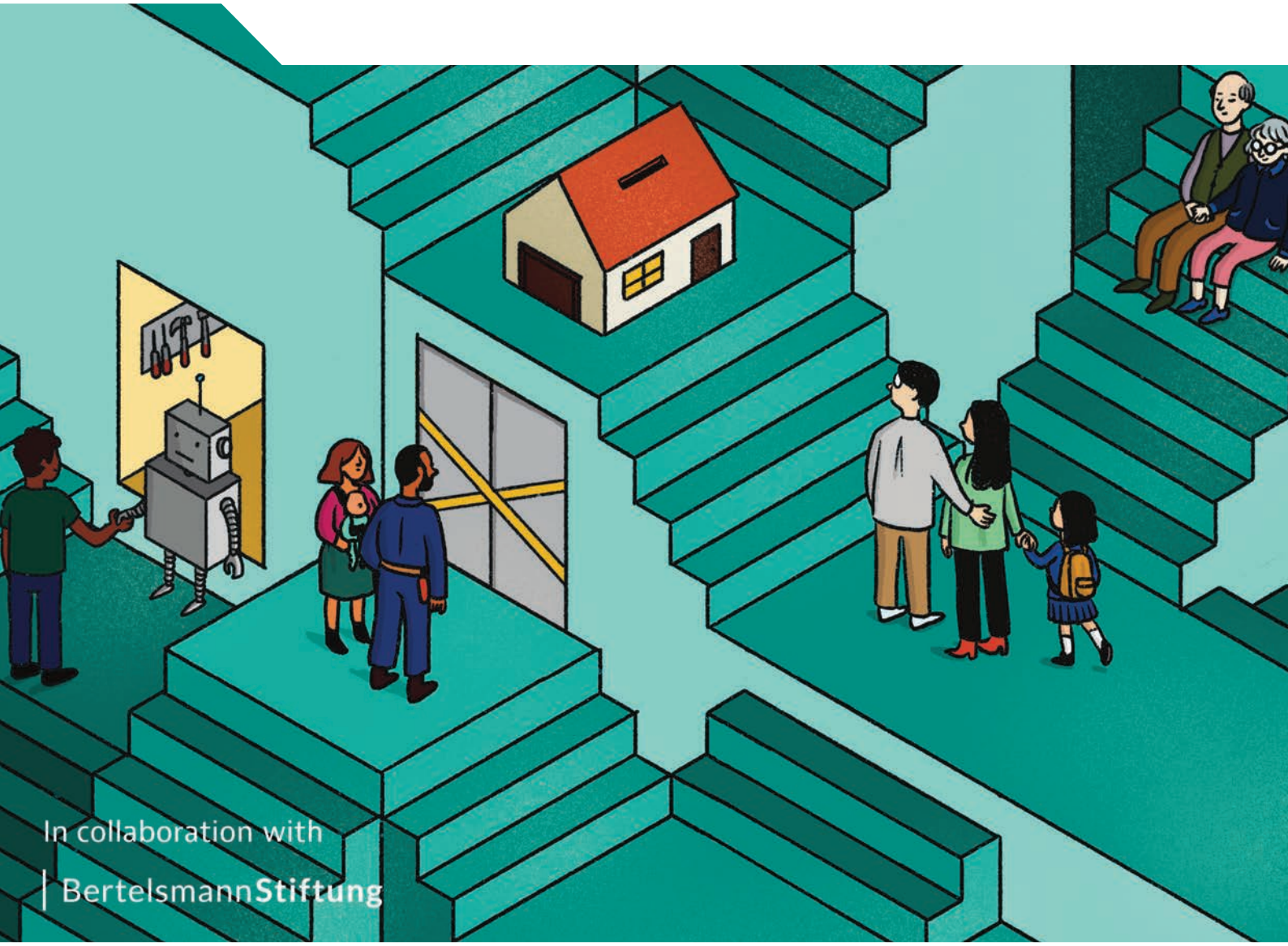
Is the German Middle Class Crumbling? Risks and Opportunities



OECD

Is the German Middle Class Crumbling? Risks and Opportunities

Please cite this publication as:
OECD (2021), *Is the German Middle Class Crumbling? Risks and Opportunities*, OECD Publishing, Paris, *https://doi.org/10.1787/845208d7-en*.

ISBN 978-92-64-81051-8 (print)
ISBN 978-92-64-47589-2 (pdf)

Photo credits: Cover © Adeline Marchal.

Corrigenda to publications may be found on line at: *www.oecd.org/about/publishing/corrigenda.htm*.

Foreword

Thriving middle classes are the backbone of democratic societies and strong economies, but in many OECD countries they face mounting pressures as a result of stagnating incomes, rising expenditures, and greater labour market uncertainty. As evidenced in the OECD report *Under Pressure: The Squeezed Middle Class*, published in 2019, middle incomes have been growing much more slowly than high incomes for more than three decades. Over the past 30 years median incomes increased by a third less than the incomes of the richest 10% across the OECD, while the incomes at the very top have surged in many countries. Sluggish income growth coincided with an increase in the costs of a middle-class lifestyle. Across the OECD, prices for housing, health, and education have risen faster than inflation. Meanwhile, labour market trajectories have become more uncertain. Rapid integration of global supply chains, fast and transformative technological change, and population ageing have resulted in labour market polarisation, and one-in-six middle-income workers are employed in jobs that face high risk of automation across the OECD on average.

Meanwhile, social mobility is low in many OECD countries, both from an intergenerational perspective – i.e. when looking at the relation between people's life outcomes and those of their parents – and when considering people's opportunities and risks over their lifetimes. As summarised in the OECD report *A Broken Social Elevator? How to Promote Social Mobility* (2018), social mobility is lacking particularly at the bottom and at the top of the social ladder: "sticky floors" prevent upward mobility into the middle, while "sticky ceilings" point to opportunity hoarding at the top.

The COVID-19 crisis has accentuated and deepened many socio-economic divides across OECD countries, and may end up accelerating some of the above trends.

This country review builds up on *A Broken Social Elevator* and *Under Pressure*, and provides a comprehensive assessment of the economic and social situation of the middle class in Germany. It provides evidence on changes in the size and composition of the German middle class, presents trends in labour market outcomes for middle-class workers, and assesses changes in the risks and opportunities of downward and upward mobility for middle-class people. Based on the results from this analysis, the review identifies the main policy challenges facing middle-class households in Germany, and discusses potential solutions based on international good practice.

The work for this report was carried out within the Jobs and Income Division of the Directorate for Employment, Labour and Social Affairs (ELS). The report was authored by Valentina Sara Consiglio, Christian Geppert, Sebastian Königs (project lead), Horacio Levy, and Anna Vindics under the supervision of Stéphane Carcillo (Head of the Jobs and Income Division). Maxime Ladaique provided statistical assistance, Liv Gudmundson provided editorial assistance, and Jo Dempsey and Niamh Kinane provided administrative support.

The authors are very grateful to the project partners from the Bertelsmann Stiftung, notably Eric Thode, Manuela Barišić, Valentina Sara Consiglio, and Natascha Hainbach, for the excellent collaboration and the many fruitful discussions throughout the various phases of this project.

The report greatly benefited from comments provided by Stefano Scarpetta (Director for Employment, Labour and Social Affairs) and Monika Queisser (Senior Counsellor and Head of the Social Policy Division), Eric Thode, Manuela Barišić, Valentina Sara Consiglio and various colleagues at the Bertelsmann Stiftung, Michael Förster and colleagues at the OECD WISE Centre, Nicola Brandt and Matthias Rumpf at the OECD Berlin Centre, Andrew Barker at the OECD Economics Department, Bert Brys at the OECD Centre for Tax Policy, and numerous colleagues within ELS.

The authors would like to thank Markus M. Grabka and the DIW Berlin for having prepared and shared the results from the SOEP-CoV data, the various experts who were willing to share their knowledge during the virtual policy mission in Spring 2021, and Volker Schmitt from the German Federal Ministry of Labour and Social Affairs for having helped organise the mission and for his feedback and advice.

This report was co-financed by the Bertelsmann Stiftung.

Table of contents

FIGURES

TABLES

Executive summary

The German middle class shrank in the late 1990s and early 2000s, and has not recovered since

The German middle class – proxied in this review as people living in households with incomes between 75 and 200% of the median – is significantly smaller than it was in the mid-1990s. Between 1995 and 2018, the German middle-income group shrank by 6 percentage points, from 70 to 64% of the total population (OECD average of 62%). Among the 26 OECD countries with available data, only Sweden, Finland, and Luxembourg experienced a faster decline. Most of the decline occurred in the early 2000s, when income disparities in Germany widened, and it largely reflects a shrinking of the *lower* middle-income group (incomes between 75 and 100% of the median). In spite of strong employment growth after 2005, the German middle-income group did not recover its size as real disposable incomes for middle-income households stagnated. In more recent years up to the COVID-19 crisis, income trends have been more positive, and households across the income distribution experienced a healthy rise in disposable incomes. The available evidence on income developments during the pandemic suggests that up to January 2021 disposable incomes slightly grew on average for workers in low- and middle-income households, thanks to the comprehensive government support.

Particularly the young generation and people without tertiary education find it harder to secure a place in the German middle class

The German middle-income group has considerably changed composition over the last decades as a result of its declining size, and trends in living arrangements, labour force participation of women and young people, as well as the economic well-being of different age groups. In particular,

- The middle-income group has aged more quickly than the general population, and young people find it increasingly difficult to secure their place in the middle-income group.
- Working couples – and particularly one-and-a-half earner couples – have increased their chances of living on middle incomes relative to working singles and workless households.
- Educational attainment in the middle-income group has risen faster than in the overall population. Particularly for the younger generation, having tertiary education has become crucial for making it into the middle-income group.
- Immigrants in Germany are less likely than in the mid-1990s to be part of the middle-income group, but this also reflects the changing composition of Germany's migrant population.

Germany's labour market has polarised, but middle-income workers have been coping relatively well so far with the labour market transformation

The occupational distribution in Germany has polarised since the mid-1990s, with middle-skilled occupations loosing employment shares relative to higher- and lower-skilled occupations. However, this trend has been less pronounced than in other OECD countries, and middle-income workers have not been affected more strongly than other workers. Female middle-income workers have moved up in the occupational distribution. They remain overrepresented among the low- and lower middle-skilled occupations, but many work also as high-skilled associate professionals and professionals. Employment growth forecasts – which however pre-date the COVID-19 pandemic – point towards further occupational polarisation.

Non-standard forms of work have become more frequent among middle-income workers, but remain much less widespread than for workers in other income groups. In particular,

- Few middle-income workers are employed on temporary contracts, about 12% in 2018. This is less than the OECD average (of countries with available data), and only about one-third the rate for low-income workers in Germany.
- Part-time work is much more widespread among middle-income women than men (46 vs. 7%), but rates of part-time work are only about half as high for middle-income workers as for low-income workers.
- Few middle-income workers (6%) in Germany are self-employed, only about one-quarter the share among high-income workers.

Rates of temporary and part-time employment are higher in Germany than they were in the mid-1990s, but most of this expansion occurred in the late 1990s and early 2000s, i.e. before the 2005 "Hartz reforms".

Earlier OECD work has shown that Germany has one of the highest shares of jobs likely affected by automation across the OECD countries. The share of jobs judged highly automatable is much lower for middle-income workers (17%) than for low-income workers (22%), but substantially higher than for high-income workers (10%). Among German middle-income workers, drivers and mobile plant operators, labourers in mining, construction, manufacturing and transport, and clerical support workers face the highest automation risk.

Short-term income mobility in Germany has become less favourable for households in the lower part of the income distribution

Income mobility over short (four-year) time horizons has become less favourable for people in the lower half of the income distribution since the mid-1990s. Across nearly all income groups, incomes have become more persistent over time, i.e. people have become more likely to remain in their income group. One exception are people in lower middle-income households, who became more likely to slip out of the middle into the low-income group. Meanwhile, for low-income households, greater income persistence implies reduced upward mobility into the middle-income group. Income mobility patterns have become less favourable in particular for more disadvantaged labour market groups, including young people, people in eastern Germany, immigrants, as well as for workers in "typical" middle-class occupations.

Policy options for a stronger German middle class

The review discusses different policy options for a stronger middle class in Germany by raising the employability of middle-class workers, creating good-quality, future-oriented jobs, and boosting middle-class disposable incomes. These include

- *Building pathways into the middle class for the young generation*, including by ensuring that every young person in Germany obtains an upper-secondary qualification;
- *Enabling and encouraging middle-class workers to upskill and reskill throughout their careers* by expanding adult learning through paid training leave and better career guidance;
- *Improving the working conditions and pay of care professionals* by further raising public spending on long-term care and child care and improving care workers' coverage by collective agreements;
- *Creating middle-class jobs by renewing Germany's infrastructure*, including digital infrastructure, social housing, child care and education infrastructure, and through investments in the green transition;
- *Reducing the labour tax burden for middle-class workers* by increasing tax progressivity and changing the tax mix away from labour taxation;
- *Enabling and incentivising women to expand their labour market participation* by reforming the income splitting for married couples and *Minijobs* regulations and improving access to flexible, good-quality institutional child care.

1 Assessment and policy options

Valentina Sara Consiglio, Christian Geppert, Sebastian Königs, Horacio Levy and Anna Vindics

This chapter gives an overview of the main findings presented in this report. It starts by presenting trends in the size and composition of Germany's middle class since the mid-1990s. It then discusses the major labour market developments for middle-class workers in Germany, looking at changes in occupational structure, the incidence of non-standard work, developments during the COVID-19 crisis, and projected employment trends. The chapter proceeds by providing an overview of trends in income mobility in Germany, focusing on the risks and opportunities of middle-income people as well as on the chances for low-income people of rising into the middle. The final section discusses policies to strengthen Germany's middle class by raising the employability of middle-class workers, creating good-quality, future-oriented jobs, and boosting middle-class disposable incomes.

Strong and thriving middle classes support healthy economies and prosperous societies. Middle-class citizens strongly contribute to the foundations of inclusive societies, to social and political stability, and to economic growth. They consume the bulk of economies' goods and services, simply by virtue of making up such a large share of countries' population and overall income, and play an essential role in accumulating savings, investing in human capital, safeguarding democratic institutions, and supporting good-quality public services. Societies with a strong middle class experience higher levels of social trust, but also better educational outcomes, less crime, better health outcomes, and higher life satisfaction.

This review uses an income-based definition of the middle class and focuses on the middle-income group as a proxy for the middle class, following the approach used in the OECD recent flagship publication *Under Pressure: The Squeezed Middle Class* (OECD, 2019[1]). It defines the middle-income group as people living in households with disposable incomes between 75 and 200% of the national median after adjustment for household size. This corresponded to a monthly disposable income between about EUR 1 500 and EUR 4 000 for a single person and between EUR 3 000 and EUR 8 000 for a couple with two children in 2018. People in households outside of the middle-income group are defined as "low-income" if they live on incomes below 75% of the median, while people with incomes above 200% of the median considered as "high-income".[1]

1.1. Trends in the size and composition of Germany's middle class

Using the above income-based definition, about two-thirds (64%) of people in Germany belonged to the middle class in 2018, slightly more than across OECD countries on average (62%). Across countries, the size of a country's middle-income group closely relates to the country's level of income inequality, because income groups are defined using thresholds expressed relative to the median income. It is larger in many Central and Eastern European and the Nordic countries, where income inequality is comparatively low, while being smallest in Mexico, Chile and the United States, where income inequality is greatest. Around one-in-three people (29%) in Germany belong to the low-income group of which 10% are poor, while 7% are in the high-income group.

1.1.1. After one-and-a-half decades of real income stagnation, middle-income households in Germany experienced healthy income growth from 2015

Middle-income households in Germany experienced only modest real incomes growth for over two decades from the mid-1990s, before income growth picked up from 2015. Between 2000 and 2014, the median disposable household income stagnated in real terms, implying that many middle-income households in Germany experienced no rise in living standards over that period. Meanwhile, income disparities widened: while in the late 1990s, top, median and bottom incomes had still grown in lockstep, top incomes decoupled from stagnating median and declining bottom incomes in Germany between 2000 and 2014. This mirrors a trend towards higher income inequality compared to the mid-1990s in many other OECD countries. Since 2015, Germany experienced a healthy rise in disposable household incomes for households across the income distribution. In 2018, the median disposable household income was 17% higher in real terms than it had been in 1995; incomes of the top 10% of households had grown by 28%, those for the bottom 10% of households by only 7%. The available evidence on income developments during the COVID-19 crisis up to January 2021 suggests that disposable incomes slightly *grew* on average for workers in low- and middle-income households, thanks to the comprehensive government support, while they substantially dropped for high-income households.

1.1.2. The German middle-income group has shrunk in the late-1990s and early-2000s, mostly at the lower end, and has not recovered since

The German middle-income group is smaller than it was in the mid-1990s. Between 1995 and 2018, it shrunk by 6 percentage points, from 70 to 64% of the population. Most of this decline occurred in the early 2000s, when income disparities in Germany widened. The German middle-income group did not recover in spite of the positive employment growth after 2005 as disposable incomes for lower and middle-income households stagnated in real terms. The decline in the middle-income group in the early 2000s mostly reflects a shrinking of the *lower* middle-income group, i.e. in the share of households with incomes of 75 to 100% of the median; the *mid* middle-income group (100-150% of the median) and the *upper* middle-income group (150-200% of the median) have remained broadly stable. In the meantime, the share of both low- and high-income households increased.

The shrinking of the middle-income group since the mid-1990s has been faster in Germany than in most OECD countries. Only in Sweden, Finland and Luxembourg, the middle-income groups declined faster. Across all 26 OECD countries with available data, the size of the middle-income group even slightly expanded on average, by 0.3 percentage points. This reflects growing middle-income groups in some Latin American, Southern European and European English-speaking countries, where income inequality usually declined.

Also the income share of the middle-income group relative to total population income has fallen in Germany, from 74 to 67% between 1995 and 2018, indicating declining aggregate economic influence. Again, however, this decline occurred over the first decade of the observation period, between 1995 and 2005. It reflects almost entirely the shrinking size of the middle-income group (i.e. in its population share), and only to a very small extent the fall in relative income levels of middle-income people compared to people in other income groups.

1.1.3. The middle-income group pays more in income taxes than it receives in social benefits, but most redistribution takes place within the middle-income group

The German middle-income group is, on average, a net contributor to the tax and benefit system: the sum of taxes and social-security contributions paid on income exceeds the total value of social cash benefits received, at 39 vs 27% in 2018. However, those figures neither account for indirect taxes paid (incl. VAT) nor for in-kind transfers received in form of public services, such as healthcare or education. Within the middle-income group, only the mid and upper middle are indeed net contributors. Lower middle-income households receive about 40% of their disposable income in transfers, while only paying 29% in taxes and contributions, i.e. they are net beneficiaries of the tax-benefit system. The middle-income group's net contribution in 2018 was slightly lower than in 1995.

However, most redistribution takes place over the life course *within* the middle-income group, between working-age people and the elderly. Indeed, 18-64 year-olds in the middle-income group are heavy net contributors, with taxes and social-security contributions exceeding benefits received by 33% of disposable income on average. Meanwhile, senior middle-income people (65+) are clear net beneficiaries: they derive nearly all of their disposable income from social transfers, namely public pensions, and pay only little taxes and social contributions.

1.1.4. The German middle-income group has been changing its socio-demographic composition

The middle-income group has considerably changed its socio-economic composition over the last decades as a result of its declining size, and trends in living arrangements, labour force participation of women and young people, as well as the economic well-being of different age groups. In particular,

- *The German middle-income group has aged more quickly than the general population, and particularly young people find it increasingly difficult to secure their place in the middle-income group*. Older people instead managed better to hold on to their middle-income status. In 2018, older working-age adults (45-64 years) and seniors (65 years and older) made up more than half (55%) of middle-income people, up from around 40% in 1995. Young people have been disproportionally affected by the shrinking of the middle-income group. They are on average 10 percentage points less likely to be in the middle-income group than in the mid-1990s, a decline nearly twice the population average. However, this drop again occurred in the years up to 2005. The size of the middle-income group has continuously declined from one generation to the next since the baby boomers. When aged in their 20s and 30s, 71% of the baby boomers belonged to the middle-income group, while for the Generation X (i.e. people born in the mid-1960s to early 1980s) and the Millennials (born in the early 1980s to mid-1990s), the shares had declined to 68% and 61% at the same age. The gradual decline in the size of the middle-income group from one generation to the next also holds when looking at people's income status in their childhood, youth, and early adulthood (0-10s, 10-20s, and 20-30s).
- *Working couples make up nearly half (44%) of middle-income households, and have increased their relative chances of living on middle incomes.* The middle-income group has even *expanded* for one-and-a-half earner couples, though "traditional" one-earner couples still make up the majority of working couples in the middle-income group. The growing share of one-and-a-half earner couples reflects the risen female labour force participation, often in part-time work, and points to the growing importance of having a second earner for securing middle-income status. Couples with two full earners increasingly make it into the *high*-income group, as does a growing share of single-earner couples with high earnings. Meanwhile, working singles increasingly find themselves in the *low*-income group.
- *Educational attainment has been rising, but adults with an upper- and post-secondary qualification still make up the bulk of the middle-income group.* They accounted for 58% of all middle-income adults in 2018, while those with tertiary education make up 33% of middle-income adults; 9% have less than upper-secondary education. Educational attainment in the middle-income group has risen faster than in the overall population. Particularly for the younger generation (25-35 year-olds) having tertiary education has become crucial for making it into the middle-income group: since the mid-1990s the chances of making it into the middle-income group have declined by -27 percentage points (from 67 to 40%) for young adults with less than upper-secondary, by -12 percentage points (from 73 to 61%) for those with upper- and post-secondary, and by -5 percentage points (from 76 to 71%) for those with tertiary education.
- *Immigrants are less likely than in the mid-1990s to be part of the middle-income group, but this may reflect the changing composition of Germany's migrant population.* The share of people born abroad in the middle-income group rose by 2 percentage points, only half as much as the rise in the immigrant share in the overall population. At the start of the observation period, in 1995, most immigrants originated from Central and Eastern European countries, Turkey or Italy. The inflow of humanitarian migrants from 2015 led to an increase in the share of immigrants from Syria, Iraq and Afghanistan, who may take longer to integrate into the labour market and rise into the middle-income group.

- *The size of the middle-income group varies substantially between regions, and it has declined much more strongly in cities than in rural areas*. Among the German states, Bremen has the smallest middle-income group, at only 54%, and also four of the six eastern German states have middle-income groups of below 60% of the population. Meanwhile, over 65% of people in southern German Baden-Württemberg and Bavaria and eastern German Brandenburg and Saxony belong to the middle-income group. The middle-income group has declined slightly faster in urban than in rural areas since the mid-1990s, such that cities now tend to have somewhat smaller middle-income groups than rural areas. However, one needs to be somewhat careful in interpreting these regional and rural-urban middle-income shares simply as measures of regional living standards, because they do not account for geographic disparities in the cost of living.

1.2. The labour market trends of middle-income workers in Germany

1.2.1. Most middle-income workers are employed in middle- and high-skilled occupations, and the occupational distribution has become more polarised

Most middle-income workers in Germany, i.e. working-age people employed full-time or part-time and living in middle-income households, work in high-skilled and middle-skilled occupations. In 2018, the largest occupational groups among middle-income workers were high-skilled technical occupations / associate professionals, who accounted for nearly 30%, and high-skilled professionals, at 19%. Middle-skilled crafts and trades workers, as well as clerks, each accounted for 10%. However, a significant share of middle-income workers (about 19%) also worked in low-skilled occupations in 2018, notably in services and sales.

The occupational distribution also differs by gender. Male middle-income workers are strongly represented among high-skilled managers and professionals and middle-skilled crafts and trade workers. Female middle-income workers have moved up in the occupational distribution over the last decades. While they remain strongly overrepresented among the low- and lower middle-skilled occupations (elementary workers, service and sales workers, as well as clerks), many work also as high-skilled associate professionals and professionals.

The occupational distribution in Germany has become substantially more polarised since the mid-1990s, across all workers as for middle-income workers more narrowly, though this trend has been less pronounced than in other OECD countries. The shares of middle-skilled craft and trades workers, machine operators, and clerks declined, while those of high-skilled professionals and technical occupations / associate professionals, but also of low-skilled service and sales workers, has grown. However, middle-income workers have not been affected more than other workers by this polarisation trend: the decline in employment shares in middle-skilled occupation and the rise in high- and low-skilled occupations in Germany is very similar in magnitude for middle-income workers as for workers overall.

1.2.2. Middle-income workers have shifted out of manufacturing towards public services, which together account for more than half of all middle-income jobs

Workers in public services – i.e. in the public administration, the education sector, and the health and social sector – and in manufacturing are the backbone of middle-class employment, accounting for more than half (54%) of middle-income workers.[2] Particularly in public services, middle-income workers are overrepresented relative to workers from other income groups. The shift in employment shares across economic sectors in Germany over the last decades particularly affected middle-income workers. The manufacturing sector substantially lost in relative importance, with an employment share among middle-income workers that was 7 percentage points lower in 2018 than in the mid-1990s, while the share of workers employed in public services increased by 8 percentage points.

1.2.3. Non-standard work has become more frequent among middle-income workers, but it remains much less widespread than for workers in other income groups

Non-standard forms of work, i.e. temporary and part-time work and self-employment, are much less widespread among middle-income workers than among other groups of workers in Germany:

- *Few middle-income workers are employed on temporary contracts*, about 12% in 2018. This is less than on average across OECD countries with available data, and only about one-third the rate for low-income workers in Germany.
- *Part-time work is widespread only among female middle-income workers.* About 46% of female middle-income workers worked part-time in 2018, compared to 7% of male middle-income workers. However, rates of part-time work for middle-income workers are only about half as high as for low-income workers.
- *Few middle-income workers in Germany are self-employed*. The share of middle-income workers who report self-employment as their main activity status is low (6%), only about one-fourth the rate for high-income workers.

Rates of temporary and part-time employment are higher in Germany than they were in the mid-1990s, including for workers in middle-income households. However, most of this expansion occurred in the late 1990s and early 2000s, i.e. before the 2005 "Hartz reforms". Low-income workers were much more strongly affected than middle-income workers, while there are few systematic differences *within* the middle-income group:

- *The share of middle-income workers on fixed-term contracts has risen by 3 percentage points since the mid-1990s.* However, this is less than the increase for either low- or high-income workers. Workers in the *lower* middle-income group experienced a much stronger expansion though, at +7 percentage points. For workers across all income groups, this expansion happened before 2005.
- *Also part-time employment has become more widespread among middle-income workers*, with the share of those on part-time contracts having risen by 8 percentage points since the mid-1990s. This primarily reflects rising labour force participation of women, who are much more likely to work part-time, but also a growing incidence of part-time work among men. Again, however, the rise in part-time work was only about half as strong as for low-income workers, while there are no large differences in the rise in part-time work across income levels *within* the middle-income group.
- *Rates of self-employment have slightly declined since the mid-1990s* for middle-income workers in Germany, as for low-income workers, but risen among high-income workers.

1.2.4. A sizeable minority of middle-income full-time workers are in low-paid jobs, but low-paid employment has risen only for low-income workers

About one-in-six (18%) middle-income people working full-time earn less than two-thirds of median earnings. One explanation for why they nonetheless make it into the middle-income group can be that they live in a household with a higher-earning partner. Some of them may also have other sources of income besides earnings from work, such as capital income. However, the low-pay rate is four times higher for low-income workers (75%). The share of low-paid workers in Germany has strongly increased relative to the mid-1990s among those living in low- and lower middle-income households (again before 2005), but it has remained stable among those living in mid middle-, upper middle- and high-income households.

1.2.5. One-in-six middle-income workers in Germany work in jobs facing high risk of automation

Recent OECD work has quantified the share of jobs at risk of automation across OECD countries based on expert assessments of the ease, or difficulty, of automating specific tasks and information on the

relevance of these tasks for different occupations (OECD, 2019[2]). Based on data from OECD Survey of Adult Skills (PIAAC), this work estimated that 14% of jobs OECD-wide, and 18% of jobs in Germany, are highly automatable, i.e. they face a probability of automation of at least 70%. Another 32% of jobs OECD-wide, and 36% in Germany, have an automation risk of between 50 and 70%, i.e. there is a possibility of significant change in the way these jobs are carried out as a result of automation. This leaves Germany with one of the highest shares of jobs likely affected by automation across the OECD countries included in the analysis.

Matching these results with data on the occupational distribution of workers across income groups shows that middle-income workers in Germany face a slightly lower – but still substantial – automation risk, with about one-in-six (17%) working in jobs that are highly automatable. As in other OECD countries, middle-income jobs are much less likely to be automated than low-income jobs (22% of jobs at high risk of automation in Germany), but substantially easier to automate than high-income jobs (10%). Among German middle-income workers, drivers and mobile plant operators, labourers in mining, construction, manufacturing and transport, and clerical support workers face the highest automation risk. Some other occupational groups – such as different types of associate professionals (in business and administration, health, and science and engineering) and sales workers – include a lower share of at-risk jobs, but nonetheless significantly contribute to the overall automation risk because they account for a relatively large share of middle-income employment. Male middle-income workers in Germany are somewhat more likely than female workers to be employed in occupations with high automatability.

1.2.6. Forecasts show positive employment growth for middle-income occupations, but also further occupational polarisation

Employment growth forecasts by occupational group – which however pre-date the COVID-19 pandemic – indicate that the occupations of current middle-income workers can expect positive employment growth up to 2030, by approximately 4.5% overall (or an annual 0.3%). This is higher than across the occupations of low-income workers (+3.8%), but lower than for high-income occupations (+5.8%). Those forecasts also point towards potential further polarisation of the occupational distribution in Germany. Predicted employment growth is expected to be strong in high-skilled occupations, such as professionals, technical occupations and associate professionals, and managerial occupations, and also positive in low-skilled elementary occupations and service and sales workers. By contrast, growth forecasts for middle-skilled occupations are more pessimistic, with negative employment growth predicted for craft and trades workers and clerks.

1.2.7. Short-time work prevented larger employment losses for middle-income workers in the initial phase of the COVID-19 crisis

The rapid extension of Germany's short-time work (*Kurzarbeit*) scheme was a key factor in preventing larger employment losses for workers across all income groups up to January 2021.[3] SOEP-CoV data show that in the initial phase of the COVID-19 crisis, in April-June 2020, around 16% of all workers employed in 2019 participated in the scheme. Workers across all income groups were put on *Kurzarbeit*, with the shares varying from 13 to 19% for high- and low-income workers. By January 2021, the share of workers on *Kurzarbeit* had halved for workers in middle- and high-income households, to 7%, while it remained high for low-income workers, at 12%. Those differences in the decline of the participation in *Kurzarbeit* likely reflect differences in sectoral composition across workers in different income groups.

In spite of employers' massive use of *Kurzarbeit*, employment declined significantly, particularly among low-income workers. By January 2021, 8% of middle-income workers and 6% of high-income workers who had been employed in 2019 were out of work; among low-income workers, the share was three times as high, at 22%. Many of these workers were likely working in jobs that did not qualify for *Kurzarbeit* including

workers in marginal employment (*Minijobs*) and the self-employed. These numbers include workers who left the labour market for retirement.

Those numbers are mirrored by a decline in employment (outside of short-time work) across the different employment types. Out of all middle-income people in work before the crisis in 2019, the share of those in full-time, part-time, and Minijobs and not on short-time work had dropped by 9, 4 and 2 percentage points by January 2021. This drop had happened entirely in the initial months of the crisis, i.e. by April-June 2020. However, those declines were much more modest than those for low-income workers. Out of all low-income people in work before the crisis, the shares of those working full-time, part-time, and in Minijobs declined by 16, 13 and 6 percentage points. Overall, the employment rate in Germany was about 1.5 percentage points lower than its pre-crisis level in the third quarter of 2021.

1.3. Income mobility in the German Middle Class

The level of social mobility is an important characteristic of a social market economy. The promise of moving up the income ladder, and the welfare state's capacity to protect people from substantial income losses and to guarantee a minimum standard of living, are cornerstones of an inclusive growth regime that encourages risk taking by limiting possible downsides for each individual. At the same time, access to economic opportunities for all groups in society is important to promote social cohesion and secure broad support for democratic institutions. This in turn promotes economic stability.

The general claim towards the social market economy in Germany is that educational achievement and hard work are rewarded with palpable opportunities for upward mobility independently of one's socio-economic background and thus pay off over the course of a career. A certain degree of downward mobility from higher-income groups is acceptable, but should be cushioned by the welfare state, offering social security to everyone.

1.3.1. Incomes in Germany are highly persistent, more so than they were in the late 1990s

Incomes in Germany are rather persistent over a short time horizon (4-year period), particularly in the middle and at the top of the income distribution, and income persistence has risen in nearly all income groups since the late 1990s. The rise in income persistence was particularly pronounced for people in the lower parts of the distribution, i.e. for the poor (less than 50% of the median), by 11 percentage points from 34 to 45%, and for the vulnerable (50-75% of the median), by 5 percentage points from 38 to 43%. Only for people in the lower middle-income group (75-100% of the median), income persistence declined as downward mobility increased. For people on low incomes, greater income persistence largely came at the cost of reduced *upward* mobility; for people on mid- and upper-middle incomes (100-150% and 150-200% of the median) and high incomes (more than 200% of the median), it is mirrored also in a reduced risk of *downward* mobility.

1.3.2. People in the lower (and mid) middle have low chances of rising to the top, and a high and rising risk of slipping out towards the bottom

While people living on lower and mid-middle incomes only have a very small chance of moving into the high-income group (between 0.5 and 3%) after four years, the chances are rather good for upper middle-income people (13 to 19%). Meanwhile, more than one-in-five people on lower middle incomes slide down into the low-income group, i.e. into economic vulnerability or poverty; this is a three to six times greater share than for people in the mid and upper middle.

Income mobility in Germany has become less favourable over the observation period, especially with the general economic slump in the mid-2000s. Around that time, for people in the upper middle, the chances of rising into the high-income group fell, while for people in the lower middle the risk of dropping out of the middle instead peaked. As a consequence, for people living on lower middle incomes, the risk of sliding into vulnerability or poverty is around 4 percentage points higher today than it was in the late 1990s. This may be a sign of weaker income protection for workers and households in the lower middle of the income distribution following the reforms to the German social protection system in the early 2000s. Another explanation could be the increased share of migrants in the population, many of whom are in the lower income groups.

1.3.3. Meanwhile, upward mobility into the middle-income group has declined

People on lower middle incomes are not only more likely to drop out of the middle, but they also find it harder to rise (back) into the middle-income group. The chances of rising into the middle-income group have declined substantially, by more than ten percentage points, since the late 1990s. Still, people living on low incomes in Germany have substantial chances of moving into the middle-income group. Among those living on incomes that classify them as "poor" or "vulnerable", one-in-three make their way up into the middle over a four-year-period.

1.3.4. Income mobility patterns have become less favourable in particular for more disadvantaged labour market groups

Labour market groups in Germany that are generally considered more vulnerable often also have less favourable income mobility patterns. In particular:

- *Young people experience much stronger income dynamics than other age groups.* 18-29 year-olds face twice the risk of dropping out of the middle compared to the older working-age adults (19%, relative to less than 10% for 45-64 year-olds). They also have higher chances of moving up into the middle from the bottom (39%, compared to 30% for older working-age adults). High downward mobility may reflect at least partly that many young people experience a drop in (household) income when they move out of their parents' home (i.e. when picking up academic studies or starting an apprenticeship). High upward mobility will in many cases be the result of strong earnings growth at the beginning of their careers.
- *People living in eastern Germany still experience less favourable income dynamics.* Despite considerable efforts to realign living conditions and economic opportunities between the "old" and "new" federal states since the early 1990s, structural differences remain salient. The risk of dropping out of the middle-income group is higher for people living in the east compared to the west (12% vs. 9%). Also, their chances of rising into a middle-income position from the bottom are lower (26% vs. 38%) and have decreased stronger in the past decades than in western Germany.
- *Migrants face a greater risk of downward income mobility than people born in Germany.* The risk of dropping out of the middle-income group is higher for people born abroad than for native-borns (14% vs. 9%). Amongst the native-borns, downward mobility is greater for those born to immigrant parents, but it has substantially decreased since the late 1990s/early 2000s. Migrants' chances of rising into the middle-income group are similar as for people born in Germany.
- *For workers in "typical" middle-class occupations, the chances of making it into the middle-income group have decreased.* People with low educational attainment and those in lower occupational classes have a greater risk of dropping out of the middle. The risk of losing a middle-income position is around four times larger for non-skilled workers (16%) and those with less than upper-secondary education (22%) than it is for managerial and professional workers (4%) and for those with tertiary education (6%). They also have poorer chances of rising into the middle. However, workers in "middle-class occupations" were particularly affected by a decline in upward

mobility: skilled manual and routine non-manual workers saw their opportunities to rise up into the middle-income group deteriorate from around 50% in the late 1990s/early 2000s to 32% and 37% in the 2010s. This confirms the tendency towards greater occupational polarisation in Germany.

1.4. Policy options for a stronger German middle class

The overall picture emerging from the statistical analysis carried out for this review is that of a rather robust middle class in Germany. The middle-income group in Germany is broadly comparable in size to those of Germany's peer countries, such as Austria, France, Sweden, Switzerland, and the United Kingdom, but it is markedly smaller than it was in the mid-1990s. After one-and-a-half decades of real income stagnation, disposable incomes for the median household – and for households in the bottom of the income distribution – have finally grown again in real terms between 2015 and 2018. Analysis of the labour market outcomes of workers in middle-income households in Germany shows that, so far, they have weathered rather well the big structural challenges posed by globalisation, demographic change, digitisation, and automation. The labour market in Germany has been polarising, and middle-skilled occupations have lost importance, but less so than in other OECD countries. Employment growth has been much stronger for high-skilled than for low-skilled occupations, also because a growing share of working women have been pushing into high-skilled jobs. Fixed-term, part-time and low-paid employment have become more widespread in Germany, but this trend largely occurred in the late 1990s and early 2000s, and it primarily affected workers in low-income households. First data on employment and income trends by income group during the COVID-19 crisis, currently lasting up to January 2021, suggest that the widespread use of short-time work (*Kurzarbeit*) prevented larger employment losses among middle-income workers. The net incomes of middle-income workers may even have slightly *risen* in nominal terms between 2019 and January 2021. In the third quarter of 2021, the employment rate in Germany stood about 1.5 percentage points below its pre-crisis level.

However, the analysis also describes a number of trends that give reason to concern. In particular,

- *The generational divide in the size of the middle-income group has been growing*: since the baby boomers, each successive generation has found it harder to make it into the middle-income group; the middle-income group has declined most strongly for young people, and particularly for those without tertiary education the middle-income group is getting out of reach.
- *Regional differences in the size of the middle-income group are large in Germany*, and even just within eastern Germany, mirroring the still large disparities in economic and labour market outcomes more broadly. Social mobility patterns into and out of the middle-income group remain substantially less favourable in eastern than in western Germany.
- *Income mobility has become substantially less favourable*, which points towards greater vulnerability and raises doubts about access to opportunities. People in lower middle-income households face a growing risk of slipping out of the middle-income group, and – if they do – a greater risk of falling into poverty. Meanwhile, upward mobility *into the middle-income group* has declined, and particularly for workers in "typical" middle-class occupations. Also, the high incidence of part-time and low-paid jobs among low-income workers rises doubts about workers' chances to rise up into the middle-income group.
- *Middle-income workers in Germany face further substantial structural change*: one-in-six (17%) middle-income workers in Germany are employed in jobs that are highly automatable, with the risk being largest for drivers and mobile plant operators, labourers in mining, construction, manufacturing, and transport, and clerical support workers. Employment forecasts point to further occupational polarisation, with job growth predicted to be positive for high-skilled professionals, associate professionals and technical occupations, and managerial occupations, positive also for

low-skilled elementary occupations and service and sales workers, but negative for the largest middle-skilled occupations.

The review discusses different policy options for a stronger middle class in Germany by raising the employability of middle-class workers, creating good-quality, future-oriented jobs, and boosting middle-class disposable incomes.

1.4.1. Building pathways into the middle class for the young generation

Most young people in Germany have a smooth school-to-work transition, and Germany fares well on youth labour market outcomes in international comparison. Against the background of falling unemployment rates in Germany, also labour market outcomes for young people have continuously improved since 2005 up until the COVID-19 crisis. In 2020, 9.4% of 15-24 year-olds were not in employment, education or training (NEET) in Germany, much below the OECD average of 16.1%. Still, about one-in-seven (13%) young people between 25 and 34 in Germany do not have an upper-secondary qualification. Ensuring that every young person has the opportunity to obtain at least an upper-secondary qualification is both a matter of fairness and an economic imperative, given demographic change and the growing shortage of skilled labour in Germany.

Young people interested in taking up an apprenticeship have been heavily affected by the COVID-19 crisis. By the start of the training year in September 2020, the number of apprenticeship positions offered by companies had declined by 7.3% relative to the previous year, and the number of applicants was down by 7.6%. Monthly evidence up to May 2021 suggests that both the number of applications and places available had not recovered to pre-crisis levels. Business survey data show that particularly small companies and those in sectors most heavily affected by the crisis indicated to reduce apprenticeship places in response to uncertain business prospects and financial difficulties. The drop in apprenticeship applications is a reason for concern because many of these young people may still apply later, which would lead to a larger number of unmatched applicants.

One option of ensuring that every young person gets the chance to obtain a qualification is through a vocational training guarantee, as it exists in Austria since 2008. Under the Austrian *Ausbildungsgarantie* scheme, every young person below the age of 25 is entitled to an apprenticeship place. Young people who cannot find a company for an apprenticeship receive their practical training through an accredited provider at so-called “supra-company” workshops. Supra-company training accounts for nearly 7.7% of overall apprenticeship participation in Austria, and participants’ employment outcomes and incomes have been encouraging. Simulations suggest that a similar policy could substantially increase the supply of skilled labour in Germany, and that the financial benefits would exceed costs within relatively short time.

1.4.2. Enabling and encouraging middle-class workers to upskill and reskill throughout their careers

In light of the rapid transformation facing OECD economies and labour markets, a good-quality education or vocational training obtained in young adulthood will often no longer be sufficient to guarantee a secure job and income for the entire working life. New job opportunities arise in occupations and industries that are different from those in which jobs are lost. Existing jobs will change as well as the sets of skills they require. The extent to which middle-class workers can reap the benefits of these transformations, or risk losing out from them, will heavily depend on whether they manage to develop, and maintain, skills over their careers that are needed in those rapidly changing labour markets. This also means ensuring that workers have the foundational numeracy and literacy skills that are often essential for further training and that will only become more important with the digital transformation.

However, participation in adult education or training in Germany is just above the OECD average, and lags considerably behind comparable countries such as Austria, the Netherlands, and Switzerland. Low

participation in Germany is not primarily a question of financial costs, but rather reflects workers' shortage of time because of work and family responsibilities (OECD, 2021[3]). One way to overcome this issue can be to provide adults with a right to substantial paid training leave, independent from the employer. In Austria, workers with entitlements to unemployment benefits can pursue any job-related training or formal qualifications for 2-12 months, with a maximum of 12 months over the course of four years. During the training, they receive a compensation at the level of unemployment benefits. Around 0.4% of the working-age adult population in Austria received paid training leave in 2016.

For workers with medium to high levels of education in Germany, i.e. most workers in middle-income households, the lack of perceived need of, and reward for, training are important obstacles to training participation. More generally, a higher share of workers with lower qualification levels report barriers to training participation, including that they perceive their qualifications to be sufficient. This illustrates the importance of reaching out to workers to help them identify their learning gaps, educate them about the necessity to up- and reskill and the potential benefits of training, and guide them to suitable training programmes. Germany's current career guidance landscape can be confusing to navigate and impedes equal opportunities across regions. Good international practice includes the UK's Unionlearn Programme, where trained representatives in each company promote the value of learning, support adults in identifying their training needs, and arrange learning opportunities. Evaluations have demonstrated its high return on investment and tangible benefits for all stakeholders. Also, workers' opportunities to reskill remain limited in Germany, which creates an obstacle to sectoral mobility. And while the structural transformation of the labour market will change skill demand and likely amplify regional imbalances, Germany largely lacks forward-looking skills management.

1.4.3. Improving the working conditions and pay of care professionals

Care professions will likely experience substantial employment growth over the coming years and decades. In health care and long-term care, qualified staff were already in short supply in Germany's booming labour market prior to the COVID-19 crisis, and the demand is projected to grow further as a result of population ageing. In the child care sector, many facilities are already understaffed, and the demand for qualified staff will increase because of rising child care participation rates, the shift towards full-day care and more flexible opening hours, and larger birth cohort sizes in recent years. This could be an opportunity for the creation of a large number of middle-class jobs. Occupations in nursing are one of the largest groups of associate professionals, who account for a growing share of middle-income jobs particularly among women. Health and personal care assistants are important groups among the lower-skilled service workers, many of whom live in middle-income households.

However, for the care sector to become a job engine for good middle-class employment, Germany will need to substantially boost job quality in these professions, and particularly so in long-term care. Pay is low, particularly for long-term care and child care workers. Working conditions are unattractive, with a high incidence of fixed-term contracts (e.g. for child care workers), part-time work because of high work strain (for long-term care and health care workers), and low potential for career development. The COVID-19 pandemic has exacerbated some of these challenges.

Better coverage of care professionals through collective agreements can be one way of improving their working conditions and pay, but Germany will likely also need to further increase public spending. Public spending on long-term care in Germany has risen over the last decade, but it remains much below the levels achieved in Belgium, Denmark, the Netherlands, Norway, and Sweden, all of which have much smaller population shares of elderly people than Germany. There remains substantial scope also for raising public expenditures for early childhood education and care (see below). Since the public sector is the largest employer of care professionals in Germany, spending increases could directly translate into better working conditions and higher wages for care workers.

1.4.4. Creating middle-class jobs by renewing Germany's infrastructure

Germany will require large investments in its public infrastructure in the coming decades to address successfully the profound structural challenges arising from an ageing population, the digital transformation, and climate change. Infrastructure investment over the last two decades has been low in Germany, with stretches of negative net public investment in the mid-2000s and mid-2010s. And while Germany has stepped up public investment since 2014, including in its educational infrastructure and energy grid, general government investment remains at one of the lowest rates across OECD countries, at 2.5% of GDP in 2019 (3.7% in the OECD on average). This has created a considerable backlog, with substantial investment needed in digital infrastructure, social housing, and child care and education infrastructure. Large investments will be required also to decarbonise Germany's economy, notably into its electricity grid and into low-emissions transport infrastructure.

The public infrastructure investment needed for Germany to master the structural transformation of its economy has the potential to become an engine of employment growth, and to create quality middle-class jobs. Investment in digital infrastructure – including in broadband internet and better mobile connectivity outside urban areas – could help boost the productivity and innovative capacity of companies in Germany, hence contributing to job creation including in rural areas. The renewal of key public infrastructure in Germany, also as part of the greening of Germany's economy, would directly create many jobs, including in structurally weaker regions. Indeed, several OECD countries have announced investments in public infrastructure to boost job creation as part of their post-COVID recovery plans. Most notably, the U.S. American Jobs Plan foresees public infrastructure spending of about USD 2 trillion, or about 9.5% of 2020 GDP, by 2030 to address some of the same key challenges facing also the German economy. In particular, the U.S. plan focuses on funding climate and clean-infrastructure projects in regions that are lagging or affected by the transition to clean energy, the creation and improvement of caregiving jobs, and investments in transport infrastructure, the electric grid, and broadband internet in all parts of the country. Already before the crisis, France announced a *Grand plan d'investissement*, to invest EUR 57 billion over 2018-22 to respond to the country's four major challenges: carbon neutrality, skills and employment, better competitiveness through innovation, and digitalisation.

1.4.5. Reducing the labour tax burden for middle-class workers

The disappointing growth in earnings and incomes since the early 2000s is likely one reason for why many people in Germany feel that middle-income households pay too much of their gross income in taxes. This partly reflects the fact that middle-income households – in Germany as elsewhere – play an important role for the financing of public expenditures through their taxes and social security contributions. However, substantial income redistribution also takes place *within* the middle-income group: from working-age to elderly households, and from upper and mid middle-income households to lower middle-income households.

Still, middle-income households in Germany face a comparatively high effective tax burden on their labour income. For a single person without children earning the average wage in Germany in 2021, deductions for income taxes and social security contributions net of benefits equalled 38% of gross household income, more than in countries such as Austria, Denmark, France, the Netherlands, and Sweden.[4] This reflects a very steep rise in marginal tax rates at low to middle earnings, the so-called *Mittelstandsbauch* (i.e. middle-class bulge). Meanwhile, tax progressivity is much lower at higher earnings levels.

Germany could reduce the labour tax burden for middle-class workers by changing the income tax schedule and moving its tax mix away from labour taxation. Options for changing the income tax schedule could be to lift the lower thresholds of the income tax brackets applying to middle-income earners or reducing marginal tax rates to reduce or eliminate the *Mittelstandsbauch*. This could be complemented – and partly financed – by an increase in marginal tax rates at the top. Other options could include lifting social-insurance contribution ceilings, which are lower in Germany than in most other OECD countries,

and shifting the tax burden away from labour income towards other types of taxes, e.g. by strengthening capital income taxation and removing exemptions to inheritance taxation (OECD, 2020[4]).

1.4.6. Enabling and incentivising women to expand labour force participation

Employment rates in Germany are only little lower for women than for men (73 vs. 79%), but women are four times more likely than men to work part-time (37 vs. 9%) and more likely to be overqualified for their job. Those are part of the reason why women in Germany earn only about half as much as men over their lifetime, and for why the gender gap in labour income in Germany is among the largest among European OECD countries. By enabling, and incentivising, women to work more hours in better-paid jobs, Germany could help households increase their income from work, strengthen the income position of middle-income households, and help low-income households rise up into the middle-income group.

The German tax system comes with low work incentives for second earners, in most cases women, to take up work and to increase earnings by working more hours or moving to better-paid jobs. A household in which a person takes up work, and in which there is already a person earning 100% of the average wage, pays nearly half of their additional earnings in net taxes: the so-called “participation tax rate” for a second earner that also starts working at the average wage equals 46%, the sixth-highest rate across the OECD. Second earners in Germany also have low incentives to increase their earnings, because the German tax system, with its income splitting option (*Ehegattensplitting*), favours married couples with unequal earnings levels. *Minijobs*, marginal jobs with earnings up to EUR 450 per month that are exempt from income taxation and nearly all employee social security contributions, are a second salient feature of the German tax-benefit system that generates incentives for second earners to work low hours.

Also, access to flexible, good-quality institutional child care, including for school-age children, remains an obstacle to paid work and career progression for women in Germany. Recent large investment in early childhood education and care have led to an impressive rise in child care participation rates, which reached 95% for 3-5 year-olds and 38% for 0-2 year-olds in 2018. Still, participation rates for the youngest continue to lag those in neighbouring countries such as Belgium, Denmark, France, and Luxembourg, where they reach 55-65%, and the insufficient flexibility of opening hours remains an issue. The shortage of qualified child care workers is a constraint for the further rapid expansion of child care services. In spite of Germany’s large recent investments in all-day primary schools, the lack of afternoon education and care remains a major obstacle to full-time employment for parents of school-aged children.

A great number of reform scenarios of the income splitting for married couples have been discussed in recent years. Even some of the more modest options promise stronger work incentives for second earners, a modest rise in female employment rates, and notable increases in women’s hours worked. A restriction of Minijobs, for instance by targeting them only to pupils, students and pensioners, or by restricting them to private households, could improve work incentives, particularly when combined with a broader reform of social-security contributions for low-income earners. A more comprehensive joint reform of the income splitting and the Minijobs could move more than an additional 100 000 women into employment without burdening public budgets, according to recent microsimulations. A further expansion of institutionalised child care will likely require raising public expenditures for early childhood education and care, which at around 0.7% of GDP remain a little below the OECD average and two to three times lower than in some Nordic countries and France.

References

Braband, C. et al. (forthcoming), "Income trends in Germany during the first year of the COVID-19 crisis", *OECD Policy Brief*. [5]

OECD (2021), *Continuing Education and Training in Germany*, Getting Skills Right, OECD Publishing, Paris, https://dx.doi.org/10.1787/1f552468-en. [3]

OECD (2020), *OECD Economic Surveys: Germany 2020*, OECD Publishing, Paris, https://dx.doi.org/10.1787/91973c69-en. [4]

OECD (2019), *OECD Employment Outlook 2019: The Future of Work*, OECD Publishing, Paris, https://dx.doi.org/10.1787/9ee00155-en. [2]

OECD (2019), *Under Pressure: The Squeezed Middle Class*, OECD Publishing, Paris, https://dx.doi.org/10.1787/689afed1-en. [1]

Notes

[1] Disposable household incomes are adjusted for household size using the square-root method (dividing the household income by the square root of the household size) to account for within-household sharing of resources.

[2] Not all of these jobs in public services are necessarily also public-*sector* jobs. This group also includes people working in private hospitals and non-governmental childcare institutions.

[3] The results presented draw from a policy brief produced in collaboration with the Bertelsmann Stiftung and the German Institute for Economic Research, DIW (Braband et al., forthcoming[10]).

[4] Results for Germany for 2021 are preliminary; for the other countries, results refer to 2020.

2 The German middle class – a statistical profiling

Sebastian Königs and Anna Vindics

This chapter examines trends in the size and composition of Germany's middle class, proxied by the middle-income group, i.e. people living in households with disposable incomes between 75 and 200% of the national median. The chapter starts by looking at the share of people belonging to the middle-income group, at how this share changed over time, and at income trends for middle-income people. It then analyses changes in the composition of the middle-income group along various socio-demographic dimensions, including by age, household type, level of educational attainment, migrant background, and region of residence.

