails. I would add an additional challenge identified in the literature on sociology of economics as a science: the existence of forces within the economics profession that could hamper such an approach.<sup>13</sup> Two examples to illustrate this: The US economist George Akerlof was awarded the Nobel Memorial Prize in Economic Sciences in 2001 mainly for his path-breaking 1970 ‘Market for Lemons’ paper. He recalls that the paper was rejected by *the Journal of Political Economy*, on the grounds that if the paper was economics, *then economics would*

*be something very different* (Akerlof 2005, p. 6). Donna Ginther, Professor of Economics and Director of the Center for Science, Technology & Economic Policy at the University of Kansas, reflected upon her academic research experience; thus:

My research now straddles the boundaries of economics and demography, higher education, gender studies, and the burgeoning field of science policy. Although my research has been fun and rewarding, there have been times when I've been told by colleagues, that I'm "not an economist." This is just one of the pitfalls facing researchers who choose to research across disciplinary boundaries.

(Ginther 2010)

Economists do not run the risk that their work is not considered economics just by reaching out to other disciplines: Medema (2008, p. 427) points out that 'certain work within dissenting traditions is prone to elicit responses such as: "That's not economics!" or "Where's the economics in this?"'

Be it that after reading this book its readers decide to inquire about the phenomena herein covered with the tools of the economics trade (à la Becker), incorporate insights and concepts from the neighbouring fields (à la Akerlof), or plough along 'heterodox' fields (Ioannides and Nielsen 2007), my objective of providing intellectual input to further understand the interactions between economics and ageing will then have been accomplished. The Argentine economist Raúl Prebisch confessed that a 'longtime aspiration' of his was the 'intellectual symbiosis of an economist and a sociologist' (Prebisch 1981, p. 10). The US economist Richard Easterlin went further when he reminisced about his professional training and the importance of opening up intellectually to other disciplines (Easterlin 2004, pp. 19–20):

I am an economist because I believe that economics is essential to understanding the world and that the framework of economic theory enables one to think systematically about many interrelationships ... It is unfortunate that the profession of economics has retreated from this belief in the ability of economic science to help us control our destiny because the need for policy-relevant research is greater today than ever before. But economics alone is not enough, and this is why I am a reluctant economist. We cannot comprehend the world around us without knowledge of the facts and insights provided by the other social sciences. Economics is a valuable starting point, but only a starting point, in the application of social science to the world's problems. As I reflect on my own philosophy ... it boils down to a few words: it is good to be an economist; it is better to be a social scientist.

Much better indeed. Incidentally, I have included many times so far economics within the social sciences. If (I hope) you agree with me that economics is a social science and that the economic sphere is part of the social sphere of the lives of individuals and communities, the distinction between economic and social in general (or referring to socio-economic variable, status, etc.) is an example of the logical mistake of the conflation of a genus and its species—similar to talking of, say, ‘Italians and Europeans’ or ‘cucumbers and vegetables’—see Copi, Cohen, and McMahon (2016). Many organisations and programmes incur in this definitional mistake even in their names as they bear the words ‘economic and social’—to name a few, the French Economic and Social Bachelor Programme (‘Baccalauréat économique et social’) and Economic and Social Council (‘Conseil économique et social’), the Economic and Social Research Council in the UK, the European Economic and Social Committee of the European Union, or the Department of Economic and Social Affairs of the United Nations Secretariat, and so on. Throughout the book I will make references to ‘socio-economic’ variables, only in close relation to the way other authors have expressed.

The book discusses empirical findings, old and new, some disputed though not wholly discredited (I have omitted the latter except in some key instances). Apart from illustrating a crucial aspect of scientific endeavour and the sort of theoretical, methodological, and policy questions these findings have brought about, the exposition of data and results serves a deeper pedagogical goal, best expressed in the words of the British physician Ben Goldacre:

The most interesting questions aren't around individual nuggets of data, but rather how we can corral it to create an information architecture which serves up the whole picture.

