



CORONAVIRUS CRISIS, INCOME DISTRIBUTION AND EDUCATIONAL OPPORTUNITIES

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References

This is a translated version of the original German-language chapter 'Corona-Krise, Einkommensverteilung und Bildungschancen', which is the sole authoritative text. Please cite the original German-language chapter if any reference is made to this text.

KEY MESSAGES

- According to preliminary findings, disposable-income inequality did not increase during the coronavirus crisis due to welfare-state measures, even though marginally employed, low-skilled and self-employed people were particularly negatively affected.
- In the labour market, continuing education opportunities should be expanded and stronger incentives for continuing education and for the employment of second earners should be set.
- Substantial and targeted education investment and reforms are needed to offset pandemic-related educational deficits and to promote equal opportunities.

SUMMARY

Net income inequality increased considerably between German reunification (1990) and 2005. Thereafter, depending on the indicator used, only a slight increase – but no trend increase – in inequality can be observed up to 2018. The coronavirus crisis has led to significant **losses in household market incomes**, particularly in the lower deciles. In 2020, according to preliminary findings, this does not seem to have **translated into more inequality in disposable incomes** due to welfare-state measures.

Unemployment has risen moderately overall. However, different employment groups have been affected in very different ways. Many marginally employed, self-employed and low-skilled people have become unemployed, and the situation on the vocational training market has worsened. In order to improve the labour market situation and to counteract structural change, **continuing education and training opportunities** should be made **more transparent** and the **incentives to participate should be strengthened**. Voluntary unemployment insurance could be made more attractive to provide better protection for the self-employed. In order to reduce shortages of skilled workers and gender inequalities, the **incentives to work for second earners** should be increased. A reform of the income tax splitting rule for spouses and the expansion of childcare could contribute to this.

Up to now, Germany's education system has not succeeded sufficiently in compensating for the poorer starting conditions of children from socially disadvantaged families. The **coronavirus crisis** and the associated restrictions on education, childcare and leisure facilities have led to learning deficits and psychosocial stress, particularly among underachievers and children from socially disadvantaged families. If no countermeasures are taken, this is likely to generate **high macroeconomic costs in the future**, and income inequality is likely to increase. More comprehensive **programmes to make up pandemic-induced educational deficits** and pressures are therefore advisable and should focus on those children and young people who are lagging behind the most.

In the longer term, structural education policies can **promote equal opportunities** and **improve the education system**. These include, in particular, measures in the field of early-childhood education, reforms of the structure of the school system, and expenditure on staff and their qualification. Digitalisation in schools, if effectively pursued, can make learning more effective, especially in heterogeneous groups, and promote skills in digital technologies that are essential for future opportunities.

In terms of school structure, quality standards and qualifications, **more coordination and better comparability between the Länder** is called for. **Transparency and competition** should be established on the basis of scientific evaluations across the Länder. This requires **access to informative and transnational data sets** across the Länder for scientific purposes.

I. INTRODUCTION

246. In accordance with its statutory mandate, the German Council of Economic Experts (GCEE) examines the distribution of income and wealth in Germany at regular intervals. This year, the **effects of the coronavirus crisis** on the income and labour market situation are of particular interest. **Unemployment** had been declining since 2005 and amounted to 2.3 million in the fourth quarter (Q4) of 2019. This decline was abruptly **halted by the coronavirus crisis** in 2020. Unemployment rose to 2.9 million by Q3 2020 and subsequently fell again to 2.7 million in Q2 2021.
247. **The coronavirus crisis has had a very heterogeneous impact on people in employment:** marginally employed, self-employed and low-skilled people in particular have suffered income losses. [↪ ITEMS 267 FF.](#) Furthermore, unemployment rose, especially in those sectors of the economy that were seriously affected by the crisis, with low-skilled workers being particularly hard hit. [↪ ITEMS 278 AND 282](#) Unlike in other countries, women were not affected more than men in the labour market in Germany. However, women were hit harder than in the 2008/09 financial crisis. This was particularly evident in the case of women who were self-employed or on short-time working. [↪ ITEMS 285 AND 288](#) Moreover, the temporary closure of childcare facilities and schools changed the distribution of care work in households, and existing gender gaps widened. [↪ ITEM 290](#) Moreover, the coronavirus crisis exacerbated the matching problems on the vocational training market. [↪ ITEMS 292 F.](#)
248. Independently of the coronavirus crisis, institutional framework conditions – such as the regulation on marginal employment or the tax and transfer system – have a negative impact on employment incentives for married second earners. An increase in the labour supply could **counteract shortages of skilled personnel** and reduce gender inequalities, for example through improved pension rights for married women. [↪ ITEMS 317 FF.](#) In the field of vocational education and training, the aim must be to improve training opportunities, especially for underachieving young people, and to make it easier for them to make the transition to dual vocational education and training. [↪ ITEMS 297 FF.](#) In addition, it is necessary to expand continuing education and training opportunities and to offer stronger incentives for continuing education and training. [↪ ITEMS 300 FF.](#) Easier access to voluntary unemployment insurance could provide better protection for the self-employed in the future. [↪ ITEMS 313 FF.](#)
249. **Children and young people from socially disadvantaged families** and underachieving pupils were **particularly hard hit by the coronavirus crisis** and the resulting restrictions in the education system. This has exacerbated existing educational inequalities. [↪ ITEMS 333 FF.](#) In the short term, therefore, more comprehensive and targeted measures are needed than in the past to make up pandemic-related learning and development deficits. [↪ ITEMS 343 FF.](#) In order to enhance equal opportunities, however, there is also a **need for long-term action, especially in the field of early childhood and school education.** [↪ ITEMS 354 FF.](#) Learning and education are significantly influenced by experiences and the

environment in early childhood. For children from socially disadvantaged families, the development of skills from an early age is impaired because their educational environment is less supportive. [↪ ITEMS 327 FF.](#) Germany's early-childhood and school education system has hitherto failed to sufficiently compensate for these early disadvantages.

250. An education policy that enhances equal opportunities is also an **important instrument for improving the distribution situation**. Since measures in the field of early childhood and school education begin before the market phase, they hardly lead to conflicts with efficiency and growth targets (Fuest et al., 2021). An appropriate education policy can simultaneously bring about more inclusion and equality of opportunity while increasing overall economic productivity (Wössmann, 2021a).

II. INCOME DISTRIBUTION BEFORE THE CORONAVIRUS CRISIS

251. In this section, the GCEE updates its regular analyses of income distribution (most recently in GCEE Annual Report 2019 items 589 ff.) in line with the **current data status**. Particular emphasis is placed on the development of household market incomes, household net incomes and gross wages broken down by socio-economic and demographic characteristics. [↪ BACKGROUND INFO 8](#)



[↪ BACKGROUND INFO 8](#)

Data basis

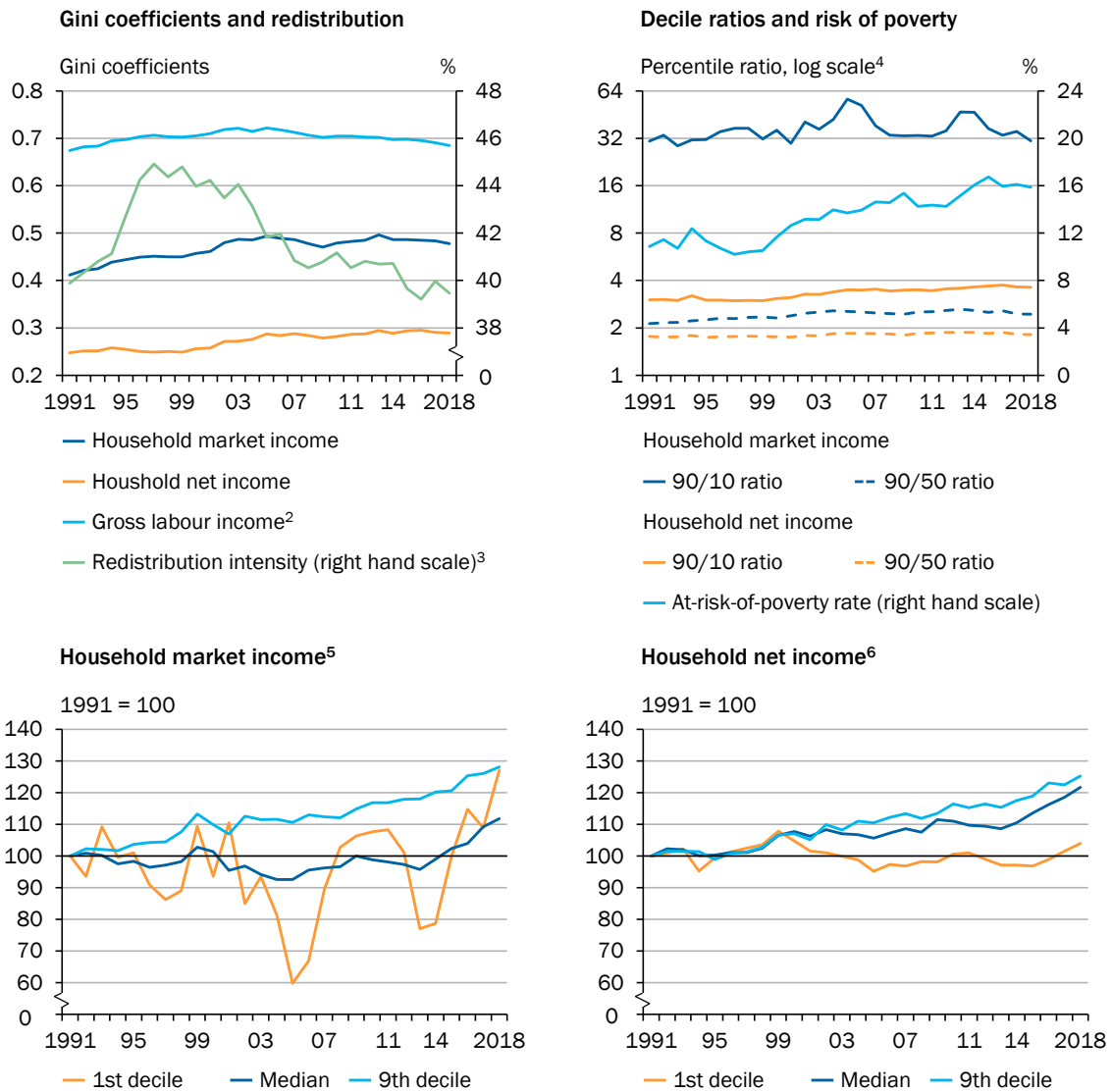
The household survey of the **Socio-Economic Panel (SOEP)** serves as the data basis for the income analyses. The SOEP is a repeated representative survey of private households that has been conducted annually in West Germany since 1984 and in East Germany since 1990. Since the income and wage information is collected retrospectively, it is currently only available up until 2018. Real equivalence-weighted household incomes [↪ GLOSSARY](#) take into account the annual incomes of all household members and establish the comparability of households with different numbers of members by means of the equivalence weighting according to the modified OECD scale (Pestel and Sommer, 2016, p. 18). Atkinson (2015) and the German government's 6th Poverty and Wealth Report (Armut- und Reichtumsbericht der Bundesregierung 2021) provide an overview of the measures used for the statistical analysis of private households' income distribution. Data from the European Community Statistics on Income and Living Conditions (EU-SILC) are available for international comparisons. These **EU-SILC data** are collected annually in the member states of the European Union (EU). They serve as a standard source of microdata on income, poverty, social exclusion and living conditions in the EU member states. The EU-SILC data for Germany come from the microcensus. For the most part, the results on income distribution according to EU-SILC and SOEP differ only slightly for Germany (GCEE Annual Report 2017 Chart 101 top left).

1. Distribution of household income

252. One of the best-known inequality indicators is the **Gini coefficient**, which indicates the degree of inequality in the distribution of income in the population between the values 0 (absolute equality) and 1 (complete concentration on one person). The Gini coefficient of equivalence-weighted **household market incomes** increased markedly from 0.41 in 1991 to 0.49 in 2005. Most of the increase occurred between 2000 and 2004 (Fuchs-Schündeln et al., 2010). Thereafter, inequality of household market income barely changed up to 2018. [↘ CHART 71 TOP LEFT](#) The Gini coefficient of equivalence-weighted **household net incomes** increased from 0.25 in 1991 to 0.29 in 2005. This increase was probably partly due to periods of high unemployment between 2000 and 2005. In addition, the reduction in the top income tax rate in the years from 1999 to 2005 most likely contributed to income concentration (Biewen and Juhasz, 2012; Bach et al., 2013). The Gini coefficient has barely changed since 2005, and was again 0.29 in 2018.
253. The **redistribution intensity** of the tax and transfer system can be measured by the difference between the Gini coefficients of household market incomes and household net incomes relative to the Gini coefficient of household market incomes. While the redistribution intensity was still just under 40 % after German unification, it rose sharply to just under 45 % by the mid-1990s. This increase was probably due, in part, to the high level of unemployment and correspondingly high social benefits (Feld et al., 2020). Thereafter, the intensity fell slightly to 44 % in 2003 and then more rapidly to below 41 % in 2007. This was likely due not least to the introduction of the sustainability factor in statutory pension insurance and the lowering of the top income tax rate (Bach et al., 2013; GCEE Annual Report 2019 item 592). Since 2015, the redistribution intensity has been slightly below 40 %. [↘ CHART 71 TOP LEFT](#)
254. The **90/10 percentile ratio** puts the incomes at the tails of the distribution in relation to each other. After temporary sharp increases in the 2000s and 2010s, the 90/10 percentile ratio of **household market incomes** in 2018 was 30.9, a level similar to the early 1990s. By contrast, the 90/10 percentile ratio of **household net incomes** has risen considerably since the late 1990s, from 3.0 to 3.7 in 2016. It was 3.6 in 2018. [↘ CHART 71 TOP RIGHT](#) While the 90/50 percentile ratio of household market incomes has shown a noticeable trend increase from 2.1 to 2.4 since 1991, this rise was very small for household net incomes. [↘ CHART 71 TOP RIGHT](#)
255. The **10th percentile of price-adjusted household market incomes** developed very volatile over time. [↘ CHART 71 BOTTOM LEFT](#) The marked drop up to 2005 was probably due to the sharp increase in unemployment (Feld et al., 2020) and to real wage losses caused by the expansion of the low-wage sector (Grabka and Schröder, 2019). The period from 2005 to 2011 shows a positive development parallel to stronger employment growth (Grabka and Goebel, 2018). The 10th percentile of household market incomes declined from 2011 to 2014. The likely reasons for this include demographic factors, particularly higher immigration, and the expansion of the low-wage sector (Grabka and Goebel, 2018, 2020). The 10th percentile of household market incomes rose again with the introduction of the

↘ CHART 71

Income developments¹



1 – Price-adjusted for the consumer price index (2015 = 100). Household income are equalised according to the modified OECD scale. 2 – Yearly price-adjusted gross labour income of the persons in a household. 3 – Difference between the Gini coefficient of household market income and household net income relative to the Gini coefficient of household market income. 4 – For a better representation a logarithmic scale of the percentile ratio was chosen. 5 – Income before taxes and transfer payments. 6 – Income after taxes and transfer payments.

Sources: SOEP v36, own calculations
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minimum wage in 2015 and the accompanying growth in gross hourly wages (Burauel et al., 2017; Bossler and Schank, 2020; Fedorets et al., 2020).

256. The fact that the **10th percentile of net household incomes** stagnated from 2002 to 2016, ↘ CHART 71 BOTTOM RIGHT can be attributed to immigration in addition to the resultant incomplete adjustment of social benefits and pensions to inflation (Grabka and Goebel, 2018, 2020). Between 2011 and 2017, the percentage of people with a direct migrant background among those with incomes below the 10th percentile increased from 20 % to 27 %. This is due not least to immigration from EU accession countries and to refugee migration (Gathmann et al., 2014; GCEE

Annual Report 2019 item 597). There was a marked increase in the 10th percentile from 2016 to 2018.

257. **Median household market income** fell from the 1990s to 2005 and rose again markedly up to 2018. [↘ CHART 71 BOTTOM LEFT](#) The median of **net household incomes** tended to increase considerably over the entire period. [↘ CHART 71 BOTTOM RIGHT](#) The increase in the median was accompanied by real increases in all deciles of net household income except the lowest (Grabka and Goebel, 2020). As a result, increased immigration since 2010, which is often associated with low incomes, no longer showed a dampening effect on the median from 2013 onwards (Goebel et al., 2015; Grabka and Goebel, 2020).

The **90th percentile of household market incomes** [↘ CHART 71 BOTTOM LEFT](#) and, to a lesser extent, of net household incomes, showed much stronger growth over time than the median. [↘ CHART 71 BOTTOM RIGHT](#)

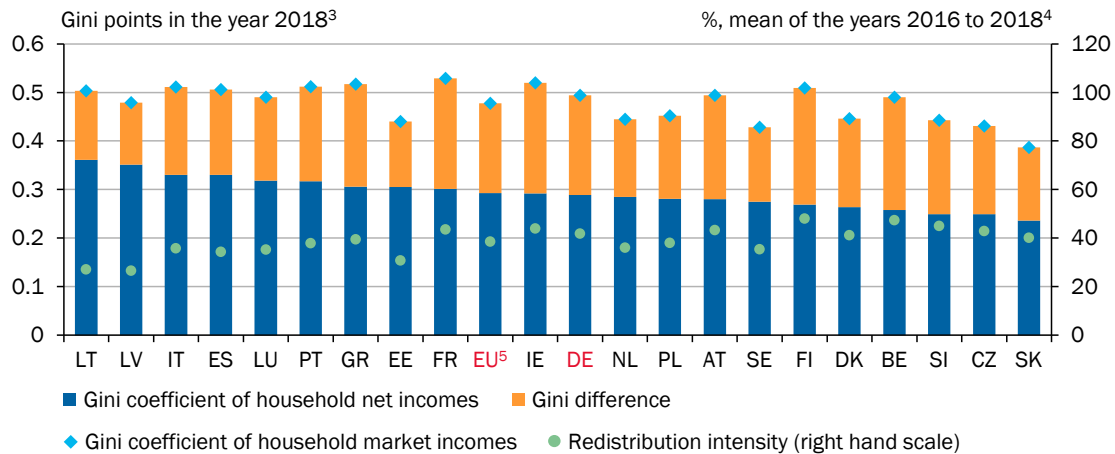
258. Another important distributional measure is the **at-risk-of-poverty rate**. [↘ GLOSSARY](#) By definition, households are considered to be at risk of poverty if they have less than 60 % of the median income at their disposal (at-risk-of-poverty threshold, see Bundesregierung, 2021). The at-risk-of-poverty rate has tended to increase considerably since the late 1990s, from 10.2 % in 1997 to 16.7 % in 2015. [↘ CHART 71 TOP RIGHT](#) The increase is likely related in no small part to increased immigration (Grabka and Goebel, 2018, 2020; Seils and Höhne, 2018). Since 2016, the at-risk-of-poverty rate has remained relatively constant at about 16.0 %.

259. **Child poverty**, is measured using an indicator – either the number of **children living in households at risk of poverty** or the number of **children in households shared with persons entitled to benefits (“Bedarfsgemeinschaften” as defined by SGB II)** as a percentage of the total population of minors. According to official statistics, the share of children in households at risk of poverty in 2018 made up 20.1 %, and the share of children in households entitled to benefits 14.4 % of all children in Germany (Funcke and Menne, 2020). These figures have remained largely constant since 2015. While the risk of poverty is based on the median income of families, the indicator for SGB II benefit receipt is oriented towards the socio-cultural subsistence minimum [↘ GLOSSARY](#) and includes all children in the environment of persons entitled to benefits under SGB II. Based on survey data, a combined indicator can be calculated to estimate the percentage of children who meet at least one of the two criteria. This percentage was 21.3 % in 2018, which corresponds to 2.83 million children. 10.5 %, or 1.38 million children, met both criteria (Lietzmann and Wenzig, 2020, p. 31).

The **reasons for** the relatively high **risk of poverty among children** lie in particular in **their parents' employment limitations** (Bundesregierung, 2017, p. 254; BMFSFJ, 2021a, p. 106). Immigration also plays a role, as families with a migrant background tend to have more children and are more frequently affected by poverty than families with no migrant background (BMFSFJ, 2020, pp. 12, 32-33). In the long term, **child poverty** can **impair children's educational and labour-market opportunities**. [↘ ITEMS 327 FF.](#)

↘ CHART 72

Income inequality and redistribution intensity¹ in the European comparison²



1 – Difference between the Gini coefficient of household market income and household net income relative to the Gini coefficient of household market income. 2 – LT-Lithuania, LV-Latvia, IT-Italy, ES-Spain, LU-Luxembourg, PT-Portugal, GR-Greece, EE-Estonia, FR-France, IE-Ireland, DE-Germany, NL-Netherlands, PL-Poland, AT-Austria, SE-Sweden, FI-Finland, DK-Denmark, BE-Belgium, SI-Slovenia, CZ-Czech Republic, SK-Slovakia. 3 – DK: 2017; NL: 2016. 4 – DK 2016 to 2017; NL only 2016; BE only 2018. 5 – Unweighted mean of the EU27 member states without Bulgaria, Croatia, Malta, Romania, Hungary, Cyprus.

Sources: OECD, own calculations
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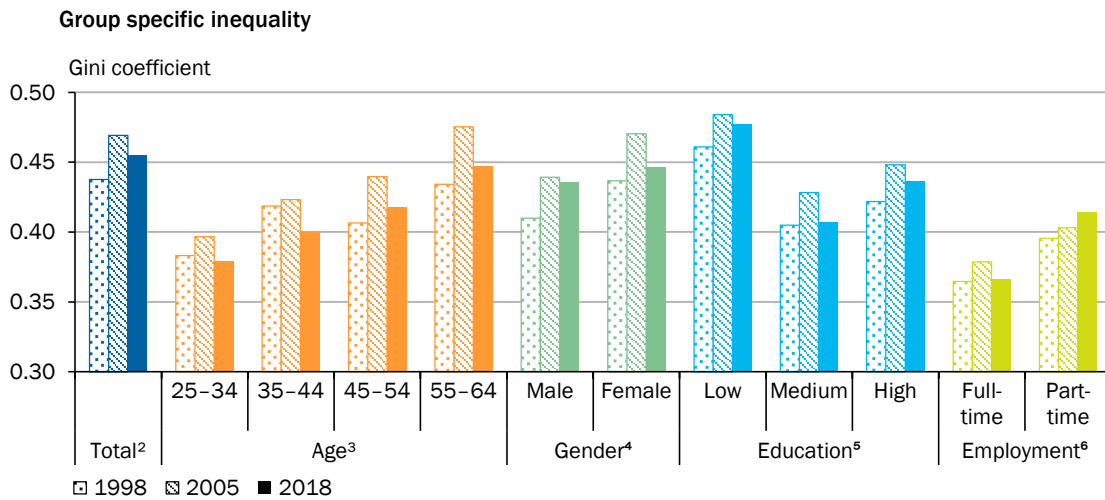
260. By **international comparison**, Germany's Gini coefficient of household market incomes of 0.49 in 2018 is above the EU27 average of 0.48. In terms of the Gini coefficient of net household incomes, Germany is on a par with the EU27 average at 0.29. Slovakia has the lowest net income inequality in the EU27 at 0.24 and Lithuania the highest at 0.36. ↘ CHART 72 Redistribution intensity is relatively high in Germany. The **at-risk-of-poverty rate** in Germany according to EU-SILC data was around 14.8 % in 2019, below the EU27 average of 16.5 %.
261. The at-risk-of-poverty rate as a relative measure of poverty shows the extent to which a household has a low income compared to its environment and therefore has difficulties participating in social life (Bundesregierung, 2021). Absolute poverty measures, on the other hand, depict **deprivations in material resources (material deprivation ↘ GLOSSARY)** (Cremer, 2019; Darvas, 2019). The rate of severe material deprivation ↘ GLOSSAR as defined by the EU-SILC indicates the percentage of the total population who cannot afford expenditure considered desirable or necessary for an adequate standard of living. According to EU-SILC, 2.6 % of people in Germany were restricted by a lack of financial resources in 2019, compared to 5.4 % in 2013. This puts Germany alongside Luxembourg (1.3 %), Switzerland (1.9 %) and the Netherlands (2.5 %) well below the EU27 average of 5.5 %. The rate of material deprivation is highest in Bulgaria at around 20.9 %. The reasons for the differences between countries probably lie in different general levels of prosperity and social benefits.

2. Distribution of gross wages

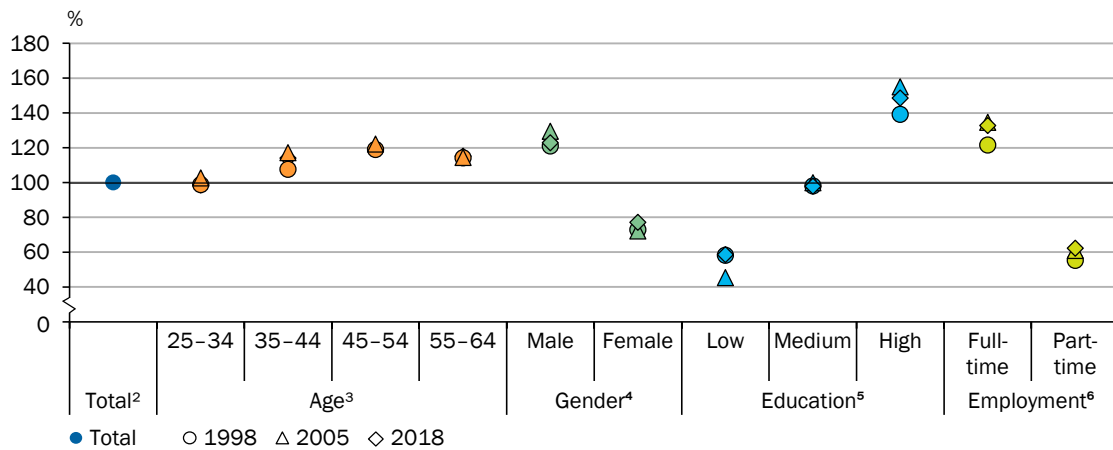
262. According to the Federal Statistical Office, gross wages account for a large share of household market income: approximately 64 % in 2019. An analysis of the individual gross wages of those in employment provides information on the development of annual earnings from dependent employment. The **Gini coefficient of gross earned income** rose from 0.68 in the early 1990s to 0.72 in 2005. Since then, it has fallen again, and in 2018 it was back at a similar level to the early 1990s. [↪ CHART 71 TOP LEFT](#) One reason for the decrease in wage inequality since 2005 has probably been the rise in hourly wages in the bottom half of the wage distribution (Fedorets et al., 2020). While a positive trend had already been observed there since 2010, the minimum wage has had an additional positive impact since its introduction in 2015 (Grabka and Schröder, 2019; Bossler and Schank, 2020).
263. In the following, the development of inequality of annual **gross wages** of employed persons **by socio-economic and demographic groups** is examined over time. [↪ CHART 73 TOP](#) It can be seen that wage inequality increases with age (GCEE Annual Report 2019 items 609 ff.). Wage inequality fell across all age groups between 2005 and 2018. Compared to 1998, wage inequality in 2018 decreased among younger employees but increased among older employees. There are greater wage inequalities among women than among men, irrespective of the year. Compared to 1998, however, **wage inequality among men has increased more in 2018 than among women.**
264. Wage inequality by educational attainment is highest among persons with few qualifications (neither a completed vocational training nor a high school diploma). **Wage inequality among persons with low and high (academic) educational attainment increased more than** among persons with a **secondary-school education** between 1998 and 2018. The relative gap between the median incomes of persons with low and high educational attainment increased from 1998 to 2005 and had decreased again by 2018. [↪ CHART 73 BOTTOM](#) Wage inequality among part-time workers is generally higher than among full-time workers, and has moreover increased more than among full-time workers. [↪ CHART 73 TOP](#) One reason for this is the variation in annual wages due to differences in hours worked per week between the two groups. While the hours worked per year, according to the SOEP, range from a minimum of 52 to a maximum of 1,819 hours for part-time employees, they amount to a minimum of 1,820 hours for full-time employees.
265. Since the GCEE's last analysis of **wealth distribution** among private households in Germany in 2019 (GCEE Annual Report 2019 items 627 ff.), there have been **no new data points** in the data sources used by the GCEE. However, a new study by Schröder et al. (2020) suggests that wealth inequality has hitherto been considerably underestimated because information on people with great wealth was previously not included in the SOEP (Schröder et al., 2020). The gross wealth of millionaires (roughly the top 1.5 % of wealth distribution) in 2019 consisted of 40.2 % business assets, 18.4 % owner-occupied residential property, 25.3 % other real estate, 10.7 % financial assets, and 5.5 % other assets. Schröder et al. (2020)

CHART 73

Inequality in gross labour earnings¹ by socio-economic and -demographic groups



Median income of the socio-economic and -demographic group relative to the Median income of all employees



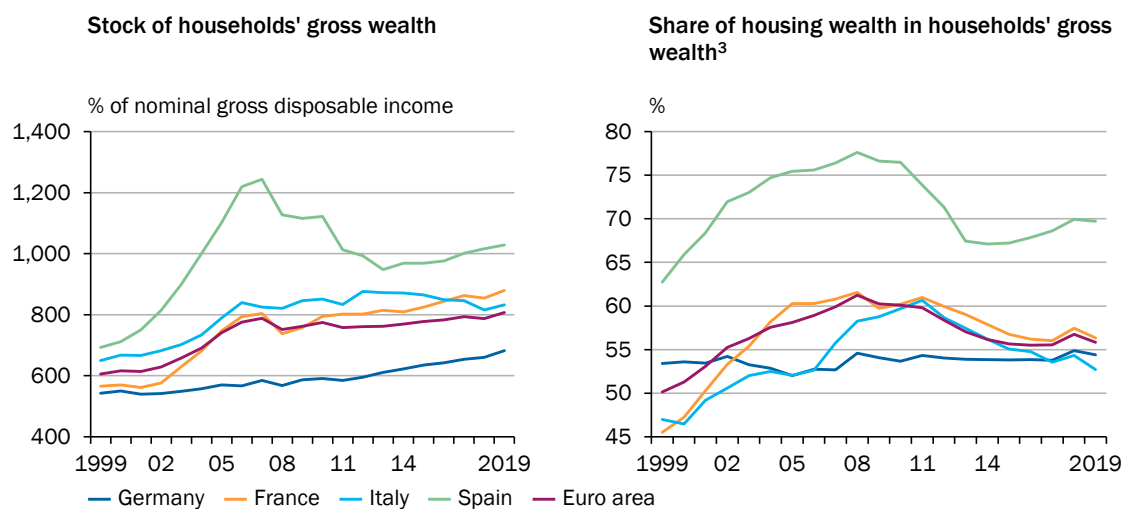
1 – Annual individual real gross labour earning of the employees (>16 years) in a household without income from self-employment. 2 – Number of persons questioned: 8,232 (1998), 12,441 (2005) as well as 18,218 (2018). 3 – Besides the displayed age groups the population contains younger employees [17 to 24 years: 943 (1998), 1,179 (2005), as well as 1,791 (2018) persons] and older employees [over 64 years: 52 (1998), 241 (2005) as well as 805 (2018) persons]. Number of persons questioned by age groups: 25 to 34 years: 2,224 (1998), 2,119 (2005) as well as 2,652 (2018); 35 to 44 years: 2,409 (1998), 3,638 (2005) as well as 3,940 (2018); 45 to 54 years: 1,713 (1998), 3,446 (2005) as well as 5,335 (2018); 55 to 64 years: 891 (1998), 1,818 (2005) as well as 3,695 (2018). 4 – Number of persons questioned by gender: Male: 4,619 (1998), 6,559 (2005) as well as 9,499 (2018); female: 3,613 (1998), 5,882 (2005) as well as 8,714 (2018). 5 – Low education: Neither completed vocational training nor 'Abitur'; medium education: vocational diploma, 'Abitur' or completed vocational training; high education: tertiary degree. Number of persons questioned by education: Low: 1,272 (1998), 1,039 (2005) as well as 2,323 (2018); medium: 4,910 (1998), 7,419 (2005) as well as 9,484 (2018); high: 1,834 (1998), 3,713 (2005) as well as 5,697 (2018). 6 – Number of persons questioned by volume of employment: Full-time: 6,197 (1998), 8,421 (2005) as well as 11,220 (2018); part-time: 1,139 (1998), 2,334 (2005) as well as 4,463 (2018).

