This Overview is extracted from the 2018 Economic Survey of Germany. The Survey is published on the responsibility of the Economic and Development Review Committee of the OECD, which is charged with the examination of the economic situation of member countries.
Executive summary
The economy is in recession

The German economy experienced a severe contraction in 2020 (Table 1) following a decade-long expansion. The initial COVID-19 outbreak was brought under control with less stringent containment measures than in many countries thanks to high health sector capacity and early testing, tracing and isolation of cases. Resurgence of the virus in October led to renewed nationwide containment measures in November, including closure of hospitality and entertainment venues, while retail as well as schools remained open.

The economy has been hit hard by the collapse in global trade. Germany exports a large part of its output, particularly manufactured capital goods. Key trading partners in Europe have been badly affected by the crisis and stalling global investment has seen demand for capital goods plunge.

Table 1. A deep recession in 2020

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross domestic product</td>
<td>-5.5</td>
<td>2.8</td>
<td>3.3</td>
</tr>
<tr>
<td>Unemployment rate</td>
<td>4.2</td>
<td>4.8</td>
<td>4.3</td>
</tr>
<tr>
<td>Fiscal balance (% of GDP)</td>
<td>-6.3</td>
<td>-4.4</td>
<td>-1.8</td>
</tr>
<tr>
<td>Public debt (gross, Maastricht, % of GDP)</td>
<td>73.9</td>
<td>76.2</td>
<td>75.8</td>
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Source: OECD Economic Outlook 108 database.

Increasing unemployment was cushioned by the government-supported short-time work scheme. Short-time work bore a much bigger part of the reduced demand for labour than did unemployment (Figure 1), with almost 20% of all dependent workers in short-time work in April 2020. An extended downturn would increase the need for resource reallocation, in which case consideration should be given to more active labour market policy, such as training or placement assistance.

A strong government response to the crisis has reinforced health system capacity while protecting jobs and firms. Loans, guarantees, grants and equity injections safeguarded liquidity, while a recovery package is supporting consumption and investment. These measures notwithstanding, bank vulnerabilities should be monitored closely as corporate and household defaults are liable to increase. There is around EUR 140 billion (4¼ per cent of GDP) of discretionary stimulus in 2020. The rate of consolidation needs to be carefully managed, as a rapid withdrawal of support could derail the recovery, particularly if underlying growth is weak.

Figure 1. Increases in unemployment were cushioned by short-time work

Note: Data for United States refer to June. Temporary layoffs are included in unemployment figures for the United States and Canada but not for the other countries.

Structural reforms and infrastructure investment can support the recovery

The COVID-19 crisis exacerbates structural challenges from weak external demand and the energy transition. Policy needs to facilitate the shift to cleaner energy and new technologies in the automotive industry, while accelerating progress on digital transformation.

Infrastructure investment, which is critical for digital transformation and decarbonisation, has been insufficient and could be an important part of the recovery. Public investment has stepped up since 2014 (Figure 2) and further spending on low-emission transport, digitalisation and health has been announced. These are key areas where more investment is needed, along with social housing, early childhood education and electricity networks. Two decades of low investment have left a backlog, while construction and administrative capacity and cumbersome planning procedures constrain delivery.

Infrastructure governance reforms and active federal government support are needed to overcome capacity constraints. Independent infrastructure planning advice would improve alignment across sectors and provide greater certainty for construction sector companies to expand capacity. Further streamlining planning processes, cooperation between agencies and
more attractive employment conditions for public sector planners would help. Municipalities’ revenues have been hit hard by the crisis and measures to partially compensate for shortfalls will be insufficient to make up the backlog of municipal investment in transport infrastructure and schools.

Figure 2. Public investment has recovered, but net municipal investment is still negative
Net public investment¹ by level of government, % of GDP

- Public gross fixed capital formation less depreciation
- Source: OECD National Accounts database.

Germany made considerable progress on climate change policy in 2019, which must not be derailed by the COVID-19 crisis. Key steps include introduction of emissions pricing in transport and heating, increased support for electric vehicles and charging stations, higher targets for renewable power generation, and a commitment to cease coal-fired generation by 2038 at the latest. Despite success deploying renewables in the electricity sector over the past two decades, emissions are high (Figure 3).

Further policy steps are needed to meet the target to reduce greenhouse gas emissions by 55% by 2030. Coal-fired generation should be reduced ahead of schedule via stronger price signals, which is a cost-effective way to decrease emissions. Stronger price signals would also promote more efficient waste management. Energy efficiency requirements on new buildings are high, but energy efficient renovations need to increase by at least 50% to meet the 2050 goal of a near climate-neutral building stock. The transport sector is unlikely to meet its 2030 abatement target. Further action is needed on pricing for fuels, vehicles and roads, while providing alternatives through sustainable transport modes.

Unleashing digital transformation

Germany is a world leader in technology and engineering, but lags on digital transformation. Access to high-speed broadband networks could be improved, particularly in rural areas. Mobile data usage and connection speeds are also low. Firms in Germany are behind in the adoption of key ICT tools required to create value with data, such as high-speed broadband and cloud computing (Figure 4).

To improve connectivity, administrative processes should be streamlined and competition enhanced. The ambitious goal for nationwide gigabit Internet coverage by 2025 is welcome, as are public broadband subsidies, if used efficiently. However, the disbursement of funds has been slow. Long approval processes delay progress, particularly in relation to rights of way required to build infrastructure. The entry of a fourth network operator to the mobile market is a positive development and should be supported by regulatory policy for this to increase competition and outcomes for consumers.

Barriers to firms’ adoption of advanced ICTs and investment in knowledge-based capital need to be addressed. Innovation and productivity are held back by firms’ sluggish adoption of advanced ICTs that are crucial to create value with data, SMEs’ difficulties to access bank financing, a low initial cap on new research and development tax incentives and digital security concerns. More
venture capital is essential to finance start-ups with high growth potential and related financing instruments could become more effective by avoiding complexity and scaling up later-stage funding.

**Figure 4.** German firms lag in the adoption of advanced ICT tools and activities

<table>
<thead>
<tr>
<th>% of firms (10+ employees), 2019 or latest year available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social media</td>
</tr>
<tr>
<td>Germany</td>
</tr>
</tbody>
</table>

Note: Excludes firms from the financial sector. High-speed broadband are subscriptions with 100 Mbps. Source: OECD ICT Access and Usage by Businesses database.

**The COVID-19 crisis increases the importance of accelerating progress towards digital government and a data-driven public sector.** Germany has been slow introducing digital public services, but progressing on high-impact services is now a priority. Greater efforts are also needed to enhance collaboration across levels of government and access to open government data.

**Strong foundational skills help people adjust to new technology.** The impact of good numeracy and literacy skills on earnings and employment is higher in Germany than in most OECD countries, reflecting strong demand for these skills. Better acquisition of foundational skills, especially for those with disadvantaged backgrounds, would help reduce inequality, secure opportunities for upward intergenerational mobility and support future participation in adult education.

If teachers have the right complementary skills, digital technologies can enhance students’ skills and engagement. Germany is lagging other OECD countries in using digital technologies in schools and the skills of teachers to use them effectively. Countries have been tackling the need for ICT training through a range of policies, from compulsory training, to national accreditation standards or certification for teachers.

**The crisis risks exacerbating labour market inequalities**

Upward earnings mobility is weak and school closures due to COVID-19 risk further increasing the gap between advantaged and disadvantaged students. Youth, women and low-wage workers are more prone to unemployment as they are concentrated in some industries that are being hit heavily by the crisis.

Reducing high effective tax rates would remove one impediment to moving to jobs with higher earnings. Taxation of labour income is high; reducing this while strengthening environmental, property and capital income taxation and removing exemptions would improve incentives and increase efficiency. Building on Germany’s success with social partnerships can help firms and workers weather the economic downturn through training, collective agreements and continuing with effective social dialogue for setting minimum wages.

The gender wage gap is high and has declined little over the past two decades. One factor is the high share of part-time work among women, particularly mothers. Improving further the availability of high quality, full-time childcare and encouraging longer parental leave by fathers would strengthen sharing of child care and support female employment. Women account for a very small proportion of management positions. Improving pay-transparency laws, broadening quotas, improving accessibility of STEM and ICT fields of study, and supporting greater flexibility on working hours and teleworking are key levers to promote gender equality.

The share of the workforce covered by occupational licensing is the highest in the OECD. Occupational licensing reduces competition, pushing up prices and holding back productivity and job mobility. Licensing is likely to be particularly costly for immigrants who cannot use their skills, and in the construction sector where labour shortages hold back investment.

