



## UvA-DARE (Digital Academic Repository)

### The Netherlands

*The sectoral impact of digitalisation on employment and job quality*

Keune, M.; Dekker, F.

#### Publication date

2018

#### Document Version

Final published version

#### Published in

Work in the digital age

#### License

Article 25fa Dutch Copyright Act (<https://www.openaccess.nl/en/in-the-netherlands/you-share-we-take-care>)

[Link to publication](#)

#### Citation for published version (APA):

Keune, M., & Dekker, F. (2018). The Netherlands: The sectoral impact of digitalisation on employment and job quality. In M. Neufeind, J. O'Reilly, & F. Ranft (Eds.), *Work in the digital age: challenges of the Fourth Industrial Revolution* (pp. 305-313). Rowman & Littlefield International. <https://www.progressives-zentrum.org/en/publication/work-in-the-digital-age-challenges-of-the-fourth-industrial-revolution/>

#### General rights

It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

#### Disclaimer/Complaints regulations

If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: <https://uba.uva.nl/en/contact>, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.

**WORK IN THE DIGITAL AGE**

***Challenges of the Fourth  
Industrial Revolution***

**Edited by  
Max Neufeind, Jacqueline O'Reilly  
and Florian Ranft**



**ROWMAN &  
LITTLEFIELD**  
INTERNATIONAL

London • New York

Published by Rowman & Littlefield International Ltd  
Unit A, Whitacre Mews, 26-34 Stannary Street, London SE11 4AB  
www.rowmaninternational.com

Rowman & Littlefield International Ltd. is an affiliate of Rowman & Littlefield  
4501 Forbes Boulevard, Suite 200, Lanham, Maryland 20706, USA  
With additional offices in Boulder, New York, Toronto (Canada), and Plymouth (UK)  
www.rowman.com

Selection and editorial matter © 2018 Policy Network  
Copyright in individual chapters is held by the respective chapter authors.

*All rights reserved.* No part of this book may be reproduced in any form or by any electronic or mechanical means, including information storage and retrieval systems, without written permission from the publisher, except by a reviewer who may quote passages in a review.

The views and opinions expressed in this book are those of the authors and do not necessarily reflect the official policy or position of any of the institutions they are affiliated with.

**British Library Cataloguing in Publication Data**

A catalogue record for this book is available from the British Library

ISBN: PB 978-1-78660-906-9  
eBook 978-1-78660-907-6

**Library of Congress Cataloging-in-Publication Data**

Library of Congress Control Number: 2018941712

∞™ The paper used in this publication meets the minimum requirements of American National Standard for Information Sciences—Permanence of Paper for Printed Library Materials, ANSI/NISO Z39.48-1992.

Printed in the United States of America

## THE NETHERLANDS

### *The sectoral impact of digitalisation on employment and job quality*

Maarten Keune and Fabian Dekker

In the Netherlands, as in the rest of the world, an energetic debate is under way on the potential impact of digitalisation on the labour market and welfare state. The importance of digitalisation in the Dutch public debate is demonstrated, among other things, by the heightened attention it has received in the key Dutch advisory bodies. At the end of 2016, the Socio-Economic Council, the key institution of the Dutch neo-corporatist model, published its study *Mensen en Technologie: Samen aan het Werk* (Humans and Technology: Working Together) (SER 2016a). A year earlier the Scientific Council for Government Policy published *De Robot de Baas: de Toekomst van Werk in het Tweede Machinetijdperk* (The Robots in Command: The Future of Work in the Second Machine Age) (Went, Kremer and Knottnerus 2015). In the same year, the Rathenau Institute published a report commissioned by the parliament titled *Werken aan de Robotsamenleving* (Working on the Robot Society) (van Est and Kool 2015).

Digitalisation has also become a major subject at the collective bargaining tables across the labour market. On the one hand, this heightened attention reflects the impact digitalisation has been

having on the Dutch economy and labour market in recent years and the need to deal with its economic and social implications. On the other hand, it reflects worries about the possible negative outcomes digitalisation may have on the number and quality of jobs, inequality and welfare, and the desire to influence this process through public and private policy. Although the new Dutch government is trying to reap the benefits of the fourth industrial revolution by investing in digital technologies and cybersecurity (VVD et al. 2017), there is no explicit policy agenda centred on technological innovation.