Sources: SOEP v36, own calculations
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use a subsample that identifies high individual wealth, using a database of German residents with notable global company holdings, and supplement it with SOEP surveys and publicly available wealth lists from Manager Magazin. A study by Bach et al. (2019) analyses household wealth in the Household Finance and Consumption Survey and integrates high net worth individuals, using imputation

↘ CHART 74

Households' gross wealth¹ in selected euro area member states²



1 – Households' total assets are defined as the sum of their housing wealth and financial wealth. 2 – Revised data compared to the ECB's Economic Bulletin, issue 01/2020. 3 – Housing wealth includes dwellings and land underlying dwellings.

Sources: Banco de España, de Bondt et al. (2020), ECB estimates and ECB calculations, Eurostat

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methods based on national rich lists and the Forbes list. It also suggests that cases of very high wealth have hitherto been under-reported in this survey. Moreover, the study by Albers et al. (2020) offers a longer time series on wealth distribution which points to a systematic increase in wealth inequality over the past 25 years.

266. With regard to the euro area, a study by the European Central Bank (ECB) indicates a heterogeneous development of household wealth across countries since 2018 (de Bondt et al., 2020). The **gross wealth of private households in Germany** as a percentage of nominal disposable income has been **below the euro area average** over time. ↘ CHART 74 LEFT There was a marked increase in 2018 and in Q2 2019, which can be attributed to robust dynamics on the real estate market and higher property prices in Germany (Kholodilin and Michelsen, 2020). Real estate assets as a percentage of the total assets of private households in Germany are slightly below the euro area average of 55.9 %, with a figure of 54.4 % in 2019. ↘ CHART 74 RIGHT The rate is considerably higher in Spain. However, interpreting the differences across the euro area is difficult, not least because different pension systems make it difficult to compare wealth across countries (GCEE Annual Report 2018 items 318 ff.).

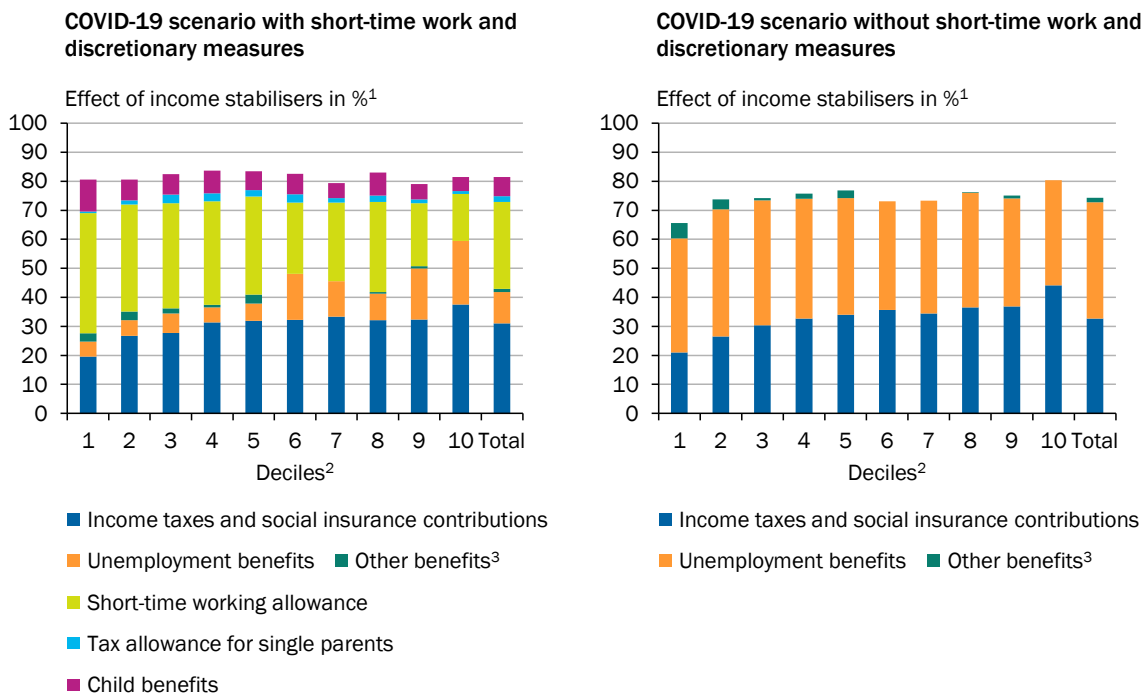
III. CORONAVIRUS CRISIS, INCOME DISTRIBUTION AND THE LABOUR MARKET

1. Income distribution, consumption and savings

267. Since the latest available information on income in the SOEP is for the year 2018, [↪ BACKGROUND INFO 8](#) the following uses simulation studies and surveys from autumn 2020 and spring 2021. The **coronavirus pandemic** and the health policy measures implemented to contain it have led partly to **substantial losses in household market incomes** in Germany (Beznoska et al., 2020; Bruckmeier et al., 2020; Adriaans et al., 2021; Christl et al., 2021). Households in the lower part of the income distribution have been particularly affected by the crisis. Reasons for this include the sector-specific loss of marginal employment (mini-jobs) and the increase in the unemployment rate, especially among the low-skilled (BA, 2020a; Grabka et al., 2020; Sperber et al., 2021). The self-employed were also severely affected by income losses (Kritikos et al., 2020).
268. With regard to **disposable income**, survey results from the ifo Institute in November 2020 show that, compared to pre-crisis levels, particularly the financial situation of families with children below the poverty line has deteriorated (Arold et al., 2021). Analyses by Grabka (2021) based on the SOEP-CoV data (special survey on coronavirus within the framework of the SOEP) indicate a slight fall in disposable income inequality in spring 2021, primarily due to income losses among the self-employed in the upper deciles of the distribution.
269. According to simulation studies, **automatic stabilisers and discretionary measures**, especially short-time work, have stabilised households' **disposable incomes** in Germany. According to Beznoska et al. (2020, p. 20), it was, above all, short-time-working benefits (KuG) that caused disposable incomes to fall by only 0.7 % instead of 1.8 % (without KuG) during the coronavirus crisis. By contrast, household market incomes fell by 6 %. Christl et al. (2021, p. 13) estimate that disposable incomes decreased by 0.8 % in 2020, while market incomes fell by 5 %. [↪ CHART 75 LEFT](#)
270. Christl et al. (2021) have also assessed the **contributions made by the tax and transfer system, the KuG and selected discretionary measures** (child bonus and tax allowance for single parents ‘Alleinerziehendenentlastungsbetrag’) to cushioning the income shock caused by the coronavirus crisis. According to this, these income stabilisers cushioned around 82 % of the income shock in 2020. About 7 % was cushioned by the child bonus and 2 % by the tax allowance for single parents. [↪ CHART 75 LEFT](#) In the scenario without the KuG and discretionary measures, the income stabilisation effect averaged 74 %. [↪ CHART 75 RIGHT](#) In this case, the income stabilisation through the tax and transfer system and unemployment benefits played a greater role.
271. Overall, **income stabilisation** had a relatively uniform effect **across the income distribution** (Christl et al., 2021). The KuG and the discretionary

↘ CHART 75

Contributions of selected income stabilisers during the coronavirus crisis



1 – Reading aid: An effect of the income stabilisers of 80 % in the scenario with short-time work and discretionary measures would imply that 80 % of the Corona crisis effect on the household market income are absorbed by the tax and transfer system and the discretionary measures. 2 – Income deciles are based on the basic distribution of the disposable equivalised Income (scenario without COVID-19). The equivalised income is calculated based on the modified OECD scale. 3 – Including pensions.

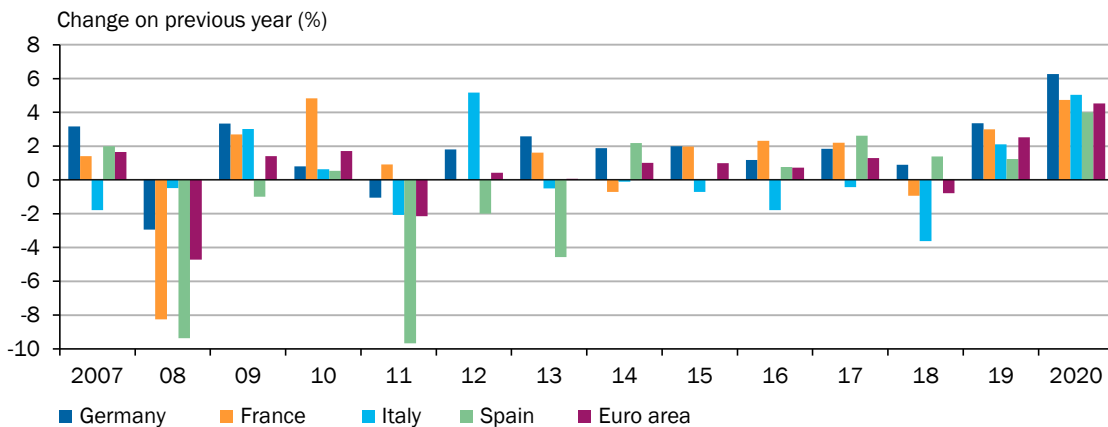
Source: Christl et al. (2021) using EUROMOD I3.0+
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measures have provided relief to the lower income deciles in particular. By contrast, the stabilising effect of income tax, social security contributions and unemployment benefits was greatest for the top half of the income distribution. ↘ CHART 75 LEFT AND RIGHT Overall, according to several simulation studies the inequality of disposable income did not increase directly as a result of the crisis (Beznoska et al., 2020; Bruckmeier et al., 2020; Christl et al., 2021). According to a household survey conducted by the GCEE in 2020 (GCEE Annual Report 2020 items 134 to 136), the **lowest income group** (monthly net household income of €1,100 or less) experienced a **much greater decline in income** – around 36 % – than people in the highest income group (more than €2,666 monthly net household income) with a decline of 2 %. This result does not conflict with the above mentioned simulation studies, since the automatic stabilisers apart from the KuG were not queried.

272. **Consumption expenditure** fell more frequently in the lowest income group than in the other groups (GCEE Annual Report 2020 item 135). Analyses of the Bundesbank Online Panel on Households (BOP-HH) in March 2021 show that consumer spending relative to disposable income was considerably lower overall in Q2 2020 than in the same quarter of the previous year (Deutsche Bundesbank, 2021, p. 25). In addition, half of respondents had saved more money in the 12 months to March 2021 than before the pandemic. However, people at the bottom

↪ CHART 76

Change in households' gross wealth¹ in selected euro area member states



1 – Households' total assets are defined as the sum of their housing wealth and financial wealth. Housing wealth includes dwellings and land underlying dwellings.

Sources: Banco de España, de Bondt et al. (2020), ECB estimates and ECB calculations, Eurostat, own calculations
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of the income distribution were less likely to report this. Higher savings were particularly evident among households with higher incomes and among older respondents. The main reason given by the respondents was the restriction of consumption opportunities due to the health policy measures. Unplanned savings ↪ GLOSSARY were around €186bn in Q2 2021. ↪ ITEM 44

273. According to an update of the study by de Bondt et al. (2020) on **wealth development** in the euro area, the total wealth of private households in Germany as a percentage of gross income increased by 6.3 % in 2020 compared to the previous year. ↪ CHART 76 Germany was thus above the euro-area average of 4.5 %. This was probably due to higher savings in the euro area in the spring of 2020 (Dossche et al., 2021), as well as the 7.8 % increase in real estate prices in Germany over the same period. In 2019, an increase in real estate assets as a percentage of gross household assets could already be ascertained. ↪ ITEM 266

2. Heterogeneous effects of the coronavirus crisis on employees

274. The impact of the coronavirus crisis on **incomes and employment** was particularly severe for certain groups. Especially employees in contact-intensive sectors such as the hospitality industry ↪ ITEMS 278 FF. are likely to have suffered a loss of income as a result of the increase in unemployment. In terms of socio-economic characteristics, there have been high income and employment risks during the coronavirus crisis for people with a migration background, as well as for low-skilled and part-time workers and the marginally employed (Bonin et al., 2021). The latter are disproportionately represented in the hospitality industry, for example. While employees subject to social insurance contributions were often covered by short-time working benefits, marginally employed or self-employed people were not entitled to them.

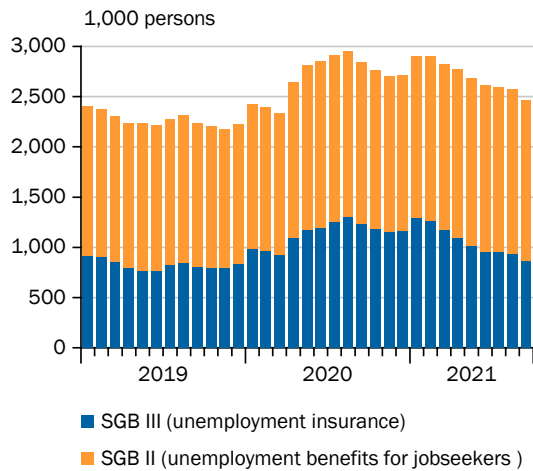
Unemployment

275. The coronavirus crisis has led to a rise in **unemployment** in many countries (Béland et al., 2020; Böhme et al., 2020; Chetty et al., 2020). According to the Federal Employment Agency (BA), the seasonally adjusted unemployment rate in Germany rose from 5.0 % in February 2020 to 6.4 % in June 2020 (an increase of 657,433 people) after falling almost continuously for 15 years. The peak was reached in the period from June to August 2020 with an average of 2.9 million unemployed. By jurisdictions, the figure for unemployment covered by unemployment insurance (SGB III) rose more quickly in April 2020 month-on-month than the figure used for basic security benefits for jobseekers (SGB II). [↪ CHART 77 TOP LEFT](#) One reason for this is probably the temporary extension of the duration of unemployment benefits, which has increased unemployment in the unemployment insurance system (BA, 2021a, p. 14). Unemployment figures fell again in the first half of 2021, especially in unemployment insurance. [↪ ITEM 78](#) Similarly, employment and employment subject to social security contributions have shown a stable development since the first shutdown in April 2020. [↪ ITEM 77](#)
276. **Entries into unemployment** from both employment and self-employment **increased** (i.e. more people became unemployed) in April 2020 compared to the same month of the previous year. [↪ CHART 77 TOP RIGHT](#) The marked drop in the number of people exiting unemployment indicates that fewer unemployed people succeeded in moving into the primary labour market or self-employment in April and May 2020 than in the same months of the previous year. In H2 2020 there were more exits than in the corresponding months of 2019.
277. **Unemployment** is also **becoming more entrenched** as a result of the crisis. The number of long-term unemployed people – i.e. those who have been continuously unemployed for more than a year – rose by 21 % (183,180) year-on-year to 1.04 million in Q3 2021. The crisis-induced increase in long-term unemployment since April 2020 is associated, on the one hand, with more transitions into long-term unemployment due to fewer recruitments and, on the other, fewer people exiting unemployment through support measures or by finding a job (BA, 2021a). [↪ ITEM 411](#)
278. An analysis of the **entries into unemployment** has been conducted by Leibovici et al. (2020a, 2020b), using a "physical proximity index" to distinguish between contact and non-contact-intensive economic sectors. It shows the impact of the crisis on specific economic sectors. The change in the number of people entering unemployment (in Q2 2020 year on year) was much larger in **contact-intensive sectors of the economy**, such as hotels and restaurants, than in non-contact-intensive sectors. This pattern is not repeated among people exiting unemployment. This could be due to the fact that job advertisements and recruitment procedures were suspended or reduced in many areas. [↪ CHART 77 BOTTOM LEFT](#)
279. In most cases, economic downturns have a greater impact in sectors of the economy where predominantly men are employed, such as construction or manufacturing, than in sectors where mainly women are employed, such as education and healthcare (Alon et al., 2020). In contrast to the financial crisis of 2008/09, at the

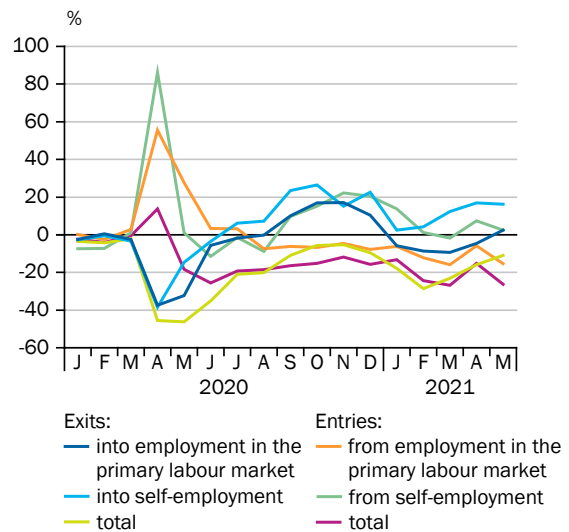
CHART 77

Structure of unemployment in Germany

Unemployment by Social Code

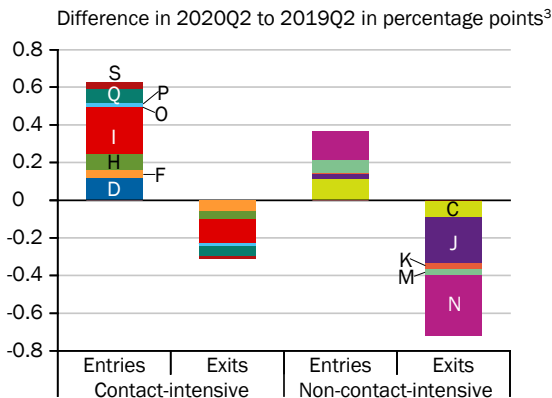


Exits from and entries into unemployment
Change to the respective month in 2019

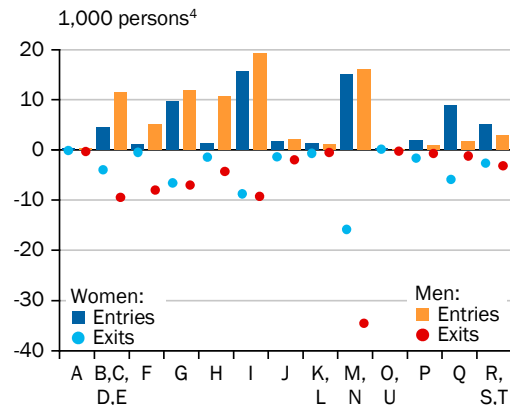


Change in exits from unemployment and change in entries into unemployment in the second quarter 2020 on the previous year quarter by economic sectors¹

Contact-intensive and non-contact-intensive economic sectors²



Economic sectors by gender



A–Agriculture, forestry and fishing B–Mining and quarrying C–Manufacturing D–Energy supply⁵ E–Water supply and waste management F–Construction G–Trade⁶ H–Transport and storage I–Accommodation and food services activities J–Information and communication K–Financial and insurance activities L–Real estates activities M– Professional, scientific and technical activities N–Administrative and support service activities O–Public administration and defence, compulsory social security P–Education Q–Human health a. social work activities R–Arts, entertainment a. recreation S–Other service activities T–Private households⁷ U–Activ. o. extraterrit. organ. a. bodies

1 – According to the classification of economic activities, 2008 edition (WZ 2008). 2 – The identification of contact-intensive and non-contact-intensive economic sectors follows the physical proximity index by Leibovici et al. (2020a, 2020b). The following economic sectors B, E, G, L, R, T, U could not be identified. 3 – Change in the number of entries into unemployment or rather the number of exits from unemployment of the economic sector in relation to the number of employees subject to social insurance contributions in the contact-intensive/non-contact-intensive economic sectors. 4 – Change in entries into unemployment or rather change in exits from unemployment of employed women/men subject to social insurance contributions in the economic sectors. 5 – Electricity, gas, steam and air conditioning supply. 6 – Including repair of motor vehicles and motor cycles. 7 – Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use.

Sources: Federal Employment Agency, Leibovici et al. (2020a, 2020b), own calculations
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beginning of the coronavirus crisis in Q2 2020, **economic sectors employing predominantly women were more seriously affected**. When looking at the change in entries to and exits from unemployment (in Q2 2020 year on year), it becomes apparent that these figures are determined by different economic sectors for women and men. For example, the difference in unemployment entries among women is particularly high in healthcare and social work, while for men it is especially high in the manufacturing sector. [↪ CHART 77 BOTTOM RIGHT](#) In the case of women, the largest shares are accounted for by doctors' and dentists' surgeries (36 %), unspecified healthcare (19 %) and social care for the elderly and the disabled (14 %). The difference in exits from unemployment into employment subject to social security contributions was particularly negative in Q2 2020 in healthcare and social work for women, and in professional, scientific, technical and other business services for men.

280. While the **average unemployment rate for women in the euro area** (8.3 %) in 2020 was higher than that of **men** (7.7 %), the reverse was true in Germany (3.4 % women, 4.3 % men). The increase during the coronavirus pandemic was the same for women and men (0.3 percentage points) in the euro area, while in Germany it was slightly lower for women (0.6 percentage points) than for men (0.7 percentage points). [↪ TABLE 16](#) By contrast, in the **United States**, the unemployment rate for women rose noticeably more than for men during the coronavirus crisis (Alon et al., 2020; Russell and Sun, 2020; Albanesi and Kim, 2021). For example, it increased by 4.7 percentage points for women in 2020 year on year and by 4.1 percentage points for men. [↪ TABLE 16](#) Adams-Prassl et al. (2020) show that women in the United States were more likely to experience job losses even when studies only considered changes within occupational, age, and educational groups, rather than changes between these groups. This was not the case in Germany.
281. In 2020, the **employment rate in the euro area** fell more among **men** (by 1.2 percentage points) than among **women** (by 0.6 percentage points) compared to the previous year. [↪ TABLE 16](#) In **Germany**, the employment rate among women actually increased slightly (by 0.4 percentage points), while it fell by 1.5 percentage points for men. The reason why the higher unemployment rates are not fully reflected in lower employment rates is that labour market participation has also changed. Botelho and Neves (2021) show that during the first wave of the pandemic (up to Q2 2020), women in the euro area were more likely than men to withdraw from the labour market. However, the participation of women in the second half of the year increased more rapidly than that of men. In Germany, evidence on the impact of the coronavirus crisis on the gender distribution of market working hours is mixed. While Knize et al. (2021) find no gender-specific market changes in working hours in the spring of 2020, according to Alon et al. (2021), women reduced their hours much more than men during the pandemic.
282. Many of the additional **entries to unemployment** in Q2 2020 (compared to Q2 2019) were **people who had not completed any vocational training**. People with a university degree accounted for a very small proportion of the additional entrants. An analysis by economic sector shows that the largest proportion

TABELLE 16

Labour market in the euro area and the USA by gender

States	Employment rate ¹ in %				Unemployment rate ² in %			
	Male		Female		Male		Female	
	2019	2020	2019	2020	2019	2020	2019	2020
Euro area	73.2	72.0	63.1	62.5	7.4	7.7	8.0	8.3
Belgium	77.1	73.2	71.2	66.8	6.2	9.8	5.4	9.5
Germany	80.5	79.0	72.8	73.2	3.6	4.3	2.8	3.4
Estonia	78.6	76.0	71.9	71.6	4.1	7.1	5.1	6.9
Finland	74.3	73.7	71.8	70.7	7.3	8.1	6.3	7.6
France	68.8	68.5	62.4	62.2	8.6	8.2	8.4	8.0
Greece	65.9	65.2	47.3	47.5	14.1	13.7	21.7	20.0
Ireland	75.0	73.2	64.2	62.4	5.1	5.6	4.0	4.9
Italy	68.0	67.2	50.1	49.0	9.3	8.6	11.3	10.4
Latvia	73.9	73.1	70.7	70.2	7.3	9.4	5.7	7.4
Lithuania	73.5	72.2	72.5	71.0	7.3	9.6	5.7	8.0
Luxembourg	72.1	70.4	63.6	63.9	5.7	6.6	5.5	7.0
Malta	82.4	81.8	62.8	64.7	3.4	4.3	4.1	4.4
Netherlands	82.2	81.6	74.1	73.9	3.4	3.7	3.4	4.0
Austria	78.0	76.5	69.2	68.3	4.7	5.6	4.4	5.3
Portugal	73.6	71.6	67.6	66.6	6.1	6.9	7.3	7.3
Slovakia	74.4	73.3	62.4	61.7	5.7	6.5	6.0	7.1
Slovenia	74.8	73.7	68.6	67.8	4.1	4.5	5.0	5.7
Spain	69.9	67.3	58.8	56.6	12.5	14.0	16.1	17.5
Cyprus	76.2	75.9	65.2	64.3	6.5	7.8	8.1	7.7
USA	76.5	72.1	66.3	62.2	3.8	7.9	3.6	8.3

1 – Employees as a share of the labour force aged 15 to 64 years. 2 – Unemployed as a share of the labour force aged 15 to 64 years.

Source: OECD

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of additional entries to unemployment came from the hospitality industry and from the self-employed in the professional, scientific and technical sectors and other services. ↘ CHART 78 Möhring et al. (2020a) document that people with a lower-level school leaving certificate were much more likely to be affected by unemployment and short-time working than people with a high-level school leaving certificate.