Housing shortages in urban areas prevent people moving closer to jobs. Lack of availability of developable land and stringent rent control hold back the housing supply response. Rent controls introduced in 2015 have not been found to have a negative effect on construction so far, but tighter measures such as the rent freeze in Berlin risk restricting mobility.
### MAIN FINDINGS

<table>
<thead>
<tr>
<th>Macroeconomic policies to support the recovery</th>
<th>KEY RECOMMENDATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiscal policy is highly expansionary and an immediate return to a tight deficit limit under the debt brake could derail the recovery.</td>
<td>Stand ready to give further support if the recovery is weak. Gradually remove fiscal support once the recovery is well underway. Pursue planned fiscal consolidation while addressing long-term challenges.</td>
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### Structural reforms and infrastructure investment for a sustainable recovery

| Public investment has picked up since 2014, but not enough to resolve the infrastructure backlog. Future needs will increase with the energy transition, digital transformation and ageing. | Further increase spending on high quality public investment, including through funding to municipalities. |
| Capacity constraints in the construction industry and local planning offices hold back the delivery of new infrastructure. | Bolster local planning capacity through inter-municipal cooperation, training and expanding staffing in key technical roles. |
| The tax burden on low labour income is high, due to high social security contributions, while environmental and property taxation is low and exemptions to inheritance and capital income taxes contribute to high wealth inequality. | Reduce taxation of labour income, while removing inheritance tax exemptions, raising reduced VAT tax rates to the standard rate, and strengthening environmental, property and capital income taxation. |
| Progress in reducing greenhouse gas emissions has been concentrated in electricity generation, with the transport sector in particular facing considerable challenges to meet its 2030 goal. | Provide low-emissions alternatives through expanding public transport and charging networks, urban planning that creates proximity between people and places they visit for work or leisure, and facilitating telework. |
| Substantive emissions pricing is being introduced for transport and heating, but inconsistencies in energy taxation remain. | Make emissions pricing more consistent across sectors and fuels. |

### Unleashing digital transformation

| A very low share of fibre results in low broadband speeds. Public funds for broadband deployment have been disbursed slowly. | Shorten administrative approval times for communication network deployment, including obtaining rights of way, and improve co-ordination between public authorities. |
| The entrance of a fourth player to the mobile market has the potential to promote competition and innovation. | Support competition through facilitating that the market entrant can obtain national roaming agreements. Consider all market participants when existing spectrum licenses expire. |
| Firms’ investments in knowledge-based capital that is crucial for data-driven innovation, including software, databases, and organisational capital, are low and have hardly increased over the past decade. | Improve conditions for firms to invest in knowledge-based capital, including by reviewing the cap for R&D tax incentives to make them more applicable to mid-range companies. |
| The share of individuals and firms interacting with public authorities online is growing only slowly and Germany lags behind on open government data; the now mandatory e-procurement could be further improved. | Accelerate progress towards digital government and a data-driven public sector, focusing on high-impact services, collaboration across levels of government and open government data, and systematically collect and use data from e-procurement processes. |
| The use of ICT in schools lags behind most OECD countries and computational thinking and programming skills have much scope to improve, in particular among women. | Increase ICT training for teachers to ensure effective use of ICTs. Introduce computational thinking earlier (particularly benefitting girls) while avoiding gender stereotypes in education and career guidance. |

### Increasing labour market inclusion

| High marginal effective tax rates at the bottom of the income distribution create disincentives to expand labour market participation and can trap individuals in low-wage employment. | Reduce marginal effective tax rates for low income earners through slower and more coordinated withdrawal of social assistance, child supplement and housing benefits. |
| Mothers, even those with older children, often work part time. Flexible work arrangements can reduce part-time work. | Strengthen legal rights to flexible working arrangements for all employees, including teleworking where possible. |
| Occupational entry regulations affect a high share of the workforce, which leads to higher prices, slows labour market dynamism and hurts the ability of immigrants to use their skills. | Liberalise entry conditions, prioritising sectors subject to supply constraints (such as construction) and preserving the strengths of the vocational education and training system. |
| Germany has relatively strict rent control, which is associated with lower housing supply elasticities and reduced labour mobility. | Reduce strictness of rent controls in markets where more supply is needed, such as Berlin. |
1 Key policy insights
1.1. Investing to hasten the recovery and prepare for the challenges ahead

The German economy is experiencing a severe contraction in 2020 and the recovery will require sustained macroeconomic policy support. Germany managed the initial stages of the crisis well, as high health sector capacity and early testing, tracing and isolation of cases helped bring the initial virus outbreak under control with less stringent containment measures than in many neighbouring countries. A strong government response is protecting jobs and firms, using fiscal space from prudent budgeting before the crisis. The German government has taken a leadership role in establishing the EU Recovery and Resilience Facility, which will support the European recovery through EUR 750 billion in loans and grants to member states funded by new EU debt.

The COVID-19 crisis follows a decade-long expansion during which strong trade performance and domestic demand drove income growth and saw unemployment fall to the lowest level since reunification. Structural challenges loomed, however, from the digital transformation, population ageing and the energy transition. Policy needs to facilitate the shift to cleaner energy and new technologies in the automotive industry, while accelerating progress on digital transformation, which has become even more important due to the pandemic.

Before the crisis, wellbeing was generally high, with strong incomes, good work-life balance, above-average cognitive skills among students and good access to green space (Figure 1.1). Economic capital, greenhouse gas emissions and labour utilisation have seen consistent improvement over the past decade. However, health outcomes vary considerably by socio-economic status, exposure to air pollution has improved but remains high and the educational attainment of young adults – as measured by the Programme for the International Assessment of Adult Competencies (PIAAC) – and material footprint have worsened.

Income inequality had largely stabilised before the COVID-19 crisis, and due to a high level of redistribution, net income inequality is below the OECD average (Figure 1.2, Panel A). Nonetheless, the relative risk of living in poverty continued to rise, especially among children (Panel B). This happened even as unemployment declined to low levels, while the risk of poverty among the unemployed is the highest in the EU (Eurostat, 2018[1]). While strong government action has saved jobs, increases in the unemployment rate during the crisis may nonetheless push more households below the poverty line. Youth, women and low-wage workers are more prone to unemployment as they are concentrated in some heavily-hit industries. To counter the possibility of rising inequalities in the years to come, reforms will be needed to avoid trapping people in low-income jobs and foster gender equality.

Wealth inequality is high, with an upper decile share of 60%, compared with an average of below 50% in other OECD countries with available data. These data do not take into account some factors that contribute to equity, such as public pension wealth (which is just above the OECD average (Balestra and Tonkin, 2018[2])) or good access to government services such as free education. Drivers of high wealth inequality include low home and equity ownership rates, particularly among middle- and lower-income households, and large net wealth of firms concentrated among the upper decile (IMF, 2019[3]). High wealth inequality could hurt the opportunity for individuals to climb the social ladder. There is a strong association between family background and success at school (OECD, 2019[4]) and children of less wealthy parents show lower educational outcomes from their first year in school (Dräger and Müller, 2020[5]). School closures due to COVID-19 risk further increasing the gap between advantaged and disadvantaged students, due to differences in access to alternative educational activities and devices for online learning.
The recovery from the COVID-19 crisis is an opportunity to augment recent progress on climate change policy. Despite considerable success deploying renewables over the past two decades, Germany’s greenhouse gas emissions per capita are below the OECD average but higher than most European countries (Figure 1.3) and the reduction in carbon intensity since 2000 has been slower than the OECD average (Figure 1.4, Panel A). Even following recent policy steps including carbon pricing in transport and heating, Germany will need further measures to meet its 2030 target of reducing emissions by 55% relative to 1990 (Umweltbundesamt, 2020[6]; Prognos, 2020[7]). There is scope to improve governance, as ministerial accountability for annual sectoral targets encourages short-term fixes and the independent expert council has a narrower mandate than successful examples like the UK Committee on Climate Change.

Aside from the critical need to slow climate change globally, reducing fossil fuel use can improve wellbeing within Germany. Despite improvements over the past two decades, 90% of the German population is exposed to small particle pollution above the WHO-recommended threshold of 10 micrograms per m$^3$ (Figure 1.4, Panel B), which is worse than the OECD average and causes about 60 000 premature deaths per year (EEA, 2019[8]). The largest sources are commercial and household emissions, industrial processes and road transport (EEA, 2019[9]). Applying recent EU evidence (Dechezleprêtre, Rivers and Stadler, 2019[10]) to Germany suggests worker productivity could be at least 1% higher if average exposure...
was below the WHO threshold. Estimates for the UK suggest that national co-benefits could fully offset the resource costs of moving to net zero emissions by 2050 (UK Committee on Climate Change, 2019[11]).

Figure 1.2. Income inequality has largely stabilised, and is below the OECD average

A. Household disposable income

Gini coefficient, scale from 0 "perfect equality" to 1 "perfect inequality"

B. Poverty rate

Share of population with disposable income below the poverty line, %

Note: The poverty threshold is set at 50% of median disposable income. OECD21 is a simple average of the 21 OECD countries with data for all years. Source: OECD Income Distribution database (IDD)

StatLink 1 https://doi.org/10.1787/888934200356

Figure 1.3. Greenhouse gas emissions per capita are high compared with other European countries

Total greenhouse gases excluding land use, land use change and forestry, thousand kilograms per capita

Source: OECD Environment Database.

StatLink 1 https://doi.org/10.1787/888934200375
Barriers to resolving Germany’s public investment backlog need to be removed for infrastructure investment to contribute to the recovery. Lack of investment is holding back the transition to greener energy and transport, expansion of early childhood education, as well as productivity benefits of adopting digital technologies. The government is boosting public investment and incentives for private investment through setting aside EUR 50 billion as part of its recovery package. Sufficient fiscal capacity needs to be dedicated to well-directed public investment, including increased transfers to municipalities, while resolving local planning and construction industry capacity constraints. Connectivity bottlenecks in communications infrastructure require streamlining of administrative approvals and public funding while facilitating competition, for example through infrastructure sharing. Increased investment in social housing should be paired with better targeting.

Strengthening the foundations for the digital transformation is crucial to enable the German economy to adapt to structural challenges, with potential benefits for productivity, growth and well-being. The COVID-19 crisis heightens the importance of going digital, as firms’ reliance on ICT tools and activities, including for teleworking, remote learning and healthcare while maintaining social distancing increase demands for high-speed broadband, teachers’ ICT skills and telemedicine, all of which are behind in Germany. Foundational and ICT specialist skills are also important as the workforce adapts to the digital age, with better foundational skills holding potential to reduce inequality, secure opportunities for upward intergenerational social mobility and increase future participation in adult education.

