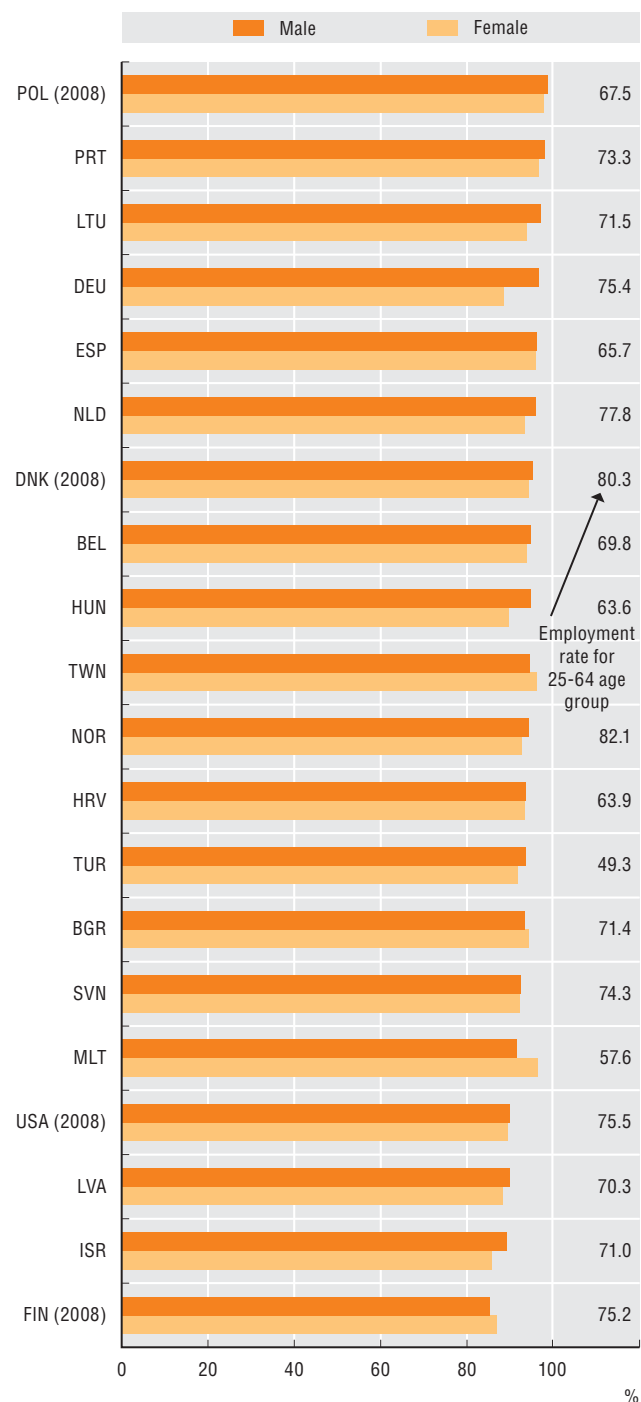


## 2. BUILDING KNOWLEDGE

### 2. Career of doctorate holders

#### Employment rate of doctorate holders by gender, 2009

As a percentage of total doctorate holders



Source: OECD, based on OECD/UNESCO Institute for Statistics/Eurostat data collection on careers of doctorate holders 2010, June 2011; and OECD, Employment Database, June 2011. See chapter notes.

StatLink <http://dx.doi.org/10.1787/888932485785>

An economy's capacity to draw human resources into research is the basis for creating new knowledge and advancing economic activity. Factors that are likely to influence career choices of doctoral graduates include stability, earnings and motivation.

The average employment rate of male and female doctorate holders who obtained their degrees after 1970 is 93%, compared to 70% for all individuals aged 25 to 64 within the economies for which data are available. The difference is particularly marked for Malta, Turkey, Poland and Spain. In most economies, male employment rates slightly exceed those of females. The opposite is true for Bulgaria, Finland, Malta and Chinese Taipei.