2.1. The economic, political and social importance of a thriving middle class

Strong and thriving middle classes support healthy economies and prosperous societies. Middle-class citizens strongly contribute to the foundations of inclusive societies, to social and political stability, and to economic growth. They consume goods and services, accumulate savings, invest in human capital, safeguard democratic institutions, and support good-quality public services. Societies with a strong middle class experience greater levels of social trust, but also better educational outcomes, less crime, better health outcomes, and higher life satisfaction (Kelly, 2000[1]; Lynch and Kaplan, 1997[2]; Thorson, 2014[3]). In particular, strong middle classes promote:

- *Education*: The middle class forms the bulk of the population, and typically invests more in their own education and that of their children than the low-income group. By doing so, it increases current and future human capital (OECD, 2019[4]) and supports well-being and economic growth. Human capital accumulation is an important mechanism through which changes in the income share held by the middle class affect economic growth (Brueckner et al., 2017[5]). As populations achieve higher levels of educational attainment, citizens become more productive, healthy, resilient and engaged in society.
- *Consumption and entrepreneurship*: The middle class have played an essential role in the expansion of market economies, trade, and hence economic growth. They have more disposable income than the low-income group, and consume a higher share of it than the high-income group, hence fuelling demand for goods and services and creating jobs (Pressman, 2007[6]). People living on middle incomes contribute to physical capital accumulation essential for investment, and the small and medium enterprises that they establish and run constitute the backbone of strong economies. Economic growth and incomes are higher in countries with greater middle-class income shares (Easterly, 2001[7]). Strong middle classes increase social trust, which reduces transaction costs and promotes innovation (Gould and Hijzen, 2016[8]).
- *Social and political stability*: The middle class champions political stability and good governance through their involvement in public affairs and the power of the mass of their voices. Their intolerance of corruption and trust in their fellow citizens and in democratic institutions are essential for functioning liberal democracies. A strong middle class prevents political polarisation that can be harmful for government performance (Madland, 2015[9]). Middle classes provide a solid basis for democratic governance by having capacity to demand regulation, enforcement of contracts, and the rule of law (Birdsall, 2010[10]). Strong middle classes are the main financers of social protection systems through their taxes and contributions, which support stable and just societies.

However, there are signs that, in many OECD countries, the middle classes are not as stable as they used to be. The recent OECD flagship publication *Under Pressure: The Squeezed Middle Class* (OECD, 2019[4]) documented three main challenges facing middle classes in many countries (see Box 2.1): (1) socio-economic outcomes are increasingly perceived as *unfair*. Middle incomes have been growing much more slowly than higher incomes in many OECD countries for more than three decades. (2) The middle-class lifestyle is becoming more *expensive*. The cost of essential parts of a middle-class lifestyle has increased faster than income in many countries, notably of housing and higher education. (3) Life outcomes have become more *uncertain*. Job polarisation and insecurity has risen in the context of rapidly transforming labour markets.

This report, which provides a comprehensive assessment of the situation of the German middle class, focuses on the first and the third of these challenges, i.e. on trends in disposable incomes and on labour market developments. It does not provide detailed evidence on the second challenge, i.e. changes in middle-class expenditure patterns, hence also not covering the importance of changes in the cost of housing or energy for middle-class households.

Box 2.1. Main insights from *Under Pressure: The Squeezed Middle Class*

The OECD flagship publication *Under Pressure: The Squeezed Middle Class* (OECD, 2019[4]) provided a comprehensive assessment of the economic situation of the middle classes in OECD countries, looking at trends in incomes, consumption behaviour, and labour market outcomes. It documented that middle classes in many OECD countries find themselves increasingly under pressure facing stagnating incomes, rising expenditures, and greater labour market uncertainty.

Socio-economic outcomes are increasingly perceived as unfair

Middle incomes have been growing much more slowly than high incomes for more than three decades. Over the past 30 years, across the OECD, median incomes increased by a third less than the incomes of the richest 10%. Moreover, in many countries, incomes at the very top have surged. In the United States, for example, the share of the top 1% in total income almost doubled over the past three decades, from about 11 to 20%; almost half of all income growth over this period accrued to this group (Förster, Llena-Nozal and Nafilyan, 2014[11]; Saez, 2018[12]). In Germany, the top-1% income share rose from around 12% in 2000 to a post-war high of more than 14% in 2008; it then dropped to 13% during the financial crisis, and remained stable thereafter until 2014, the year with the latest available data (Bartels, 2019[13]). The middle classes have lost in economic influence as a result. Three decades ago, the aggregate income of all middle-income households was four times that of upper-income households across the OECD on average; today, this ratio is less than three. Meanwhile, many people, especially in lower middle-income households, feel that they contribute much more to the welfare state, through taxes and contributions, than they receive in return in benefits and services. Opportunities to climb up the social ladder have become rarer for middle-class people and their children, while social risks have increased.

The middle-class lifestyle is becoming more expensive

This sluggish income growth coincided with an increase in the costs of a middle-class lifestyle. Prices for housing, health, and education increased faster than inflation across the OECD. Ageing and new medical technologies have driven up the cost of health services. The widespread trend towards tertiary education is pressing parents and young people to invest more in education, while education has become more costly in many countries. Also in Germany, the cost of education increased faster than median incomes, by 23 vs. 9% between 1995 and 2015. This likely reflects primarily a rise in the cost of attending higher education. Meanwhile, the geographic polarisation of jobs is pushing up housing prices in urban areas. Housing constitutes the largest expenditure item for middle-income households in Germany, at around one-third of disposable income relative to one-quarter in the mid-1990s. This is the second largest increase among the countries with available data. Such rising expenditures squeeze middle-class households' finances and reduce their ability to save. More than one-in-five middle-income households spend more than they earn across the OECD in the mid-2010s.

Labour market trajectories have become more uncertain

People in middle-class households are concerned that the digitalisation and automation of the economy will destroy their jobs. One-in-six middle-income workers are employed in jobs that face high risk of automation across the OECD on average, close to the corresponding share among low-income workers (one-in-five). Rapid integration of global supply chains, fast and transformative technological change, and population ageing have resulted in labour market polarisation, i.e. a shift in employment towards high-skilled and low-skilled non-routine jobs and a hollowing-out of middle-skilled jobs. In many cases, having medium skill level no longer guarantees the way up into the middle-income group. Almost half of middle-income workers across the OECD are in high-skilled occupations, compared to one-third two decades ago. Meanwhile, job security and the level of income support in case of job loss have declined in many countries, up until the COVID-19 crisis.

Source: OECD (2019[4]). *Under Pressure: The Squeezed Middle Class*, https://dx.doi.org/10.1787/689afed1-en.

This chapter describes income trends for the German middle class, and provides a socio-economic profile of middle-income individuals in Germany. It provides evidence on the size of the German middle-income group, its composition, and the most important trends over the past two-and-a-half decades since the mid-1990s. It sets the scene for Chapter 3, which discusses trends in labour market outcomes for middle-income workers in Germany.

2.2. Who counts as "middle class" in Germany?

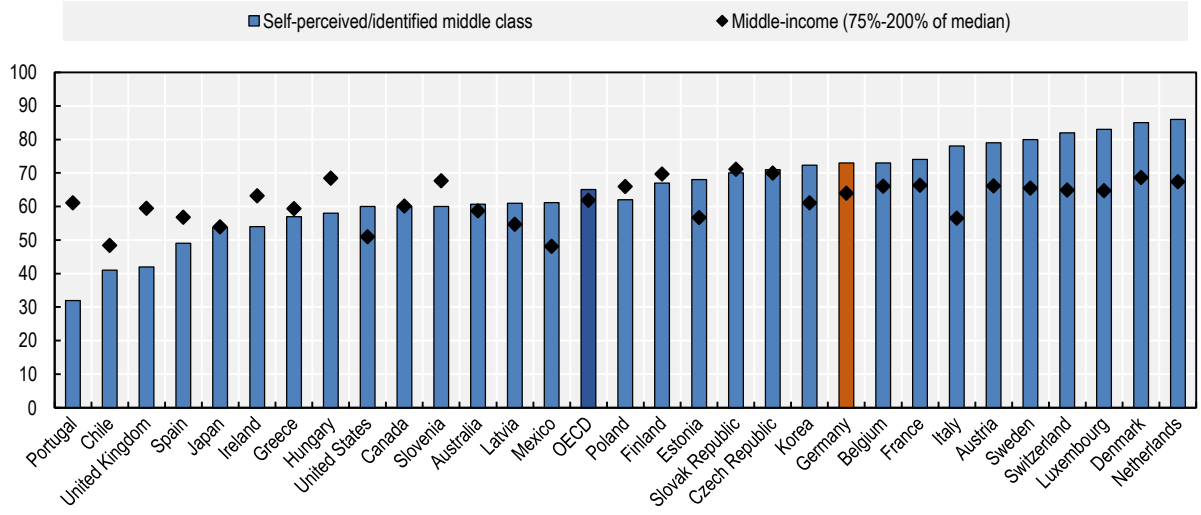
2.2.1. The middle class is a complex social construct

The middle class is a complex social construct and has no unique definition. Indicators used to define, and study, the middle class vary significantly, within and across disciplines. Some measures and indicators are based on occupation and employment status, relating, for example, to certain aspects of job quality (Goldthorpe, 2016[14]). Others are based on social, cultural, or economic criteria, such as income level, educational attainment, as well as values and attitudes (Savage et al., 2013[15]; Pressman, 2007[6]). Yet other definitions are consumption-based, with households being defined as middle class if they are able to buy a home, afford certain type of cars, or holidays (Reeves, Guyot and Krause, 2018[16]). In a comprehensive analysis of social class in Germany, Reckwitz (2019[17]) argues that besides the old middle class – a group of middle-skilled workers that is shrinking in size and losing prestige – a new middle class has emerged made up of academics working in knowledge-based jobs in urban areas. Recent empirical studies of the economic situation, social mobility and social risks of the middle class in Germany have for example defined middle-class households based on occupation class (Lengfeld and Ordeman, 2016[18]) and income (Burkhardt et al., 2013[19]; Niehues, 2017[20]; Zucco and Özerdogan, 2021[21]).

An alternative approach is to define the middle class based on subjective self-identification. On average around two-thirds of the population in OECD countries consider themselves as belonging to the middle class (Figure 2.1). In Germany, 73% of people self-identify as middle class, around 10% more than belong to the group according to the income-based definition used in *Under Pressure*. In some other countries, the difference between self-perceived and income-based middle-class status is even larger. The fact that many people self-identify as middle class even though their socio-economic circumstances may suggest otherwise is referred to as "middle-class bias" (Evans and Kelley, 2004[22]; Bellani et al., 2021[23]). One reason can be that people compare themselves to their immediate peer group, i.e. family members, neighbours, and co-workers, who tend to have a similar living standard, rather than to look at living standards across society more broadly. It can therefore be problematic to rely (alone) on self-identified middle-class status when studying the economic well-being of middle-class households.

Figure 2.1. More people self-identify as middle class than belong to the middle-income group

Percentage of the population in the middle-income group and percentage share of people considering themselves as "middle class", 2018 or latest available year



Source: OECD calculations based on data from the LIS Cross-National Data Center, SILC, Eurobarometer, Gallup and the World Values Survey.

2.2.2. An income-based definition of the middle class

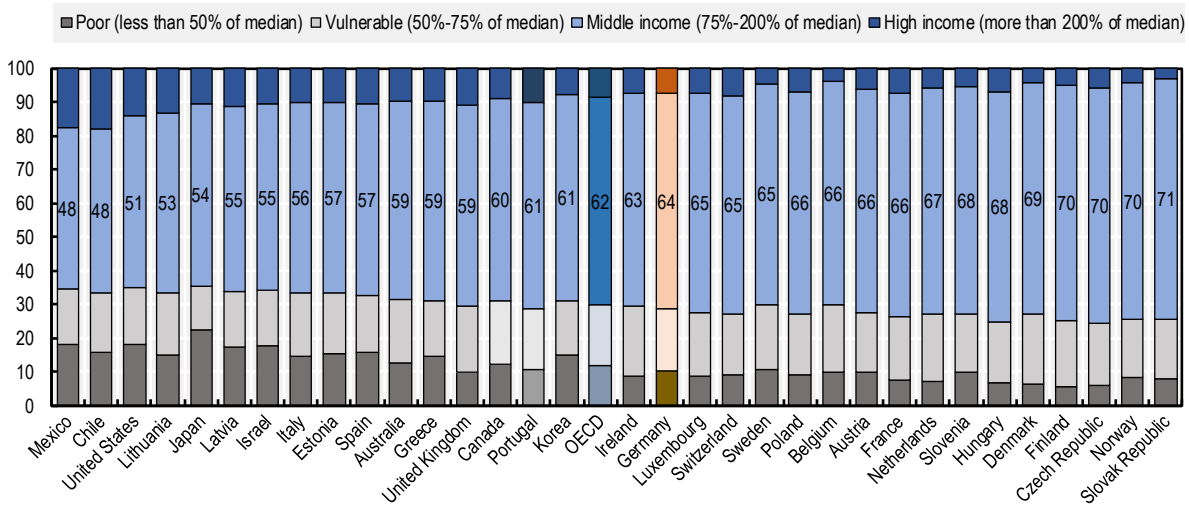
There is a strong rationale for looking at incomes when defining people's middle-class status for the purpose of comparative statistical analysis. Income is a key determinant of people's living standards and of many aspects of their well-being. It permits households to consume goods and services, including housing, education and health care, and to build up savings as an insurance against shocks. Income also strongly correlates with other determinants of social class, such as occupation, education, and self-perceived class.[1] From an analytical point of view, the benefit of employing an income-based definition of the middle class is that income data are readily available across countries for long periods. The same does not necessarily hold for information on self-perceived class or other socio-economic outcomes.

This review therefore uses an income-based definition of the middle class, i.e. it focuses on the middle-income group as a proxy for the middle class. Following the approach used in *Under Pressure*, it defines the middle-income group as people living in households with disposable incomes between 75 and 200% of the national median. In 2018, this corresponded to a monthly disposable income of around EUR 1 500 to EUR 4 000 for a single person, and EUR 3 000 to EUR 8 000 for a couple with two children. Within the middle-income group, the review further distinguishes the lower middle (75 to 100% of the median), the mid middle (100-150%) and the upper middle (150-200%). Disposable household incomes are adjusted for household size using the square-root method to account for within-household sharing of resources. This approach follows the methodology used for inequality and poverty measurement, including in the OECD Income Distribution Database (OECD, 2021[24]).[2]

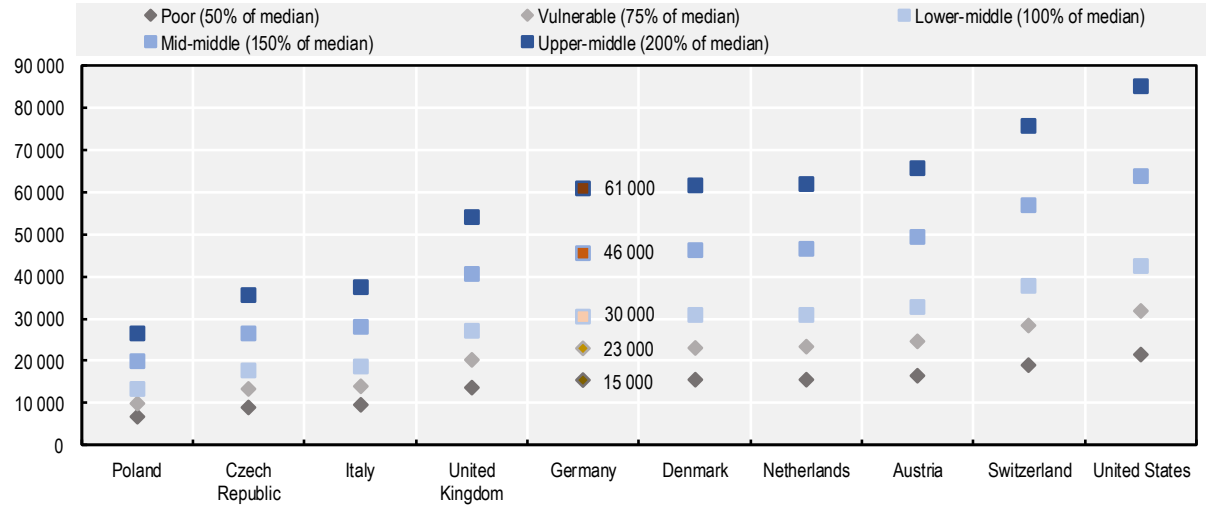
The review defines low- and high-income groups by analogy. People in households with incomes below 75% of the median are considered "low-income". This group is, in some parts of the analysis, further subdivided into two groups: people living in households on equivalised household incomes less than 50% of the median are classified as "poor", following standard OECD practice;[3] those with incomes between 50% and 75% of the median as "vulnerable". At the other end of the income distribution, people with incomes above 200% of the median are considered as "high-income".

Figure 2.2. The middle-income group is slightly larger in Germany than across OECD countries on average

Panel A. Percentage share of the population by income group, 2018 or latest available year



Panel B. Upper-bound income thresholds of different income groups for a single person for selected countries, 2018 or latest available year, 2017 USD



Note: In Panel A, results refer to the year 2018, except for the United States (2019), Belgium, Canada, Chile Israel, Switzerland (all 2017), Austria, the Czech Republic, Denmark, Estonia, Finland, Greece, Italy, Norway, Poland, Spain (all 2016), Hungary, Slovenia (2015), Australia (2014), Japan, Luxembourg (2013), and Korea (2012). The OECD average gives the unweighted average over the 33 countries included in the figure. In Panel B, income thresholds are expressed in 2017 USD using purchasing power parity. The income group thresholds displayed for Germany are rounded.

Reading note for Panel B: A single person in Germany with an annual disposable income between USD 23 000 and USD 30 000 is considered to be part of the lower middle-income group; a person with a disposable income between USD 46 000 and USD 61 000 is part of the upper middle-income group.

Source: OECD calculations based on data from the LIS Cross-National Data Center, except for France, Latvia, Portugal and Sweden, which are based on data from the European Union Statistics on Income and Living Conditions (EU-SILC).

When applying this income-based definition,

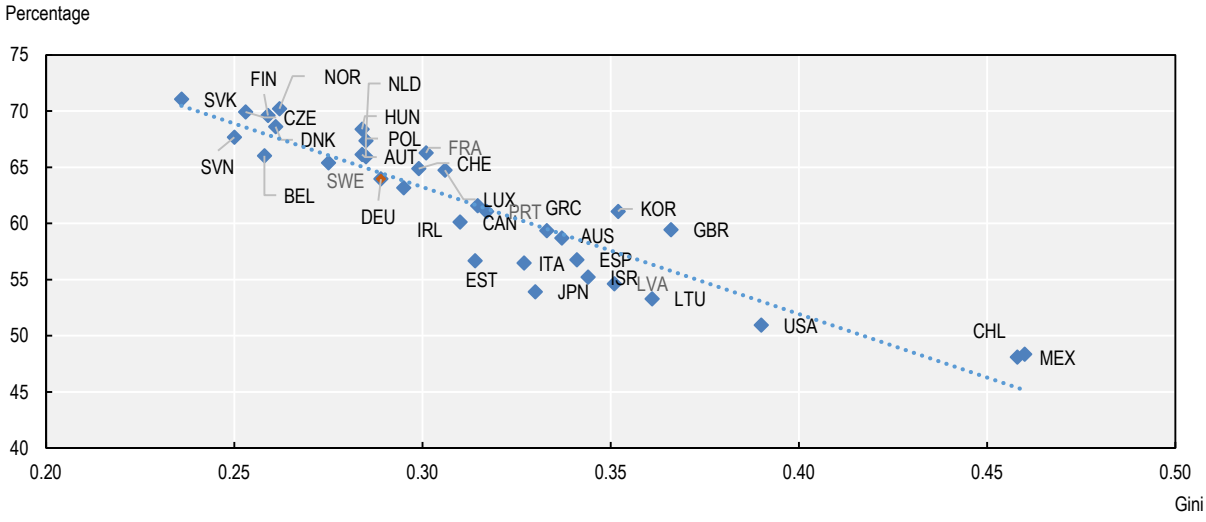
- *The bulk of the population is part of the middle-income group in almost all OECD countries.* Across the OECD, almost two-in-three (62%) people belonged to the middle-income group in 2018 (Figure 2.2 Panel A). In Germany, the share was slightly higher, at 64%. In many Central and Eastern European and the Nordic countries, the middle-income group is larger than in Germany, while it is smaller in many English-speaking, Southern European, Latin American and Asian OECD countries.
- *Around one-in-three people are part of the low-income group across OECD countries*. Again, the figure for Germany lies close to the OECD average, with 30% of people living on low incomes, and 10% living below the poverty line.
- *The high-income group is usually smallest, but varies most strongly in size:* it makes up 7% of the population in Germany, and 8% in the OECD on average. In some OECD countries, the high-income group makes up only a few percent of the population, while it reaches 14% or more in Mexico, Chile, and the United States.

The country ranking in Figure 2.2, Panel A is relatively robust to using other thresholds to define the income groups (OECD, 2019[4]).[4] For an overview of the nominal values of the income thresholds for a selection of countries expressed in USD, see Figure 2.2, Panel B.

The size of a country's middle-income group closely relates to the level of income inequality. This is because income groups are defined using thresholds expressed relative to the median income. In OECD countries where inequalities are large, such as Mexico, Chile and the United States, incomes are widely dispersed around the median, and the middle-income group is consequently smallest (Figure 2.3). Meanwhile, in the more egalitarian countries in Central and Eastern Europe (e.g. the Czech Republic, the Slovak Republic, and Slovenia) and Northern Europe (Denmark, Finland and Norway), a greater share of households live on incomes close to the median, and the middle-income group is larger.

Figure 2.3. The size of countries' middle-income group is closely tied to the level of income inequality

Percentage share of the middle-income group against the Gini coefficient of disposable household income, 2018 or latest available year



Source: OECD calculations based on data from the OECD Income Distribution Database, https://oe.cd/idd, LIS Cross-National Data Center European Union Statistics on Income and Living Conditions (EU-SILC) for France, Latvia, Portugal and Sweden.

2.3. Trends in middle-class incomes in Germany

Under Pressure documents that middle classes in many OECD countries have been suffering from stagnating real incomes over the last decades – a trend that often brought about a decline in the size of middle-income groups. This section updates and revisits this analysis with a particular focus on the developments in Germany. It demonstrates that also the German middle-income group has shrunk since the mid-1990s, and more rapidly so than middle-income groups in other OECD countries. This has entailed a decline in the income share of the middle-income group out of total income in Germany, implying shrinking economic influence. However, most of these changes have occurred prior to 2005.

2.3.1. German middle-income households have experienced very modest income growth since the mid-1990s, and income disparities in Germany have widened

Middle-income households in Germany experienced only modest income growth since the mid-1990s. The median disposable household income, i.e. the income for the household precisely in the middle of the income distribution, has stagnated in real terms in Germany for nearly one-and-a-half decades (Figure 2.4, Panel A). This implies that many middle-income households experienced essentially no rise in living standards between 2000 and 2014. The trend has been much more positive since around 2015, when the real median income started growing.

Income disparities have widened over the observed period. In the late 1990s, top and bottom incomes still grew in lockstep with the median. From 2001, a gradual decoupling took place, with top incomes steadily growing while median incomes stagnated. Households in the bottom of the income distribution even experienced a *decline* in real incomes after 2001, up to a rebound from around 2017. In 2018, the household incomes of the top 10% of households were 28% higher in real terms than in 1995, compared to a real income growth of 17% at the median, and only 7% for the bottom 10% of households. Slow growth and widening disparities in disposable incomes reflect a very similar trend for earnings, see Chapter 3, Figure 3.9. Also, levels of subjective well-being appear to have diverged between people of different income groups in Germany, see Box 2.2.

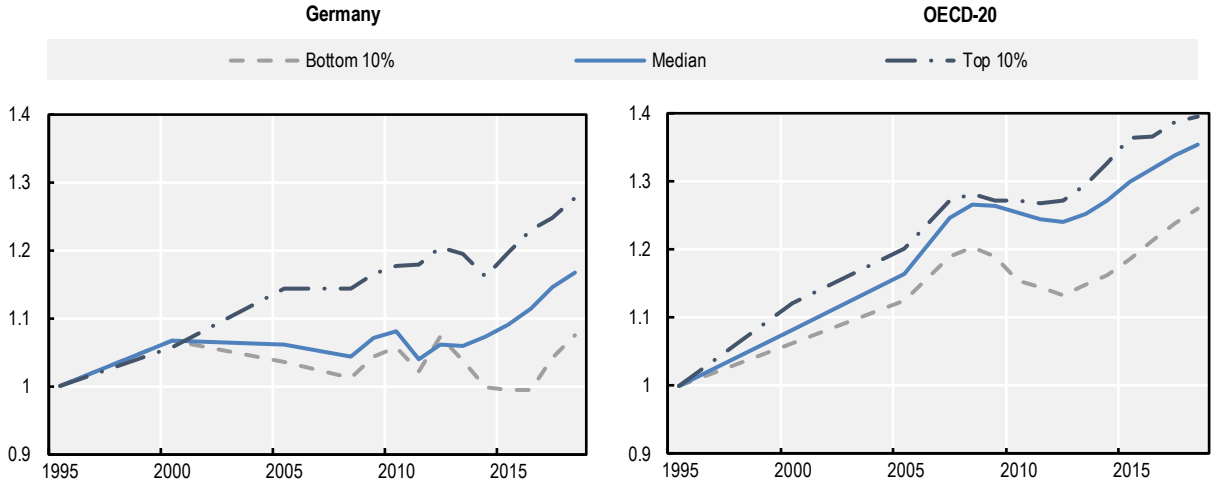
While the developments in Germany mirror a trend towards rising income inequality across the OECD more broadly, the pattern has not been uniform across all countries (Annex Figure 2.A.1). In some countries, such as the Netherlands, the Czech Republic and Turkey, middle-income households did *better* than households in the top and bottom of the income distribution. Meanwhile, in Italy, Greece, and Japan, households all across the income distribution experienced stagnating or declining incomes. Some other countries, such as the Nordics and the United Sates, show patterns similar to those in Germany, in some cases even more pronounced.

Germany holds a mid-table position in median income growth among OECD countries since the global financial crisis (Figure 2.4, Panel B). Thanks to the uptick in income growth since 2015, median incomes grew on average by a bit more than 1% per year over the period 2008-18. This is slightly above the OECD average (0.7%). Annualised median income growth during this shorter period has been higher in some Central and Eastern European countries (the Czech Republic, the Slovak Republic, Poland and some of the Baltics), but also in Canada, Israel, Ireland, and Sweden. In a number of countries heavily affected by the global financial crisis, median household incomes remain substantially below their pre-financial-crisis values, notably in Greece, Spain, Iceland and Italy.

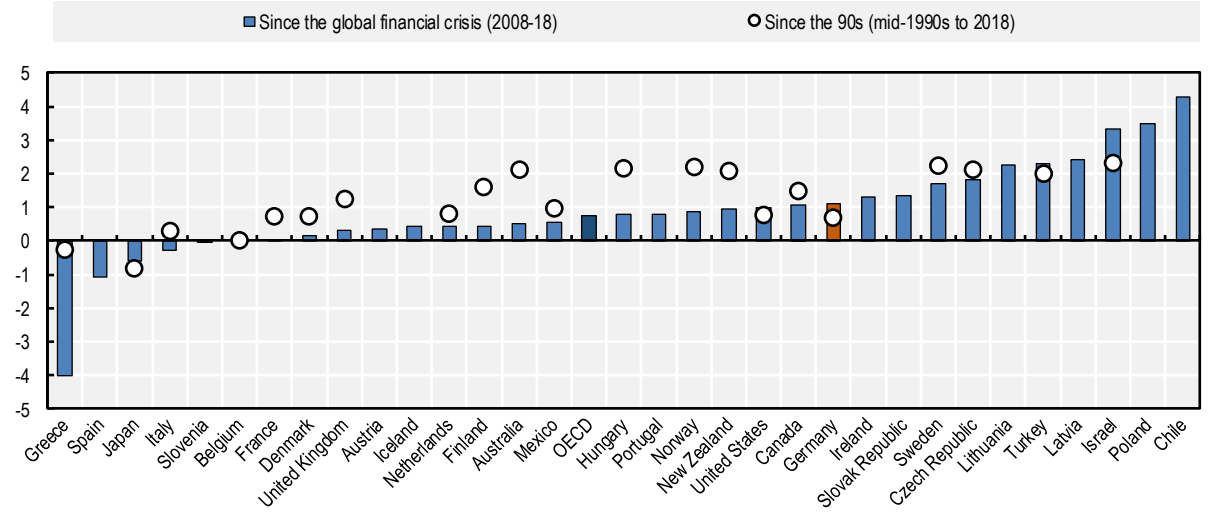
By contrast, median income growth in Germany has been among the lowest across OECD countries when considering the entire period since the mid-1990s. Among the 21 countries with income data for that period, only Japan, Greece, Italy and Belgium recorded lower real median growth rates.

Figure 2.4. Median income growth in Germany picked up in 2015 after a long period of income stagnation

Panel A. Real average equivalised disposable household incomes by income level (1995=100), 1995 to 2018



Panel B. Average annual real growth in median household incomes, as percentages



Note: Figures display real changes, adjusted for inflation.
Source: OECD Income Distribution Database, https://oe.cd/idd.

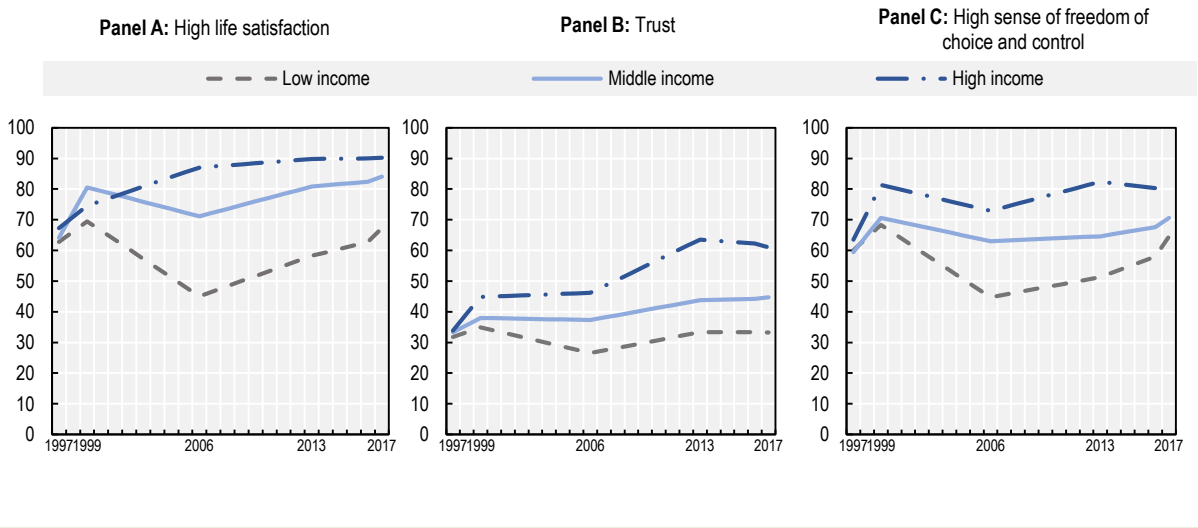
Box 2.2. Subjective well-being by income level in Germany

Income is a key determinant of people's well-being, as noted in Section 2.2, and higher-income people generally fare better along many dimensions of subjective well-being (OECD, 2020[25]). The increase in income inequality in Germany since the mid-1990s, shown in Figure 2.4, is also mirrored in growing inequalities in subjective well-being between people from different income groups. This holds true for different dimensions of subjective well-being, as illustrated in Figure 2.5:

- *Life satisfaction:* the share of people in middle-income households in Germany reporting high life satisfaction, i.e. a level of 7 or higher on a scale from 1 (dissatisfied) to 10 (satisfied), was 84% in 2017, compared to 90 and 67% among high- and low-income people. Disparities between people in the high- and low-income group have widened from 5 to 23 percentage points between 1997 and 2017.
- *Trust in other people:* less than half (45%) of people in the German middle-income group say that "most people can be trusted". High-income people are much more likely to report high levels of trust (61%), while the opposite is true for low-income people (33%). The share of people who say they trust in others has greatly increased over time in Germany, but only for high- and (to a lesser degree) middle-income people.
- *Freedom of choice and control:* measured again on a scale from 1 (none at all) to 10 (a great deal) the share of high-, middle-, and low-income people in Germany who reported high perceived freedom of choice and control over their lives stood at 78, 71 and 65% in 2017. Disparities by income group substantially widened after the late-1990s, but seem to have narrowed again in the most recent data for 2017.

Figure 2.5. Disparities in subjective well-being by income group have grown in Germany

Subjective well-being by income group (percentage of respondents), Germany, 1997-2017



Note: High life satisfaction is defined as the share of people reporting life satisfaction of 7 or above (with 1=Dissatisfied, 10=Satisfied). Trust is defined as the share of people replying most people can be trusted. High sense of freedom of choice and control is defined as the share of people reporting freedom of choice and control of 7 or above (with 1=Not at all, 10=A great deal). Income groups are defined based on respondent's subjective assessment of their household income on a 10-point scale, with people in the bottom three income deciles categorised as low income, those in the top three income deciles as high income, and the middle four as middle income.
Source: European Value Study and World Value Survey 1981-2017.

2.3.2. The German middle-income group has shrunk in the late-1990s and early-2000s, mostly at the lower end, and has not recovered since

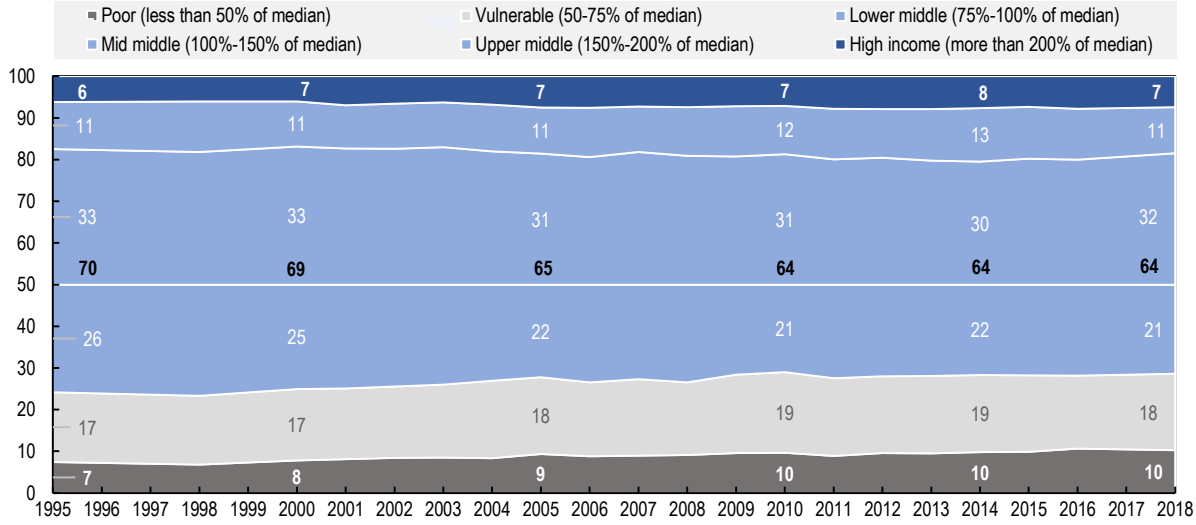
The German middle-income group is smaller than it was in the mid-1990s. Between 1995 and 2018, it shrunk by 6 percentage points, from 70 to 64% of the population. Most of this decline occurred in the early 2000s, at the time of widening income disparities (Figure 2.6). In spite of the positive employment growth

after 2005, the German middle-income group did not recover afterwards, as a result of stagnating disposable incomes for lower and middle-income households. This decline largely reflects a shrinking of the *lower* middle-income group, i.e. the share of households with incomes of 75 to 100% of median. Their share declined by 4 percentage points, to 21% in 2018. Meanwhile, the mid middle-income group (100-150% of the median) and the upper middle-income group (150-200% of the median) remained broadly stable, at 32% and 11% of the population.

The shrinking of the middle-income group is mirrored by a growing share of low- and high-income households. In particular, the share of households living below the poverty line (50% of median income) has increased since the mid-1990s, by 3 percentage points. Similarly, the share of vulnerable households, i.e. those who live on incomes above the poverty line but not enough to reach the lower middle-income group (50-75% of the median), increased by 2 percentage points. At the upper end of the distribution, the share of high-income households (above 200% of the median) expanded by 1 percentage point. As before, these changes largely occurred up to 2005, although the share of poor households continued to rise thereafter.

Figure 2.6. The German middle-income group shrank in the late-1990s and early 2000s, and has not recovered since

Percentage share of the population by income group, Germany, 1995-2018



Source: OECD calculations based on data from LIS Cross-National Data Center.

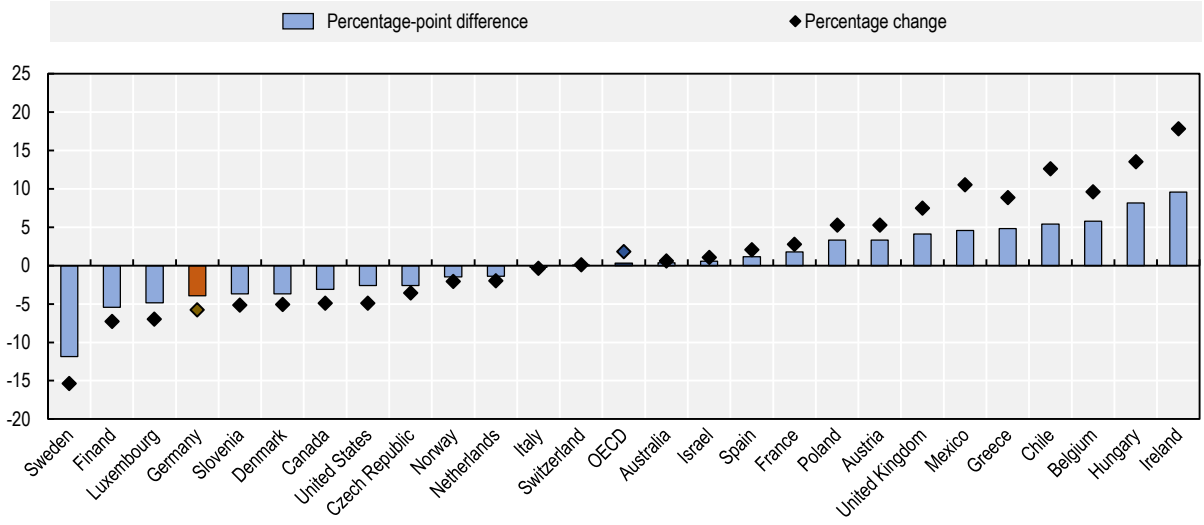
2.3.3. Germany experienced a faster decline in the middle-income group than most other OECD countries

Relative to the mid-1990s, the middle-income group has declined faster in Germany than in most OECD countries.[5] Across all 26 OECD countries with available data, the size of the middle-income group even slightly *expanded* on average, by 0.3 percentage points (Figure 2.7). This reflects a strong growth in the share of middle-income households in such countries as Ireland, Hungary, Belgium, and Chile. Compared to Germany, the shrinking of the middle-income group was more pronounced only in Sweden, Finland and Luxembourg. Countries, where the middle-income group declined – such as the Nordics, some Central and Eastern European and Northern American countries – nearly all experienced income polarisation, i.e. an expansion of both the low- and high-income groups. In countries where the

middle-income group grew – such as Latin American, Southern European and European English-speaking countries – income inequality usually declined.

Figure 2.7. Relative to the mid-1990s, the middle-income group shrank faster in Germany than in most other OECD countries

Changes in the population shares of the middle-income groups in OECD countries, mid-1990s to 2018 or latest year, in percentage points and percentages



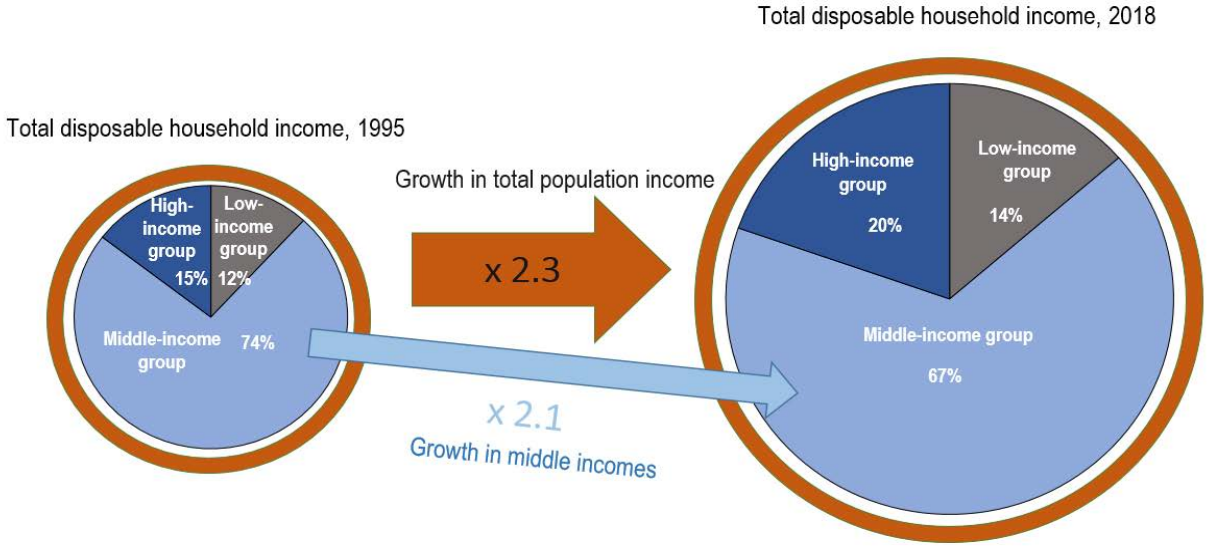
Note: OECD refers to the unweighted average across 26 countries with available data. Results are for 2018, except for the United States (2019), Belgium, Canada, Chile, Israel, Switzerland (all 2017), Austria, the Czech Republic, Denmark, Estonia, Finland, Greece, Italy, Norway, Poland, Spain (all 2016), Hungary, Slovenia (2015), Australia (2014), Japan, Luxembourg (2013) and Korea (2012). The percentage-point change (bars) refers to the difference between the mid-1990s and the latest year, while the percentage change (diamond) shows the relative change compared to the mid-1990s.
Source: OECD calculations based on data from LIS Cross-National Data Center, except for France and Sweden, which is based on data from the European Union Statistics on Income and Living Conditions (EU-SILC).

2.3.4. The German middle-income group accounts for a declining share of total household income

In line with its shrinking size, also the income share of the middle-income group has fallen in Germany relative to total population income, indicating declining overall economic influence. While total disposable income across all middle-income households was – in real terms – 2.1 higher in 2018 than in 1995, total population income grew by a factor of 2.3 (Figure 2.8). Consequently, the income share of the middle-income group declined from 74 to 67% of total income between 1995 and 2018. Again, this decline occurred over the first decade of the observation period, between 1995 and 2005. Almost all of it is due to the shrinking population share of the middle-income group, as opposed to a decline in the relative average income of middle-income households in comparison to the other income groups.[6]

Figure 2.8. The middle-income group accounts for a declining share of total income in Germany

Income shares of the different income groups in Germany, 1995-2018



Note: Income growth in real terms, adjusted for inflation.
Source: OECD calculations based on data from LIS Cross-National Data Center.

2.3.5. The middle-income group pays more in income taxes than it receives in social benefits, but most redistribution takes place within the middle-income group

There is a widespread sentiment in many OECD countries, including in Germany, that taxes are too high for lower- and middle-class households, see also the discussion in Chapter 5, Section 5.4. OECD calculations based on data from the International Social Survey Programme for 2016 show that around half of people in Germany, and across OECD countries, find that taxes for middle-income households are "too high" or "much too high" (48% of respondents in Germany, 51% across 25 OECD countries on average). Even around three-in-four respondents (75% in Germany, 72% in the OECD on average) find taxes too high for low-income households.[7] Meanwhile, recent results from the OECD *Risks that Matter* Survey indicate that, on average, 58% of middle-income households in OECD countries consider that they do not receive a fair share of public benefits for the taxes and social-security contributions that they pay (OECD, 2019[26]).

Across OECD countries, the middle classes indeed play a crucial role for the financing public expenditures (and are main beneficiaries of these expenditures), and often pay on average more in direct taxes than they received in cash social benefits. However, substantial redistribution takes place also *within* the middle-income group:

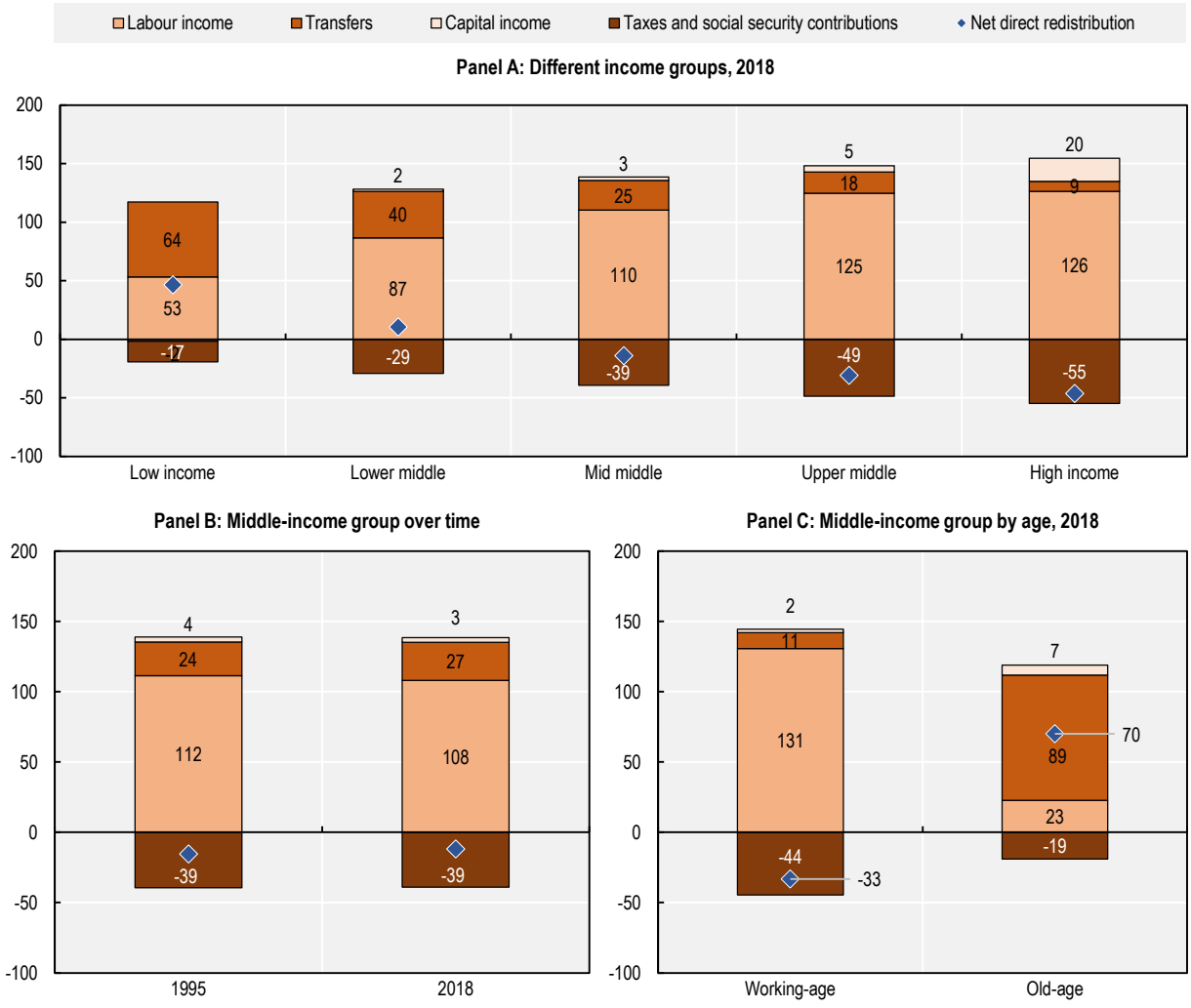
- *Across income groups:* while people the mid and upper middle-income group in Germany indeed pay on average more direct taxes than they receive in cash benefits, the lower middle is a net beneficiary of the tax-benefit system (Figure 2.9, Panel A). Overall, across the entire middle-income group, the sum of taxes and social-security contributions paid on income exceeded the total value of social cash benefits received by 12% of disposable income in 2018.[8] The middle-income group's net contribution slightly declined between 1995 and 2018 (Figure 2.9, Panel B).
- *Across age groups:* redistribution through income taxes and social transfers has a strong intertemporal component. The social contributions paid by workers on today's earnings given them

entitlements to future social transfers in case of job loss or sickness, after childbirth and in old age. Substantial redistribution therefore takes places over the life course, and notably between working-age people and seniors. Indeed, 18-to-64-year-olds in the middle-income group are heavy net contributors, with taxes and social-security contributions exceeding benefits received by on average 33% of disposable income. Meanwhile, middle-income people over 65+ years are clear net beneficiaries: they derive nearly all of their disposable income from social transfers, notably public pensions, and pay only little taxes and social contributions (Figure 2.9, Panel C).

All of these calculations do not account for any indirect taxes paid (incl. VAT), nor for in-kind transfers received, for example, in form of public services, such as health care or education.

Figure 2.9. The lower middle is a net beneficiary of the tax-benefit system, but most redistribution takes place *within* the middle-income group, between working-age people and seniors

Income components relative to disposable income (=100), as percentages



Note: Net direct redistribution is the sum of transfers minus taxes and social security contributions. Private transfers, which typically make up less than 1% of disposable income, are not shown.
Source: OECD calculations based on data from LIS Cross-National Data Center.

2.4. Changes in the composition of the middle-income group in Germany

Against the context of a decline in the German middle-income group compared to the mid-1990s, this section presents evidence on the changing socio-demographic composition of middle-income households, and on the implied chances for people from different population groups of making it into the middle-income group. Specifically, it provides evidence on two different but related questions:

1. What share of the middle-income group does population group X – say young people, or working-age couples – account for, and how has this evolved over time? This first question is concerned with the composition of the middle-income group.
2. *What is the likelihood for a person from population group X to be in the middle-income group*, as opposed to the low- or high-income group, and how has this likelihood changed over time? This second question is about people's chances of making it into the middle-income group, or the group-specific size of the middle-income group.

The two questions are clearly related, but can yield at times, what seems like conflicting conclusions. This is because the socio-demographic composition of the overall population has changed. For example, as shown below, the share of working singles in the German population has strongly increased over the observation period, and consequently working singles make up a growing share of middle-income households. (This is the response to Question 1 above, about the composition of the middle-income group). However, the share of working singles grew more slowly in the middle-income group than in the overall population. As a result, the chances for working singles of making it into the middle-income group have *declined*. (This is the response to Question 2 above, about the odds of making it into the middle-income group). Indeed, working singles have become more likely to be in the low-income group.

This section provides evidence on the above two questions about the composition of the middle-income group and the group-specific chances of making it into the middle along different dimensions: by age group, household type, level of educational attainment, migrant background, and region of residence.[9]

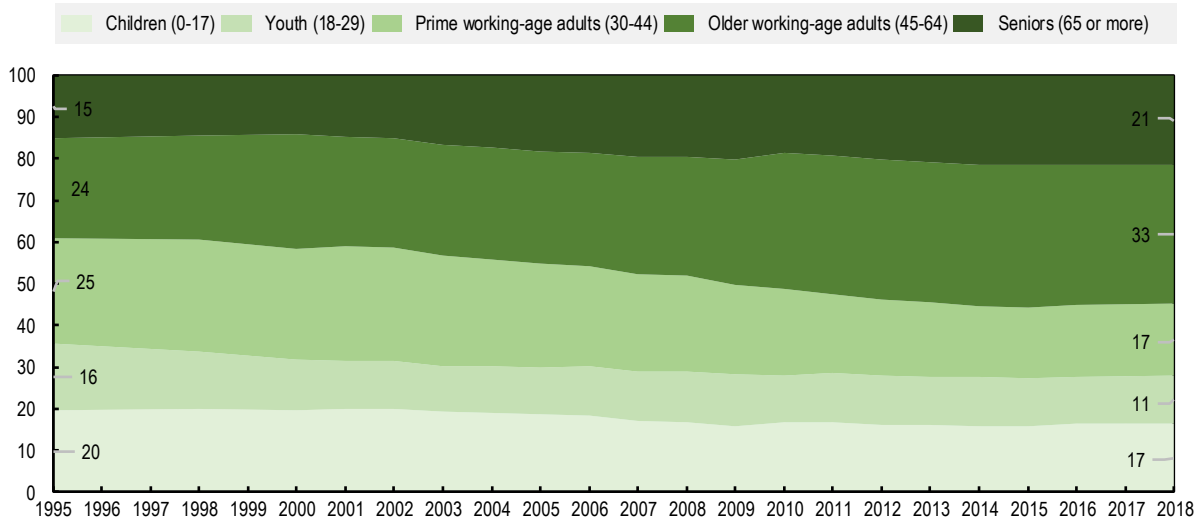
2.4.1. The German middle-income group has aged more quickly than the general population, and young people find it difficult to secure their place

The German middle-income group has aged significantly since the mid-1990s. In 2018, older working age adults (45-64 years) and seniors (65 years and older) made up more than half (55%) of middle-income people, up from around 40% in 1995 (Figure 2.10, Panel A). Meanwhile, prime working-age adults (30-44 years), young people (18-29 years) and children (below 18 years) account for declining shares.