Against this backdrop the Survey has three main messages:

- A strong government response to the COVID-19 pandemic has reinforced health system capacity while protecting jobs and firms. To aid the recovery, fiscal support should be withdrawn only gradually, labour market inclusion promoted and barriers to infrastructure investment removed while improving infrastructure governance.
- Digital transformation should be accelerated through enhancing fixed and mobile communication network coverage and quality, skills development, and easing barriers to technology diffusion, which include low investment in knowledge-based capital, digital security concerns, slow progress towards digital government, and sluggish business dynamism.
Continuing to boost investment in clean transport and energy infrastructure will support the economic recovery while contributing to the deep greenhouse gas emissions cuts needed. Sharper and more consistent price signals could efficiently bring down emissions in transport, buildings and electricity, as well as reduce waste by incentivising circular economic activities.

1.2. Germany has weathered the initial stages of the COVID-19 crisis well, but challenges loom

High health sector capacity and early testing, tracing and isolation of cases (including asymptomatic ones) contributed to bringing the first wave of the virus under control with less restrictive containment measures than in other major European countries (Figure 1.5). Before the pandemic started, Germany had a high number of intensive care beds per capita, the vast majority equipped with ventilators, and above OECD average numbers of doctors and nurses per head of population. More widespread use of digital technology in health care (Chapter 2, Box 2.3) would allow preparation for further waves of infection without compromising access and continuity of care for other patients.

Figure 1.5. Coronavirus cases in the first wave were brought under control with moderate restrictions on mobility

The economy contracted sharply in 2020

Economic activity contracted sharply during the first half of 2020, though less than in many neighbouring countries. Growth was slow entering the crisis (Figure 1.6, Panel A) and the collapse in private consumption and exports (Panel B) ended early signs of a recovery in business confidence (Panel C). Industrial production fell sharply (Panel D) but held up in construction, which was largely allowed to continue under containment rules. Comprehensive government support protected jobs and firms during the crisis (Box 1.1), allowing a quick restart in most sectors as containment measures were eased in May 2020. Accommodative monetary policy and expanded asset purchases by the ECB also helped by supporting aggregate demand. Resurgence of the virus in October 2020 has created uncertainty and triggered renewed nationwide containment measures in November. These measures were less strict than
those in the spring as retail and schools remained open, but nonetheless the closure of restaurants, hotels and entertainment venues reduced activity. GDP contracted by about 5½ per cent in 2020 (Table 1.1).

Figure 1.6. The COVID-19 crisis triggered a substantial economic contraction

The German government's strong action to underwrite liquidity and support small businesses is preventing a wave of insolvencies, but risks of business failure will increase if disruptions to economic activity endure (OECD, 2020[12]). Where the government supports firms via equity injections, it is important to minimise distortion to market selection by calibrating support to what is needed as well as targeting firms whose financial distress is related to the crisis, and which are likely to return to profitability. Support should be subject to clear conditions as regards the state’s entry, remuneration and exit, in accordance with the European Commission’s 2020 Amendment to the Temporary Framework for State Aid measures. There are opportunities to improve governance of state ownership in Germany via separation between commercial and public service activities and ensuring that the public body that exercises ownership rights is different to the body that regulates the sector (OECD, 2020[13]).
Box 1.1. Germany’s fiscal response to the pandemic

The protective-shield package

The first fiscal package in March 2020 was backed by a supplementary budget of EUR 156 billion (4.5% of GDP) to finance additional spending and cover reduced revenues. Health measures included procurement of protective gear, financial support to hospitals for keeping beds empty and increased funding towards vaccine research and development. To provide liquidity support to firms several measures were put in place. A EUR 50 billion hardship fund for self-employed individuals and small-business owners was set up to cover operating costs. Unlimited credit supply was guaranteed through new and existing programmes of the national development bank KfW, while government loan guarantees were increased. For larger firms, an economic stabilisation fund was established providing EUR 100 billion for equity injections, EUR 400 billion of guarantees for corporate liabilities, and a credit authorisation of EUR 100 billion to the KfW for refinancing purposes. The supplementary budget also made a separate EUR 357 billion increase to the guarantee framework. Tax deferrals and a temporary suspension of the obligation to file insolvency provided additional relief.

To protect jobs, the existing short-time work scheme was extended through lower eligibility thresholds, reimbursement of social-security contributions by the labour agency, increased wage replacement rates after more than three months, eligibility for temporary-agency workers and lifting restrictions on second jobs. Households were further supported by extended unemployment benefits, eased access to social and child benefits, and an eviction ban for tenants.

Labour market measures, notably short-time work, were extensively used, while there was little call on equity injections under the stabilisation fund (EUR 6.4 billion allocated) and guarantees (EUR 3.7 billion) as of 15 September 2020 and the hardship fund was underutilised (EUR 14.3 billion). Loans by KfW stepped up considerably, though EUR 44.4 billion in coronavirus-related commitments as of 15 September still represent only 12% of the increase in its guarantee framework. Most measures expire at the end of 2020, with notable exceptions being: extended unemployment benefits (31 March 2021), the economic stabilisation fund (end 2021) and short-time work (end 2021 for those on short-time work by the end of 2020).

The recovery package

The second package announced in June amounted to EUR 130 billion (3.8% of GDP) of spending in 2020 and 2021, with some further spending in later years. To finance the package, a second supplementary budget of EUR 61.8 billion was adopted. Measures to boost consumption include a reduction in value added tax (VAT) rates (from 19% to 16% and from 7% to 5%) between July 1 and December 31 2020 estimated to cost EUR 20 billion, a family bonus of EUR 300 per child and an increased subsidy for the purchase of electric cars. A follow-up hardship fund of EUR 25 billion for self-employed and small-business owners and further tax measures (such as a more generous loss carry back) support firms. Stabilising the renewables surcharge on electricity and keeping social-security contributions below 40% reduce burdens for both households and industry. Reimbursements for a loss in revenue and increasing the federal share for some social benefits provides financial relief to municipalities of roughly EUR 10 billion in 2020.

About EUR 50 billion seeks to respond to long-term challenges through public and private investment in the domains of digital transformation, education, health and green energy. The government plans to bring some already-planned public investment forward to 2020 and 2021, increase investments in childcare and all-day schooling, broadband and public transport, and accelerate the use of digital tools in administration and the health sector. Private investment will be encouraged by accelerated
The temporary VAT reduction during the second half of 2020 (Box 1.1 above) is stimulating private consumption. Previous examples suggest that the increase in consumption is mainly driven by bringing forward purchases of durable goods (Crossley, Low and Sleeman, 2014[14]). The VAT cut supports higher private consumption to the extent that the change in costs is passed on to consumers. Full pass-through would see prices fall by 1.8% (Bundesbank, 2020[15]). However, pass-through is unlikely to be total and may not be higher than 0.75, as was observed in the longer (13-month) VAT cut in the UK in 2008 and the 2007 permanent VAT rise in Germany (Carare and Danninger, 2008[16]). The additional effect on private consumption is expected to be around one per cent in the second half of 2020, which represents a fiscal multiplier of about one half. This is a high multiplier for a tax reduction and provides a rapid response to the drop in demand, but is still lower than estimated multipliers of about one for public investment and consumption (IMF, 2020[17]). Because temporal substitution effects dominate, an increase in prices and a decrease in private consumption, of a similar magnitude, can be expected in early 2021.

The temporary VAT cut is transparent and was implemented quickly after the lockdown ended. Broad application reduces the risks of lobbying to favour some industries over others. Even though it
is progressive as a share of income, most support goes to households from the top half of the income distribution. Ideally, by the time the VAT cut ends, the recovery would be sufficiently robust to withstand the hit to consumption. This will not necessarily be the case in January 2021.

The crisis reversed a decade of declining unemployment (Figure 1.7), though the increase was cushioned by the well-established short-time work scheme, whereby the government subsidises wage payments for employees whose hours are cut at companies in temporary distress. In April 2020, about 6 million workers or just under 20% of all dependent employees were in short-time work, significantly more than during the peak in 2009 (1.4 million). Although unemployment increased substantially in some heavily-hit sectors (Figure 1.8), firms have still relied more on short-time work than lay-offs compared with the global financial crisis (Weber and Gehrke, 2020[18]). In general, short-time work was well suited to protect viable jobs during the financial crisis when sectoral composition changed little. An extended downturn with virus containment measures continuing to affect some sectors over several years would increase the need for reallocation of labour. In view of the risk that the prolongation of more generous short-time work until the end of 2021 might lock workers into less productive jobs (Hijzen and Martin, 2013[19]), relaxed conditions for access and extended duration will only be available where short-time work began up to 31 December 2020 or 31 March 2021 respectively. Plans to end full reimbursement of social security contributions in June 2021 are welcome as this will make it more costly for firms to hold on to workers in non-viable jobs. This will also increase the incentive of employers to offer training for employees in short-time work, as 50% of social security contributions can then be waived. More active labour market policy, such as increased training opportunities or placement assistance, should also be considered. Some extension of short-time work was justified, however, as even with a swift recovery the labour market is unlikely to recover fully by the end of 2021. Falling wages and spare capacity will keep near-term inflation low.

**Figure 1.7. Unemployment has increased and wage pressures are muted**

1. Inflation refers to harmonised consumer price index (HICP) and core inflation excludes energy, food, alcohol and tobacco.
2. Average nominal wage per employee.
Source: OECD Economic Outlook database; Statistisches Bundesamt.

[StatLink](https://doi.org/10.1787/888934200451)
The German economy faces an enduring challenge from weak export demand, which will slow the recovery and mean it will need to be fuelled primarily by domestic demand. European countries, many of which were hit hard by the crisis, account for the majority of exports (Figure 1.9, Panel A). The concentration of German exports in capital goods (Panel B) exacerbates the challenge, as global investment has fallen due to uncertainty and weak demand. The automotive manufacturing industry faces weak demand as well as longer-term structural challenges (Box 1.2). As an open and trade-intensive economy strongly linked to global value chains, Germany relies heavily on export demand to fuel growth (Figure 1.11). Strong investment demand from China was an important source of growth following the global financial crisis: China accounted for 17% of German goods and services export growth in the decade from 2009, well above its 7% export share. Developments are likely to be less favourable this time as the Chinese economy slows and shifts towards consumption-led growth. Further increases in trade barriers, including due to the United Kingdom’s exit from the EU single market, are one of several downside risks to the outlook (Table 1.2). There are also potential upsides to trade if key trading partners recover more rapidly than expected, or to growth more generally if there were signs that an effective treatment or vaccine could be widely deployed earlier than late 2021.