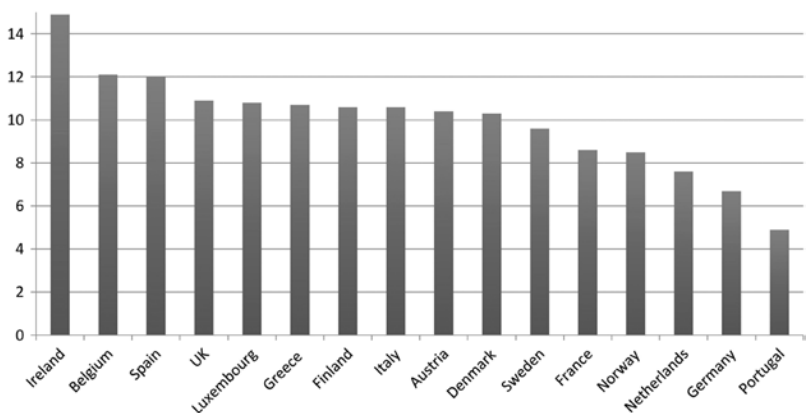
In this essay we will discuss the impact of digital technologies in the Netherlands, with a focus on its varied effects in the different sectors of the economy, and point out how new social policies and related interventions can overcome some of the possible negative consequences brought by technology.

## **WORK IN THE DIGITAL AGE**

New technologies, including physical and social robots, artificial intelligence, driverless cars, cloud computing and data analytics, have a big impact on employment in Europe. Well-known commentators like Elon Musk, Bill Gates and Stephen Hawking as well as policymakers are worried that intelligent and more powerful machines will eventually take over most of the existing jobs (see also Frey and Osborne 2013). The most routinisable jobs are most at risk of automation (Acemoglu and Autor 2011; see also Arnold et al. this volume). However, most studies and scenarios largely neglect the creation of new jobs, goods and services brought about by new technology. Furthermore, most jobs are a so-called ‘bundle of tasks’ that can’t all be automated that easily. For example, consider the work of mental health workers which depends considerably on complex problem solving and social skills. Only humans have the power of social empathy, which is extremely difficult to automate (Colvin 2015). Notwithstanding these limitations, new technology

is fundamentally altering the nature of work. We will briefly reflect on what technology means for job markets, with a focus in particular on the Netherlands as an example of an open economy with a rapid increase in information and communications technology (ICT) investments since 2000 (OECD 2016).

New technologies, such as ICT and the adoption of computers, have triggered a process of job polarisation across many European labour markets (Goos, Manning and Salomons 2014; van Est and Kool 2015). Many jobs, mostly routine and middle-skilled but also certain low-skilled jobs, are being replaced by ICT and other technologies. This trend can be seen in many European countries (see Figure 23.1). The Netherlands has also experienced automation of many routine middle-skilled jobs, such as in banking, insurance and other financial service providers, or low-skilled jobs in warehousing, though less than most other EU countries. Jobs at the lower end of the labour market distribution remain relatively stable, however, due to a growing demand for new services and a declining number of low-skilled workers, while high-skilled jobs can more easily complement the introduction of new technology (Dekker and van der Veen 2017).



**Figure 23.1** Percentage decline in occupational employment shares in middle-wage occupations (16 EU countries, 1993–2010). *Source:* Author.

While new technology sometimes substitutes (middle-skilled) employees and sometimes complements (high-skilled) employees, it may also affect the nature of the employer–employee relationship. Online platforms, such as Uber, Airbnb and TaskRabbit, already disrupt existing business models and enable companies quickly to adjust the size of their (flexible) workforce. In the Netherlands, 12% of all adults report that they have earned money through the platform economy as a self-employed worker at some point (see Huws et al. this volume). The rise of this so-called ‘gig economy’ poses important questions and challenges concerning the protection and regulation of new groups of ‘crowdworkers’ (TNO 2016). These concern, above all, the often high insecurity and low quality of jobs and limited access to social security, particular for the rapidly growing group of (dependent) self-employed (see Schor this volume). Various types of flexible employment already accounting for 35% of the Dutch labour market, and this is likely to increase further as the platform economy grows.

New technology is fundamentally changing labour markets, but the future extent of possible job losses, labour market polarisation and the rise of the ‘gig economy’ is still unclear. The same is true for the quality of jobs, which may deteriorate if the present trend continues but which can also be safeguarded through public or collective interventions (Went, Kremer and Knottnerus 2015). Indeed, the future development of the labour market is not an autonomous process and can be steered by politics and collective labour market actors. At the moment, unemployment in the Netherlands is low and the Dutch labour market is getting tighter, with labour shortages emerging for a number of medium- and high-skilled occupations (IT, healthcare, engineers, technicians, teachers, etc.). How this will develop in the future is an open question. What is clear is that the demand for skills in the economy is changing, with digital skills becoming ever more important across occupations.

The next section focuses on an important but less studied dimension of digitalisation, which is key to understanding its immediate impact: how the process varies across sectors.

