In times of sweeping demographic changes, policy makers and business executives in mature economies perceive workforce aging as one potential threat to the capacity for innovation and technological progress. However, evidence for age-dependency in innovative performance is still scarce. Pressing questions in this context are for example:

- Does workforce age affect the innovative capacity of firms and regions, and if so, how and through which transmission channels do these effects occur?
- What are the sources of possible age-dependency in innovative performance, in particular with respect to innovation-relevant human capital?
- What are the policy implications of the interplay between workforce age and the capacity to produce technological advances in times of future workforce aging?

Starting from a comprehensive survey and critical discussion of existing studies about the interplay between workforce age and innovation, this book suggests a new conceptual framework to study the age-dependency of innovation. Based on this, three empirical studies investigate how the age composition of a workforce affects inventive performance in European regions, to what extent certain staffing patterns experienced by German firms boost innovative performance and how a region’s entrepreneurial capacity relates to the age composition of its working-age population.

**Key words:** aging workforce, innovation, entrepreneurship, human capital, demographic change

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Beiträge zur Personal- und Organisationsökonomik

Band 24

Herausgegeben von
Uschi Backes-Gellner, Matthias Kräkel und Kerstin Pull
To Elisabeth and Karl,
and all others, who brighten my life
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## Abbreviations

<table>
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<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>EPO</td>
<td>European Patenting Office</td>
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<tr>
<td>EU</td>
<td>European Union</td>
</tr>
<tr>
<td>EU-15</td>
<td>The 15 member states of the European Union before 1 May 2004</td>
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<tr>
<td>FE</td>
<td>Fixed effects</td>
</tr>
<tr>
<td>GMM</td>
<td>General method of moments</td>
</tr>
<tr>
<td>GVA</td>
<td>Gross value added</td>
</tr>
<tr>
<td>HR</td>
<td>Human Resource</td>
</tr>
<tr>
<td>IAB</td>
<td>Institut für Arbeitsmarkt- und Berufsforschung (Research Institute of the German Federal Employment Agency)</td>
</tr>
<tr>
<td>IABS</td>
<td>Employment Sample provided by IAB</td>
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<tr>
<td>ILO</td>
<td>International Labour Organisation</td>
</tr>
<tr>
<td>IPC</td>
<td>International Patenting Classification</td>
</tr>
<tr>
<td>IV</td>
<td>Instrumental variable (IV estimation = Instrumental variable estimation)</td>
</tr>
<tr>
<td>LFS</td>
<td>(European) Labor Force Survey</td>
</tr>
<tr>
<td>LIAB</td>
<td>Linked employer-employee panel dataset for Germany provided by IAB</td>
</tr>
<tr>
<td>NUTS</td>
<td>Geocode standard (nomenclature d’unités territoriales statistiques)</td>
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<tr>
<td>OECD</td>
<td>Organization for Economic Cooperation and Development</td>
</tr>
<tr>
<td>OLS</td>
<td>Ordinary Least Squares regression</td>
</tr>
<tr>
<td>RIS</td>
<td>Regional Information System of the German Federal Statistics Office</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>Research and development</td>
</tr>
<tr>
<td>SOEP</td>
<td>Socio-Economic Panel</td>
</tr>
<tr>
<td>S&amp;T</td>
<td>Science and technology</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
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<tr>
<td>US</td>
<td>United States of America</td>
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Chapter 1

Introduction
The benefits of an ageing workforce. Older workers bring many benefits to your business. For instance, people who have been at a company or even just within an industry for a long period of time will, obviously, bring so much valuable experience and knowledge of a firm’s products and services. This expertise can be shared among older members of staff to individuals who are just taking their first tentative steps into the world of work. Having workers from different age brackets also offers a wider variety of views. This diversity should deliver a company with plenty of fresh perspectives, a wh Aging workforce challenges & solutions The impact of the aging workforce FAQ. Aging workforce statistics. First off, a couple of aging workforce statistics to give you an idea about the extent of the problem. In the US alone, 10,000 baby boomers turn 65 every day. According to an article by Arlene S. Hirsch, M.A., LCPC, for SHRM, this is something that started in 2011 and will continue until 2030. Since the average retirement age of a baby boomer lies somewhere between 61 and 65, it’s not hard to see that this so-called silver tsunami is going to create some serious challenges for HR; the It will help you consider simple changes in the work environment to keep aging workers safe, healthy and productive learn how to reduce the shortage of skilled workers by keeping mature workers employed understand how a safe and healthy work environment benefits workers of all ages connect with further resources and obtain additional information.© Government of Alberta. A Guide to Managing an Aging Workforce. Table of Contents. Capacity for extended physical labour is reduced. Changes do not usually affect normal work. Lessened blood flow to outer parts of the body reduces heat loss from skin surface in hot conditions. The aging of the American population has had wide-ranging impacts on the economy not all of them obvious. As the baby-boom generation retires, slower workforce growth is constraining the economy’s potential growth rate. Demographic shifts may also impact the pace of wage growth, inflation, layoffs and new business formation. Instead of signaling weakness or stagnation, these developments may simply reflect the reality of America’s changing population. As large numbers of baby-boomers retire, the effects may spread beyond workforce and GDP growth rates. This mass exodus of employees may also be