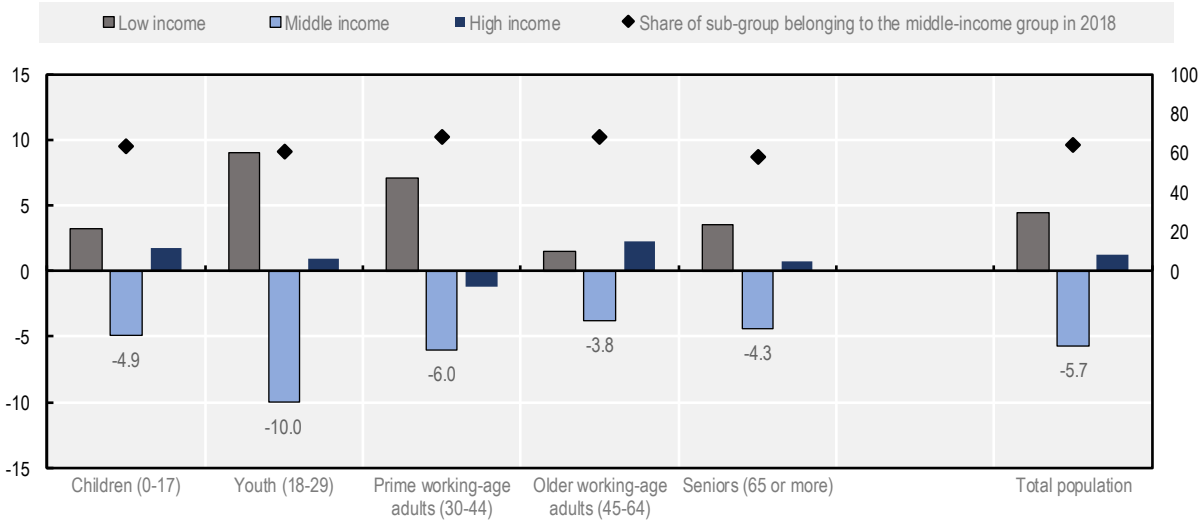
This trend does not simply reflect general population ageing: While the share of people living on middle incomes has shrunk in each of the age groups, young people have been disproportionally affected. They are on average 10 percentage points less likely to be in the middle-income group than in the mid-1990s, a decline nearly twice the population average (-5.7 percentage points; Figure 2.10, Panel B). However, this drop occurred entirely in the years up to 2005, while the middle-income share among young people remained stable thereafter. Meanwhile, among older working-age adults and seniors, the size of the middle-income groups has declined by less than average (-3.8 and -4.3 percentage points), and just over the period since 2005 it has even expanded for older working-age adults. Particularly for young people and prime working-age adults, the shrinking of the middle-income group coincided with a strong expansion of the *low*-income group. Meanwhile, for older working-age adults, the *high*-income group expanded most strongly.

Figure 2.10. Older generations account for a growing share of Germany's middle-income group

Panel A. Percentage breakdown of the middle-income population by age groups, Germany, 1995-2018



Panel B. Percentage-point change in the population share belonging to different income groups 1995-2018 (left axis) and percentage belonging to the middle-income group in 2018 (right axis) by age groups, Germany



Reading note for Panel B: The share of young people (18-29 years) in the middle-income group has declined by 10.0 percentage points between 1995 and 2018. Meanwhile, the shares of 18-29 year-olds in the low-income group and the high-income group have expanded by 9.0 percentage points and 0.9 percentage points.
Source: OECD calculations based on data from LIS Cross-National Data Center.

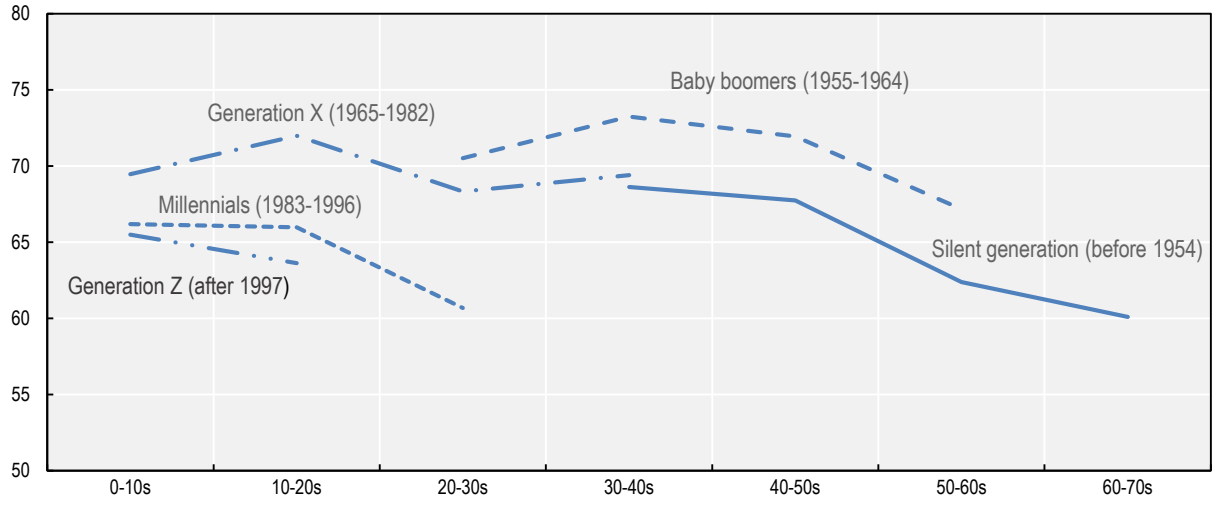
Trends in labour force participation behaviour over people's lives can partly explain the changes in the age structure of the middle-income group. Young people increasingly obtain tertiary education and thus remain in education for longer than they did two decades ago. They are therefore older when entering the labour market and earning their first own income, which can explain part of the decline in the size of the middle-income group among young people. Meanwhile, older workers retire later and often continue earning good incomes up to a higher age, which can explain the relative rise in the size of the middle-income group – and the high-income group – among older working-age adults.

Yet, the changing age composition of the middle-income group certainly also reflects trends in the relative financial well-being of different demographic groups. Today's senior generation is, on average, financially much better off than previous generations of elderly (OECD, 2017[27]). This applies particularly to the baby boomers, many of whom have been able to contribute to the pension system throughout their entire working life and to accumulate, sometimes significant, private wealth, often in the form of housing (Balestra et al., forthcoming[28]). This is reflected in the growing share of older working-age people and seniors in the middle-income group.

Indeed, since the baby boomers, the size of the middle-income group has continuously declined from one generation to the next (Figure 2.11). When aged in their 20s and 30s, 71% of the baby boomers belonged to the middle-income group. For the Generation X (i.e. people born in the mid-1960s to early 1980s) and the Millennials (born in the early 1980s to mid-1990s), the shares had declined to 68% and 61% at the same age. The consistent decline in the size of the middle-income group from one generation to the next also holds when looking at people's income status in their childhood and youth (0-10s, 10-20s and 20-30s). This confirms that senior's growing relative representation in the middle-income group, and the decline of the middle-income group for young people (as observed in Figure 2.10), is not alone a consequence of changing labour force participation behaviour.

Figure 2.11. Since the baby boomers, the size of the middle-income group has declined generation by generation

Percentage share of the population belonging to the middle-income group, by cohort and age, Germany



Reading note: In their 20s and 30s, 71% of the baby boomers belonged to the middle-income group. For the Generation X (i.e. people born in the mid-1960s to early 1980s), the share had declined to 68% at the same age.
Source: OECD calculations based on data from LIS Cross-National Data Center.

2.4.2. Working couples, and particularly one-and-a-half earner households, have been much less affected by the decline in the middle-income group

Household composition and living arrangements have considerably changed over the past decades, in Germany as in other OECD countries. The share of single-person and senior households increased because of later family formation and gains in longevity. The share of households with children declined, as more couples decide to have children later, or not at all. These changing family structures are closely tied to, and interact with, the two larger trends of population ageing and rising female labour market participation.

These trends have also changed the composition of the German middle-income group since the mid-1990s (Figure 2.12, Panel A), and changed the likelihood for different types of households of belonging to the middle-income group (Panel B):

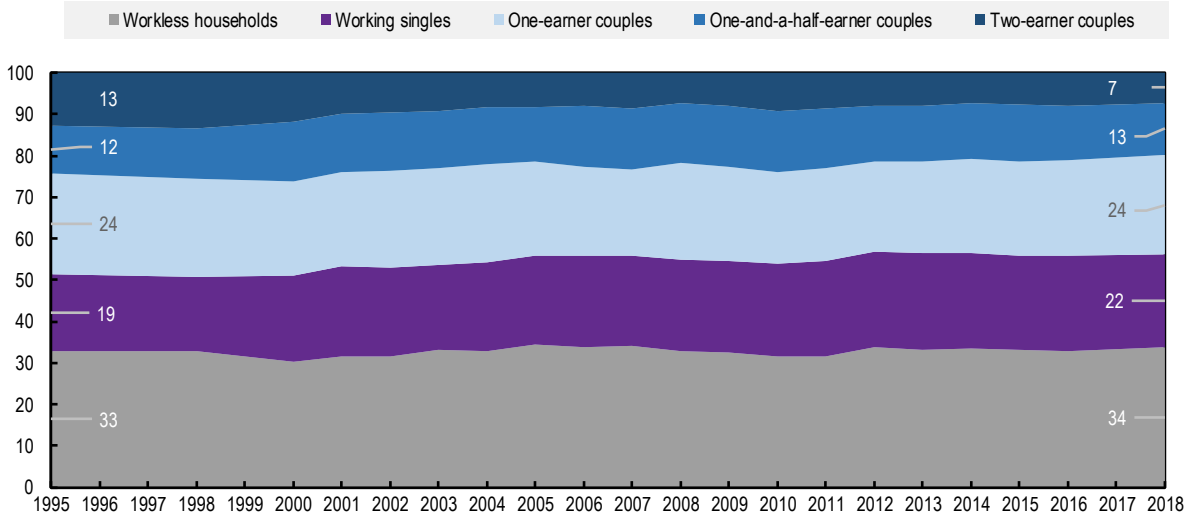
- Working couples – with one, one and a half, or two earners – make up nearly half (44%) of middle-income households, and they were more likely in 2018 than in the mid-1990s to live on middle incomes. Indeed, while their share among middle-income households declined, it declined by less than in the overall population. In particular, the one-and-a-half earner couples have greater chances of being in the middle-income group. "Traditional" one-earner couples still make up the majority of working couples in the middle-income group, but are increasingly found in the high-income group; also two-earner couples are increasingly found among high-income earners.
- Working singles are less likely than in the mid-1990s to make it into the middle-income group, even as their share among middle-income households has been growing. The reason is that their share in the overall population has grown by even more, and particularly so among low-income households. In 2018, working singles made up about one-in-five (22%) middle-income households.
- Workless households, many of whom are households of seniors, account for a stable share of about one-in-three middle-income households. They have been somewhat less affected by the decline of the middle-income group than the overall population, i.e. their relative chances of making it into the middle-income group have risen. This is in line with seniors' relative increase in the chance of being in the middle-income group (see Figure 2.10).

The increasing share of one-and-a-half-earner couples in the middle-income group points to the growing importance of having a second earner in the household for generating the income necessary to make it into the middle-income group. It also reflects the rapidly risen labour force participation among women in Germany, with nearly every second working woman in the German middle-income group working part-time (see Chapter 3, Figure 3.8).[10] Households with two *full* earners increasingly make it into the high-income group. Meanwhile, there also appears to be a growing share of *one*-earner couples with earnings high enough for high-income status.

Trends for the presence, or absence, of children in middle-income households are less striking (results not shown). About half of middle-income households have children: 45% coupled households with children, plus 6% single parents in 2018. While this is less than in the mid-1990s (51% vs 60%), this decline fully reflects the growing share of childless households in the overall population. For both couples and singles with children, the likelihood of being in the middle-income group declined to similar extents, by less than the population average (by -3.4 and -2.0 percentage points). Couples with children have become somewhat more likely to be in the high-income group, while single parents face a greater risk of finding themselves in the low-income group.

Figure 2.12. Working couples make up nearly half of all middle-income households, and their chances of being in the middle-income group have increased relative to working singles

Panel A. Percentage breakdown of middle-income households by household structure and work intensity, Germany, 1995-2018



Panel B. Percentage-point change in the share of households belonging to income groups 1995-2018 (left axis), and percentage belonging to the middle-income group in 2018 (right axis), by household structure and work intensity, Germany

Note: This figure shows household- rather than individual-level results, which is why aggregate changes for each income group slightly differ from the values reported in previous figures.
Source: OECD calculations based on data from LIS Cross-National Data Center.

2.4.3. People with upper- and post-secondary education still make up the bulk of the middle-income group

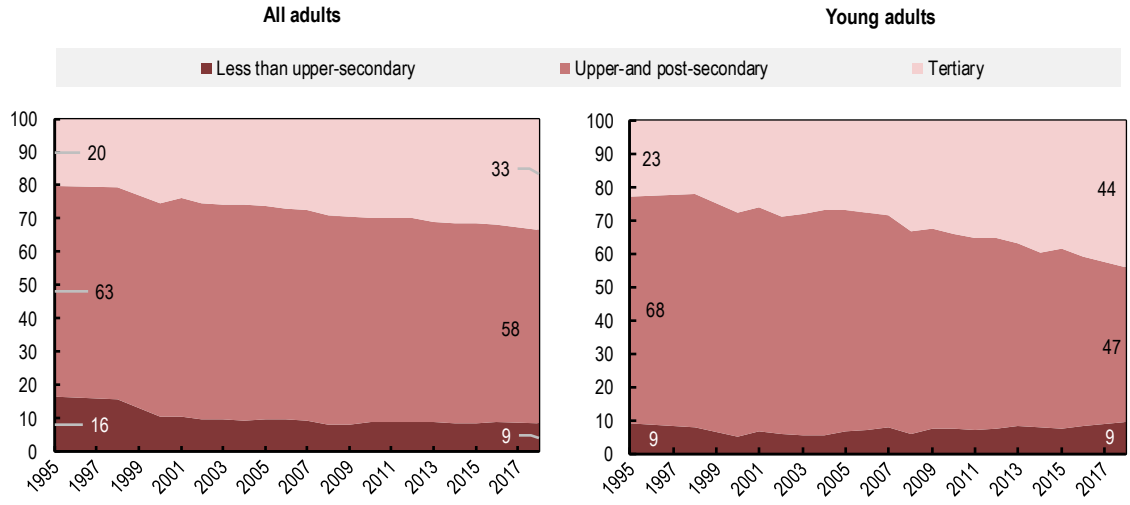
Adults with upper-secondary or post-secondary non-tertiary education remain the backbone of the middle-income group. In 2018, they accounted for 58% of all middle-income adults; 33% of adults in the

middle-income group had completed tertiary education; a small minority, the remaining 9%, had less than upper-secondary education (Figure 2.13, left Panel A).[11]

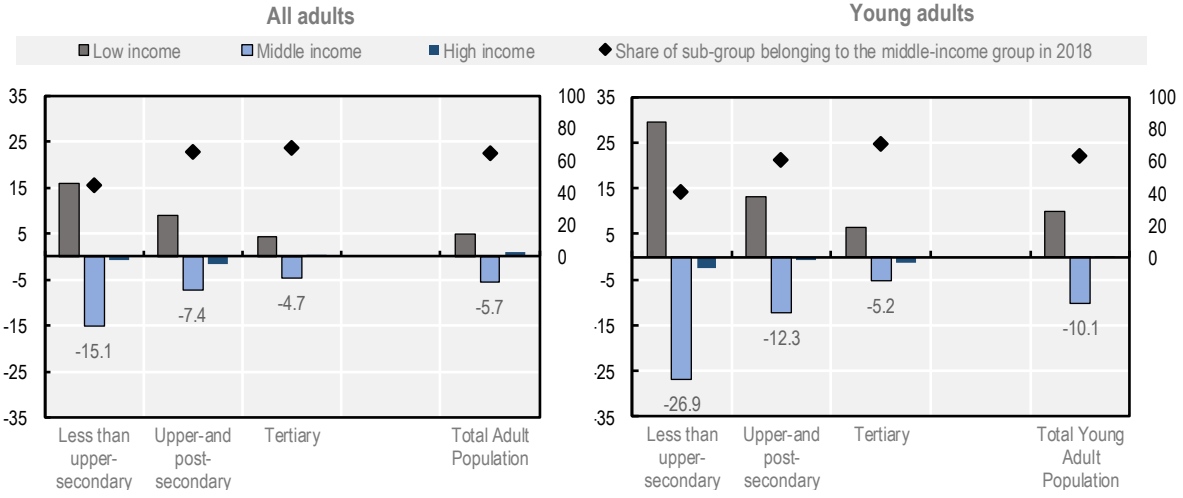
The level of educational attainment in the middle-income group has clearly risen since the mid-1990s, over and above what would be implied by rising educational attainment in the population overall. People with upper-secondary and post-secondary, non-tertiary education were affected more strongly than those with tertiary education by the decline in the middle-income group since the mid-1990s (-7 and -5 percentage points; Figure 2.13, Panel B). The likelihood of being in the middle-income groups dropped dramatically for people with less than upper-secondary education (-15 percentage points).

Figure 2.13. Adults with upper-secondary education still make up most of the middle-income group, but the share of tertiary-educated has been rising particularly among young people

Panel A. Percentage breakdown of middle-income adults by educational attainment, Germany, 1995-2018



Panel B . Percentage-point change in the share of adults belonging to income groups 1995-2018 (left axis) and percentage belonging to the middle-income group in 2018 (right axis) by educational attainment, Germany



Note: The sample is restricted to adults aged 25 years and over. Less than upper secondary education consists of ISCED 0-2, Upper-secondary of ISCED 3-4, Post-secondary or tertiary of ISCED 5-8 categories. Young adults are those between 25 and 35 years.
Source: OECD calculations based on data from LIS Cross-National Data Center.

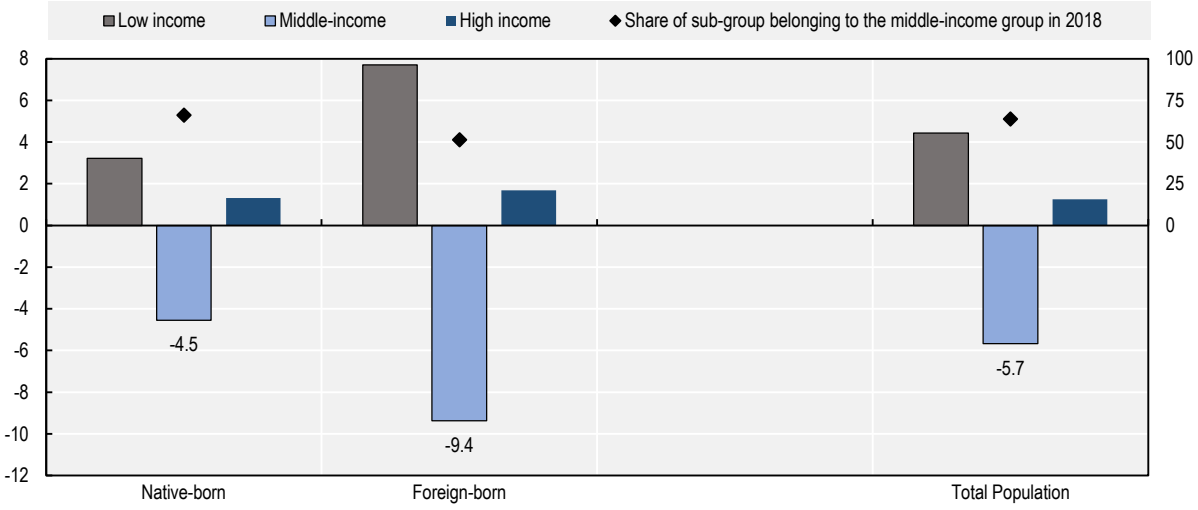
These trends are even more marked for young people. Among them educational attainment has risen much faster, and having tertiary education has become key for making it into the middle-income group. Among 25-35 year-olds in the middle-income group, those with at-most upper- or post-secondary education only make up 47%, much less than among adults more generally and down from 68% in 1995. Meanwhile, those with tertiary education account for 44%, substantially more than in the general population and up from 23% in 1995. The likelihood of belonging to the middle-income group decreased heavily for young adults with at-most upper- or post-secondary education (-12 percentage points) or less then upper-secondary education (-27 percentage points). By contrast, young adults with a tertiary degree were somewhat shielded by the decline in the middle-income group: for them, the middle-income share declined by 5.2 percentage points, less than the population average.

2.4.4. Immigrants are much less likely than in the mid-1990s to make it into the middle-income group in Germany

Immigrants are much less likely to be part of the middle-income group compared to the mid-1990s. While the share of people born abroad in the middle-income group is slightly higher than in the mid-1990s, the immigrant share in the overall population rose by twice as much (+2 vs. +4 percentage points, *not shown*). As a result, immigrants' likelihood of being in the middle-income group declined by 9.4 percentage points since the mid-1990s (Figure 2.14). Meanwhile, their share among low-income people rose significantly (7.7 percentage points). In 2018, about one-in-eight (12%) people in the middle-income group had been born abroad (*not shown*). The LIS data used for this analysis do not permit separately identifying people born in Germany to immigrant parents.

Figure 2.14. The likelihood of belonging to the middle-income group declined considerably for immigrants over the past decades

Percentage-point change in the population share belonging to income groups 1995-2018 (left axis) and percentage belonging to the middle-income group in 2018 (right axis) by immigrant background, Germany



Source: OECD calculations based on data from LIS Cross-National Data Center.

Immigrants' lower chances to be part of the middle-income group likely reflects compositional changes in the immigrant population in Germany over the last decades. At the start of the observation period, in 1995, one-in-four immigrants originated from Central and Eastern European countries (incl. Poland, the

Czech Republic, and the Russian Federation), and another one-in-five from either Turkey or Italy. The composition of the immigrant population changed over the observation period: notably, the inflow of humanitarian migrants into Germany from 2015 led to an increase in the share of immigrants from Syria, Iraq, and Afghanistan. Migrants from such countries may take longer to become part of the middle-income group even if they possess similar skills as migrants from European countries. Main challenges are a lack of German language skills, different work habits, uncertainty regarding the length of stay in Germany, and difficulties in having their qualifications recognised (Degler and Lieblig, 2017[29]).

2.4.5. The size of the middle-income group varies substantially between regions in Germany, and it has declined much more strongly in cities than in rural areas

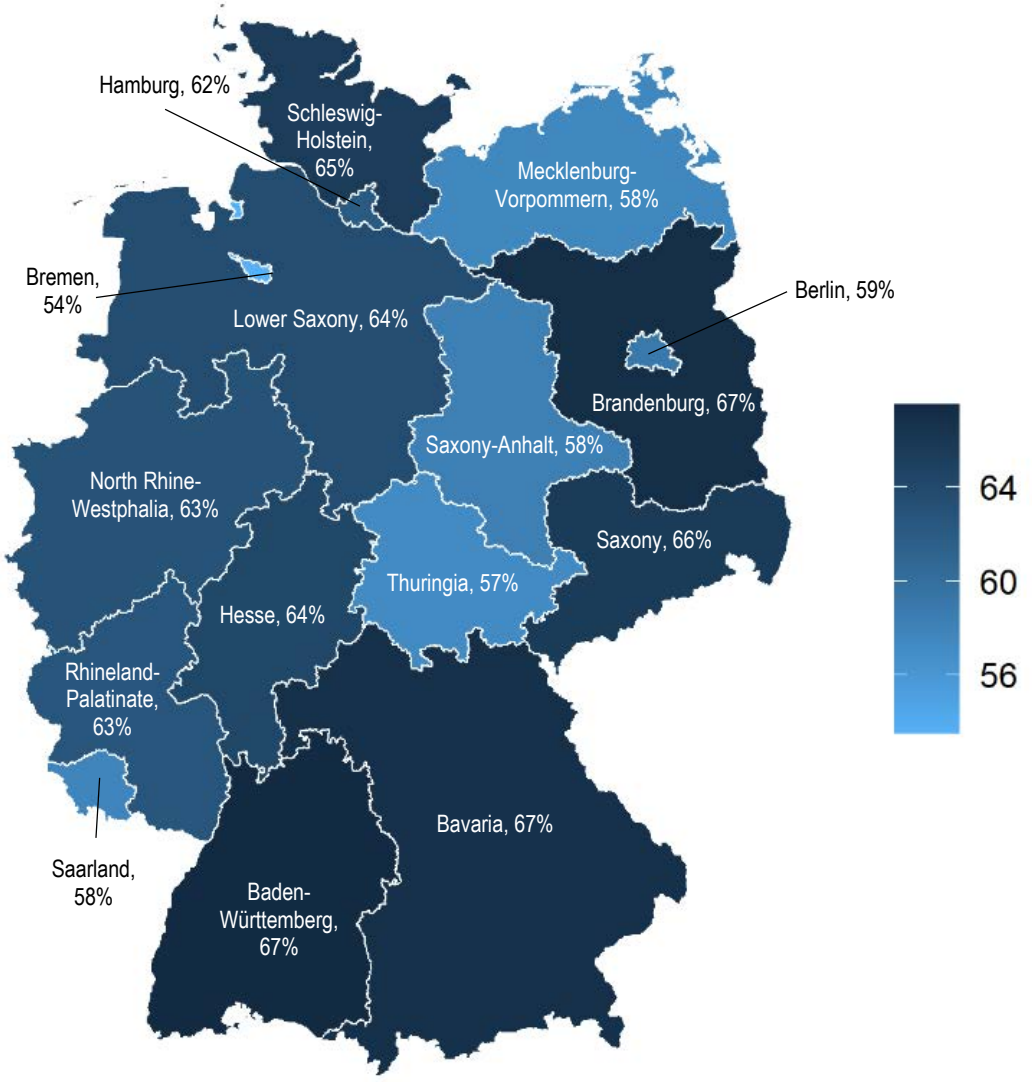
Regional differences in the size of the middle-income group in Germany are substantial, including, but not only, differences between east and west. The middle-income group is smallest in the northern city-state of Bremen, at only 54% (Figure 2.15). Also four of the six eastern German states (Berlin, Mecklenburg-Vorpommern, Saxony-Anhalt, and Thuringia) have middle-income groups of below 60% of the regional population. Meanwhile, over 65% of people in southern Germany (Baden-Württemberg and Bavaria) and the two remaining eastern German states (Brandenburg, Saxony) belong to the middle-income group. Trends in change in size of the regional middle-income group since the mid-1990s vary substantially across the states, ranging from stable or even increasing middle-income shares in eastern German Brandenburg and Saxony, to hefty two-digit declines in the western German Saarland, the two city-states of Berlin and Hamburg, and eastern German Saxony-Anhalt (*results not shown*).

Cities tend to have somewhat smaller middle-income groups than rural areas (at 63% vs 65%; Figure 2.16). This reflects a much more pronounced decline of the middle-income group in urban than in rural areas since the mid-1990s. Among people living in urban areas – a little more than two-thirds of the population in Germany – the share living in middle-income households declined by 6.9 percentage points relative to 1995. This compares to a minus of 3 percentage points among the remaining one-third of people living in rural areas. Trends differed mainly in the period after 2005, when the middle-income share in rural areas increased. These trends partly reflect demographic changes, with younger people and prime working-age people increasingly living in cities, and older working-age people and seniors increasingly in rural areas. However, those trends appear to hold also within demographic groups: among older working-age people and seniors living in rural areas, the share belonging to the middle-income group increased over the past decades, while it decreased for those living in urban areas.

However, one needs to be somewhat careful in interpreting these regional and rural-urban middle-income shares simply as measures of regional living standards, because they do not account for geographic disparities in the cost of living. Middle-income groups tend to be smaller in lower-income regions, because they are measured against the *national* median household income, which can lie substantially above the regional median (Königs and Vindics, forthcoming[30]). However, also the cost of living – and notably housing – is often lower in those regions, and in some cases substantially so. Similarly, the costs of living are usually much higher in urban than in rural areas, and have risen sharply in some of the most dynamic areas in recent years (Fink, Hennicke and Tiemann, 2019[31]). A lower middle-income household in a high-income region or city may hence have a lower living standard than a household classified as “vulnerable” (based on the lower nominal income) living in a low-income region or rural area.

Figure 2.15. Regional differences in the size of the middle-income group are substantial

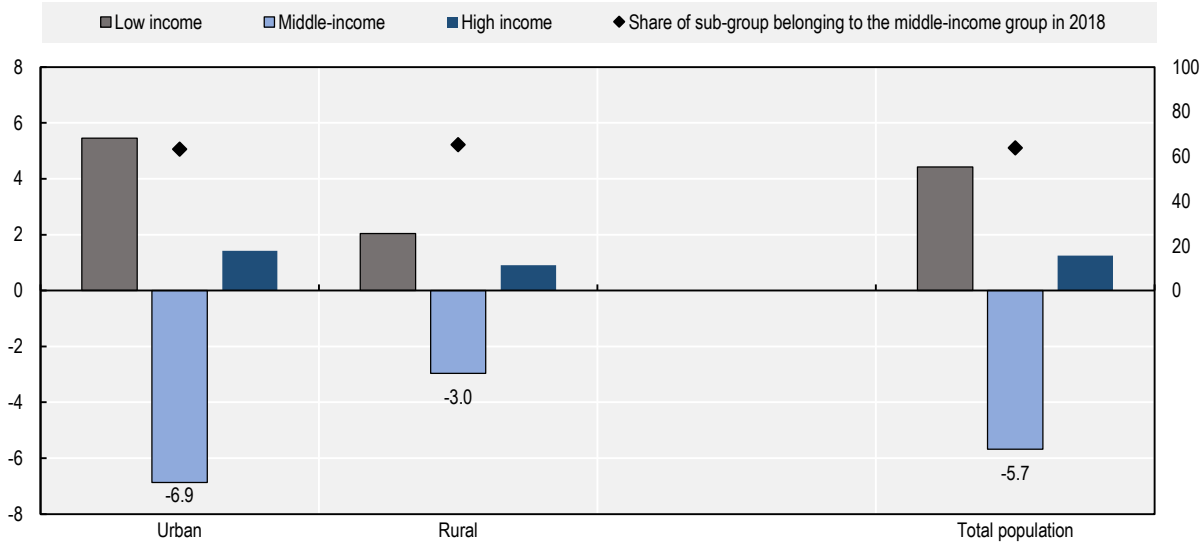
Percentage share of the population belonging to the middle-income group, German states, 2018



Note: The size of regional middle-income groups has been calculated with reference to the national median household income without accounting for regional differences in the cost of living.
Source: OECD calculations based on data from LIS Cross-National Data Center.

Figure 2.16. The middle-income group has declined more strongly in urban than in rural areas

Percentage change in the share of households belonging to income groups 1995-2018 (left axis) and percentage belonging to the middle-income group in 2018 (right axis) by degree of urbanity, Germany



Note: Households in urban and rural account for 69% and 31% of the population.
Source: OECD calculations based on data from LIS Cross-National Data Center.

2.5. Conclusions

Middle-income people make up nearly two-thirds (64%) of the German population, a slightly larger share than across OECD countries on average. After having substantially shrunk in times of rising income inequality in Germany in the late 1990s and early 2000s, the German middle-income group did not recover again after 2005 in spite of the positive employment growth. Since 2015, middle- and lower-income households in Germany experienced the first growth in real disposable household incomes in nearly two decades.

The composition of the German middle-income group has changed over the last decades as a result of demographic change, rising educational attainment, and changes in labour force participation. It has aged more quickly than the general population, as particularly young people find it difficult to secure their place. Working couples, and particularly one-and-a-half earner couples, have increased their chances of being in the middle-income group relative to working singles. Educational attainment is rising faster in the middle-income group than in the overall population, and particularly for young people holding a tertiary qualification is becoming important for securing a place in the middle-income group. Regional disparities in the size of the middle-income group are large in Germany, and cities have been more strongly affected than rural areas by the decline in the middle-income group.

References

Balestra, C. et al. (forthcoming), "Inequalities in household wealth: Trends, drivers and policy implications", OECD Publishing, Paris. [28]

Bartels, C. (2019), "Top Incomes in Germany, 1871–2014", *The Journal of Economic History*, Vol. 79/3, pp. 669-707, http://dx.doi.org/10.1017/s0022050719000378. [13]

Bellani, L. et al. (2021), *Wenn alle Teil der Mittelschicht sein wollen*, https://www.progressives-zentrum.org/wp-content/uploads/2021/05/Policy_Paper_06_Bledow-Bellani.pdf. [23]

Birdsall, N. (2010), *The (Indispensable) Middle Class in Developing Countries; or, The Rich and the Rest, Not the Poor and the Rest.*, http://www.cgdev.org/content/publications/detail/1423994. [10]

Bönke, T., A. Harnack and M. Wetter (2019), *Wer gewinnt? Wer verliert? Die Entwicklung auf dem deutschen Arbeitsmarkt seit den frühen Jahren der Bundesrepublik bis heute*, Bertelsmann Stiftung, Gütersloh, http://dx.doi.org/10.11586/2019014. [32]

Brueckner, M. et al. (2017), *The Rise of the Middle Class and Economic Growth in ASEAN*, World Bank, Washington, DC, http://dx.doi.org/10.1596/1813-9450-8068. [5]

Burkhardt, C. et al. (2013), *Mittelschicht unter Druck?*, Bertelsmann Stiftung. [19]

Degler, E. and T. Lieblig (2017), "Finding their Way: Labour Market Integration of Refugees in Germany", OECD, Paris, https://www.oecd.org/germany/Finding-their-Way-Germany.pdf. [29]

Easterly, W. (2001), "The Middle Class Consensus and Economic Development", *Journal of Economic Growth*, Vol. 6/4, pp. 317-335, http://dx.doi.org/10.1023/a:1012786330095. [7]

Evans, M. and J. Kelley (2004), "Subjective Social Location: Data From 21 Nations", *International Journal of Public Opinion Research*, Vol. 16/1, pp. 3-38, https://doi.org/10.1093/ijpor/16.1.3. [22]

Fink, P., M. Hennicke and H. Tiemann (2019), *Unequal Germany – Socioeconomic Disparities Report 2019*, Friedrich-Ebert-Stiftung, Bonn, http://library.fes.de/pdf-files/fes/15766.pdf. [31]

Förster, M., A. Llena-Nozal and V. Nafilyan (2014), "Trends in Top Incomes and their Taxation in OECD Countries", *OECD Social, Employment and Migration Working Papers*, No. 159, OECD Publishing, Paris, https://dx.doi.org/10.1787/5jz43jhlz87f-en. [11]

Goldthorpe, J. (2016), "Social class mobility in modern Britain: changing structure, constant process", *Journal of the British Academy*, Vol. 4, pp. 89-111, http://dx.doi.org/10.5871/jba/004.089. [14]

Gould, E. and A. Hijzen (2016), *Growing Apart, Losing Trust? The Impact of Inequality on Social Capital*, https://www.imf.org/external/pubs/ft/wp/2016/wp16176.pdf. [8]

Grusky, D. and J. Hill (eds.) (2018), *Striking It Richer: The Evolution of Top Incomes in the United States*, Routledge, http://dx.doi.org/10.4324/9780429499821. [12]

Kelly, M. (2000), "Inequality and Crime", *Review of Economics and Statistics*, Vol. 82/4, pp. 530-539, http://dx.doi.org/10.1162/003465300559028. [1]

Königs, S. and A. Vindics (forthcoming), "The geography of income inequalities in OECD countries: Evidence from national register data", *OECD Social, Employment and Migration Working Papers*, OECD Publishing, Paris. [30]

Lengfeld, H. and J. Ordeman (2016), "Die Angst der Mittelschicht vor dem sozialen Abstieg revisited: eine Längsschnittanalyse 1984-2014", *SOEPpapers on Multidisciplinary Panel Data Research*, Deutsches Institut für Wirtschaftsforschung, Berlin, http://hdl.handle.net/10419/146117. [18]

Lynch, J. and G. Kaplan (1997), "Understanding How Inequality in the Distribution of Income Affects Health", *Journal of Health Psychology*, Vol. 2/3, pp. 297-314, http://dx.doi.org/10.1177/135910539700200303. [2]

Madland, D. (2015), *Hollowed out : why the economy doesn't work without a strong middle class*, University of California Press, https://www.jstor.org/stable/10.1525/j.ctt14qrz80. [9]

Niehues, J. (2017), "Vielschichtig und stabil: Die Mittelschicht in Deutschland", *IW Trends: Vierteljahresschrift zur empirischen Wirtschaftsforschung*, No. Jg. 44, No. 1, Institut der Deutschen Wirtschaft, Köln, https://www.iwkoeln.de/fileadmin/publikationen/2017/322410/IW-Trends_1_2017_Mittelschicht.pdf. [20]

OECD (2021), *OECD Income Distribution Database (IDD)*, http://oe.cd/idd. [24]

OECD (2020), *How's Life? 2020: Measuring Well-being*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9870c393-en. [25]

OECD (2019), *Main Findings from the 2018 Risks that Matter Survey*, OECD Publishing, Paris, https://dx.doi.org/10.1787/9266e48a-en. [26]

OECD (2019), *Under Pressure: The Squeezed Middle Class*, OECD Publishing, Paris, https://dx.doi.org/10.1787/689afed1-en. [4]

OECD (2017), *Preventing Ageing Unequally*, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264279087-en. [27]

Pressman, S. (2007), "The Decline of the Middle Class: An International Perspective", *Journal of Economic Issues*, Vol. 41/1, pp. 181-200, http://www.jstor.org/stable/25511161. [6]

Reckwitz, A. (2019), *Das Ende der Illusionen*, Suhrkamp Verlag, Berlin. [17]

Reeves, R., K. Guyot and E. Krause (2018), *Defining the middle class: Cash, credentials, or culture?*, https://www.brookings.edu/research/defining-the-middle-class-cash-credentials-or-culture/. [16]

Savage, M. et al. (2013), "A New Model of Social Class? Findings from the BBC's Great British Class Survey Experiment", *Sociology*, Vol. 47/2, pp. 219-250, http://dx.doi.org/10.1177/0038038513481128. [15]

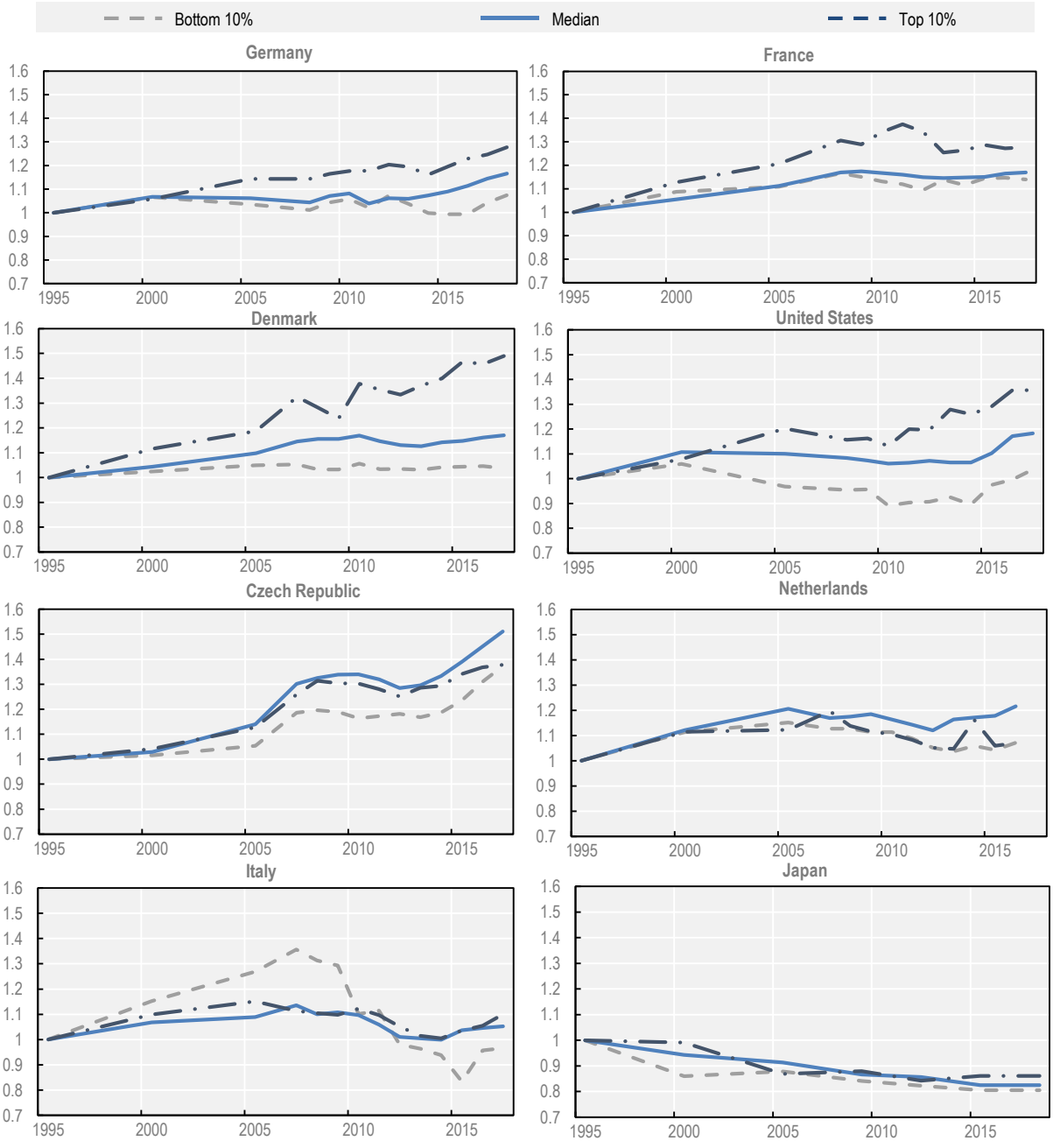
Thorson, G. (2014), *The Rise of Inequality, the Decline of the Middle Class, and Educational Outcomes*, http://www.umdcipe.org/conferences/DecliningMiddleClassesSpain/Papers/Thorson.pdf. [3]

Zucco, A. and A. Özerdogan (2021), *Verteilungsbericht 2021 - Die Einkommenssituation und Abstiegsängste der Mittelschicht*, Wirtschafts- und Sozialwissenschaftliches Institut (WSI), Düsseldorf, https://www.wsi.de/fpdf/HBS-008182/p_wsi_report_69_2021.pdf. [21]

Annex 2.A. Income trends in selected OECD countries

Annex Figure 2.A.1. Trends in top, median and bottom incomes across selected OECD countries

Real average equivalised disposable household incomes by income level (1995=100), 1995 to 2018



Source: OECD Income Distribution Database, https://oe.cd/idd.

Notes

[1] Some other important aspects of people's well-being, such as their work-life balance or the quality of their social connections, relate less directly to income (OECD, 2020[25]).

[2] Unless specified otherwise, the results presented in this chapter pertain to the whole population irrespective of their age or labour market status. Children and young people have the income status of the household they live in. Chapter 3 of this review, which presents evidence on the labour market trends for middle-income workers, focuses on working-age people (18 to 64 years) who are in employment.

[3] Some other organisations, such as Eurostat, use a poverty threshold of 60% of the median income.

[4] Indeed, earlier studies from Germany have used different income thresholds to define the middle class. A recent study on the income situation and perceived social risks of middle-class households (Zucco and Özerdogan, 2021[21]) and an earlier comprehensive review of the economic well-being of the German middle class (Burkhardt et al., 2013[19]) both use a narrower definition focusing on households with incomes between 70% and 150% of the median. In another earlier review of the size and composition of the German middle class, Niehues (2017[20]) distinguishes between a more narrowly defined middle class (80-150% of the median), lower-income / lower middle-income households (60-80%), and higher income / higher middle-income (150-250%).

[5] Germany holds a mid-table position when looking at the change in the size of the middle-income group since the mid-2000s, just below the OECD average.

[6] This decline of the middle-income share in Germany reflects two factors: First, for a given income level, the income share of the middle-income group declines as its population share declines ("population-share effect"). Second, for a given population share, the income share declines if incomes of the middle-income group decline relative to those of other groups ("relative-income effect"). A decomposition shows that the former effect is more important: out of the 7 percentage point decline in the middle-income groups' income share, 6 percentage points reflect the decline in its population share, and the remaining 1 percentage point the decline in its relative income, notably with respect to the high-income group.

[7] Only a minority (10% in Germany, 20% in the OECD) find taxes too high for high-income households.

[8] Disposable income is the sum of labour income, capital income, and social transfers, minus income taxes and social-security contributions. Labour income is larger than disposable income, because it is measured before income taxes.

[9] The section does not provide a gender breakdown. The reason is that the analysis focuses on household incomes, such that any gender differences would largely reflect income differences between male and female single-person households. Chapter 3 provides detailed analysis of gender differences in labour market developments for middle-income workers, and Chapter 5 discusses the importance of raising female employment in Germany for boosting middle-class disposable incomes.

[10] Labour force participation of women in West Germany nearly doubled between 1973 and 2012, from 6 to 12 million people. Meanwhile, the number of weekly hours worked only increased by 50% (Bönke, Harnack and Wetter, 2019[32]).

[11] This part of the analysis is restricted to adults aged 25 years and older. Levels of educational attainment are difficult to interpret for younger people, many of whom will not yet have completed their studies.

3 The German middle class in a changing world of work

Valentina Sara Consiglio, Sebastian Königs and Horacio Levy

This chapter discusses how labour market trends in Germany since the mid-1990s have affected workers in middle-income households. It sets off by looking at the types of jobs carried out by middle-income workers, analysing changes in occupations and sector of employment and discussing the role of rising female labour force participation. It then provides evidence on the share of middle-income workers in non-standard and low-paid employment. The chapter discusses future trends in middle-class employment, looking at the likely impact of automation on middle-income workers and presenting employment growth forecasts across occupations. The final part provides evidence on the initial impact of the COVID-19 crisis on employment outcomes and incomes of middle-income workers.

3.1. Introduction

The 21st century's megatrends – globalisation, digitalisation, and demographic change – are profoundly changing OECD labour markets, including the types and quality of jobs available and the skills sets in demand. This affects the employment prospects, job security and earnings of middle-class workers. Many traditional middle-class jobs – notably in manufacturing – are disappearing, to be replaced by often lower-quality service jobs or high-skilled positions. The rapid digitalisation and automation of OECD economies is projected to reinforce labour market polarisation: OECD-wide an estimated one-in-six middle-income workers are currently employed in occupations at great risk of being automated. The risk is particularly high in occupations that do not require advanced cognitive skills or complex social interaction (Nedelkoska and Quintini, 2018[1]). And while OECD analysis suggests that the ongoing transformations are unlikely to cause a net job destruction in OECD economies (OECD, 2019[2]), they certainly give rise to significant anxiety. Nearly three-in-four people in Germany are worried that "robots and artificial intelligence steal people's jobs" (European Commission, 2017[3]).

This chapter presents an analysis of the labour market development for middle-class workers in Germany since the mid-1990s. The analysis uses the same income-based definition of the middle class as in Chapter 2, focusing on people in households living on equivalised disposable incomes between 75 and 200% of median income. As before, the middle-income group is further broken down again into the lower middle (75 to 100% of the median), the mid middle (100-150%) and the upper middle (150-200%). However, unlike Chapter 2, this chapter looks specifically at middle-income *workers*, i.e. at working-age people (18 to 64 years) who have full-time or part-time work as their main activity status and who live in middle-income households.[1,2]

A large majority of workers are in the middle-income group in Germany: nearly three-in-four (72%) workers lived in middle-income households in 2018 (Figure 3.1, Panel A) – more than the share of people overall who are in the middle-income group (64%, see Chapter 2, Figure 2.2). Compared to the average person in the population, workers are also more likely to be in the high-income group (10% of workers living in households with incomes above 200% of the median) and less likely to live on low incomes (18% living on less than 75% of the median income). Female workers are slightly more likely to live in middle-income households than male workers (73 vs. 71%), while they are less likely to live in high-income households.

Also among workers, the share living in middle-income households has strongly declined since the mid-1990s, mirroring the trend documented for the entire population in Chapter 2. However, workers' income status has developed very differently for women and men (Figure 3.1, Panel B):

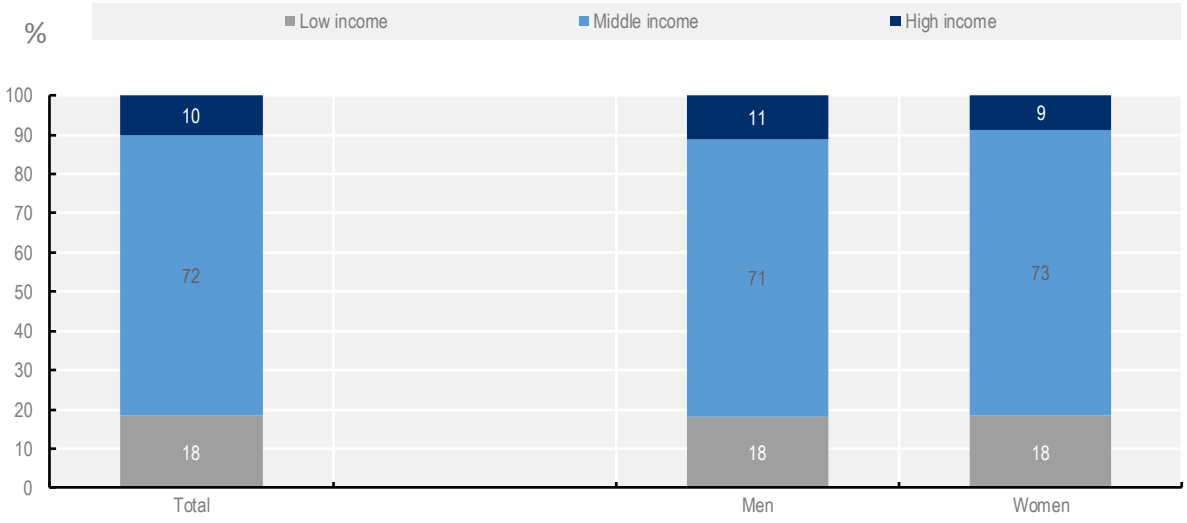
- *Income polarisation among working men:* the marked declined in the share of male workers living in middle-income households (-6.5 percentage points) coincided with a pronounced growth in the share of workers in the low-income group (largely after 2005), and weaker growth in share of workers in high-income households (largely before 2005). Total male employment grew by about 1.1 million workers over the observation period, but most strongly in low-income households. The number of male workers in the middle-income group declined by 650 000.
- *Strong employment growth among women, and relatively more in middle-income households:* The number of working women strongly expanded over the observation period, by about 4.4 million, and over half of these additional working women live in middle-income households (+2.6 million). While also among working women, the relative share living in middle-income households declined, it did to by less among working men (-3.8 percentage points). Similarly, the rise of workers in living in low-income households was smaller among women than among men. However, women did not experience the same rise in workers living in the high-income group as men.

The remainder of this chapter studies the jobs carried out by middle-income workers in Germany. Section 3.2 characterises "typical" middle-class jobs by looking at occupations and sectors of employment of middle-income workers, and at developments in the occupational and sectoral composition of

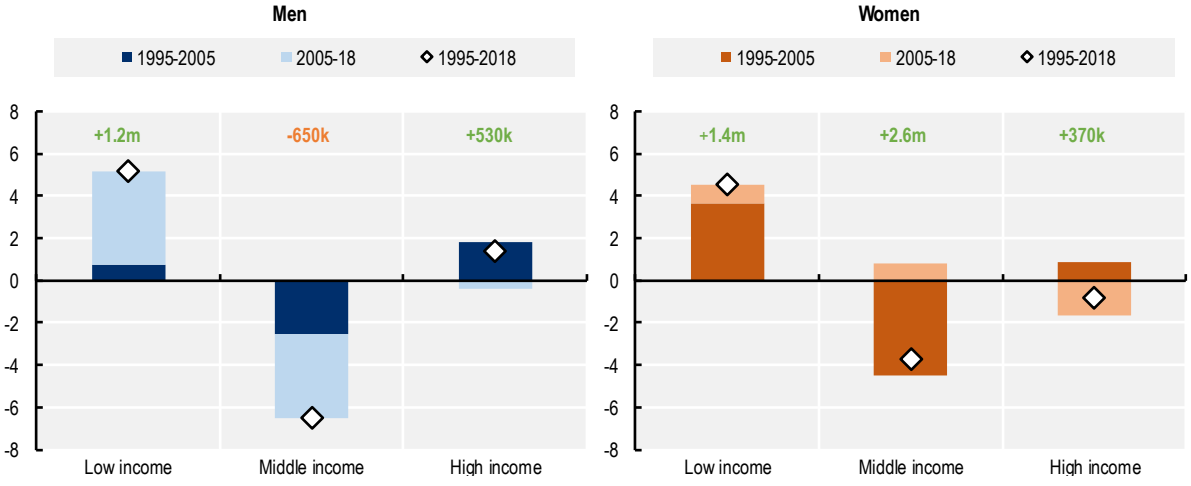
middle-income employment since the mid-1990s. Section 3.3 studies trends in the share of middle-income workers in non-standard jobs (i.e. in part-time or temporary employment or self-employed) and low-paid employment. Section 3.4 ventures an outlook into future changes in middle-income employment in Germany, providing updated evidence on the likely impact of automation on middle-income jobs and presenting growth forecasts across different occupations in Germany. Section 3.5 presents first results on the initial impact of the COVID-19 crisis on employment outcomes and incomes of middle-income workers in Germany.

Figure 3.1. Over 70% of workers live in middle-income households, and rising female labour force participation has bolstered the share of middle-income workers

Panel A. Workers by income group and gender, Germany, 2018



Panel B. Absolute and percentage changes in workers by income group and gender, Germany, 1995 to 2018



Reading note: Among male workers, the share of those living in middle-income households has declined by 6.5 percentage points, an absolute decline by 650 000 workers. Among female workers, the share of those living in the middle-income group has declined by 3.7 percentage points, but in absolute terms the number of female workers in the middle-income group has grown by 2.6 million women. This reflects the risen labour force participation of women in Germany, i.e. the increased number of working women overall.
Source: OECD calculations based on data from LIS Cross-National Data Center.