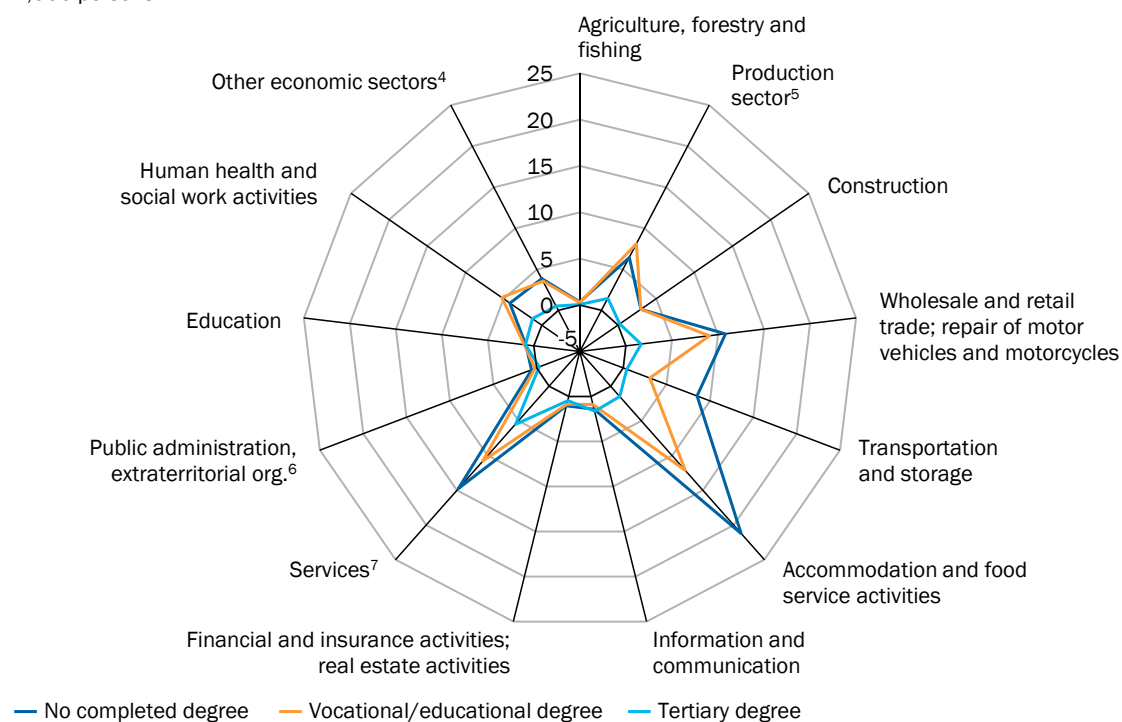
283. **Refugees in Germany and, to some extent, people with a migration background are particularly affected** by the impact of the crisis on the German labour market (Brücker et al., 2021a). These groups were more frequently affected by unemployment or short-time work during the first shutdown. This was probably partly due to the fact that refugees and people with a migration background in occupations with manual labour was disproportionately high in the pre-crisis year 2019 (Brücker et al., 2021a). Another likely reason was that refugees specialise in manual jobs, which are less likely to be relocated to working from home and are

▸ ABBILDUNG 78

Change¹ in entries into unemployment² in Germany by education and economic sector³

Crisis-related entries, especially in the hospitality industry and services sectors

1,000 persons



1 – Difference between second quarter 2020 and the same quarter of the previous year in thousand persons. 2 – Entry into unemployment from employment subject to social insurance contribution on the primary labour market. 3 – According to the classification of economic activities, 2008 edition (WZ 2008). 4 – Arts, entertainment and recreation; other service activities; activities of households as employers; undifferentiated goods- and services-producing activities of households for own use. 5 – Mining and quarrying; Manufacturing; electricity, gas, steam and air conditioning supply; water supply; sewerage, waste management and remediation activities. 6 – Public administration and defence; compulsory social security; activities of extraterritorial organisations and bodies. 7 – Professional, scientific and technical activities; administrative and support service activities.

Sources: BA, own calculations
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often temporary employment relationships or have a short length of service (Brücker et al., 2021a).

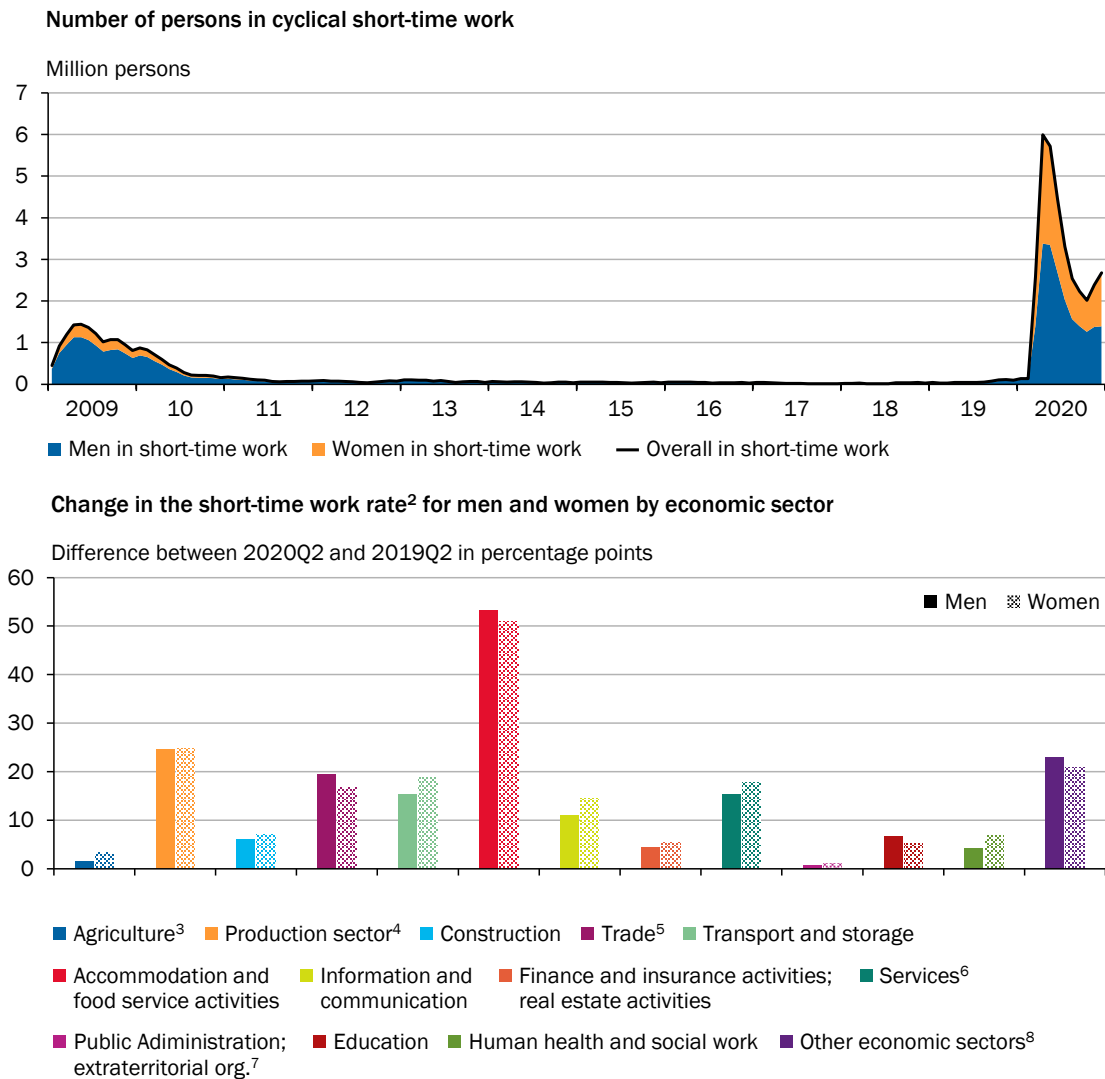
284. In other countries, too, people with a migrant background were particularly hard hit by the effects of the crisis on the labour market, for example in the United States (Borjas and Cassidy, 2020; Fairlie et al., 2020; Montenegro et al., 2020). In Germany, although the **employment of refugees increased towards the end of 2020**, employment growth was lower compared to previous years. According to Brücker et al. (2021b), one reason for this may be the pandemic-related discontinuation of integration and qualification measures. For example, the number of refugees participating in support measures was 30 % down in August 2020 compared to December 2019.

285. In April 2020, **cyclical short-time work** peaked with almost six million employees receiving KuG (BA, 2021b). The number of men in short-time work exceeded the number of women. ▽ CHART 79 TOP At 18.8 %, the short-time working rate for men was also higher than that for women (16.9 %). This was probably mainly

due to economic sectors employing an above-average number of men (Bonin et al., 2021). Compared to the financial crisis of 2008/09, however, the proportion of women in short-time work has increased considerably. Broken down by economic sector, there are slight differences between the short-time work rates of the sexes. [↘ CHART 79 BOTTOM](#) According to estimates by the ifo Institute, short-time work had fallen considerably to 687,961 by August 2021, following a slight increase in the previous winter (ifo Institute, 2021).

↘ **ABBILDUNG 79**

Realised short-time work in Germany by gender and economic sector¹



1 – According to the classification of economic activities, 2008 edition (WZ 2008). 2 – Share of male or female short-time workers of the male or female employees subject to social security contributions in the economic sector. 3 – Agriculture, forestry and fishing. 4 – Mining and quarrying; Manufacturing; electricity, gas, steam and air conditioning supply; water supply; sewerage, waste management and remediation activities. 5 – Wholesale and retail trade; repair of motor vehicles and motorcycles. 6 – Professional, scientific and technical activities; administrative and support service activities. 7 – Public administration and defence; compulsory social security; activities of extraterritorial organisations and bodies. 8 – Arts, entertainment and recreation; other service activities; activities of households as employers; undifferentiated goods- and services-producing activities of households for own use.

Sources: BA, own calculations
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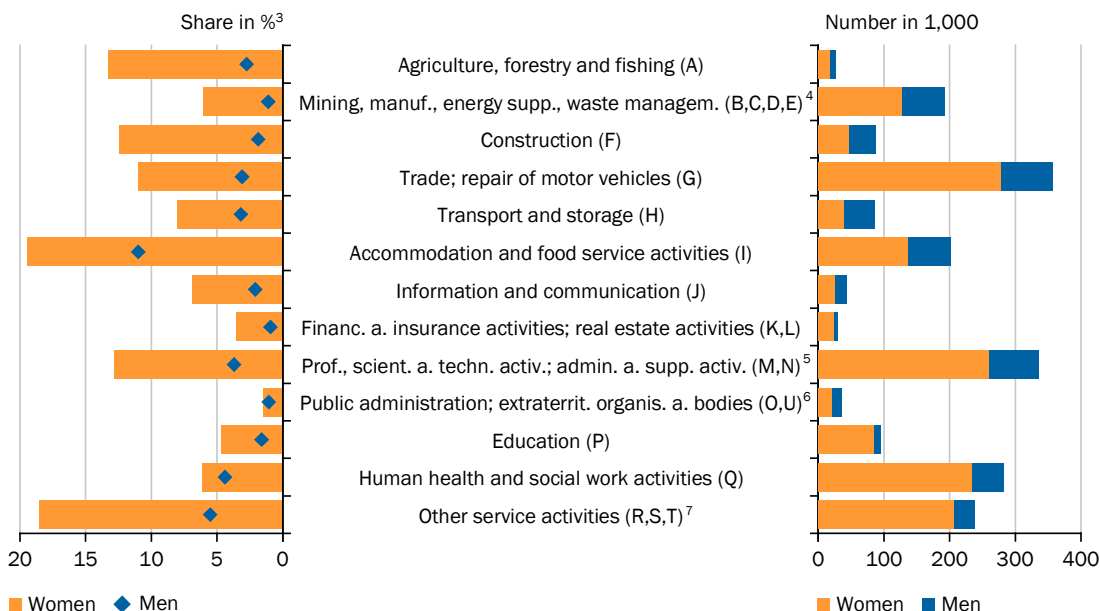
Marginal employment

- 286.** The coronavirus crisis has exacerbated the structural problems of marginally employed people in the labour market. For example, people in marginal employment are not entitled to social benefits such as KuG. The number of people in mini-jobs in June 2020 was about 12 % lower than in the previous year (Grabka et al., 2020, p. 845). In addition, sectors that have a high proportion of marginally employed people, such as the hospitality industry, have been particularly affected by the coronavirus crisis.
- 287.** The number of **women** in marginal employment as a percentage of all women in employment (9.2 %) is considerably higher than in the case of men (2.9 %). This applies to all sectors of the economy. [↘ CHART 80](#) With regard to the age distribution, a study by Grabka et al. (2020, p. 846) shows that the proportion of those marginally employed who lost their jobs in spring 2020 and subsequently stopped working was highest among younger people (aged 18 to 29) at 46 % and older people (aged 65 and above) at 66 %. In the case of people aged between 30 and 49, the figure was only 28 % and about 39 % for people aged between 50 and 64. On the other hand, there are hardly any gender-specific differences when it comes to the transition from a mini-job to economic inactivity, but people with a low

[↘ CHART 80](#)

Marginal employment¹ by gender and economic sectors²

Majority of marginal employees in 2019 are women



1 – Persons aged 15 to 64 who are not in education or vocational training (core labour force). 2 – According to the classification of economic activities, 2008 edition (WZ 2008). 3 – Share of female/male marginal employed in all female/ male employees in the economic sector. 4 – Mining and quarrying; manufacturing; electricity, gas, steam and air conditioning supply; Water supply; sewerage, waste management and remediation activities. 5 – Professional, scientific and technical activities; administrative and support service activities. 6 – Including defence and compulsory social security. 7 – Arts, entertainment and recreation; other service activities; activities of private households as employers; undifferentiated good- and services-producing activities of households for own use.

Sources: Federal Statistical Office, own calculations
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level of educational are particularly affected at 57 % (Grabka et al., 2020, p. 846).
Self-employed

288. At the beginning of the crisis, the self-employed were affected particularly frequently by entries into unemployment. [↪ CHART 276](#) The number of self-employed was already declining before the crisis. The seasonally adjusted quarter-on-quarter change in Q2 was –0.3 % in 2018, –0.5 % in 2019, –0.8 % in 2020, and –0.5 % in 2021. The figure in Q2 2021 was 3.9 million people. According to Kritikos et al. (2020), about 60 % of the self-employed experienced declines in their incomes between March and May 2020, compared to only about 20 % among people in dependent employment.

Gender-specific differences in the extent to which the self-employed are affected by the crisis were evident because women are disproportionately represented in the affected sectors of the economy (Graeber et al., 2020; Seebauer et al., 2021). Reductions in income in Q2 2020 affected self-employed women more often – at around 63 % – than self-employed men at around 47 %.

Consequences of the coronavirus crisis for health and the household situation

289. Even before the coronavirus pandemic, the general risk of disease was higher among people with low incomes and low educational attainment (Richter and Hurrelmann, 2009; Lampert et al., 2019; bpb, 2021, p. 600). Research on the unequal health impact of COVID-19 among different socio-economic groups is not yet very advanced in Germany. Preliminary studies suggest **social inequalities** in COVID-19 disease risk (Wachtler et al., 2020a; Hoebel et al., 2021). [↪ BOX 20](#)

In response to socio-economic disparities in SARS-CoV-2 infection rates, Länder and municipalities successfully targeted socially disadvantaged people with low-threshold vaccination campaigns using mobile vaccination teams and district outreach campaigns without appointments as part of the **National Vaccination Strategy** in mid-May 2021. Such vaccination schemes were also expanded from the beginning of October 2021 after many vaccination centres closed (GMK, 2021).

[↪ BOX 20](#)

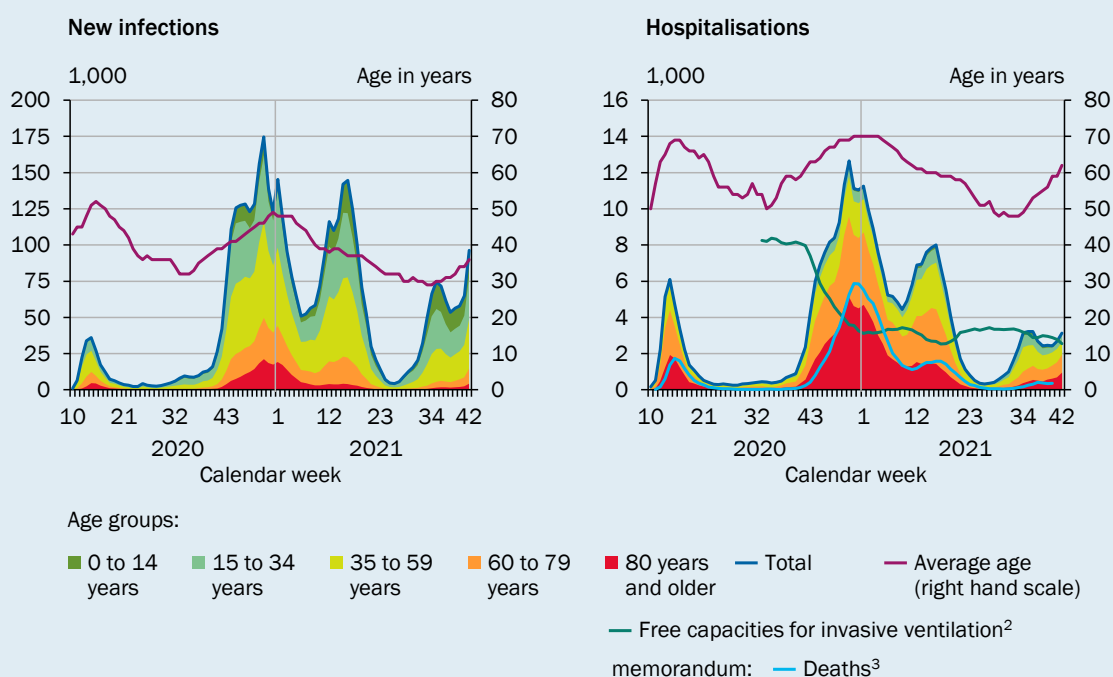
Health impact of the coronavirus pandemic on socio-economic and demographic groups

The coronavirus pandemic and the associated health policy restrictions led to different **health risks** in several countries **among certain socio-economic population groups**. As a result of the difficult data situation, the literature on the risk of infection and on the severity of disease in the case of COVID-19 in people from different socio-economic backgrounds is currently not very advanced in terms of identifying causal relationships. Initial analyses of the first wave of the coronavirus pandemic in Germany in spring 2020 suggest a link between **disease risk** and socio-economic and demographic factors (Wachtler et al., 2020a). This is probably the result of differences in the risk of infection with SARS-CoV-2 resulting from people's type of work and living conditions. For example, confined living conditions increase the risk of infection (Giesing

and Hofbauer Pérez, 2020; Millett et al., 2020; Raisi-Estabragh et al., 2020). Similarly, there is a socially unequal risk of infection at the workplace associated with different working conditions (UN DESA, 2020). For instance, at the beginning of the pandemic, employees in systemically relevant occupations, such as nursing, retail or logistics, were at increased risk and had low to moderate incomes. Furthermore, a study from the United States points to higher mortality risks among workers with a migrant background in the food industry, agriculture, transport and logistics compared to the counterfactual situation without the pandemic (Chen et al., 2021). In the pandemic, age plays a decisive role in the incidence of infection, ↘ CHART 81 LEFT as well as in the distribution of disease severity. ↘ CHART 81 RIGHT A study by the Robert Koch Institute (RKI) has shown that, at the beginning of the pandemic, patients aged above 59 had a more severe course of the disease; furthermore, more of them died from COVID-19 than younger people (Schilling et al., 2020).

↘ CHART 81

Development of the coronavirus pandemic in Germany¹



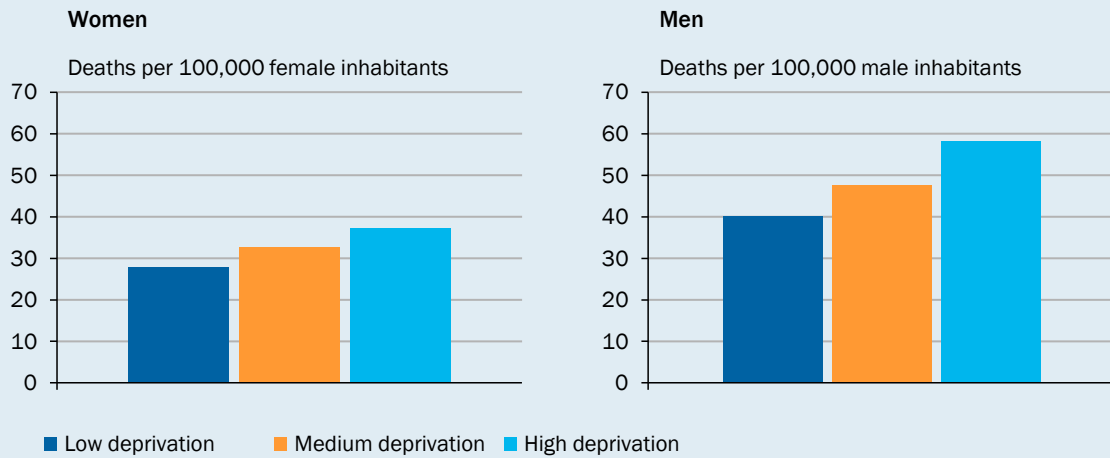
1 – COVID-19 cases reported to the RKI in Germany for the reporting weeks CW10 2020 to CW42 2021. As of 28 October 2021. 2 – Average of the 7 daily values per calendar week. 3 – The deaths are published by the RKI with a delay of 3 weeks to ensure relative completeness. For the cases up to CW40 2021 there may still be late registrations.

Sources: DIVI-Intensivregister, RKI, own calculations
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The **severity of the disease** also differs between socio-economic groups. Gender differences already became apparent at the beginning of the pandemic: women were less likely to fall severely ill ↘ CHART 82 LEFT than men, ↘ CHART 82 RIGHT and had a lower mortality rate. ↘ CHART 82 LEFT AND RIGHT The mortality rate is more pronounced among the socially disadvantaged (social deprivation ↘ GLOSSARY). A positive correlation between social deprivation and disease severity has also been found in other countries (Blundell et al., 2020; Drefahl et al., 2020). Results for the United States do not show a consistent picture regarding the association between income distribution and higher incidence levels or increased risk of hospitalisation (Wachtler et al., 2020b).

▾ CHART 82

COVID-19 mortality by gender and regional social discrimination (deprivation)¹



1 – COVID-19 deaths between 1 December 2020 and 31 January 2021. Standardized by age with the 2013 European standard population over the age groups up to 4 years, 5 to 14 years, 15 to 34 years, 35 to 59 years, 60 to 79 years as well as 80 years and older. Connected with the "German Index of Socioeconomic Deprivation" (GISD) on the level of the 401 administrative districts and urban municipalities. The GISD consists of eight separate indicators from the three dimensions education (share of employees with tertiary degree, share of school leavers without a degree), income (mean household net income, debtors rate, tax revenue) and occupation (unemployment rate, employee's gross earnings, employment rate).

Sources: Eurostat, RKI, Statistical Offices of the Federation and the Länder, own calculations
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290. The **division of care work** among parents is **closely linked to the individual labour supply and the decision on hours of work**. Substitutability, for example between own childcare and paid childcare, and between market goods and household production, is crucial here (Blanchard, 2006). In addition to the quality, price and availability of childcare, cultural norms – such as traditional gender roles – are also likely to be relevant (Burda et al., 2013). Furthermore, the tax treatment of married couples' incomes probably also has an influence. ▾ [ITEMS 317 FF](#). The amount of time spent on unpaid domestic work was about three and a half hours per day in Germany between 2012 and 2013 (van de Ven et al., 2018, p. 21).

The temporary closure of childcare facilities during the pandemic led to a **redistribution of labour and care work** between parents in Germany (Jessen et al., 2021). The literature suggests that in April 2020, women in particular reduced their working hours because institutionalised childcare was limited (Fuchs-Schündeln and Stephan, 2020; Möhring et al., 2020b; Jessen et al., 2021) and that this particularly affected households at the lower end of the income distribution (Kohlrausch and Zucco, 2020). This may have perpetuated already existing **gender inequalities in the sharing of childcare** between couples (Allmendinger, 2020; Danzer et al., 2021). Overall, parents in Germany have become more involved in care work than before the crisis, but women relatively more so than men (Zinn et al., 2020).

3. Situation on the vocational training market

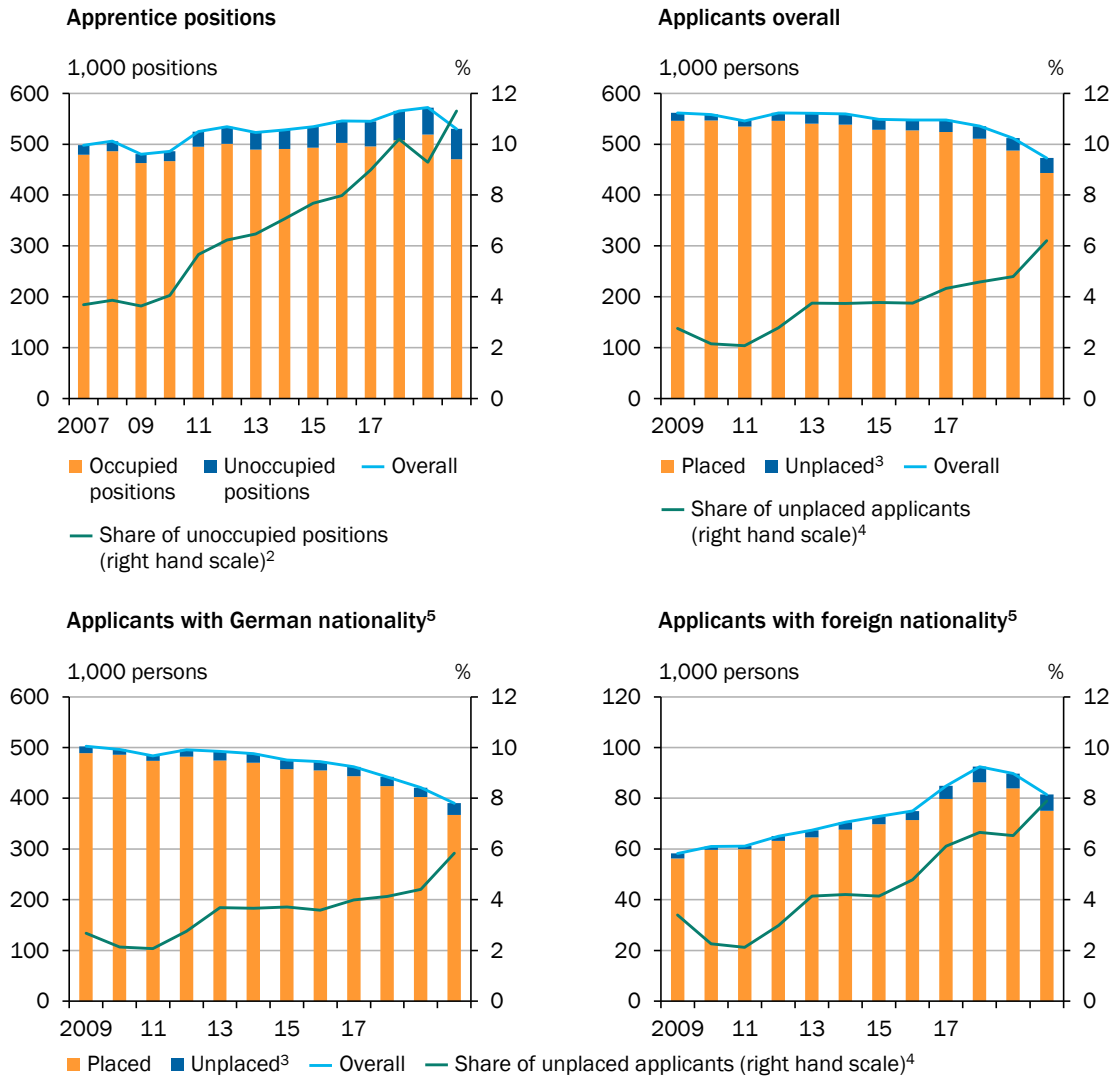
291. The literature shows that crises can have **lasting effects on labour market entrants**, for example in the form of lower incomes for ten to fifteen years after the crisis (von Wachter, 2020). One reason for this is the economic uncertainty caused by the crisis, which often reduces the supply of training opportunities at the firm (Brunello, 2009). Training at the firm is an important instrument for ensuring the supply of skilled staff (Mühlemann et al., 2020). Comparatively fewer labour market opportunities can lead young people to opt for further education in times of crisis (Clark, 2011; Sievertsen, 2016). This is likely to be relevant especially for people qualified for a university entry.
292. Even before the coronavirus pandemic, the situation on the vocational training market already indicated **imbalances in the ‘matching process’** between available training vacancies and applicant registrations. According to Leber and Schwengler (2021), unfilled training vacancies and prematurely terminated training contracts made it more difficult to ensure the supply of skilled labour in Germany in the 2018/19 training year. The coronavirus crisis has exacerbated this situation and led to a significant decline in the number of vocational-training vacancies filled. The number of unfilled vocational training vacancies has been rising steadily since the 2006/07 training year. [↘ CHART 83 TOP LEFT](#) In September 2020, the number of registered apprenticeships fell by 7.3 % (from 572,000 to 530,300) year-on-year; 10,000 of these vacancies were lost as a result of pandemic-related restrictions in firms as from March 2020 (BA, 2020b). The difference between unfilled vocational training vacancies and reports of unplaced applicants, i.e. those who had not found a training place, increased in absolute terms from 28,612 in the 2018/19 training year to 30,599 in the 2019/20 training year. The number of unfilled vocational training vacancies (59,948) in the 2019/20 training year was considerably higher than the number of unplaced applicants (29,349). During the same period, the increase in the number of unplaced applicants (19.7 %) was relatively higher than the increase in the number of vacancies (12.8 %).
293. The number of applicant registrations also decreased in September 2020 year-on-year, from 511,800 to 473,000 (BA, 2020b). About a quarter of the decline can be attributed to lockdown measures (BA, 2020b). The reasons for the decline in the number of applicants probably lie in a fall in the number of school leavers and a reduction in vocational guidance activities due to the pandemic. The percentage of unplaced applicants increased markedly in 2020 compared to 2015. [↘ CHART 83 TOP RIGHT](#) One reason for the unsuccessful placement process was probably the pandemic-related limitations on vocational guidance, vocational mentoring for the transition to the labour market and corporate selection processes. The increase in the number of unplaced applicants suggests that the **imbalances on the vocational training market** have been **exacerbated by the coronavirus crisis**.