## A SECTORAL PERSPECTIVE

The complex and diverse effects of digitalisation are underlined when we take a sectoral perspective. Here we will provide some examples of the impacts of digitalisation on the number and quality of jobs in different sectors in the short and medium term. In some sectors, such as banking, digitalisation leads mainly to jobs losses. Automation and the increased use of internet banking have destroyed many mid-level jobs at both headquarters and closing bank branches. Employment in the three largest banks in the Netherlands has declined by some 40,000 jobs and further cuts are foreseen for the immediate future.

Another example is the graphic design industry. Here digitalisation has reduced the demand for printed materials and improved the capacity of companies and individuals to do their own design work, mainly hitting printing personnel and low- and medium-skilled graphic designers. As a result, employment in the sector declined from 45,000 jobs in 2004 to 24,000 jobs in 2014 (UWV 2016a). At the same time, graphic design is providing more opportunities for highly skilled designers (UWV 2016a), which is in line with the skill-biased technological change hypothesis.

In other sectors digitalisation leads to employment growth, although with varying levels of quality. One example is the IT sector, where employment has increased following growing demand for IT services throughout the economy. According to the UWV (2016b), the sector has created some 25,000 additional jobs since 2013. Moreover, these are generally high-quality jobs, making a positive contribution to the labour market. Employment has also grown in various types of distribution activities related to e-commerce and the platform economy, including parcel delivery and food delivery (like Deliveroo, foodora or ThuisBerzOrgd.nl). Here, though, jobs are often of low quality, characterised by high insecurity, low earnings and lack of social protection and disability insurance. Employers in this sector follow a low-cost, high-flexibility strategy to the detriment of the workers. They often want only self-employed workers to



cut costs by avoiding, among other things, contributions to the social security system, and to transfer much of the employer risk onto the shoulders of these workers. A case in point here is Deliveroo, which recently announced that it wants to transform all 1,750 employment contracts into self-employment arrangements. This led to the first protest march of Deliveroo workers; they objected to this plan, demanding permanent contracts and the establishment of a works council to give employees influence on company policy.

In other sectors, digitalisation does not necessarily have an effect on the number of jobs but rather on the quality of jobs. A key example here is the health sector. A recent study on digitalisation in Dutch healthcare shows that digitalisation is a priority policy area in the sector, but not with the objective to reduce costs or employment (Het Digitale Landschap 2016). A survey among care professionals shows that the three major objectives of digitalisation in health are to provide tailor-made care, to reduce the administrative burden for healthcare workers, and to be able to react quicker and more accurately to care demands. Such forms of digitalisation then allow healthcare workers to dedicate more of their time to patients and to provide better care. It is also likely to improve the quality of their jobs. Similar observations can be made in the education sector (Onderwijsraad 2017).

These sector-by-sector perspectives demonstrate that in the short and medium term digitalisation can lead to job creation as well as job losses, and to increases as well as decreases in job quality. An effective response to digitalisation would therefore include a strong sectoral component. In the Dutch context, where most sectors are covered by collective agreements, discussions between trade unions and employers' organisations should play a key role.

## **A LONGER-TERM POLICY PERSPECTIVE**

What long-term role should policymakers play in the context of digitalisation? With future developments so uncertain, they should

define a set of principles and goals concerning the process of digitalisation. For example, digitalisation should be at the service of society; it is not an end in itself and should therefore abide to certain conditions. Most importantly, it should not result in declining job quality and increased inequality. It should only take place in a context in which workers' rights are protected for everyone who works, income distribution is fair and social protection is available to all. Following such principles, politicians can monitor this process and, where needed, adjust it.

Translating such principles into policy first of all involves guaranteeing workers' rights, including decent wages and secure employment for platform workers, including the self-employed. This requires an adjusted definition of what a worker is and of the relationship between platform workers and their employers. This issue is currently being debated in the Netherlands but has not yet been resolved. Platform workers, and all others confronted with digitalisation, should get a say in company policy through works councils and/or collective bargaining.

Second, the welfare state will also need reform to adapt to these challenges (see Palier this volume). Many self-employed people lack access to unemployment benefits, disability insurance and pensions. For many this is a choice, but there is a growing group of the self-employed, including those involved in the platform economy, for whom it is a matter of prohibitive costs. The welfare state should be adapted to include the self-employed in these three areas of social security. The respective costs could be carried by the companies through social contributions, as with employees. This will prevent self-employment leading to precarious work and high-income insecurity. An alternative approach is reforming the tax system. For example, all generic fiscal incentives and tax allowances for the self-employed in the Netherlands could be used for social security coverage instead.