3.2. Middle-class jobs in Germany: Trends in sectoral and occupational composition

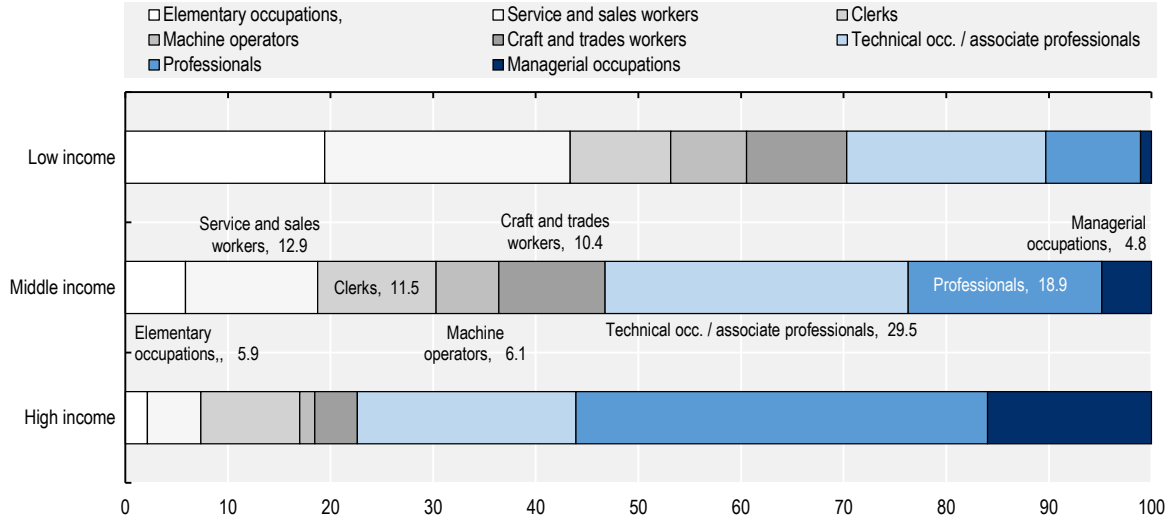
3.2.1. Most middle-income workers are in middle- and high-skilled occupations

Most middle-income workers in Germany work in high-skilled and middle-skilled occupations. In 2018, technical occupations and associate professionals made up the largest occupational group, accounting for nearly 30% of middle-income workers (Figure 3.2). This occupation group includes, for example, people working as manufacturing supervisors, associate professionals in nursing or social work, and commercial sales representatives (see Annex Table 3.A.1 for an overview). High-skilled professionals, such as mechanical engineers, software developers, secondary education teachers, and social work professionals, were the second largest occupational group, accounting for approximately 19% of middle-income workers. Middle-skilled crafts and trades workers, and clerks, each accounted for another about 10% of middle-income workers.

However, also workers in low-skilled occupations accounted for a significant share of middle-income workers in 2018, about 19%. This includes a large group of workers in elementary occupations such as manufacturing labourers, cleaners and helpers in offices, hotels and other establishments or freight handlers (together about 6%, shaded in white), but also services and sales workers (about 13%, shaded in darker white). Among low-income workers, these two low-skilled occupational groups make up over 40% of all workers, while they still make up 7% of all workers in high-income households. In most cases, these workers in low-skilled occupations will have low earnings and only make it into the middle- or even high-income group by living with a better-earning partner or having other sources of income. An implication is that policies that increase earnings of low-skilled workers, whether by helping them develop their skills or by directly raising their wages, have direct positive effects on the financial situation of middle-income households.

Figure 3.2. Most middle-income workers are in middle- and high-skilled occupations

Distribution of workers' occupations by income group, Germany, 2018



Note: Results are for working-age people (aged 18 to 64) in employment. Occupations are classified by ISCO-08 and sorted by average earnings per occupation. Low-skilled, middle-skilled and high-skilled occupations are shaded in white, grey, and blue. See Annex Table 3.A.1 for an overview of occupational classification.
Source: OECD calculations based on data from LIS Cross-National Data Center.

3.2.2. The occupational distribution has become more polarised

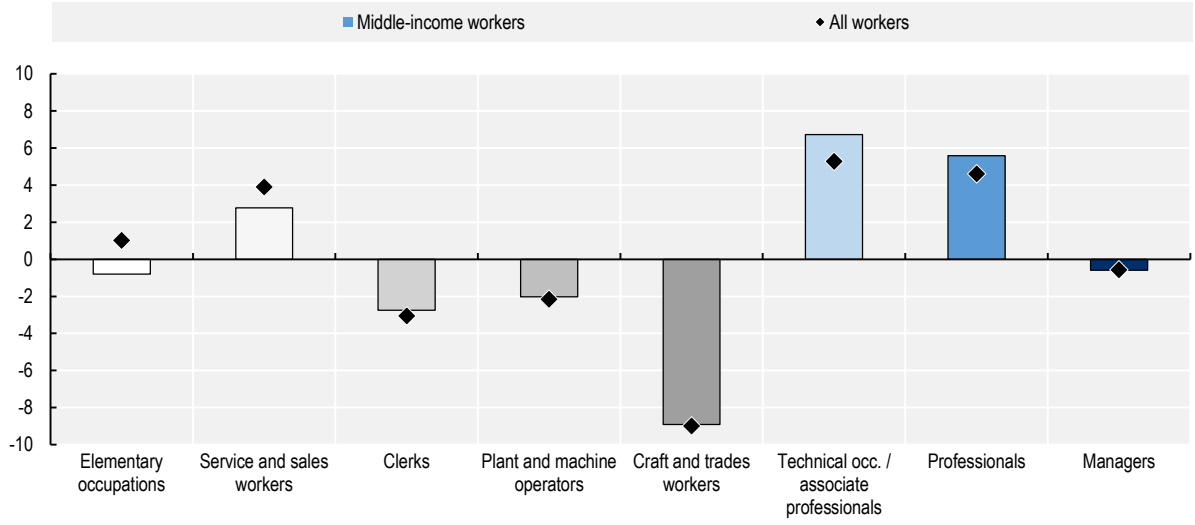
The occupational distribution in Germany has become substantially more polarised since the mid-1990s. Among all workers (Figure 3.3, black diamonds), the employment shares:

- *declined strongly for the three middle-skilled occupational groups*, by 9 percentage points craft and trades workers, 2 percentage points for plant and machine operators, and 3 percentage points for clerks;
- *rose for high-skilled professionals and technical occupations / associate professionals*, by about 5 percentage points each, and they changed little for managers;
- *increased also for low-skilled service and sales workers*, by 4 percentage points, and grew slightly also for elementary occupations.

Those results are in line with existing evidence on labour market polarisation across OECD countries (Autor, Katz and Kearney, 2006[4]; Goos and Manning, 2007[5]; Goos, Manning and Salomons, 2009[6]; OECD, 2017[7]), even as Germany has been less affected so far than many other OECD countries, including Austria and Switzerland (OECD, 2019[2]; 2021[8]).

Figure 3.3. The occupational distribution has gotten more polarised, but not more so for middle-income workers than for workers overall

Percentage-point changes in the distribution of occupations by income group, Germany, 1995-2018



Note: Occupations are classified by ISCO-08 and sorted by average earnings per occupation. High-skilled, middle-skilled and low-skilled occupations are shaded in blue, grey and white. See Annex Table 3.A.1 for an overview of occupational classification.
Source: OECD calculations based on data from LIS Cross-National Data Center.

The same trend towards labour market population is also observed when focusing on middle-income workers more narrowly (Figure 3.3, bars). Also among middle-income workers, the share of those working in middle-skilled occupations declined strongly, while increasing shares work in high-skilled and – again to a less extent – low-skilled occupations. Indeed, middle-income workers have fared slightly better than workers in Germany overall, with a greater expansion in high-skilled occupations and a weaker expansion in low-skilled occupations.

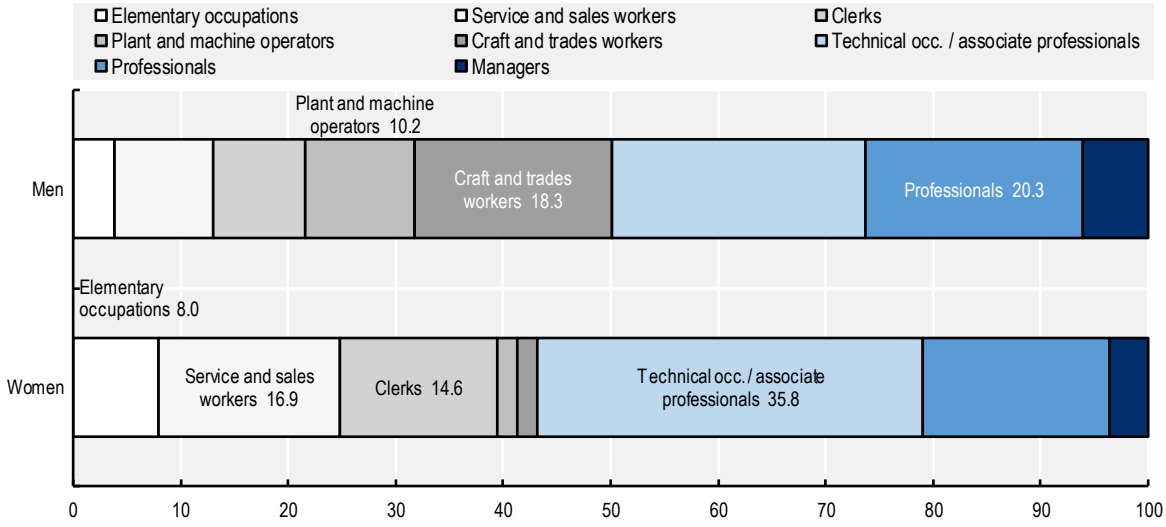
3.2.3. Female middle-income workers have been moving up the occupational ladder

There also exist substantial gender differences in the occupational distribution among middle-income workers (Figure 3.4, Panel A):

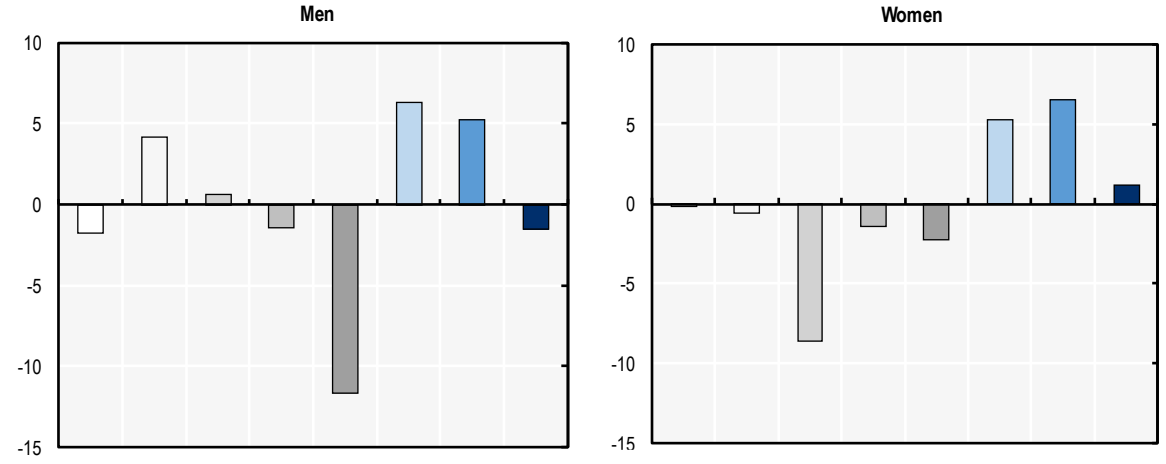
- *Male middle-income workers* are much more strongly represented among high-skilled managers and professionals and among middle-skilled crafts and trade workers and machine operators.
- *Female middle-income workers* are strongly overrepresented among the low- and lower middle-skilled occupations (elementary workers, service and sales workers, and clerks), but also among high-skilled associate professionals.

Figure 3.4. Female middle-income workers remain overrepresented in lower-skilled occupations, but they have been pushing into higher-skilled occupations

Panel A. Distribution of occupations across middle-income workers by gender, Germany, 2018



Panel B. Percentage-point changes in the distribution of occupations for middle-income workers by gender, Germany, 1995-2018



Note: Occupations are classified by ISCO-08 and sorted by average earnings per occupation. High-skilled, middle-skilled and low-skilled occupations are shaded in blue, grey and white. See Annex Table 3.A.1 for an overview of occupational classification.
Source: OECD calculations based on data from LIS Cross-National Data Center.

However, middle-income women have moved up in the occupational distribution over the last decades (Figure 3.4, Panel B). Relative to the mid-1990s, a greater share of working women is now employed in high-skilled occupations as professionals and associated professionals / technicians while the shares of women in middle-skilled occupations, and particularly clerks, declined. Also, women did not experience the same relative expansion in low-skilled occupations as men.

These results illustrate the importance of rising female labour force participation for middle-income employment in Germany. While many of the women who pushed into the labour force in the late 1990s and early 2000s live in low-income households, in many cases working part-time (see Figure 3.7), a majority are in the middle-income group (Figure 3.1). Rising female labour force participation thereby contributed to slowing the decline in the share of workers who live in middle-income households. Meanwhile, women have also been moving up the occupational ladder. While female workers remain overrepresented in low-skilled occupations, most of the employment growth happened in high-skilled occupations. Women in Germany did not experience the same occupational polarisation as men.

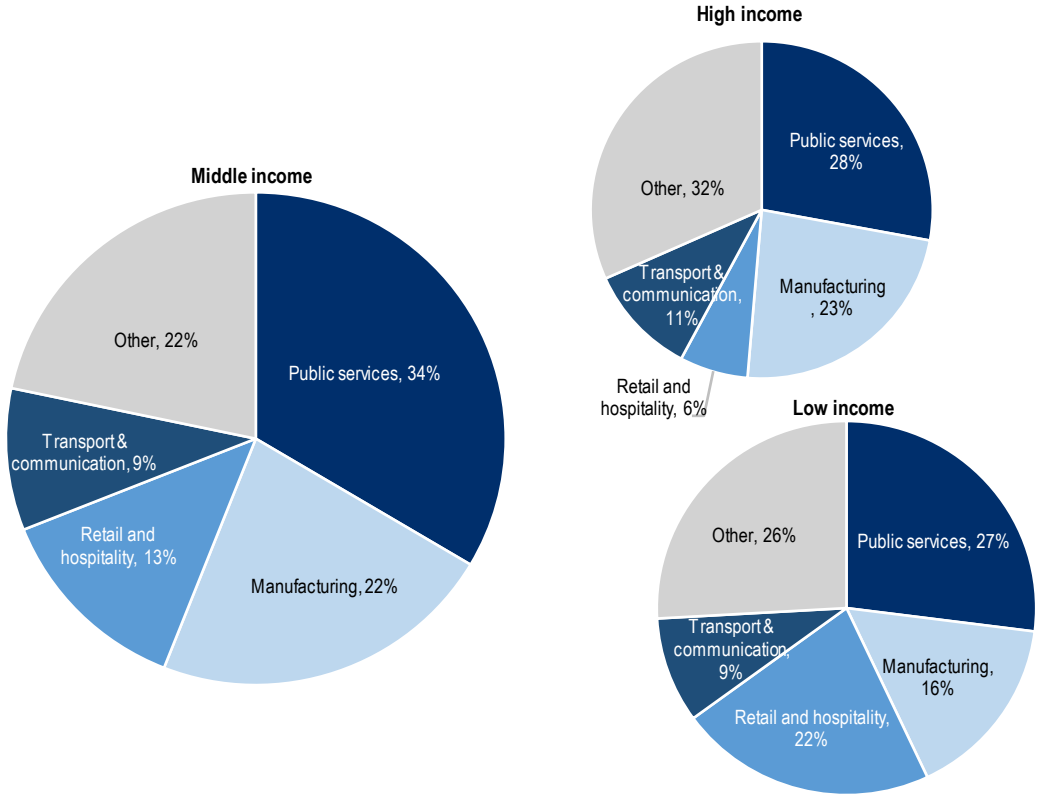
3.2.4. Middle-income workers have shifted out of manufacturing towards public services, which together account for more than half of all middle-income jobs

Workers in public services – i.e. in the public administration, the education sector, and the health and social sector (see Annex Table 3.A.2) – and in manufacturing are the backbone of middle-class employment, as well as of employment in Germany more generally.[3] Together, they account for more than half (54%) of all middle-income workers (Figure 3.5, Panel A). Middle-income workers are particularly overrepresented in public services (34% of jobs, compared to 28 and 27% among high- and low-income workers). They are also overrepresented in manufacturing, which accounted for 22% of middle-income workers – much more than for low-income workers (16%) but broadly in line with the share for high-income workers (23%). Workers in retail and restauration account for 13% of all middle-income employment, which makes it much less prominent than among low-income workers (22%).

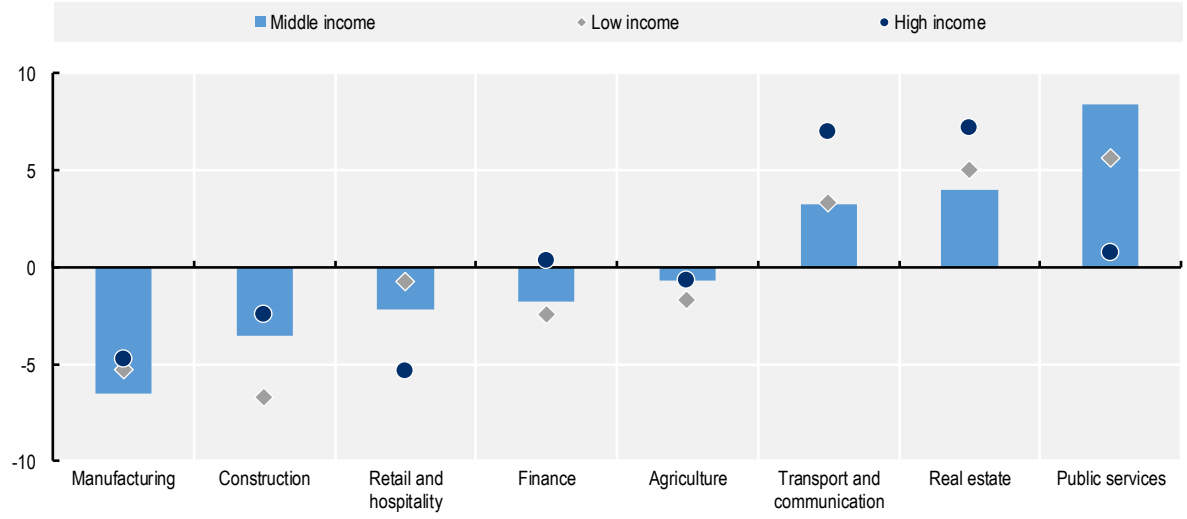
Employment shares in Germany have significantly shifted across economic sectors over the last decades, and middle-income workers have been particularly affected by those shifts (Figure 3.5, Panel B). The manufacturing sector substantially lost in relative importance, accounting for a 7 percentage-point lower employment share in 2018 than in the mid-1990s. Meanwhile, public services greatly increased their total employment share (+7 percentage points). For middle-income workers, who are strongly represented in both of these sectors, the employment shifts were of broadly the same size, at -7 percentage points for manufacturing and +8 percentage points for public services. By contrast, middle-income workers were less strongly affected by the decline in employment shares in construction and retail and hospitality, and by the expansion of the smaller real estate and transport and communication sector.

Figure 3.5. Public services and manufacturing account for half of all middle-income jobs, and the shares of middle-income jobs in manufacturing and construction have declined

Panel A. Employment by sector and income group, Germany, 2018



Panel B. Percentage-point change in the share of workers by sector and income group, Germany, 1995-2018



Note: See Annex Table 3.A.2 for an overview of industrial classification. In Panel A, the employment shares in agriculture, construction, finance, real estate and other sectors are summarised cumulatively as "Other".
Source: OECD calculations based on data from LIS Cross-National Data Center.

3.3. Middle-income workers in non-standard and low-paid work

3.3.1. Few middle-income workers are employed on temporary contracts

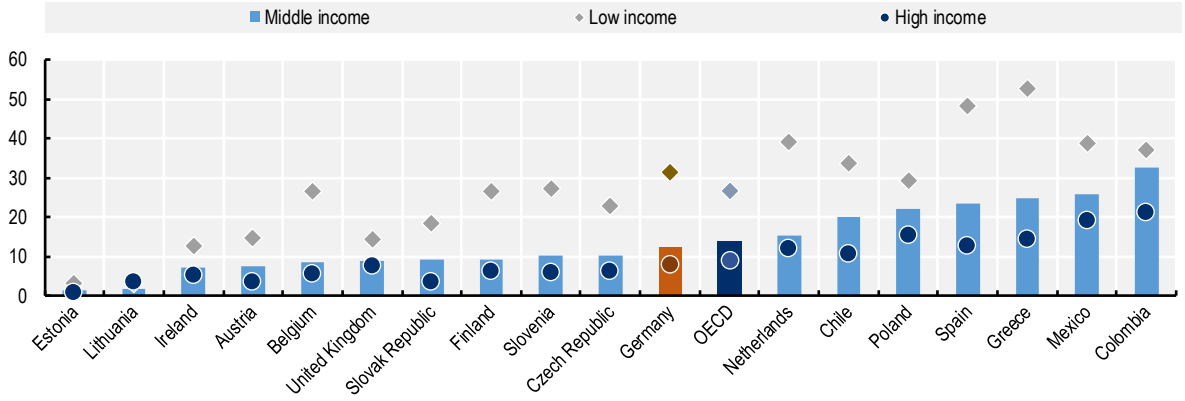
Temporary employment is not particularly widespread in Germany, whether among workers overall or middle-income workers more specifically. About 16% of workers, and 12% of middle-income workers, in Germany were employed on contracts with fixed duration (Figure 3.6, Panel A).[4] This compares to an average of 15% of workers (14% of middle-income workers) across 18 OECD countries with available data. As in most OECD countries, temporary employment is much more widespread among low-income workers, with nearly one-in-three (32%) workers in Germany employed on fixed-term contracts.

Temporary work has become more frequent in Germany since the mid-1990s mostly for workers living in households with incomes in the lower half of the income distribution. Compared to 1995, the incidence of temporary employment rose by 7 percentage points both for workers in low-income households (i.e. with incomes below 75% of the median) and lower middle-income households (75-100% of the median; Figure 3.6, Panel B). Among middle-income workers more broadly, as among high-income workers, the incidence of temporary employment grew by 3-4 percentage points. However, for workers in all income groups, this growth largely occurred in the late 1990s and early 2000s, while the incidence of temporary employment remained broadly stable or even declined thereafter.

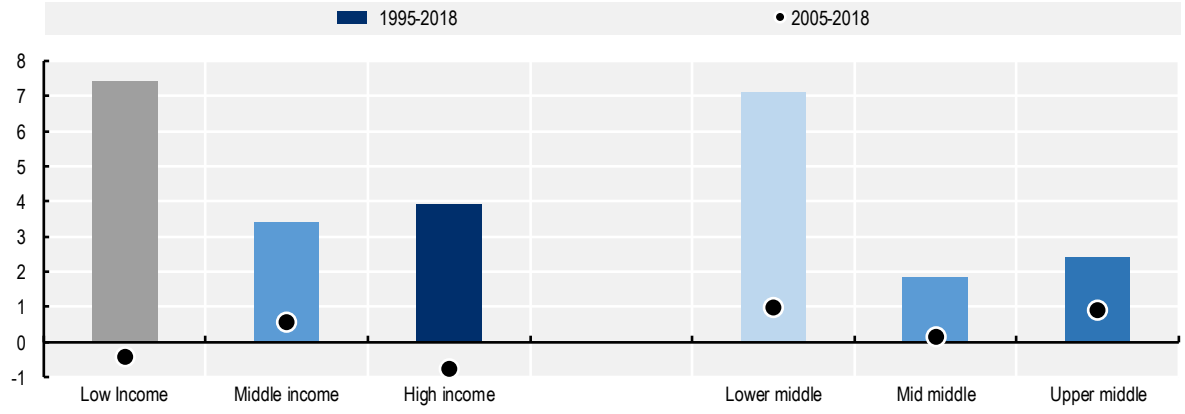
Young workers are much more likely to be employed on temporary contracts than other workers, hence having less job security at the beginning of their careers. Among 18-29 year-olds, close to half (43%) work on temporary contracts. Temporary contracts are again most widespread for young workers on low incomes, at 55%, while reaching 39% and 35% among young workers in middle- and high-income households (Figure 3.6, Panel C). The high incidence of fixed-term contracts among young people is partly driven by young people who report studying while working, a group that likely includes many apprentices. They account for over one-in-three young workers, and nearly 80% of them work on fixed term contracts. Young workers have also been the group most affected by the expansion of fixed-term contracts since the mid-1990s (+20 percentage points), though again these changes occurred before 2005.

Figure 3.6. The share of middle-income workers in temporary employment is relatively low in Germany and has remained largely stable since 2005

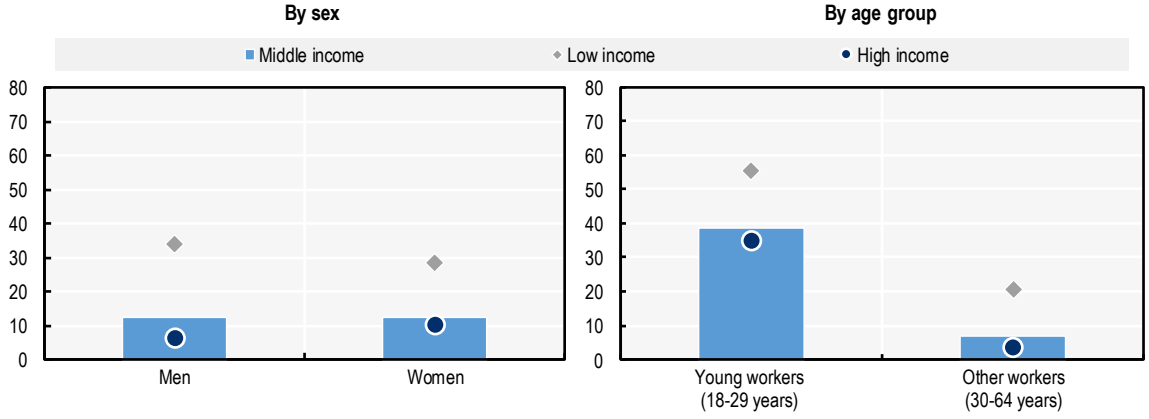
Panel A. Percentage of workers in temporary employment, by income group, selected OECD countries , 2018 or latest



Panel B. Percentage-point change in the share of workers in temporary employment, by income group, Germany, 1995-2018



Panel C. Percentage share of workers in temporary employment, by income group and sex / age group, Germany, 2018



Note: In Panel A, OECD gives the unweighted average of the 18 countries represented in the figure.
Source: OECD calculations based on data from LIS Cross-National Data Center.

3.3.2. Part-time work is widespread only among female middle-income workers

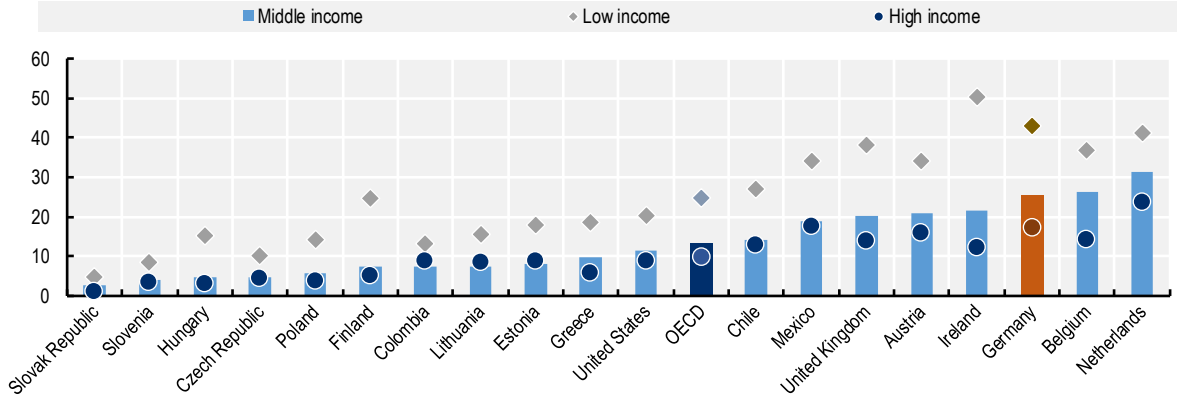
Germany experienced a considerable rise in part-time employment over the last decades, making Germany one of the countries with the highest rates of part-time employment across the OECD. This trend reflects i) growing labour force participation among women, who are much more likely than men to work part-time, and ii) a rising incidence of part-time work *among both working women and men*. A recent study of long-term labour market developments in Germany (Bönke, Harnack and Wetter, 2019[9]) shows that even as female labour force participation in West Germany nearly doubled between 1973 and 2012, from 6 to 12 million, the number of weekly hours worked by women only increased by 50%. More than one-in-five (22%) workers in Germany worked part-time in 2019 (OECD average of 15%), up from one-in-seven (14%) in 1995. Rates of part-time work were more than three-and-a-half times as high for women as for men (36 vs 10%; (OECD, 2021[10])).

As in other OECD countries, the incidence of part-time work strongly relates to household income. Part-time employment in Germany is more than twice as frequent among low- as among high-income workers (43 vs 17%; Figure 3.7, Panel A). Among middle-income workers, one-in-four (25%) work part-time. Also the rise in part-time work in Germany over the last decades was most striking among low-income workers (+19 percentage points; Figure 3.7, Panel B). Among middle-income workers, the incidence of part-time work grew by 8 percentage points, and again mostly prior to 2005, while rates of part-time work among high-income workers have remained essentially unchanged since the mid-1990s. Disparities in the incidence of part-time employment by income group are smaller for women than for men: among working women, the incidence of part-time work varies between over one-in-three (37%) high-income women to nearly half (46%) of middle-income women and two-in-three (61%) low-income women (Figure 3.7, Panel C). Among working men, more than one-in-four (28%) low-income workers, but only very few middle- and high-income workers are employed part-time.[5]

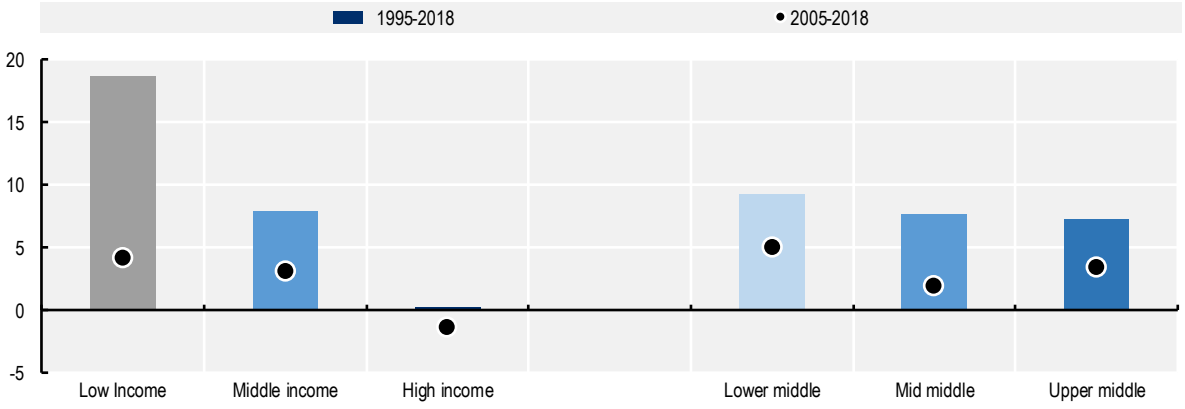
These results suggest that there is considerable scope for Germany to raise household earnings and incomes by increasing female labour force participation, including in middle-income households. Chapter 2 illustrates that one-earner-couples still make up the majority of working couples in the middle-income group, even as the share of one-and-a-half earner couples has slightly risen (Figure 2.12). This implies that policies that enable, and incentivise, women to pick up work or remain in employment can make a valuable contribution in helping households secure a middle-income status. Couples with two full earners increasingly make it into the high-income group in Germany. This underlines the potential for policies that help second earners, and notably women, raise the number of hours they work. Chapter 5, Section 5.4 discusses such policies.

Figure 3.7. Many working women across all income groups work part-time in Germany, but part-time work has expanded most strongly among low-income workers

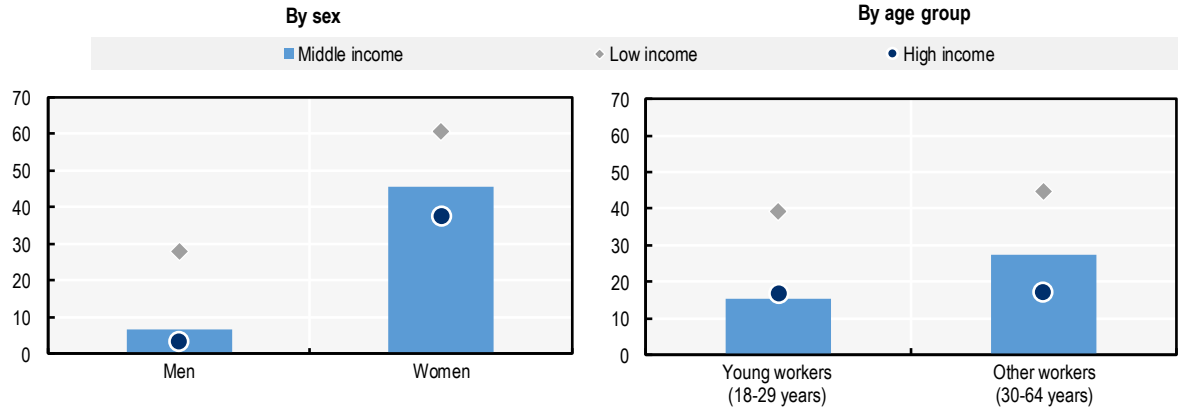
Panel A. Percentage of part-time workers, by income group, selected OECD countries, 2018 or latest



Panel B. Percentage-point change in the share of part-time workers, by income group, Germany, 1995-2018



Panel C. Percentage of part-time workers, by income group and sex / age group, Germany, 2018



Note: In Panel A, OECD gives the unweighted average of the 19 countries represented in the figure.
Source: OECD calculations based on data from LIS Cross-National Data Center.

3.3.3. Few middle-income workers in Germany are self-employed

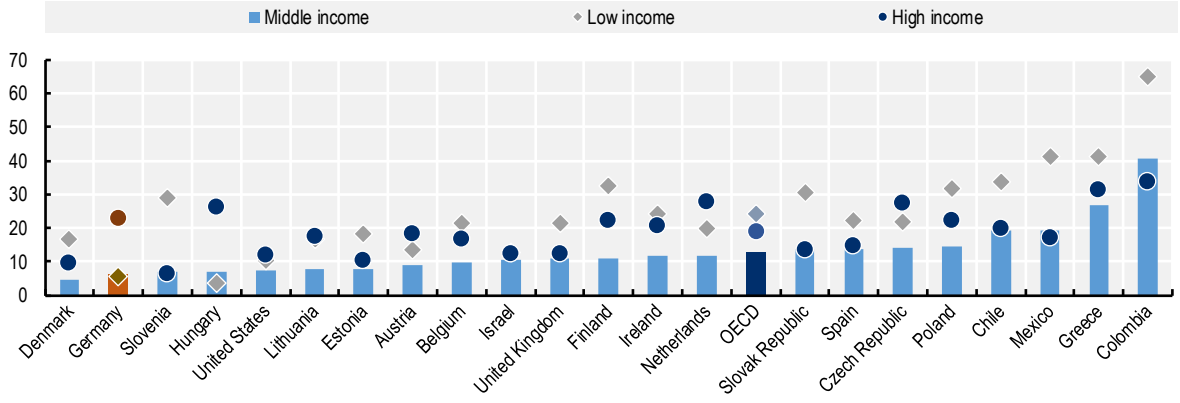
The self-employed account for a relatively small share of workers in Germany, except among high-income workers. In 2018, 8% of all workers in Germany reported being self-employed as their main activity status, one of the lowest rates of self-employment across OECD countries with available data by income level (Figure 3.8, Panel A).[6] The share was even lower among middle-income workers (6%) and low-income workers (5%), while being much higher among high-income workers (23%). This concentration of self-employment in the high-income group sets Germany somewhat apart from most other OECD countries. Besides business owners, this group includes self-employed professionals such as lawyers, psychologists, dentists, accountants, and designers. But also in other countries, rates of self-employment are generally low among middle-income workers – in a few, such as in Denmark, Finland, Poland, and the United Kingdom, self-employment is rather associated with low incomes.

The share of self-employment in Germany has slightly declined since the mid-1990s, by around 1.6 percentage points across all workers. This reflects a decline in both the low- and middle-income group, while the share of self-employed among high-income workers has risen (Figure 3.8, Panel B).

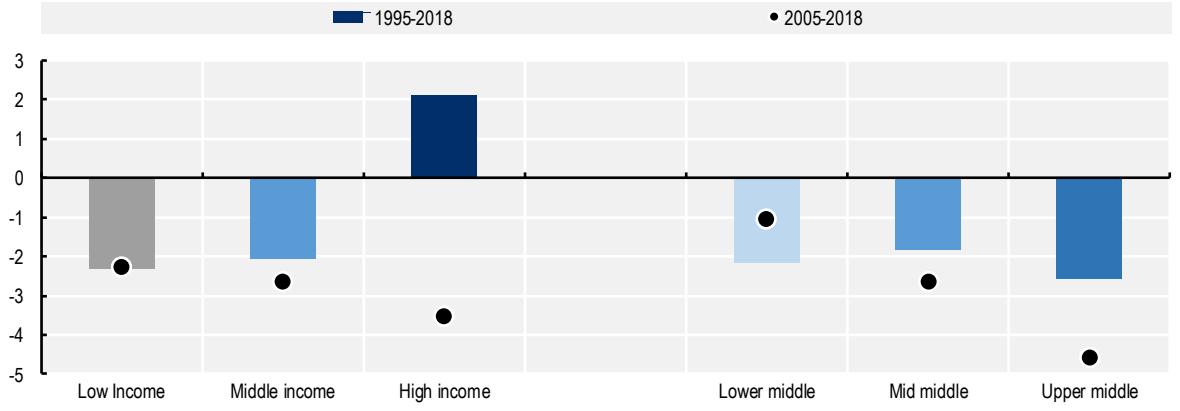
Gender differences in the rate of self-employment are small; young workers are much less likely to be self-employed than other working-age adults (Figure 3.8, Panel C).

Figure 3.8. Self-employment is widespread in Germany only among high-income workers

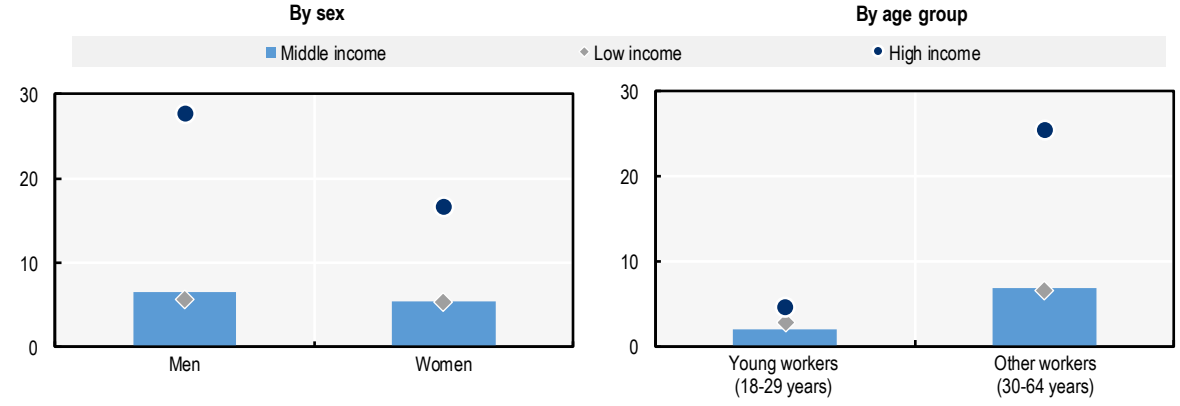
Panel A. Percentage of self-employed workers among all workers, by income group, selected OECD countries, 2018 or latest



Panel B. Percentage-point change in the share of self-employed workers, by income group, Germany, 1995-2018



Panel C. Percentage of self-employed workers, by income group and sex / age group, Germany, 2018



Note: In Panel A, OECD gives the unweighted average of the 22 countries represented in the figure.
Source: OECD calculations based on data from LIS Cross-National Data Center.

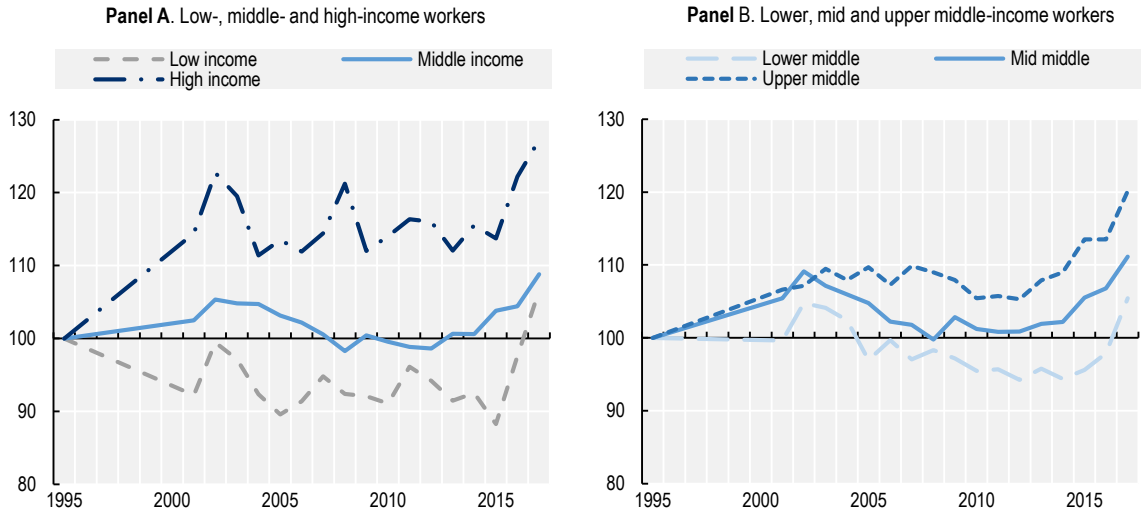
3.3.4. A sizeable minority of full-time middle-income workers are in low-paid jobs, but low-paid employment has risen only for low-income workers

With labour income being the most important income source for the large majority of households (see Chapter 2, Figure 2.9), there is good reason to believe that workers' earnings level should closely align with their income group status. But while indeed most middle-income workers have earnings that put them towards the middle of the earnings distribution, the association is by no means perfect. This is true, because incomes are assessed at the *household level*. In households with several earners, secondary earners with low earnings may still make it into the middle-income group because their partners earn well. Meanwhile, workers with comparatively high earnings may find themselves further down in the income distribution if they are the only earner in a large household. A look at the earnings levels of middle-income workers, and particularly at the incidence of very low earnings, can therefore provide useful evidence on the quality of middle-income jobs, and the share of middle-income workers in potentially precarious employment.

Middle-income workers in Germany experienced little to no earnings growth for nearly two decades since the mid-1990s, up until an uptick in earnings growth around 2015. This reflects a long period of real earnings stagnation since 2000s for workers across all income groups (Figure 3.9, Panel A). After the recent rise in real earnings, the median full-time worker in the middle-income group earned only about 9% more in 2018 than in 1995 after adjusting for inflation. Within the middle-income group, workers in the upper middle experienced somewhat larger gains (+20% relative to 1995) than those in the mid middle (+11%) and lower middle (+5%, Figure 3.9, Panel B). In spite of the compositional issues raised in the previous paragraph, these earnings developments largely mirror the trends in disposable household incomes for the different income groups in Germany discussed in Chapter 2, Figure 2.4.

Figure 3.9. Earnings disparities in Germany have remained largely stable since the early 2000s

Trends in median real earnings of full-time workers by income group, Germany, 1995-2018 (1995=100)



Note: No data are available for the years 1996-2000. The earnings data have been adjusted for inflation using a consumer price index.
Source: OECD calculations based on data from LIS Cross-National Data Center.

A sizeable minority of middle-income workers are in jobs that are low paid. Among full-time workers in the middle-income group, about one-in-six (18%) earn less than two-thirds of median earnings. However, the low-pay rate is much higher for workers in the low-income group (75%; Figure 3.10, Panel A). The focus

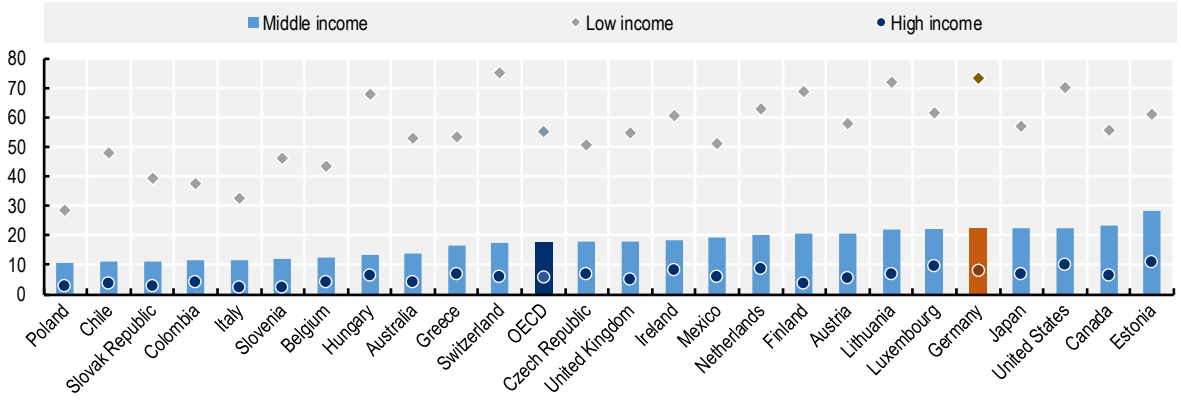
is here on full-time workers and annual earnings for comparability reasons, as good-quality data on hourly wages and usually not available across countries.[7] A clear limitation of this approach is that workers in low-paid part-time employment and marginal employment (*Minijobs*, see below) are not included. According to a recent study using SOEP data, the share of workers employed on low wages in Germany increased by 60% between the mid-1990s and 2018, with one-in-five employees having earned less than EUR 11.40 per hour gross in 2018 (Grabka and Göbler, 2020[11]).

Also when looking only at workers in full-time employment, the share of those working in low-paid jobs has increased since the mid-1990s, by around 9 percentage points. However, as for the measures of non-standard work, most of these changes occurred in the first ten years of the observation period, i.e. up to 2005. The incidence of low pay also increased only among low-income workers, while remaining stable for middle- and high-income workers (Figure 3.10, Panel B).

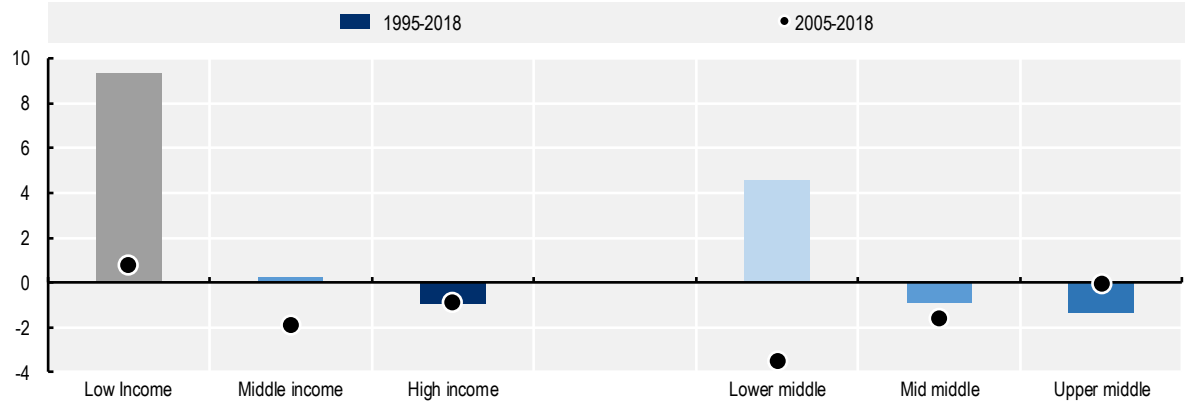
Women in the middle-income group are somewhat more likely than men to have low earnings, at low-pay rates of 22 vs. 16% (Figure 3.10, Panel C). This reflects the fact that a larger share of middle-income women work in low-skilled elementary occupations and sales and services jobs (see Figure 3.4, Panel B), for which they are often overqualified (Bönke, Harnack and Wetter, 2019[9]). Also young workers are overrepresented among those on low earnings.

Figure 3.10. About one-in-six middle-income workers have low earnings, but the low-pay rate among low-income workers is much higher

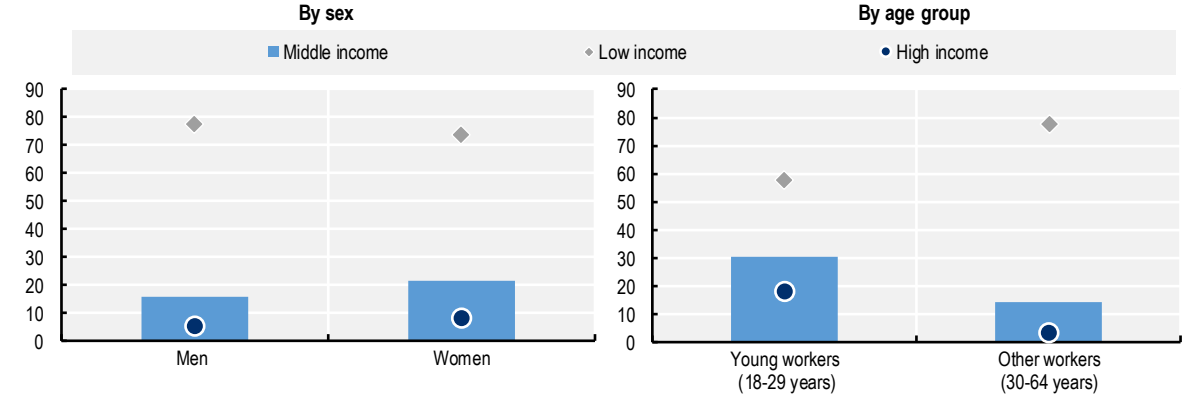
Panel A. Percentage of full-time workers who are low-paid, by income group, 2018 or latest



Panel B. Percentage-point change in the share of full-time workers who are low-paid, by income group, Germany, 1995-2018



Panel C. Percentage of full-time workers who are low-paid, by income group and sex / age group, Germany, 2018



Note: The incidence of low pay gives the share of full-time workers earning less than two-thirds of median annual earnings of full-time workers. In Panel A, OECD gives the unweighted average of the 25 countries represented in the figure.
Source: OECD calculations based on data from LIS Cross-National Data Center.

3.4. Employment prospects of middle-class workers – the risk of automation and changes in skill demand

The implications for jobs and skills of the developments in artificial intelligence and machine learning have dominated recent debates on the Future of Work and the changes brought about by digital technologies. In their landmark study, Frey and Osborne (2013[12]; 2017[13]) predicted that as many as 47% of jobs in the United States are at high risk of being automated drawing on expert assessments of the ease, or difficulty, of automating specific tasks across occupations. More recent studies, which exploit the OECD Survey of Adult Skills (PIAAC) to account for variation in the tasks involved in jobs with the same occupational title, have significantly brought down these estimates (Arntz, Gregory and Zierahn, 2016[14]; Nedelkoska and Quintini, 2018[1]; OECD, 2019[2]). According to OECD estimates, 14% of jobs OECD-wide are highly automatable, i.e. they face a probability of automation of at least 70%. Another 32% have an automation risk of between 50 and 70%, i.e. there is a possibility of significant change in the way these jobs are carried out as a result of automation (Nedelkoska and Quintini, 2018[1]).[8]

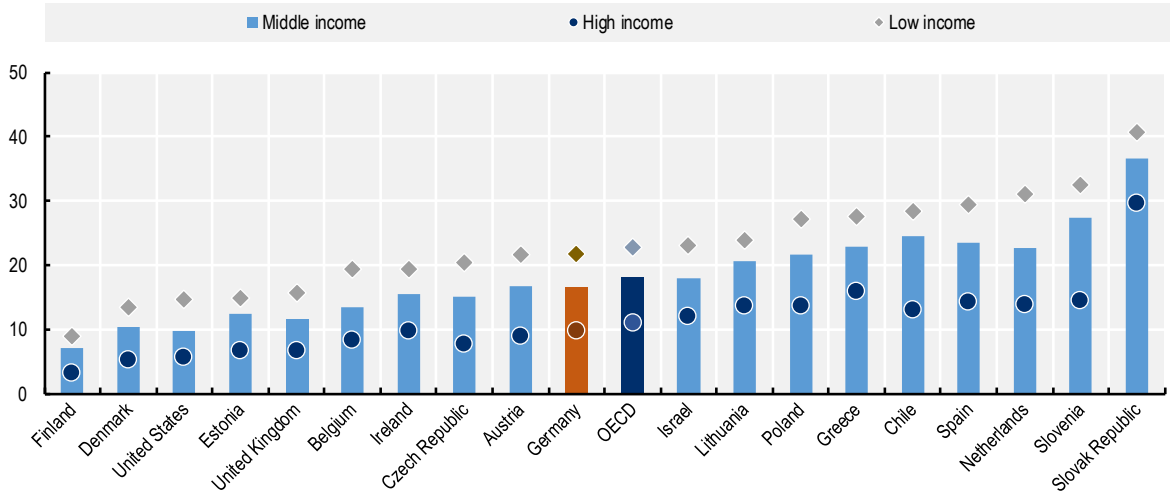
Cross-country variability in automatability is large: the share of jobs that are either highly automatable or at risk of significant change ranges from around one-in-three in some Nordic countries (Finland, Norway, Sweden) and New Zealand to nearly two-in-three in the Slovak Republic and Lithuania. In Germany, more than half (54%) of jobs are likely to be significantly affected by automation (18% of jobs are highly automatable, and a further 36% likely face significant change), well above the OECD average of 46%. Large cross-country variation in job automatability reflects a combination of differences in i) the structure of economic sectors, ii) occupational mixes within those sectors, and iii) the task content of jobs within occupations. Routine jobs with low skill requirements are most prone to automation. A recent study for Germany using administrative data indeed finds that robot exposure is associated with displacement effects in manufacturing, but that those are fully offset by new, often better-quality jobs in services (Dauth et al., 2021[15]).