Immigration to Germany has led to a considerable increase in the proportion of **applicants with foreign citizenship** in all applicant registrations (from 11 % in 2010 to 17 % in 2020) (BA, 2020b). The percentage of unplaced applicants is higher among foreign applicants than among German applicants. Moreover, the difference according to nationality has increased over time. [↘ CHART 83 BOTTOM LEFT](#)

AND BOTTOM RIGHT The lower average qualifications of the groups concerned are likely to have contributed to this development (BA, 2020b).

CHART 83

Development on the vocational training market¹ in Germany



1 – Data status of the year indicated in each case for the training year from October of the previous year to September of the year indicated. Thus, the reporting year 2019/20 corresponds here to the year 2020. 2 – Share of vacant apprentice positions in all training positions. 3 – Unplaced applicants are those registered applicants who have neither entered vocational training nor an alternative. 4 – Share of unplaced applicants in all applicant registrations. 5 – The characteristic nationality additionally contains the category "no response". This was not incorporated in the aggregation step of the number of applicants. Differences are probably due to the anonymisation of small sample sizes. 6 – Share of unplaced German or foreign applicants in all German or foreign reported applicants.

Sources: Federal Employment Agency, own calculations
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IV. MEASURES FOR THE LABOUR MARKET

294. In the course of the coronavirus crisis, **certain groups of people** were **particularly affected** by its impact on the labour market and the resulting **losses of income**. [↘ ITEMS 246 FF.](#) Further labour market policy measures need to be adopted to counteract both the current and future effects of the crisis. At the same time, steps should be taken to address the transformation of the economy and to counteract shortages of skilled workers as well as long-term unemployment.

1. Reduce (long-term) unemployment

295. Unemployment is not only associated with short-term income losses. It also leads to lower individual wages in the long run (Arulampalam, 2001; Arulampalam et al., 2001). This can be attributed to two factors: first, to a continuous **loss of skills and competencies** during unemployment and, second, to a negative **signal effect**. Past unemployment is viewed negatively by companies when recruiting staff, and reduces the reintegration chances of those affected (Arulampalam, 2001; Arulampalam et al., 2001). Unemployment thus leaves behind persistent effects (**unemployment scarring**), which increase as unemployment continues and make it particularly difficult for the long-term unemployed to return to work. There may be large income losses, not least for young people with poor qualifications (Möller and Umkehrer, 2015; Schmillen and Umkehrer, 2017).
296. The **Participation Opportunities Act** (“Teilhabechancengesetz”), which has been in force since 2019, targets the long-term unemployed with the aim of enabling them to **re-enter** the labour market. It provides for specific wage subsidies for the long-term unemployed as well as **coaching and continuing education and training** (GCEE Annual Report 2019 item 679). While qualification measures can improve their employment opportunities, [↘ ITEMS 300 FF.](#) coaching addresses the psychological consequences of long-term unemployment. As a result, it can have a stabilising effect on new employment relationships, which, for the long-term unemployed, often last only a short time (Bauer et al., 2016). The **wage subsidies** provided for in the Participation Opportunities Act (section 16i of SGB II) specifically target the long-term unemployed. The idea was to benefit from the experience gained from former job-creation schemes (ABM). These were often too broadly based and delayed re-entry into the labour market for many (Hujer et al., 2004; Wolff and Stephan, 2013).

The impact of the Participation Opportunities Act on labour-market integration is currently being evaluated (Bauer et al., 2021). The results should be used consistently to **further develop and improve the measures**.

2. Facilitate the transition to vocational training at the firm

297. The **model of dual vocational training** has a **long tradition in Germany** and is regarded worldwide as a successful model (Blossfeld and Stockmann, 1998; Adda et al., 2010). By combining theoretical training at the vocational school with practical qualification measures in the training firm, it enables a smooth transition from school to work. At the same time, training firms ensure their supply of qualified young skilled employees at an early stage.

The **coronavirus crisis** has had a considerably negative effect on vocational training at the firm (OECD, 2020a), and demographic change is likely to exacerbate the shortage of skilled labour in the future. [▶ ITEMS 292 F](#). Many small and medium-sized training enterprises (with up to 249 employees) have been affected by temporary slumps in turnover. In order to give them financial incentives to nevertheless provide training places, a federal programme called **‘Securing Training Places’** (‘Ausbildungsplätze sichern’) was introduced in July 2020. In addition, the funding was expanded and further developed in March 2021. For example, since 1 June 2021, firms with up to 499 employees have been eligible for funding, and the training premium has been doubled (BMAS, 2021a). The programme provides for measures totalling €500 million for the years 2020 and 2021. Among other things, these offer targeted financial incentives to encourage companies to continue offering training (‘training premium’) or to increase the number of training places they offer (‘training premium plus’). The ‘bonus for taking on apprentices’ (‘Übernahmeprämie’) enables firms to take on trainees from companies that have become insolvent due to the pandemic so that they can complete their training. €200 million is currently earmarked for the year 2022 to address the medium-term effects of the coronavirus crisis within the framework of the programme (BMBF, 2021a).

298. In **many EU member states** as well as in Switzerland, **incentive systems for the recruitment and continued employment of trainees** have also been **expanded or newly introduced** as a result of the crisis (OECD, 2021a). In France, for example, the initiative ‘1 jeune 1 solution’ provided financial incentives to recruit apprentices between July 2020 and December 2021. In Switzerland, a COVID-19 Task Force on Vocational Training, which was established in May 2020, also focused on financial incentives to maintain the number of apprenticeships. In Austria, one of the measures introduced between March and October 2020 was an apprenticeship bonus for taking on apprentices (BMDW, 2021; WKO, 2021). The federal programme for ‘Securing Training Places’ and the ‘Summer of Vocational Training’ campaign in Germany, which aimed to fill vacant training places, are important instruments for cushioning the impact of the crisis. However, they do not address the long-term matching problems on the vocational training market. [▶ ITEMS 292 F](#).
299. The increase in the number of unfilled training vacancies in Germany since 2010 and the stable supply of training vacancies up to 2019 [▶ ITEM 292](#) indicate that there is no general shortage of training places. To this extent, it is questionable whether financial incentives will be necessary once the crisis situation is over. According

to survey data, already in 2019 German firms were granting cash or non-cash benefits or additional benefits (e.g. pension subsidies) in addition to trainee remuneration in order to reduce staffing problems (Leber and Schwengler, 2021). However, **staffing problems and reports of unplaced applicants** persist (Leber and Schwengler, 2021). Here, placing underachieving young people in school-based vocational training could **facilitate** their **transition to vocational training at the firm**. A similar model has already existed in Bremen since 2017 (the local ‘Training Guarantee’ programme) and in Austria since 1998 with the inter-firm training scheme (ÜBA) (Werner et al., 2021). This is part of the Austrian model of the state training guarantee, through which young people who have not found a dual vocational training place are entitled to a training place not linked to a firm (Wieland, 2020). This model should improve the training prospects of underachieving young people, irrespective of periods of crisis. In Austria, the feared displacement of in-company vocational training did not occur because this form of training, which is like a transition phase towards dual vocational training, is linked to certain criteria and specifically targets unplaced trainees (Forstner et al., 2021). Nonetheless, the transition from ÜBA to in-company vocational training is successful in only about half of all cases (Wieland, 2020).

3. Strengthen continuing education and training

300. **Continuing education and training** should become **an integral part of working life** to enable employees and companies to meet new demands in the course of structural change, and to reduce (long-term) unemployment and shortages of skilled workers. [↘ BACKGROUND INFO 9](#) However, the persistently low participation in continuing training and education points to insufficient **incentives** for employees and businesses. [↘ CHART 84 LEFT](#) This applies particularly to **low-skilled workers**, who are much less likely to participate in continuing education and training; [↘ CHART 84 RIGHT](#) at the same time, however, they are more seriously affected by the coronavirus crisis and structural change (Osiander and Stephan, 2018).



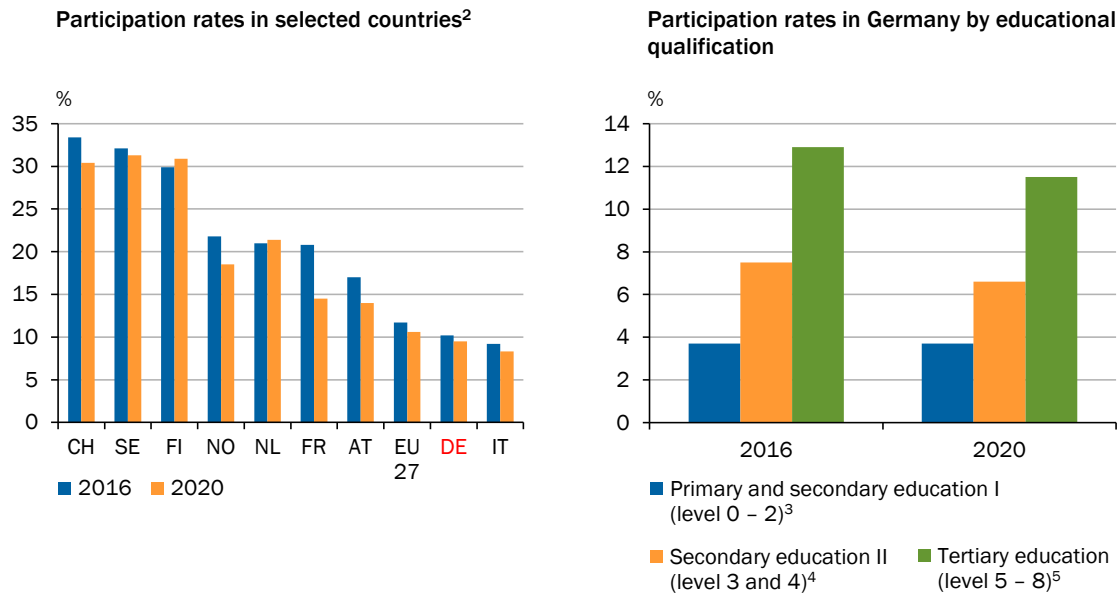
[↘ BACKGROUND INFO 9](#)

Types of continuing education and learning

Continuing education and training measures can be formal or non-formal. **Formal continuous education and training** is provided by educational and training institutions and leads to recognised degrees and qualifications. **Non-formal continuing education and training**, which takes place outside the main education and training systems, is more common. Although such courses can be certified, they do not lead to generally recognised degrees or qualifications (Eisermann et al., 2014). According to Eurostat data, in 2016, non-formal continuing education and training mostly took place in the context of in-company further training. However, it can also be offered by private or public bodies targeting the unemployed or those in employment who wish to continue their training outside the workplace.

↘ CHART 84

Participation rates in continuing education and training of adults and particularly low-skilled remain low¹



1 – Share of persons aged 25 to 64 participating in formal or non-formal continuing education and training in the last four weeks. As of: 3.6.2021. 2 – CH-Switzerland, SE-Sweden, FI-Finland, NO-Norway, NL-Netherlands, FR-France, AT-Austria, EU27-European Union, DE-Germany, IT-Italy. 3 – Primary level: Primary school degree (including degree below the primary level), secondary level I: first general-education degree after nine years (Hauptschule), degree after ten years (Realschulabschluss). 4 – General qualification for university entrance, professional qualification, subject-specific qualification for university entrance, advanced technical college entrance qualification (including a degree on post-secondary level, e. g. evening school). 5 – Completion of further occupational training, university degree (bachelor, master, state/churchly exam, diploma), doctoral degree.

Sources: Eurostat, Standing Conference of the Ministers of Education and Cultural Affairs
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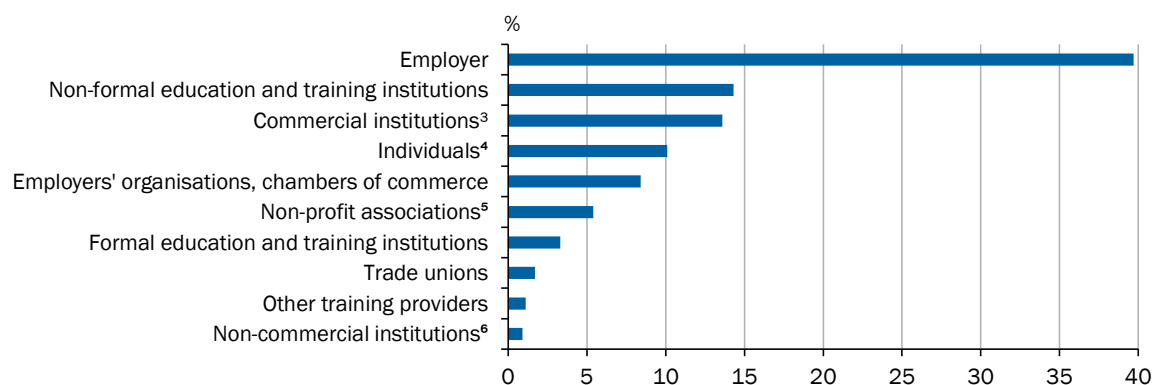
High level of complexity in the German continuing education and training landscape

301. The German continuing education and learning landscape is characterised by a **large number of providers**, most of which are private and commercial (BIBB, 2020). Since private providers mostly orient their services towards the **principle of profitability**, there are considerable **regional differences in the scope of what is offered** (Frick and Wittenbrink, 2018). To ensure that access to continuing education and learning does not depend on where people live, **public continuing education and learning courses should complement the services offered by the private sector**, especially where there are gaps in provision (Pothmer et al., 2019).

Overall, the number of public courses on offer is low; they are mainly provided by adult education centres, although numerous higher education laws of the Länder define continuing education and learning as a core task of universities. ↘ CHART 85 In order to engage **universities more closely in continuing education and learning**, Pothmer et al. (2019) suggest that teaching continuing education and learning should count towards the teaching load of university staff and be taken into account in the allocation of resources.

↘ CHART 85

Non-formal continuing education and training mainly offered by the employer¹
Distribution in 2016 in Germany²



1 – Non-formal education and training activities for persons aged 25 to 64 years. 2 – Responses to the Adult Education Survey by Eurostat in 2016. Missing data to 100 %: no response. 3 – Institutions, where education and training is not the main activity (e. g. equipment suppliers). 4 – E. g. students giving private lessons. 5 – E. g. cultural society, political party. 6 – Institutions, where education and training is not the main activity (e. g. libraries, museums, ministries).

Source: Eurostat

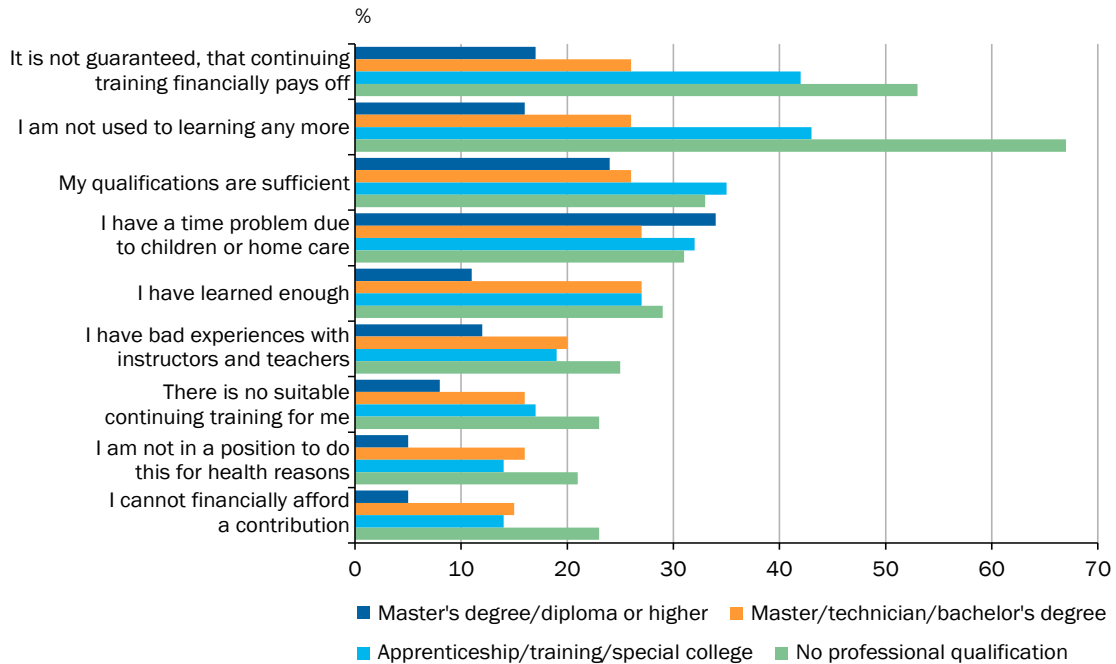
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302. The large number of courses on offer and the **lack of uniform minimum quality standards** make it difficult for those interested in continuing education and learning to select suitable courses. Especially people who are educationally disadvantaged could be deterred from using existing courses (Matthes and Severing, 2017). The willingness of companies to support employees in their training efforts could also be reduced as a result. The introduction of **nationwide minimum standards for the quality of providers** along various dimensions, such as organisational and management practices, teaching staff and further-training programmes, would provide an important incentive for providers to have the quality of their courses certified (OECD, 2021b). In an effort to establish a uniform, supra-regional proof of quality, Austria, for example, already introduced the umbrella certification Ö-Cert in 2012, which defines minimum standards for providers (OECD, 2020b). An initial evaluation concludes that Ö-Cert has made an important contribution to the professionalisation of the sector (Schön et al., 2017, p. 39).
303. Moreover, there are **no** uniform, nationwide and standardised **ways to reliably prove** non-formally acquired vocational **skills** (BMAS and BMBF, 2019, p. 16). Only if the skills taught in continuing education and learning programmes are transparent will it be possible to reduce uncertainties regarding the benefits of continuing education and learning, which often discourage low-skilled employees in particular from participating. ↘ CHART 86 The development of a **federal legal framework for the validation of non-formal learning** would be one approach (OECD, 2021b).
304. In order to navigate people interested in continuing education and learning through the complex adult learning landscape and to help them identify training and funding opportunities, a nationwide and independent guidance structure is also required. The complex structures and approaches of **continuing education**

↘ CHART 86

Numerous reasons prevent especially persons without a degree to participate in continuing education and training

Responses of the questioned employees in the year 2017¹



1 – Online Survey of the Institute for Employment Research (IAB) on continuing education and training; sample size N = 701 to 782.

Source: IAB
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and learning guidance as a whole in Germany have so far **not** been **very transparent**. The OECD (2021b) thus recommends a **national career guidance initiative** that networks and optimises existing continuing education and learning provisions and closes regional guidance gaps. The vocational-guidance service of the Federal Employment Agency, for example, which already has a nationwide presence, would be a good starting point (Pothmer et al., 2019).

- 305. **Guidance services** should be available **through various channels** (online, by telephone, in person) in order to reach interested parties who are educationally disadvantaged and those with limited mobility. Furthermore, Pothmer et al. (2019) advocate the appointment of company continuing education and learning officers who specifically promote participation in continuing education and learning through outreach counselling. They could reach in particular those employees who have reservations about further continuing education and learning, for example because they fear they are no longer used to learning or do not see the benefits of further training (Osiander and Stephan, 2018). ↘ CHART 86

Further develop the financing of continuing education and training

- 306. For the low-skilled in particular, the **financing of continuing education and learning** plays an important role in addition to a transparent range of courses on

offer. In a 2018 online survey by the IAB, 23 % of respondents without a vocational qualification said they could not afford the continuing education and learning programmes they wanted, compared to just 5 % of respondents with a master's degree (Oslander and Stephan, 2018). [↪ CHART 86](#)

The number of existing **funding opportunities** for continuing education and learning is **confusing** for many people (Cordes, 2020). In order to simplify training support and provide a financial incentive for participation, some European countries are currently considering the introduction of **individual learning accounts**. In such a model, financial and time-related training entitlements are aggregated at the individual level and can be transferred over time and to different employers. [↪ BOX 21](#)

[↪ BOX 21](#)

Individual learning accounts as an instrument of continuing education and training

In order to promote continuing education and learning that is relevant to the labour market, some countries are currently discussing the introduction of individual learning accounts (ILAs), which bring together **continuing education and learning entitlements at the individual level**. The idea behind this model is that greater individual involvement and responsibility can have a positive effect on personal motivation and participation in adult learning. Furthermore, ILA funding opportunities are intended to make continuing education and learning more transparent, allow greater freedom in people's choice of training providers, and allow continuing education and learning providers to better tailor the services they offer to the participants' needs (Cedefop, 2008; OECD, 2019a). In view of persistently low participation rates in continuing education and learning programmes in Europe, the European Commission sees ILAs as a possible 'new momentum for upskilling and reskilling adult learners', which can be used to promote equal access to general education and vocational training (Valentini, 2021). Based on the results of a public consultation on this topic between April and July 2021, the European Commission plans to present a European framework for individual learning accounts in autumn 2021.

The only ILA implemented to date is the French **Compte Personnel de Formation** (CPF; OECD, 2019a). Since 2015, the CPF has enabled employees, the self-employed and the unemployed to finance various training courses. An important feature is the transferability of entitlements over time, irrespective of the employment relationship. Via the CPF, employed persons can be credited with up to a maximum of 400 hours of further training over their professional lifetime. The model is supported by contributions from companies with more than ten employees and self-employed people amounting to 0.2 % of gross wages or turnover. Low-skilled employees in France are entitled to a higher level of support under the CPF than highly qualified employees (€800 compared to €500 per year). However, initial evaluations of the French system show that participation is still significantly lower among the low-skilled than among those with higher qualifications (Perez and Vourc'h, 2020). In addition to individual preferences, a possible reason for the low participation could be the administratively cumbersome handling of the CPF and the lack of suitable continuing education and training schemes on offer (Eichhorst, 2017).

Two related models of individual learning programmes are often discussed in addition to the French concept of individual learning accounts, (OECD, 2019a). One model involves **personal savings accounts for further training**, in which financial resources can be saved up for further training. These accounts are to be filled by employer contributions, tax-supported individual contributions, direct state subsidies or subsidised loans. In practice, however, personal savings

accounts have hardly been implemented, with the exception of two pilot projects in Canada ('Learn\$ave') and the United States ('Lifelong Learning Accounts'), which have since ended. On the other hand, the comparatively simpler but less targeted **voucher model** is more popular. In Germany, for example, the training grant promotes job-related further training for gainfully employed people with low incomes. Even here, however, younger, better educated people with an affinity for further training are more likely to take advantage of the support (Bauer et al., 2019), which is why further-training vouchers are judged to be poorly targeted overall (GCEE Annual Report 2017 item 818).

307. During the coronavirus crisis, several laws specifically promoted the **financing of continuing education and training measures for employees on short-time working**. For example, the Employment Security Act and the Work of Tomorrow Act enable employees on short-time working and their companies to pay **course fees and wage costs** for the duration of the training measures (Bundesregierung, 2020). Furthermore, the Qualification Opportunities Act has been in force since January 2019; it allows employees affected by structural change to claim additional further-training funding (BA, 2020c; Bundesregierung, 2020). However, a lack of digital formats, a shortage of teachers, and uncertainties, for example regarding a company's future, have meant that support measures for employees on short-time working were only taken up by about 10 % of the companies concerned between October and November 2020 (Bellmann et al., 2020).

Since linking short-time working with further-training measures seems advisable in principle, an **additional bonus** for employees would be worth considering in addition to the **short-time-working benefit** applicable in each case (Kruppe et al., 2020). A similar model already exists in Berlin, where employees can receive a bonus of up to €250 for participating in continuing education and training programmes during short-time working (Senate Department for Integration, Employment and Social Affairs Berlin, 2021). Participants have to prove, for example by means of a certificate, that they have successfully completed the training course. Such a model could also be introduced for the **unemployed** (Hutter and Weber, 2020). In a pilot project, for example, Bremen is currently promoting the participation of the (long-term) unemployed in retraining courses via a qualification bonus funded by the European Social Fund (ESF-Bremen, 2020). However, initial evaluations of the project are not expected until 2022 (IAB, 2020).

308. **Alternative models for financing continuing education and training** are also currently being discussed. For example, the further development of unemployment insurance into an **employment insurance** scheme with the aim of promoting continuing education and training and covering income and employment risks has been under discussion in labour-market policy for several years (Schmid, 2008; Hans et al., 2017; Deutscher Bundestag, 2018). The group of people eligible for such continuing education and training support would be larger than those within the existing framework of active labour-market policy and include employees subject to social security contributions, people eligible under SGB II and III, the (solo) self-employed, marginally employed people and people

not in employment whose entry into the labour market can be expected in the foreseeable future. According to this proposal, half of the employment insurance would be financed in equal parts by employees and their companies, the other half by a tax subsidy (Hans et al., 2017; Pothmer et al., 2019). In addition to covering the direct costs of continuing education and training, which include participation fees and travel costs, employment insurance could also be used to finance wage-replacement benefits for the period of participation in further training. In a microsimulation, Hans et al. (2017) conclude that employment insurance would actually slightly relieve public budgets on balance due to a reduction in unemployment.

309. Furthermore, the introduction of **sectoral training funds** to finance in-company training could be considered (Johanson, 2009). Similar models already exist in Denmark, France, Italy and the Netherlands; they are usually run by the collective-bargaining parties and funded by the participating companies in proportion to their size (OECD, 2019b, 2019c). This way, small and medium-sized enterprises in particular could benefit from additional financial as well as organisational support (Pothmer et al., 2019). Since the introduction of sector-specific funds is often accompanied by the introduction of other continuing education and training measures, their causal effect on participation rates is always difficult to identify. As the introduction of the Italian sectoral training fund in 2004 was not – unlike all others – accompanied by any other substantial reform of the related to continuing education and training, the marked increase in continuing education and training participation between 2004 and 2017 can be linked to its introduction (OECD, 2019b, 2020b). In the Netherlands, the state supports the development of sector-specific training funds by covering half of the costs for a period of three years (OECD, 2020b).
310. However, the financing of continuing education and training should be linked to the condition that the **continuing education and training programme is relevant to the labour market**, so that companies and employment agencies have sufficient incentives to participate. To define labour-market relevance, Pothmer et al. (2019) suggest, for example, setting up a parliament of continuing education and training at the Federal Institute for Vocational Education and Training (BIBB) for it to agree on which skills and qualifications will be needed in the digital world of work in the future. Alternatively, the relevance of individual continuing education and training programmes for the labour market could be measured against labour-market projections, as in Estonia – the monitoring of skilled labour by the Federal Ministry of Labour and Social Affairs is an example of this (OECD, 2020b).

Make continuing education and training an integral part of the education system

311. The **National Skills Strategy** ('Nationale Weiterbildungsstrategie', NWS) was adopted in June 2019 to achieve permanently higher participation in continuing education and training programmes (BMAS, 2021b; GCEE Annual Report 2020 item 582). Supported by 17 stakeholders from the Federal Government and the Länder, employers' and business associations, trade unions and the BA, the NWS

imposes **numerous obligations** on the stakeholders to **improve the continuing education and training landscape** in a total of ten fields of action. These include, among other things, strengthening adult learning guidance, increasing the transparency of continuing education and training opportunities and courses, greater involvement by the social partners in the continuing education and training process, and improving continuing education and training statistics.

One year after the introduction of the NWS, many of the agreed activities already seem to have been implemented or initiated (BMAS, 2021b). However, **concrete indicators** will be needed to **measure success** in the future (OECD, 2021b). For example, the Estonian lifelong-learning strategy measures its success in terms of various quantitative targets such as the number of participants and satisfaction with the range of training courses on offer (OECD, 2019c).