Declines in the current account surplus during the crisis are primarily due to falling global demand for capital goods, which is set to continue into 2021. Germany’s large current account surplus reflects the gap between (high) saving and (low) domestic investment. The household saving rate remained steady at a high level in the decade leading up to the crisis, even as strong wage growth increased the labour share of income. However, corporate net saving turned negative in 2018 and 2019. Further success in increasing high quality public investment (see below) has potential to increase the growth rate, strengthen domestic demand and thus lead to a more sustained reduction in the current account. Policies promoting entrepreneurship, diffusion of new technologies, and skills would increase business investment in Germany. Measures in the recovery package to shorten the discharge period for bankruptcy to three years, support R&D and accelerate digital transformation are thus welcome. Tax reductions on low labour income, in addition to strengthening work incentives, would also help by boosting consumption. Measures to reduce
inequality such as removal of inheritance tax exemptions are also important to reduce the effect of skewed wealth distribution on private saving and thus the current account balance (IMF, 2019[3]).

**Figure 1.9. Manufactured capital goods dominate exports, with Europe the major destination**

Exports of goods and services, % of total, 2018

<table>
<thead>
<tr>
<th>A. By destination</th>
<th>B. By product and service</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America 11%</td>
<td>Road vehicles 14%</td>
</tr>
<tr>
<td>Asia &amp; Oceania 16%</td>
<td>Machinery and other transport equipment 26%</td>
</tr>
<tr>
<td>Other Europe 9%</td>
<td>Other manufactured goods 19%</td>
</tr>
<tr>
<td>Other EU 23%</td>
<td>Chemicals and related products 13%</td>
</tr>
<tr>
<td>Euro Area 34%</td>
<td>Services 18%</td>
</tr>
<tr>
<td>Other 7%</td>
<td>Other¹ 6%</td>
</tr>
<tr>
<td>Other 7%</td>
<td>Food and live animals 4%</td>
</tr>
<tr>
<td>Other 7%</td>
<td>Other¹ 6%</td>
</tr>
</tbody>
</table>

1. Other category includes crude materials and inedible materials, mineral fuels, lubricants and related materials, animal and vegetable oils, fats and waxes, commodities and transactions, n.e.s.

Source: OECD International Trade Statistics.

StatLink  
https://doi.org/10.1787/888934200489

**Table 1.2. Events that could lead to major changes in the outlook**

<table>
<thead>
<tr>
<th>Vulnerability</th>
<th>Possible outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple COVID-19 outbreaks over several years</td>
<td>Curtailment of activities where distancing is a concern, leading to firm failures and increased unemployment. Consumer and business uncertainty holding back consumption demand and investment, while depressed global demand weighs on exports, particularly of capital goods.</td>
</tr>
<tr>
<td>Financial amplification of COVID-19 crisis</td>
<td>Corporate and household defaults, weak demand for loans and low interest rates could trigger insolvencies among banks. Interbank relationships and guarantees have the potential to create systemic problems, leading to liquidity shortages and a protracted recession. Systemically important institutions risk creating too-big-to-fail problems for regulators.</td>
</tr>
<tr>
<td>Economic scarring effects from the COVID-19 crisis</td>
<td>Depressed long-term growth due to disrupted job matches, weak investment, supply chain disruption and failure of some sectors to recover where consumer preferences change.</td>
</tr>
<tr>
<td>Further increases in trade barriers globally</td>
<td>A new wave of protectionism would lower global trade and would be particularly harmful for Germany’s export-dependent economy and international supply chains, even more so if barriers to trade in automotive products increase. The United Kingdom’s exit from the EU single market could reduce German exports by 2.5% and GDP by up to 0.5% if this were to occur without a trade agreement, with the automotive manufacturing industry particularly badly affected (Centre for European Policy Studies, 2017[25]; Lawless and Morgenroth, 2019[26]; Felbermayr et al., 2017[27]).</td>
</tr>
</tbody>
</table>
Box 1.2. The uncertain outlook for automotive manufacturing

Demand for cars is estimated to have plunged in 2020, mainly due to the severe recession in Europe, before recovering – but not making up for lost sales – in 2021 (Figure 1.10). There is high uncertainty around future demand for cars, including the effect of the VAT reduction, new incentives to purchase electric vehicles and COVID-19-induced changes in consumer behaviour. The pandemic has forced many employees to work remotely, a trend that may continue, reducing demand for cars. Conversely, reluctance to use public transportation would increase demand for private cars.

The COVID-19 crisis adds to existing challenges from the transition to alternative power trains, electrification in particular. Electric cars contain fewer and simpler parts, and vehicle batteries – the most valuable component of electric cars – are not yet manufactured in Germany or by German manufacturers. Therefore, fast penetration of electric cars is expected to cause job losses and a decline in GDP (Heymann, 2020[20]). According to the Institute for Employment Research (IAB), if 23% of new cars are electric by 2035, 114 000 German jobs would be at risk and GDP would decline by 0.6 per cent (Mönig et al., 2019[21]). Other notable challenges are the increasing share of digital value in core products, a domain in which Germany is not an international leader, and the effect of changes in mobility patterns, particularly in cities, that are shaping the role, use and demand for cars (Chapter 2). An increase in trade barriers when the UK leaves the EU single market has been estimated to potentially reduce car exports from Germany to the UK by up to 15% by 2030 relative to business as usual (Karlsson, Melin and Cullinane, 2018[22]). Already between 2016 and 2019 there was a 26% decline (VDA, 2020[23]) due to depreciation of the pound and weaker demand.

Figure 1.10. Weak and uncertain demand in the wake of COVID-19

Demand for German made cars, index 2019 = 100

Note: Demand for cars manufactured in Germany is projected using OECD Economic Outlook forecasts and the historical relationship between car sales and fundamental drivers. The latter includes GDP per capita, population, unemployment and real oil prices, based on a panel of 56 advanced and emerging market countries for the years 2000–2010 (Klein and Koske, 2013[24]). Structural changes of the last decade, such as electrification and shared mobility, and policies implemented to support car demand are not taken into account.

Source: International Organization of Motor Vehicle Manufacturers (OICA); World Bank (2020) World Development Indicators Database; OECD Economic Outlook 108 (December 2020).
Bank vulnerabilities should be monitored closely

German banks on average have low profitability and medium to high leverage, which heightens vulnerability to increased corporate and household defaults, weak demand for loans and very low interest rates during the COVID-19 crisis. Credit growth has outpaced GDP since 2012 and accelerated in 2019 even as economic growth stalled (Figure 1.12, Panel A). Bank capital has increased relative to assets, though banks are still highly leveraged in gross terms, falling around the middle of the OECD range when the quality of capital and risk weights are taken into account (Panel B and C). The share of non-performing loans remained low as of early 2020 (Panel D). Low profitability hampers the build up of equity and provides incentives for excessive risk taking, while contributing to German banks’ slow progress in modernising their IT systems (German Council of Economic Experts, 2019[28]). Some initial indicators suggest that the pandemic may have triggered refragmentation within euro area financial markets (de Guindos, Panetta and Schnabel, 2020[29]), increasing the importance of deepening the capital markets union and removing possible barriers to cross-border banking mergers.

Policymakers need to prepare for severe adverse scenarios. Risks to financial stability were very high at the start of the COVID-19 crisis in March and April 2020, but the fiscal and monetary policy response helped avoid a financial amplification. The reduction of the countercyclical capital buffer and other supervisory measures also helped sustain credit and avoid bank deleveraging. The expected increase in corporate insolvencies is likely to increase pressures on banks, though this has been assessed as manageable if the pattern from previous recessions is followed (Bundesbank, 2020[30]). A more adverse scenario is possible if a sharp rise in corporate insolvencies is coupled with stress in real estate and financial markets. In this case, any need to recapitalise banks should be managed in a transparent manner, subject to proportionality, targeting as well as clear conditions for remuneration and exit. Further attention should be given to mechanisms regarding bank contingent convertible bonds, typically issued by larger banks. While these have been used less in Germany than in several other European countries (Bundesbank, 2018[31]), a forced conversion of these bonds to equity could contribute to broader contagion in European bank funding markets.

The regulatory toolkit should continue to be improved during the recovery (Table 1.3) and income-based macroprudential policies should be included. Their use should be supported by more granular data on borrowers’ risk profiles such as income and loan-to-value ratios, as well as credit statistics by region and type of lender. The collapse of Wirecard revealed possible weaknesses in accounting and financial regulation that the German government is working to remedy (Box 1.3). As in other OECD countries (see, for example, OECD (2019[32])) German financial institutions will face risks from climate change through structural changes as well as increasing physical risks.
Credit grew faster than output before the crisis and banks have medium to high leverage. 

Figure 1.12. Credit grew faster than output before the crisis and banks have medium to high leverage

A. Credit-to-GDP gap¹

B. Total capital relative to unweighted assets

C. Regulatory tier 1 capital to risk-weighted assets

D. Non-performing loans total gross loans

1. Credit-to-GDP gap is defined as the difference between the credit-to-GDP ratio and its long-term trend; in percentage points.

Source: IMF Financial Soundness Indicators database; BIS credit-to-GDP gap statistics.