3.4.1. A substantial share of middle-income workers are in occupations that are highly automatable

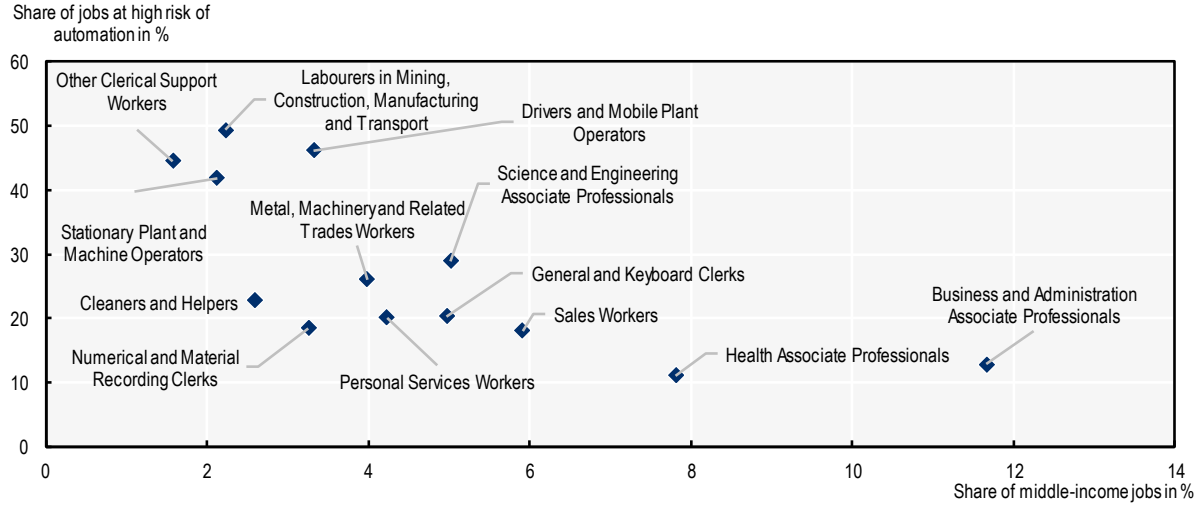
Middle-income workers in Germany face a slightly lower – but still substantial – automation risk compared to workers in Germany overall. About one-in-six (17%) middle-income workers in Germany are in jobs that are highly automatable, slightly below the average across OECD countries with available data (Figure 3.11, Panel A). As in other OECD countries, middle-income jobs are much less likely to be automated than low-income jobs (22% of jobs at high risk of automation in Germany), but substantially easier to automate than high-income jobs (10%). Those estimates were obtained by matching the occupation-specific risk produced by Nedelkoska and Quintini (2018[1]) with data on the occupational distribution of workers across income groups, as summarised in Figure 3.2.

Figure 3.11. One-in-six middle-income workers in Germany work in occupations at high risk of automation

Panel A. Share of workers in occupations at high (over 70%) risk of automation, by income group, selected OECD countries, 2018 or latest



Panel B. Occupational titles with the largest contribution to the risk of automation among middle-income workers in Germany, 2018



Note: The risk of automation is calculated by occupation and then aggregated to income groups using the income-group-specific occupation shares. Panel A is an update of Figure 3.11 in *Under Pressure* (OECD, 2019[16]). It combines the occupation-specific automation risks predicted by Nedelkoska and Quintini (2018[1]) matched with the latest data on the occupational distributions within income groups. In Panel A, OECD gives the unweighted average of the 19 countries represented in the figure.
Source: OECD calculations based on data from LIS Cross-National Data Center and PIAAC.

Occupational groups who require little or no skills at work face the highest risk of automation. Some of those occupations are represented also among middle-income workers (compare Figure 3.2), implying that these workers face a concrete risk of job and income loss. In the German middle-income group, drivers and mobile plant operators, labourers in mining, construction, manufacturing and transport, and clerical support workers face the highest automation risk (Figure 3.11, Panel B, vertical axis). Some other occupational groups with a lower share of at-risk jobs nonetheless significantly contribute to the overall automation risk for middle-income workers because they account for relatively large shares of middle-income employment. This includes different groups of associate professionals (in business and

administration, health, and science and engineering) as well as sales workers (Figure 3.11, Panel B, horizontal axis). Male middle-income workers in Germany are somewhat more likely than female workers to be employed in occupations with high automatability. This reflects gender differences in the occupational distribution documented earlier in Figure 3.4. This may imply a greater income risk for households as a result of automation, because men are in most cases the primary (or even: single) earner.

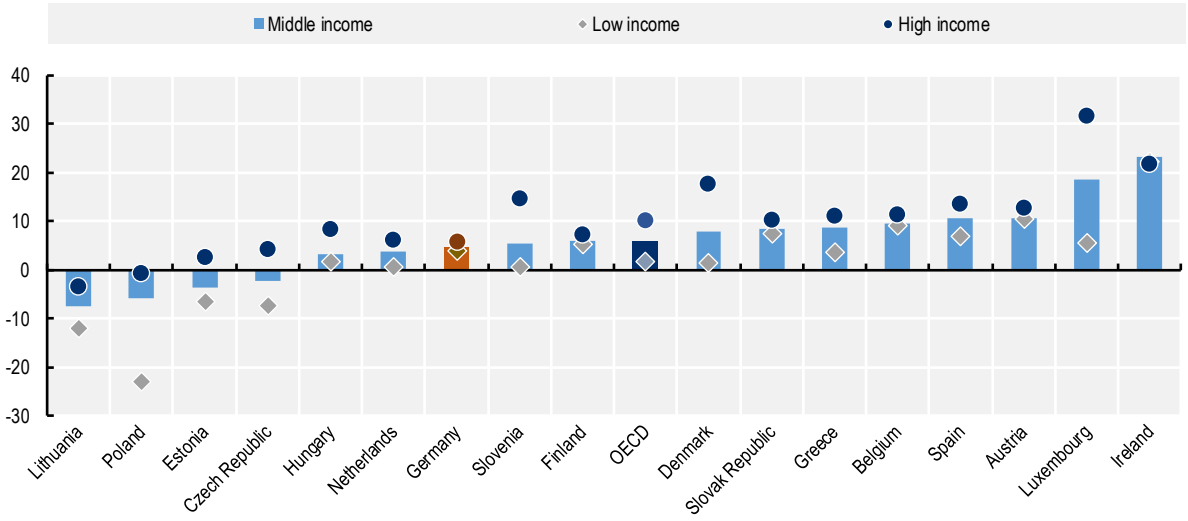
3.4.2. Growth forecasts for middle-income jobs are positive but point towards further occupational polarisation

An alternative way of assessing the employment prospects for middle-income workers is to look directly at employment growth forecasts. Such projections are available by occupational group for EU countries through the European Centre for the Development of Vocational Training for the period up to 2030 (Cedefop, 2021[17]). One limitation of these forecasts is that they currently take account only of global economic developments up to May 2019, i.e. that they do not yet consider the potential impact of the COVID-19 crisis. Still, they can give an indication of longer-term trends in skills demand and employment growth.

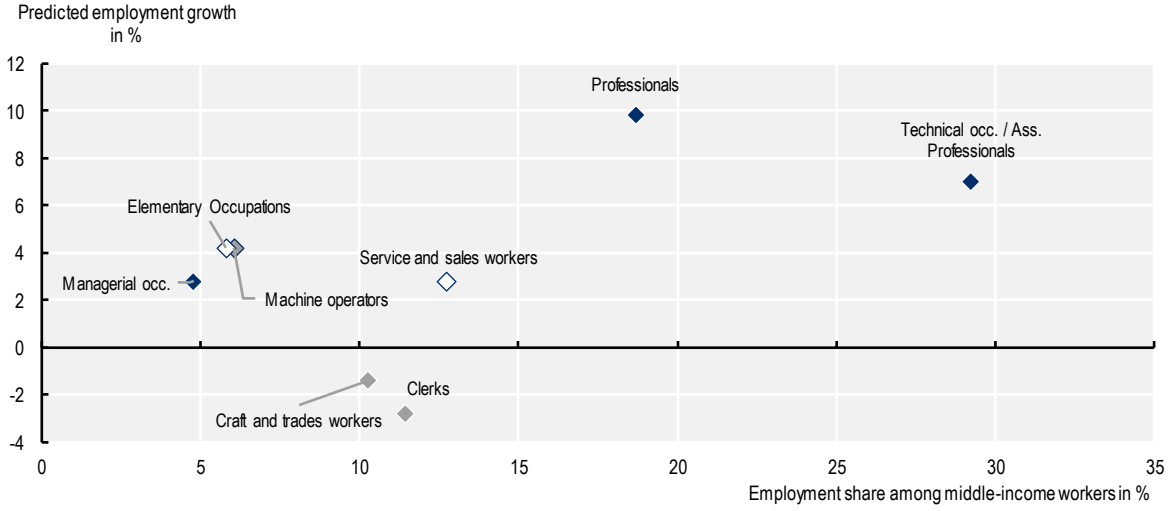
Employment growth in Germany will be positive over the next decade, with only small differences across workers in different income groups. According to Cedefop forecasts, total employment will grow by approximately 4.5% (+1.5 million workers) between 2018 and 2030, or an annual 0.3% (EU average: +0.4%). This number is identical to the employment growth forecast for middle-income workers in Germany, which can be obtained by weighing Cedefop's occupation-specific employment forecasts by the respective employment shares of occupation groups in the middle-income group (Figure 3.12, Panel A). The employment growth rate for the occupation mix in the middle-income group is higher than that for the low-income group (+3.8%), but lower than for the high-income group (+5.8%). These calculations rely on the *current* occupational mix of workers within income groups (as illustrated in Figure 3.2), i.e. they do not account for changes in the occupational distribution within income groups over the next decade.

Figure 3.12. Predicted employment growth for middle-income workers is positive but points towards further occupational polarisation

Panel A. Total predicted employment growth by income group, selected EU-OECD countries, 2018-30



Panel B. Predicted employment growth (2018-30) and employment share in the middle-income group, by occupation, Germany



Note: In Panel A, employment growth by income group was calculated by matching Cedefop's occupation-specific employment growth forecasts with LIS data on the occupational distribution of workers within income groups. OECD gives the unweighted average of the 17 countries represented in the figure. In Panel B, high-skilled, middle-skilled and low-skilled occupations are colour-coded in blue, grey and white.
Source: OECD calculations based on data from LIS Cross-National Data Center and Cedefop Employment Forecasts (http://www.cedefop.europa.eu/en/publications-and-resources/data-visualisations/skills-forecast).

However, occupation-specific growth forecasts point towards potential further polarisation of the occupational distribution in Germany. Predicted employment growth is forecast to be strong in high-skilled occupations, such as professionals (+10%), technical occupations and associate professionals (+7%), and managerial occupations (+3%). It is lower but positive also in low-skilled elementary occupations (+4%) and service and sales workers (+3%). Meanwhile, employment growth forecasts for middle-skilled occupations are more pessimistic, at +4% for machine and plant operators but -1% for craft and trades workers and -3% for clerks.

3.5. Employment outcomes and incomes of middle-class workers during the COVID-19 crisis

The COVID-19 pandemic caused a shock to OECD economies that is unparalleled in post-war history and whose societal and economic impact is still unfolding. Compared to other OECD countries, Germany has weathered the COVID-19 crisis relatively well so far (OECD, 2020[18]). OECD GDP figures released in the recent *Interim Economic Outlook* in September 2021 document a less severe economic contraction for 2020 than in other big European economies, with -4.9% drop year-on-year (OECD, 2021[18]). Also the unemployment response has been relatively mild, with Germany having reached a peak unemployment rate of 4.1% in August 2020, 0.6 percentage points above its pre-crisis level (OECD, 2021[19]). This reflects also the swift and decisive fiscal response by the German Government to support companies, workers and their families, notably through the rapid expansion of its short-time work scheme (*Kurzarbeit*). Nonetheless, the COVID-19 crisis had a massive effect on the economic situation and well-being of workers in Germany, including those in the middle-income group. The precise implications of this shock on household economic well-being are still difficult to assess, however, because standard micro data on household incomes during the crisis – such as those from the SOEP and LIS data used in this report – will not be available before late 2022.

This subsection provides first evidence on impact of the COVID-19 crisis on labour market outcomes and incomes for middle-income workers on the basis of survey data collected through the SOEP-CoV survey (Kühne et al., 2020[20]).[9] The SOEP-CoV draws on a sample of households from the regular SOEP, who have been interviewed twice so far during the first year the COVID-19 crisis, once during the first wave between April and June 2020 and a second time in January / February 2021. The results presented draw on a policy brief produced in collaboration with the Bertelsmann Stiftung and the German Institute for Economic Research, DIW (Braband et al., forthcoming[21]).

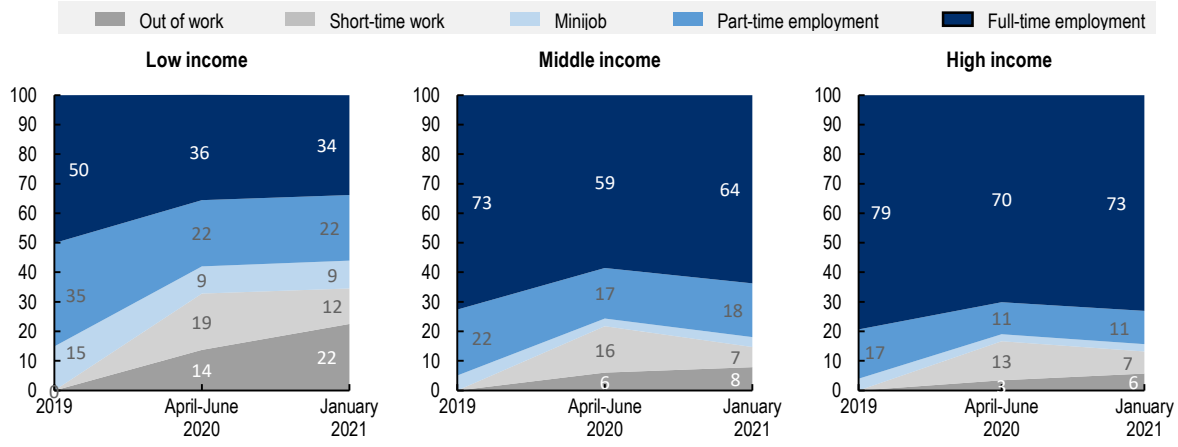
3.5.1. Short-time work prevented larger employment losses among middle-income workers during the initial phase of the COVID-19 crisis

One key pillar in OECD governments' responses to the COVID-19 crisis has been the rapid expansion – or introduction – of job retention schemes (OECD, 2020[23]; 2021[20]). Indeed, nearly all OECD governments operated such schemes during the initial phase of the crisis, in form of short-time work or wage subsidy schemes. At the peak of the first wave, in April/May 2020, about one-in-five workers in dependent employment were on job retention schemes across these countries on average, with shares in a number of countries reaching or exceeding one-in-three workers. In Germany, 15.5% of dependent workers were on *Kurzarbeit* in April/May 2020. This massive use of short-time work can be considered one of the lessons learned from the 2008-9 global financial crisis, where such schemes proved very effective at protecting jobs and incomes in Germany and a few other countries (Hijzen and Venn, 2011[22]).

SOEP-CoV data for the initial phase of the COVID-19 crisis show that *Kurzarbeit* was widely used among workers of all income groups, and that it seems to have prevented larger job losses particularly among middle- and high-income workers (Figure 3.13). According to these data, 13 to 19% of workers who had been employed in 2019 reported being on *Kurzarbeit* in April to June 2020 depending on workers' income group. By January 2021, the share of workers on *Kurzarbeit* had about halved for workers in middle- and high-income households, to 7%, while it remained high for low-income workers, at 12%. This disparity likely reflects differences in sectoral composition, with low-income workers being more likely to have been working in sectors such as hospitality, where activity took longer to pick up again after the initial phase of the crisis.[10]

Figure 3.13. Short-time work was widely used by workers across all income groups, and employment losses among middle-income workers have been comparatively modest

Labour force status of workers employed before the crisis, by income group, Germany, 2019-21, as percentages



Note: Results for 18-64 year-olds who were employed full-time, part-time or in *Minijobs* in 2019. Income groups are defined based on disposable equivalised household income for the year 2018.
Source: DIW calculations based on the SOEP v36 and SOEP-CoV 1 and 2.

In spite of the massive use of *Kurzarbeit*, a significant share of workers lost their jobs, particularly among low-income workers (Figure 3.13). By January 2021, 8% of middle-income workers and 6% of high-income workers who had been employed in 2019 were out of work; among low-income workers, the share was three times as high, at 22%. Many of these workers were likely working in jobs that did not qualify for *Kurzarbeit*, including workers in marginal employment (the so-called *Minijobs*, see also the discussion in Chapter 5) and the self-employed. These numbers include workers who left the labour market for retirement. A recent study exploiting state-level variation in the exposure to the pandemic shock and the take-up of *Kurzarbeit* suggests that in absence of the extension of short-time work, the unemployment rate could have increased by an additional 3 percentage points on average (Aiyar and Dao, 2021[23]).

Those numbers are mirrored by a decline in employment (outside of short-time work) across the different employment types. Also among middle-income workers, the share of workers employed outside of short-time work dropped significantly, but much less so than for low-income workers. Out of all middle-income people in work before the crisis in 2019 (Figure 3.13, middle panel), the share of those in

- *full-time employment* outside of short-time work had dropped by 9 percentage points by January 2021. This reflects a notable drop in employment in the initial months of the crisis (i.e. until April-June 2020), and a recovery thereafter up to January 2021;
- *part-time employment* outside of short-time work dropped by 4 percentage points, again mostly in the initial months of the crisis;
- *Minijobs* outside of short-time work declined by 2 percentage points, which corresponds to a drop by over 30% in the total number of middle-income people on *Minijobs.*

While these losses for middle-income workers up to early 2021 were broadly comparable in magnitude to those for high-income workers, low-income workers suffered a much greater drop in employment. Part of the reason is that low-income workers appear not to have benefited from an improvement in labour market outcomes during autumn and winter 2020, and that the share of workers on short-time work was higher among low-income workers. By January 2021, the shares of low-income workers in full-time employment,

part-time employment, and *Minijobs* outside short-time work had declined by 16, 13, and 6 percentage points.

3.5.2. Income losses during the COVID-19 crisis have so far been largest for workers high-income households

One of the most striking findings evolving from analysis of the economic impact of COVID-19 crisis is that disposable household incomes seem to have been affected only very little during the initial phase of the crisis, and that income inequality may indeed have *shrunk*. While standard survey data on annual disposable household incomes for the crisis years are not available yet, earlier analysis of SOEP-CoV data show that in the initial months of the crisis, income losses were largely restricted to high-income households. Meanwhile low- and middle-income households even experienced (nominal) income *gains*, possibly as a result of general pay increases (Grabka, 2021[26]). This is consistent with the results from an ad-hoc panel survey carried out among respondents in five European countries at the University of Luxembourg (Clark, D'Ambrosio and Lepinteur, 2021[25]). They show, for Germany, a decline in relative income inequality between January 2020 and 2021, driven by a slight *rise* in disposable household incomes for employees, the unemployed and the retired, and substantial income losses for the (higher-income) self-employed. Also OECD National Accounts point to a rise in gross disposable per-capita income in Germany in Q3 2020 and Q4 relative to Q4 2019, after a temporary drop in Q2 2020 (OECD, 2021[19]).

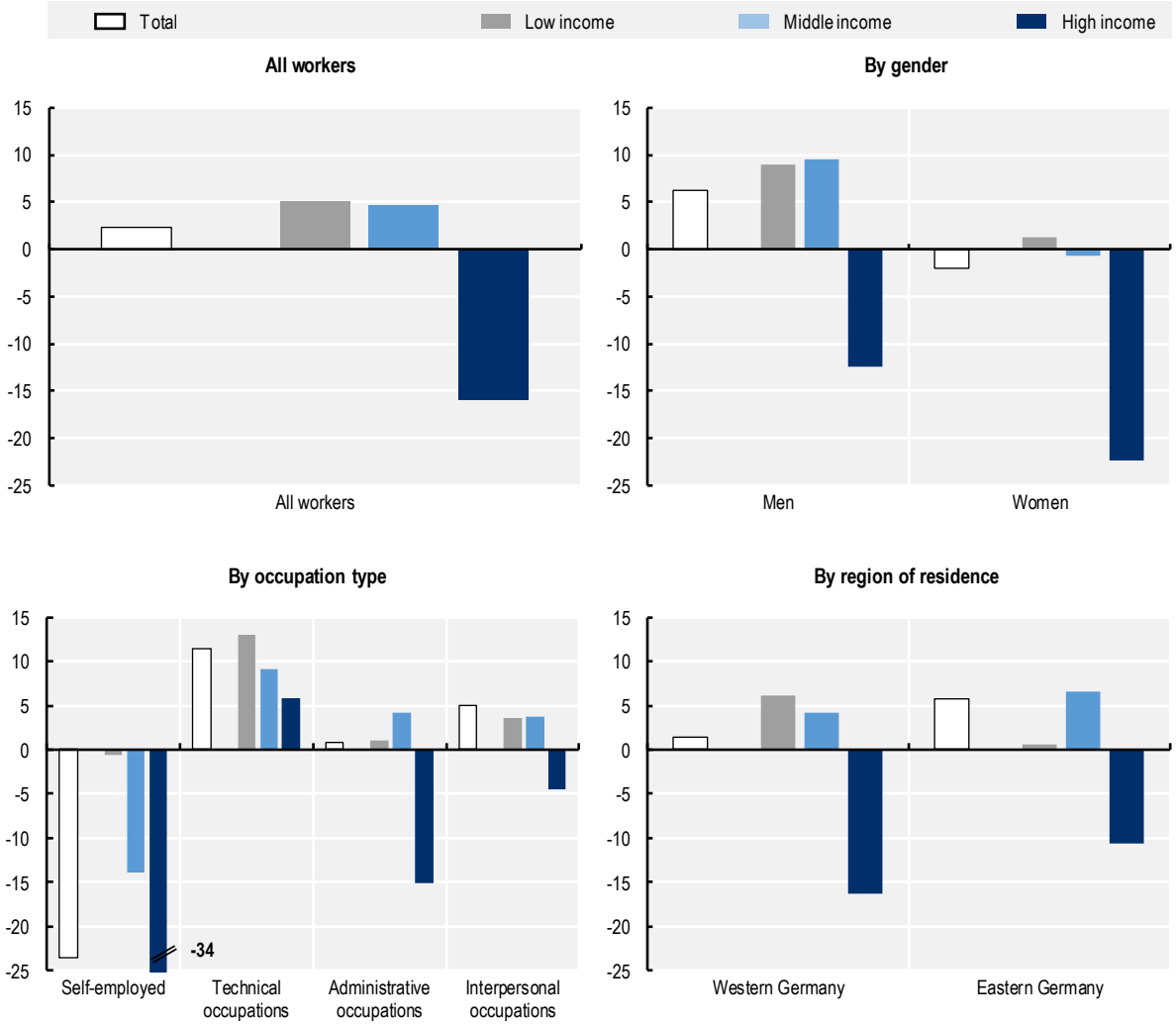
New analysis of workers' disposable incomes during the COVID-19 crisis carried out using the most recent SOEP-CoV data corroborate those results. Among workers employed in 2019, i.e. prior to the crisis, those living in middle- and low-income households experienced, on average, small gains in net monthly incomes, about +5% up to January 2021 (Figure 3.14, top-left panel). Meanwhile, workers in high-income households suffered large income losses of -16% on average. This implies that relative inequality in workers' incomes declined in Germany up to January 2021.

Income gains and losses have varied across groups of workers:

- *Women have fared, on average, much less well than men*: female workers in middle- and low-income households experienced no income growth, while those in high-income households suffered much greater income losses than high-income working men (Figure 3.14, top-right panel). This likely reflects that women were more likely to work in jobs or sectors heavily exposed to the crisis.
- *The impact of the crisis has varied across occupations*: self-employed workers have suffered the greatest income losses by far, particularly those in high-, but also in middle-income households (Figure 3.14, bottom-left panel). This likely reflects greater exposure to the economic shock (e.g. a more volatile income stream and an overrepresentation in highly affected sectors) and lesser access to government income support in the form of unemployment benefits and short-time work. High-income workers in administrative occupations also suffered strong income losses. Meanwhile, workers in technical occupations in all income groups experienced income gains over the crisis.
- *Income inequality declined much less in the east than in the west*: in eastern Germany, low-income workers experienced smaller income gains than in the west, and incomes losses for high-income workers were lower (Figure 3.14, bottom-right panel). However, middle-income workers experienced slightly stronger income growth in the east than in the west.

Figure 3.14. Income losses during the COVID-19 crisis have mostly concerned high-income workers

Percentage nominal change in monthly net household income between 2019 and January 2021 for workers employed before the crisis, by household income, Germany



Note: Results for 18-64 year-olds who were employed full-time, part-time or in *Minijobs* in 2019. Income groups are defined based on disposable equivalised household income for the year 2018. Monthly net household incomes are measured in January 2021 (SOEP CoV 2) and compared to pre-crisis values for 2019 taken from the SOEP.
Source: DIW calculations based on the SOEP v36 and SOEP-CoV 2.

3.6. Conclusions

Middle-class employment in Germany has proven quite robust, so far, to the substantial changes affecting the German labour market since the mid-1990s. The shrinking of the middle-income group in Germany also led to a decline in the share of workers living in middle-income households. However, the absolute number of middle-income workers rose as many women entered the labour market. As many OECD countries, the labour market in Germany has polarised, as middle-skilled occupations lost employment shares relative to low- and high-skilled occupations. However, high-skilled skilled occupations have experienced the strongest employment growth – both among middle-income workers and workers

more generally – and they now account for over half of all middle-income jobs in Germany. This also reflects the growing number of women working in these occupations. Temporary and part-time employment have risen among middle-income workers, but mostly in the late 1990s and early 2000s, and they remain much less widespread than for workers in other income groups. The German labour market will continue to undergo substantial transformation over the next decades, which will also strongly affect middle-class workers. About one-in-six middle-income workers are employed in occupations that are highly automatable, and hence face the risk of job and income losses. First evidence on employment and income trends during the initial phase of the COVID-19 crisis shows that middle-income workers have suffered much smaller employment losses than workers in low-income households, and that their disposable incomes have remained stable on average, thanks to comprehensive government support.

Annex 3.A. Further details on occupational categories and sectors

Annex Table 3.A.1. Overview of ISCO occupational categories

Occupational category label used in this chapter	International Standard Classification of Occupations (ISCO-88)	Tasks	Three largest occupational titles among workers in Germany, 2018	
			Men	Women
Managers	Legislators, senior officials and managers	Determining and formulating policies, planning, directing and co-ordinating	Managing Directors and Chief Executives Sales and Marketing Managers Supply, Distribution and Related Managers	Education Managers Restaurant Managers Sales and Marketing Managers
Professionals	Professionals	Increasing knowledge, applying concepts and theories to solve problems, and teaching	Mechanical Engineers Software Developers Secondary Education Teachers	Secondary Education Teachers Social Work and Counselling Professionals Vocational Education Teachers
Technical occupations and associate professionals	Technicians and associate professionals	Application of concepts and operational methods, and in teaching at certain educational levels	Manufacturing Supervisors Nursing Associate Professionals Commercial Sales Representatives	Nursing Associate Professionals Social Work Associate Professionals Accounting Associate Professionals
Craft and trades workers	Craft and related trades workers	Understand materials and tools, all stages of production and intended use of final product	Agricultural and Industrial Machinery Mechanics and Repairers Motor Vehicle Mechanics and Repairers Metal Working Machine Tool Setters and Operators	Product Graders and Testers Craft and Related Workers Not Elsewhere Classified Motor Vehicle Mechanics and Repairers
Plant and machine operators	Plant and machine operators and assemblers	Operate and monitor large scale, highly automated, industrial machinery and equipment	Heavy Truck and Lorry Drivers Car, Taxi and Van Drivers Lifting Truck Operators	Food and Related Products Machine Operators Car, Taxi and Van Drivers Electrical and Electronic Equipment Assemblers
Clerks	Clerks	Secretarial duties, operating word processors and other office machines, computing data	Stock Clerks General Office Clerks	General Office Clerks Secretaries (general)

Occupational category label used in this chapter	International Standard Classification of Occupations (ISCO-88)	Tasks	Three largest occupational titles among workers in Germany, 2018	
			Men	Women
			Bank Tellers and Related Clerks	Bank Tellers and Related Clerks
Sales and service workers	Service workers and shop and market sales workers	Provide personal and protective services, and to sell goods in shops or at markets	Shop Sales Assistants Building Caretakers Cooks	Shop Sales Assistants Waiters Health Care Assistants
Elementary occupations	Elementary occupations	Routine tasks, involving the use of hand-held tools and limited personal initiative or judgement	Manufacturing Labourers Not Elsewhere Classified Freight Handlers Cleaners and Helpers in Offices, Hotels and Other Establishments	Cleaners and Helpers in Offices, Hotels and Other Establishments Kitchen Helpers Domestic Cleaners and Helpers

Note: Occupations sorted in descending order of workers' average earnings in Germany in 2018.
Source: ILO (2004[26]) and OECD calculations based on data from LIS Cross-National Data Center.

Annex Table 3.A.2. Overview of ISIC sectors

Sector classification used in this chapter	International Standard Industrial Classification (ISIC)	Three largest industries among workers in Germany, 2018	
		Men	Women
Agriculture	Agriculture, hunting and forestry Fishing	Crop and animal production, hunting and related services Forestry and logging Fishing and aquaculture	Crop and animal production, hunting and related services Forestry and logging Fishing and aquaculture
Manufacturing	Mining and quarrying Manufacturing Electricity, gas and water supply	Manufacture of motor vehicles, trailers and semi-trailers Manufacture of machinery and equipment n.e.c. Manufacture of fabricated metal products, except machinery	Manufacture of food products Manufacture of motor vehicles, trailers and semi-trailers Manufacture of electrical equipment
Construction	Construction	Specialised construction activities Construction of buildings Civil engineering	Specialised construction activities Construction of buildings Civil engineering
Retail and hospitality	Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods Hotels and restaurants	Retail trade, except of motor vehicles and motorcycles Food and beverage service activities Wholesale trade, except of motor vehicles and motorcycles	Retail trade, except of motor vehicles and motorcycles Food and beverage service activities Wholesale trade, except of motor vehicles and motorcycles
Transport and communication	Transport, storage and communications	Computer programming, consultancy and related activities Land transport and transport via pipelines	Computer programming, consultancy and related activities Postal and courier activities

Sector classification used in this chapter	International Standard Industrial Classification (ISIC)	Three largest industries among workers in Germany, 2018	
		Men	Women
		Warehousing and support activities for transportation	Warehousing and support activities for transportation
Finance	Financial intermediation	Financial service activities, except insurance and pension Insurance, reinsurance and pension funding, except social security Activities auxiliary to financial service and insurance activities	Financial service activities, except insurance and pension Insurance, reinsurance and pension funding, except social security Activities auxiliary to financial service and insurance activities
Real estate	Real estate, renting and business activities	Services to buildings and landscape activities Architectural and engineering activities; technical testing/analysis Legal and accounting activities	Services to buildings and landscape activities Legal and accounting activities Real estate activities
Public services	Public administration and defence; compulsory social security Education Health and social work	Public administration and defence; compulsory social security Human health activities Education	Human health activities Education Public administration and defence; compulsory social security
Other	Other community, social and personal service activities Activities of private households as employers and undifferentiated production activities of private households Extraterritorial organisations and bodies	Creative, arts and entertainment activities Activities of membership organisations Sports activities and amusement and recreation activities	Activities of membership organisations Other personal service activities Activities of households as employers of domestic personnel

Source: United Nations (2002[27]) and OECD calculations based on data from LIS Cross-National Data Center.

References

Aiyar, S. and M. Dao (2021), "The Effectiveness of Job-Retention Schemes: COVID-19 Evidence From the German States", *IMF Working Paper*, No. 2021/242, IMF, Washington D.C., https://www.imf.org/en/Publications/WP/Issues/2021/10/01/The-Effectiveness-of-Job-Retention-Schemes-COVID-19-Evidence-From-the-German-States-474182. [25]

Arntz, M., T. Gregory and U. Zierahn (2016), "The Risk of Automation for Jobs in OECD Countries: A Comparative Analysis", *OECD Social, Employment and Migration Working Papers*, No. 189, OECD Publishing, Paris, https://dx.doi.org/10.1787/5jlz9h56dvq7-en. [14]

Autor, D., L. Katz and M. Kearney (2006), "The Polarization of the U.S. Labor Market", *American Economic Review*, Vol. 96/2, pp. 189-194, http://dx.doi.org/10.1257/000282806777212620. [4]

Bonin, H., T. Gregory and U. Zierahn (2015), "Übertragung der Studie von Frey/Osborne (2013) auf Deutschland", *ZEW Kurzexpertise*, No. 57, Zentrum für Europäische Wirtschaftsforschung (ZEW), Mannheim, ftp://ftp.zew.de/pub/zew-docs/gutachten/Kurzexpertise_BMAS_ZEW2015.pdf. [32]

Bönke, T., A. Harnack and M. Wetter (2019), *Wer gewinnt? Wer verliert? Die Entwicklung auf dem deutschen Arbeitsmarkt seit den frühen Jahren der Bundesrepublik bis heute*, Bertelsmann Stiftung, Gütersloh, http://dx.doi.org/10.11586/2019014. [9]

Braband, C. et al. (forthcoming), "Income trends during the first year of the COVID-19 crisis", *OECD Policy Brief*. [22]

Brzeski, C. and I. Burk (2015), "Die Roboter kommen - Folgen der Automatisierung für den deutschen Arbeitsmarkt", *INGDiBa Economic Research*, No. 30. [30]

Cedefop (2021), *Skills Forecast*, https://www.cedefop.europa.eu/en/publications-and-resources/data-visualisations/skills-forecast. [17]

Clark, A., C. D'Ambrosio and A. Lepinteur (2021), "The fall in income inequality during COVID-19 in four European countries", *The Journal of Economic Inequality*, http://dx.doi.org/10.1007/s10888-021-09499-2. [27]

Dauth, W. et al. (2021), "The Adjustment of Labor Markets to Robots", *Journal of the European Economic Association*, http://dx.doi.org/10.1093/jeea/jvab012. [15]

Dengler, K. and B. Matthes (2018), "The impacts of digital transformation on the labour market: Substitution potentials of occupations in Germany", *Technological Forecasting and Social Change*, Vol. 137, pp. 304-316, http://dx.doi.org/10.1016/j.techfore.2018.09.024. [31]

European Commission (2017), "Attitudes towards the impact of digitisation and automation on daily life", *Special Eurobarometer*, No. 460, https://europa.eu/eurobarometer/surveys/detail/2160. [3]

Frey, C. and M. Osborne (2017), "The future of employment: How susceptible are jobs to computerisation?", *Technological Forecasting and Social Change*, Vol. 114, pp. 254-280, http://dx.doi.org/10.1016/j.techfore.2016.08.019. [13]

Frey, C. and M. Osborne (2013), "The Future of Employment: How Susceptible Are Jobs to Computerisation?", Oxford Martin School, University of Oxford, https://www.oxfordmartin.ox.ac.uk/downloads/academic/The_Future_of_Employment.pdf. [12]

Goos, M. and A. Manning (2007), "Lousy and Lovely Jobs: The Rising Polarization of Work in Britain", *Review of Economics and Statistics*, Vol. 89/1, pp. 118-133, http://dx.doi.org/10.1162/rest.89.1.118. [5]

Goos, M., A. Manning and A. Salomons (2009), "Job Polarization in Europe", *American Economic Review*, Vol. 99/2, pp. 58-63, http://dx.doi.org/10.1257/aer.99.2.58. [6]

Grabka, M. (2021), "Income Inequality in Germany Stagnating over the Long Term, But Decreasing Slightly during the Coronavirus Pandemic", *DIW Weekly Report 17+18/2021*, pp. 125-133, https://doi.org/10.18723/diw_dwr:2021-17-1. [26]

Grabka, M. and K. Göbler (2020), *Der Niedriglohnsektor in Deutschland: Falle oder Sprungbrett für Beschäftigte?*, Bertelsmann Stiftung, Gütersloh, https://www.bertelsmann-stiftung.de/fileadmin/files/BSt/Publikationen/GrauePublikationen/200624_Studie_Niedriglohnsektor_DIW_final.pdf. [11]

Hijzen, A. and D. Venn (2011), "The Role of Short-Time Work Schemes during the 2008-09 Recession"*, OECD Social, Employment and Migration Working Papers*, No. 115, OECD Publishing, Paris, https://dx.doi.org/10.1787/5kgkd0bbwvxp-en. [24]

ILO (2004), *International Standard Classification of Occupations - Summary of Major Groups*, https://www.ilo.org/public/english/bureau/stat/isco/isco88/publ4.htm. [28]

Kühne, S. et al. (2020), "The need for household panelsoep-covsurveys in times of crisis: The case of SOEP-CoV", *Survey Research Methods*, Vol. 14/2, pp. 195-203, http://dx.doi.org/10.18148/srm/2020.v14i2.7748. [21]

Nedelkoska, L. and G. Quintini (2018), "Automation, skills use and training"*, OECD Social, Employment and Migration Working Papers*, No. 202, OECD Publishing, Paris, https://dx.doi.org/10.1787/2e2f4eea-en. [1]

OECD (2021), *Continuing Education and Training in Germany*, OECD, http://dx.doi.org/10.1787/1f552468-en. [8]

OECD (2021), *OECD Economic Outlook, Interim Report September 2021: Keeping the Recovery on Track*, OECD Publishing, Paris, https://dx.doi.org/10.1787/490d4832-en. [19]

OECD (2021), *OECD Employment Outlook 2021*, OECD, http://dx.doi.org/10.1787/5a700c4b-en. [33]

OECD (2021), *OECD Employment Outlook 2021: Navigating the COVID-19 Crisis and Recovery*, OECD Publishing, Paris, https://dx.doi.org/10.1787/5a700c4b-en. [20]

OECD (2021), *OECD Labour Force Statistics - Full-time Part-time employment*, https://stats.oecd.org/Index.aspx?DataSetCode=FTPTC_I. [10]

OECD (2021), *OECD Labour Force Statistics - Incidence of permanent employment*, https://stats.oecd.org/Index.aspx?DataSetCode=TEMP_I. [34]

OECD (2020), *Job retention schemes during the COVID-19 lockdown and beyond*, OECD, Paris, https://www.oecd.org/coronavirus/policy-responses/job-retention-schemes-during-the-covid-19-lockdown-and-beyond-0853ba1d/. [23]

OECD (2020), *OECD Economic Surveys: Germany 2020*, OECD Publishing, Paris, https://dx.doi.org/10.1787/91973c69-en. [18]

OECD (2019), *OECD Employment Outlook 2019: The Future of Work*, OECD Publishing, Paris, https://dx.doi.org/10.1787/9ee00155-en. [2]

OECD (2019), *Under Pressure: The Squeezed Middle Class*, OECD Publishing, Paris, https://dx.doi.org/10.1787/689afed1-en. [16]

OECD (2017), *OECD Employment Outlook 2017*, OECD Publishing, Paris, https://dx.doi.org/10.1787/empl_outlook-2017-en. [7]

United Nations (2002), "International Standard Industrial Classification of All Economic Activities (ISIC) Revision 3.1", *Statistical Papers Series M*, No. No. 4, Rev. 3.1, Department of Economic and Social Affairs Statistics Division, New York, https://unstats.un.org/unsd/publication/seriesm/seriesm_4rev3_1e.pdf. [29]

Notes

[1] This chapter makes no assumption on these workers' *wages* or *earnings*: also people on low wages or working few hours qualify as "middle-income workers" if they live in a middle-household. This may be the case if there are other earners, or sources of income, in the household. The definition employed in this chapter includes workers who are also enrolled in education, including apprentices.

[2] The statistical analysis is again largely based on data from the Luxembourg Income Study Database (LIS; https://www.lisdatacenter.org/), which for Germany uses microdata from the German Socio-Economic Panel (SOEP), with income information up to 2018. The results presented are regularly cross-checked against data from labour force surveys, which provide more robust information on labour market outcomes but generally do not include information on workers' incomes.

[3] Not all of these jobs in public services are necessarily also public-*sector* jobs. This group also includes people working in private hospitals and non-governmental childcare institutions.

[4] These LIS-based figures are largely consistent with those for total employment from the OECD *Labour Force Statistics* (OECD, 2021[32]), which draw on more precise labour force survey data that, however, cannot be broken down by household income. According to the most recent 2019 data, 12.0% of dependent workers in Germany were in temporary employment, compared to 12.1% across OECD countries on average. The incidence of temporary employment in Germany has risen between 1995 and 2008, from 10.4 to 14.7%, but declined again thereafter.

[5] The LIS-based rates of part-time work shown in Figure 3.7 are a bit higher than those from the OECD *Labour Force Statistics* (OECD, 2021[10]) cited further up in the same subsection. This may reflect differences in the age groups considered (18-65 in the LIS analysis vs. all ages in the official OECD data), but also differences in data quality.

[6] LIS data only provide information on people's main activity status. Dependent workers, who additionally engage in some activities as self-employed, are therefore not considered as self-employed in this analysis. This may include for instance craft and trades workers, who are employed by a company and work a few hours as self-employed on the side, or workers who offer any sort of services via online platforms in addition to their main job as dependent employees.

[7] The analysis applies the definition of low pay from the OECD *Earnings Distribution Database*, which however uses data on monthly rather than annual earnings for most countries (https://www.oecd.org/employment/emp/employmentdatabase-earningsandwages.htm). For further results, see also Table O in the Statistical Annex of the latest *Employment Outlook* (OECD, 2021[31]).

[8] Frey and Osborne (2017[13]) use an occupation-based approach assuming that whole occupations rather than single job tasks are automated by technology, and found that 47% of jobs in the United States are at high risk of being automated in the next ten to 20 years. Other studies that have applied the same methodology to German data have estimated similarly high values (Bonin, Gregory and Zierahn, 2015[30]; Brzeski and Burk, 2015[28]). Later studies, such as the OECD work cited in this paragraph, have used tasked-based approaches, i.e. taken into account the heterogeneity of workers' tasks within occupation, and estimated much lower values. Those results are in line also with a study by Dengler and Matthes (2018[29]), who – using a task-based approach – estimate that 15% of jobs in Germany are at high risk of being automated.

[9] For further information, see https://www.soep-cov.de/Home/Home_en/index.php/.

[10] These numbers are broadly in line with the shares reported in official statistics. Based on administrative data from the German Federal Employment Agency, the OECD estimates that about 15.5% of dependent employees in Germany were on *Kurzarbeit* in April/May 2020. By February/March 2021, the rate had dropped to 8.4% (OECD, 2021[31]).

4 A spotlight on social mobility in the German middle class

Valentina Sara Consiglio and Sebastian Königs

This chapter examines short-term income dynamics in Germany since the mid-1990s. It first focuses on the mobility patterns of people in the middle-income group over a four-year interval, looking at trends in their risks of sliding out of the middle, and of experiencing poverty, and their opportunities of rising out towards the top. It then looks at changes in the upward mobility into the middle-income group for low-income households. The last part of the chapter zooms in on the changes in income dynamics for different socio-economic groups, disaggregating results by age, level of educational attainment and occupational class, migrant background, and region of residence.

4.1. Income mobility in the German middle class: risks and opportunities

The level of social mobility[1] is an important characteristic of a social market economy. The promise of moving up the income ladder, and the welfare state's capacity to protect people from substantial income losses and to guarantee a minimum standard of living are cornerstones of an inclusive growth regime that encourages risk taking by limiting possible downsides for each individual. At the same time, access to economic opportunities for all groups in society is important to promote social cohesion and secure broad support for democratic institutions. This increases economic stability.

The general claim towards the social market economy in Germany is that educational achievement and hard work are rewarded with palpable opportunities for upward mobility independently of one's socio-economic background and thus pay off over the course of a career. A certain degree of downward mobility from higher-income groups is acceptable, and even desired, but should be cushioned by the welfare state, offering social security to everyone.

This section analyses social risks and opportunities in Germany, in particular for middle-income people, by analysing mobility patterns in relative income[2] positions over time using data from the German Socio-Economic Panel (SOEP). Specifically, the section examines:

- *Trends in upward and downward mobility for people on middle-incomes*, i.e. their chances of rising out into the high-income group and the risk of dropping out into the low-income group;
- *Trends in upward mobility into the middle-income group*, i.e. low-income people's chances of rising up;
- *Socio-economic differences in these opportunities and risks*, i.e. the extent to which upward and downward mobility vary, and have evolved differently, across people depending on their age, level of educational attainment and occupational class, on where they live, and on whether or not they have a migration background.

The chapter's analytical approach differs from that in the previous chapters in that it employs a *longitudinal* perspective, i.e. traces income mobility patterns for working-age people over time (see Box 4.1). It focusses on the changes people experience in their relative income position from one period to another and thereby complements the previous assessment of risks and opportunities for aggregated groups of the German middle class.

4.1.1. Incomes in Germany are highly persistent, more so than they were in the late 1990s

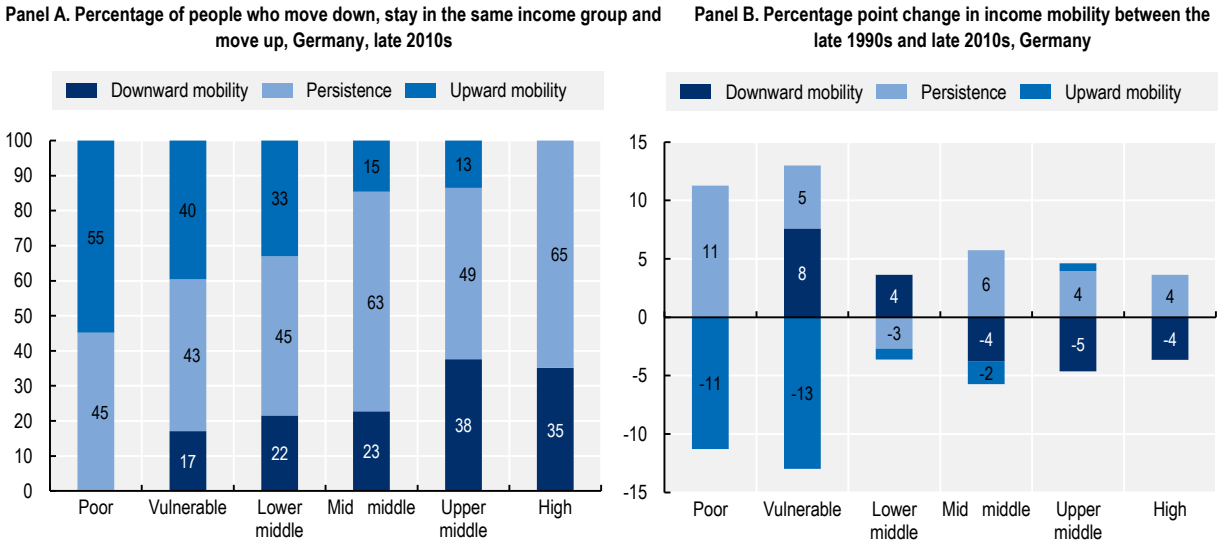
Incomes in Germany are quite persistent over short time periods, particularly in the middle and at the top of the income distribution. About 63% of the people who live on incomes towards the middle of the distribution (mid middle-income group; 100-150% of the median)[3] are still in that same income group four years later (Figure 4.1, Panel A). Also 65% of high-income people (incomes above 200% of the median) remain in their income group.[4] For people in the other income groups, persistence rates average around 43 to 49%.

Since the late 1990s, income persistence in Germany has risen across income groups (Figure 4.1, Panels A and B). In five out of the six income groups, people tracked over a four-year period were more likely to stay in their income group in the late 2010s than in the late 1990s. Only for people in the lower middle-income group (75-100% of the median), income persistence has decreased. The likelihood of remaining in the same income group has risen most strongly in the lower parts of the distribution, i.e. for the poor (less than 50% of the median), by 11 percentage points from 34 to 45%, and for the vulnerable (50-75% of the median), by 5 percentage points from 38 to 43%. This implies a decrease in upward mobility for people on low incomes (-11 and -13 percentage points for the poor and vulnerable). Meanwhile, the risk of moving down the income ladder decreased for people in the mid middle, the upper middle

(150-200% of the median), and the high-income group (Figure 4.1, Panel B). These developments are consistent with the increase in income inequality that Germany has witnessed up until the mid-2000s (see Chapter 2, Figure 2.4 and Grabka, Goebel and Liebig (2019[1])).

For people in lower income groups, greater income persistence between the late 1990s and late 2010s came at the cost of reduced upward mobility; for people on upper-middle and high incomes, it is mirrored in reduced downward mobility (Figure 4.1, Panel B).

Figure 4.1. Incomes have become more persistent over time, especially so for the poor



Note: Persistence, upward and downward mobility shares are calculated for the working age population (18-64) for a four-year period as described in Box 4.1. Results included for the period 1995-98 ("Late 1990s") and 2014-17 ("Late 2010s").
Source: OECD calculations based on the SOEP v36.

Box 4.1. Analysing income mobility dynamics

The analysis of income mobility draws on data from the German Socio-Economic Panel (SOEP), a household survey conducted annually since 1984 (Goebel et al., 2018[2]). Currently, around 15 000 households with about 30 000 individuals are surveyed. With the most recent wave (v36), the SOEP provides annual income data up to 2018. The analysis focuses on the working-age population (18-64 years) during the income years 1994 to 2018. Employing a longitudinal perspective, it traces people's mobility between six different income groups over time. As in previous chapters, the income groups are defined based on equivalised household income relative to the median (see discussion in Chapter 2).

Transition matrices, which relate people's position in the income distribution at a given point in time to their position one or several periods later, are a standard method for describing longitudinal income mobility processes. This chapter focuses on transitions over four years. This is in line with the procedure applied for determining the persistent at-risk-of-poverty rate in the European Social Survey (Guio and Marlier, 2004[3]), and it has been used previously to analyse mobility patterns for the low-wage sector in Germany (see for example Grabka and Goebler (2020[4])). While it can be very interesting also to study transitions over longer periods, this increases panel attrition and hence reduces the number of observations and the representativeness of the sample.

Table 4.1. Mobility amongst six different income groups, 2014-17

		2017						
		Poor <50%	Vulnerable 50-75%	Lower middle 75-100%	Mid middle 100-150%	Upper middle 150-200%	High >200%	Population size
2014	Poor <50%	45%	31%	13%	8%	2%	1%	4 461 294
	Vulnerable 50-75%	17%	43%	26%	11%	2%	0%	7 223 991
	Lower Middle 75-100%	6%	16%	45%	30%	2%	1%	9 064 312
	Mid Middle 100-150%	2%	4%	16%	63%	13%	2%	14 764 063
	Upper Middle 150-200%	2%	1%	5%	29%	49%	13%	7 068 315
	High >200%	1%	1%	3%	11%	19%	65%	4 298 303

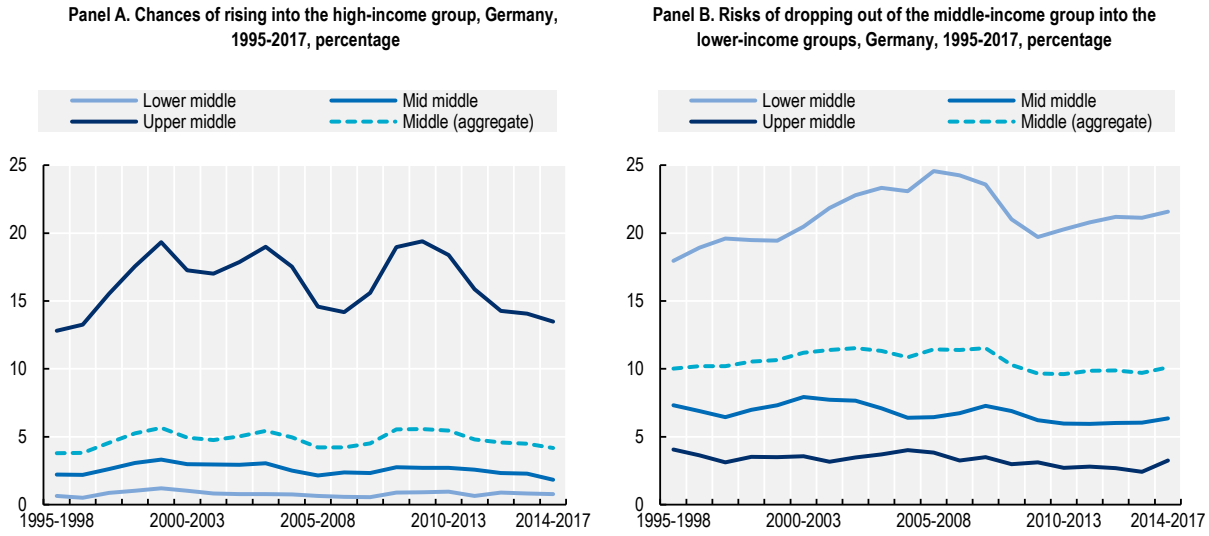
Note: The table displays the transition shares after four years averaged over the starting years 2013-15 for different income groups defined in relation to the median of household equivalised incomes for the working age population (18-64), and the population size.
Source: OECD calculations based on the SOEP v36.