312. Overall, further training should not be a short-term reaction to labour-market changes that have just occurred, but should become an **independent part of the education system**. In the long term, therefore, the success of the NWS will also depend on whether it succeeds in **institutionalising** the field of further training to a greater extent (Autorengruppe Bildungsberichterstattung, 2018). One way to achieve this goal would be to develop a **German law on continuing education and training** that defines the rights and responsibilities of the different actors in the continuing education and training landscape, e.g. people looking for further training, further-training providers or the public administration, (Pothmer et al., 2019; OECD, 2021b). Legal regulations on definitions, responsibilities, organisation and the financing of continuing education and training already exist, for example in Austria (National Council of the Federal Republic of Austria, 1973) and Switzerland (WeBig, 2014).

4. Insuring the self-employed

313. While the KuG cushioned a large part of the income losses incurred during the coronavirus pandemic by employees covered by social security, the **self-employed** in particular experienced a **significant loss of income** (Kritikos et al., 2020; Grabka, 2021). Various measures to counteract this were implemented at short notice. For example, some of the self-employed person's operating costs and turnover losses were compensated by public funds. Last but not least, they were given easier access to basic benefits under SGB II (GCEE Special Report 2020 item 136). However, a debate has developed on the extent to which the **coverage of the self-employed** should be reformed in such a way that income shortfalls suffered through no fault of their own should be automatically counteracted in the future (Schoukens and Weber, 2020a, 2020b).
314. Under the current rules, the self-employed can **voluntarily** join the **unemployment insurance** scheme and insure themselves against the failure of their business. However, the registration must take place promptly after the start-up, so that incentive compatibility is ensured and abuse is prevented. In 2021, the monthly contributions were just under €79 in western Germany and €75 in eastern Germany. The contributions are reduced by half in the first 24 months after

incorporation. If the business fails, people who are voluntarily insured receive unemployment benefit for up to 24 months. The decisive factors here are their age and the insurance period (Springer, 2013; Oberfichtner, 2019).

The **amount of unemployment benefit** paid is not based on the actual income of the self-employed person, but on a **fictitious remuneration** based on the person's qualifications (section 152 of SGB III). Only if a self-employed person was in employment subject to compulsory insurance for at least 150 days in the 24 months prior to the start of unemployment is the earned income used to determine the unemployment benefit. In some ways, then, voluntary unemployment insurance contradicts the **principle of equivalence** between contributions and benefits (Oberfichtner, 2019).

315. **Only a limited number of the self-employed make use of** voluntary unemployment insurance. In 2019, only just under 74,000 of them were members of the voluntary unemployment insurance scheme. This corresponds to around 2 % of all self-employed (Deutscher Bundestag, 2020). According to a survey by Jahn and Oberfichtner (2020), most self-employed people are aware of the possibility. In most cases, however, the **premiums** are regarded as being **too high** or the **benefits too low**. Similarly, the registration deadline seems too short for many during the labour-intensive start-up period. Last but not least, Jahn and Oberfichtner (2020) show that the self-employed consider the risk of failure to be too low to warrant insuring themselves against it.
316. It is still unclear whether the coronavirus crisis will strengthen or weaken people's willingness to make private provision. On the one hand, the coronavirus crisis could lead many self-employed people or potential founders to **reassess the risk of failure**. The proportion of voluntarily insured people might then increase. On the other hand, coronavirus aid shows that support is provided in the event of a crisis. This could have a negative effect on people's willingness to make private provision (**insurance competition**).

Voluntary insurance could be made more attractive to **improve the coverage of self-employed people by unemployment insurance** in the future. In particular, the violation of the **equivalence principle** by the flat-rate contributions on the one hand and the differentiated level of unemployment benefits according to the level of qualification on the other hand are likely to be a major obstacle to the scheme's take-up. For example, unemployment insurance offers hardly any financial advantages over the basic benefits of SGB II for the low-skilled, yet they pay the same monthly insurance contribution as the more highly qualified. An **extension of the registration period** could make it easier for founders to register and could have a positive effect on take-up. Extending the period from the current three months to six months after incorporation would probably limit potential moral hazard further.

5. Strengthen incentives to work for second earners

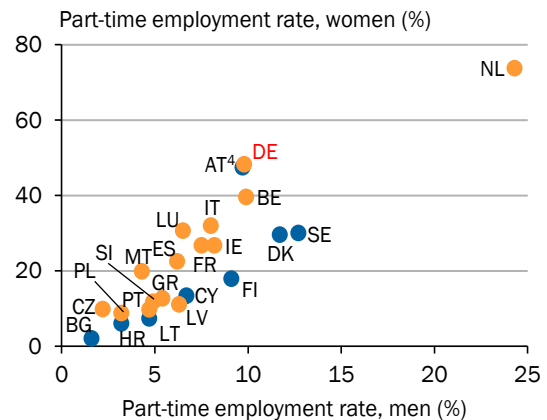
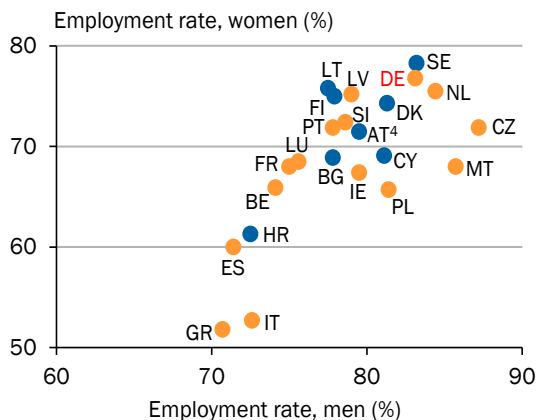
317. In Germany, there are differences between women and men in terms of part-time employment, ↘ CHART 87 RIGHT even though the employment rate of women is high by international comparison. ↘ CHART 87 LEFT In addition, women are more often in marginal employment than men. ↘ ITEM 287 Women are the second earners in around three quarters of households (Blömer and Peichl, 2020; Blömer et al., 2021). **Expanding the employment** of second earners, for example by increasing the number of hours worked by those in part-time employment, **could have a positive impact on the supply of skilled workers** in the context of a demographically driven decline in the number of people of working age (GCEE Annual Report 2020 items 602 and 633). This could **unlock growth potential** (Hsieh et al., 2019; Kolev and Obst, 2021) and counteract the fall in potential output growth. ↘ ITEM 90 Similarly, the additional pension rights acquired by married second earners could reduce poverty among the elderly (GCEE Annual Report 2020 items 674 ff.). The increase in gainful employment could also temporarily boost the sustainability of the statutory pension insurance through rising contribution payments (GCEE Annual Report 2020 items 630 f.). Moreover, the income potential of second earners is lower in the event of divorce if they have interrupted

↘ CHART 87

Employment rate and part-time employment of women and men by tax systems in the EU in 2020¹

No distinct connection between individual taxation and the employment rate of women² ...

...but high part-time employment rates³ for women in countries with at least partly joint taxation



● Individual taxation system ● Joint taxation or partly joint taxation system

1 – Without Estonia, Hungary, Romania and Slovakia due to unclearly defined tax systems. AT-Austria, BE-Belgium, BG-Bulgaria, CY-Cyprus, CZ-Czech Republik, DE-Germany, DK-Denmark, ES-Spain, FI-Finland, FR-France, GR-Greece, HR-Croatia, IE-Ireland, IT-Italy, LT-Lithuania, LU-Luxembourg, LV-Latvia, MT-Malta, NL-Netherlands, PL-Poland, PT-Portugal, SE-Sweden, SI-Slovenia. 2 – Share of total population at the age of 20 to 64 years. 3 – Share of total employment. 4 – Individual taxation except for the tax deductible amount "family bonus plus" that however applies to unmarried couples as well and should not have any distorting effect on the labour supply.

Sources: EUROMOD, Eurostat
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their employment for a longer period of time and have not been able to develop their professional qualifications (Beznoska et al., 2019, p. 25; Foerster, 2020).

- 318.** The reasons for the lower level of employment of second earners are partly to be found in the incentive structures (Blömer and Peichl, 2020; Blömer et al., 2021). Negative effects on work incentives can be caused in particular by the tax and transfer system, an insufficient supply of high-quality childcare, the non-contributory co-insurance of spouses in statutory health and long-term care insurance, the current regulations on parental leave and the mini-job regulations.
- 319.** The incentive structures in the German tax and transfer system are probably a significant barrier to a stronger expansion of the labour supply of second earners (Wissenschaftlicher Beirat beim BMF, 2018; European Commission, 2019; IMF, 2019; Blömer and Peichl, 2020). By imposing a **high marginal burden on second earners**, the **income tax splitting rules for married couples** reduce incentives to take up gainful employment and, to an even greater extent, to increase the number of hours worked. [↘ BOX 22](#) In addition, Blömer and Peichl (2020) show that the current **mini-job regulations** lead to disincentives on the labour market due to the high marginal burdens beyond the mini-job threshold, and that this effect is reinforced by the tax splitting rules. The GCEE has already pointed this out in the past (GCEE Annual Report 2013 item 647). A European comparison shows a higher rate of women working part-time in countries with an at least partial joint tax assessment. [↘ CHART 87 RIGHT](#)
- 320.** If married couples were taxed individually, this could significantly **increase the labour supply**. In this case, Bachmann et al. (2021) estimate that full-time equivalents (women and men together), i.e. the employment effect after conversion to full-time employment, would increase by 388,640 compared to the status quo. Blömer et al. (2021) put the effect at 199,000 full-time equivalents.

However, **fully individual taxation** would **not be constitutionally permissible** (Wissenschaftlicher Beirat beim BMF, 2018, p. 24 ff.; GCEE Annual Report 2013 items 634 ff.). In order for reforms to be constitutionally permissible, they would require tax exemption for the subsistence minimum of all family members (GCEE Annual Report 2013 item 639) and/or the tax recognition of maintenance obligations (Wissenschaftlicher Beirat beim BMF, 2018, p. 30). Many of the reform options currently under discussion that meet these requirements – and are not associated with significant revenue losses for the state – lead to only comparatively small positive effects on the labour supply (Beznoska and Hentze, 2021). According to Blömer et al. (2021), the effect of de facto splitting (income splitting based on legal maintenance claims) is lower than when taxation is purely individual – at 30,000 to 43,000 additional full-time equivalents, depending on the scheme's design. The additional married person's allowance (Ehezusatzfreibetrag) would create about 85,000 additional full-time equivalent jobs. The GCEE has already referred in the past to earlier studies showing comparable work incentive effects of de facto splitting by Eichhorst et al. (2012), Bonin et al. (2013) and Müller et al. (2013) creating 50,900, 41,400 and 27,800 full-time equivalents respectively (GCEE Annual Report 2013 Box 22).

321. Provided that legal concerns can be addressed, a **comprehensive restructuring of income taxation** could be considered which relies on **deductions from the tax burden** rather than from the tax base, as proposed by the IMF (2019). This would result in much larger labour supply effects, and also in higher tax revenues. [↪ BOX 22](#) The tax burden on single-earner households would increase by 1.2 % to 3.4 % of household net income under most reform proposals (Bach et al., 2020). The burden would be highest under the IMF's proposal. This is due to the higher burden on households in the highest income deciles compared to the other proposals (Bach et al., 2020). [↪ TABLE 18](#) On the other hand, this proposal provides tax relief for dual-earners (Bach et al., 2020). If reforms of splitting do not lead to a general tax increase, the additional tax burden could be returned to taxpayers in the form of a general reduction in income tax rates, an increase in the basic tax-free allowance or the child tax-free allowance, which would create an additional positive stimulus for the labour supply (Bachmann et al., 2021).

[↪ BOX 22](#)

Reform options for the spousal income tax splitting rule

Model simulations quantifying the revenue and distribution effects as well as the **work incentive effects** are available for various reform options of spousal income tax splitting in the German tax and transfer system (Lembcke et al., 2021). When it comes to the latter effects, a distinction must be made between their effects on **labour market participation** and on the **hours of work offered** per employee.

Reforms of the spousal income tax splitting are subject to constitutional restrictions. The Federal Constitutional Court ruled in 1957 that married couples must not be placed in a worse tax position than unmarried couples (BVerfG, 1957). However, fully individual taxation is not possible as at least the subsistence level and maintenance obligations must be tax-exempt (Wissenschaftlicher Beirat beim BMF, 2018, p. 30; GCEE Annual Report 2013 item 639). With regard to the multiple reform options between spousal splitting and individual taxation, the Scientific Advisory Council at the Federal Ministry of Finance (Wissenschaftliche Beirat beim BMF, 2018, p. 5) concludes that ‘constitutional law [is] less restrictive with regard to the constitutionality of alternative models than is often assumed’.

Under the reform proposal for **individual taxation with a transferable basic tax-free allowance**, the unused basic allowance of one partner is transferred to the partner with the higher income. This means that both basic allowances are taken into account and the subsistence minimum is exempt from tax. Couples with the same income would not be affected by the reform, while single-earner couples with high incomes would be affected the most. If both incomes are above the basic allowance, taxation would be the same as for individual taxation, so that the incentives to work would be the same for both earners. Below the basic tax-free amount, however, the marginal tax burden for the second earner is higher and increases up to the basic tax-free amount. [↪ TABLE 17](#)

One reform option, which is favoured, among others, by the expert commission of the current Family Report, is **de facto splitting** (income splitting based on legal maintenance claims) (Fuest and Peichl, 2020; BMFSFJ, 2021b). Depending on the variant, de facto splitting allows for the free division of basic tax-free allowances or, alternatively, of contributions amounting to the deductible maintenance payments between the spouses (Spangenberg, 2016). This is in fact a limitation of the current spousal income tax splitting system. Especially for higher income groups, this results in a higher tax burden, which slightly increases tax revenues for the state as a whole. [↪ TABLE 18](#) However, the marginal burden on the second earner falls only slightly, so that the work incentive effects are correspondingly small. [↪ TABLE 17](#)

↘ TABLE 17

Change of labour supply with different reform options for the spousal income tax splitting rule

Reform option	Study ¹	Children	Change in labour market participation rate (in percentage points)		Change in working hours (in %)	
			Women	Men	Women	Men
Individual taxation with transferable personal exemption	Bach et al. (2020)		0.55	- 0.01	1.31	- 0.37
	Beznoska et al. (2019)	No	0.02	- 0.03	0.44	- 0.12
		Yes	0.05	- 0.03	0.53	- 0.16
Real splitting with transferable personal exemption ²	Bach et al. (2020)		0.56	- 0.03	1.71	- 0.35
	Beznoska et al. (2019)	No	0.14	- 0.01	0.32	- 0.05
		Yes	0.23	0	0.52	- 0.08
Real splitting with transferable exemption ³	Bach et al. (2020)		0.37	- 0.03	1.19	- 0.27
Transferable personal exemption plus marriage exemption ⁴	Bach et al. (2020)		0.96	0.02	2.17	- 0.30
Undetracted additional marriage exemption	Bach et al. (2020)		1.67	0.10	5.26	- 0.11
	Beznoska et al. (2019)	No	0.56	0.21	1.76	0.35
		Yes	0.74	0.16	2.24	0.20
Tax reduction for couples ⁵	Bach et al. (2020)		1.63	0.05	5.07	- 0.41
Family real splitting	Beznoska et al. (2019)	No	0.14	0.01	0.32	- 0.05
		Yes	0.18	0.01	0.58	- 0.02
Family scale splitting	Beznoska et al. (2019)	Yes	0.27	0.05	1.09	0.23
Combined marriage real and family scale splitting	Beznoska et al. (2019)	No	0.14	0.01	0.32	- 0.05
		Yes	0.38	0.02	1.26	0.08

1 – The studies simulate the labour supply effects for different reform options. 2 – Beznoska et al. (2019) take the personal exemption of the year 2019 at the amount of 9,168 Euro as basis. Bach et al. (2020) refer to the personal exemption of the year 2021 at the amount of 9,696 Euro. 3 – Basis for the personal exemption is the amount of deductible alimony payments between separated or divorced couples at the amount of 13,805 Euro. 4 – At a marriage exemption decreasing with the income according to the proposal of the Advisory Board to the Federal Ministry of Finance (2018). 5 – According to a proposal of the IMF (2019).

Sources: Bach et al. (2020), Beznoska et al. (2019)

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The reform variant of the **additional marital tax-free allowance** grants the married couple a third allowance in addition to the respective basic allowances. Depending on the variant, the additional tax-free allowance can be divided as desired (Beznoska et al., 2019) or diminishes as the second earner's income rises (Wissenschaftlicher Beirat beim BMF, 2018). In the case of the undiminished additional allowance, the marginal burden on the second earner would never be higher than for an unmarried person. In the variant with a decreasing additional allowance, the marginal burden for the second earner is higher than for an unmarried single person but not as high as in the variant with a transferable basic allowance. Although the variant with the undiminished additional allowance has the highest work-incentive effects, ↘ TABLE 17 it could lead to significant losses of tax revenue. ↘ TABLE 18

Neither the current spousal income tax splitting system nor the reform options discussed so far are affected by children; their maintenance is taken into account for tax purposes by the child allowance and child benefit. Various reform options seek to combine the tax treatment of children and marriage. **Family de facto splitting** could extend a marital de facto splitting by

adding a tax-free allowance for each child amounting to the basic allowance. **Family-rate splitting**, which adds a splitting factor per child to the current marital splitting, is similar to the French model (Lembcke et al., 2021). The work incentive effects of these variants are comparatively low. [↪ TABLE 17](#)

[↪ TABLE 18](#)

Change in tax revenue and burden for different reform options for the spousal income tax splitting rule

Reform option	Study ¹	Tax revenue (in billion euro)	Tax burden for the income deciles ² (in %)		
			1. Decile	5. Decile	10. Decile
Individual taxation	Bach et al. (2020)	31.8	0.3	1.8	1.8
Individual taxation with transferable personal exemption	Bach et al. (2020)	12.0	0	0.1	1.3
Real splitting with transferable personal exemption ³	Beznoska et al. (2019)	14.9	0	0.3	0.4
Real splitting with transferable personal exemption ³	Bach et al. (2020)	10.0	0	0.3	0.9
Real splitting with transferable exemption ⁴	Beznoska et al. (2019)	7.7	0	0.1	0.2
Real splitting with transferable exemption ⁴	Bach et al. (2020)	6.9	0	0.1	0.7
Transferable personal exemption plus marriage exemption ⁵	Bach et al. (2020)	5.4	0	-0.3	1.0
Undetracted additional marriage exemption ⁶	Bach et al. (2020)	4.2	0.1	0	0
	Beznoska et al. (2019)	-15.8	0	-0.5	-0.2
Tax reduction for couples ⁷	Bach et al. (2020)	14.7	0.1	0.5	1.0
Family real splitting	Beznoska et al. (2019)	3.8	0	0	0.2
Family scale splitting	Beznoska et al. (2019)	-15.5	0	-0.1	-0.5
Combined marriage real and family scale splitting	Beznoska et al. (2019)	- 6.3	-0.3	0	-0.3

1 – The studies simulate the labour supply effects for different reform options. 2 – In Bach et al. (2020): Change of the household net income. In Beznoska et al. (2019): Change of the household gross income. 3 – Beznoska et al. (2019) take personal exemption of the year 2019 at the amount of 9,168 Euro. Bach et al. (2020) refer to the personal of the year 2021 at the amount of 9,696 Euro. 4 – Basis for the personal exemption is the amount of deductible alimony payments between separated or divorced couples at the amount of 13,805 Euro. 5 – At a marriage exemption decreasing with the income according to the proposal of the Advisory Board to the Federal Ministry of Finance (2018). 6 – Bach et al. assume an additional exemption of 6,310 Euro and Beznoska et al. (2019) of 9,168 Euro. 7 – According to a proposal of the IMF (2019).

Sources: Bach et al. (2020), Beznoska et al. (2019)

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A reform proposal by the IMF (2019) also approaches the issue from the angle of individual taxation. By contrast to the current system, no tax-free allowance is deducted from the tax base; rather, a **tax deduction** from the **tax liability** is granted. The amount of this tax deduction is based on the tax burden that single earners would have to pay on the subsistence minimum of a couple. A single earner would have to pay €1,660 in tax on €17,640 in 2021. This amount would be deducted directly from the tax liability and thus ensure the minimum subsistence level. Since the tax base is not reduced but a fixed amount refunded, this variant does not constitute preferential tax treatment for higher income groups. This reform variant has one of the highest effects on labour market participation and the number of work hours offered, [↪ TABLE 17](#) since the marginal burden corresponds to individual taxation. The labour supply effects are therefore similar to those of fully individual taxation – which is constitutionally not possible – and the additional married persons allowance, which would lead to considerably lower tax revenues. The IMF (2019) assumes small additional tax revenues; Bach et al.(2020),

on the other hand, arrive at substantial additional revenues of €14.7bn. [↘ TABLE 18](#) These additional revenues would be generated by high-income married couples and single-earner married couples in particular. A disadvantage of this reform option lies in constitutional risks. It is uncertain whether the tax deduction, which corresponds to the tax burden on the subsistence minimum, is compatible with the constitutional requirement that at least the couple's subsistence minimum must be deducted from the tax base (Bach et al., 2020). Beyond the reform of marital splitting, this proposal could be embedded in a fundamental reform of income taxation aimed at deductions from the tax burden rather than from the tax base. Austria, for example, could serve as a model; here, individual taxation applies, but tax deductions, e.g. for children, reduce the tax burden (Lembcke et al., 2021).

- 322.** In addition, choosing tax brackets III and V can have negative effects on the work incentives of second earners due to the higher tax burden in bracket V during the year (Wissenschaftlicher Beirat beim BMF, 2018); this is because the second earner's net income becomes proportionally smaller in income taxation during the year. The literature on the impact of individual income contributions on the **distribution of household income across the individual household members** examines the hypothesis of an equal distribution of income within the household (income pooling hypothesis) (Beblo and Beninger, 2017). It turns out that the inequality of income distribution between couples is reflected in consumption decisions. **Inequalities in individual consumption opportunities** can arise because of the shares that each household member contributes to the income and because of the bargaining power of each household member (Blundell and Preston, 1998; Krueger and Perri, 2006). The behavioural adjustments caused by eliminating tax brackets III and V can be substantial (Büttner et al., 2019). Focusing on the tax bracket option 'IV/IV with factor', which the GCEE has already positively emphasized in previous reports, would ensure a better consideration of both the splitting advantage and the income distribution within the household (GCEE Annual Report 2017 item 36). While a reform of the spousal income tax splitting system would require a comprehensive restructuring of the income tax system and would presumably need to contain transitional rules and rules to protect established rights, an abolition of tax brackets III and V could alleviate the problems mentioned in the short term.
- 323.** In order for the incentives of a reform of the tax and transfer system to take full effect, an **expansion** of high-quality **childcare** is necessary at the same time. This can make it much easier for second earners to enter and expand employment (Zimmert, 2019; Lembcke et al., 2021). At the same time, early childhood care, if it is of high quality, can have positive effects on children's future opportunities, so that both goals – parents' gainful employment and early childhood education – are compatible. [↘ ITEMS 360 FF](#). Another obstacle to labour market participation is the **non-contributory co-insurance** of the spouse in statutory health insurance when the second earner's income is below the social security threshold. The marginal burden increases considerably as soon as this income limit is exceeded. The GCEE has suggested changes to this rule in the past (GCEE Annual Report 2013 Box 23; GCEE Annual Report 2016 item 93; GCEE Annual Report 2017 item 36).

324. The literature identifies further negative work incentive effects of the current **regulations on parental leave and the parental allowance** (Bonin et al., 2013; Müller et al., 2013). Despite some reforms in recent years, the longer-than-average period of parental leave compared to other European countries (European Parliament, 2015) leads to very long career breaks for women compared to men. Stronger incentives to share parental leave more evenly could make it easier for second earners to stay in their jobs or to increase hours again more quickly (Andersen, 2018; Druedahl et al., 2019; Tamm, 2019; Dunatchik and Özcan, 2021).

V. EDUCATIONAL OPPORTUNITIES FOR CHILDREN AND YOUNG PEOPLE IN AND AFTER THE PANDEMIC

325. In Germany, participation in education and educational outcomes are more dependent on **social background** than in other countries. This inequality of opportunities has been exacerbated by pandemic-related restrictions on the education system. More and better-targeted measures need to be taken to make up **pandemic-related education deficits** and to maintain in-classroom teaching as far as possible in the event of new waves of infection. In any case, it has to be ensured that all children and young people are reached by teachers and educators. Furthermore, there is an urgent need for action to guarantee greater equality of opportunity in the education system and thus, simultaneously, to prevent future inequality. In this section, the focus lies on children and young people, i.e. on the systems of **general-education schools and child daycare**.

1. Starting position: inequality of opportunity in Germany

326. The **individual returns from education**, e.g. the positive effects of additional years of education or of a higher educational qualification on a person's life situation, have been extensively documented in the literature. This relates to both monetary returns, such as higher incomes and wealth (Psacharopoulos and Patrinos, 2018; Gunderson and Oreopolous, 2020), and non-monetary returns such as better health, lower propensity to crime, and greater political participation (Lochner, 2011; Oreopolous and Salvanes, 2011; Heckman et al., 2018a, 2018b). The **overall societal returns to education** exceed the individual ones due to positive external effects (Moretti, 2004; Hanushek and Woessmann, 2012; Cui and Martins, 2021).
327. Building human capital, especially **skill formation, is a dynamic process**. In addition to purely cognitive skills, social, self-regulatory and emotional skills are also relevant for labour-market opportunities and social success (Borghans et al., 2008; Almlund et al., 2011; Kautz et al., 2014; OECD, 2021c). Many skills interact

with each other in the development process. Moreover, existing skills influence the development of new skills (Cunha and Heckman, 2007, 2008; Cunha et al., 2010; Berger, 2020). In addition to predisposition, the formation of skills is influenced by a variety of external factors in the children's family, institutional and neighbourhood environments. The **early years of life**, especially those before starting school, play a particularly important role (Currie and Almond, 2011; Almond et al., 2018). During this period, the **family environment** is especially significant for development (Cunha et al., 2006; Francesconi and Heckman, 2016).

328. The **environment** relevant to skill development **depends** largely on the **socio-economic status** [↘ GLOSSARY](#) of the **parents**. For example, both the quality and quantity of parental language communication with young children varies with social background (Hart and Risley, 1995; Anderka, 2018). Parenting styles that reflect the quality of parent–child interactions, as well as the amount of time parents spend in interactive activities with their children (quality time), also correlate strongly with social background and explain a significant portion of early inequalities in skills (Hart and Risley, 1995; Kalil, 2015; Falk et al., 2019). Although more highly educated mothers are more likely to be employed (Grunow et al., 2011), their higher propensity to work does not seem to translate into less quality time with their children. Hsin and Felfe (2014) show that working mothers spend less time with their children overall but not significantly less quality time. The same applies to the comparison between mothers working part-time and full-time. Marked achievement gaps thus already occur before school entry, and the gaps are not closed in the course of schooling or in later life (Heckman and Carneiro, 2003; Cunha et al., 2006; Blomeyer et al., 2009; Mergele et al., 2020).
329. Therefore, **educational pathways and achievements are highly dependent on social background** (Björklund and Salvanes, 2011; Black and Devereux, 2011). In Germany, about 61 % of children under 15 who have parents with a high educational attainment attended an academic high school (*Gymnasium*) in 2015, compared to only 30 % and 14 % of children of parents with a medium or low educational attainment respectively (Statistisches Bundesamt, 2016). Children from disadvantaged social backgrounds are considerably less likely to attend a *Gymnasium* than children from families with high social status, even if their school performance is the same (Falk et al., 2020). Dodin et al. (2021) show that the relation between parental income and the probability of graduating from high school has changed little in recent decades.
330. **Intergenerational educational persistence in Germany is relatively high by international comparison**. Despite a marked decline in the intergenerational persistence of educational participation in Germany from the 1960 birth cohort to the 1980 birth cohort, the persistence for the 1980 birth cohort is in the middle range and only slightly higher than in countries such as France, but significantly higher than, for example, in the United Kingdom, the Republic of Korea or Denmark. [↘ CHART 88 TOP](#) It is not only the length of education and formal qualifications that depend strongly on family background, but also the skills themselves (OECD, 2020c). Reiss et al. (2019) demonstrate this with the help of reading-literacy data from the 2018 Programme for International Student Assessment

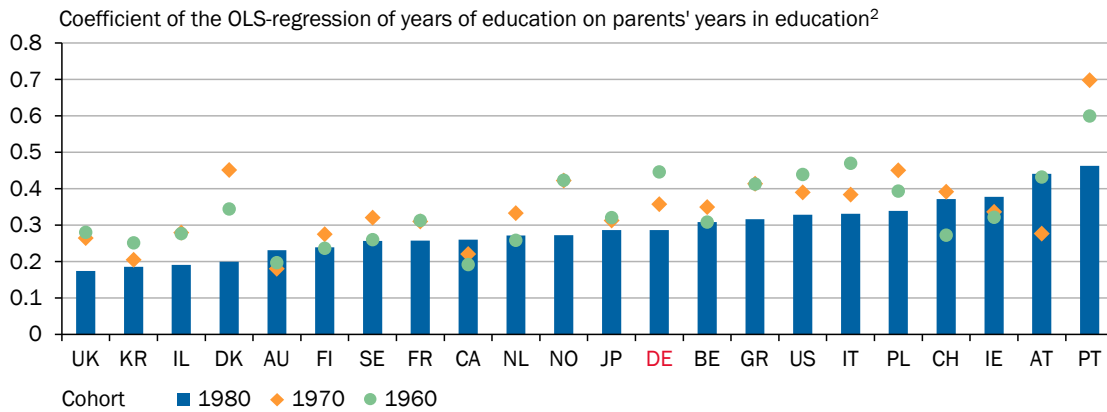
(PISA). ↘ CHART 88 BOTTOM The focus of the analysis lies on reading because reading is a key skill and an indispensable basis for learning and development processes as well as for participation in cultural, professional and social life (UNESCO, 2005; Reiss et al., 2019).