StatLink 2 https://doi.org/10.1787/888934200546

Table 1.3. Past recommendations and actions taken on financial markets

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Action taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consider ways to improve the effectiveness of requirements to separate investment banking activities from retail banking. For example, give consideration to including securities held for market-making purposes in separation requirements and to focusing such requirements on derivatives exposures.</td>
<td>The German Bank Separation Act of 2013 requires credit institutions to separate their deposit and credit business and their trading activities on own accounts with financial instruments where certain thresholds are met.</td>
</tr>
<tr>
<td>Micro- and macroprudential regulation should address remaining risks emanating from the Landesbanken. Continue restructuring the Landesbanken, including through privatisation, consolidation or focusing on core activities according to a viable business model.</td>
<td>One of six Landesbanken was privatised in 2018. The remaining five Landesbanken have improved corporate governance and are subject to the same regulatory oversight as private counterparts.</td>
</tr>
</tbody>
</table>
Box 1.3. Government plans to reform financial regulation following the collapse of Wirecard

A multyear accounting fraud forced Wirecard – a fast-growing German fintech provider of digital payment services – to file for insolvency in June 2020 after its auditor for the previous 10 years stated that it could not confirm the existence of EUR 1.9 billion in cash balances on trust accounts. Most of Wirecard’s reported revenues came from three third party acquiring-partners, which processed Wirecard payment transactions outside of Europe due to regulatory reasons such as lack of licenses or other potential risks. Annual auditing of the sources and accuracy of these revenues was flawed. In February 2019, after negative publications led to a sharp drop in the stock price, the Federal Financial Supervisory Authority (BaFin) investigated allegations of market manipulation and introduced a two-month ban of short selling, citing Wirecard’s importance and the threat to market confidence. In April 2020, a special audit report, not conducted by the firm’s auditor, found that most of Wirecard profits reported from 2016 to 2018 could not be verified. By June banks in the Philippines had informed Wirecard’s auditor that documents detailing EUR 1.9 billion in cash balances were spurious.

Wirecard’s collapse revealed possible weaknesses in accounting and financial regulation. The Financial Reporting Enforcement Panel (FREP), a private sector body monitoring financial reports of listed companies, was late to intervene and is under-resourced. BaFin can ask FREP to open a probe into a company’s financial reports but has no power over the actual process, as it must wait for a FREP probe result before it can start its investigation. The government is developing an “action plan” to strengthen financial regulation, give BaFin new authority and force companies to change their auditors more frequently. Strengthening APAS, the body that oversees auditing firms in Germany, is also under consideration.


Reviving business dynamism is crucial for productivity growth

The crisis hit Germany following a decade of slow labour productivity growth (Figure 1.13). Although the slowdown was not unique to Germany, its demographics make productivity essential to drive potential growth. The crisis is set to further impair productivity growth as demand declined, investments fell, transactions costs increased and supply chains and schooling were disrupted (di Mauro and Syverson, 2020[33]). Conversely, adoption of new technologies during containment may provide a boost to productivity, as would accelerating digital transformation (Chapter 2).

Diminishing business dynamism is slowing the reallocation of resources and can hurt productivity growth, as well as deepen inequality. Before the crisis, business entry rates were on a continuous decline, alongside decreasing exits and bankruptcies (Chapter 2). Demand shifts due to the pandemic heighten the importance of resource reallocation. Weak incentives to move away from jobs that will eventually disappear, strict occupational regulations, temporary suspension of the obligation to file for insolvency (Box 1.1 above) and barriers to business formation could impede reallocation.
Regulatory barriers to competition have been reduced and are among the lowest in the OECD. However, a large number of procedures still have to be fulfilled before a business can start to operate, and most professional services are heavily regulated (OECD, 2018[4]). As recommended in previous Economic Surveys, reducing restrictive regulation in professional services (for example by abolishing price regulation for architects and engineers) while safeguarding quality standards and consumer interests could boost competition and reallocation of resources (Table 1.4).

Table 1.4. Past recommendations and actions taken on boosting productivity

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Action taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ease the conditions for bankrupt entrepreneurs to be discharged of debt after three years, while maintaining adequate safeguards for creditors.</td>
<td>Under a Federal Government draft law from 1 July 2020 the debt relief process will be shortened for entrepreneurs and consumers from six to three years, flanked by measures to prevent abuse.</td>
</tr>
<tr>
<td>Create a one-stop shop to process all procedures for starting up a company online.</td>
<td>Within the framework of PSC (point of single contact) it is possible to start a company online.</td>
</tr>
<tr>
<td>Reduce restrictive regulation in the professional services, safeguarding quality standards and consumer interests. Reduce exclusive rights, abolish price regulation for architects and engineers, give lawyers more options to deviate from the principle of effort-based remuneration and consider liberalising price regulation for notaries.</td>
<td>The federal cabinet has approved draft legislation to allow fees for architectural and engineering services to be freely agreed, with non-binding reference rates as a default, after the European Court of Justice ruled that the minimum and maximum fees for architects and engineers are not compatible with EU law.</td>
</tr>
<tr>
<td>Ease requirements to hold a tertiary level vocational degree or alternatively to have job experience in a leading position, for self-employment in some crafts.</td>
<td>In 2020, mandatory Meister qualification was reintroduced in 12 crafts occupations (such as container and apparatus manufacturer, cast stone and terrazzo manufacturer) that had been liberalised in 2004.</td>
</tr>
<tr>
<td>Scrutinise compulsory membership and chamber self-regulation in the professional services and crafts chambers for entry barriers and lower entry requirements where possible.</td>
<td>No action taken.</td>
</tr>
<tr>
<td>Strengthen the role of the rail transport regulator by improving its investigative and interventional competences. Move to full ex ante regulation of access conditions.</td>
<td>The investigative and interventional competences of the regulator have been strengthened by transposing the 4th EU railway package into national law in 2020.</td>
</tr>
<tr>
<td>Strengthen the analysis of the economy-wide impact of regulation. Establish an advisory body tasked with identifying and reviewing regulatory hurdles to higher productivity.</td>
<td>A National Productivity board was established in 2019 to analyse economic productivity and competitiveness developments and challenges. The tasks of this board lie with the German Council of Economic Experts.</td>
</tr>
<tr>
<td>Strengthen transparency on the role of lobbies in the design of new legislation and regulation, for example by providing more information in the lobbying register.</td>
<td>Following a federal cabinet decision in November 2018, stakeholder (lobbyist) comments received as part of consultation on draft bills and regulations are to be published during the current legislative period.</td>
</tr>
</tbody>
</table>
Lowering occupational entry regulations will boost labour market dynamism

Occupational entry regulations affect a significant share of the workforce (Figure 1.14). Entry regulations aim to protect consumers by reducing information asymmetries and standardise skill requirements. Most empirical studies find occupational licencing to have little effect on quality and the creation of skills, although in Germany, the effect on motivation to acquire skills may be stronger due to the strong link to the apprenticeship system. These limited benefits come at the expense of higher prices, primarily due to a reduction in competition, which also hurts productivity (Bambalaite, Nicoletti and von Rueden, 2020[35]). Additionally, entry regulations slow employment transitions and hold down wages for those who would like to enter a particular field, but do not have a licence. Across European countries, having a licence is associated with about 5% higher hourly wages, of which about one third can be attributed to entry restrictions (Koumenta and Pagliero, 2019[36]). In Germany, the self-employed licencing wage premium in crafts and related trades (such as hairdressers) is also higher, at 13% (Bol, 2014[37]).

A liberalisation act from 2004 cut down qualification requirements to open a business in the crafts sector, and nearly doubled the number of new entrants (Rostam-Afschar, 2014[38]) (Biewen, Fitzenberger and De Lazzer, 2017[39]). Nonetheless, in 2020, mandatory qualification was reintroduced in 12 out of the 53 liberalised occupations, on the basis of consumer protection and supporting apprenticeships. Regulators could rely more on certification instead of licencing, and more on quality standards for services rather than for the workers providing them. Reviews on digital platforms have the potential to support quality standards, especially where the purchase of a service has limited effect on others (Farronato et al., 2020[40]). The government should carry out a comprehensive review of the regulated professions and determine whether entry barriers remain justified given their economic costs. Less restrictive occupational licensing would encourage business dynamism and reduce prices. Together with steps taken to increase skills recognition (Chapter 2), it would also allow more immigrants to take advantage of their skills.

Figure 1.14. A high share of occupations are subject to licensing and certification
Share of occupations subject to licensing and certification, %, 2015

Note: Workers in licensed occupations declared that without having a professional certification, licence, or taking an entry exam, it would be illegal to practice their occupations. Workers in certified occupations proclaimed that they have a license, certificate, or that they passed an exam to practice their occupation. However, it would not be illegal to practice their occupations without it. In Germany, entry regulations are particularly strict when it comes to agriculture, craft and technician related occupations and personal services. In professional occupations, entry barriers are above, but closer to those in other European countries.

Source: (Koumenta and Pagliero, 2017[41]) and (Koumenta and Pagliero, 2016[42]), based on the EU Survey of Occupational Regulation.

StatLink: https://doi.org/10.1787/888934200584
Corruption is low, but there is room to improve transparency

Corruption reduces growth by creating business uncertainty, slowing processes, imposing additional costs and eroding trust in governments. In Germany, bribery rates are low (Figure 1.15) and in 2017, only 3% of Germans stated they had experienced a case of corruption, compared with 5% in the EU (European Commission, 2017[43]). Favouritism and close links between business and politics are more significant concerns. For example, a high share of managers in Germany believes that funding political parties in exchange for public influence is a widespread phenomenon (European Commission, 2017[44]).