To smooth mobility patterns, the analysis presents moving averages of transition matrices over three consecutive starting years. Table 4.1. depicts the transition matrix for a four-year transition period from 2014 to 2017 for six different income groups. It indicates what share of people who were in a certain income group in 2014 find themselves in each of the six income groups in 2017. The starting year is compared only with the target year; any changes that may occur between those two years are ignored. For example, looking at the lower middle in 2014, 45% of the people in this income group were still in the lower middle in 2017. Their risk of dropping out of the middle after four years was around 22% – a 6% risk of dropping into poverty plus a 16% risk of dropping into the vulnerable income group. However, lower middle-income people also have relatively high chances of moving upwards within the middle – they had a 30% chance of making it into the mid middle, plus a 2% chance of making it into the upper middle.

4.1.2. People in the lower (and mid) middle have low chances of rising to the top, and face a high and rising risk of slipping out towards the bottom

Middle-income people have – on average – a 5% chance of rising into the high-income group after four years, but upward mobility varies vastly within the middle-income group, particularly between the lower and mid-middle as opposed to the upper-middle income group (Figure 4.2, Panel A). People living on lower and mid-middle incomes only have a negligible chance of moving into the high-income group (between 0.5 and 3%). Meanwhile, between 13 and 19% of upper middle-income people have made it into the high-income group after four years.

Figure 4.2. The lower middle has very low chances of rising into the high-income group over a four-year period, while facing a high and increasing risk of dropping out of the middle



Note: Risks are calculated for the working age population (18-64) for a four-year transition period as described in Box 4.1.
Source: OECD calculations based on the SOEP v36.

The average risk of dropping out of the middle-income group is around 10%, but it is twice as high for the lower middle, as more than one-in-five dropped out after four years in the late 2010s. Compared to people in the mid and upper middle, those on lower middle incomes have a three to six times greater risk of sliding down into the low-income group, i.e. into economic vulnerability or poverty (Figure 4.2, Panel B). While people living on lower middle incomes have a notable risk of dropping out of the middle, their chances, more generally, of moving upwards are higher than their risk of moving down (Figure 4.1, Panel A).

Upward mobility has remained largely stable over time for people in the lower and mid middle; for the upper middle, it has fluctuated with a substantial drop in the chances of rising into the high-income group in the mid-2000s and again in the late 2010s. Around the same time, in the mid-2000s, the risk of dropping out of the middle peaked for people living on lower middle incomes. Both, the drop in the chances of rising into the high-income group for people in the upper middle and the peak in the risk of dropping out of the middle for people in the lower middle, coincide with the general economic slump in Germany in the mid-2000s. Notably, the drop in downward mobility for the lower middle-income group between 2008 and 2011, and the following increase in the last four periods, aligns broadly with the trend in the median disposable income, which declined in the aftermath of the global financial crisis and rose again thereafter (see Figure 2.4, Panel A).

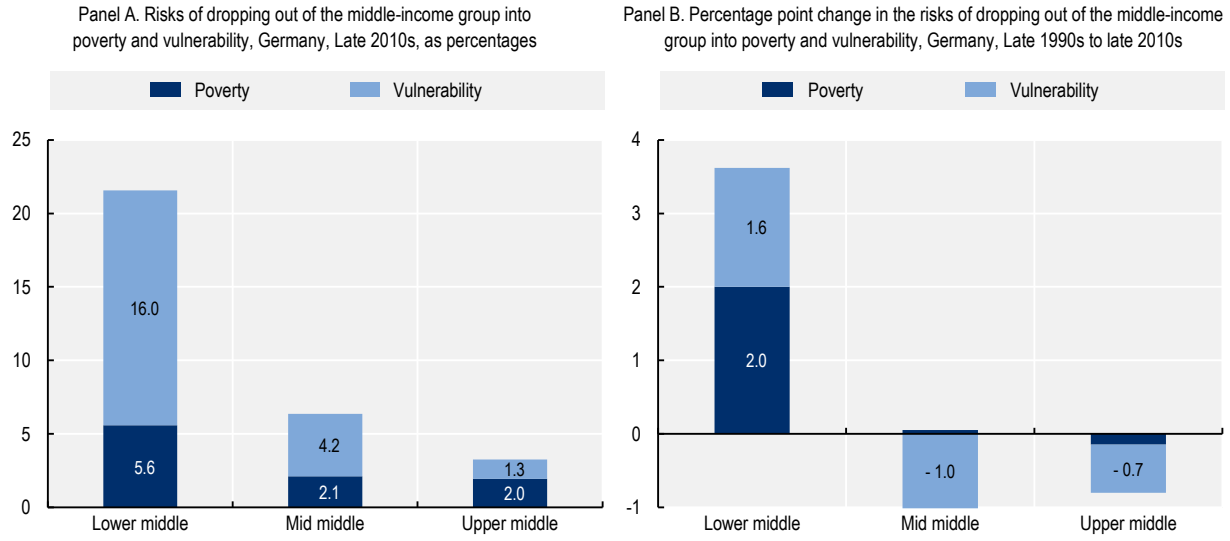
4.1.3. An increasing share of people who drop out of the lower middle fall into poverty

For people on lower middle incomes, the risk of downward mobility into the bottom income groups has increased over time while it slightly decreased for the other middle-income groups (Figure 4.2, Panel B; Figure 4.3, Panel B). For people on lower middle incomes, the risk of sliding into vulnerability or poverty is around 4 percentage points higher today than it was in the late 1990s. This may be a sign of weaker income protection for workers and households in the lower middle of the income distribution following the reforms to the German social protection system in the early 2000s.

Amongst those who drop out of the middle-income group (i.e. below 75% of the median), the situation is more severe for those who slip below the poverty threshold (i.e. below 50% of the median). In the late

2010s, almost one-in-four lower middle-income people who drop out of the middle end up in poverty (Figure 4.3, Panel A). The same holds true for about one-in-three people who drop out of the mid middle, and even for more than half of all people who drop out of the upper middle. However, in absolute terms, the risk of dropping into poverty is three times higher for the lower middle than for the mid and upper middle (6 vs. 2%).

Figure 4.3. One-in-four people dropping out of the lower middle-income group drop into poverty, and the share increased since the late 1990s



Note: Risks are calculated for the working age population (18-64) for a four-year transition period as described in Box 4.1. Results included for the period 1995-98 ("Late 1990s") and 2014-17 ("Late 2010s").
Source: OECD calculations based on the SOEP v36.

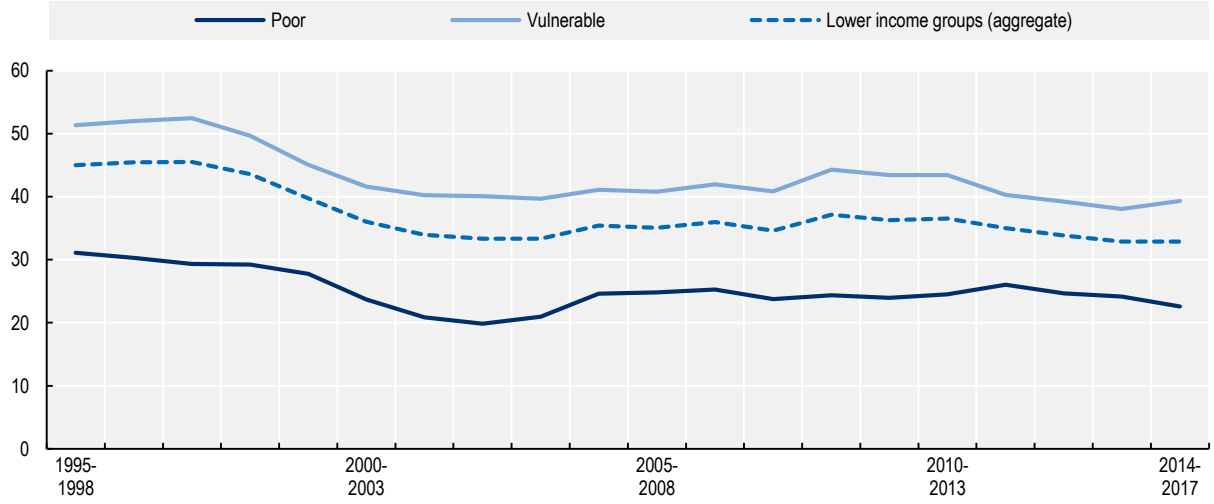
For all middle-income people, the risk of dropping into poverty is still lower than that of dropping into vulnerability. However, the increase in the general risk of dropping out of the middle-income group for people on lower middle incomes is to a large extent driven by an increase in the risk of dropping into poverty since the late 1990s (Figure 4.3, Panel B). Analysing poverty "spells" further strengthens this finding – the risk of dropping into poverty at least once *within* four years nearly doubled from less than 6 to nearly 10% between the late 1990s and late 2010s (see discussion in Annex 4.A).

4.1.4. Meanwhile, upward mobility into the middle-income group has declined

People living on low incomes in Germany still have substantial chances of moving into the middle-income group. Among those living on incomes that classify them as "poor" or "vulnerable", one-in-three make their way up into the middle over a four-year-period (Figure 4.4, Panel A). However, for people living in poverty, chances are only about half as high as for the vulnerable (23 vs. 39% in the most recent period).

Compared to the late 1990s, people on lower middle incomes are not only more likely to drop out of the middle, but they also find it harder to rise (back) into the middle-income group. The chances of rising into the middle-income group have declined substantially since the late 1990s, reflecting a notable drop in upward mobility around the early 2000s. For people living below the poverty line, the chances of making it into the middle decreased by nearly 9 percentage points over the observation period; for those classified as "vulnerable", chances even decreased by 12 percentage points. These findings are consistent with the decline in the share of people on lower-middle incomes as a driving force of the shrinking middle-income group in Germany overall (see Chapter 2, Figure 2.6).

Figure 4.4. Low-income people in the late 2010s have substantially lower chances of rising into the middle than in the late 1990s



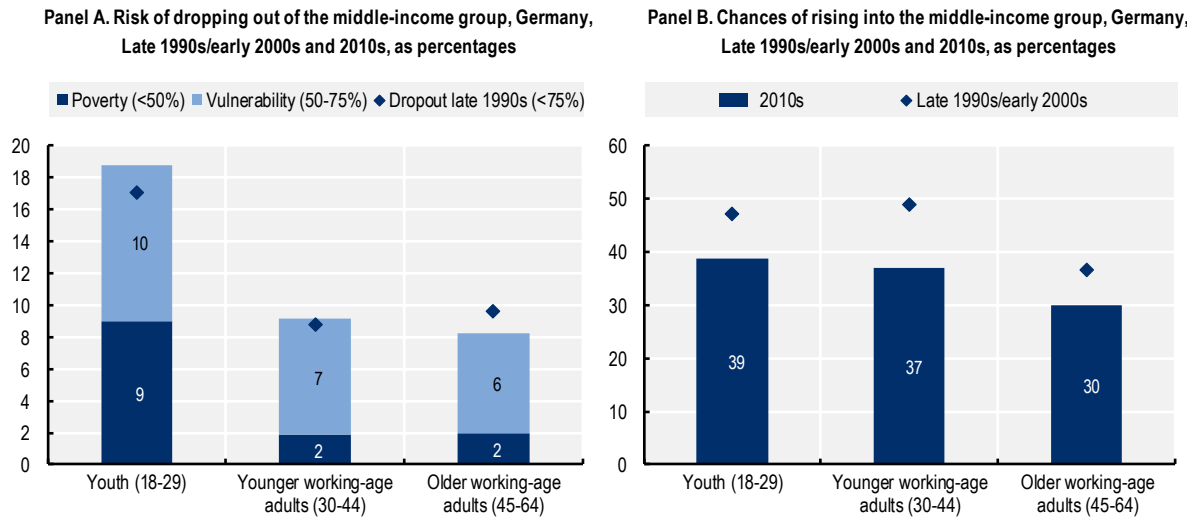
Note: Chances are calculated for the working age population (18-64) for a four-year transition period as described in Box 4.1.
Source: OECD calculations based on the SOEP v36.

4.1.5. Income mobility patterns have become less favourable in particular for more disadvantaged labour market groups

Previous subsections have presented evidence on the mobility dynamics for different income groups more broadly, but it is possible to zoom in further and look at the income dynamics of specific population groups.[5] This analysis shows that labour market groups in Germany that are generally considered more vulnerable often also have less favourable income mobility patterns. In particular:

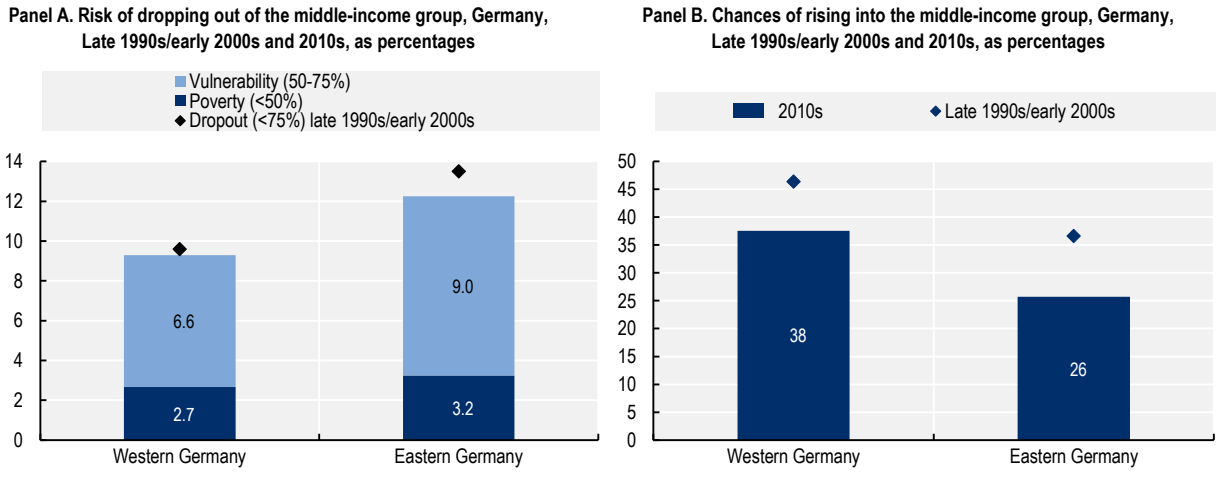
- *Young people experience much stronger income dynamics than other age groups*. One-in-five 18-29 year-olds in the middle-income group slide into one of the two lower income groups over a four-year period – about twice the rate observed among prime working-age (30-44 years) or older working-age (45-64 years) adults (Figure 4.5, Panel A). Around half of them drop into poverty. However, also the chances of rising into the middle-income group are high for young people, particularly when compared to older working-age adults (Figure 4.5, Panel B). Young people's high downward mobility may reflect at least partly that many of them experience a drop in (household) income when they move out of their parents' home (i.e. when picking up academic studies or starting an apprenticeship). High upward mobility will, in many cases, be the result of strong earnings growth at the beginning of their careers.

Figure 4.5. Young people face a greater risk of dropping out of the middle-income group



Note: Chances and risks are calculated for the working age population (18-64) for a four-year transition period as described in Box 4.1 and averaged over the starting years 1995-99 ("Late 1990s/early 2000s") and 2010-14 ("2010s").
Source: OECD calculations based on the SOEP v36.

Figure 4.6. Eastern Germans still face less favourable income mobility patterns



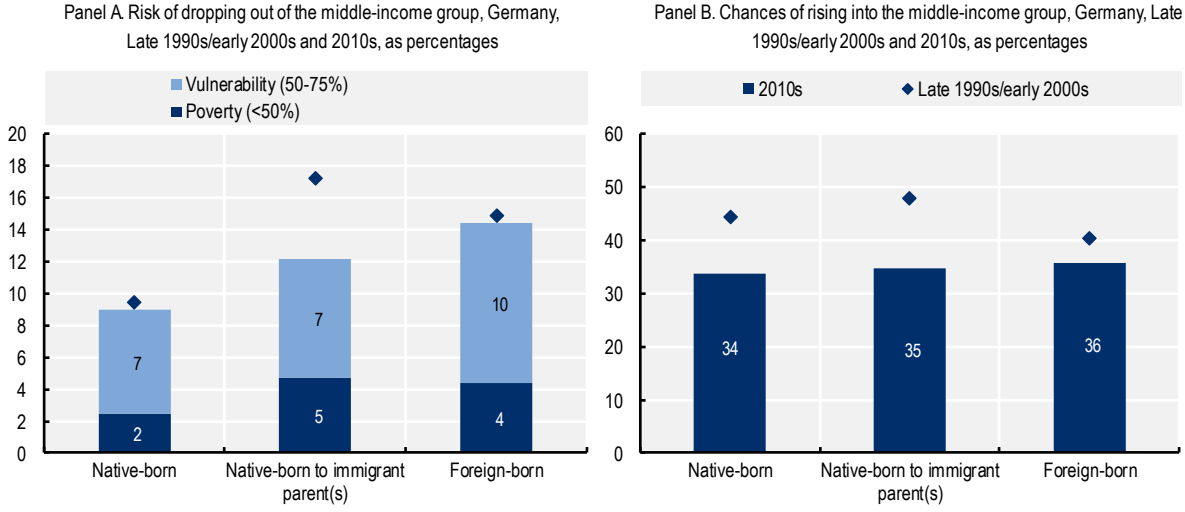
Note: Chances and risks are calculated for the working age population (18-64) for a four-year transition period as described in Box 4.1 and averaged over the starting years 1995-99 ("Late 1990s/early 2000s") and 2010-14 ("2010s"). Regions assigned based on place of residence.
Source: OECD calculations based on the SOEP v36.

- *People living in eastern Germany still experience less favourable income dynamics.* Middle-income people in eastern Germany are more likely than Western Germans to drop out of the middle (12 vs. 9%) (Figure 4.6, Panel A). At the same time, those living on low incomes in the east are substantially less likely to rise into the middle than in the west (26 vs 38%; Figure 4.6, Panel B). Mobility patterns have converged only little since the late 1990s/early 2000s: while the risk of dropping out of the middle decreased for eastern Germans, their chances of moving up into the middle even declined more than for people in the west (-11 vs. -9 percentage points). This indicates

that despite considerable efforts to realign living conditions and economic opportunities between the "old" and "new" federal states since the early 1990s, structural differences remain salient.[6]

- *Migrants face a greater risk of downward income mobility than people born in Germany.* The risk of dropping out of the middle-income group is higher for migrants, i.e. people born abroad, than for native-borns (Figure 4.7, Panel A). Among native-borns, downward mobility is greater for those born to migrant parents, but it has substantially decreased since the late 1990s/early 2000s. This indicates an improvement of opportunities for people born to migrant parents compared to the late 1990s/early 2000s. The chances of rising into the middle from the bottom do not differ much across groups in most recent years, meaning that foreign-born people now have similar chances of rising into the middle-income group than those born in Germany (Figure 4.7, Panel B).

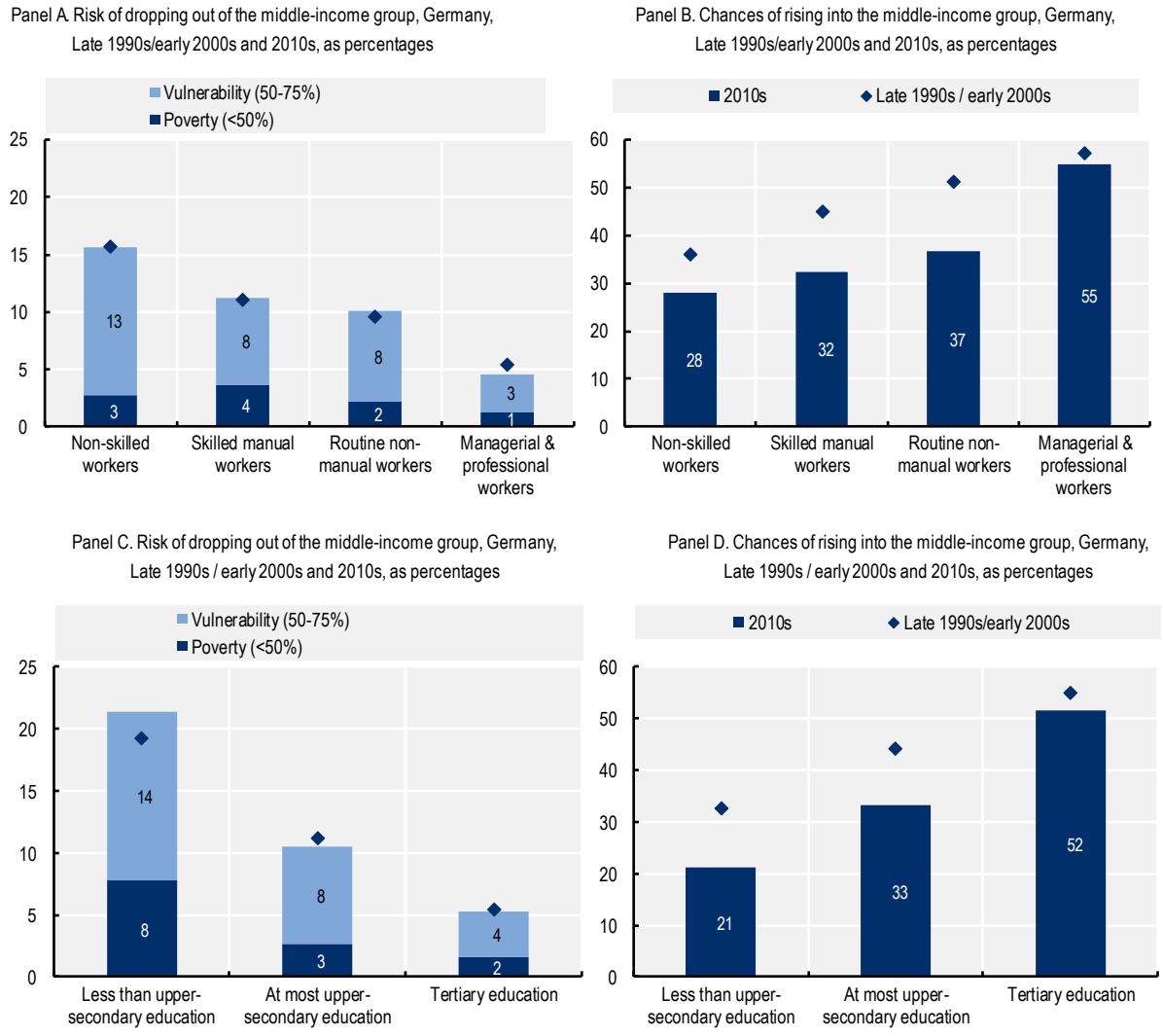
Figure 4.7. Migrants have a greater risk of dropping out of the middle-income group



Note: Chances and risks are calculated for the working age population (18-64) for a four-year transition period as described in Box 4.1 and averaged over the starting years 1995-99 ("Late 1990s/early 2000s") and 2010-14 ("2010s"). "Native-born to immigrant parent(s)" is assigned to those with at least one foreign-born parent.
Source: OECD calculations based on the SOEP v36.

- *For workers in "typical" middle-class occupations, the chances of making it into the middle-income group have decreased.* People with low educational attainment and those in lower occupational classes[7] have a greater risk of dropping out of the middle and poorer chances of rising into the middle. The risk of losing a middle-income position is around four times larger for non-skilled workers (16%) and those with less than upper-secondary education (22%) than it is for managerial and professional workers (4%) and for those with tertiary education (6%) (Figure 4.8, Panels A and C). Chances of rising into the middle remained stable only for the highly educated top occupational class (Figure 4.8, Panels B and D), while they declined by more than 10 percentage points for workers in "typical" middle-class occupations, i.e. routine non-manual workers, such as office clerks, and skilled manual workers, such as car mechanics. For non-skilled workers, the decrease in upward mobility is less pronounced (Figure 4.8, Panel B). The decline in the chance of rising into the middle-income group has hence particularly affected workers in "middle-class occupations". Skilled manual and routine non-manual workers saw their opportunities to rise up into the middle-income group deteriorate from around 50% in the late 1990s/early 2000s to 32% and 37% in the 2010s. This confirms the tendency towards greater occupational polarisation in Germany observed in Chapter 3.

Figure 4.8. Income mobility patterns are strongly associated with occupational classes and education



Note: Chances and risks are calculated for the working age population (18-64) for a four-year transition period as described in Box 4.1 and averaged over the starting years 1995-99 ("Late 1990s/early 2000s") and 2010-14 ("2010s"). Educational attainment is coded according to ISCED 2011 with "Less than upper-secondary education" comprising the categories 1-2, "At most upper-secondary education" 3-4 and "Tertiary education" 5-8.
Source: OECD calculations based on the SOEP v36.

4.2. Conclusion

Incomes have become more persistent across almost all income groups. People tracked over a four-year period were more likely to stay in their income group in the late 2010s than in the late 1990s, except for those in the lower middle. The increasing persistence came at the cost of reduced upward mobility for low-income groups and at the benefit of reduced downward mobility for the mid middle-, upper middle- and the high-income group.

People living on lower middle incomes face a considerably increased risk of dropping out of the middle-income group, while the chances of rising (back) into the middle shrank substantially for the poor

and the vulnerable. This coincides with the crumbling of the lower middle observed between the late 1990s and mid-2000s (see Chapter 2). As the chances of rising up into the high-income group for the upper middle fluctuated, but have not significantly increased, there is no evidence for increasing polarisation of income mobility *within* the middle. The results rather point towards an opening towards the bottom, with the lower income groups becoming larger and more persistent ("sticky floors").

Income mobility patterns have become less favourable in particular for more disadvantaged labour market groups. The risk of dropping out of the middle is highest for young people (18-29 years), immigrants, eastern Germans, and the low-skilled, and also their chances of moving up into the middle have declined. Workers' chances of making it into the middle-income group declined also for those in "typical" middle-class occupations, confirming the tendency towards greater occupational polarisation in Germany observed in Chapter 3.

References

Erikson, R. and J. Goldthorpe (1992), *The contstant flux: A study of class mobility in industrial societies*, Oxford: Clarendon Press. [6]

Frank, R. (2013), *Falling behind: How rising inequality harms the middle class (Vol. 4.)*, Berkeley/Los Angeles: University of California Press. [5]

Goebel, J. et al. (2018), "The German Socio-Economic Panel (SOEP)", *Jahrbücher für Nationalökonomie und Statistik*, Vol. 239/2, pp. 345-360, http://dx.doi.org/10.1515/jbnst-2018-0022. [2]

Grabka, M., J. Goebel and S. Liebig (2019), "Wiederanstieg der Einkommensungleichheit: Aber auch deutlich steigende realeinkommen", *DIW Wochenbericht*, Vol. 86(19), pp. 343-353, https://doi.org/10.18723/diw_wb:2019-19-3. [1]

Grabka, M. and K. Goebler (2020), *Der Niedriglohnsektor in Deutschland. Falle oder Sprungbrett für Beschäftigte*, http://dx.doi.org/10.11586/2020032. [4]

Guio, A. and E. Marlier (2004), "The Laeken Indicators: Some Results and Methodological Issues in Acceding and Candidate Countries", *Emergo: Journal of Transforming Economies and Societies*, Vol. 11(2), pp. 21-48. [3]

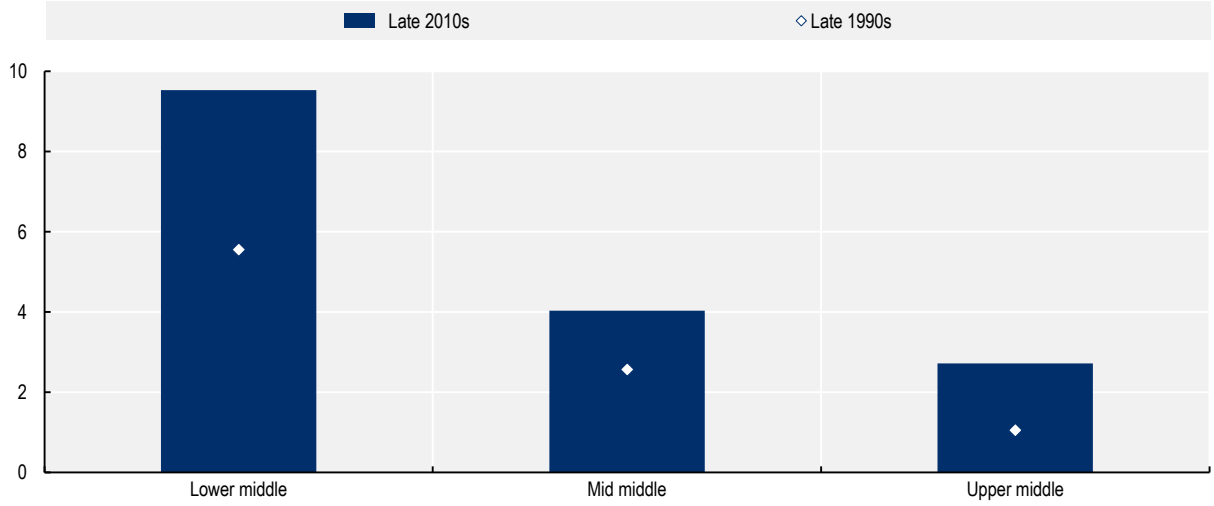
OECD (2018), *A Broken Social Elevator? How to Promote Social Mobility*, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264301085-en. [7]

Annex 4.A. Additional results on downward mobility into poverty

The main analytical approach chosen for the social mobility analysis in this chapter only compares the income position of people in a certain starting year *t* with their position in the target year *t+3.* Any changes that may occur *between those two years* are ignored (see Box 4.1). However, when analysing the risk of substantial income losses it can also be interesting to analyse so-called poverty "spells", which take into account any drop into poverty and/or the remaining in the lowest income group within the four-year transition period. Annex Figure 4.A.1 is based on such analysis and displays the risk of living in poverty at least once (i.e. for one, two or a maximum of three years) within the four-year transition period for people living on lower-, mid- or upper-middle incomes in the first year (i.e. in 1995 and 2014).

Annex Figure 4.A.1. The risk of dropping into poverty at least once within four years nearly doubled since the late 1990s

Risk of dropping into poverty at least once within four years, Germany, Late 1990s and late 2010s, as percentages



Note: Risks are calculated for the working age population (18-64) within a four-year transition period. Results included for the period 1995-98 ("Late 1990s") and 2014-17 ("Late 2010s").
Source: OECD calculations based on the SOEP v36.

The risk of dropping into poverty at some point over the four-year observation period has risen all across the middle-income group relative to the 1990s. About one-in-ten lower middle-income households in Germany had such a poverty spell in the late 2010s, a risk two-and-a-half to three times as high as for mid middle and upper middle-income households.

Notes

[1] Social mobility can be assessed across generations or over people's lives (OECD, 2018[7]), both in absolute and relative terms. Relative mobility dynamics are particularly relevant for policy makers, especially so in advanced economies with a high average level of material prosperity. Changes in the position and deprivation relative to the overall society are considered as an important indicator for the well-being of the middle class (see for example Frank (2013[5])), and the functioning of the social market economy that emphasises the goal of prosperity for all. This chapter therefore focuses on people's relative chances and risks of moving up or down the income ladder over time.

[2] While this section focuses on income mobility, income is only one of many dimensions that matter, such as educational or occupational mobility (for further analyses see OECD (2018[7])).

[3] For a description of the income concept used in the analysis and a definition of the six different income groups see Box 4.1.

[4] Also, the relatively wide income span defining the mid middle- and high-income group determines that people are less likely to switch groups even after experiencing a negative or positive income shock. At the very top, people have incomes that substantially surpass the threshold of 200% of the median (about half of them have an income above 250% and around one-in-four above 300% of the median).

[5] The periods displayed in the following figures differ from those in earlier figures. To increase the robustness of the results despite smaller sample sizes when zooming into the different subgroups, the chances and risks are averaged over five periods, both in the late 1990s/early 2000s and the 2010s.

[6] As pointed out in Chapter 2, all results are based on nominal disposable household income, meaning that they do not account for regional differences in the cost of living.

[7] Occupational classes are defined according to the Erikson-Goldthorpe-Portocarero (EGP) scheme, a widely used classification with 11 categories that can be further aggregated. For this analysis, the aggregation was chosen according to Erikson and Goldthorpe (1992[6]). The EGP-scheme is based on the German job classification (KldB) and further reflects the following four components: (1) Type of occupation, (2) type of employment, (3) scope of authority, and (4) required qualification for the occupation.

5 Policy options for a stronger middle class in Germany

Valentina Sara Consiglio, Christian Geppert, Sebastian Königs and Anna Vindics

This chapter discusses policy options for a stronger middle class in Germany drawing on the findings from the statistical analysis presented in the previous chapters. It focuses on the following policy areas: i) strengthening the employability of middle-class workers, by expanding adult learning and building pathways into the middle class for the young generation; ii) supporting the creation of good-quality and future-oriented jobs by renewing Germany's infrastructure and improving working conditions and pay for care professionals; iii) boosting the disposable incomes of middle-class households by reducing their labour tax burden and enabling and incentivising women to expand their labour force participation.

5.1. Introduction

The previous chapters of this report have sought to give a comprehensive account of the situation of middle-class households in Germany. The middle-income group in Germany is smaller today than it was in the mid-1990s, as particularly the lower middle has shrunk in times of rising income inequalities in the late-1990s and early 2000s (Chapter 2). It has also changed its socio-demographic composition: young people find it harder than previous generations to make their way into the middle-income group, and in particular so if they have not completed post-secondary or tertiary education. Working couples still make up nearly half of middle-income households, but among them, the share of one-and-a-half earner couples has increased. This reflects the risen labour force participation among women, and underlines the importance of a second earner in the household for securing a middle-income position. Analysis of labour market outcomes of middle-income workers (Chapter 3) has shown that Germany – as many other OECD countries – has experienced occupational polarisation, and that this trend has equally affected the middle-income workers. It coincided with a shift of middle-income employment away from manufacturing towards public services, and a decline in job quality for middle-income workers, though largely before 2005. Forecasts suggest that structural change will continue to affect middle-income workers: about one-in-six of them work in jobs facing high risk of automation, and employment growth forecasts for the next decade point to further occupational polarisation. Income mobility has become less favourable since the late 1990s, with a loss of stability for people in the lower middle and reduced chances of reaching the middle for people on low incomes (Chapter 4). This is particularly the case for more disadvantaged labour market groups such as young people, migrants, and people in eastern Germany though also workers in "typical middle-class occupations" faced a strong decline in their chances of rising into the middle-income group.

This chapter discusses policies that could address some of the main challenges facing middle-class households in Germany. Section 5.2 looks at ways of strengthening the employability of middle-class workers. It discusses the role of the adult learning and training system in Germany for supporting the up- and reskilling of workers in a changing labour market, and discusses ways of helping more young people obtain the qualifications needed to build a successful career. Section 5.3 looks at measures to support the creation of good-quality and future-oriented jobs in Germany. It argues that greater public infrastructure investment could help Germany master the structural transformation of its economy, and that it could become an engine of middle-class job growth. It also discusses why improving job quality and pay for care workers could generate additional middle-class employment and pave a way into the middle class for current care workers. Section 5.4 proposes ways of boosting middle-class disposable incomes by looking at ways for Germany to reduce the tax burden on middle-class households, and enabling and incentivising women to increase their labour supply.

5.2. Strengthening the employability of middle-class workers

Already before the COVID-19 pandemic, labour markets in OECD countries were rapidly changing as a result of globalisation, digitalisation, and population ageing, with a profound impact on the type and quality of jobs available and the skills required to perform them. Previous OECD analysis has shown that more than half (54%) of jobs in Germany are at risk of significant change through automation over the next 15 years, one of the highest shares across OECD economies (Nedelkoska and Quintini, 2018[1]). About one-in-six middle-income workers in Germany work in jobs that face high risk of automation (Figure 3.11).

The COVID-19 crisis may reinforce some of these trends with still uncertain consequences for middle-class workers. While the labour market impact of the crisis has been more limited in Germany than in many other OECD countries (OECD, 2020[2]; 2021[3]), the public-health restrictions introduced to mitigate the pandemic have accelerated the digitalisation of the society and of many workplaces. The crisis may also lead to structural reallocation, possibly away from sectors such as on-site retail, air travel and hospitality, if some of the changes in consumption behaviour it brought about turn out to be permanent. Further profound

change is immanent given the urgent need for all OECD economies, including Germany, to transform into low-carbon societies within not even three decades.

The extent to which middle-class workers can reap the benefits of these transformations, or risk losing out from them, will heavily depend on whether they manage to develop, and maintain, skills over their work lives that are needed in those rapidly changing labour markets. Already today, seven-in-ten occupations that are in shortage in Germany require a high level of skills, one of the highest shares across OECD countries (OECD, 2021[4]).[1] Meanwhile, nearly half of all workers in middle-income households are in middle- or low-skilled occupations, as shown in Chapter 3 (Figure 3.2). Employment growth forecasts that pre-date the COVID-19 crisis point towards further occupational polarisation. This underlines that Germany – as other OECD countries – will need to upskill and reskill large parts of its workforce over the next decades to ensure that workers, companies and the economy can harness the benefits of those structural changes. Failure to do so will mean that workers will increasingly struggle to find jobs that match their skills, while employers will face troubles recruiting the talent they need. Such imbalances are costly for workers, employers, and society as a whole. They undermine the competitiveness of companies, depress workers' wages, job satisfaction, and career prospects, and hamper economic growth (OECD, 2019[5]).

The analysis presented in the statistical chapters of this report has also underlined – once more – the importance of equipping young people with an education and skills that are in high demand in a rapidly evolving labour market. Chapter 2 has illustrated that the middle-income group has shrunk from generation to generation, and that *at the same age* it was about 10 percentage points smaller for the generation of Millennials than for the baby boomers (Figure 2.11). This is mirrored in a disproportionate decline in the size of the middle-income group for young people, at nearly twice the rate than for the population overall (Figure 2.10). Perhaps more importantly, the analysis illustrated that particularly for the young generation education really is the key to accessing the middle-income group. Indeed, young people who have obtained a tertiary degree have not been affected to the same extent as other young people by the decline in the middle-income group. Meanwhile, the likelihood of making it into the middle-income group has declined sharply for those who only hold an upper-secondary or post-secondary non-tertiary education, and it plummeted for those without upper-secondary qualification (Figure 2.13).

This section discusses policy options to ensure that workers in Germany build the skills they need to succeed in a transforming labour market and generate a good income. It starts by looking at some of the challenges of Germany's adult learning system and by discussing how Germany can better enable and encourage middle-class workers to upskill, and reskill, throughout their working lives. This discussion draws heavily on a recent country study published as part of the OECD *Getting Skills Right* series (OECD, 2021[4]). The section then zooms in on the challenges that particularly young people have been facing with their transition into work during the COVID-19 pandemic.

5.2.1. Enabling and encouraging middle-class workers to upskill and reskill throughout their careers

In light of the rapid transformation facing OECD societies and labour markets, a good-quality education or vocational training obtained in young adulthood may often be no longer sufficient to guarantee a secure job and income for the entire working life. New job opportunities arise in occupations and industries that are different from those in which jobs are lost. Existing jobs will change, as well as the set of skills they require. Workers will therefore – much more than in previous decades – need to invest continuously in maintaining, updating, and expanding their skills over their working lives to ensure that their skills remain relevant. This will require strong foundational numeracy and literacy skills that are often essential for further training and that will only become more important with the digital transformation (OECD, 2020[6]).

Participation rates in adult education and training in Germany are lower than in peer countries

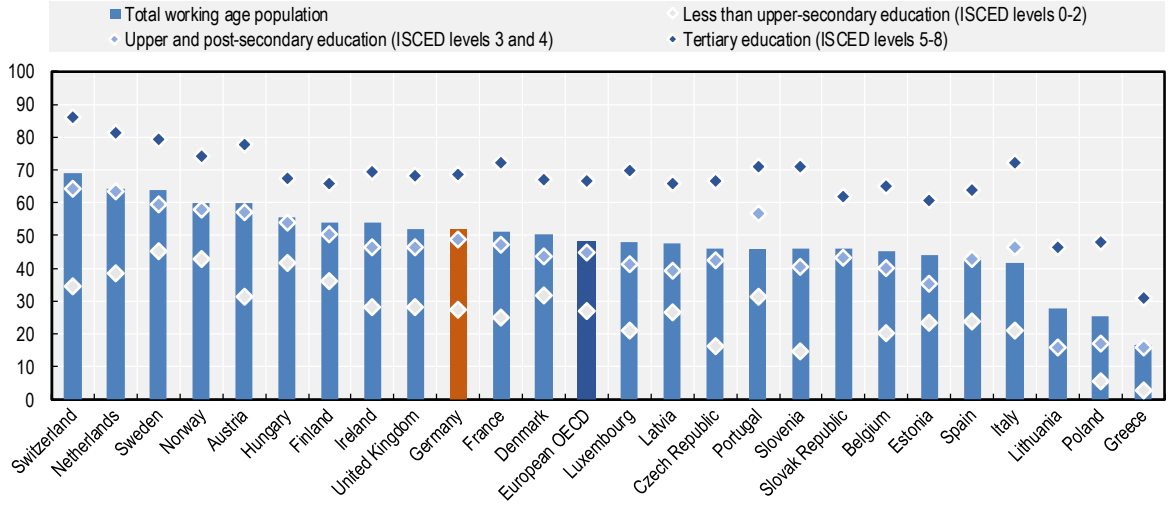
Germany has a strong skill development system. The country's 15-year-olds performed above the OECD average in the 2018 edition of the Programme for International Student Assessment (PISA), continuing a trend of significant improvement since 2000. Its adult population has above-average literacy and numeracy skills according to the OECD Survey of Adult Skills (PIAAC). Germany's strong and well-respected vocational education and training system is seen as one of the success factors behind these achievements (OECD, 2021[4]).

However, participation in learning beyond initial education lags behind comparable countries. Just over half (52%) of 25-64 year-olds took part in adult learning in Germany in 2016 (Figure 5.1). This places Germany slightly above the average across European OECD countries with available data. However, Germany lags behind other OECD countries with similar skill development systems, such as Austria, the Netherlands, and Switzerland, where 60% to 69% of adults took part in learning and training activities after their initial education. Across countries, training participation is inversely related to workers' skill level, meaning that low- and middle-skilled workers, who require most training, are least likely to participate. These gaps are among the highest in Germany across the OECD.

Comparatively low training participation rates in Germany are mirrored by lower total funding allocated to adult learning. Germany spent about 1.2% of GDP on adult education and training in 2009, the latest year with available estimates, compared to 1.5-2.2% in the Netherlands, Switzerland, Austria, and Denmark (FiBS/DIE, 2013[7]).[2]

Figure 5.1. Just over half of all working age adults in Germany participate in learning, less than in many peer countries

Participants in formal or non-formal learning in the past 12 months, age 25-64, by educational attainment level, 2016, as percentages



Source: OECD calculations based on the Adult Education Survey, 2016.

Shortage of time is the dominant factor preventing workers from participating in education or training in Germany

Low participation in adult learning in Germany is not primarily a question of costs. According to PIAAC data, only 9% of German adults consider the direct costs to be the main obstacle to their participation in adult education and training. This reflects that most spending on adult learning in Germany is financed by employers and the state, while training participants contribute only a very small share. Instead, shortage of time because of work (33%) and family responsibilities (15%) are reported as being the greatest obstacles to participation in adult learning (OECD, 2021[4]).

One reason behind citing time as a main barrier may be that Germany currently has no nationwide legislation on education and training leave. Most federal states have their own legislation or regulatory frameworks, which enable workers to take five days of paid education and training leave per year on average. This may be sufficient for shorter non-formal training courses. By contrast, it does not permit the take-up of longer adult learning opportunities, including the kind of substantial occupational retraining that may be needed in the context of digitalisation and structural change. Evidence from programme evaluations shows that programmes lasting one year or longer, typically vocational retraining courses, have larger effects on employment and wages than shorter courses (Bernhard, 2016[8]). To participate in longer training programmes, workers in Germany therefore often have to use either unpaid leave days or holidays, which increases the time investment and indirect financial costs associated with training and contributes to below-optimal participation.

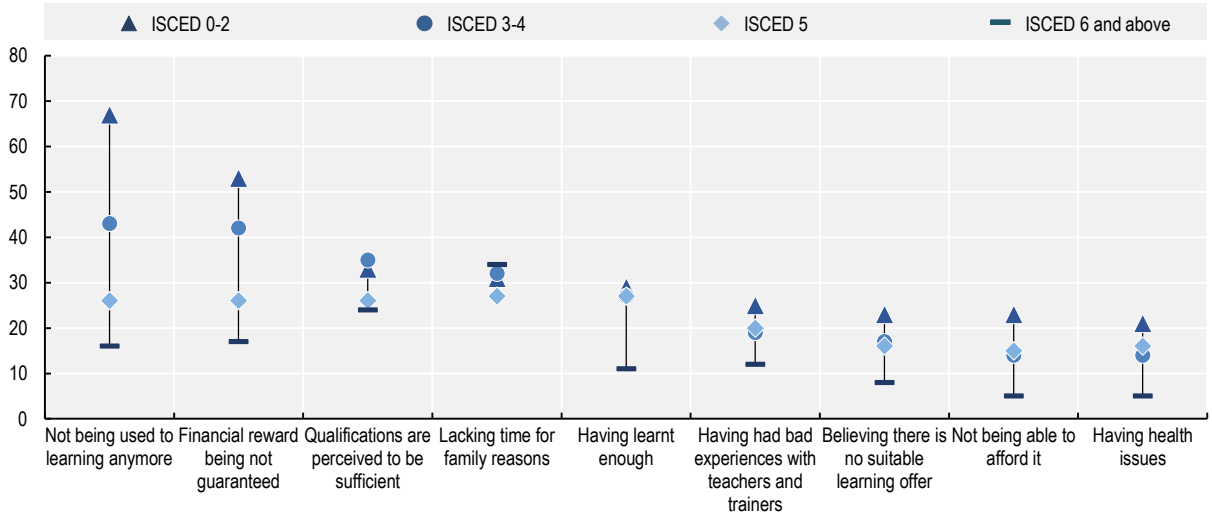
Finally, few workers benefit from the paid training leave: in the state of Baden-Württemberg, for example, only around 1% of workers entitled to paid training leave made use of it (Forschungsinstitut Betriebliche Bildung, 2019[9]). This may also reflect lack of awareness of available learning opportunities, the need for employer approval, and difficulties in access to training for workers in smaller companies, which have greater trouble finding a temporary replacement for staff on training leave. The recent Skills Development Opportunities Act (*Qualifizierungschancengesetz*) intends to increase training participation, also for those working in smaller businesses, but it only focuses on workers with a direct risk of dismissal.

Middle-skilled workers often do not see a need for training

Differences in workers' participation in training by skill level reflect different obstacles to training. For workers with medium to high levels of education, i.e. most workers in middle-income households, the lack of perceived need for training is an important obstacle (Osiander and Stephan, 2018[10]). Middle- to high-educated workers (ISCED 3-4 and 5) indicate that the main reasons for not participating in job-related education and training are not being used to learning anymore, the financial reward of training not being guaranteed, and the perception that their current qualifications are sufficient (Figure 5.2). More generally, a higher share of workers with lower qualification levels report barriers to training participation, including – perhaps counterintuitively – that they perceive their qualifications to be sufficient. This illustrates the importance of reaching out to workers to help them identify their learning gaps, educate them about the necessity to upskill and the potential benefits of training, and finally to guide them to suitable training programmes.

Figure 5.2. Many middle- to high-educated workers do not participate in training because they are not used to learning anymore or believe their qualifications to be sufficient

Self-reported reasons for not taking part in job-related education and training, by qualification level, 2017, as percentages



Note: ISCED 0-2 = No vocational qualification; ISCED 3-4 = Initial vocational degree (Lehre/Ausbildung/Fachschule); ISCED 5 = Graduate. degree or vocational equivalent (Meister/Techniker/Bachelor); ISCED 6 = Post-graduate degree (Master/Diplom or higher).
Source: OECD calculations (OECD, 2021[4]) based on Osiander and Stephan (2018[10]), *Gerade geringqualifizierte Beschäftigte sehen bei der beruflichen Weiterbildung viele Hürden*, https://www.iab-forum.de/gerade-geringqualifizierte-beschaeftigte-sehen-bei-der-beruflichen-weiterbildung-viele-huerden/, IAB-Forum; IAB online survey on CET.

Career guidance can play an important role in promoting training participation, but the German career guidance landscape is difficult to navigate

International evidence suggests that career guidance for adults can improve their decision-making, raise their self-awareness, and boost their confidence and motivation to learn (Kidd, Jackson and Hirsh, 2003[11]; Maguire, 2004[12]; Bimrose, Barnes and Hughes, 2009[13]; European Commission, 2015[14]). It can also help match workers to more stable and future-oriented jobs. In Germany, learners have reported low payoffs after general job-related training, but larger effects after training for specific occupations such as health and care professions (Doerr, 2014[15]; Autorengruppe Bildungsberichterstattung, 2018[16]; Kruppe and Lang, 2015[17]). Active outreach and guidance during this process is essential, particularly as Germany has one of the lowest shares of adults across the EU who searched for information on learning opportunities in a given year (28%; OECD (2021[4])).

Germany's current career guidance landscape can be confusing to navigate and impedes equal opportunities across regions (OECD, 2021[4]). Structures and approaches across the country are diverse, provided by different government actors, social partners, chambers, education providers, as well as private and non-profit organisations. A common nationwide entry-point or streamlined one-stop-shops under a unified brand are missing that could direct users towards the most appropriate guidance opportunities. Particularly opportunities for reskilling are limited, which are essential for allowing workers to move between sectors. The situation has become somewhat easier to navigate from 2019 when Germany made the services of the federal public employment agency available also to employed workers. However, as the LBBiE programme *(Lebensbegleitende Berufsberatung im Erwerbsleben)* is being implemented in close co-operation with the existing guidance networks, the progress being made differs across federal states. To match resources to the larger target group Germany also increased the number of qualified

guidance staff, which is an important step towards a generalised adult learning culture. Still, there is plenty of scope to develop active outreach to workers who do not seek guidance and counselling independently because of a lack of awareness or interest in training.

Austria successfully increased participation in adult learning by introducing a national paid training leave

One way of addressing workers' lack of time for training can be to provide them with a right to more extensive paid training leave independent from the employer. The Austrian paid education leave (*Bildungskarenz*), introduced in 1998, is a prominent example (see Box 5.1).[3] It gives workers paid time off from work to pursue education and training (e.g. in foreign languages, short vocational courses) or formal studies (such as elementary, vocational or university education). Many workers use the measure for upskilling opportunities specific to the Austrian system, including to obtain their Master Craftsmen Qualification (*Meisterprüfung*). One strength of this policy is that it also supports job transitions rather than to focus only narrowly on direct employer needs.

To be eligible, workers need to have entitlements to unemployment benefits. Employees can pause their work contract for 2-12 months to pursue full-time training, or for 4-24 months for part-time training over the course of four years in total. On average, workers take up funding for approximately eight months (230 days). During the training, workers are compensated at the level of unemployment benefits, i.e. at 55% of net earnings with a minimum of EUR 14.53 per day. The policy is generally considered a success, with participation having gradually increased from around 1 500 to around 20 000 workers between in 2002 and 2016. Repeated adaptations of the programme, based on evidence and feedback, have been one reason for this success. According to the latest evaluation, 90% of beneficiaries were satisfied or very satisfied with their results following participation (OECD, 2021[4]).

There have been discussions about the potential benefits of introducing a similar scheme in Germany. A concrete option that has been proposed would be, for example, to provide every citizen with a Basic Education Income (Bildungsgrundeinkommen) of EUR 1 200 per month, paid for a period of up to 36 months while the person pursues further education or training over the course of their working life. This plan also foresees the reimbursement of direct training costs and the payment of additional supplements for workers with dependent children or other special circumstances (Zentrum Liberale Moderne, 2021[18]).

Box 5.1. Austria's full-time (*Bildungskarenz*) or part-time (*Bildungsteilzeit*) educational leave policy for employees

Austria provides employees with the possibility to draw on their unemployment benefit entitlements while pausing their employment contract for training purposes of two months to one year (4-24 months in case of part-time training) within a period of four years. The programme, originally introduced in 1998, gained wide popularity during the financial crisis, when many companies used it as a means of keeping their workers in employment, often in combination with short-term work. Participation then stabilised at a high level during the recovery. In 2016, 0.4% of the working-age adult population in Austria were enrolled in the programme, with 12 000 participants in full-time and 5 500 in part-time education or training. Women, people with Austrian citizenship, younger and higher-educated people are overrepresented among participants.

The programme is implemented by the Austrian public employment service (*Arbeitsmarktservice*, AMS) in co-operation with the national and regional administrations and social partners. The Ministry of Labour defines the broad goals of labour market policy every year. The administration of the paid educational leave programme is highly decentralised through one federal, nine state-level, and 98

regional bodies. Public and private learning providers deliver the training. Social partners are involved in decision-making and monitoring at all levels.

Workers apply for the measure directly via the AMS, either online or in person. The application includes a request form, as well as the written agreement between employee and employer on the workers' participation in the measure. Only 14% of employees participating in the programme reported that it was at least somewhat difficult to get employer approval. Employees are entitled to involve the work councils in the talks. Once the application has been approved, the financial support is paid directly to the worker. Average cost of the policy per participant is around EUR 4 000 for full-time and EUR 3 500 for part-time participants, including workers' forgone wages while on training.

Repeated adaptations of the programme, based on evidence and feedback, have been one reason for its success. Evaluations showed that in the early stages workers considered the benefit amount insufficient to compensate their income loss. In January 2008, the financial support was increased from a flat-rate tariff to the level of the unemployment benefit. Improvements in the access to the paid benefit further raised the programme's attractiveness. In 2013, paid educational leave was opened up to workers desiring to participate in training on a part-time basis. This step came in response to a 2011 evaluation that suggested that long full-time absences from work may have negative effects on employment outcomes or hours workers in the following years.