- 331. The empirical literature identifies different **mechanisms of intergenerational educational persistence**. Depending on their social status, parents invest different amounts of time and resources in their children, and this influences their educational outcomes (Björklund and Salvanes, 2011). Pupils from households with below-average incomes are less likely to take advantage of paid tutoring services than those from households with above-average incomes (Hille et al., 2016). Piopiunik (2014a) finds that one channel of intergenerational educational

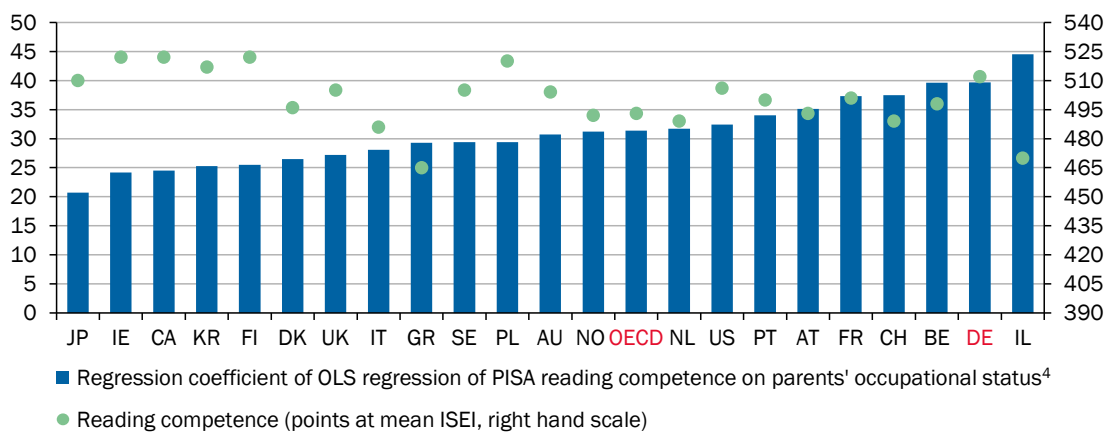
↘ CHART 88

Dependence of education from social background¹

Relatively strong correlation between parents' and children's years of education in Germany



Reading competence in Germany strongly depends on parents' occupational status (ISEI)³



1 – AT-Austria, AU-Australia, BE-Belgium, CA-Canada, CH-Switzerland, DE-Germany, DK-Denmark, FI-Finland, FR-France, GR-Greece, IE-Ireland, IL-Israel, IT-Italy, JP-Japan, KR-Republic of Korea, NL-Netherlands, NO-Norway, PL-Poland, PT-Portugal, SE-Sweden, UK-United Kingdom, US-USA. 2 – Number of years of education for the parent with the highest number of years in education. 3 – The International Socio-Economic Index of Occupational Status connects income and education, in order to depict the status of an occupation. It is an ordinal scaled measure that contains values from 16 (e. g. non skilled and cleaning workers) to 90 (judges). 4 – Without control variables.

Sources: GDIM (2018) - Global Database on Intergenerational Mobility, Reiss et al. (2019), own illustration
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persistence is that better-educated parents are more aware of the value of education for their children. Greater awareness of the benefits of a good education is likely to lead parents to influence their children towards higher educational attainment (Björklund and Salvanes, 2011). Health also plays a significant role in the link between social background and later educational and employment success, as children of educated parents tend to be healthier and health is an important prerequisite for learning and developmental progress (Currie, 2009).

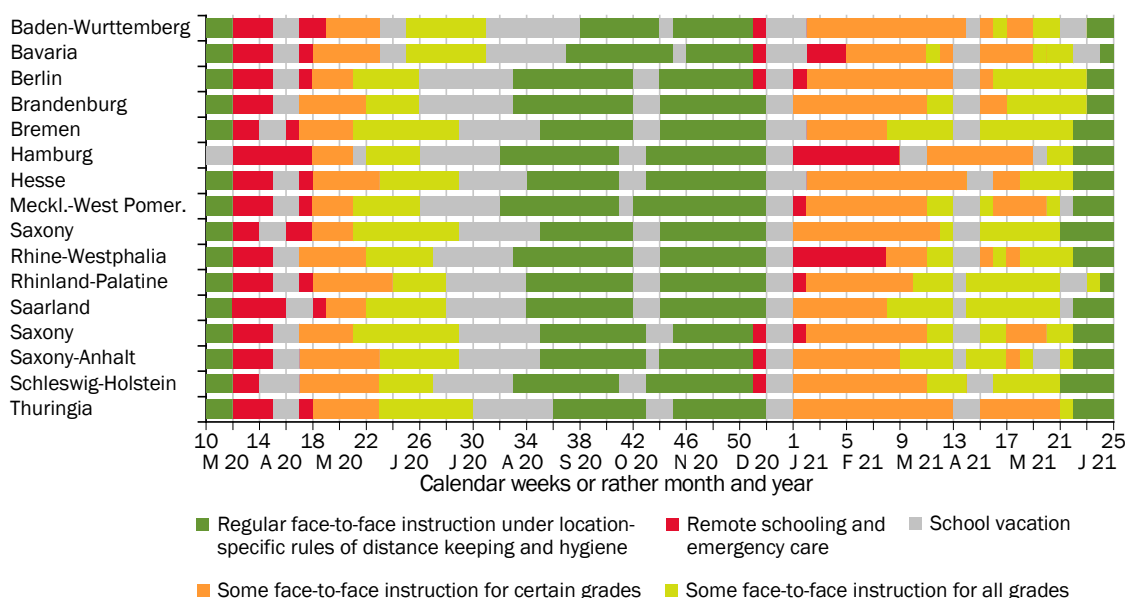
- 332. The reasons for the relatively high intergenerational educational persistence in Germany by international comparison are manifold and lie, among other things, in the design of the school and early-childhood education system. For example, Germany has a highly segregated school system and a short primary-school period by international comparison (Dustmann, 2004; OECD, 2020c, 2020d). The lower prevalence of all-day schools here probably also helps explain the inequalities (Fischer et al., 2014). ↘ ITEMS 356 F. Furthermore, the quality and use of the early-childhood education and care systems play a significant role (OECD, 2018). ↘ ITEMS 360 FF.

2. Impact of coronavirus-containment measures on children and young people

- 333. Pandemic-related public-health measures in Germany, as in many other countries, have resulted in schools, childcare and recreational facilities having to close temporarily or being significantly restricted in their operations. The

↘ CHART 89

Restrictions for face-to-face instruction in schools due to COVID-19 in Germany¹



1 – From calendar week 11 of the year 2021 onwards in some Länder openings depended on the new infections' incidence in the districts. The Land will then be grouped by its average incidence. From calendar week 17 onwards the nationwide emergency break (Bundesnotbremse) applied in all Länder if an incidence of 100 is exceeded for three days in a row. Face-to-face instruction is prohibited (with exception of the graduating classes and special schools) if the incidence exceeds 165 on three days in a row.

Sources: Ministries of Education of Länder, own depiction

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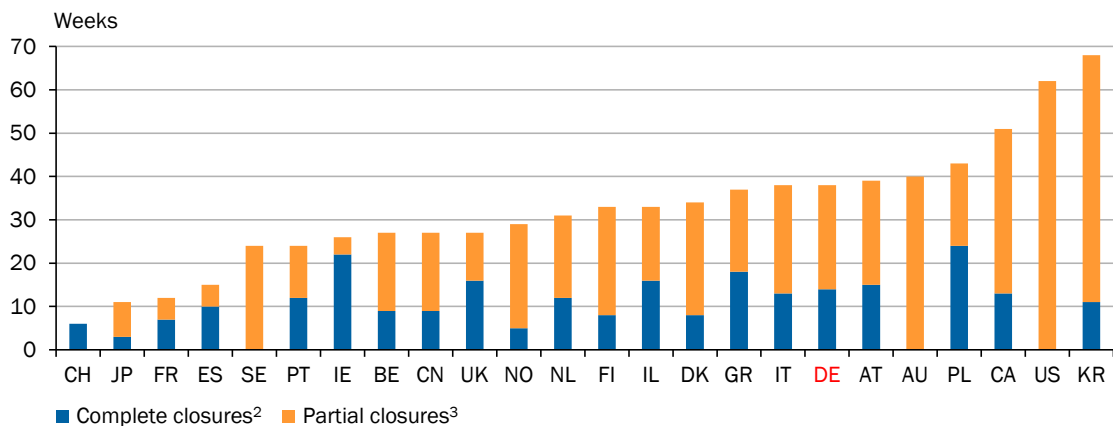
duration of closures and the exact arrangements varied between Länder and between school grades in Germany. Graduating seniors and younger pupils had more frequent face-to-face classes. For most grades, schools were closed for between 14 and 28 weeks after the start of the pandemic, depending on the *Land*. Phases with alternating classes (e.g. halved classes with face-to-face classroom presence every other day) lasted another 6 to 18 weeks depending on the *Land*. In total, the periods of distance learning thus varied between 31 and 39 weeks. [↪ CHART 89](#) Considering the fact that a normal school year comprises about 40 school weeks, the **duration of closures and distance-learning phases** has thus been **very high** in the past one and a half years.

- 334. Globally, between March 2020 and early February 2021, schools across all countries were closed for an average of 19 weeks, which is equivalent to about half of the school attendance period (UNICEF, 2021). **In many countries**, such as France, Spain, Switzerland, Sweden, Norway, China and Japan, **schools were closed for a much shorter period than in Germany**, according to UNESCO calculations (2021). [↪ CHART 90](#) In many countries, early-childhood institutions were also closed for shorter periods than in Germany (OECD, 2021d). In other European countries, stricter restrictions on adults have been enforced in order to keep schools largely open (Wössmann, 2021b), for example in France, Spain, Ireland, Belgium and Switzerland.
- 335. **Distance learning** was only an **incomplete substitute for in-classroom teaching**. Teachers and schools were inadequately prepared for the challenges involved. Evaluations by the Coronavirus Special National Education Panel (NEPS) survey of the parents of eighth graders conducted in May and June 2020 show that teachers' technical skills were considered (somewhat) inadequate by a

[↪ CHART 90](#)

Duration of school closures in weeks in international comparison¹

Period from March 2020 to September 2021



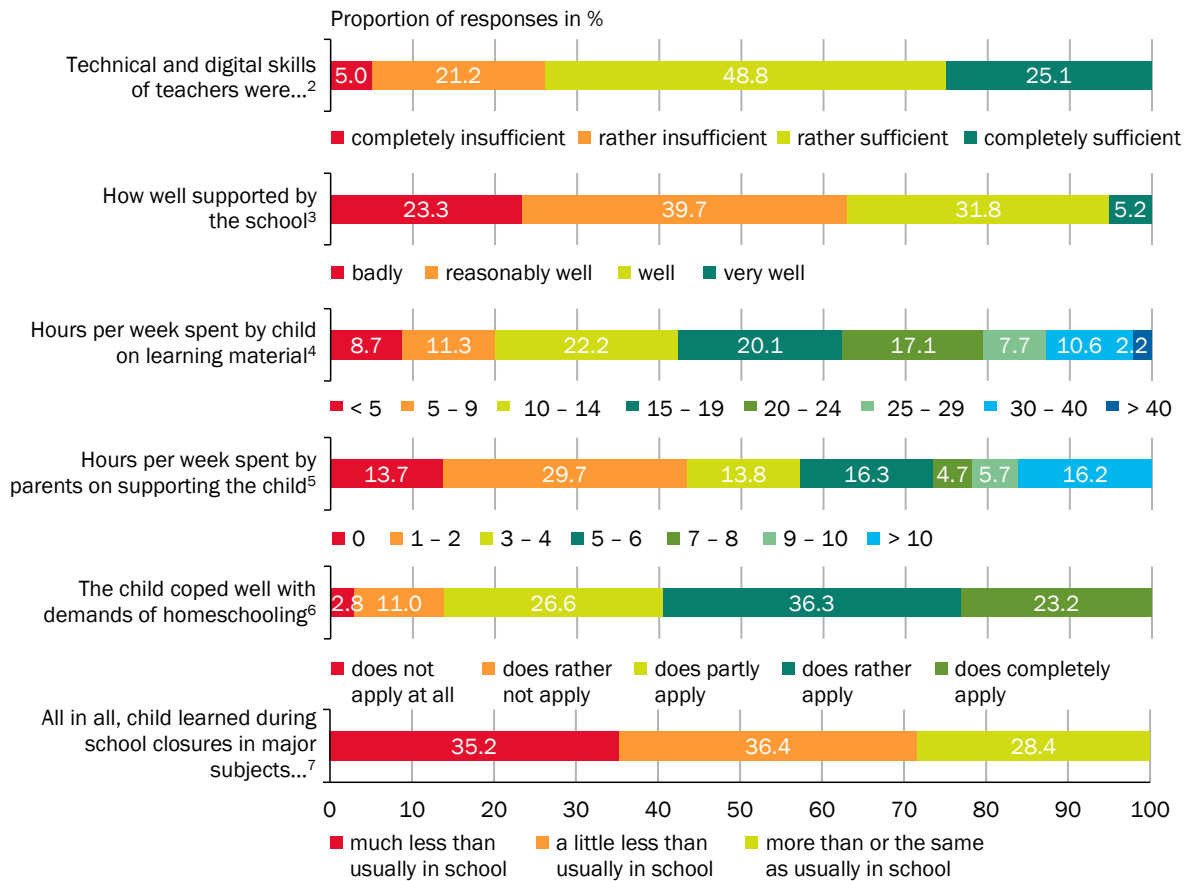
1 – CH-Switzerland, JP-Japan, FR-France, ES-Spain, SE-Sweden, PT-Portugal, IE-Ireland, BE-Belgium, CN-China, UK-United Kingdom, NO-Norway, NL-Netherlands, FI-Finland, IL-Israel, DK-Denmark, GR-Greece, IT-Italy, DE-Germany, AT-Austria, AU-Australia, PL-Poland, CA-Canada, US-USA, KR-Republic of Korea. 2 – Complete closure implies that the closure of educational institutions in the Pre-, Primary and Secondary School sector ordered by the government impacted most pupils. 3 – Partial closure implies that only certain grades or regions were impacted by the closures.

good quarter of respondents, and that schools' support for distance learning was considered poor by nearly a quarter of respondents. [↘ CHART 91](#) In a June 2020 survey of parents of school children of all ages, it was found that only 6 % of pupils had daily joint lessons for the whole class (for example via video call), and many only worked on assignment sheets, sometimes without receiving feedback from the teacher (Wössmann et al., 2020). According to a subsequent survey conducted in the second lockdown in early 2021, a quarter of all pupils had daily joint lessons for the whole class (for example via video conferencing), but 39 % still did so only once a week at most (Wössmann et al., 2021). In the first lockdown in spring 2020, private-school pupils were more likely to receive instruction via video conferencing than children in public schools; likewise, academic-high-school (Gymnasium) pupils were more likely to receive instruction by video than pupils at other secondary schools (Huebener et al., 2020). A survey of teaching staff conducted by McKinsey (2021) in eight countries (Australia, Canada, China, France, Germany, Japan, the United Kingdom and the United States) in October and November 2020 found that, on average, teachers consider distance learning to be only half as effective (4.8 points on a scale of 0 to 10) as face-to-face in-classroom teaching. In Germany the figure was 6.1 percent.

- 336. On average, pupils spent much less time than normal on school-related activities during school closures.** Evaluations by the NEPS show that eighth-graders occupied themselves with learning materials for an average of 16.4 hours per week in spring 2020. [↘ CHART 91](#) In normal times, the time spent is almost twice as much – 30 hours if the teaching time and the time spent on homework and studying is added up. In a June 2020 survey of parents of school children of all ages, Wössmann et al. (2020) found a similarly large reduction in learning time as well as a significant expansion in the amount of time pupils spent in passive activities such as watching television, playing computer games and using cell phones. The amount of time children spent in school activities was slightly higher in the second lockdown in early 2021, but still more than 40 % below levels before the coronavirus pandemic (Wössmann et al., 2021). According to the estimation of more than 70 % of the parents, the children learned considerably or somewhat less in the main subjects during the period of school closures than they would otherwise have done at school. [↘ CHART 91](#)
- 337.** Overall, initial meta-studies suggest that **significant learning deficits** have developed as a result of pandemic-related restrictions on schooling (Hammerstein et al., 2021; Patrinos and Donnelly, 2021; Zierer, 2021). In Germany, however, the data and study situation is still insufficient. While Schult et al. (2021), on the basis of tests with fifth-graders in Baden-Württemberg, found that there were already significant learning gaps in September 2020, i.e. before the start of the second shutdown at the end of 2020, Depping et al. (2021) did not identify any significant effects for Hamburg in the same period. The international evidence, however, paints a clearer picture. Engzell et al. (2021), using standardized test data from 8- to 11-year-olds in the Netherlands – a country with relatively good technical facilities for distance learning – conclude that the eight-week school closures resulted in a learning gap that is roughly equivalent to one-fifth of a school year, the exact time of the school closures there. Maldonado and De Witte (2021) found substantial learning gaps in all tested school subjects, based on standardized test data of

↘ CHART 91

Learning during school closures¹



1 – The sample size is (from top to bottom) N = 1,446, N = 1,450, N = 1,443, N = 1,449, N = 1,450, N = 1,445. The sample is weighted by the calibrated cross sectional weights provided by the NEPS. The questions were addressed to parents whose children attended eighth grade at this time. 2 – How do you assess the following aspects for learning at home during the first months of the coronavirus crisis? – The technical and digital skills of my child's teachers, e. g. when using the internet, tablet computers or laptops, to support the learning at home were [completely sufficient/rather sufficient/rather insufficient/completely insufficient]. 3 – At this time, how well did you feel supported by your school in this situation, that your child had to learn at home? 4 – How many hours per week on average did your child spend on the learning material that was provided by the school at this time? [The respondent could state all integer value.] – The weighted mean of the hours per week is 16.4. 5 – How many hours per week on average did you and, if applicable, your partner spend supporting your child in learning at home at this time? [The respondent could state all integer value.] – The weighted mean of the hours per week is 5.4. 6 – To what extent do the following statements apply to you? My child coped well with the learning requirements at home. 7 – During the school closures, altogether my child learned [more than or the same as/a little less than/much less than] usually at school in the major subjects.

Sources: National Educational Panel Study (NEPS): Starting Cohort 2, wave 9 and additional survey on corona pandemic spring 2020 (Blossfeld et al., 2011), own calculations

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sixth graders in Belgium. A study with data for German-speaking Switzerland found learning gaps among primary-school pupils, but not for pupils at lower secondary schools (Tomasik et al., 2021). The **negative effects are stronger among younger children** than older ones (Fuchs-Schündeln et al., 2020; Hammerstein et al., 2021). The consequences of the restrictions for children who were not yet of school age have been less well documented to date (StäwiKo, 2021a).

- 338. Experience with strike-related school closures in other countries and with short school years (due to changes in the start of the school year) in Germany in the

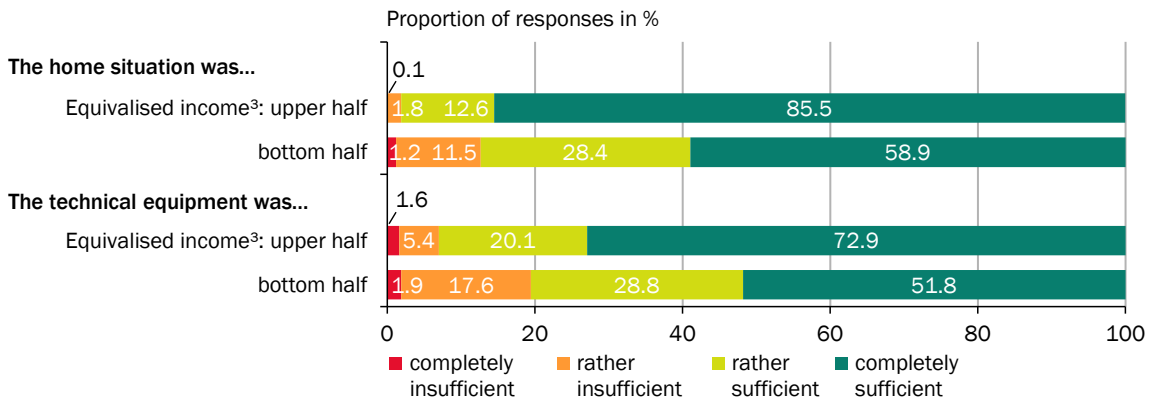
1960s showed that **learning gaps** were not automatically made up over time, but **persisted in the long term** (Wössmann, 2020). Without targeted countermeasures, the learning deficits can thus have a negative impact on individual incomes and overall economic productivity in the long term. Wössmann (2020) estimates that the loss of a third of a school year over a person's entire working life translates on average into an approximately 3 to 4 % **lower earned income**. A comparable study for the United States finds a 2.6 % reduction in lifetime earnings (Psacharopoulos et al., 2020). Given the importance of human capital acquisition for economic growth, without measures to catch up on learning the **macroeconomic effect** could also be significant (Hanushek and Wössmann, 2020; Wössmann, 2020).

339. The **effects** of pandemic-related restrictions are **heterogeneously** distributed. **Children from families with low socio-economic status have considerably bigger educational deficits** than other children (Agostinelli et al., 2020; Fuchs-Schündeln et al., 2020; Dietrich et al., 2021; Hammerstein et al., 2021). The analyses of the NEPS data [↪ ITEM 335](#) show that eighth-graders from households in the upper half of income distribution were more likely to have the necessary domestic and technical conditions for distance learning than children from households in the lower half of income distribution. In addition, parents with academic qualifications were more likely to report having the necessary knowledge and skills to support their children with learning. [↪ CHART 92](#) Furthermore, under-achieving pupils reduced their learning time more and often spent more time on passive activities than high-performing pupils did (Grewenig et al., 2020; Werner and Wössmann, 2021). Thus, **achievement gaps and educational inequalities according to social background threaten to increase** because of the unequal impact of the crisis (Blaskó et al., 2021; Werner and Wössmann, 2021). If these are not addressed, they could be reflected in greater income inequality in the future.
340. **Children with a migration or refugee background** were **particularly negatively affected** by the pandemic-related restrictions. Their opportunities for learning German and exposure to regional culture were significantly limited during the lockdown. Rude (2020) documents that refugee children are more likely to have poor digital facilities at home, and those in collective accommodation in particular are less likely to have their own desk or room. According to the survey, children with a refugee or migrant background are more likely to have parents who are poorly educated, and who, on average, are less likely to help them with their homework. About 5 % of all children under 18 in Germany have a refugee background (Rude, 2020). In total, according to the Federal Statistical Office, people seeking protection in Germany made up 2.2 % of the overall population in 2020.
341. In addition to learning deficits, the coronavirus crisis and its accompanying restrictions have also led to a **deterioration in the mental health of children and adolescents** (Ravens-Sieberer et al., 2021). As in the case of learning deficits, the impact on children from socially disadvantaged families and on children with a migration background was stronger than for children from socially better-off families or with no migration background. Wössmann et al. (2021) also report

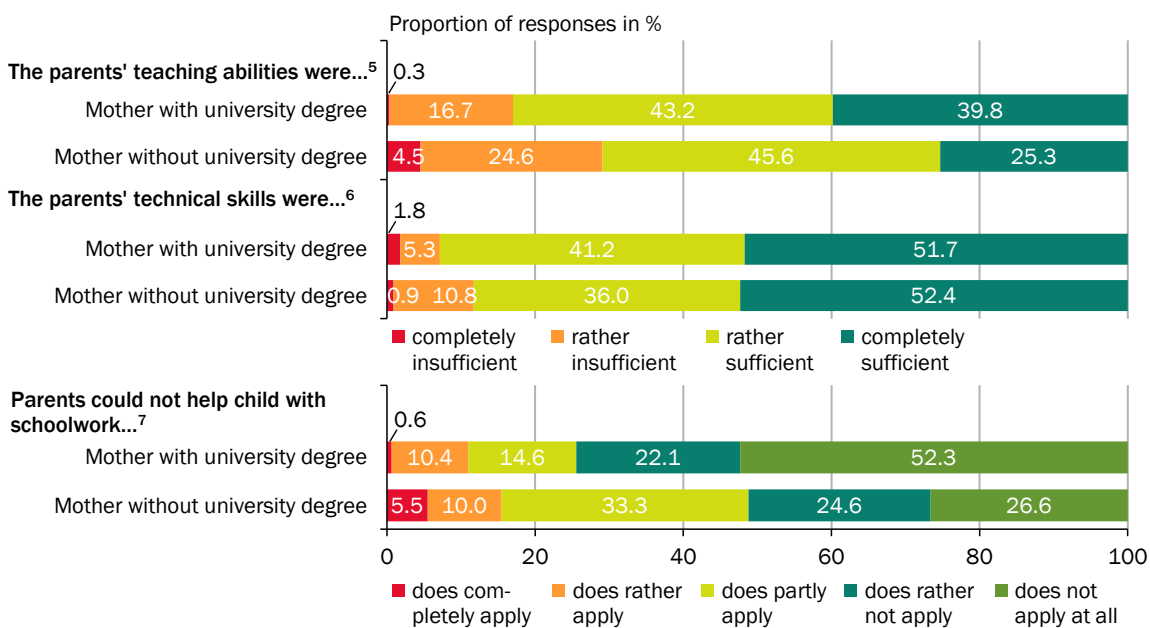
↪ CHART 92

Conditions for learning at home by income situation and educational background of parents¹

Domestic conditions by income situation of parents²



Parental support by mothers' educational background⁴



1 – The sample size is (from top to bottom) N = 1,293, N = 1,94, N = 1,437, N = 1,441, N = 1,436. The sample is weighted by the calibrated cross sectional weights provided by the NEPS. The questions were addressed to parents whose children attended eighth grade at this time. 2 – How do you assess the following aspects for learning at home during the first months of the coronavirus crisis? – The home situation at my home, e. g. a calm space, was [completely sufficient/rather sufficient/rather insufficient/completely insufficient]. – The technical equipment at my home, e. g. Wifi, printers, scanners, tablet computers or laptops, was [completely sufficient/rather sufficient/rather insufficient/completely insufficient]. 3 – The equivalised income is the disposable income of a household weighted by the modified OECD-equivalence scale. Thereby the comparability of the income situation of households with different sizes and composition is secured. 4 – The mother is ranked as an academic if she holds a university degree or a degree from a university of applied sciences. If no information about the mother is available, the educational degree of the father is used. In the weighted dataset 20.4 % of the target children have a mother who is an academic. If in an alternative evaluation only those families are included whose educational degree is known, the results barely change. 5 – How do you assess your ability to support your child contentwise with the learning at home during the school closures at this time? – Were they [completely sufficient/rather sufficient/rather insufficient/completely insufficient]? 6 – How do you assess the following aspects for learning at home during the first months of the coronavirus crisis? – My technical and digital skills, e. g. when using the internet, tablet computers or laptops were [completely sufficient/rather sufficient/rather insufficient/completely insufficient] to support my child. 7 – How did you experience the time during the school closure and to what extent do the following statements apply to you? – I could not help my child with her schoolwork.