Germany is among the strongest enforcers of the OECD Anti-Bribery Convention. Germany actively uses a variety of sources to detect foreign bribery, including tax authorities. Nonetheless, there is room to improve enforcement, notably by introducing a system of conditional resolutions for legal persons and transparent rules for self-reporting by companies. Together with the in-depth revision of its confiscation regime and the creation of a Federal Debarment Register, implementing the coalition commitment to tie the punitive fine against legal persons to the company’s turnover should contribute to making sanctions effective, proportionate and dissuasive.

1.3. Updating fiscal policy to enhance wellbeing

Fiscal policy to support the recovery

Once the recovery is fully established, the pace of withdrawal of fiscal support will need to be carefully managed. The current fiscal stance is strongly expansionary, with around EUR 140 billion (4¼ per cent of GDP) of discretionary spending and tax cuts in 2020. This is appropriate given the scale of the downturn, available fiscal space due to prudent budgeting in previous years and the ECB’s limited scope to ease monetary policy further. The budget is not in structural deficit, so withdrawal of support will consist roughly equally of phasing out stimulus measures and automatic stabilisers, but even so will negatively affect growth. A return to the debt brake target (Box 1.4) from 2022 would see debt returning to the pre-crisis level of 60% of GDP even under an adverse growth scenario (Figure 1.16, Panel A). However, the pace of reduction in deficits required to meet the debt brake in 2022 if growth is weak, for example if there are further virus outbreaks, far exceeds that in the wake of the global financial crisis and risks derailing the recovery (Panel B). One option is to allow an incremental move to smaller deficits, as when the debt brake was first introduced. An alternative would be to put enough money into reserves to smooth the consolidation path.
Figure 1.15. Perceived risks of corruption are low

A. Corruption Perceptions Index
Scale: 0 (worst) to 100 (best), 2019

B. Control of corruption
Scale: -2.5 (worst) to 2.5 (best), 2019

C. Evolution of “Control of Corruption”
Scale: -2.5 (higher) to 2.5 (lower corruption)

D. Corruption by sector, “Control of Corruption”
Scale: 0 (worst) to 1 (best), 2019

E. Tax transparency
Exchange of Information on Request

Note: Panel B shows the point estimate and the margin of error. Panel D shows sector-based subcomponents of the “Control of Corruption” indicator by the Varieties of Democracy Project. Panel E summarises the overall assessment on the exchange of information in practice from peer reviews by the Global Forum on Transparency and Exchange of Information for Tax Purposes. Peer reviews assess member jurisdictions’ ability to ensure the transparency of their legal entities and arrangements and to co-operate with other tax administrations in accordance with the internationally agreed standard. The figure shows first round results; a second round is ongoing.

Source: Panel A: Transparency International; Panels B & C: World Bank, Worldwide Governance Indicators; Panel D: Varieties of Democracy Institute; University of Gothenburg; and University of Notre Dame; Panel E: OECD calculations based on materials from the Global Forum on Transparency and Exchange of Information for Tax Purposes.

StatLink https://doi.org/10.1787/888934200603
The debt brake has been effective at overcoming the bias toward deficits in government budgeting and reducing debt, providing fiscal space for exceptional support during the crisis. However, under low real interest rates, debt declines more quickly for a given primary balance and the costs of debt are lower (Blanchard, 2019[45]). Thus, a fiscal rule that was appropriate when adopted in 2009 would now be more restrictive than required to re-stabilise debt in the long term, though this could change again if high global debt triggered an increase in interest rates. Further, there is a difference between the EU Fiscal Compact, which allows for larger deficits once debt falls below 60%, and the debt brake, which would see consolidation continue. This difference is projected to again become relevant in the 2030s as debt falls below this threshold. In the past, fiscal outcomes have consistently been tighter than necessary to meet the debt brake, which contributed to successfully reducing debt but also means care is needed to ensure that *ex ante* budgeting does not impede beneficial spending. A structural deficit limit that is less stringent at lower debt levels but still aligned with the EU Fiscal Compact could be considered to support growth-oriented public investment in the medium to long term, taking into account the political economy of changing the debt brake in the constitution.

Recommendations in this survey would see a slower pace of consolidation in 2022 and sustained higher spending (Table 1.5), leading to somewhat higher levels of debt. Public investment proposed in this survey to resolve the infrastructure backlog and prepare for the energy transition, digital transformation and ageing could be financed without compromising debt sustainability and would boost GDP through immediate fiscal stimulus and long-term capital deepening (Figure 1.16, Panel C; Box 1.5). The long-term increase in spending could go further: expanding spending in line with increases in ageing-related costs (reaching 1% of GDP by 2050) is projected to be consistent with stabilising debt at below 60% of GDP. Tight budgets during the consolidation phase increase the importance of appropriately prioritising spending. As set out in the 2018 *Survey*, broadening the scope of spending reviews (Table 1.6) and integrating them into budgeting procedures would help to set priorities and reallocate funding.

---

**Box 1.4. German fiscal rules and targets**

In the EU Fiscal Compact, ratifying countries, including Germany, have committed to a medium term structural deficit limit of 0.5% of GDP. Countries with a debt-to-GDP ratio well below 60% can target a higher structural deficit of 1% of GDP.

Under its constitutional debt brake, a structural deficit limit of 0.35% of GDP applies to the federal government and, from 2020, balanced budget rules to the Länder. Any deviation from the 0.35% federal target is posted to a control account, with consolidation measures implemented during upswings if the control account exceeds a negative balance of 1% of GDP. Structural borrowing in excess of 0.35% of GDP is only allowed under an emergency situation, as declared in 2020. Surpluses from earlier years allocated to reserves, such as the refugee reserve, can however be used to temporarily fund additional spending. This provides additional flexibility by allowing surpluses to be shifted from one year to another, which can be significant given the size of reserves: the refugee reserve had a balance of EUR 48 billion (1.4% of GDP) at the end of 2019. The control account, which unlike reserves cannot be used to fund structural deficits in excess of 0.35% of GDP, had a balance of EUR 52 billion (1.5% of GDP) at the end of 2019.

The federal government until 2020 had an additional, more stringent self-imposed fiscal target of a balanced nominal budget, referred to as the “black zero”. As for the debt brake, reserves can be used to meet the target, and special funds and other off-budget entities can facilitate some net borrowing.

The pace of future consolidation will need to be carefully managed. The baseline scenario is based on the OECD Economic Outlook No. 108 forecast and the OECD Long-Term Economic Model. The debt brake is reimposed in 2022, with some borrowing enabled in that year through the use of reserves and a small structural surplus from 2023 as up to 0.35% of GDP in federal lending is offset by a small aggregate surplus for the Länder and repayment of exceptional borrowing during the COVID crisis. Structural consolidation in 2023 slows the recovery in that year based on a fiscal multiplier of 0.75. Thereafter GDP is assumed to grow slightly above potential for the next decade and converge to potential growth of around 0.8%. Inflation is assumed to converge to 1.8% by 2024 and the interest rate on government debt to increase slowly, reaching 1.2% in 2030 and 1.8% in 2050.

The adverse scenario is based on the double hit scenario in OECD Economic Outlook No. 107, whereby prolonged effects from another virus outbreak disrupt the recovery. Scarring effects mean that there is a permanent loss of output, with potential growth assumed to be 0.2ppts lower for the duration of the analysis. The debt brake is enforced from 2022 onward, though with greater use of reserves in that year to smooth the return to a small structural surplus.

The "not offsetting increase in ageing-related costs" scenario allows additional government debt to cover the net cost to government of increases in public pensions, long-term care and health care as a consequence of population ageing, based on European Commission projections. The "increased investment" scenario has a permanent debt-financed 1% of GDP increase in public investment from the baseline scenario. Fiscal stimulus effect in the first year of increased investment estimated using fiscal multiplier estimates from the literature summarised in Gechert and Rannenberg (2018(a)). Capital deepening effect after 10 years estimated using the OECD long-term model (central estimate) and the range of estimates for crowding-in and crowding-out of private investment for Germany from Afonso and St Aubyn (2008(b)).

Table 1.5. Potential fiscal impact of OECD recommendations

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Budgetary impact (annually, % of GDP)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Short term (2022)</td>
</tr>
<tr>
<td>Further increase debt-financed public investment</td>
<td>-1.0</td>
</tr>
<tr>
<td>Increase emissions pricing to at least EUR 60/tonne¹</td>
<td>0.2</td>
</tr>
<tr>
<td>Eliminate the commuter tax credit</td>
<td>0.2</td>
</tr>
<tr>
<td>Reduce the rate at which transfer payments are withdrawn with increasing income²</td>
<td>-0.2</td>
</tr>
<tr>
<td>Reduce taxation of labour income, while removing inheritance tax exemptions, raising reduced VAT tax rates to the standard rate, and strengthening environmental, property and capital income taxation</td>
<td>-0.1</td>
</tr>
<tr>
<td>Increase the eligibility cap of R&amp;D tax incentives to EUR 10 million³</td>
<td>-0.04</td>
</tr>
<tr>
<td>Total</td>
<td>-0.9</td>
</tr>
</tbody>
</table>

1. Based on a doubling of the carbon price in 2022 from EUR 30/tonne to EUR 60/tonne and just under a doubling of revenue, allowing for lower emissions. 2. Conservative estimate based on adjustment in labour supply and wage rates as well as removal of the withdrawal-free earnings allowance (Bertelsmann Stiftung, 2017[49]). Other simulations show a positive budgetary effect (Blömer, Litsche and Peichl, 2019[50]). 3. Beyond the government’s temporary increase to EUR 4 million.
Source: OECD calculations, (Bertelsmann Stiftung, 2017[49]).