Over 23% of graduates at the doctorate level hold fixed-term contracts in the first five years after graduation in 10 out of 16 countries for which data are available, a situation that does not persist in the long run, except in Latvia and the Russian Federation. In the majority of countries, however, temporary employment remains more frequent for doctoral graduates than for other employees.

In all economies for which data are available, gross annual earnings of doctorate holders employed as researchers exceed those of non-researchers in the higher education sector. The picture is mixed for other sectors. Gross annual earnings of doctorate holders in the business enterprise and government sectors fall short of those of their researcher counterparts in higher education in the Netherlands, Portugal and Romania. The opposite is true for Belgium. In the business enterprise sector, gross annual earnings for doctorate holders employed as researchers exceed those of other doctorate holders in half of the 13 countries for which data are available.

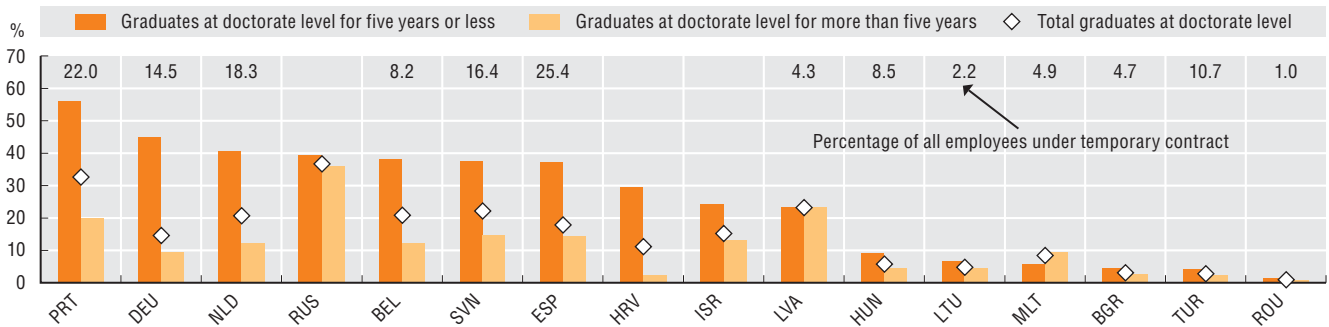
#### Definitions

*Doctorate holders* are all economically active or inactive residents below the age of 70 who have completed, anywhere in the world, the second stage of tertiary education (ISCED level 6) leading to an advanced research qualification. The *employment rate of doctorate holders* is the ratio of the number of doctorate holders in employment (employees and self-employed) to the total number of doctorate holders residing in the country. The percentage of doctorate holders with temporary contracts is calculated as the share of doctorate holders on fixed-term contracts in all doctorate holders employed. The percentage difference in median gross annual earnings between doctorate holders working as researchers and those not working as researchers is calculated as the difference between the former and latter groups, divided by median gross annual earnings of doctorate holders not working as researchers.

A corrigendum has been issued for this page. See: <http://www.oecd.org/dataoecd/26/8/48742541.pdf>