Sources: National Educational Panel Study (NEPS): Starting Cohort 2, wave 9 and additional surveys on corona pandemic spring 2020 (Blossfeld et al., 2011), own calculations
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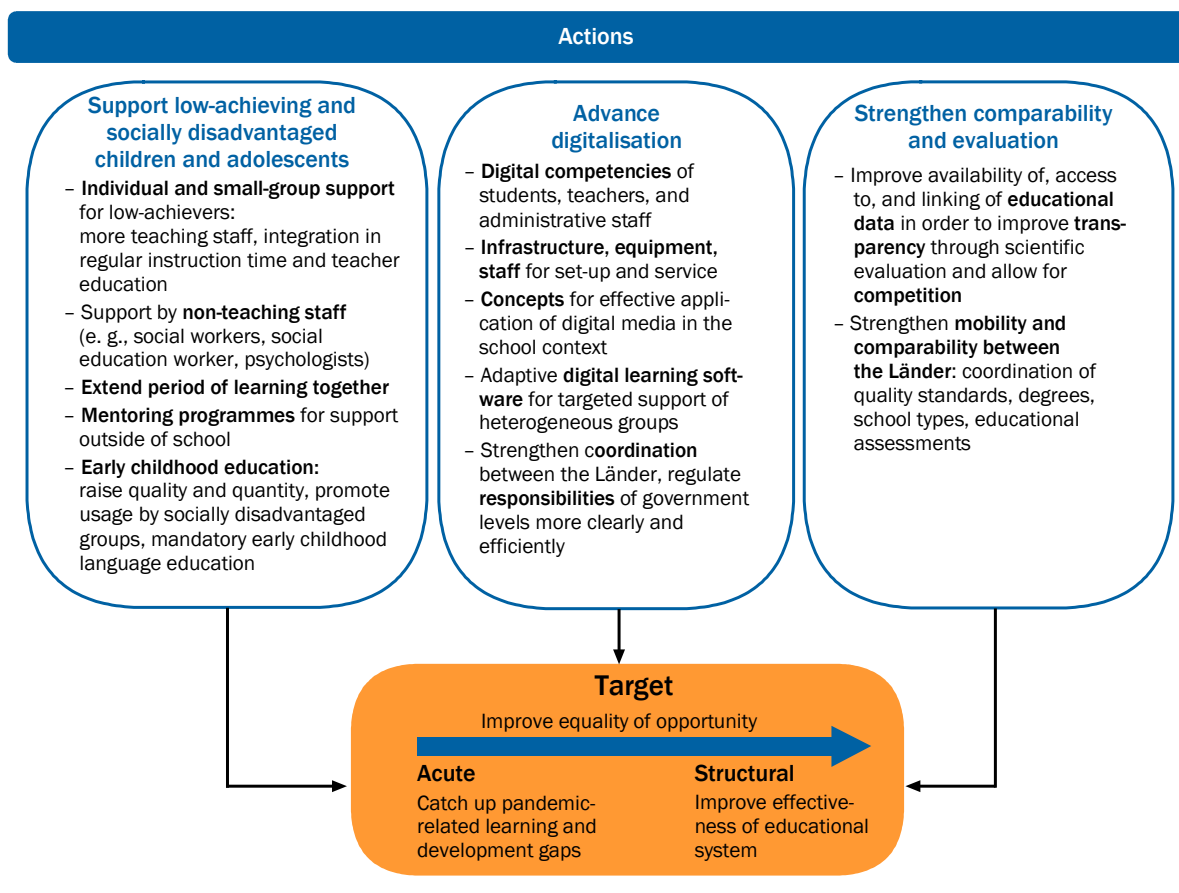
that the situation during the second phase of school closures in early 2021 was a major psychological burden for half of the children. **Physical health** is also likely to have suffered due to the lack of opportunities for exercise, and children's **social skills** probably worsened (Wössmann et al., 2021). Since different dimensions of human capital (cognitive skills, social skills, health) interact dynamically (Heckman, 2007), this could lead to further learning and development deficits in the future.

VI. NEED FOR ACTION IN SCHOOL AND EARLY-CHILDHOOD EDUCATION

342. In view of the acute and **structural challenges** in the education system, especially with regard to unequal opportunities, the question arises as to what **action is needed**. Most of the measures discussed below – for example in the fields of digitalisation and supporting underachievers and the socially disadvantaged – can help both with the acute need to make up pandemic-related learning and development deficits as well as with the long-term promotion of equal opportunities

CHART 93

Need for action in school and early childhood education



Source: own depiction

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and with improving the effectiveness of the school system. Strengthening international comparability and transparency via scientific monitoring will play an important role in the implementation of all reforms. [↪ CHART 93](#)

1. Making up pandemic-related learning and developmental deficits

- 343. Targeted and comprehensive measures** should be taken to make up learning and developmental deficits in the children and young people concerned. The German Federal Government is making €2bn (about 0.06 % of GDP in 2020) available for catch-up measures in 2021 and 2022 with the '**Action Programme to Catch Up after Coronavirus**' (BMBF, 2021b). Some Länder have already topped up these federal funds with their own funds. According to current plans, the federal programme will expire at the end of 2022. Yet the educational deficits caused by the pandemic are likely to persist beyond this point in time for many children and young people. A **longer-term orientation of support programmes** is therefore necessary (Kaffenberger, 2021; StäwiKo, 2021a). Moreover, the structures set up by the catch-up programmes could be used in the long term to (partially) compensate for structural disadvantages caused by social origin. [↪ ITEM 354](#)
- 344.** Since the **Länder have sovereignty over education**, they each decide on the type and scope of measures to be used to make up pandemic-related educational deficits and are showing **very different levels of commitment** in doing so. While some Länder (Brandenburg, Hamburg, Hesse, Mecklenburg-Western Pomerania, Lower Saxony, North Rhine-Westphalia, Rhineland-Palatinate, Saarland and Saxony) are adding Länder funds to top up the federal funds for catch-up programmes – for example, 100 % in Hesse, North Rhine-Westphalia and Saxony and more than 260 % in Hamburg – other Länder limit themselves to the funds provided by the Federal Government, or have not yet provided any information on their own measures. In some Länder, such as Baden-Württemberg, Bavaria, Mecklenburg-Western Pomerania, North Rhine-Westphalia and Rhineland-Palatinate, catch-up programmes already began in 2020 or early 2021; in others, measures were not taken until after the agreement between the Federal Government and the Länder on implementation of the 'Action Programme to Catch Up after Coronavirus' was signed in June 2021 – i.e. more than a year after the first school closures began.
- 345.** Some countries are spending substantial sums of money on setting up **coronavirus catch-up programmes**. For example, for general-education schools, the United States is spending 13.2bn US dollars from the Coronavirus Aid, Relief, and Economic Security Act (March 2020), 54bn US dollars from the Covid Relief Package (December 2020), and 122bn US dollars from the American Rescue Plan (March 2021) on elementary and secondary schools. Among other things, the aim is to enable public schools to safely reopen and to address learning deficits and social and emotional strains on pupils (Jordan, 2021; US Department of Education, 2021). Taken together, the financial scope of these programmes for general-education schools made up about 0.9 % of US GDP in 2020. The United Kingdom

already launched its Covid Catch-up Programme in June 2020, funding it initially with £1bn. This was topped up in February and June 2021 to a total of just over £3bn (UK Department for Education, 2021). Spending on the catch-up programme there will thus amount to around 0.15 % of GDP in 2020. In the Netherlands, the government launched a catch-up programme in February 2021 with €8.5bn (1.1 % of GDP in 2020) which is earmarked both for general education and for vocational and higher education (Rijksoverheid, 2021).

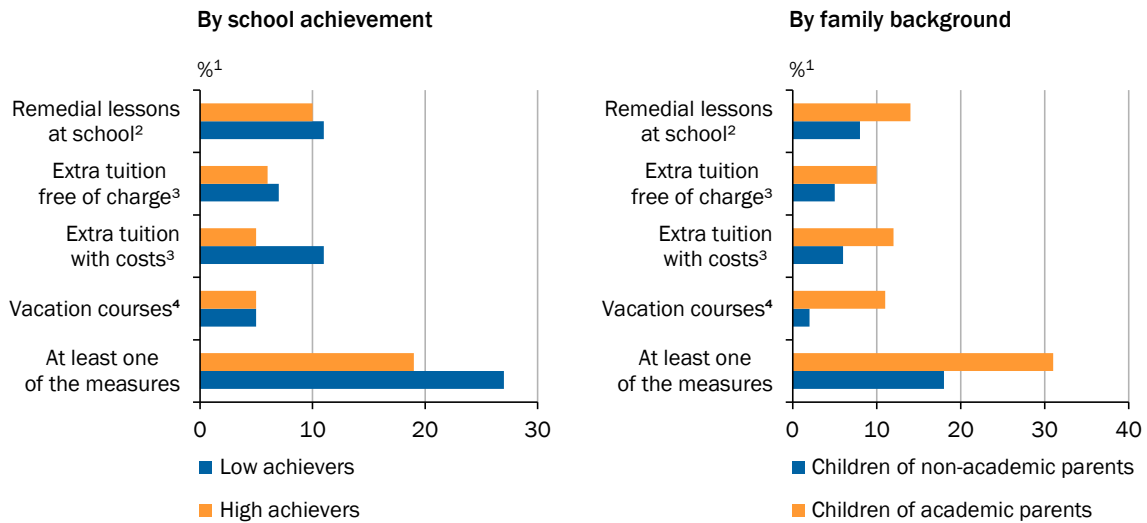
However, **international comparisons** of spending on catch-up programmes are only of **limited informational value** because the programmes include different tasks in different countries – in the United States, for example, they also include spending on coronavirus testing in schools. In addition, the existing structures to which the catch-up measures can link up to – and thus the financial requirements – are different in each case. Overall, an OECD study (2021e) reports that 78 % of countries have taken action to make up learning deficits.

346. Programmes to make up pandemic learning and development deficits should **target the groups in which they occurred** (Scientific Advisory Board on Family Issues, 2021). Because of the very heterogeneous distribution of educational deficits, ↘ **ITEMS 339 F.** non-selective measures such as a compulsory repetition of the year for all pupils are not expedient. The macroeconomic costs of such a measure would be high without having a targeted effect on the children and young people concerned.
347. Overall, many **catch-up measures in Germany** – at least those implemented by the beginning of 2021 – do not appear to **target underachievers selectively enough**: ‘Participation in holiday courses, remedial classes and free tutoring to catch up on missed school work is low among both lower- and higher-achieving children [...]. This is particularly surprising as one would expect such support measures to be designed primarily to support underachieving pupils. Only paid tutoring is used much more frequently by underachievers’ (Wössmann et al., 2021, p. 48). ↘ **CHART 94** Furthermore, it can be seen that children of academic parents have participated in support measures significantly more frequently than children of non-academic parents (Wössmann et al., 2021). One reason for this could be the greater educational affinity of socially better-off parents (Cunha et al., 2020), another that more support services are available in schools with a lot of children from high-income and educationally affluent homes. Another reason could be the fear of stigmatisation.
348. The Länder should make a major effort to ensure that **support measures reach the underachievers and educationally disadvantaged in a targeted manner**. To this end, funding measures could be concentrated more on schools with a lot of children from educationally disadvantaged and low-income families. In addition, teachers within schools could target low-achievers more for remedial programmes and encourage them to participate. Greater incentives to participate in support measures should be offered. Instead of leaving it to the initiative of the underachievers themselves, they could be automatically registered for support measures and only deregistered if parents explicitly object (‘opt-out procedure’). An obligation to participate in support measures for low achievers would also be

↪ CHART 94

Children of academic parents participate less in learning support measures

Participation between February 2020 and February/March 2021



1 – Share of parents who responded to the ifo parental survey (February/March 2021) question „Did your youngest school child since the first pandemic-related school closures in spring 2020 participate in one of the listed support measures in order to catch up foregone learning material?“ with yes (multiple choices possible). 2 – E. g. in the afternoon or at the weekend. 3 – Not at school. 4 – E. g. during the summer or autumn vacations. 5 – Children whose average grade in the subjects mathematics and German was below the median in the relevant school type prior the coronavirus pandemic. 6 – Responding parent has a university degree or a degree from a university of applied sciences.

Sources: ifo parental survey 2021, Wößmann et al. (2021)
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conceivable. In this context, learning catch-up programmes should focus on **basic skills** (e.g. reading, mathematics), as further learning builds on these (Leopoldina, 2021a; StäwiKo, 2021a).

Additional efforts should be made to promote the language development and integration process particularly for **children and young people with a migration or refugee background**, whose language development has been impaired by contact restrictions and whose contact with mainstream society has been limited ↪ ITEM 340 (Wissenschaftlicher Beirat für Familienfragen, 2021).

349. Different dimensions of human capital, e.g. health factors, socio-emotional characteristics and cognitive abilities, interact (Currie and Stabile, 2006; Heckman, 2007). ↪ ITEM 327 For this reason, measures should be taken not only to make up learning deficits in core school subjects, but also to alleviate **psychosocial stress** among children and adolescents (Leopoldina, 2021b; StäwiKo, 2021a; Scientific Advisory Board on Family Issues, 2021). ↪ ITEM 341 Moreover, catch-up measures should focus not only on school pupils but also on **pre-school children**. They have frequently been confronted with pandemic-related restrictions on educational and care institutions and, as a result, are likely to have fallen behind in their socio-emotional development. Hygiene measures have also led to restrictions in the educational services on offer, which may have had a negative impact on the cognitive-linguistic development of many children (StäwiKo, 2021a).

350. There are numerous proposals for **making up learning deficits** (Leopoldina, 2021a; StäwiKo, 2021a; Wössmann, 2021b). They include both **measures that lengthen learning time** – e.g. in the form of holiday and weekend courses or additional learning time at school in the afternoons – and **measures that increase the effectiveness of existing learning time** – e.g. through individual and small-group support or the targeted use of high-quality digital learning programs in lessons. Both types of support measures require substantial expenditure on personnel and materials. However, if there is no such expenditure, the long-term economic costs are likely to be even higher (Wössmann, 2020). ↘ [ITEM 338](#)
351. **Tutoring models for individual and small-group support** have been shown in studies to be highly effective (Fryer, 2017; Nickow et al., 2020), especially when closely coordinated with regular teaching. Such close interaction is probably easier to implement in all-day schools in the primary-school sector than under the separation between morning school and afternoon care that is currently widespread in Germany. The **personnel requirements** for the supplementary and extra-curricular support measures could be covered in the short term by qualified tutors; in the long term, however, qualified teachers should be employed (StäwiKo, 2021a). Wide-reach qualification courses for tutors could be offered in digital form as tutorials, digital readers or webinars. In order to promote the use of individual extracurricular tutoring services, vouchers could be issued specifically to affected children and young people.
352. **Continuous monitoring** is needed to ensure the effectiveness of catch-up programmes (Pritchett, 2015; StäwiKo, 2021a). To this end, the data situation needs to be greatly improved, and national and international pupil-performance surveys (such as VERA 3, VERA 8, PISA) must be made compulsory across the board. Language-level surveys, such as those that already take place in most countries, can be used or introduced for monitoring in the child-daycare sector. Länder should promote **scientific studies on the effectiveness of all measures** and facilitate access to field studies in schools and daycare centres (Leopoldina, 2020). In other countries, such as the United Kingdom, the Netherlands and the United States, systematic evaluations are already **firmly embedded in the political decision-making process** in some areas, thus contributing to greater transparency on the effects of measures and reforms (Buch et al., 2019). ↘ [ITEMS 376 FF](#). A supra-regional exchange of best practices in promoting learning and development could increase the success of catch-up measures.
353. In addition to making up learning deficits that have already occurred, more intensive provision should be made for the eventuality that in-school teaching of individual children and young people might be restricted again in the **winter** (and in some cases it already is). Given the spread of virus variants, this could happen more frequently as a result of quarantine measures for individual schools or pupils. ↘ [ITEM 54](#) One possibility would be to make daily **online classes** or **hybrid learning mandatory in such cases** (Leopoldina, 2021a; Wössmann, 2021b). To this end, it is essential to find legally watertight software solutions. ↘ [ITEM 369](#) And it is necessary to provide targeted support for children who have particular difficulties with distance learning (Leopoldina, 2021a). If online instruction is not possible, daily contact between teachers and pupils should still be maintained, e.g.

by telephone (OECD, 2021e). Furthermore, measures should be implemented rapidly to extend the vaccination coverage of the population in order to protect unvaccinated children and allow them to participate in education and social life.

2. Enhance equal opportunities in the school system and make it more effective

354. As described above, children's education in Germany is particularly dependent on the socio-economic background of their parents. [↘ ITEMS 330 FF.](#) **Measures** designed to make up for pandemic-related educational deficits among underachieving children and young people [↘ ITEMS 343 FF.](#) **could be made permanent**; this would also promote equality of opportunities in the education system in the long term. In addition to permanently establishing **individual and small-group support** for disadvantaged and underachieving pupils, [↘ ITEMS 350 F.](#) it is also important to provide assistance in the form of **staff for tasks outside the classroom**, such as psychological, health and social care. **Digital learning programs** can be adjusted to individual learning types and performance levels in a more targeted manner, while at the same time relieving teachers so that they can provide more targeted support to individual pupils. [↘ ITEM 365](#)
355. Several studies have shown that **mentoring programmes** that make student mentors available for children from educationally disadvantaged and low-income families have a positive impact on skills development and school careers (Falk et al., 2020; Kosse et al., 2020; Resnjanskij et al., 2021). Up to now, such student mentoring programmes have only taken place in isolated cases in Germany. An expansion of such mentoring programmes should be endorsed, and this should be possible in the relatively short term, at least in regions with universities – unlike the recruitment of pedagogical specialists, who first have to be trained.
356. Afternoon **childcare for school children** can also **enhance equal opportunities** (Blau and Currie, 2006; Plantenga and Remery, 2013). In Germany, about half of all primary-school children used full-day services in schools and daycare facilities in the 2018/19 school year, although take-up varied between Länder from 22 % in Baden-Württemberg to 92 % in Hamburg (Authoring Group Educational Reporting, 2020). Participation in all-day school programmes was mainly voluntary at primary schools, grammar schools and secondary modern schools. **The proportion of primary school children in all-day care has more than doubled since the 2005/06 school year**, due in particular to the increasing number of children in all-day schools. Take-up is likely to increase further with the legal entitlement to all-day care for primary school children from 2026.
357. How effective all-day care is in improving school performance and enhancing equal opportunities is likely to depend on the **specific design** of each scheme. Factors include how intensively extracurricular time is used to support underachieving pupils, how leisure-time institutions are integrated into the services provided, and the quality of the teaching staff.

Overall, to date, the **empirical evidence** on the **effects of all-day care on performance and inequality** for school children in Germany is **weak**. Felfe and Zierow (2013) find no significant impact of participation in after-school care on school children in general. However, for children of mothers with low educational attainment and for children of low-income parents, they find a positive effect on socio-emotional behaviour but no significant impact on school performance. Comparisons between full-day and half-day schools yielded no effects on average school performance or on achievement inequality (Strietholt et al., 2015). However, comparisons between compulsory all-day schools and schools with voluntary all-day programmes showed that the explanatory relevance of the socio-economic background was lower in the former than in the latter (Fischer et al., 2014). The rate of participation in all-day programmes within schools also had a dampening effect on the correlation between socio-economic background and performance. However, Seidlitz and Zierow (2020) fail to demonstrate this effect, and also find no effect on average school performance. Linberg et al. (2018) were also unable to establish a correlation between the organisational form of after-noon care (school with compulsory all-day presence, open all-day school or day-care centre) and individual school performance.

Thus, although evidence on the effect of all-day care on school children on average achievement and achievement inequality in Germany is currently still limited, the **effectiveness of all-day programmes** is likely to largely **depend on their quality** (Linberg et al., 2018; Steinmann et al., 2018). In particular, the deployment of sufficient and well-qualified personnel is crucial (OECD, 2020c).

358. **Longer periods of learning together with others** probably leads to better educational outcomes for the socially disadvantaged and low achievers, and increases intergenerational educational and income mobility. This is shown on the one hand by studies that look at **comprehensive school forms** compared to differentiating school forms, for example in Finland (Pekkarinen et al., 2009; Pekkala Kerr et al., 2013) and in Germany (Matthewes, 2021). On the other hand, this finding also applies to **different lengths of primary schooling** in international (Hanushek and Wössmann, 2006) or regional comparisons (Bauer and Riphahn, 2006). Reforms in Bavaria and Lower Saxony, which brought forward assignment to different types of school from the seventh to the fifth grade, also led to lower intergenerational educational mobility (Piopiunik, 2014b; Sulzmaier, 2020). The results of the studies are consistent when it comes to the positive effects of joint learning for underachieving pupils. The impact on high-performing pupils is less clear.
359. The percentage of pupils in general-education schools attending **private schools** was 9.4 % in the 2019/20 school year, according to the Federal Statistical Office. By European comparison, this puts Germany in the lower midfield; the figure in the EU28 was 20.4 % in 2018 (Federal Statistical Office, 2020). The popularity of private schools has increased significantly since the early 1990s, especially in the primary-school sector (Federal Statistical Office, 2020). According to the Federal Statistical Office, the number of private-school pupils as a percentage of all school children in the 2019/20 school year in the primary-school sector was

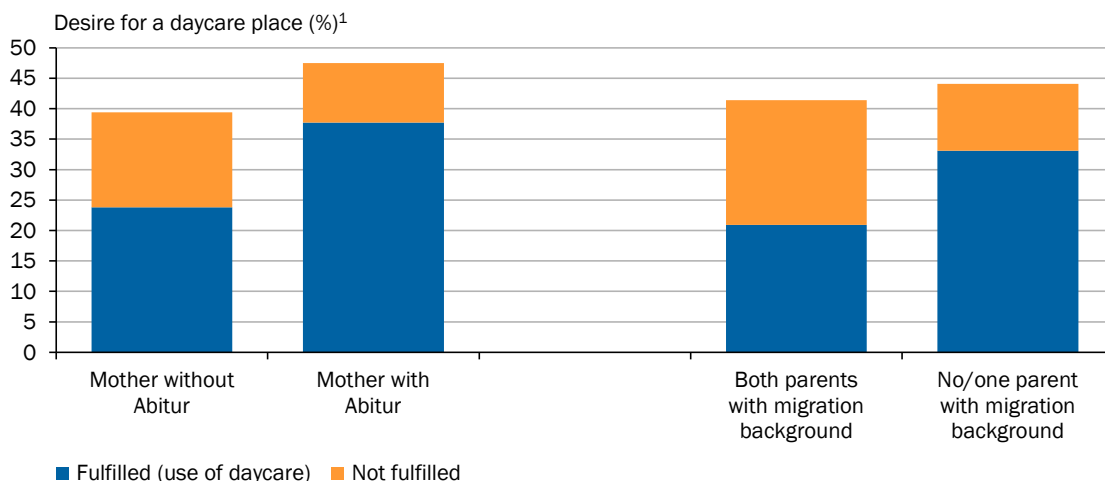
3.7 % – much lower than that in academic high schools (12.3 %). Children of academic parents are significantly more likely to attend a private school than children of non-academic parents. This is also true in eastern Germany if only the primary-school sector is considered. **Social differences in private-school use** have increased considerably since the 1990s (Görlitz et al., 2018). On the one hand, the existence of private schools can be desirable if it increases competition between schools and, in this way, improves quality in state schools as well. On the other hand, a proliferation of private schools should be viewed critically if it increases social segregation. One measure to combat segregation could be a mandatory clearer income scale for school fees (Görlitz et al., 2018). In Sweden, uniform education vouchers are issued to allow pupils to choose whether to use them for education in state or private schools. Moreover, if state schools became more attractive again for families with better education and higher incomes, this should reduce the social segregation caused by private school use (Görlitz et al., 2018).

- 360. To enhance equal opportunities, it is also a good idea to **expand the quality and quantity of early-childhood care options** (GCEE Annual Report 2019 items 221, 626, 705; GCEE Annual Report 2020 item 699). Early-childhood care and education programmes are an important source of education, especially for children from educationally disadvantaged families (Havnes and Mogstad, 2015; Cornelissen et al., 2018; Felfe and Lalive, 2018).

However, **children of parents with lower educational attainment and children with a migration background** in Germany are **less likely to attend daycare** (Cornelissen et al., 2018; Jessen et al., 2020b, 2020a). [↪ CHART 95](#) The childcare preferences of families with children under the age of three in which

↪ CHART 95

Use of and desire for daycare for children under three years more pronounced among higher educated mothers and among families without migration background
 Period 2012 – 2016



1 – Parents were asked whether they desire a place in daycare independent of whether their child has a place in a daycare centre or not. In addition, they were asked whether their child has a place. The latter one is interpreted as fulfilled desire for a place in daycare when the response is positive.

Source: Child care study (KiBS) of the German Youth Institute (DJI), panel 2012-2016, calculations by Jessen et al. (2020b)

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the mother has a lower educational attainment are less likely to be taken into consideration (60 % of childcare preferences met) than the childcare preferences of families in which the mother has a higher educational attainment (79 % of childcare preferences met), one reason being that, among the latter, it is less common for both parents to be in employment. In view of this, Jessen et al. (2020b, 2020a) emphasise that expanding capacity is likely to reduce inequalities in utilisation by educational background. Furthermore, Jessen et al. (2020b) suggest that parents with lower educational attainment are less likely to recognise the importance of early education and care for child development. It might help to provide **information and advice** on its importance. Further approaches suggested by the authors to stimulate utilisation by these groups include **easier registration procedures**, more suitable care times, cost reductions and quality improvements. Also, targeted information about and assistance with the registration process could lead to higher utilisation of early-childhood care by families who are less well educated (Hermes et al., 2021). A first step in this direction could be the federal programme 'Starting at kindergarten: building bridges in early education', which, at several locations, is trialling information initiatives, qualification measures for (pedagogical) professionals and vocational integration measures for professionals with a refugee background.

361. According to the Federal Statistical Office, the **childcare rate for children aged 3 to 6** was approximately 91.1 % in 2021 (1 March 2021). According to Schmitz and Spiess (2018) and Spiess (2019), children in this age group who do not attend a childcare facility are not from one particular social group. However, a recent study on childcare in Berlin (Dohmen et al., 2021) suggests that, at least in some places, children with a migration background attend a daycare centre much less often than children without a migration background. The study also concludes that in some places there is a marked shortage of childcare places even for children between the ages of 3 and 6 and that, in addition, the childcare preferences of families with a migration background are fulfilled less frequently than those of families without a migration background. The shortage of places could become worse if many parents postpone sending their children to school instead of kindergarten as a result of the coronavirus pandemic, further limiting the places available for younger children (Dohmen et al., 2021). Further capacity building in the places concerned should help to improve access to education for educationally disadvantaged groups.
362. Early-childhood support (e.g. language development) at an even younger age is useful and necessary to improve educational opportunities for children from socially disadvantaged families. According to the Federal Statistical Office, the childcare rate for under-three-year-olds is 28.9 %. However, the take-up of daycare opportunities varies according to social background. [▶ ITEM 360](#) Expedient measures here would be a **quantitative and qualitative expansion of childcare facilities for the under-three-year-olds**, and the provision of special **assistance and incentives for educationally disadvantaged families to use these facilities**. In addition, it would be a good idea to require children with language difficulties to participate in **language-development programmes** on a **mandatory** basis (Schmitz and Spiess, 2018). Following Germany's poor performance in the 2001 PISA survey, most Länder have introduced language

proficiency assessments for children one to two years before school enrolment as well as language-development programmes (Lisker, 2013; Völkerling, 2020). Here, there were differences between the Länder. In some Länder, language development should be intensified and – where this has not yet been done – compulsory attendance should be introduced where a need for support has been identified, in order to improve children's educational opportunities.

363. Educational investments [↘ GLOSSARY](#) in early childhood generate particularly high returns (Heckman, 2006; Knudsen et al., 2006; Kautz and Heckman, 2014; GCEE Annual Report 2009 item 453; GCEE Annual Report 2017 item 854). The corresponding **expenditure** should therefore be **increased**. **More educational specialists** are needed here, with a view to expanding both quality and quantity. In addition, as an incentive to join the educator profession, opportunities for further training should be expanded and the work environment improved by building multiprofessional teams and increasing staffing (Gambaro et al., 2021).
364. In view of the positive effects of early-childhood education, consideration should be given to offering **childcare** in general **free of charge**. Currently, there is a contrast with the (almost) non-contributory provision of later education (general education, tertiary education). However, if a general exemption from contributions for childcare services were to come at the expense of quality, it would not be effective. While more and more children are becoming exempt from paying contributions (this varies from one municipality to the next), households at risk of poverty that do incur daycare expenses pay almost as much as other households relative to their income (Schmitz et al., 2017). Low-income households should be fully exempted from contributions, for example through a **more progressive scale of contributions**.

3. Advance digitalisation in schools

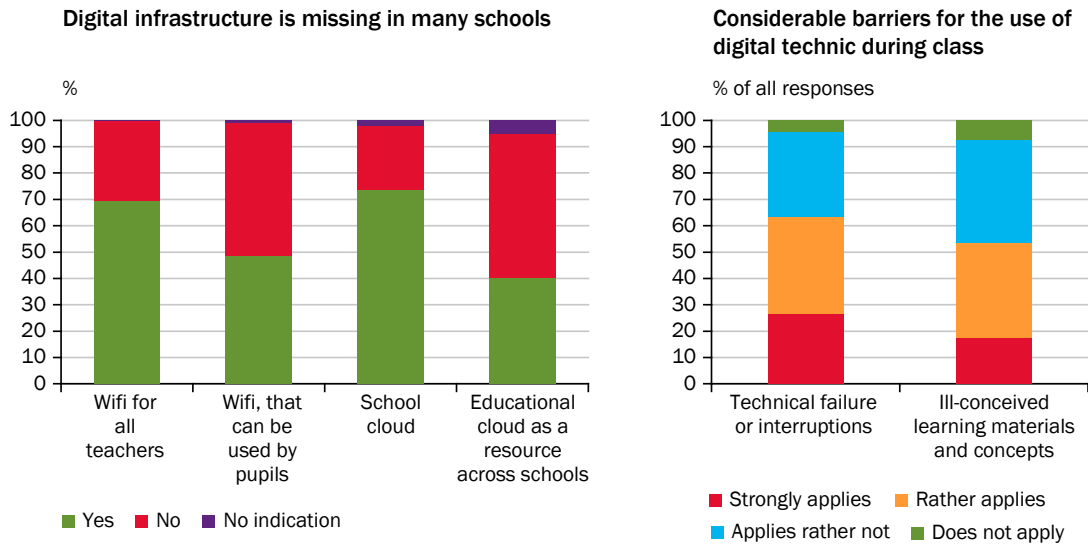
365. **Digitalisation in the education system can help address several educational-policy objectives**. It can increase the effectiveness of the school system and enhance equal opportunities, as well as help to make up pandemic-related learning deficits (OECD, 2021f). Digitalisation in schools is furthermore a prerequisite for teaching key digital skills at school. **High-quality educational software**, for example, can be used as a supplement to make lessons and self-learning periods more effective, especially in the form of adaptive learning programs that adjust to each child's learning level (Kabudi et al., 2021; Klausmann and Schunk, 2021; Wössmann, 2021a). The direct feedback typically given in digital learning programs can also make learning more effective. Similarly, the motivation of some pupils can be strengthened by using digital learning programs. In addition, the use of digital self-learning programs can free up **teacher capacity** for the intensive guidance of pupils in need of special support (StäwiKo, 2021a). The opportunities offered by digital learning programs can also be used to make up learning deficits caused by the pandemic. Digital technologies and materials such as simulations and interactive visualisations, if used effectively in teaching, could also enhance the understanding of contexts (StäwiKo, 2021b).