(Goldacre 2014, p. 15)

And by this ‘corralling’ nuggets into a wider picture, I also aim that the readers may venture onto new roads, concoct new insights, and forge new ideas and hypotheses. After all, as Jones (2010, p. 1) so aptly put it: ‘Learning a subset of the skills, theories, and facts developed by prior generations seems a necessary ingredient to innovative activity’.

Finally, when considering empirical studies—not only those discussed in this book—I encourage the reader should keep in mind this wise assertion by the US economist Martin Feldstein:

...statistical inference in economics should begin by recognizing that all economic models are false. The specifications are inevitably simplified pictures of reality so that the estimated coefficients cannot be interpreted within the

framework of traditional statistical inference. As economists, we must learn about the world by examining a variety of estimates, each with its own biases and measurement problems, and trying to draw inferences that take these problems into account.

(Feldstein 1996, p. 162)

## Book Design and Layout

This textbook contains the following features to facilitate the teaching and learning process.

Each chapter opens with a box describing the main contents of the chapter and setting out their importance in connection with economics and ageing at large. For reasons exposed in the previous section, this is not ‘another textbook of economics and ageing’, so even though I would not be treading completely uncharted territory, these boxes will provide a justification for the inclusion of the respective chapter in the book.

Key terms are highlighted the first time they appear in the text, and their definition is listed at the end of the respective chapter.

The book makes some use of diagrams and mathematical expressions. Pitching the book to the ‘right’ audience proved to be very elusive but I had to start from somewhere, and after substantial consideration, I finally settled for assuming the readers would have done a one-year introductory course in calculus and algebra, as well as an introductory economics course (and I made an additional, much more wild assumption: that they—you—still remember what you learned in those courses!). US economist John Siegfried published an exhilarating paper in 1970 poking fun of the excessive formalisation in academic economics for formalisation’s sake, recommending budding economists to refrain from writing that  $1 + 1 = 2$ , and using the following ‘much clearer and more easily understood’ equation (Siegfried 1970, p. 1379):

$$\begin{aligned} & \ln \left[ \lim_{\delta \rightarrow \infty} \left( [(X')^{-1} - (X^{-1})'] + \frac{1}{\delta} \right) \right] + (\sin^2 q + \cos^2 q) \\ & = \sum_{n=0}^{\infty} \frac{\cosh p \sqrt{1 - \tanh^2 p}}{2^n} \end{aligned}$$

**Warning:** we will *not* follow Prof. Siegfried's advice in this textbook, and when making use of mathematics, we will try and keep the exposition as complicated and obscure as  $1 + 1 = 2$ .

In his persuasive book about teaching in higher education, Ramsden (2003, p. 154) warns against textbooks that present their contents in such a way that everything is clean and clear-cut, and true, without a shadow of a doubt, so much so that 'students are led to feel that any lack of understanding on their part must be their fault', and concludes that such textbooks 'are often poor teachers—because they are written using an inappropriate approach to teaching'. I have endeavoured to make this textbook one of the laudable exceptions—obviously not by casting doubt and sowing confusion (well, not consciously at least!) but by highlighting pitfalls and limitations as well as conflicting evidence and theoretical implications when I thought it was necessary. Sometimes I discuss alternative views and opposing findings in the main text; sometimes I leave these to the discussion sections. But the textbook attempts to convey the idea that the interplay between economics and ageing is far from a pristine field of study (if there has ever been one) and that its many gaps in modelling, understanding, empirical foundations, and policy implications and interventions are up for grabs, there to be filled, and that every approach, model, assumption, and finding is open for contestation.