Source: OECD (2020[19]). "*Increasing Adult Learning Participation: Learning from Successful Reforms*", https://doi.org/10.1787/cf5d9c21-en.

Helping to identify learning needs, linking workers with appropriate education opportunities, and building a positive adult learning culture could bring substantial benefits

Many workers in Germany are not aware of the necessity to continue learning over the working life, nor are they able to identify the skills or qualifications needed to improve their labour market perspectives. Helping German middle-income workers to identify their learning needs, directing them to the appropriate training options, and encouraging take-up can therefore yield substantial benefits. Outreach through the workplace can be effective in engaging adults in learning, and trade unions can provide a bridging function between employers and employees (OECD, 2019[20]). Such approaches are being trialled by social partners in Germany, such in case of the training mentors (*Weiterbildungsmentoren*) in the chemical industry.

One good international practice is the UK's Unionlearn programme, a long-standing initiative to improve learning opportunities for employees (OECD, 2021[4]). Almost every union is involved in the programme, while services are open to all workers in the covered sectors or firms, even if they are not union members themselves. Union learning helps workers build their confidence as learners and to develop work-related skills. The programme is run by the UK Trade Union Centre, which trains Union Learn Representatives in each company. Their role is to promote the value of learning in enterprises, support adults in identifying their training needs, and arrange learning opportunities. Representatives help break down barriers to learning by negotiating with employers about time for learning, providing access to learning resources, and building learner confidence through peer-to-peer support. Unionlearn has trained more than 40 000 Union Learn representatives and supported close to 3 million workplace learners since its inception in 2006. The programme engaged learners from across the occupational spectrum, with a third of them in managerial or professional roles. Union learning also engaged typically hard-to-reach groups such as older workers and learners from minority ethnic groups.

Evaluations of the Unionlearn programme have demonstrated its high return on investment and tangible benefits for all stakeholders (Dean, 2018[21]; Stuart, 2016[22]). Through participation, 19% of learners achieved higher qualification levels. The learner survey confirmed that the support of Unionlearn representatives, information from union events, and promotional materials were key ways of engaging

leaners in learning activities. Union learning also stimulates enthusiasm and demand for learning; nine-in-ten participants reported that they were interested in further learning. Employers find that Unionlearn contributes to a wide range of organisational benefits. The programme therefore also effectively raises awareness among employers and contributes to a supportive adult education culture. Most recent estimates suggest that GBP 1 of public investment is returned 3.6-fold.

Structural transformation changes skill demand and is likely to amplify regional labour market imbalances, but Germany lacks forward-looking skills management

The structural transformation facing the German economy will have a strong geographic dimension, changing, and likely amplifying, existing regional labour market imbalances. According to projections (Hummel et al., 2021[23]), the eastern German states could lose between 15 and 20% of their current jobs by 2040 with only relatively modest job creation over the same period. This reflects demographic trends, coupled with changes in industry structure, notably the decline of manufacturing (incl. construction). Meanwhile, the city-states of Berlin and Hamburg can expect net job creation of around 5%. Such large changes will likely bring about major swings in the skills supplied and demanded in local labour markets.

However, Germany lacks integrated, forward-looking skills management that could shed light on such regional skill imbalances. For example, while several instruments incentivise vocational upskilling, there are no public financial incentives for workers at either federal or regional level to train for shortage occupations or to acquire in-demand skills (OECD, 2021[4]).[4] This may be to the disadvantage particularly of less well-connected regions, which face greater difficulty in attracting skilled labour to adjust for changing skill needs. Good-quality information on regional skill needs, and shortages, is the first step to steer investment towards in-demand skills and promote labour mobility. The German public employment service reports annually on labour shortages by occupation, but without providing detailed geographic breakdown (Bundesagentur für Arbeit, 2021[24]). Its research institute, the IAB, carries out regional projections of future labour demand and supply by occupation and state (Hummel et al., 2021[23]), however, not necessarily in a format best suited to inform the decision making of social partners, adult learning providers and career guidance counsellors (Patscha et al., 2017[25]).

Skill forecasting can effectively take place at the regional level by bringing together social partners, industry organisations, education and training providers, with national and regional authorities including the public employment service. In Sweden, for example, regional skills platforms connect stakeholders to help anticipate and resolve skill shortages (CEDEFOP, 2017[26]). Employers can report their skills needs and work with education providers and public authorities to adapt vocational education programmes and improve data collection. Regional governments usually chair the platforms, but actors are flexible in coming up with the tools, approaches and activities needed to improve local co-ordination, dialogue and knowledge accumulation (Swedish Agency for Economic and Regional Growth, 2016[27]). In 2019, experimentation started with sporadic and narrower, industry-specific initiatives such as the Qualification Networks (*Qualifizierungsverbünde*) in the Baden-Württemberg region, which is currently in a pilot phase.

In a decentralised country, such as Germany, a challenge can be to make sure that the harmonised information needed for cross-regional policy co-ordination is available at national level. For this purpose, France commissioned a government think-tank, *France Stratégie,* to improve the coherence of skill assessment exercises that are happening in parallel at national, regional and sectoral level. Since 2015, the Employment and Skills Network (*Réseau Emplois Compétences*) facilitates the creation of a common methodological framework for regional and sectoral skill anticipation studies (OECD, 2019[5]). It brings together stakeholder representatives, including from the regions, for thematic meetings and working groups to develop guidelines for actors on the ground (France Stratégie, 2021[28]).

Timely regional data on the demand and supply of skills is particularly important to mitigate the regional imbalances that arise from structural transformation. This may mean, for example, providing targeted support to workers with skills that are at risk of becoming outdated and obsolete. Evidence shows that

such workers are less likely than others to participate in training or to use guidance services themselves. In Germany, workers in occupations with a medium or high risk of automation are 20 percentage points less likely to participate in training than workers facing low risk of automation (OECD, 2021[4]). Preventing such workers from becoming unemployed is better for their employment prospects, earnings trajectories and human capital, while it is also less costly for the public budget than providing support after dismissal (Quintini and Venn, 2013[29]). Identifying workers with potentially outdated skills is particularly effective, when it is on a group basis, for instance at firms or sectors that are facing declining demand or high risk of automation. The Swedish Job Security Councils, which provide targeted support to workers at risk of collective dismissal, are a very interesting example in this respect (Box 5.2).[5]

Box 5.2. The Swedish Job Security Councils (*Trygghetsråden*)

The Swedish Job Security Councils (*Trygghetsråden*), introduced in the 1970s at the wake of the oil crisis to support employees at risk of collective dismissal. The first agreements were a result of negotiations between employers associations and trade unions and were seen as complements to the public employment service. Councils target workers employed in a company, or part of a company, closing down or restructuring for technological or economic reasons, with the aim of helping them transition into a new job before a dismissal takes place.

Workers supported by the councils receive a dedicated coach and a range of personalised services, including guidance and advice, training, financial support and business start-up support. Support is provided for a period of six to eight months. Workers do not have to be trade union members to benefit from the councils' services. The councils' track record is remarkable: 74% of workers supported by the councils leave their company towards a new job or further training; 70% of those who find work manage to maintain or increase their salary in the process.

The Job Security Councils are financed through an employer levy of 0.3%. They are run by social partners based on sectoral or cross-sectoral collective agreements (*Omställningsavtal*) and exist in all sectors of the Swedish economy.

Source: OECD (2019[5]). "*Creating responsive adult learning systems*", https://www.oecd.org/els/emp/adult-learning-systems-2019.pdf, Diedrich and Bergstörm (2006[30]), "*Job security councils in Sweden*", http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.546.8348&rep=rep1&type=pdf

5.2.2. Building pathways into the middle class for the young generation

Most young people in Germany have a smooth school-to-work transition, and Germany fares well on youth labour market outcomes in international comparison. Against the background of falling unemployment rates in Germany, also labour market outcomes for young people have continuously improved since 2005 up until the COVID-19 crisis. In 2020, 9.4% of 15-24 year-olds were not in employment, education or training (NEET) in Germany, 1.1 percentage points more than the pre-crisis 2019 value, but much below the OECD average of 16.1%.[6] While fewer young people in Germany obtain a tertiary-level qualification than in most other European countries – 35% of 25-34 year-olds in 2020, compared to 45% in the EU and OECD on average (OECD, 2021[31]) – this also reflects the strong position of Germany's vocational education system.

Still, about one-in-seven (13%) young people between 25 and 34 in Germany do not have an upper-secondary qualification. In a knowledge-based economy like Germany, these young people often face greater difficulties in establishing themselves in the labour market and building a career. Indeed, young people without an upper-secondary qualification were three times more likely to be unemployed or inactive than their peers with an upper-secondary or post-secondary degree in 2020 (OECD, 2021[31]).

Also their chances of reaching the middle-income group have been dwindling, as seen in Chapter 2. Given the strong relation between educational outcomes and the socio-economic background of students, it is a matter of fairness and efficiency alike to ensure that every young person has the opportunity to obtain at least an upper-secondary qualification. It is also an economic imperative, given demographic change and the growing shortage of skilled labour in Germany.

The COVID-19 crisis led to drop in the availability of apprenticeship places – and in the number of applicants

The COVID-19 crisis risks having lasting effects on the employment perspectives of a whole cohort of young people who are unfortunate enough to graduate from school and enter the labour market at the height of the crisis.[7] In Germany, the direct labour market impact of the crisis has been modest so far in international comparison also for young people: the unemployment rate of 15-24 year-olds rose from 6.2% to 8.0% between February 2020 and its peak in December 2020; in May 2021, it stood at 7.5%, the fourth lowest value across OECD countries (OECD, 2021[3]).

Young people interested in taking up an apprenticeship seem to have been affected more.[8] By the start of the training year in September 2020, the number of apprenticeship positions offered by companies had declined by 7.3% relative to the previous year, and the number of applicants was down by 7.6%. Monthly evidence up to May 2021 suggests that both the number of applications and places available had not recovered to pre-crisis levels (OECD, 2021[32]).[9] Survey data from the IAB Business Panel (Bellmann et al., 2021[33]) show that particularly small companies, and those in sectors most heavily affected by the crisis (notably in hospitality) have indicated to reduce apprenticeship places. Uncertain business prospects and financial difficulties were cited as the main reasons. The German Government reacted in July 2020 with the "*Ausbildung sichern*" ("Securing apprenticeships") programme, which provides financial incentives to small and medium-sized enterprises affected by the crisis that maintain or increase the number of apprenticeship places or that take over apprentices from insolvent businesses. The scheme was extended to 2021/22 and will receive EUR 500 million of funding in 2021. The most recent data show a further strong drop in the number of apprenticeship starts in September 2021, by 8.3%, with a more modest decline in the number for places offered (-3.6%) (Bellmann et al., 2021[34]).

The drop in the number of apprenticeship applications cannot be explained simply by demographic factors and should therefore be reason for concern. The reduction by 50 000 in the number of apprenticeship contracts signed in 2020 suggests that many young people have either postponed their application, decided to remain in school, or given up discouraged. This would imply a surge in the number of young people without qualification for the current school-leaving cohort unless if Germany finds a way of bringing these young people back into the vocational training system (Forstner, Molnárová and Steiner, 2021[35]). This will be challenging also because when re-applying those young people will have to compete for apprenticeship places with a new cohort of applicants who will have just left school.

A vocational training guarantee could ensure that every young person gets the chance to obtain a qualification

One option of ensuring that every young person gets the chance to obtain a qualification is through a vocational training guarantee, as it exists in Austria since 2008 (see Box 5.3). Under the Austrian *Ausbildungsgarantie* scheme, every young person below the age of 25 is entitled to an apprenticeship place. Young people who cannot find an apprenticeship position with a company can obtain their vocational qualification in "supra-company" workshops through an accredited training provider. This provider takes on the role of the company in offering to the young person the practical training foreseen as part of the apprenticeship, which – depending on the model – is complemented by extended placements in co-operating companies. For the duration of the training, apprentices can keep applying with companies and – once successful – switch to a "regular" apprenticeship. Graduates complete the training programme

with a standard apprenticeship certificate for the chosen occupation. The cost of the programme amounts to EUR 13 225 per person per year (Wieland and Härle, 2020[36]). Of these costs, 90% are paid for by the Austrian public employment service from means of the unemployment insurance fund, while the remainder is covered by the regions.

The available evidence on the impact of supra-company training is rather encouraging. Participation rates have risen since introduction of the scheme, from 5.6% to 7.7% between 2009 and 2018 (Schlögl et al., 2020[37]). Nearly three-in-four (72%) of trainees completed their apprenticeship, compared to 86% of young people in a regular dual vocational training. Out of the cohort of graduates in 2018, more than half (56%) were in employment – in many cases another apprenticeship – three months after graduation. Among former participants, the average gross annual income of graduates exceeded that of non-graduates by nearly 50% (Wieland and Härle, 2020[36]). Simulations suggest that a similar policy could substantially increase the supply of skilled labour in Germany, and that the financial benefits would exceed costs within relatively short time (Forstner, Molnárová and Steiner, 2021[35]).

Box 5.3. Supra-company training under the Austrian vocational training guarantee

Under the Austrian vocational training guarantee (*Ausbildungsgarantie*), introduced in its current form in 2008, every young person up to the age of 25 years is entitled to an apprenticeship offer. Young people who do not manage to find a regular apprenticeship with a company can receive their vocational training through supra-company training (*Überbetriebliche Lehrausbildung, ÜBA*). The ÜBA gives these young people a career perspective while supplying the labour market with qualified workers. In 2019, the ÜBA accounted for 9% of all apprentices in their first training year in Austria, about 3 100 young people in total.

The ÜBA is designed explicitly as a back-up option, or safety net, for young people who do not receive any offer of company-provided training in spite of having made adequate attempts. To qualify, a young person who has trouble finding an apprenticeship, or who dropped out of an apprenticeship, has to register with the Austrian public employment service (*Arbeitsmarktservice*, AMS), and provide proof of unsuccessful application attempts. The young person then participates in an orientation and preparation course with a duration of at least ten weeks. This course combines career guidance with socio-pedagogical support, skills profiling, and an assessment of the young persons' life circumstances. Before and during this course, the AMS actively supports the young person in finding a regular company-based apprenticeship. Only if this search remains unsuccessful the young person transitions into the ÜBA. The ÜBA is formally equivalent to company-provided training and leads to the same qualification. It always also includes company-provided practical training components, and ÜBA apprentices attend standard vocational education schools.

The ÜBA's explicit target is to help the young apprentices transition into regular company-based apprenticeships, and the system is designed such incentivise such transitions. Apprentices in the ÜBA receive a lower compensation than other apprentices, between EUR 354 in the first training year and EUR 818 in the third year. Supra-company training providers, which can be for-profit or not-for-profit, receive a financial reward for each trainee who transitions into a company. While young people can complete the entire apprenticeship in an ÜBA, about half of them transition into a company during the initial year of training. An important element of the programme has been that it was developed jointly with the social partners, who remain actively involved in its design and implementation. The qualifications offered by the ÜBA are chosen depending on skill demand using labour force data, and negotiated with the social partners.

While no rigorous impact evaluation of the ÜBA has been carried out to date, the available statistics on training and employment outcomes are encouraging. Of the trainees who left an ÜBA between 2015

and 2020, about 23% graduated with a vocational qualification, and a further 42% transitioned into company-based training. The remaining 34% dropped out. Of those trainees who completed the entire three-year training period in the ÜBA, nearly 72% obtained their qualification, compared to 86% among company-based apprentices. Three months after graduation, more than half (56%) of ÜBA participants were in employment in 2018 (41% in apprenticeships, 15% in non-subsidised employment); the remainder were registered as unemployed (28%) or out of the labour force (16%). The average gross income of former ÜBA participants with qualification was about 50% higher than for young people without qualification, though of course the young people in those groups are not entirely comparable.

The costs of the programme, about EUR 13 200 per trainee per year excluding the costs of attending the vocational training school, are largely covered by the AMS, with about 8% on average taken over by the regions. Estimations from a microsimulation model suggest that in the framework of the German training system, a vocational training guarantee that provides training to about 10 000 graduates per year could reduce unemployment rate by 0.09 to 0.17 percentage points and produce a long-term gain in GDP of 0.26 to 0.49%.

The effects of a vocational training guarantee may be particularly beneficial in times of economic crisis, as during the current COVID-19 crisis, when companies are more hesitant to take on apprentices. In such times, the vocational training guarantee can help stabilise the supply of apprenticeship places and hence ensure the qualification of young people.

Source: Wieland and Härle (2020[36]). "*Die Ausbildungsgarantie in Österreich: Funktionsweise, Wirkungen, Institutionen*", http://dx.doi.org/10.11586/2020051; Forstner, Molnárová and Steiner (2021[35]). "*Volkswirtschaftliche Effekte einer Ausbildungsgarantie: Simulation einer Übertragung der österreichischen Ausbildungsgarantie nach Deutschland*", https://www.bertelsmann-stiftung.de/de/publikationen/publikation/did/volkswirtschaftliche-effekte-einer-ausbildungsgarantie-all.

5.3. Creating good-quality, future-oriented jobs

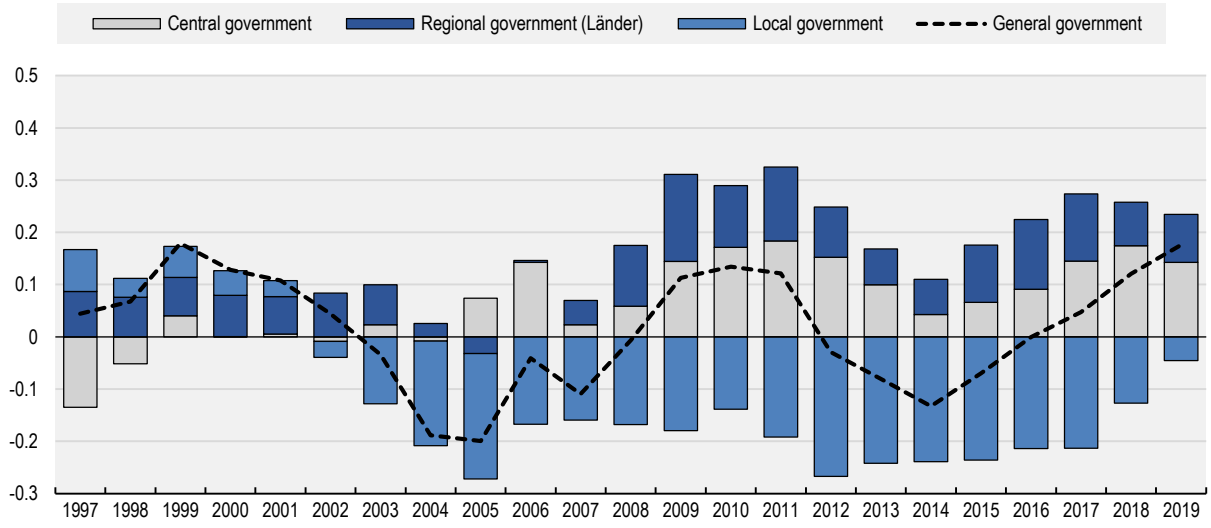
The structural transformation facing the German economy over the coming decades is not only a challenge to middle-class employment, as described in Section 5.2, but also can represent an occasion for the creation of attractive middle-class jobs. To successfully master the challenges arising from demographic change, the digital transformation, and the need to transition into a zero-carbon economy, Germany will have to modernise its economy and public infrastructure in the coming decades (OECD, 2020[6]). Population ageing will not only alter the structure of Germany's workforce, and the skills it supplies to the German economy, but also boost the demand for the services that an older population requires, including health care and long-term care. With the right policy choices, these processes provide the potential for additional good-quality, future-oriented middle-class jobs.

5.3.1. Creating middle-class jobs by investing in public infrastructure

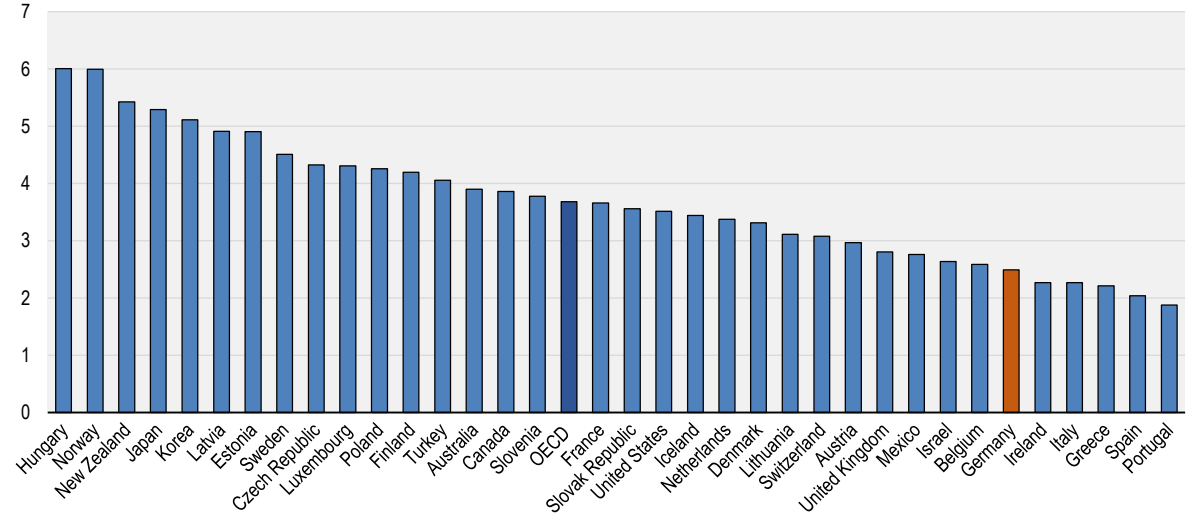
Infrastructure investment over the last two decades has been low in Germany, with stretches of negative net public investment in the mid-2000s and mid-2010s (Figure 5.3). And while Germany has stepped up public investment since 2014, including in its educational infrastructure and energy grid, general government investment remains at one of the lowest rates across OECD countries, at 2.5% of GDP in 2019 (3.7% in the OECD on average). This has created a considerable backlog, with substantial investment needed in digital infrastructure, social housing, and child care and education infrastructure. Large investments will be required also to decarbonise Germany's economy, notably into its electricity grid and into low-emissions transport infrastructure.

Figure 5.3. Public investment in Germany has been low

Panel A. Net public investment by level of government, % of GDP, Germany, 1997-2019



Panel B. General government investment , % of GDP, selected OECD countries , 2019 or latest



Note: In Panel A, public investment is defined as public gross fixed capital formation less depreciation. In Panel B, general government investment is the cumulative investment of the central, regional and local governments.
Source: OECD (OECD, 2020[6]) based on OECD National Accounts and Economic Outlook database.

The public infrastructure investment needed for Germany to master the structural transformation of its economy has the potential to become an engine of employment growth, and to create quality middle-class jobs. Investment in digital infrastructure – including in broadband internet and better mobile connectivity outside urban areas – could help boost the productivity and innovative capacity of companies in Germany, hence contributing to job creation including in rural areas (OECD, 2020[6]). The renewal of key public infrastructure in Germany, also as part of the greening of Germany's economy, would directly create many jobs, including in structurally weaker regions. Indeed, several OECD countries have announced investments in public infrastructure to boost job creation as part of their post-COVID-19 recovery plans. Most notably, the US American Jobs Plan foresees public infrastructure spending of about USD 2 trillion, or about 9.5% of 2020 GDP, by 2030 to address some of the same key challenges facing also the German economy (The White House, 2021[38]). In particular, the US plan focuses on funding

climate and clean-infrastructure projects in regions that are lagging or affected by the transition to clean energy, the creation and improvement of caregiving jobs, and investments in transport infrastructure, the electric grid, and broadband internet in all parts of the country. Already before the crisis, France announced a *Grand plan d'investissement*, to invest EUR 57 billion over 2018-22 to respond to the country's four major challenges: carbon neutrality, skills and employment, better competitiveness through innovation, and digitalisation (French Government, 2017[39]).

5.3.2. Improving the working conditions and pay of care professionals

Care professions will likely experience substantial employment growth over the coming years and decades. In health care and long-term care, qualified staff were already in short supply in Germany's booming labour market prior to the COVID-19 crisis (Rothgang, Müller and Unger, 2012[40]; Bundesagentur für Arbeit, 2020[41]), and the demand is projected to grow further as the German care workforce will need to support the large retiring baby boomer generation (Blum, Offermans and Steffen, 2019[42]; OECD, 2020[43]). Estimates from 2012 suggested that the number of people in need of care would rise from 2.3 to 3.4 million between 2009 and 2030, causing an additional demand for up to 0.5 million long-term care workers (Rothgang, Müller and Unger, 2012[40]). More recent figures show that the number of people in need of long-term care had already risen to 4.1 million by 2019, lifting the number of people in need of care per care worker from about 1.8 to about 2.4 (Bundesministerium für Wirtschaft and Energie, 2020[44]; Statistisches Bundesamt, 2021[45]).[10] The result may be labour shortages in health care and long-term care all across Germany, with the situation predicted to be particular severe in eastern Germany (Berlin, Brandenburg, Mecklenburg-West Pomerania and Saxony; Hummel et al. (2021[23])). According to a recent OECD survey, about 60% of Germans are concerned that their older family members or themselves will not be able to access good-quality long-term care (OECD, 2021[46]). In the child care sector, many facilities are already understaffed, and the demand for qualified staff will further grow as a result of rising participation rates in early childhood education and care (ECEC), the shift towards full-day care, more flexible opening hours (see also Section 5.4), and larger birth cohort sizes in recent years (Warning, 2020[48]; OECD, 2020[47]). Germany may need close to half a million new ECEC staff by 2030, which far exceeds the expected number of appropriately qualified graduates over the same period (OECD, 2019[49]).

These developments could be an opportunity for the creation of a large number of middle-class jobs. Occupations in nursing are one of the largest groups of associate professionals, who account for a growing share of middle-income jobs particularly among women (see Chapter 3, Figure 3.4 and Annex Table 3.A.1). In Germany, most of the health care professionals are nurses, representing higher skill levels than in other countries. Health and personal care assistants are important groups among the lower-skilled service and sales workers, many of whom live in middle-income households. Further job growth in caring professions will create additional employment opportunities for middle-income workers, and notably in occupations that are heavily female-dominated and – at least in parts – still difficult to automate (Nedelkoska and Quintini, 2018[1]).

However, for the care sector to become a job engine for good middle-class employment, Germany will need to substantially boost job quality in these professions, and particularly so in long-term care. The low attractiveness of care professions is one reason for the current staff shortages, and it will increasingly become a challenge as the demand for qualified labour rises.

Poor working conditions and low pay for caring professionals make it hard to attract qualified staff

Pay is low in many caring professions. A long-term care nurse working full-time earned a median salary of about EUR 2 900 gross per month, about EUR 150 less than occupations of comparable skill level, and EUR 400, or 12%, below the median wage of full-time employees in Germany (Bundesagentur für Arbeit, 2020[41]; Carstensen, Seibert and Wiethölter, 2020[50]). Long-term care assistants, who like nurses hold a

vocational upper-secondary qualification in Germany, earned a median gross salary of EUR 2 000 per month end-2018, about 10% below the average for comparable assistant occupations (Bundesagentur für Arbeit, 2020[41]).[11] However, the salaries of long-term care professionals vary substantially across, and even within, federal states, causing uncertainty for care workers. Child care professionals also earn relatively low wages in Germany, and they usually do not receive any salary during the first two to three years of their vocational education (Warning, 2020[48]). Health care workers receive substantially better salaries: in 2018, their median salary was about 20-30% higher than in long-term care, and slightly above the median across all sectors in Germany (Carstensen, Seibert and Wiethölter, 2020[50]). During the COVID-19 pandemic, the German Government announced a gradual rise in the minimum wages of nursing assistants and care workers with three-year apprenticeships. The Concerted Action Care (Konzertierte Aktion Pflege) aims to improve conditions for long-term care workers, including by increasing salaries and the earnings of apprentices. Although welcome steps, these steps alone are unlikely to be sufficient to address the existing challenges (Rocard, Sillitti and Llena-Nozal, 2021[51]).

Care professions also suffer from unattractive working conditions. In child care, fixed-term contracts are widespread at the start of workers' careers: more than half of new hires on jobs that offer full social protection initially receive only a temporary contract, compared to less than 40% among all occupations (Warning, 2020[48]). In long-term care and health care, a disproportionate share of workers are employed part-time (56% and 43% of all workers, compared to 29% among all sectors), with one of the main reasons for part-time work being the high work strain from shift work and overly dense work schedules when working full-time (Bundesagentur für Arbeit, 2020[41]; DBFK, 2019[52]). A challenge common to all care professions is the limited access to training and the low potential for career development (OECD, 2020[47]; 2020[43]).

The COVID-19 pandemic has exacerbated some of these challenges. While Germany's physical health infrastructure has proven quite robust to the challenges of the pandemic, caring professionals were heavily affected. The high pressure on health care services, particularly during the second pandemic wave in autumn and winter 2020, worsened existing problems of under-staffing and markedly increased the share of workers reporting mental strain (Eggert and Teubner, 2021[53]). The risk of infection increased reported stress, including for child care workers.[12] Frontline workers' exposure to the COVID-19 virus also lead to increased sickness absences that exacerbated staff shortages (Rocard, Sillitti and Llena-Nozal, 2021[51]).

The low attractiveness of the care professions partly reflects weak worker bargaining power in the absence of collective bargaining agreements (CBAs). CBAs can set the framework for concrete measures to improve the pay, training and working conditions of care workers, and guarantee a better enforcement in labour contracts (OECD, 2020[43]). More than other OECD countries, Germany experienced a weakening of trade unions since the middle of the 20th century, a trend that also applied to care professionals (Schnabel, 2016[54]). Today, only one-in-ten long-term care workers are members of a trade union (Schroeder, 2018[55]). Professional representation of care workers is traditionally low in Germany, and a renewed attempt to negotiate a CBA for long-term care workers failed in first quarter of 2021. In the Netherlands, CBAs in the health care and long-term care sectors – negotiated between trade unions and employer associations – are declared universally binding (FBZ, 2021[56]). By setting standards, CBAs protect workers with a weaker bargaining position and reduce earnings inequalities (cf. OECD (2018[57])).[13] Salaries for long-term personal care workers and nurses are 20 to 25% higher in the Netherlands than in Germany, and the share of temporary contracts is about 10 percentage points lower (OECD, 2020[43]). In some other countries, collective agreements also include additional leave days and death insurance for health care workers. A big step towards better pay for long-term care professionals in Germany is a recent legislative change, according to which long-term care providers will have to pay according to CBAs to continue qualifying for reimbursements through the public long-term care insurance.[14]

The skills required in caring professions are in short supply in Germany

An additional reason for the labour shortages in caring professions, besides the low attractiveness of some of these occupations, is that the level of skills sought after by employers often exceeds that of available applicants. According to PES data (Bundesagentur für Arbeit, 2020[41]), a significant number of jobseekers indicated an interest in working in the care sector prior to the COVID-19 crisis when demand for care workers was high. In long-term care, the number of jobseekers even exceeded the number of vacancies by about one-third in 2019. However, the qualifications requested in the vacancy were usually higher than those of the available jobseekers. In long-term care, 90% of jobseekers did not possess the vocational degree for care nurses required in two-thirds of all vacancies; 60% of jobseekers in long-term care and 28% in health care did not even possess the vocational qualifications for the lower-skilled position of care assistants. This underlines that – besides raising the attractiveness of care professions – Germany will need to invest in the up- and reskilling of workers to equip them with the qualifications required in the care sector.

Indeed, Germany carried out far-reaching changes in the vocational education of health and long-term care workers in 2017. With the start of 2020, health care and long-term care were integrated into one single vocational degree.[15] This change should facilitate moves between the different care sectors for future generations of care workers, thereby allowing Germany to react more flexibly to changes in labour demand. This should contribute to reducing labour shortages. Training costs were scrapped, and a minimum wage introduced for trainees in vocational education. No such minimum wage still exists for trainees in child care vocational education. Germany also introduced a bachelor in care, already common in other countries, to strengthen skill development at tertiary level in the health and long-term care sectors (OECD, 2020[43]). However, it will take a few years before those changes in training policy will meaningfully affect labour supply.

Raising the profile and pay of care occupations requires greater public spending

Improving the attractiveness of care occupations, including for middle-class workers, will require Germany to increase public expenditures. This is true not least because since the public sector is the largest employer of care professionals in Germany, spending increases could directly translate into better working conditions and higher wages for care workers. Public spending on long-term care in Germany has risen over the last decade, from 1.1% to 1.6% of GDP between 2010 and 2019. But it remains much below the levels achieved in Belgium and Denmark (both 2.3%), Sweden (2.7%), and the Netherlands and Norway (3.1%; OECD (2021[58])).[16] This is true even though the share of elderly people in the population is much higher in Germany than in any of these countries (OECD, 2021[59]). There may generally be public support for increasing public spending on long-term care. Evidence from the most recent OECD *Risks that Matter* survey indicate that 36% of Germans would agree to pay an additional 2% of taxes if they were allocated to long-term care (OECD, 2021[46]). Public expenditures for ECEC in Germany are around the OECD average of 0.7%, but much below the values obtained in France (1.3%), and some of the Nordic countries (1.3-1.8% in Denmark, Norway, Sweden, and Iceland; see Section 5.2 and OECD (2020[60])).

An interesting example in this respect is Japan. Facing similar demographic challenges, the country started to raise spending on long-term care, with an average real annual increase of 4.6% between 2005 and 2015, compared to only 3.3% in Germany. Additional expenditures in Japan, in particular on technology, target both process optimisation and higher labour supply through better working conditions. For example, the usage of care robots to lift patients, and of advanced sensor technique to automatically identify certain care needs, has the potential to reduce physical work strain and increase process efficiency for care professionals. While technology diffusion in the sector remains low to date (Braeseke et al., 2019[61]; OECD, 2020[43]), particularly the use of the sensor technique may hold promise for the long-term care sector in Germany (Beck et al., 2013[62]).[17]

5.4. Boosting middle-class disposable incomes

Weak income growth for low- and middle-income households over the last two decades has been a key factor in explaining the shrinking of the German middle class. As detailed in Chapter 2 (Figure 2.4), the median disposable household income in Germany has stagnated between 2000 and 2015 in real terms, though the picture has looked brighter in recent years. However, in spite the uptick in disposable incomes since 2015, the living standards of middle-income households have risen only little compared to the early 2000s. This long period of stagnating incomes is partly a consequence of low, or even negative, real earnings growth for the median earner over the same period, as shown in Chapter 3 (Figure 3.9). It is consistent with a broader trend across a range of other OECD countries, where income and earnings growth have been weak for the lower half of the distribution (see also Chapter 2, Annex Figure 2.A.1. and OECD (2018[63])).

Those trends are probably part of the reason for a widespread sentiment in many OECD countries, including in Germany, that taxes are too high for lower- and middle-class households. OECD calculations based on data from the International Social Survey Programme for 2016 show that around half of people in Germany, and across OECD countries, find that taxes for middle-income households are "too high" or "much too high" (48% of respondents in Germany, 51% across 25 OECD countries on average). Even around three-in-four respondents (75% in Germany, 72% in the OECD on average) find taxes too high for low-income households.[18] Meanwhile, recent results from the OECD *Risks that Matter* Survey indicate that, on average, 58% of middle-income households in OECD countries consider that they do not receive a fair share of public benefits for the taxes and social-security contributions that they pay (OECD, 2019[64]).

However, the analysis in Chapter 2 calls for a more differentiated view (see Figure 2.9). Working-age middle-income households indeed contribute much more in income taxes and social security contributions than they receive in cash benefits, but the reverse is true for elderly middle-income households, who receive most of their income from public pensions. Also, while income taxes and contributions exceed cash benefits receipt for the mid middle and upper middle, households in the lower middle-income group are net beneficiaries. In other words, considerable income redistribution takes place also *within* the middle-income group.

This section discusses different policy options to boost disposable incomes of the German middle class. It takes a close look at the tax burden on labour income in Germany, drawing on simulations from the OECD Tax-Benefit model, and discusses options for relieving pressure on middle-income households. It then discusses measures that could help further raise labour force participation – and hours worked – of women in Germany, which would increase household labour income and boost incomes.

5.4.1. Reducing the labour tax burden for middle-class workers

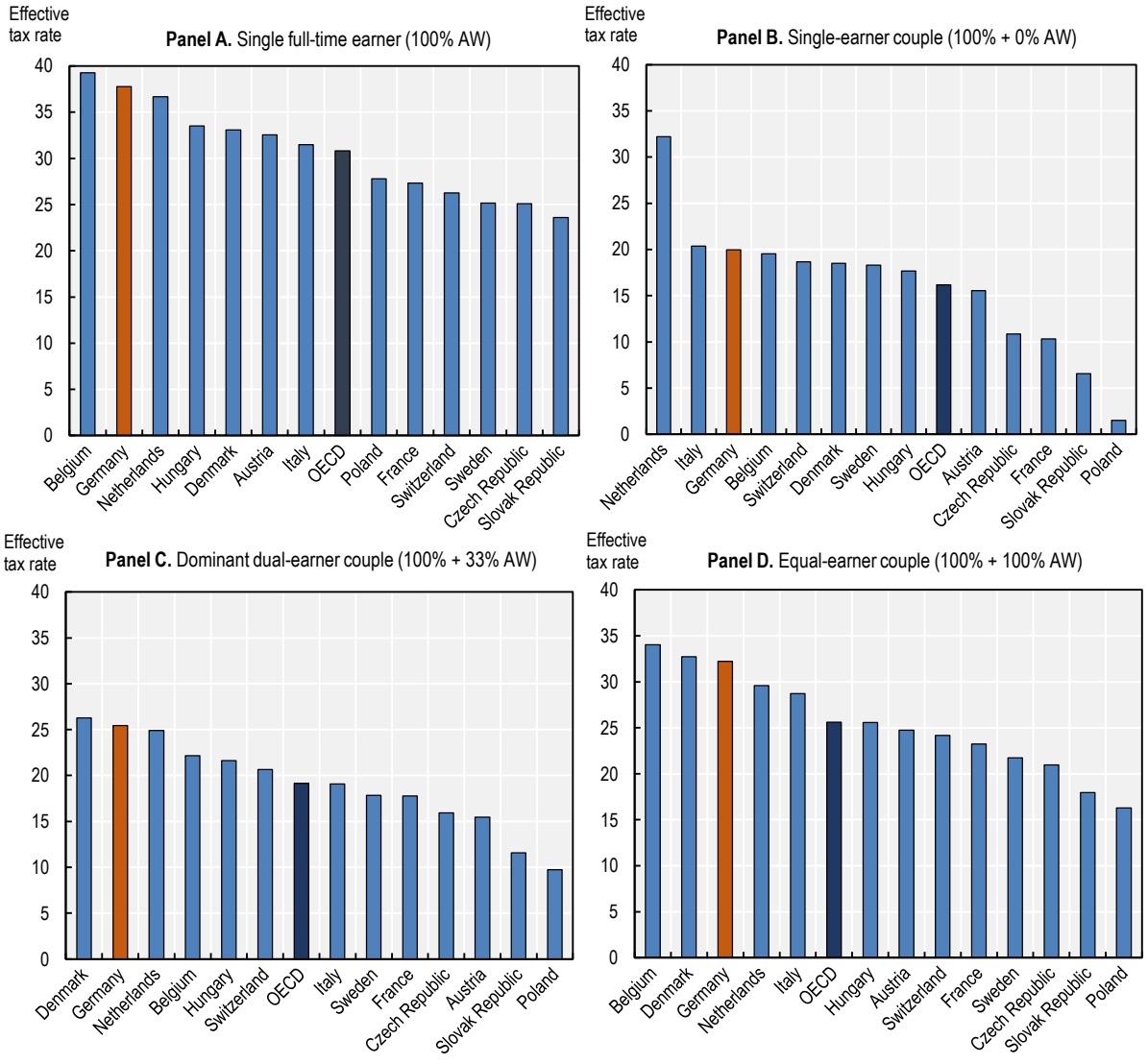
The effective tax rate for middle-income earners is high in Germany in international comparison

Middle-income households in Germany face a comparatively high effective net tax rate on their labour income. For a single person without children earning the average wage (AW) in Germany in 2021, deductions for income taxes and social-security contributions net of benefits equalled 38% of gross household income (Figure 5.4, Panel A).[19] This is higher than for a selection of comparable European countries, including Austria, Denmark, the Netherlands, France, and Sweden. Germany also has one of the highest effective net tax rates for couples in that income range (Figure 5.4, Panel B, C and D). This is true particularly for couples where partners have similar earnings (see Figure 5.4, Panel D, "equal dual-earner couples" at 100%+100% of the AW), while "traditional" single-earner couples fare better (Figure 5.4, Panel B). This is a result of joint income taxation with the option of the income splitting for

married couples in Germany, see discussion below. Those results hold for couples with and without children.

Figure 5.4. Middle-income earners face a high effective net tax rates in Germany

Effective tax rates as a percentage of gross household earnings, by household type, selected OECD countries, 2020 (preliminary 2021 results for Germany)



Note: The effective tax rate is the share of gross income that is due to the government as income tax and employee social-security contributions, minus social benefits received. Single-earner couples have an income of 100% of the average wage. Dominant dual-earner couples have an income of 100%+33% of the average wage, where the second earner is assumed to work one-third of the time at 100% of the AW. Equal dual-earner couples have an income of 100%+100% of the average wage. The couples are assumed to have two children aged 4 and 6; the single full-time earner is assumed to have no children. Childcare costs and benefits are not included. "OECD" gives the unweighted average across 33 OECD countries in 2020 (2021 for Germany).
Source: OECD Tax-Benefit model (version 2.3.2.), www.oecd.org/social/benefits-and-wages.

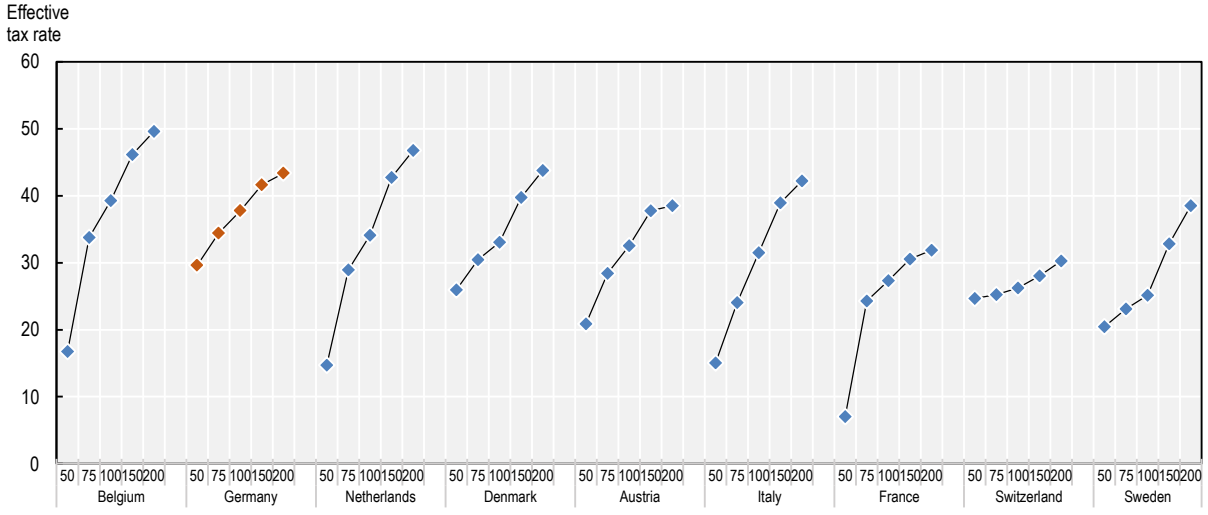
High effective tax rates for middle-income earners reflect what is commonly referred to as the *Mittelstandsbauch*, the middle-class bulge. Once a person's income exceeds the basic tax-exempt amount,

about EUR 9 700 in 2021, marginal tax rates rise steeply at low to middle income levels before flattening out rather quickly at higher incomes. This leads to a rapid rise in the average tax burden for many low- and middle-income earners, such that incentives to increase earnings are weak (Peichl, Buhlmann and Löffler, 2017[65]). Weak progressivity in the upper parts of the German income tax schedule result from a series of reforms around the turn of the millennium that substantially reduced top marginal income tax rates.[20] Also, the threshold values of the German income tax brackets – unlike the basic tax-exempt amount – are not adjusted systematically for inflation or wage growth. Households with low and middle earnings therefore reach these higher marginal tax rates more quickly than they used to as a result of bracket creep (*Kalte Progression*; Beznoska and Hentze (2017[66])). Employee social-security contributions are relatively high in Germany across earnings levels (OECD, 2021[67]), and they make up the bulk of labour taxes paid by low-income earners (OECD, 2018[68]).

As a result, effective tax rates, which account for social-security contributions and benefits received, are quite compressed in Germany in international comparison (Figure 5.5). They are much higher than in most peer countries at low earnings levels (50-75% of the AW), among the highest at middle earnings (100% of the AW), but flatten out at higher earnings levels (above 150% of the AW). A single earner at 200% of the AW faces a lower effective net tax rate in Germany than in Belgium and the Netherlands, broadly on par with Denmark and Italy. For couples with uneven earnings levels (not shown in Figure 5.5), tax progressivity is further lowered by the spousal income splitting rule (*Ehegattensplitting*), see the discussion below.

Figure 5.5. The German tax schedule leads to high effective tax rates for lower- and middle-income earners while progressivity at the top is low

Effective tax rate for a single person without children as a percentage of gross earnings (100 = AW), selected OECD countries, 2020 (preliminary 2021 results for Germany), as percentages



Note: The effective tax rate is the share of gross income that is due to the government as income tax and employee social-security contributions, minus social benefits received. Results for Switzerland only take account of taxes, not of non-compulsory tax payments.
Source: OECD Tax-Benefit model (version 2.3.2.), www.oecd.org/social/benefits-and-wages.

Germany could reduce the tax burden for middle-class workers by increasing progressivity and changing its tax mix away from labour taxation

The above analysis indicates that there is scope for reducing the tax burden on labour income for middle-income households in Germany. This could happen through a combination of different measures:

- *Increasing the progressivity of the tax schedule for labour income:* Germany could reduce the income tax burden on low- and middle-income earners by easing the steep increase in marginal tax rates in the lower parts of the tax schedule. This could be done by lifting the lower threshold values of the income tax bracket that applies to middle-income earners, and by moving towards a more linear increase in marginal tax rates between the lowest rate and the top rate, currently 14 and 42%. Such measure would also benefit – and indeed benefit most strongly – high-income earners, who would pay the same lower rates on the respective parts of their income earned. They could therefore be complemented – and partly financed – by an increase in marginal tax rates at the top, where the German tax schedule is currently not very progressive.[21]
- *Lifting social-insurance contribution ceilings*: Germany is one of only five OECD countries – besides Austria, the Netherlands, Spain, and Sweden – where employee social insurance contributions are capped at below 250% of average earnings, at 159% in 2020 (OECD, 2021[69]). This limits the financial contribution that high-income earners make to the social insurance system.[22] Lifting these contribution ceilings, along with maximum benefit amounts, where applicable, would help generate additional resources to finance the system, particularly in those parts – like health care and long-term care insurance – where the benefit entitlements are largely independent of the level of contributions paid. The additional resources could help reduce, or at least stabilise, high employee social contribution rates.
- *Shifting the tax burden away from labour income towards other types of taxes:* Germany holds an (upper-)mid-table position in tax revenue as a share of GDP, but the tax wedge on labour for the average worker is the second highest across OECD countries (OECD, 2020[70]; 2021[69]). Reducing taxes on labour income while strengthening capital income taxation and removing exemptions to inheritance taxation would relieve the tax burden on middle-class households (OECD, 2020[6]). Stronger environmental and property taxation could also contribute to a more efficient, sustainable, and employment-friendly tax mix, though their implications for middle-class budgets may be more ambiguous.

5.4.2. Enabling and incentivising women to expand their labour market participation

Germany experienced strong growth in female labour force participation over the last decades. Since 2005, the employment rate of women has increased by 13 percentage points in the age group of 15-64 year-olds. At 73%, it was only little lower than the employment rate of men (79%) in 2020 (OECD, 2021[71]).[23] However, more than one-in-three women in Germany worked part-time in 2020, the fifth-highest rate across the OECD (OECD, 2021[72]). This includes a greater share of women than men employed in so-called *Minijobs,* i.e. marginal jobs with earnings up to EUR 450 per month that are exempt from income taxation and nearly all employee social-security contributions (Consiglio and Göbler, 2021[73]).[24] Women are also more likely to be overqualified for their job (Statistisches Bundesamt, 2021[74]), and a greater share of tertiary-educated women than men work in medium- rather than high-skilled occupations (Bönke, Harnack and Wetter, 2020[75]). As a result, women in Germany earn only about half as much as men over their lifetime (Bönke, Harnack and Wetter, 2020[75]), and the gender gap in labour income in Germany is one of the largest among European OECD countries (OECD, 2018[76]).

By enabling, and incentivising, women to work more hours, and to remain in – or return to – employment after childbirth, Germany could help households increase their income from work. This would strengthen the income position of middle-income households, and it could help low-income households rise up into

the middle-income group. Chapter 2 shows that one-and-a-half earner couples have become more likely to be in the middle-income group in Germany, and that two-earner couples increasingly find themselves in the high-income group (see Chapter 2, Figure 2.12). This underlines the importance of second earners for the income status of a household.

The German tax-benefit system creates substantial financial work disincentives for second earners, who are still in large majority women

Besides high effective tax rates on many middle-income earners, the German tax system – which taxes couples jointly – also comes with low work incentives for second earners to take up work or increase earnings by working more hours or moving to better-paid jobs (Böhmer et al., 2014[77]; Peichl, Buhlmann and Löffler, 2017[65]; OECD, 2017[78]; OECD, 2018[68]; Blömer and Peichl, 2020[79]). This particularly affects women, who are in many cases the second earners in a household, and it is one explanation for high rates of part-time work among women (see Chapter 3).

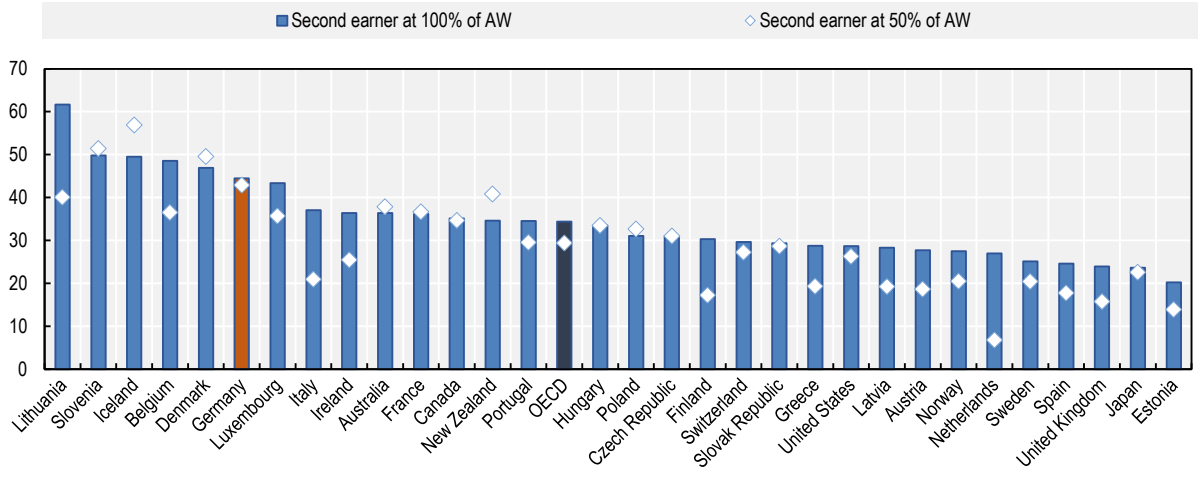
A common way of quantifying incentives to take up work is by looking at the participation tax rate (PTR), i.e. the share of gross earnings that people who take up work pay in form of income taxes and social-security contributions net of social benefits. In Germany, a household in which a person takes up work and in which there is already a person earning 100% of the AW pays nearly half of their additional earnings in net taxes. If the second earner starts working at 50% of the AW (e.g. in a half-time job paying the AW), the PTR equals 43%; if the second earner starts working at the full AW, the PTR is even slightly higher at 45% (Figure 5.6, Panel A). For comparison, across OECD countries on average, second earners face PTRs of 29% and 34% when starting to work at 50% and 100% of the AW. In the Netherlands, a second earner taking up work at 50% of the AW faces a PTR of only 7%.

And second earners in Germany not only face low work incentives when deciding *whether* to take up work, but also *how much* to work, i.e. both at the *extensive* and *intensive* margin. More specifically, the German tax system favours couples with unequal earnings over those where both partners earn similar levels. This is illustrated in Panel B of Figure 5.6, which shows the effective tax rate for couples with total earnings of 200% of the AW, partitioned differently between the two partners. Again, among a selection of European countries, Germany has the second highest effective tax rate for a two-earner couple (here: without children) with both partners earning 100% of the AW. However, the effective tax rate declines as earnings between the partners become more unequal – from 38% for an equal-earner couple to 35% for a dominant dual-earner couple where the second earner only contributes 25% of the AW – even as the couple's total earnings remain constant at 200% of the AW. In most other countries shown, the effective tax rate *rises* as earnings are distributed more unequally (as in Belgium, Denmark, the Netherlands, Austria, Italy, and Sweden), or is largely independent from the partition of earnings between the two partners, as in Central European countries (Hungary, Poland, the Czech Republic, and the Slovak Republic). Only France and Switzerland show a similar pattern as Germany.