Table 1.6. Past recommendations and actions taken on fiscal policy and pensions

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Action taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduce spending reviews more broadly at the federal and Länder levels and use them to reallocate funding across broad spending fields.</td>
<td>No action taken.</td>
</tr>
<tr>
<td>Focus additional pension entitlements on reducing future old age poverty risks, for example by phasing out subsistence benefit entitlements more slowly as public pension entitlements rise. Fund such additional spending from general tax revenue instead of higher payroll taxes.</td>
<td>A basic pension (Grundrente) financed from general tax revenue will come into effect in 2021, raising pensions for individuals with low entitlements. Individuals with at least 33 years of contributions will be eligible, the supplement will gradually increase reaching the maximum amount for individuals with 35 or more years of contributions. Additional income of the recipient will be credited against the basic pension only above certain income allowances. Also, some part of the basic pension will be exempt through special allowances for social benefit support in old age and for housing allowances.</td>
</tr>
<tr>
<td>Make enrolment in public old-age pension mandatory for the self-employed who are not covered by old-age pension insurance. Open access to public health insurance to all self-employed.</td>
<td>In the coalition agreement of 12 March 2018, the introduction of an obligation to provide for old age was agreed, but legislation was still being drafted in 2020. The federal government’s pension commission in May 2020 recommended adjustments to the pension system, including mandatory insurance for self-employed persons and a gender-specific impact assessment of pension system changes (Kommission Verlässlicher Generationenvertrag, 2020[8]).</td>
</tr>
<tr>
<td>Index the legal pension age to life expectancy.</td>
<td>The standard retirement age is being gradually increased to 67 years in the year 2031. The pension commission proposed a permanent old-age security advisory body (Alterssicherungsbeirat) to look into the question of further reforms with regard to the legal pension age in 2026.</td>
</tr>
<tr>
<td>Raise the pension premium for starting to draw old-age pensions later in life and do not reduce pensions for old-age pensioners who work.</td>
<td>The law on flexible transition from working life to retirement and strengthening of prevention and re-habilitation in working life (&quot;Flexrentengesetz&quot;) allows for more self-determined combinations and transitions since 2017, including combining a partial pension and wage earnings without loss of pension entitlement.</td>
</tr>
<tr>
<td>Reduce operating costs of subsidised, individual pension plans by improving comparability among providers.</td>
<td>Since 2017, providers of subsidised individual pension plans are obliged to disclose operating costs and how much they reduce yield.</td>
</tr>
<tr>
<td>Strengthen insurance against disability, for example by making it easier to claim legitimate private disability insurance benefits</td>
<td>Legislation taking effect in 2019 improved benefits in case of reduced earnings capacity in statutory pension insurance. The qualifying period will be gradually increased to 67 years by 2031. The supplementary period treats individuals with reduced earning capacity in the same way as if they had continued working and paying contributions at their previous average income over the period.</td>
</tr>
<tr>
<td>Remove barriers to the portability of civil servant pensions.</td>
<td>No action taken.</td>
</tr>
<tr>
<td>Strengthen supervision of direct pension commitments of</td>
<td>No action taken.</td>
</tr>
</tbody>
</table>

OECD ECONOMIC SURVEYS: GERMANY 2020 © OECD 2020
Shifting the tax burden from labour income towards consumption, environmental externalities (Figure 1.17, Panel A), real estate and capital income could support economic growth as well as social and environmental objectives. The tax burden on low labour income is high, reflecting high social security contributions. Property taxes based on outdated valuations (to be updated by 2025), exemptions to inheritance and capital income taxes contribute towards high wealth inequality. As argued in the 2016 Survey, tax rates on household capital income should be more closely aligned with personal income tax rates, while inheritance tax exemptions for family firms lock in capital, harming reallocation. Exemptions are also regressive: the average effective tax burden on those paying tax on inheritance of less than EUR 500,000 exceeds 10%, but is just 1.8% on those inheriting EUR 20 million or more (DIW, 2016[55]).

Pricing of carbon dioxide emissions under the Climate Action Programme 2030 is a big step in the right direction but needs to become more ambitious. An efficient emissions price would increase over time in line with global costs, providing an incentive for firms and households to shift to lower emission fuels or reduce energy consumption. Emissions pricing can have a disproportionately large effect on low-income households, who spend a relatively higher share of disposable income on energy. This should be remedied directly through complementary distributional measures as discussed below. Economic costs of moderate emissions pricing have turned out to be small so far: evidence exploiting jurisdictional variation in Europe and Canada typically finds no significant effect of carbon pricing on employment or GDP growth (Metcalf and Stock, 2020[52]); empirical assessments typically find no statistically significant effects on competitiveness in the electricity and industrial sectors (Ellis, Nachtigall and Venmans, 2019[53]); and experience with carbon pricing in France shows that this can cut manufacturing emissions without a net loss of employment (Dussaux, 2020[54]).

In Germany, less than one fifth of emissions have historically been subject to a price at or above a low-end estimate of external carbon costs in 2015 (Figure 1.17, Panel B). Planned emission prices until 2025 remain below EUR 60/tonne, which is a midpoint estimate of carbon costs in 2020 and a low-end estimate for 2030 (OECD, 2018[85]). The planned carbon price schedule in the transport and buildings sectors is unlikely to be sufficient to meet emission reduction targets (Bach et al., 2020[56]; Umweltbundesamt, 2020[6]; Prognos, 2020[7]), a situation that would be exacerbated if 2030 targets are revised in line with new EU targets. An auction reserve price, or a carbon price support, could incentivise clean investment and additional abatement in the electricity and industry sectors, which are part of the EU Emissions Trading Scheme (Box 1.6).

| employers. Make contributions to the risk-pooling scheme dependent on risk indicators. | No action taken. |
| Strengthen experience-rating in employer contributions to work accident and disability insurance. | No action taken. |
| Include private insurers in the financing system based on the central health fund. | No action taken. |
| Reduce social security contributions, notably for low income workers. | The earnings range that benefits from reduced social security contributions (midijob) has been extended to EUR 1 300 (from previously EUR 850). Since 2019, the additional health insurance contribution is equally paid by employees and employers (previously only by employees) and contributions to unemployment insurance decreased by 0.1 points each in 2019 and 2020. The contribution rate to long-term care insurance increased by 0.5 points in 2019. A 40% cap on social security contributions was announced in the June 2020 recovery package, financed by the federal budget. |
| Re-allocate administration of the collection of taxes that accrue to the federal government or are shared between the different layers of government from the Länder to the federal government. | No action taken. |
| Raise the tax rates applying to household capital income towards marginal income tax rates applying to other household income. | No action taken. |
| Encourage healthy lifestyles by raising taxes on alcohol and tobacco and reviewing regulation. | From 2021 onwards, tobacco advertisement will be further limited, including for tobacco heaters from 2023 and for electronic cigarettes from 2024. |

**Greening the tax mix**

Shifting the tax burden from labour income towards consumption, environmental externalities (Figure 1.17, Panel A), real estate and capital income could support economic growth as well as social and environmental objectives. The tax burden on low labour income is high, reflecting high social security contributions. Property taxes based on outdated valuations (to be updated by 2025), exemptions to inheritance and capital income taxes contribute towards high wealth inequality. As argued in the 2016 Survey, tax rates on household capital income should be more closely aligned with personal income tax rates, while inheritance tax exemptions for family firms lock in capital, harming reallocation. Exemptions are also regressive: the average effective tax burden on those paying tax on inheritance of less than EUR 500,000 exceeds 10%, but is just 1.8% on those inheriting EUR 20 million or more (DIW, 2016[55]).

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Box 1.5. Simulation of the potential effect of structural reforms

The estimated impact of some key structural reforms proposed in this Survey are calculated using historical relationships between reforms and growth in OECD countries (Table 1.7). As these simulations abstract from detail in the policy recommendations and do not reflect Germany's particular institutional settings, the estimates should be seen as purely illustrative.

Table 1.7. Illustrative economic impact of some reforms proposed in this survey, after 10 years

<table>
<thead>
<tr>
<th>Reform Description</th>
<th>GDP per capita (%)</th>
<th>Through employment (percentage points)</th>
<th>Through productivity (percentage points)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Further increase debt-financed public investment</td>
<td>1.1</td>
<td>1.1</td>
<td></td>
</tr>
<tr>
<td>Increase parental leave for fathers¹</td>
<td>0.5</td>
<td>0.3</td>
<td>0.2</td>
</tr>
<tr>
<td>Reduce taxation of labour income, while removing inheritance tax exemptions, raising reduced VAT tax rates to the standard rate, and strengthening environmental, property and capital income taxation</td>
<td>0.5</td>
<td>0.5</td>
<td></td>
</tr>
<tr>
<td>Reduce rent control to close half the gap to the lowest level (Finland)²</td>
<td>0.9</td>
<td></td>
<td>0.9</td>
</tr>
<tr>
<td>Reduce occupational entry regulation to close half the gap to the lowest level (Sweden)</td>
<td>0.8</td>
<td></td>
<td>0.8</td>
</tr>
<tr>
<td>Boost fundamental skills, by improving teacher quality, postponing tracking and increasing general education in vocational education³</td>
<td>0.1³</td>
<td></td>
<td>0.1</td>
</tr>
<tr>
<td>Increase eligibility cap for R&amp;D tax incentives to EUR 10 million</td>
<td>0.1</td>
<td></td>
<td>0.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4.0</strong></td>
<td><strong>0.8</strong></td>
<td><strong>3.2</strong></td>
</tr>
</tbody>
</table>

¹ Based on a temporary increase in women’s employment and productivity for the first three years after birth of a child from a five week increase in paternity leave entitlement drawing on Patnaik (2019[57]), with offsetting reduction in fathers’ employment. ² Long-term gain in productivity from reducing skills mismatch. ³ Benefits of improving fundamental skills (increase mean PISA score by 10 points in 20 years) accrue slowly, increasing to 5% of GDP after 50 years.