Over the years, I have been subject to, as a student, and applied, as a lecturer, the Socratic approach to teaching and learning that rests on questioning and discussing as a means of discovering and building learning and critical thinking. I endorse this pedagogical approach; when combined with inquiring about specific examples drawn from academic, journalistic, and grey literature sources, it is very effective. Therefore, departing slightly from most textbooks in economics, which feature 'problems and exercises' at the end of the chapters that consist mainly on algebraic manipulations, I opted for including discussion sections with key questions currently being investigated or opined about in academic and policy circles, plus quotations from academic papers and books and 'grey' literature reports to stimulate critical thinking and discussion. They should achieve their result as part of a self-learning process (or curiosity-quenching reading), but they are also designed to be discussed in small groups and tutorials. Ramsden (2003) recommended that tutorials, seminars, and practicals should prod interest, challenge, and encourage confrontation of ideas instead of, as sadly sometimes do, fostering passive and repetitive behaviour that sentence students to a dull silence mistaken by attentive absorption. I heeded this recommendation when selecting the items in the 'Review and Reflect' sections; I hope I have not

failed because there is no two ways about it: no interest, no challenge, no encouraging, no enthusiasm, no prodding ...result in no learning.

Especially when dealing with algebraic and calculus developments, I go almost step by step, which will be rather infuriating to those readers with a sound mathematical training—to them I beg to take into account their fellow readers from backgrounds not so steeped in maths. It will also be the case that I repeat myself in trying to explain particular points. I am fully aware that this sort of hammering home conspires against fine prose and lengthens what even without repetitions would already be a lengthy book, but this text is not primarily for graduate students of economics or professional economists, and as Professor Ross Starr pointed out:

Repetition aids comprehension, but isn't that overdoing it? For advanced undergraduates in economics, typically the answer is "no." They generally benefit from seeing the ideas developed in a simple and then a more complex context.

(Starr 2011, p. xviii)

This book contains a large number of citations, not to exhibit boastfully erudition but because they contribute to and facilitate the building, organised accumulation, and transmission of academic knowledge (Keynes 1973; Walker and Taylor 2013) and because as Keynes (1926, p. 16) remarked, studying 'the history of opinion is a necessary preliminary to the emancipation of the mind'. I followed the Chicago 'author-year' citation style, which has been adopted by the *American Economic Association* in the USA and the *Royal Economic Society* in the UK. The references for each chapter are gathered at the end of the respective chapter, and all the works cited throughout the textbook are listed at the end.

## Structure

The British political philosopher and statesman Edmund Burke wrote: 'It is our ignorance of things that ...chiefly excites our passions' (Burke 1887, p. 135). I do not know, of course, how much you know about economics and ageing, but I hope this book may cause such huge excitement that you become passionate about the topic.

This textbook spreads over four volumes. Each volume is divided into parts and each part into chapters.

Volume I presents basic gerontological and demographic concepts as well as methodological topics within economics and four theoretical frameworks

used to study economics and ageing. The first part introduces the different conceptualisations of age and definitions of 'old age' as well as the distinction between cohort, age, and generational effects. The second part reviews the main theories of individual ageing as developed in biology, psychology, and sociology, and reflects upon what economics can learn from these ideas and how they can and to what extent they have been embedded in economic thinking. It also describes the main demographic trends and presents a discussion around the economic challenges and opportunities created by those trends. It covers the economic theories of fertility, the economics determinants and effects of longevity, and changes in family structures. A short discussion on the epistemology of economic science follows in the next part, including the role of models in theoretical output and the treatment in economics of a variable inextricably linked to ageing: time. The final part introduces the four main modelling frameworks that have become central tools in studies of economics and ageing: the life cycle, the overlapping generations, the perpetual youth, and the dynastic models.

Volume II comprises three key areas of policy and theoretical interest: the fiscal implications of ageing, health economics, and long-term care. The first part consists of a presentation of the fiscal policy consequences of population ageing. It includes two attempts to account for the implications of population ageing for the public sector balance and the aggregate national accounts: generational accounting and national transfer accounts. It reviews the relationship between ageing, public expenditure, and fiscal policy and contains a discussion of population ageing as a driver of public spending, the concept of age profiles of public expenditures and taxes, and the relation between ageing and capital and labour taxation. The second part is about health economics. Here I discuss concepts such as healthy and disability-free life expectancy, the relation between health inequalities and age, the macroeconomic implications of the health of a population, the socio-economic determinants of health, and the interaction between ageing and individual and aggregate health expenditure. This part closes with economic approaches to valuing later life. The final part on the economics of long-term care presents economics incursions into formal and informal care, caregiving demand and supply, questions around insurance, and the so-called sandwich generation.