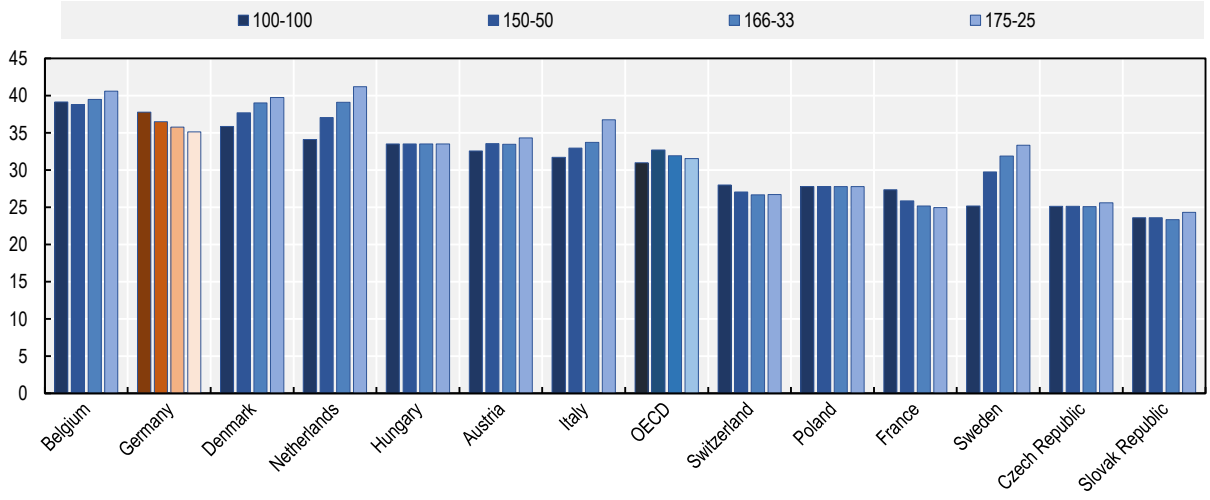
Couples' option of carrying out income splitting (*Ehegattensplitting*) is the main source of those work disincentives for second earners in Germany (Blömer, Brandt and Peichl, 2021[79]). The German income tax system allows married couples to split the sum of earnings (and other income) equally between partners before calculating the payable income tax. Because the income tax formula is progressive, this reduces couples' tax rates, except for couples where the partners have equal earnings. The system hence rewards couples for having unequal earnings. For the second earner, income splitting implies that the marginal tax rate when increasing earnings, for example by working additional hours, is much higher than if incomes were assessed separately. A 2018 report on reform options for the taxation of married couples reported that in 90% of tax-splitting couples the woman was the second earner (Wissenschaftlicher Beirat beim Bundesministerium der Finanzen, 2018[80]). An additional source of work disincentives for second earners is the free coverage of non-working spouses through the public health insurance (OECD, 2018[68]).

Figure 5.6. Second earners in Germany have weak incentives to take up work or to increase earnings

Panel A. Participation tax rates for secondary earners who start working at 50% and 100% of the average wage (AW), couple with two children, 2020



Panel B. Effective tax rates as a percentage of gross household earnings, two-earner couples with different earnings partitions, selected OECD countries, 2020 (100 = AW)



Note: In both panels, couples are assumed to have two children aged 4 and 6. "OECD" gives the unweighted average across 32 OECD countries in 2020 (2021 for Germany). In Panel A, calculations are for a primary earner with earnings at 100% of the AW. The participation tax rate gives the difference in the net income for the couple with and without the earnings of the second earner after accounting for changes in taxes, social-security contributions and social benefits. Panel B presents the effective net tax burden for two-earner couples without children with earnings at 100% and 100%, 150% and 50%, 166% and 33%, and 175% and 25% of the AW. The second earner is assumed to work part-time at 100% of the AW. Countries are sorted in descending order of the effective net tax burden for equal-earner couples (100+100).
Source: OECD Tax-Benefit model (version 2.3.2.), www.oecd.org/social/benefits-and-wages.

Potential reforms of the income splitting rule have been hotly debated for decades. Replacing the joint assessment of married couples by a simple separate assessment of each partner would eliminate the differences in effective tax rates between the first and the second earner, but such a reform would not be constitutional (OECD, 2016[81]). A number of alternatives have been proposed, including the so-called *Realsplitting* (see, most recently, Blömer, Brandt and Peichl (2021[79])), which finds application in the taxation of divorced couples, an individual taxation with a transferable basic tax allowance, or an additional

tax allowance for couples. Even some of the less far-reaching of those reform scenarios promise stronger work incentives for second earners, a modest rise in female employment rates, and notable increases in women's hours worked (Bach et al., 2020[82]). Health insurance premiums could be related to the number of adults in a household (OECD, 2018[68]).

Minijob regulations are an additional source of disincentives to take up regular employment

Minijobs are a second salient feature of the German tax-benefit system that generates incentives for second earners to work few hours. They are exempt from income taxation and nearly all employee social-security contributions up to an earnings level of EUR 450 per month. Given the statutory minimum wage in Germany of EUR 9.60 per hour (since July 2021), a *Minijobber* can work for a maximum of about 11 hours per week. Minijobs are very widespread: between over 6 and 7 million people in Germany were employed in Minijobs each quarter between 2005 and early 2020 (Consiglio and Göbler, 2021[73]; Minijob-Zentrale, 2021[83]).

While the absence of a tax and contribution burden, and the low amount of paperwork required to create and maintain Minijobs, make Minijobs very attractive for both employers and employees, they can trap workers in low-paid employment offering little to no perspective of earnings progression and no social-insurance entitlements. This is because they create disincentives to raise earnings beyond the EUR 450 threshold by increasing wages or hours worked. So-called *Midijobs*, which are subject to income taxation and partial social-security contributions, smooth the transition to regular employment for earnings levels between the EUR 450 Minijob-threshold and EUR 1 300, from where full social-security contributions are due. However, a discontinuity exists at EUR 451, where the rate of social-insurance contributions payable jumps from 0 to 11%, which corresponds to over EUR 500 per year. The interaction with the tax splitting exerts a particularly strong disincentive for Minijobbers who are second earners to increase earnings. This is because the absence of taxes and social-security contributions in the Minijob is particularly beneficial when the alternative is standard employment, at presumably relatively low earnings, burdened by higher taxes because of the spousal income splitting (Blömer and Peichl, 2020[78]). While Minijobs had been meant serve to as stepping stones into standard employment, evidence suggests that they are not, in particular for female Minijobbers: three-in-four of those without additional regular employment remain in the Minijob for more than three years (Wippermann, 2012[84]).

During the COVID-19 crisis, a particular concern has been that Minijobs have much weaker job security than regular employment, and that they come with little social-protection coverage. Minijobbers have suffered heavy employment losses during the current crisis. Between December 2019 and December 2020, 900 000 jobs were lost in the commercial sector, a decline by over 13%. Women have been more affected than men (-14 vs. -11%), and job losses were most dramatic in hospitality (-50%) and culture and entertainment (-39%).[25] The number of Minijobs has rebounded since, but it remained 10% below its pre-crisis value in June 2021 (Minijob-Zentrale, 2020[85]; 2021[83]). This is consistent with the large job losses for (mostly low-income) Minijobbers shown in Chapter 3, Figure 3.13. Those trends partly reflect that Minijobbers did not have access to *Kurzarbeit* (short-time work) during the crisis, which is being financed through the German unemployment insurance system. Minijobbers are also not covered by unemployment benefits. The loss of a Minijob therefore often implies a painful drop in household income. Around 60% of Minijobbers live in households with a net income below EUR 2 000 (Consiglio and Göbler, 2021[73]).

For the above reasons, there appears to be a strong case for limiting the scope of Minijobs. Indeed, there have been calls for a stepwise phasing-out of Minijob regulations, possibly complemented by a new regime targeted more closely to pupils, students, and retirees (Rat der Arbeitswelt, 2021[86]). According to simulations, a policy reform that would abolish the special regulations for Minijobs by introducing low social-security contributions from the first Euro earned, and lower the effective tax and contribution rate for low-income earners up until a gross monthly wage of EUR 1 800, could bring significant gains in regular

part-time employment (Krebs and Scheffel, 2021[87]). An alternative could be to maintain Minijobs for activities carried out in private households, where labour law tends to be more difficult to monitor and enforce than in the commercial sector. This would reduce the risk of pushing these jobs into informality (Weber, 2020[88]), and private households currently only account for a fraction of all Minijobs (see footnote 25).[26] According to a recent microsimulation study (Blömer, Brandt and Peichl, 2021[79]), a comprehensive joint reform of the spousal income splitting and the Minijobs could move an additional 100 000 women into employment without burdening public budgets.

Access to flexible, good-quality institutional child care remains an obstacle to paid work and career progression for mothers in Germany

Germany has made substantial efforts over the last decade to expand access to institutional child care with a view to raising female labour force participation and providing greater flexibility to working parents. An important step has been the introduction in 2013 of a legal entitlement of a formal child care solution for 1-3 year-olds irrespective of whether or not their parents work. Empirical evidence suggests that the legal entitlement indeed had a positive effect on kindergarten attendance of three-year-olds as well as on maternal employment (Bauernschuster and Schlotter, 2015[89]). More recently, through the Good Kindergarten Act (*Gute-KiTa-Gesetz*), the German Government committed to providing EUR 5.5 billion in federal funding by 2022 to improve child care quality, reduce fees, and adapt childcare to local needs across the German *Länder*. Germany has also been massively investing in expanding afternoon education and care for school-aged children, notably through the expansion of all-day schools, an important factor given that school in Germany traditionally ends around lunchtime. This includes a new legal entitlement to all-day care for children of primary school age introduced stepwise starting in 2026. Also, formal afternoon care for primary-school children has been found to significantly increase maternal labour supply (Gambaro, Marcus and Peter, 2018[90]; Krebs et al., 2019[91]). Also, the 2020 crisis recovery package foresaw additional federal funds for the expansion of early childhood education and full-time schooling in 2020/21. A challenge for the rapid expansion of full-day care in Germany has been that early childhood education and care (ECEC) and primary schooling fall under the authority of the communes and regions in Germany, who are keen to maintain responsibility for how funding is allocated, meaning that larger investments by the federal government are usually preceded by long negotiations.

Germany's large investment in ECEC have led to an impressive rise in participation rates, particularly among the very youngest (OECD, 2018[92]):

- *Participation rates are high in Germany for 3-5 year-olds*. 95% of them participated in pre-primary education in 2018, an increase of 7 percentage points since 2005. This figure puts Germany above the OECD and the EU averages of 87% and 89%, though in a number of European countries, such as Belgium, Denmark, France and the United Kingdom, enrolment is quasi-universal with rates of close to 100%.
- *Participation rates rapidly increased for 0-2 year-olds, but remain much below those of other European countries.* More than one-in-three (38%) of them were enrolled in ECEC services in 2018, more than double the rate in 2005 (17%;). Enrolment lies slightly above the OECD average (36%), but substantially below the rates of around 55-65% attained in neighbouring countries such as Belgium, Denmark, France, and Luxembourg.

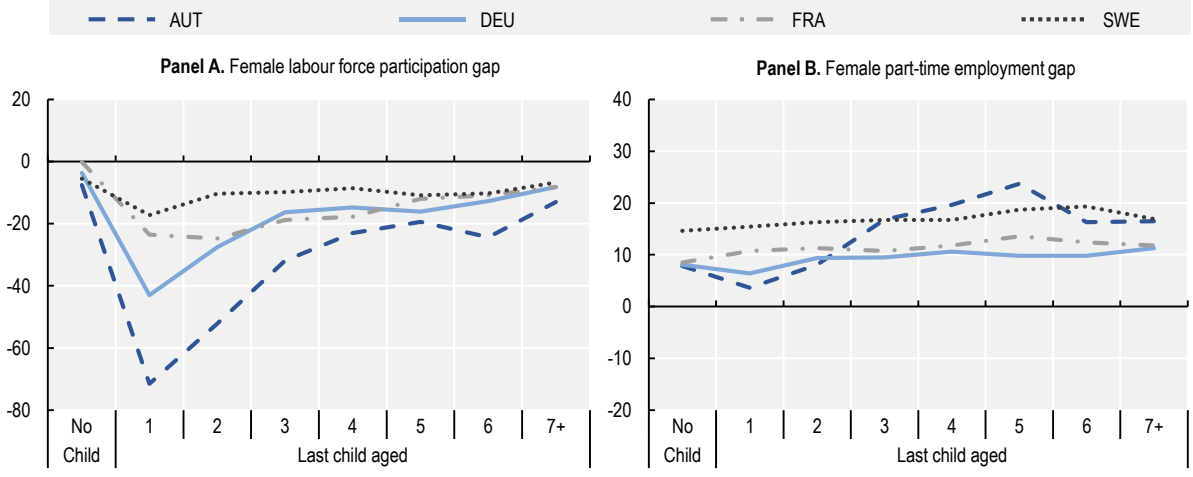
Insufficient provision of flexible child care services for the very youngest therefore remains a factor limiting mothers' employment (Blömer et al., 2021[93]; Barisic and Consiglio, 2021[94]). Full-time work requires full-time child care solutions, but in particular in western Germany institutional child care still lacks or is insufficiently flexible. In spite of the legal entitlement introduced in 2013, the share of parents in Germany who desired a child care solution for their 0-3 year-old exceeded the share of enrolled children by 15 percentage points in 2019, with the gap reaching nearly 20% in a few western German regions. Among parents with a child in formal child care in Germany, over half indicated that they required a child care

solution outside of core opening hours, but only a fraction of child care facilities in western Germany operate before 7am and after 5.15pm. (BMFSFJ, 2020[95]). The shortage of qualified child care workers is a constraint for the further rapid expansion of child care services. And in spite of Germany's large recent investments in all-day primary schools, the lack of afternoon education and care remains a major obstacle to full-time employment for parents of school-aged children.

Childbirth consequently often has a lasting effect on mothers' labour market trajectories in Germany. Earlier OECD research, carried out for the *Employment Outlook 2018* (OECD, 2018[96]), shows that Germany is among the OECD countries where childbirth is associated with the largest drop in female labour force participation, particularly while the child is young (Figure 5.7, Panel A). In the year after childbirth, labour force participation of women drops by 43 percentage points relative to that of men. Only in the third year after childbirth, the drop in labour force participation approaches the value observed in France, and only after six or seven years the one for Sweden. Meanwhile, childbirth does not appear to be associated with a strong rise in part-time work of women relative to men (Figure 5.7, Panel B). Low labour force participation rates of women after childbirth are one explanation for the large gap in lifetime earnings between women and men, and between mothers and women without children (OECD, 2018[96]; Bönke, Harnack and Wetter, 2020[75]; Barisic and Consiglio, 2021[94]).

Figure 5.7. Childbirth has a lasting effect on mothers' labour market trajectories

Percentage point marginal effect of childbirth on labour force participation and part-time work, women without and with children (by age of their youngest child) compared to men, mid-2000s to mid-2010s



Note: The panels show marginal effects from country-specific probit regression models that including female cross-effects and control for age groups, educational attainment, partnership status, health status and a time trend. Results are for 20-64 year-olds. For further details, see OECD (2018[96]).
Source: OECD (2018[96]) using data from EU-SILC and national household surveys.

A further expansion of institutionalised child care in Germany will likely require raising public expenditures for ECEC, and compared to others Germany indeed still has scope for increasing spending. In 2017, Germany spent around 0.7% of GDP on ECEC, a little below the OECD average. Some Nordic countries (Denmark, Iceland, Norway, and Sweden) and France spend about two to three times as much relative to their GDP (OECD, 2020[60]).

5.5. Conclusions

Drawing on the statistical analysis presented in the previous chapters, this chapter proposes different policy options for a stronger middle class in Germany:

Strengthening the employability of middle-class workers is one field of action: Germany's economy will face profound structural transformation over the next years and decades because of automation and the green transition. Middle-class workers will have to upskill, and reskill, over their working lives to reap the benefits of these transformations, rather than to lose out from them. This will require Germany to expand adult education, for example through more extensive paid training leave and better career guidance. The young generation deserves particular attention: it has been disproportionately affected by the decline in the middle-income group in Germany, and the COVID-19 crisis will likely increase the share of young people who leave school without qualification. To provide a professional perspective to those young people, and to pave them a path into the middle class, Germany needs to ensure that every young person in Germany gets the chance to obtain an upper-secondary qualification. An interesting policy option in this respect is a vocational training guarantee, as it exists in Austria.

Germany could also do more to *create good-quality, future-oriented jobs for middle-class workers*. Public infrastructure investment has been low in Germany for decades. Greater investments into Germany's digital infrastructure, social housing, child care and education infrastructure, and investments into the green transition, could directly create many middle-class jobs, including in structurally weaker regions, and help boost productivity. Improving the working conditions and pay of care professionals could be a further way of creating quality middle-class jobs in Germany. Care professions will likely experience substantial employment growth over the coming years and decades, but poor working conditions and low pay make it hard to attract qualified staff. Raising the profile and pay of care occupations requires greater public spending, not least because the public sector is the largest employer of care professionals in Germany. Evidence from other OECD countries, including the Netherlands, shows that collective bargaining can play an important role in raising job quality in the care sector.

There is also scope for Germany to take measures that *raise the disposable incomes of middle-class households*. Effective tax rates for middle-income earners are high in Germany in international comparison, reflecting the steep rise in marginal rates in the lower parts of the income tax schedule and high employee social-insurance contributions. Germany could reduce the tax burden for middle-income workers by increasing the progressivity of the tax schedule, i.e. by easing the steep increase in the lower parts and raising marginal rates at the top. Also shifting the tax burden away from labour income towards other forms of taxation, notably by strengthening capital income taxation and removing exemptions to inheritance taxation, could contribute to relieving middle-income households. Moreover, there remains clear scope in Germany for boosting household earnings by further raising labour force participation of women, many of whom work part-time in Germany. This could be done by increasing work incentives for second earners through a reform of the income splitting rule for married spouses and of the *Minijobs* regulations, and by further expanding access to flexible, good-quality childcare.

References

Andrews, D. et al. (2020), "The Career Effects of Labour Market Conditions at Entry", *Australian Treasury Working Paper*, No. 2020-01, https://treasury.gov.au/sites/default/files/2020-06/p2020-85098-202006.pdf. [112]

Autorengruppe Bildungsberichterstattung (2018), *Bildung in Deutschland*, http://dx.doi.org/10.3278/6001820fw. [16]

Bach, S. et al. (2020), "Reform des Ehegattensplittings: Realsplitting mit niedrigem Übertragungsbetrag ist ein guter Kompromiss", *DIW Wochenbericht*, Vol. 87/41, pp. 785-794, http://dx.doi.org/10.18723/diw_wb:2020-41-1. [83]

Barisic, M. and V. Consiglio (2021), *Women in the German labor market: The cost of being a mother*, Bertelsmann Stiftung, Gütersloh, https://www.bertelsmann-stiftung.de/de/publikationen/publikation/did/women-in-the-german-labor-market-en. [95]

Bauernschuster, S. and M. Schlotter (2015), "Public child care and mothers' labor supply—Evidence from two quasi-experiments", *Journal of Public Economics*, Vol. 123, pp. 1-16, http://dx.doi.org/10.1016/j.jpubeco.2014.12.013. [90]

Beck, S. et al. (2013), *Mit Robotern gegen den Pflegenotstand*, Stiftung Neue Verantwortung, Berlin. [62]

Bellmann, L. et al. (2021), *Der Mangel an Bewerbungen bremst die Erholung am Ausbildungsmarkt*, https://www.iab-forum.de/der-mangel-an-bewerbungen-bremst-die-erholung-am-ausbildungsmarkt/. [34]

Bellmann, L. et al. (2021), *Jeder zehnte ausbildungsberechtigte Betrieb könnte im kommenden Ausbildungsjahr krisenbedingt weniger Lehrstellen besetzen*, https://www.iab-forum.de/jeder-zehnte-ausbildungsberechtigte-betrieb-koennte-im-kommenden-ausbildungsjahr-krisenbedingt-weniger-lehrstellen-besetzen/. [33]

Bernhard, S. (2016), "Berufliche Weiterbildung von Arbeitslosengeld-II-Empfängern. Langfristige Wirkungsanalysen", *Sozialer Fortschritt*, Vol. 65/7, pp. 153-161, http://dx.doi.org/10.3790/sfo.65.7.153. [8]

Beznoska, M. and T. Hentze (2017), *Die Einkommensteuer im Zeitverlauf: Belastungswirkungen für verschiedene Haushaltstypen*, Institut der deutschen Wirtschaft, Köln. [66]

BIBB (2020), *Datenreport zum Berufsbildungsbericht 2020: Ratgeber zur beruflichen Weiterbildung*, https://www.bibb.de/dokumente/pdf/bibb_datenreport_2020.pdf. [103]

Bimrose, J., S. Barnes and D. Hughes (2009), *Adult career progression and advancement: a five year study of the effectiveness of guidance,*, http://www2.warwick.ac.uk/fac/soc/ier/publications/2008/eg_report_4_years_on_final.pdf. [13]

Blömer, M., P. Brandt and A. Peichl (2021), *Raus aus der Zweitverdienerinnenfalle: Reformvorschläge zum Abbau von Fehlanreizen im deutschen Steuer- und Sozialversicherungssystem*, Bertelsmann Stiftung, Gütersloh, https://www.bertelsmann-stiftung.de/de/publikationen/publikation/did/raus-aus-der-zweitverdienerinnenfalle-all. [80]

Blömer, M. et al. (2021), *Zwischen Wunsch und Wirklichkeit: Unter- und Überbeschäftigung auf dem deutschen Arbeistmarkt*, Bertelsmann Stiftung, Gütersloh, http://dx.doi.org/10.11586/2021019. [94]

Blömer, M. and A. Peichl (2020), *Für wen lohnt sich Arbeit? Partizipationsbelastungen im deutschen Steuer-, Abgaben- und Transfersystem*, Bertelsmann Stiftung, Gütersloh. [79]

Blum, K., M. Offermans and P. Steffen (2019), *Situation und Entwicklung der Pflege bis 2030*, Deutsches Krankenhausinstitut, Düsseldorf. [42]

BMAS (2021), *Fachkräftemonitoring, Institut für Arbeitsmarkt- und Berufsforschung (IAB)*, https://www.bmas.de/DE/Arbeit/Fachkraeftesicherung-und-. [101]

BMFSFJ (2020), *Kindertagesbetreuung Kompakt: Ausbaustand und Bedarf 2019*, Bundesministerium für Familie, Senioren, Frauen und Jugend, https://www.bmfsfj.de/blob/jump/156672/kindertagesbetreuung-kompakt-ausbaustand-und-bedarf-2019-ausgabe05a-data.pdf. [96]

Böhmer, M. et al. (2014), *Gesamtevaluation der ehe- und familienbezogenen Maßnahmen und Leistungen in Deutschland*, Prognos AG, Berlin. [77]

Bönke, T., A. Harnack and M. Wetter (2020), *Wer gewinnt? Wer verliert? Die Entwicklung auf dem deutschen Arbeitsmarkt seit den frühen Jahren der Bundesrepublik bis heute*, Bertelsmann Stiftung, Gütersloh, http://dx.doi.org/10.11586/2019014. [75]

Bovenschulte, M. et al. (2021), *Potentials of Care 4.0 for Long-Term Care: Results, practical examples, recommendations for action*, Bertelsmann Stiftung, Gütersloh, https://www.bertelsmann-stiftung.de/fileadmin/files/user_upload/Potentials_of_Care_4.0__Focuspaper_final.pdf. [110]

Braeseke, G. et al. (2021), *Potenziale sozialer Innovationen in der ambulanten Langzeitpflege:*, Bertelsmann Stiftung, Gütersloh, https://www.bertelsmann-stiftung.de/fileadmin/files/user_upload/Potenziale_sozialer_Innovationen_in_der_ambulanten_Langzeitpflege_IGES_Studie.pdf. [111]

Braeseke, G. et al. (2019), *Einsatz von robotischen Systemen in der Pflege in Japan mit Blick auf den steigenden Fachkräftebedarf: Kurzfassung*, IGES Institut GmbH, Berlin, https://www.bmwi.de/Redaktion/DE/Publikationen/Studien/einsatz-von-robotischen-systemen-pflege-japan.pdf?__blob=publicationFile&v=4. [61]

Bundesagentur für Arbeit (2021), "Fachkräfteengpassanalyse 2020", *Berichte: Blickpunkt Arbeitsmarkt*. [24]

Bundesagentur für Arbeit (2020), *Auswirkungen der Corona-Krise auf den Arbeits-und Ausbildungsmarkt*, https://statistik.arbeitsagentur.de/Statistikdaten/Detail/202011/arbeitsmarktberichte/am-kompakt-corona/am-kompakt-corona-d-0-202011-pdf.pdf?__blob=publicationFile&v=1. [100]

Bundesagentur für Arbeit (2020), *Berichte: Blickpunkt Arbeitsmarkt – Arbeitsmarktsituation im Pflegebereich*, Statistik der Bundesagentur für Arbeit, Nürnberg. [41]

Bundesministerium für Wirtschaft and Energie (2020), *Gesundheitswirtschaft - Fakten und Zahlen: Ergebnisse der Gesundheitswirtschaftlichen Gesamtrechnung, Ausgabe 2019*, Bundesministerium für Wirtschaft and Energie, Berlin, https://www.bmwi.de/Redaktion/DE/Publikationen/Wirtschaft/gesundheitswirtschaft-fakten-und-zahlen-2019.pdf?__blob=publicationFile&v=32. [44]

Carcillo, S. et al. (2015), "NEET Youth in the Aftermath of the Crisis: Challenges and Policies", *OECD Social, Employment and Migration Working Papers*, No. 164, OECD Publishing, Paris, https://dx.doi.org/10.1787/5js6363503f6-en. [99]

Carstensen, J., H. Seibert and D. Wiethölter (2020), *Entgelte von Pflegekräften, 2. April 2020*, Institut für Arbeitsmarkt und Berufsforschung, Nürnberg, http://213.241.152.197/arbeitsmarktdaten/Entgelte_von_Pflegekraeften_2018.pdf. [50]

CEDEFOP (2017), *Skills anticipation in Sweden*, https://skillspanorama.cedefop.europa.eu/en/analytical_highlights/skills-anticipation-sweden. [26]

Consiglio, V. and K. Göbler (2021), *Minijobs in Deutschland: Die Entwicklung und Struktur einer umstrittenen Beschäftigungsform*, https://www.bertelsmann-stiftung.de/de/publikationen/publikation/did/minijobs-in-deutschland-all. [73]

DBFK (2019), *Teilzeit = Ressource bei Fachkräftemangel? - Ergebnisse einer Online-Umfrage vor dem Hintergrund des Pflegepersonalstärkungsgesetzes PpSG*, Deutscher Berufsverband für Pflegeberufe, Berlin, https://www.dbfk.de/media/docs/download/Allgemein/Broschuere_Teilzeitumfrage_2019-10_10_web.pdf. [52]

Dean, A. (2018), *The Future of the Union Learning Fund An Independent Review with Specific Recommendations for Government*, https://www.tuc.org.uk/sites/default/files/2020-11/TheFutureUnionLearningFund.pdf. [21]

Diedrich, A. and O. Bergström (2006), *The Job Security Councils in Sweden*, http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.546.8348&rep=rep1&type=pdf. [30]

DJI and RKI (2021), *Quartalsbericht 1/2021 der Corona-KiTa-Studie*, https://www.dji.de/fileadmin/user_upload/abt2/KiTaCo/CoKiTa_Quartalsbericht_I_2021.pdf. [98]

Doerr, A. (2014), "Employment and Earnings Effects of Awarding Training Vouchers in Germany", *Discussion Paper*, Vol. No. 14-065/IZA Institute, http://ftp.zew.de/pub/zew-docs/dp/dp14065.pdf. [15]

Eggert, S. and C. Teubner (2021), *ZQP-Analyse: Die SARS-CoV-2-Pandemie in der professionellen Pflege: Perspektive stationärer Langzeitpflege und ambulanter Dienste*, https://www.zqp.de/wp-content/uploads/ZQP-Analyse-Corona-Langzeitpflege.pdf. [53]

European Commission (2015), *An in-depth analysis of adult learning policies and their effectiveness in Europe*, https://op.europa.eu/en/publication-detail/-/publication/c8c38dc9-89d0-11e5-b8b7-01aa75ed71a1/language-en. [14]

FBZ (2021), *Cao Verpleeg-, Verzorgingshuizen en Thuiszorg (VVT)*, https://www.fbz.nl/caos/verpleeg-verzorgingshuizen-en-thuiszorg/. [56]

FiBS/DIE (2013), *Developing the adult learning sector. Annex to the final report*, http://lll.mon.bg/uploaded_files/financingannex_en.pdf. [7]

Forschungsinstitut Betriebliche Bildung (2019), *Evaluation des Bildungszeitgesetzes Baden-Württemberg BzG BW*, https://www.f-bb.de/fileadmin/Projekte/BZG/Evaluationsbericht_BzG_BW_f-bb.pdf. [9]

Forstner, S., Z. Molnárová and M. Steiner (2021), *Volkswirtschaftliche Effekte einer Ausbildungsgarantie: Simulation einer Übertragung der österreichischen Ausbildungsgarantie nach Deutschland*, Bertelsmann Stiftung, Gütersloh, https://www.bertelsmann-stiftung.de/de/publikationen/publikation/did/volkswirtschaftliche-effekte-einer-ausbildungsgarantie-all. [35]

France Stratégie (2021), *Réseau Emplois Compétences - Feuille de Route 2021-2022*, https://www.strategie.gouv.fr/sites/strategie.gouv.fr/files/atoms/files/rec_-_feuille_de_route_8.pdf. [28]

French Government (2017), *The Big Investment Plan 2018-2022*, https://www.gouvernement.fr/en/the-big-investment-plan-2018-2022. [39]

Gambaro, L., J. Marcus and F. Peter (2018), "School entry, afternoon care, and mothers' labour supply", *Empirical Economics*, Vol. 57/3, pp. 769-803, http://dx.doi.org/10.1007/s00181-018-1462-3. [91]

Genda, Y., A. Kondo and S. Ohta (2010), "Long-Term Effects of a Recession at Labor Market Entry in Japan and the United States", *Journal of Human Resources*, Vol. 45/1, pp. 157-196, http://dx.doi.org/10.3368/jhr.45.1.157. [105]

Hummel, M. et al. (2021), "Qualifikations- und Berufsprojektion bis 2040 nach Bundesländern: Demografie und Strukturwandel prägen weiterhin die regionale Entwicklung der Arbeitsmärkte", *IAB-Kurzbericht*, Vol. 1/2021, https://www.iab.de/194/section.aspx/Publikation/K210111G1E. [23]

Kahn, L. (2010), "The long-term labor market consequences of graduating from college in a bad economy", *Labour Economics*, Vol. 17/2, pp. 303-316, http://dx.doi.org/10.1016/j.labeco.2009.09.002. [104]

Kidd, J., C. Jackson and W. Hirsh (2003), "The outcomes of effective career discussion at work", *Journal of Vocational Behavior*, Vol. 62/1, pp. 119-133, http://dx.doi.org/10.1016/s0001-8791(02)00027-1. [11]

Krebs, T. and M. Scheffel (2021), *Raus aus der Minijobfalle: Reformen zur Entlastung geringer Einkommen und ihre Auswirkungen auf Beschäftigung, Wachstum und Verteilung sowie öffentliche Finanzen*, Bertelsmann Stiftung, Gütersloh, https://www.bertelsmann-stiftung.de/de/publikationen/publikation/did/raus-aus-der-minijobfalle-all. [88]

Krebs, T. et al. (2019), *Zwischen Bildung und Betreuung: Volkswirtschaftliche Potenziale des Ganztags-Rechtsanspruchs für Kinder im Grundschulalter*, Bertelsmann Stiftung, Gütersloh, https://www.bertelsmann-stiftung.de/de/publikationen/publikation/did/zwischen-bildung-und-betreuung-1. [92]

Kruppe, T. and J. Lang (2015), "Weiterbildungen mit Berufsabschluss Arbeitslose profitieren von Qualifizierungen", *IAB Kurzbericht*, Vol. No. 22/2015/IAB, http://doku.iab.de/kurzber/2015/kb2215.pdf. [17]

Maguire, M. (2004), "Measuring the Outcomes of Career Guidance", *International Journal for Educational and Vocational Guidance*, Vol. 4/2-3, pp. 179-192, http://dx.doi.org/10.1007/s10775-005-1022-1. [12]

Minijob-Zentrale (2021), "Aktuelle Entwicklungen im Bereich der Minijobs - 2. Quartalsbericht 2021", Deutsche Rentenversicherung Knappschaft-Bahn-See, Essen, https://www.minijob-zentrale.de/DE/02_fuer_journalisten/02_berichte_trendreporte/quartalsberichte_archiv/2021/2_2021.pdf?__blob=publicationFile&v=2. [84]

Minijob-Zentrale (2020), "Aktuelle Entwicklungen im Bereich der Minijobs - 4. Quartalsbericht 2020", Deutsche Rentenversicherung Knappschaft-Bahn-See, Essen, https://www.minijob-zentrale.de/DE/02_fuer_journalisten/02_berichte_trendreporte/node.html. [86]

Nedelkoska, L. and G. Quintini (2018), "Automation, skills use and training", *OECD Social, Employment and Migration Working Papers*, No. 202, OECD Publishing, Paris, https://dx.doi.org/10.1787/2e2f4eea-en. [1]

OECD (2021), *Continuing Education and Training in Germany*, Getting Skills Right, OECD Publishing, Paris, https://dx.doi.org/10.1787/1f552468-en. [4]

OECD (2021), *Education at a Glance 2021: OECD Indicators*, OECD Publishing, Paris, https://dx.doi.org/10.1787/b35a14e5-en. [31]

OECD (n.d.), *Employment rate* (indicator), https://dx.doi.org/10.1787/1de68a9b-en. [71]

OECD (2021), *Main Findings from the 2020 Risks that Matter Survey*, OECD, http://dx.doi.org/10.1787/b9e85cf5-en. [46]

OECD (2021), *OECD Employment Outlook 2021: Navigating the COVID-19 Crisis and Recovery*, OECD Publishing, Paris, https://dx.doi.org/10.1787/5a700c4b-en. [3]

OECD (2021), *OECD Health Statistics - Health expenditure and financing*, http://dx.doi.org/10.1787/health-data-en. [58]

OECD (2021), *OECD Labour Force Statistics - Elderly population*, https://data.oecd.org/pop/elderly-population.htm. [59]

OECD (2021), *OECD Tax Database - Table III.2. Employer social security contribution rates*, https://stats.oecd.org/Index.aspx?DataSetCode=TABLE_III2. [67]

OECD (n.d.), *Part-time employment rate* (indicator), https://dx.doi.org/10.1787/f2ad596c-en. [72]

OECD (2021), *Taxing Wages 2021*, OECD Publishing, Paris, https://dx.doi.org/10.1787/83a87978-en. [69]

OECD (2021), "What have countries done to support young people in the COVID-19 crisis?", *OECD COVID-19 Policy Brief*, https://doi.org/10.1787/ac9f056c-en. [32]

OECD (2020), *Building a High-Quality Early Childhood Education and Care Workforce: Further Results from the Starting Strong Survey 2018*, TALIS, OECD Publishing, Paris, https://dx.doi.org/10.1787/b90bba3d-en. [47]

OECD (2020), "COVID-19: From a health to a jobs crisis", in *OECD Employment Outlook 2020: Worker Security and the COVID-19 Crisis*, OECD Publishing, Paris, https://dx.doi.org/10.1787/cea3b4f4-en. [2]

OECD (2020), *Increasing Adult Learning Participation: Learning from Successful Reforms*, Getting Skills Right, OECD Publishing, Paris, https://dx.doi.org/10.1787/cf5d9c21-en. [19]

OECD (2020), "Is Childcare Affordable?", *Policy Brief on Employment, Labour and Social Affairs*, https://www.oecd.org/els/family/OECD-Is-Childcare-Affordable.pdf. [60]

OECD (2020), *OECD Economic Surveys: Germany 2020*, OECD Publishing, Paris, https://dx.doi.org/10.1787/91973c69-en. [6]

OECD (2020), *Revenue Statistics 2020*, OECD Publishing, Paris, https://dx.doi.org/10.1787/8625f8e5-en. [70]

OECD (2020), *Who Cares? Attracting and Retaining Care Workers for the Elderly*, OECD Health Policy Studies, OECD Publishing, Paris, https://dx.doi.org/10.1787/92c0ef68-en. [43]

OECD (2019), *Getting Skills Right: Creating responsive adult learning systems*, http://www.oecd.org/els/emp/adult-learning-systems-2019.pdf. [5]

OECD (2019), *Getting Skills Right: Making adult learning work in social partnership*, https://www.oecd.org/els/emp/adult-learning-work-in-social-partnership-2019.pdf. [20]

OECD (2019), *Good Practice for Good Jobs in Early Childhood Education and Care*, OECD Publishing, Paris, https://dx.doi.org/10.1787/64562be6-en. [49]

OECD (2019), *Individual Learning Accounts : Panacea or Pandora's Box?*, OECD Publishing, Paris, https://dx.doi.org/10.1787/203b21a8-en. [108]

OECD (2019), *Main Findings from the 2018 Risks that Matter Survey*, OECD Publishing, Paris, https://dx.doi.org/10.1787/9266e48a-en. [64]

OECD (2019), *OECD Employment Outlook 2019*, OECD, http://dx.doi.org/10.1787/9ee00155-en. [102]

OECD (2018), "Decoupling of wages from productivity: what implications for public policies?", OECD Publishing, Paris, https://dx.doi.org/10.1787/eco_outlook-v2018-2-3-en. [63]

OECD (2018), "Enrolment rate in early childhood education", *Students* (database), http://dx.doi.org/10.1787/ce02d0f9-en. [93]

OECD (2018), *OECD Economic Surveys: Germany 2018*, OECD Publishing, Paris, https://dx.doi.org/10.1787/eco_surveys-deu-2018-en. [68]

OECD (2018), *OECD Employment Outlook 2018*, OECD Publishing, Paris, https://dx.doi.org/10.1787/empl_outlook-2018-en. [57]

OECD (2018), *OECD Employment Outlook 2018*, OECD, http://dx.doi.org/10.1787/empl_outlook-2018-en. [97]

OECD (2018), "Starting close, growing apart: Why the gender gap in labour income widens over the working life", in *OECD Employment Outlook 2018*, OECD Publishing, Paris, https://dx.doi.org/10.1787/empl_outlook-2018-10-en. [76]

OECD (2017), *Dare to Share: Germany's Experience Promoting Equal Partnership in Families*, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264259157-en. [78]

OECD (2016), *OECD Economic Surveys: Germany 2016*, OECD Publishing, Paris, https://dx.doi.org/10.1787/eco_surveys-deu-2016-en. [82]

Oreopoulos, P., T. von Wachter and A. Heisz (2012), "The Short- and Long-Term Career Effects of Graduating in a Recession", *American Economic Journal: Applied Economics*, Vol. 4/1, pp. 1-29, http://dx.doi.org/10.1257/app.4.1.1. [106]

Osiander, C. and G. Stephan (2018), *Gerade geringqualifizierte Beschäftigte sehen bei der beruflichen Weiterbildung viele Hürden*, https://www.iab-forum.de/gerade-geringqualifizierte-beschaeftigte-sehen-bei-der-beruflichen-weiterbildung-viele-huerden/. [10]

Patscha, C. et al. (2017), *Kompetenz- und Qualifizierungsbedarfe bis 2030 - Ein gemeinsames Lagebild der Arbeitsgemeinschaft für Fachkräfte*, Bundesministerium für Arbeit und Soziales der Bundesrepublik Deutschland, Berlin. [25]

Peichl, A., F. Buhlmann and M. Löffler (2017), *Grenzbelastungen im Steuer-, Abgaben- und Transfersystem: Fehlanreize, Reformoptionen und ihre Wirkungen auf inklusives Wachstum*, Bertelsmann Stiftung, Gütersloh. [65]

Perez, C. and A. Vourc'h (2020), "Individualising training access schemes: France – the Compte Personnel de Formation (Personal Training Account – CPF)", *OECD Social, Employment and Migration Working Papers*, No. 245, OECD Publishing, Paris, https://dx.doi.org/10.1787/301041f1-en. [109]

Quintini, G. and D. Venn (2013), *Back to Work: Re-employment, Earnings and Skill Use after Job Displacement*, https://www.oecd.org/employment/emp/Backtowork-report.pdf. [29]

Raaum, O. and K. Røed (2006), "Do Business Cycle Conditions at the Time of Labor Market Entry Affect Future Employment Prospects?", *Review of Economics and Statistics*, Vol. 88/2, pp. 193-210, http://dx.doi.org/10.1162/rest.88.2.193. [107]

Rat der Arbeitswelt (2021), *Arbeitswelt-Bericht 2021*, Rat der Arbeitswelt: Geschäftsstelle für die Arbeitsweltberichterstattung in Deutschland, Berlin, https://www.arbeitswelt-portal.de/fileadmin/user_upload/awb_2021/210517_Arbeitsweltbericht_bf.pdf. [87]

Rocard, E., P. Sillitti and A. Llena-Nozal (2021), "COVID-19 in long-term care: Impact, policy responses and challenges", *OECD Health Working Papers*, No. 131, OECD Publishing, Paris, https://dx.doi.org/10.1787/b966f837-en. [51]

Rothgang, H., R. Müller and R. Unger (2012), *Themenreport „Pflege 2030": Was ist zu erwarten - was ist zu tun?*, Bertelsmann Stiftung, Gütersloh. [40]

Schlögl, P. et al. (2020), "Supra-company apprenticeship training in Austria: a synopsis of empirical findings on a possibly early phase of a new pillar within VET", *Empirical Research in Vocational Education and Training*, Vol. 12/1, http://dx.doi.org/10.1186/s40461-020-00102-y. [37]

Schnabel, C. (2016), "/ Heft 6 / Gewerkschaften auf dem Rückzug? Mythen, Fakten und Herausforderungen", *Wirtschaftsdienst*, Vol. 96/6, pp. 426-432. [54]

Schroeder, W. (2018), *Interessenvertretung in der Altenpflege*, Springer Fachmedien Wiesbaden, Wiesbaden, http://dx.doi.org/10.1007/978-3-658-19407-9. [55]

Statistisches Bundesamt (2021), *Pflegebedürftige insgesamt*, https://www.destatis.de/DE/Themen/Gesellschaft-Umwelt/Gesundheit/_Grafik/_Interaktiv/pflege-beduerftige-insgesamt.html;jsessionid=A9ED115E260B5872AF4AD6166BB2ED9A.live731. [45]

Statistisches Bundesamt (2021), *Unter- und Überqualifikation*, https://www.destatis.de/DE/Themen/Arbeit/Arbeitsmarkt/Qualitaet-Arbeit/Dimension-6/unter-ueberqualifikationl.html. [74]

Stuart, M. (2016), *Evaluation of the Union Learning Fund Rounds 15-16 and Support Role of Unionlearn.*, https://www.unionlearn.org.uk/sites/default/files/publication/ULF%20Eval%201516%20FINAL%20REPORT.pdf. [22]

Swedish Agency for Economic and Regional Growth (2016), *Regionala kompetens-plattformar - En översikt av utvecklingsprojekten mellan 2013–2017*, https://tillvaxtverket.se/download/18.71bd393115a3b4b405e20140/1487259449955/Regionala%20kompetensplattformar%20.pdf?_x_tr_sl=sv&_x_tr_tl=en&_x_tr_hl=fr&_x_tr_pto=nui. [27]

The White House (2021), *Fact sheet: The American Jobs Plan*, https://www.whitehouse.gov/briefing-room/statements-releases/2021/03/31/fact-sheet-the-american-jobs-plan/. [38]

Warning, A. (2020), *Engpässe werden immer stärker sichtbar: Rekrutierungssituation im Beruf der Erzieherin/des Erziehers*, IAB, Nürnberg, http://doku.iab.de/kurzber/2020/kb0220.pdf. [48]

Weber, E. (2020), "Minijobs sind aus der Zeit gefallen", *Süddeutsche Zeitung*, https://www.sueddeutsche.de/wirtschaft/forum-minijobs-sind-aus-der-zeit-gefallen-1.5093131. [89]

Wieland, C. and N. Härle (2020), *Die Ausbildungsgarantie in Österreich: Funktionsweise, Wirkungen, Institutionen*, Bertelsmann Stiftung, Gütersloh, http://dx.doi.org/10.11586/2020051. [36]

Wippermann, C. (2012), *Frauen im Minijob: Motive und (Fehl-)Anreize für die Aufnahme geringfügiger Beschäftigung im Lebenslauf*, Bundesministerium für Familie, Senioren, Frauen und Jugend, https://www.bmfsfj.de/resource/blob/93862/4ba520100f0bde228598d1271c32cfd4/frauen-im-minijob-data.pdf. [85]

Wissenschaftlicher Beirat beim Bundesministerium der Finanzen (2018), "Zur Reform der Besteuerung von Ehegatten", *Gutachten des Wissenschaftlichen Beirats beim Bundesministerium der Finanzen*, https://www.bundesfinanzministerium.de/Content/DE/Standardartikel/Ministerium/Geschaeftsbereich/Wissenschaftlicher_Beirat/Gutachten_und_Stellungnahmen/Ausgewaehlte_Texte/2018-09-27-Gutachten-Besteuerung-von-Ehegatten.html. [81]

Zentrum Liberale Moderne (2021), *Das Bildungsgrundeinkommen - Vorschlag für eine neue Weiterbildungsfinanzierung*, https://libmod.de/neue-studie-zum-bildungsgrundeinkommen/. [18]

Notes

[1] These statistics are based on the OECD *Skills for Jobs* database, which defines skills as either in shortage or in surplus. Imbalances are measured following a two-step approach. First, an "occupational shortage indicator" is calculated, based on the analysis of the wage growth, employment growth, hours worked growth, the unemployment rate and the change in under-qualification. For each country, long-run trends are compared to the economy-wide trend. Based on the O*NET database, the "occupational shortage indicator" is then used to build indicators of skills shortages and surpluses. High-, medium- and low-skilled occupations are ISCO occupational groups 1 to 3, 4 to 8 and 9 respectively.

Occupational bottlenecks pre-crisis have been largest in medical and care professions, information technology, construction, and skilled trades occupations (Bundesagentur für Arbeit, 2020[99]). Forecasts predict that these will remain bottlenecks also in the future along with occupations related to mechatronics and automation technology (BMAS, 2021[100]). Demographic change will further change skill needs by changing the demand for goods and services, and hence qualified labour, notably by increasing the demand for health care professionals and personnel in elderly care (OECD, 2019[101]).

[2] Adult education and training comes in various forms in Germany. An estimated 18 000 providers in Germany mostly provide a mix of job-related and general training. Private providers make up the largest share (40%) comprising both commercial (23%) and non-profit (17%). This is followed by adult education institutions run by social groupings, such as churches, trade unions, foundations or other associations (18%); adult education centres (16%); and business-oriented institutions run by run by chambers, professional organisations or individual businesses (13%). Public vocational or higher education institutions make up only a small share (11%) (BIBB, 2020[102]).

[3] Individual learning accounts, as they exist in France, are an alternative way of giving workers more control over their training (OECD, 2019[107]; Perez and Vourc'h, 2020[108]). The European Commission recently launched a public consultation on individual learning accounts as part of the European Skills Agenda.

[4] The new LBBiE *(Lebensbegleitende Berufsberatung im Erwerbsleben*) programme currently implemented by the PES aims to focus more on shortage occupations.

[5] In Australia, the Stronger Transitions Package targets workers in five regions particularly impacted by structural change with poor employment opportunities. It includes a set of interventions that come into action before redundancies have taken place, including comprehensive skills assessments; job search preparation; resilience training; language, literacy and numeracy support; digital literacy training; exploring self-employment options, and industry work experience (OECD, 2019[5]).

[6] The NEET rate is a better summary indicator of joblessness among young people than the youth unemployment rate, because it also accounts for young people who are *inactive*, i.e. not actively looking to find work (Carcillo et al., 2015[98]).

[7] Studies spanning Europe, Australia, North America and Japan show that labour market entry during an economic downturn can reduce earnings for up to ten years after graduation (Raaum and Røed, 2006[106]; Genda, Kondo and Ohta, 2010[104]; Kahn, 2010[103]; Oreopoulos, von Wachter and Heisz, 2012[105]; Andrews et al., 2020[111]).

[8] A few OECD countries, such as Switzerland, have managed to maintain the number of apprenticeships during the crisis. France experienced even a 40% rise in apprenticeship starts in 2020, in large part due to policies to promote the hiring of apprentices (OECD, 2021[32]). In France, the *1 jeune 1 solution* (1 young person 1 solution) is a youth employment strategy for the COVID-19 recovery with the aim of providing an offer to every young person in need of support. It includes a range of different measures, including hiring subsidies for full-time employment and apprenticeships, strengthened employment support, and training for disadvantaged young people. The package was launched in July 2020 with an initial budget of EUR 6.7 billion that was later expanded to EUR 9 billion.

[9] School-based vocational training appears to have been less affected by the drop in applications. This may partly reflect the fact that some of the qualifications, such as for child care and health care workers, have gained in relevance through the crisis.

[10] The rapid increase in the number of people in need of care partly reflects also extensions in coverage and the introduction of a new legal definition of being in need of care (Braeseke et al., 2021[110]).

[11] For comparison, a single person requires a monthly disposable income of EUR 1 500 to make it into the lower middle-income group according to the definition used in the previous chapters.

[12] By contrast, a majority of child care workers reported that delivering good care did not become more difficult than before the COVID-19 crisis despite the additional duties stemming from hygiene and work and safety protocols. This may reflect the fact that the number of children in day care was reduced to about 80% in 2020 and further to about 50% in the first months of 2021 as part of the mitigation measures (DJI and RKI, 2021[97]).

[13] The Dutch CBAs also guarantee occupational pensions to all workers with large employer contributions of 12.5%, about double the rate that care workers in the public sector in Germany receive.

[14] The legislation also foresees introduction of a nationwide minimum required number of caretakers per patient, though the further details are yet to be agreed.

[15] Child health care, which had previously also been a separate qualification, was co-integrated with the vocational education for (general) health care and long-term care.

[16] Unlike for the other countries listed (except Belgium), data for Germany do not include spending on social long-term care. Also, German data may underestimate inpatient long-term care spending, because they do not include the cost of pharmaceuticals delivered to long-term care residents in inpatient settings, and cover a more limited set of medical / nursing services.

[17] For case studies of the use of innovative technologies in long-term care in Germany and abroad, see also Bovenschulte et al. (2021[109]).

[18] Only a minority (10% in Germany, 20% in the OECD) find taxes too high for high-income households.

[19] The 2021 numbers presented for Germany in this sub-section are based on preliminary calculations using and AW of EUR 52 770 per year. They account for the suspension of the solidary surcharge (*Solidaritätszuschlag*) for the majority of taxpayers in Germany from January 2021. The solidarity surcharge is a supplement on income taxes introduced in 1991 to cover the costs of the German reunification.

The effective tax rate is given by the sum of income taxes and social security contributions paid minus any social transfers received.

[20] These reforms pushed the top marginal income tax rate (*Spitzensteuersatz*) down from more than 50% to 42% (since 2005), thereby heavily compressing the range of tax rates at the top. At the same time, the lower threshold for the top income bracket was lowered to about EUR 58 000 in 2021, only around 108% of average gross earnings. A “rich tax” (*Reichensteuer*) of 45% applies to very high incomes of more than EUR 250 000 a year.

[21] Indeed, Peichl, Buhlmann and Löffler (2017[65]) estimate that high-income earners would be the largest beneficiaries of such a reform. The reason is that they would pay the same reduced marginal tax rate on the part of their income that is below the threshold for the top tax bracket.

[22] For earnings-related benefits, such as public pensions and unemployment benefits, a contribution ceiling may be justified on grounds that high-income earners may not have to be covered with their full earnings

to be sufficiently protected. However, for schemes such as health and long-term care insurance, contribution ceilings imply that high-income earners do not participate with their full earnings in the redistributive scheme, a deviation from the principle that people contribute according to their financial strength.

[23] The gender gap in employment rates in Germany is much small than in the OECD on average (59% for women and 73% for men), but remains higher than in some Nordic countries (Iceland, Norway, Sweden), in the Baltics (Estonia, Latvia, Lithuania) and in Israel.

[24] 59% of all Minijobbers, and 61% of Minijobbers below the age of 65, were women in June 2021 (Minijob-Zentrale, 2021[83]).

[25] Besides Minijobs in the commercial sector there is a much smaller number of Minijobs in private households. They have been much less affected by the crisis, and accounted for about 5% of all Minijobs in June 2021 (Minijob-Zentrale, 2021[83]).

[26] Indeed, Minijob regulations seem to have had some success at bringing marginal jobs in private households out of informality, with the number of Minijobs in private household having tripled between 2005 and 2019 from about 100 000 to 300 000 (Minijob-Zentrale, 2021[83]).

Is the German Middle Class Crumbling? Risks and Opportunities

Thriving middle classes are the backbone of democratic societies and strong economies, but in many countries, they face mounting pressure as their economic strength is eroding relative to higher-income households. Real wages and incomes for most middle-class households have grown only very slowly, and rising expenditures have been putting further pressure on living standards. Meanwhile, globalisation, digitalisation, and demographic change are eroding job opportunities for middle-skilled workers, who risk sliding into lower-paid employment. The COVID-19 crisis has accentuated socio-economic divides and may end up accelerating some of the above trends. This publication builds upon the OECD's publications on the middle class (*Under Pressure: The Squeezed Middle Class*) and social mobility (*A Broken Social Elevator? How to Promote Social Mobility*). It demonstrates that the German middle class is similar in size as in peer countries, but substantially smaller than it was in the mid-1990s. Lower middle-class households face an increased risk of slipping out of the middle; meanwhile, upward mobility intothe middle has declined, particularly for workers in "typical" middle-class occupations. Employment growth forecasts point to further occupational polarisation. The review proposes policy options for strengthening the employability of middle-class workers, creating good-quality, future-oriented jobs, and boosting middle-class disposable incomes.

BertelsmannStiftung

PRINT ISBN 978-92-64-81051-8
PDF ISBN 978-92-64-47589-2

9 789264 810518