366. In order to take advantage of the opportunities offered by digitalisation, the **skills of teaching staff** in particular must be advanced by means of adapted training and continuing education and training (StäwiKo, 2021b; Scientific Advisory Board on Family Issues, 2021). Older teachers in particular learned little about using digital media in their training, and have also been little prompted by continuing education and training courses to engage with it more (Mussmann et al., 2021, p. 135 f.). The use of further and advanced training in digital media has already increased considerably during the coronavirus pandemic (Mussmann et al., 2021, p. 159). In addition, suitable and sufficient personnel for technical tasks in both schools and the administration plays an important role and must be included in education planning (Brand et al., 2021; GCEE Annual Report 2020 item 581). At the same time, concepts for the use of digital media in teaching and learning should be quickly developed and tested with the staff and skills currently available. It may be possible to use the experience of individual schools to identify best practices and then disseminate these more widely.
367. However, digital technologies should not only be a means for more efficient teaching and learning, but should themselves be **part of the school curricula**. **Key digital skills** are crucial for the future viability of the economy and should be taught and promoted at school at an early stage (GCEE Annual Report 2020 items 554 and 580). In addition to competent handling of hardware, software and programming skills, digital skills also include an understanding of the relevance of **data protection** and the social, political and economic dependencies associated with data transfers. This should also involve the ability to classify and critically evaluate content from different online sources, such as social networks. These skills are prerequisites for 'digital sovereignty', which should be taught at school (Blossfeld et al., 2018).
368. To date, **schools in Germany have made little progress in digitalisation compared to other countries** (Beblavy et al., 2019; OECD, 2020d; GCEE Annual Report 2020 item 555). This was shown, among other things, by an online survey conducted in Germany in January and February 2021 (second shutdown) by Mussmann et al. (2021) of 2,750 teachers at 233 academic high schools, comprehensive schools and comparable school types with secondary-school levels I and II from all Länder. Many schools lack the basic infrastructure such as WiFi for teachers and pupils, as well as a school cloud. ↘ [CHART 96 TOP LEFT](#) Technical failures and poorly conceived learning materials and approaches are common barriers to the effective use of digital technologies in the classroom. ↘ [CHART 96 TOP RIGHT](#) Before the pandemic, digital technologies were infrequently used in the classroom by European comparison (Bos et al., 2014; Eickelmann et al., 2019). ↘ [CHART 97 LEFT](#) Germany was also a long way behind by European comparison when it came to equipping teachers with digital terminals. ↘ [CHART 97 RIGHT](#)

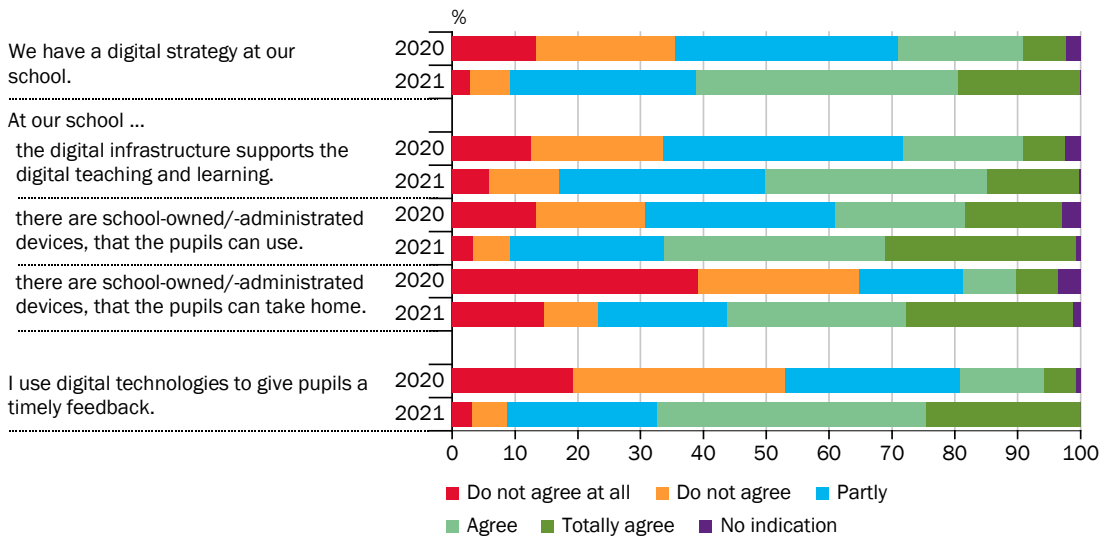
In 2020, however, there was a significant surge in digitalisation: the digital infrastructure in schools improved considerably, more schools had a digital strategy and digital technologies were used more frequently. ↘ [CHARTS 96 BOTTOM AND 97 LEFT](#) Overall, it can be seen that the level of digitalisation **varies greatly between schools**. This digital divide between schools has led to a divergence in opportunities for pupils to acquire digital skills and thus to participate in social

CHART 96

Survey with teachers on digitalisation at schools in Germany (digitalisation study 2021)¹



Push in digitalisation at schools since the beginning of the coronavirus pandemic



1 – Online survey with 2,750 teachers at 233 gymnasiums, comprehensive schools and comparable school forms with secondary level I and II from all Länder in Germany. As of: Beginning of 2021. For 2020: Status before the coronavirus pandemic (February).

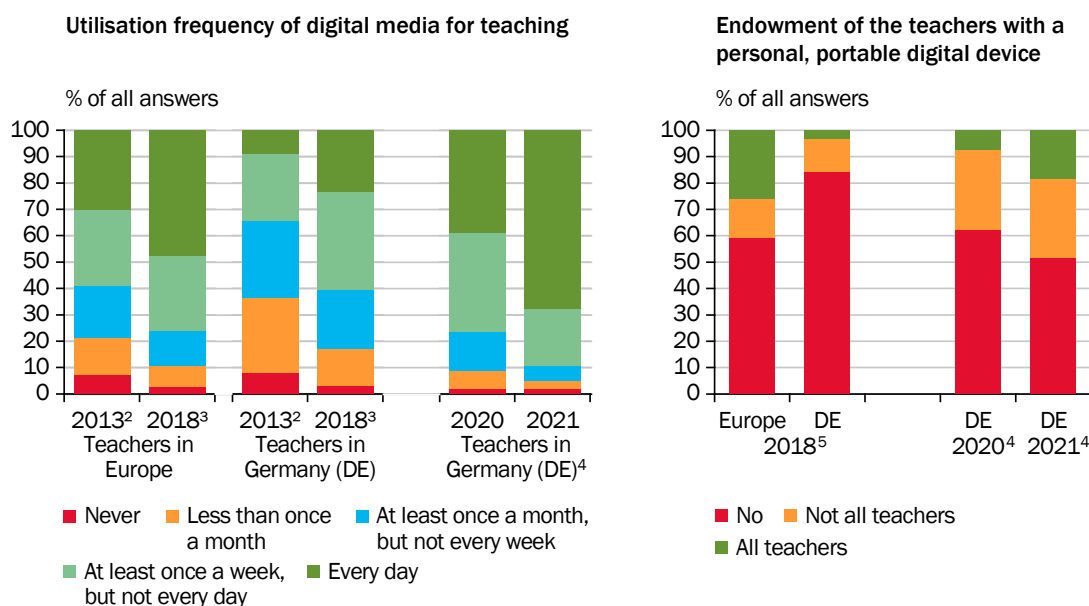
Source: Mußmann et al. (2021)
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life and prosperity (Musmann et al., 2021). The digitalisation drive triggered by the coronavirus pandemic should be continued across the board.

369. The challenges of digitalisation affect all Länder equally. By acting together, **synergies and economies of scale** could be achieved by making optimal use of existing expertise and avoiding redundancy in the development of digital solutions. This applies, for example, to the establishment of data-safe platforms for communication and the exchange of data as well as to the selection of high-quality educational software and concepts for the didactic integration of digital aids. There is, for example, a BMBF-funded project called School Cloud from the Hasso Plattner Institute, which, up to now, has been used by Lower Saxony, Thuringia

↘ CHART 97

Digitalisation at schools over the time¹



1 – Online survey with 2,750 teachers at 233 gymnasiums, comprehensive schools and comparable school forms with secondary level I and II from all Länder in Germany. As of: Beginning of 2021. For 2020: Status before the coronavirus pandemic (February).
2 – Eickelmann et al. (2014). 3 – Drossel et al. (2019). 4 – Mußmann et al. (2021). 5 – Eickelmann et al. (2019).

Sources: Drossel et al. (2019), Eickelmann et al. (2014, 2019), Mußmann et al. (2021)

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and Brandenburg (HPI, 2021). However, under the pressure of the pandemic situation, some Länder have already set up their own structures and some may now have little motivation for fundamental changes. The National Academy of Sciences Leopoldina (2020) recommends setting up a **cross-Länder advisory board for the establishment of a digital infrastructure**, bringing together the expertise of educational staff, academia and education-policy representatives of the Federal Government and the Länder. This advisory board would make recommendations for **coordinated, overarching solutions for educational institutions** in the sixteen Länder, and for coordinating their implementation. Wössmann (2021a) also calls for **cross-Länder standards** to uniformly regulate the framework conditions for the provision of **data-safe digital infrastructure and software** that create **legal certainty** for schools and teachers.

370. In order to promote digitalisation in schools, **administrative processes need to be simplified and made more transparent**. To achieve this, coordination between the various state actors in particular should be improved. ↘ **BOX 23** Coordination difficulties and lengthy consultation processes, for example between Länder (responsible for employing teachers), local education authorities (responsible for equipping schools) and building authorities (responsible for structural measures – e.g. in connection with network connections or the installation of air purifiers) – have been an obstacle, particularly in the current coronavirus pandemic, where rapid decision-making is needed.
371. However, in the field of **digitalisation** there is a need to catch up not only in the school sector but also in **child and youth welfare and child daycare**. Here,

digital processes can make things easier, for example in the areas of diagnostics, communication with parents and the diverse tasks of documenting developmental progress (Scientific Advisory Board on Family Issues, 2021).

▸ BOX 23

Digital Pact for Schools – federal funding for digitalisation in schools

As part of the **Digital Pact for Schools** (DigitalPakt Schule), the Federal Government is, for the first time, directly funding **digital equipment in schools** with an initial amount of €5bn as from 2019. An amendment to the Basic Law (Article 104c) was necessary for implementation because the Länder have sovereignty in education. Since its inception, the Digital Pact for Schools has exposed numerous challenges for federal funding of educational measures.

The federal funds from the Digital Pact for Schools were distributed according to the Königstein Key to the Länder, which then supplement the funds with 10 % from their own budgets. **Eligible projects include the expansion of the internet infrastructure** (in-house cabling and WiFi, with the exception of fibre-optic connections), **digital hardware** (such as electronic blackboards) and **software** (e.g. learning platforms). The Länder regulate the distribution of the funds with their own funding guidelines. Applications are made by the municipal school boards, which can bundle the needs of several schools. In a first step, the schools draw up a media-education concept in order to assess the current state of technology and media education, and to work out a concept for the future. This includes, for example, a training plan that provides digital teaching content for teachers, a financing plan and a maintenance concept for the technology to be purchased. Individual Länder contribute to the development of these concepts with advisory services and recommendations. In a second step, the school, together with the school board, draws up a media-development plan for the technical equipment.

In the course of the coronavirus pandemic, the Federal Government supplemented the Digital Pact for Schools with three **supplementary agreements** (ZV) with a total funding volume of €1.5bn. €500 million has been made available respectively for digital end-user devices for pupils to use on loan (ZV 'Immediate Equipment Programme' since July 2020), the training and financing of IT administrators in schools (ZV 'Administration' since November 2020) and mobile devices for loan to teachers (ZV 'Loan Devices for Teachers' since January 2021).

The **outflow of funds** from the Digital Pact for Schools was **slow** at the beginning of the funding measure. By the end of 2020, only €874.9 million had been requested (forward commitment) and €487.9 million had been drawn down. However, this accelerated up to the middle of this year with €1,409 million requested and €852 million disbursed. Moreover, the drawdown of funds has been heterogeneous between Länder. ▸ CHART 98 This reflects regional differences in implementation, for example in terms of coordination between schools and school authorities, or in terms of the demands made on schools. Furthermore, it can be observed that the drawdown of funds from the Immediate Equipment Programme was much faster. ▸ CHART 98 For example, by the end of 2020, all the funding in this programme had already been spent in many Länder. One reason for this is probably the unbureaucratic process of drawing down funds without media-development plans. The disbursement of funds of the ZV 'Administration', on the other hand, was hardly visible until 30 June 2021. Funds were only approved in one *Land* (North Rhine-Westphalia) (Deutscher Bundestag, 2021). With regard to the ZV 'Loan Devices for Teachers', funds had been drawn down in four Länder by 30 June 2021. Even if no funds are disbursed, it is possible for the Länder to implement measures in advance, using their own financial resources.

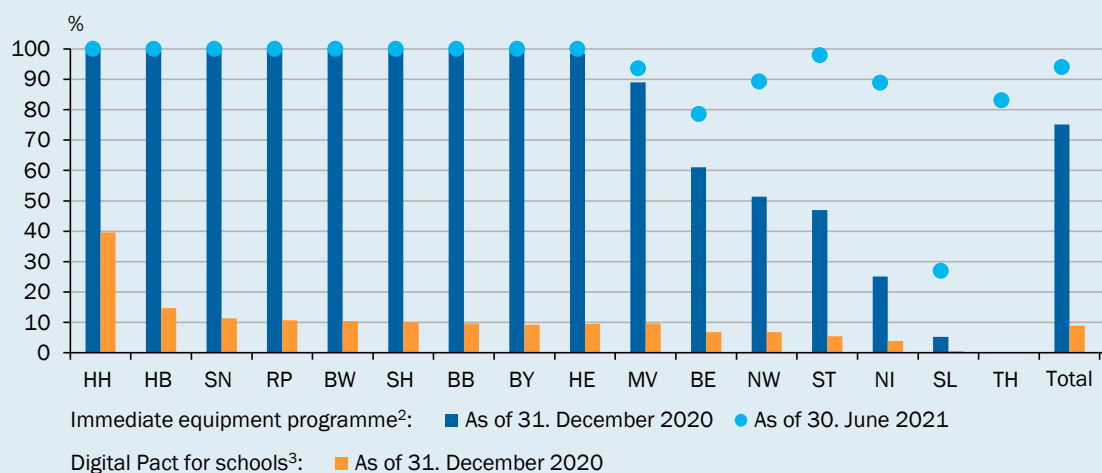
The slow drawdown of funds from the Digital Pact for Schools was initially attributed to the administrative **hurdles in the application process**. In response to the slow disbursement of funds, the grant **application process** was **simplified** in July 2020. For example, the obligation

to draw up media-education concepts (media-development plans) was postponed from the time of application to the time of financial settlement. The dynamics of the drawdown of funds has increased since this simplification. Thus, the cumulative outflow of funds increased disproportionately from €15.7 million up to June 2020 (before simplification) to €487.9 million by December 2020 (after simplification) (BMBF, 2021c). Another hurdle for the drawdown of funds by the school boards probably arises from lengthy award procedures, especially if there is an obligation under procurement law to issue a Europe-wide invitation to tender. A regionally uniform provision of standardised media-development plans in all Länder, especially for basic infrastructure such as WiFi networks in classrooms, could accelerate this process.

↳ CHART 98

Funds of educational infrastructure are drawn down slowly¹

Share of funds drawn down



1 – BB-Brandenburg, BW-Baden-Württemberg, BY-Bavaria, HB-Bremen, HE-Hesse, HH-Hamburg, MV-Mecklenburg-West Pomerania, NI-Lower Saxony, NW-North Rhine-Westphalia, RP-Rhineland-Palatine, SH-Schleswig-Holstein, SL-Saarland, SN-Saxony, ST-Saxony-Anhalt, TH-Thuringia. 2 – Drawdown of funds since July 2020. Digital devices that are obtained with these funds remain property of the schools or the school boards respectively and should be provided to pupils in need on a loan basis. 3 – Drawdown of funds since the year 2019.

Sources: Federal Ministry of Education and Research, German Bundestag
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The low drawdown of funds may also be due to **coordination problems between the various state actors**. For example, it may be due to reservations on the part of the municipal school boards, which are responsible for equipping the schools. After the one-off subsidised acquisition of IT, they will bear the costs of repairs and replacement investments in the following years (Braun et al., 2021), which seems particularly relevant for digital hardware with a short service life. Where the **municipalities lack the necessary resources**, making federal funding permanent should be considered. **Lack of expertise in school boards**, especially in smaller municipalities and schools, can also be a hurdle when applying for and selecting suitable concepts. Building authorities are also involved in equipping the buildings, which increases the need for coordination. Similarly, more skilled employees are needed to operate and maintain the new digital infrastructure. **Initial and further training of teachers in digital literacy** is also necessary to effectively use digital technologies for teaching and administration in schools (GCEE Annual Report 2020 items 554 ff.).

4. Raise education spending in the federal system

372. As discussed earlier, there is a need for additional spending on various tasks in the sphere of education. The **reasons for under-spending on education** can be manifold. First, most of the **returns on investment in education** lie far **in the future**, while the **costs** are incurred **in the present**. This problem of temporal divergence between cost and returns is a general problem of (government) investment. **Laying down a statutory minimum amount of expenditure on education** (for example in expenditure per pupil) could mitigate the problem. Greater **transparency on the substantial returns on education investments** and the impact of inadequate human and material resources could also lead to greater prioritisation by policy-makers. [↘ ITEMS 215 AND 376 FF.](#)
373. Second, unclear responsibilities and coordination problems between levels and actors of government are probably another reason for under-spending on education (Schneider, 2019). In particular, the distribution of **responsibilities between the Länder** (sovereignty over education and culture, teaching staff) **and the municipalities** (responsible for material expenditure) should be **regulated more clearly and effectively**. Administrative processes between the three governmental levels need to be simplified (Wössmann, 2021a).
374. Third, most of the costs of investment in education are borne by the Länder (education federalism), while at least some of the returns benefit the country as a whole, other Länder or countries abroad, for example through higher tax revenues in the future, lower social spending and more innovation in the economy through more human capital. [↘ ITEM 326](#) This is all the more the case the greater the mobility between Länder. **Thus, education spending by Länder has positive external effects on other Länder and on the whole country**, which in turn is likely to lead to underinvestment by the Länder (Lenk et al., 2019). On the other hand, the quality of the regional education system could have an influence on the mobility decisions of (especially highly qualified) parents. **Closer and mandatory coordination between the Länder**, e.g. on quality standards, could counteract the problem of externalities. Moreover, the **Federal Government** could **provide additional financial resources for education spending** within its constitutional limits. However, it must be ensured that these are actually used for additional educational measures and do not simply replace regional funds.
375. In view of the high returns on investment in education, which have been extensively documented in the literature, [↘ ITEM 326](#) the question arises as to why Germany spends relatively little on education in proportion to its economic output. In 2018, **spending on educational institutions** (primary to tertiary – excluding research and development) in Germany was only 3.7 % of GDP, while the OECD average was 4.5 %. On the other hand, expenditure per student in Germany in the same year was €10,619, which is above the OECD average of €9,018. The deviation in the relative position in the international comparison, depending on whether expenditure is considered as a share of GDP or per student, is related in particular to Germany's relatively high GDP by international comparison. Ex-

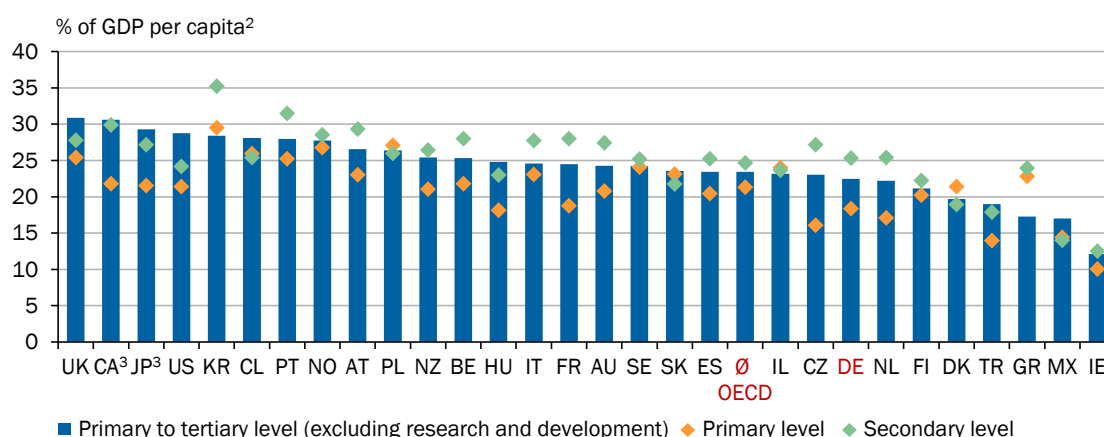
penditure per student corresponds to 22.5 % of per-capita GDP and was thus noticeably below the OECD average of 23.4 % (OECD, 2021g). When considered relative to per-capita GDP, spending per student on primary education is considerably lower in Germany (18.4 %) than the OECD average (21.3 %), ↘ CHART 99 even though the returns on investment in the education of younger children are particularly high. ↘ CHART 363 In secondary education, by contrast, expenditure per student relative to per-capita GDP in Germany is 25.3 %, slightly above the OECD average of 24.7 %. Average educational performance in Germany as measured by the PISA survey is above the OECD average. However, inequality in the distribution of achievement, and the dependence of educational performance on socio-economic background, are also higher in Germany than the OECD average (OECD, 2020c).

376. One advantage of the federal education system in Germany should theoretically be competition. However, because of the way the system is currently organised, this does not work, partly as a result of a lack of **transparency concerning the comparable target figures achieved**. This is due to a **lack of data, too few data-linkage options and limited access to existing data sets** (Board of Academic Advisors to the Federal Minister for Economic Affairs and Energy, 2016). For example, since 2006, PISA surveys can no longer be broken down by Länder. The Länder comparisons and educational trends compiled by the Institute for Quality Development in Education (IQB) have been available for this purpose since 2009, but they only survey performance every five to six years, which limits empirically based analyses of reform effects. Moreover, there is no way of analysing the data longitudinally, i.e. to follow the same pupil from primary school

↘ CHART 99

Expenditure for educational institutions in Germany low in the international comparison

Total expenditure¹ on educational institutions per student relative to GDP per capita in the year 2018



1 – Private and governmental expenditures. UK-United Kingdom, CA-Canada, JP-Japan, US-USA, KR-Republic of Korea, CL-Chile, PT-Portugal, NO-Norway, AT-Austria, PL-Poland, NZ-New Zealand, BE-Belgium, HU-Hungary, IT-Italy, FR-France, AU-Australia, SE-Sweden, SK-Slovakia, ES-Spain, IL-Israel, CZ-Czech Republic, DE-Germany, NL-Netherlands, FI-Finland, DK-Denmark, TR-Turkey, GR-Greece, MX-Mexico, IE-Ireland. 2 – Based on data adjusted for purchasing power. 3 – For Canada and Japan only data for primary to tertiary level available including research and development. Regarding those data Canada ranks on third place and Japan on eighth place in the overall ranking.

Source: OECD (2021g)
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(or earlier) to secondary school and beyond, and thus to compare learning paths across Länder depending on social background.

377. Existing data, such as mid-term and final exam results, school entry health examinations, and language proficiency surveys, are usually not made available to researchers, and links between data sets are lacking. A **cross-Länder register of pupils** that makes these data accessible for scientific purposes and evaluable on a longitudinal basis would promote meaningful evaluations and thus greatly increase transparency (Committee on Economics of Education, 2013; Board of Academic Advisors to the Federal Minister for Economic Affairs and Energy, 2016; Schneider, 2019). In Scandinavian countries, the United Kingdom and the United States, for example, such meaningful data sets already enable comprehensive research into the impact mechanisms of education-policy measures, the results of which are incorporated into education-policy advice (Board of Academic Advisors to the Federal Minister for Economic Affairs and Energy, 2016). Issues of data-protection law should be solvable in this context, since it is a matter of anonymised evaluations for purely scientific and political advisory purposes. **Cross-Länder standardisation of mid-term and final examinations** would further simplify cross-Länder evaluations and increase transparency and competition between education-policy approaches. [↘ ITEMS 352 AND 378](#)

Furthermore, **reforms in the education sector** should **always** be **scientifically monitored and evaluated**. **Randomised experiments** can contribute in many cases to a decisive gain in knowledge and, where ethically unobjectionable, should be promoted more strongly and taken into account in planned reforms.

378. Another argument often put forward in favour of educational federalism is **cultural diversity**, i.e. the ability of the Länder to take account of regional specificities, such as languages, in educational matters. However, when it comes to the diversity of education systems in Germany, probably only individual aspects can be convincingly justified by cultural differences. In many aspects of the education system, the lack of uniformity tends to be a hindrance because it limits the **mobility of families with school-age children**, the **validity of qualifications** and **comparative evaluations**. It can be critically questioned whether different quality standards are really due to cultural differences. In this context, Wössmann (2012, 2021a) argues in favour of **standardised mid-term and final examinations** throughout Germany to increase the transparency and comparability of educational performance. Better comparability, at least within the Länder, e.g. through a ‘Land-wide central Abitur’ (academic high-school diploma), should also lead to increased performance incentives for teachers (Board of Academic Advisors to the Federal Minister for Economic Affairs and Energy, 2016). Moreover, cultural differences do not explain why in some Länder some children attend academic high school for nine years, in others for eight years, and in still other Länder run both systems in parallel. The same applies to the diversity of school types in lower secondary education (Schneider, 2019). However, if data access and evaluation possibilities are decisively improved, the diversity of systems can be helpful for a transitional period in order to gain insights into better educational-policy concepts through competition. [↘ ITEMS 376 F.](#)

379. More coordination in the above areas should be supported (Prien, 2019). However, the **Standing Conference of the Ministers of Education and Cultural Affairs of the Länder (KMK)**, which was founded to coordinate education issues between the Länder, has difficulty reaching agreements, which is probably partly due to the fact that it is subject to the principle of unanimity and its decisions are not legally binding on the Länder parliaments. A **first step** in the right direction was the **Länder agreement** on educational issues, which was adopted by the KMK in October 2020 (KMK, 2021). The agreement contains standardisations on, among other things, the structure and organisation of the school system, quality assurance and teacher training. However, it is questionable whether this agreement will be sufficient to actually create more uniformity in crucial areas, because the agreement is again not binding on the Länder parliaments. **More binding cooperation** between the Länder, for example in the form of a **state treaty**, is **required** (Wössmann, 2021a). Wössmann (2021a) also suggests that the Federal Government should demand cross-Länder standardisation (e.g. in examinations) in return for (and linked to) federal funding provided for digitalisation and support programmes. However, one disadvantage of this could be that the funds made available might then not be drawn down by the Länder.
380. More transparency and commitment in cooperation between the Länder could also be achieved by **obliging** the **Länder** and the **KMK to** respond publicly to the **analyses and recommendations of the Standing Scientific Commission of the KMK (Ständige wissenschaftliche Kommission der Kultusministerkonferenz – StäwiKo)**.
381. However, greater comparability and coordination of basic quality standards and school types between Länder does not necessarily mean reducing autonomy at the local level. The **autonomy of schools and school boards**, for example in selecting teachers, organising lessons and designing teaching content and methods, has an important role to play in responding flexibly to local circumstances and the needs of local pupils (Hanushek et al., 2013; Schwager, 2019). Furthermore, to make better use of their autonomy, head teachers should also be better trained for their leadership roles (OECD, 2020c).

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