



# Discovering the old world

## AGEING SOCIETIES

In recent decades, the age structure of industrialized countries have been slowly but steadily changing. People are living longer than ever. A girl born in Germany in 2014, for example, can expect to live to 83 years of age – 11 years older than one born in 1960<sup>1</sup>. At the same time, people are generally having fewer children.

Many countries that lack robust immigration are therefore seeing more retirees relative to the number of wage-earners, and this is starting to have far-reaching implications for people of all ages. A mood of pessimism often pervades discussions of national budgets and talk of future living standards.

This pessimism may be misplaced, however, as it tends to rest on outdated assumptions and on a narrow concept of employee productivity. By understanding how societies can adapt, and how individuals will respond to the attempts of governments to intervene, we can help governments and societies to avoid the worst of the repercussions and prepare for the future.

### WORKING TOGETHER

One of the triumphs of modern medicine is that people generally remain in good health much longer than even our recent ancestors. However, economists tend to be more concerned with the downsides. As the proportion of a country's working-age population shrinks, so too does its supply of labour, meaning relatively fewer goods are produced just as more elderly people need support. As a result, living standards may fall.

As convincing a scenario as this may sound, it underestimates the ability of societies to meet this challenge. Many people are currently retiring before they want to, need to or it is beneficial for

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them to retire<sup>2</sup>. Moreover, it has been estimated that the implications of increasing life expectancy and declining fertility could be fully offset in Europe with a combination of relatively straightforward changes: encouraging students to enter the labour market two years sooner than they do, enabling women to participate in the labour force equally with men, delaying retirement by two years, and redefining how all public pension payments are determined<sup>3</sup>.

Naturally, this set of apparently easy fixes is just a simplified model in which the outcomes of each intervention are estimated, with little of the complexity of the real world part of the calculation. For instances, averages can only tell us so much, because different people have different circumstances. Even so, most people will have heard of these changes as politicians in many industrialized countries moot these measures as policy. How they affect each individual in practice, though, is hard to predict, and the answers will lie at the intersection of many fields of research, from economics, sociology and politics to medicine and public health.

### FIT FOR WORK

The human body generally declines in function as we age, but the impact of this on our ability to work is often more modest than widely believed – nowadays, most people remain essentially healthy far beyond existing statutory retirement ages.

The Survey of Health, Aging and Retirement in Europe in 2013 (Fig. 1) examined this effect by measuring physical

strength and self-assessed general health and physical functionality<sup>4</sup>. In this survey, only 7% more 69-year-olds than 60-year-olds said that their age limited their activities, and a similarly small difference between these groups was apparent for the proportions who described their health favourably. This tallied well with a modest fall in grip strength between these ages.

But, again, no single person is 'average', and proposals to raise retirement ages are complicated by variations in the health prospects within populations, and particularly between socioeconomic groups. For example, lower educational attainment is associated with greater risk of heart disease, stroke, diabetes and lung disease. The effects of different work environments on risk factors such as stress complicate the picture further, as does the fact that healthy children get better school grades and more highly paid jobs, and they tend to remain healthy<sup>5</sup>.

Meanwhile, the latest data suggest that some health gains are slowing in the United States but continuing in Europe<sup>6</sup>. An explanation of these observations could help policymakers intervene more effectively, to keep a wider range of people healthy into advanced age.

### CONTENDERS

Of course, health is only part of the picture, and for anyone to fulfil their potential in the workplace, they also need to be productive. And here some people cry foul – the idea that older people make less productive workers is widely established. It is a notion

In a wide-ranging synthesis of other work, a research paper from the Max Planck Institute for Social Law and Social Policy has revealed that some commonly-held ideas about ageing are not consistent with the available evidence, and that demography is not destiny<sup>4</sup>.

These conclusions challenge the ideas that societies will become poorer as they age, older workers are less productive, retirement is always bliss, employment of the elderly causes youth unemployment, or the young and old will vote against each other's interests in elections.



- The population of many industrialized countries is ageing, but the consequences of this are neither simple nor inevitable.
- Older workers are increasingly as productive as younger ones, and they remain fit to work beyond current retirement ages.
- Careful interdisciplinary research can help dispel myths and inform policy interventions that can help us adapt to the changing situation.

that has profound implications for decisions made by both employers and their employees, for example, deciding when is the appropriate age to retire.