Third, education and training will be crucial components of the policy response (see De Franceschi this volume). Digital skills should become part and parcel of educational programmes where this

is not yet the case, to prepare students properly for the future. For those already in work, the lifelong learning principle should be taken much more seriously than it is today. Dutch enterprises and public organisations pay lip service to the issue but only provide limited training and retraining efforts (SER 2016b). Training is organised along sectoral lines, through specific training funds, making it more difficult for workers to get training for new occupations (Dekker and van der Veen 2017). This is especially problematic for workers in sectors where employment is declining because of digitalisation, for workers on flexible contracts, who need more but get less training than workers on permanent contracts, and for the (dependent) self-employed, who do not have access to collectively organised training at all. In light of this, increasing training efforts for all workers and overcoming the sectoral division of the funding and delivery of training should be a priority in a rapidly evolving labour market.

Finally, there is the issue of inequality and income distribution. According to some predictions, digitalisation may lead to strongly increasing inequality because of the concentration of ownership of algorithms, platforms and robots, and strong negative employment effects (see Crouch this volume). If this is the case, questions should be asked about private ownership of the means of production and the extent to which income generated by private enterprises corresponds to their owners. Collective ownership or technology taxes may be a way out of such dilemmas. Some of these issues may not be solvable within national borders and may require a coordinated effort in the context of the EU or the World Trade Organization.

## REFERENCES

- Acemoglu, D. and Autor, D. (2011), 'Skills, Tasks and Technologies: Implications for Employment and Earnings', in D. Card and O. Ashenfelter (eds), *Handbook of Labor Economics*, Vol. 4, 1043–171, Amsterdam: Elsevier.
- Autor, D. (2015), 'Why Are There Still So Many Jobs?', *Journal of Economic Perspectives*, 29(3): 3–30.

- Colvin, G. (2015), *Humans Are Underrated: What High Achievers Know That Brilliant Machines Never Will*, New York: Penguin.
- Dekker, F. and R. van der Veen (ed.) (2017), *Het Midden Weg?*, Delft: Eburon.
- Frey, C. B. and M. Osborne (2013), *The Future of Employment: How Susceptible are Jobs to Computerisation?*, Oxford: Oxford Martin School.
- Goos, M., A. Manning and A. Salomons (2014), 'Explaining Job Polarization: Routine-Biased Technological Change and Offshoring', *American Economic Review*, 104(8): 2509–26.
- Het Digitale Landschap (2016), *Het Digitale Landschap van de Zorg in 2016*, Amsterdam: Het Digitale Landschap, <https://hetdigitaallandschap.nl/wp-content/uploads/2016/03/HDL-Onderzoeksrapport-Zorg-V7.pdf>.
- OECD (2016), *OECD Economic Surveys: Netherlands 2016*, Paris: OECD Publishing.
- Onderwijsraad (2017), *Doordacht Digital: Onderwijs in het Digitale Tijdperk*, The Hague: Onderwijsraad. <https://www.onderwijsraad.nl/upload/documents/publicaties/volledig/Doordacht-digitaal-a.pdf>.
- SER (2016a), *Mens en Technologie: Samen aan het Werk*, The Hague: SER.
- SER (2016b), *Toekomstgericht Beroepsonderwijs*, Den Haag: SER.
- TNO (2016), *Nieuwe Schatting van de Omvang van de Nederlandse 'Gig Economie'*, The Hague: Nederlandse Organisatie voor Toegepast Natuurwetenschappelijk Onderzoek, [https://www.tno.nl/media/7841/2016-22\\_factsheet\\_netherlands\\_platform\\_economie.pdf](https://www.tno.nl/media/7841/2016-22_factsheet_netherlands_platform_economie.pdf).
- UWV (2016a), *Grafische Sector onder Druk door Verdergaande Digitalisering*, The Hague: Uitvoeringsinstituut Werknemersverzekeringen, <https://www.uwv.nl/overuwv/pers/persberichten/2016/grafische-sector-onder-druk-door-verdergaande-digitalisering.aspx>.
- UWV (2016b), *Arbeidsmarktprognose 2016–2017*, The Hague: Uitvoeringsinstituut Werknemersverzekeringen.
- van Est, R. and L. Kool (ed.) (2015), *Werken aan de Robotsamenleving: Visies en Inzichten uit de Wetenschap over de Relatie Technologie en Werkgelegenheid*, The Hague: Rathenau Instituut.
- VVD, CDA, D66 and Christenunie (2017), *Vertrouwen in de Toekomst: Coalition Agreement 2017–2021*, The Hague: Volkspartij voor Vrijheid en Democratie, Christen-Democratisch Appèl, Democraten 66 and Christenunie.
- Went, R., M. Kremer and A. Knottnerus (ed.) (2015), *De Robot de Baas: de Toekomst van Werk in het Tweede Machinetijdperk*, WRR-Verkenning 31, The Hague: WRR.