Volume III comprises another four key topics: labour, pensions, and macroeconomics. Labour economics, a central corpus of age-related studies, is the topic of the first part. It presents analyses of the influence and relation between individual ageing and labour market participation and activity, the labour productivity of older workers, the 'lump of labour' fallacy, and the economics of age discrimination. It also includes a section on the economics

of volunteering. The second part consists of an introduction to the economics of pensions and pension systems. It describes microeconomic aspects—such as the retirement (and un-retirement) decisions, insurance, pension contributions, saving for later life, and behavioural considerations—and macroeconomic topics including retirement income and replacement ratios, funding, and pension wealth. There is also an analysis of pension systems and their reform. The third part presents the main theoretical positions and reviews the empirical evidence about the implications of population ageing for economic growth and development. It reviews the relationships between ageing and entrepreneurship and innovation, and other topics such as the influence of population ageing on monetary policy, inflation, financial markets, and international trade. The part closes with possible ways that macroeconomic crises may affect older people.

The final volume is about political economy and the consumer society. The first part touches on the links between economics, happiness, and quality of life. It presents a discussion of the main indicators and measurement methods in this field and theoretical and empirical developments around quality of life in later life and happiness along the life cycle. The next part explains and discusses issues around ageing and income and wealth distribution, including intergenerational and intra-generational justice, the ‘fair innings’ argument, and discounting. Other topics in this part are social mobility and transmission mechanisms, poverty, deprivation and exclusion in later life, and social status along the life cycle. The relatively novel and hugely influential sub-discipline of behavioural economics is the topic reviewed in part three. Here I surmise the implications of its main theoretical developments for the study of economics and ageing and discuss the empirical evidence. The fourth part presents issues of political economy of ageing: the political economy of social security and pension reform, ageing and political games, and the median voter model. It also discusses the ‘political economy of ageing’ school in social gerontology, and some of the conceptualisations from institutional economics. The last part brings together reflections on older people as consumers and the market opportunities the process of population ageing may be opening, and it includes a chapter on the intersection between ageing and the economics of housing. The themes covered include the macroeconomic implications of the impact of ageing on housing markets and the roles for equity release.

The French writer and aviator Antoine de Saint-Exupéry wrote that in order to have a ship built, the key is not to command people to start weaving the sails or forging the nails but to convey into them the yearning for the seas.<sup>14</sup> Sure, this book includes many of the ‘sails’ and ‘nails’ of the intersection between economics and ageing. I hope that, if not now already, by when you have

finished the last page, you will have acquired the yearning for the topics and issues and models within its covers—the love that makes it possible to sail the seas.

So,

Dear Sir or Madam, will you read my book?  
It took me years to write, will you take a look?

*(Paperback writer, The Beatles, 1966)*

London, UK

José Luis Iparraguirre

# Acknowledgements

‘Old age ain’t for sissies’ or a variation thereof is a rather tired quote attributed to American actress Bette Davis. If you have never written a textbook, let me tell you that it is not for the faint-hearted either. And writing a textbook on economics and ageing proved to be doubly challenging. It began as a one-volume work, like almost any other undergraduate text, but I got carried away by my enthusiasm for the topic and the sheer amount of scholarship and policy initiatives worldwide, and it grew into a four-volume endeavour.

When reading the acknowledgements at the beginning of a book, apart from wondering who else might read the acknowledgements at the beginning of books, I always find that they consist of a list of varying length of names of colleagues, editors, and family members. I want to be brief (yes, I know, ‘who’s talking!’, you say, with thousands of pages to go) and mention two of my colleagues at Age UK, the largest charity in the UK working with older people: Sujata Ray and Christopher Brooks. None of them are economists, which was no coincidence: I wanted to have the text read and dissected by interested ‘lay’ persons—though they hardly come more knowledgeable and experienced in their respective age-related fields of specialisation than these two. Thanks Su, thanks Chris. Despite their best efforts, ‘I am the sole author of any mistakes or obscurities’, as the US economist Robert Dorfman once said.