For such an important and widely held belief, the evidence to support it is surprisingly thin. To unpick the relationship between age and productivity, researchers face fundamental methodological problems – measuring the productivity of individuals is inherently difficult owing to the complexity of modern work.

Using salaries or performance evaluations as a proxy for productivity has some obvious limitations, and whatever measurement is used, intangible benefits such as guidance and advice to less experienced colleagues are often missed. Moreover, comparing productivity to average age among organizations can mistakenly credit youth for rising productivity, as companies tend to recruit younger people as they expand.

More sophisticated methods can avoid underestimating the productivity of older workers. The latest efforts suggest that worker productivity increases up to the age of 50–55 years and then stays flat up to the age of 65<sup>7,8</sup>. However, before we can act on these findings with confidence, more work is needed to test this in a wide range of scenarios.

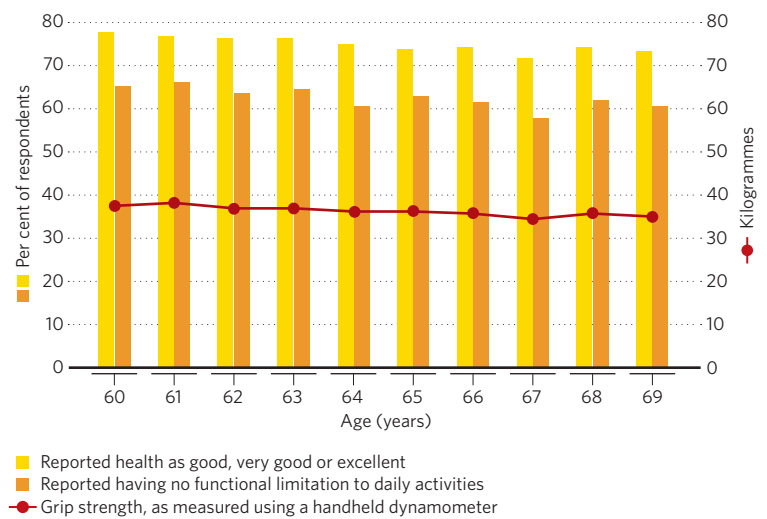
**FEWER MYTHS, MORE EVIDENCE**

A failure to adapt to this new reality will result in economic stagnation and a decline in living standards. But this is not inevitable, as people are living more productive, healthier lives than ever before – and we can make the most of this opportunity by ensuring that policy interventions are guided by careful research into the likely effects a range of structural reforms. Only then will society as a whole benefit from these changes.

1. World Population Ageing 2013 (United Nations, 2013).
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4. Börsch-Supan, A. *J. Econ. Ageing* **1-2**, 3-15 (2013).
5. Case, A., Fertig, A. & Paxson, C. *J. Health Econ.* **24** 365-389 (2005).
6. Freedman, V. A. et al. *Demography* **50**, 661-671 (2013).
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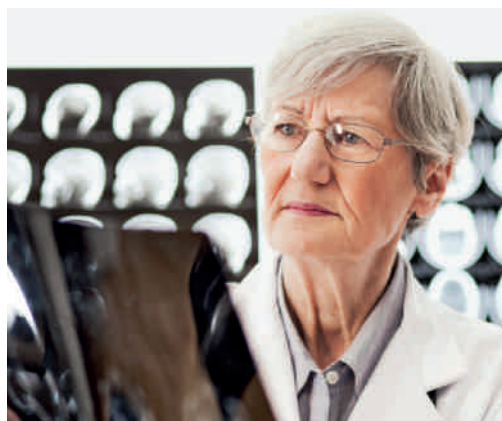
**Figure 1 | Most people maintain good health past retirement age.**

According to a large survey in Europe, the vast majority of people age 60 to 69 years remain fit and healthy. Source: The Survey of Health, Ageing and Retirement in Europe, Waves 1 and 2 (ref. 4).



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Research is challenging the assumption that most people of retirement age suffer ill health, and are unproductive at work. Rather, modern standards of living and healthcare mean that people stay productive at work for longer than ever before.



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