**Doctorate holders on temporary contracts over career path, 2009**

As a percentage of employed doctorate holders

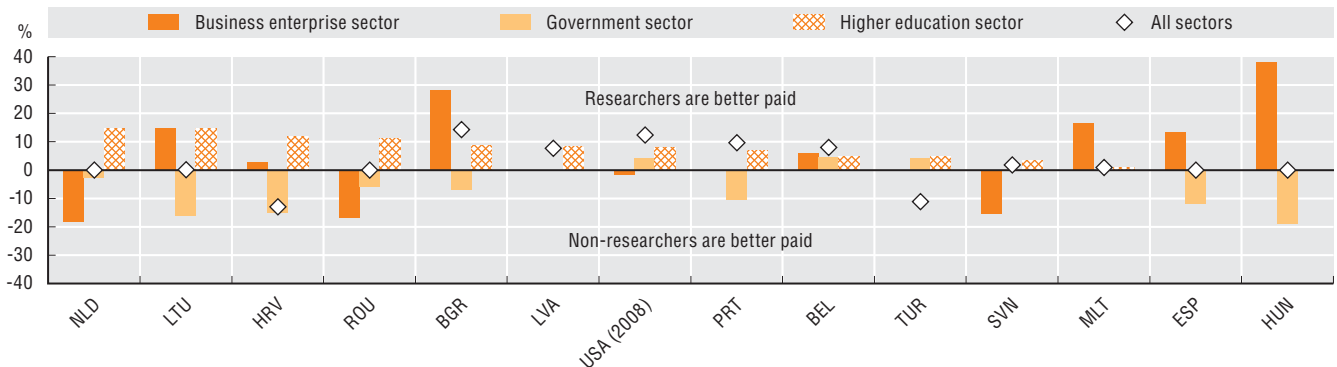


Source: OECD, based on OECD/UNESCO Institute for Statistics/Eurostat data collection on careers of doctorate holders 2010, June 2011; OECD, Employment Database, June 2011; and Eurostat, June 2011. See chapter notes.

StatLink <http://dx.doi.org/10.1787/888932485804>

**Difference in median gross annual earnings of doctorate holders working as researchers and as non-researchers, 2009**

As a percentage of median gross annual earnings of doctorate holders not working as researchers



Source: OECD, based on OECD/UNESCO Institute for Statistics/Eurostat data collection on careers of doctorate holders 2010, June 2011. See chapter notes.

StatLink <http://dx.doi.org/10.1787/888932485823>

**How to read this figure**

In the Netherlands (NLD) there is no overall earning difference between doctorate holders working as researchers and those not working as researchers. However, as researchers they earn 15% more than non researchers when employed in higher education, and 18% less than non researchers if employed in business enterprises.

**Measurability**

The Careers of Doctorate Holders (CDH) project is a joint OECD/UNESCO Institute for Statistics/Eurostat effort which aims to better understand the labour market, career path and mobility of a population regarded as key to the production and diffusion of knowledge and innovation. As part of the project, methodological guidelines, a model questionnaire and templates for output tables were developed with the help of an expert group composed of statisticians from the participating countries. Owing to the methodological challenges involved, notably the development of national registers of doctorate holders, alternative data sources such as censuses, registers or labour force surveys are used in some countries. This may have an impact on the coverage of the target population, the availability of certain variables or the comparability of the data, although every effort is made to minimise and document the differences. While some large countries such as France, Japan and the United Kingdom still do not formally participate in the project, an increasing number is joining it.



**From:**  
**OECD Science, Technology and Industry  
Scoreboard 2011**

**Access the complete publication at:**  
[https://doi.org/10.1787/sti\\_scoreboard-2011-en](https://doi.org/10.1787/sti_scoreboard-2011-en)

**Please cite this chapter as:**

OECD (2011), "Career of doctorate holders", in *OECD Science, Technology and Industry Scoreboard 2011*, OECD Publishing, Paris.

DOI: [https://doi.org/10.1787/sti\\_scoreboard-2011-13-en](https://doi.org/10.1787/sti_scoreboard-2011-13-en)

This work is published under the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of OECD member countries.

This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

You can copy, download or print OECD content for your own use, and you can include excerpts from OECD publications, databases and multimedia products in your own documents, presentations, blogs, websites and teaching materials, provided that suitable acknowledgment of OECD as source and copyright owner is given. All requests for public or commercial use and translation rights should be submitted to [rights@oecd.org](mailto:rights@oecd.org). Requests for permission to photocopy portions of this material for public or commercial use shall be addressed directly to the Copyright Clearance Center (CCC) at [info@copyright.com](mailto:info@copyright.com) or the Centre français d'exploitation du droit de copie (CFC) at [contact@cfcopies.com](mailto:contact@cfcopies.com).