In economics, we use the metaphor of a ‘frontier’—for example, a knowledge frontier or a production frontier. The metaphor indicates a sort of canopy set at the highest possible level given existing resources, so that an individual, firm, or country is either below or on the frontier (at the ‘cutting edge’, so to speak). However, the frontier can be ‘pushed’ forward by increasing resources or the efficiency with which they are used, and so on. So, the canopy can be raised farther up and away. The editors at Palgrave Macmillan, especially

Laura Pacey and Clara Heathcock, were, above all, very patient with me as I kept pushing this textbook's 'production frontier' off the many deadlines we agreed along the way. Whether the postponements have expanded 'knowledge' is up to you, the readers, to say...

This textbook is dedicated to Lili, my loving and lovable wife. Say no more.

The turning point in *The Brownings' Version* by Terence Rattigan takes place when the student, Taplow, gives his tutor, Andrew Crocker-Harris, as a present, a copy of Aeschylus's Agamemnon in the translation by Robert Browning, with the following dedication—a quote extracted from the book: 'A god from afar looks graciously upon a gentle master'. My final acknowledgement goes to Professor Enquire Hugo Ventura—economist, brigadier, and engineer, but above all, a teacher and mentor whose intellectual imprint will last my whole life—who since 2 July 2012 is before He who regarded him benignly and graciously.

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## Notes

1. 'Hay término medio entre meditar sobre la vejez como tarea inexcusable del aprender a vivir (que es aprender a morir), pero con el riesgo de pesadumbre aparejado, y el escapar de toda reflexión que vaya más allá del presente, el limitarse al *carpe diem*, si bien al precio probable de permanecer en la mera superficie de las cosas?'
2. Despite that Swiss economist Bruno Frey finds little empirical evidence to support this claim and US economist Brian Goff only some (Frey 2006; Goff 2010).
3. Professor Neill died in June 2014.
4. [http://people.ypei.ca/rneill/ageing/Ageing\\_Syllabus.html](http://people.ypei.ca/rneill/ageing/Ageing_Syllabus.html).
5. Interested readers are referred to, for example, Hausman (1992).
6. Harrod (1938, p. 383).
7. The collection of articles edited by Lavoie (2005) is a comprehensive approximation to the hermeneutic approach.
8. See, for example, Gabbay et al. (2012) and Lawson (2006).
9. A position famously set forth by the British economist John Maynard Keynes, who opined that an economist must be 'mathematician, historian, statesman, philosopher—in some degree' (Keynes 1924b, p. 322).
10. Cortázar (1999, p. 89).
11. Also quoted in Barnes Lipscomb and Marshall (2010, p. 6).
12. Cited as an epigraph to Smith (2007). The original quote can be found in Polanyi (1998, p. 59).
13. The following is a famous paid announcement signed in 1992 by 44 leading economists—including by then four winners and one would-be winner of the Nobel Prize. Worth reproducing here in full, it was published in *The American Economic Review* in 1992:

### A Plea for a Pluralistic and Rigorous Economics

We the undersigned are concerned with the threat to economic science posed by intellectual monopoly. Economists today enforce a monopoly of method or core assumptions, often defended on no better ground than that it constitutes the 'mainstream'. Economists will advocate free competition, but will not practice it in the marketplace of ideas.

Consequently, we call for a new spirit of pluralism in economics, involving critical conversation and tolerant communication between different approaches. Such pluralism should not undermine the standards of rigor; an economics that requires itself to face all the arguments will be a more, not a less, rigorous science.

We believe that the new pluralism should be reflected in the character of scientific debate, in the range of contributions in its journals, and in the training and hiring of economists.

Hodgson, Mäki, McCloskey, et al. (1992)

14. *Créer le navire ce n'est point tisser les toiles, forger les clous, lire les astres, mais bien donner le goût de la mer* (Saint-Exupéry 1948, p. LXXV).

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