Figure 1.17. Environment-related taxes are low and less than one fifth of emissions were subject to substantive carbon pricing in 2015

A. Environment-related taxes % of GDP, 2018

B. Percentage of CO2 emissions priced at or above 2015

Note: EUR 30 per tonne of CO2 is a low-end estimate of the social cost of carbon today. EUR 60 per tonne is a midpoint estimate of carbon costs in 2020, as well as a forward-looking low-end estimate of carbon costs in 2030.

Box 1.6. The EU Emissions Trading Scheme and Market Stability Reserve

The EU Emissions Trading Scheme has operated since 2005, covering CO\(_2\), N\(_2\)O and PFC emissions from electricity generation, industry and intra-EEA flights in 23 European countries. Large emitters are required to hold permits equal to the quantity of their emissions. Around half of German greenhouse gas emissions are covered due to a high share of emissions from coal-fired generation, compared with 40% on average in the EU. The Market Stability Reserve, introduced in 2019, withdraws permits from the market if thresholds for the number of permits in circulation are exceeded and, from 2023 onwards, can trigger cancellation of permits. This aims to stabilise permit prices and can reduce the “waterbed” effect whereby additional abatement in one country allows an increase in emissions elsewhere.

Sources: OECD (2018[55]); Flues and van Dender (2020[58]); European Environmental Agency (2019[59]).

Support for renewable electricity has been successful in achieving considerable expansion in renewable generation over the past two decades (Figure 1.18). This has been funded by household and industry consumers, who on average pay among the highest prices in OECD countries (IEA, 2019[60]). The burden on some users is pushed even higher because over 40% of electricity use by industry is at least partially exempt from the surcharge. The extent of exemptions is not justified by the small impact of energy sector emissions pricing on competitiveness (Ellis, Nachtigall and Venmans, 2019[53]; Dechezleprêtre, Nachtigall and Venmans, 2018[61]). Government plans to reduce the renewables surcharge are therefore welcome, not only for distributional reasons (discussed below) but to make abatement more efficient by removing a barrier to electrification.

Incentives should be better aligned with environmental objectives through a comprehensive review of the tax system, as foreshadowed under the long-term Climate Action Plan 2050. Diesel is taxed at a lower rate than gasoline on a per litre basis, even though burning diesel emits more CO\(_2\) and is more harmful to human health. Coal and heating oil are taxed at lower rates than natural gas. Kerosene used in commercial aviation benefited from more than EUR 7.5 billion in tax relief in 2017 (Zerzawy, Fiedler and Mahler, 2017[62]).

Figure 1.18. Renewable power generation has expanded substantially
Gross electricity generation by energy source, TWh


StatLink  https://doi.org/10.1787/888934200660

Little progress has been made in reducing greenhouse gas emissions from transport (Figure 1.19). Car ownership is high and progress in the deployment of electric cars is lagging most western European
countries (Figure 1.20). Legal obstacles have held back the expansion of charging infrastructure (Mattes, 2019[63]). Recent steps to expand public transport, support deployment of electric vehicles (in particular, through developing the charging network and strengthening rights to install charging facilities in apartment buildings) and tax carbon emission in transport move in the right direction, but achieving the 2030 target will still be challenging.

Better reflecting external effects through price signals in vehicle purchase and road use offers potential to reduce pollution, signal more accurately where new capacity is needed and shift demand towards more sustainable transport modes. For example, Israel reformed vehicle purchase taxation based on five key pollutants, resulting in around 83% of all new cars being in the lowest pollution grades in 2014, compared with 19% in 2009 (OECD, 2016[64]). Introducing road user charging scaled in proportion to pollution, congestion and damage to road surfaces would better reflect the costs of car use while helping to replace fuel taxes in funding infrastructure as electric vehicles replace conventional ones. Policy should seek to ensure accessibility to jobs, services and amenities through giving priority to sustainable transport modes, such as walking, cycling and public transport, while using urban planning systems to create proximity between people and places they go to for work and leisure (OECD, 2019[65]). Promoting teleworking would also help, which requires policies to help diffuse managerial best practices, self-management and ICT skills, investments in home offices, and fast and reliable broadband (OECD, 2020[66]). As argued in the 2018 Survey, policies to deploy ICT-based ride sharing would facilitate the low-carbon transport transition if this partly replaces individual car use (Table 1.8). The automotive manufacturing industry has an important role to play in reducing emissions, but also faces risks from associated structural changes (Box 1.2 above).

Figure 1.19. Transport emissions have not fallen as much as those from other sectors
Greenhouse gas emissions by sector, million tonnes of carbon dioxide equivalents

1. Emissions from households, commerce, trade & services, agriculture, waste and waste water and other emissions.

StatLink | https://doi.org/10.1787/888934200679
Figure 1.20. Passenger cars

A. Motorisation
Number of passenger cars per 1 000 inhabitants, 2018

B. Market share of new electric cars¹
%, 2019

1. This includes Battery Electric Vehicles (BEV) and Plug-in hybrid electric vehicles (PHEV).
2. The category “others” includes Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malaysia, Malta, Poland, Romania, Slovakia, Slovenia, Spain, Switzerland and Turkey.

Table 1.8. Past recommendations and actions taken on fostering green growth

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Action taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eliminate exemptions and reduced energy tax rates, except if they are</td>
<td>No action taken.</td>
</tr>
<tr>
<td>designed to avoid double taxation, notably in sectors covered by the EU</td>
<td></td>
</tr>
<tr>
<td>Emissions Trading Scheme.</td>
<td></td>
</tr>
<tr>
<td>Extend charging station infrastructure to promote electrification of</td>
<td>The Climate Action Programme 2030 expanded federal funding programmes for charging station infrastructure on a large scale and additional funding was announced in the June 2020 recovery package. The Federal Government also published a “Masterplan Charging Infrastructure” to ensure a coordinated effort.</td>
</tr>
<tr>
<td>road transport.</td>
<td></td>
</tr>
<tr>
<td>Develop congestion pricing.</td>
<td>No action taken.</td>
</tr>
<tr>
<td>Remove regulatory hurdles to ride sharing services and allow them to serve</td>
<td>The Transport Ministry is reviewing the Passenger Transportation Act with a view to strengthen on-demand services and ensure a fair balance between different transport modes, after a December 2019 court ruling banned Uber from offering ride-hailing services.</td>
</tr>
<tr>
<td>public transport.</td>
<td></td>
</tr>
<tr>
<td>Introduce taxation of NOx emissions of large emitters. Tax cars</td>
<td>No action taken.</td>
</tr>
<tr>
<td>according to their NOx emissions.</td>
<td></td>
</tr>
<tr>
<td>Phase out tax expenditures for activities that damage the environment</td>
<td>The Climate Action Programme 2030, agreed in late 2019, included a carbon pricing system in transport and heating. A new law is planned to increase prices before the start of the system in 2021. Prices are going to increase from EUR 25/tonne of CO2 in 2021 to EUR 55/tonne in 2025, followed by a transition to emissions trading.</td>
</tr>
<tr>
<td>without harming international competitiveness, and better align environmental</td>
<td></td>
</tr>
<tr>
<td>taxation with negative externalities. For example, raise taxes on diesel.</td>
<td></td>
</tr>
</tbody>
</table>

Phasing out coal-fired power generation is important to reduce emissions

Coal-fired power generation is a major source of greenhouse gas emissions in Germany and the main reason its per capita emissions exceed those in most other European OECD countries. The parliament passed legislation in July 2020 to end coal-fired power generation by 2038, potentially brought forward to 2035.

Stronger price signals have the potential to curtail emissions from coal-fired power stations even while they remain operational. Renewable power generation is becoming increasingly competitive and a shift away from coal generation in 2019 occurred under an EU Emissions Trading Scheme price that remained below
EUR 30/tonne, demonstrating the relatively low cost of curtailing emissions from coal as documented in the previous Survey. Coal generation should be replaced primarily by renewables, but there is also a complementary transitional role for gas to play as a lower-emissions fuel that can be ramped up quickly when intermittent renewables are not operating. Reducing coal-fired power generation would have well-being benefits through ending mandatory resettlements in lignite (brown coal) mining regions, protecting forests and reducing air pollution. Mining and burning of lignite is responsible for around half of Germany’s mercury, one third of its sulphur dioxide and one tenth of its nitrogen oxide emissions (Agora Energiewende, 2017[67]). Priority should be given to removing barriers to the continued rollout of renewables (see below) and strengthening the EU Emissions Trading Scheme, including through a floor price, which would give greater certainty to renewable investment.

The coal exit will have only a small effect on the German economy as a whole, but negative effects will be concentrated in relatively poor regions (Table 1.9). These regions will be affected by the discontinuation of mining and energy industry jobs that pay significantly above-average wages, with further indirect effects on service providers and suppliers. Historically, lignite mining regions have struggled to create new industries as mining has declined.

Compensation for affected households and regions requires careful design

The federal government has announced EUR 40 billion in support for coal mining regions until 2038, in addition to financial support of up to EUR 5 billion for related early retirement. The government’s effort to support regions and workers to achieve a just transition is commendable, as regional effects can otherwise derail action to cut emissions. Funding focuses on supporting infrastructure, innovation and job markets. Such an approach, incorporating interventions tailored to specific regions, accords with best practice, and the support aims to improve regional economies and inequalities beyond just the affected employees. The quantum of support is substantial, however, amounting to about EUR 580 000 per directly and indirectly affected employee based on estimates of black coal, lignite and related employment from the Commission on Growth, Structural Change and Employment (2019[68]). While in this case some spending may have occurred anyway as it counters regional inequality and aligns with the recommendations of the Commission on Equal Living Standards, applying a similar approach more broadly could significantly increase the fiscal costs of greenhouse gas abatement.

Also positive are the government’s efforts to actively manage distributional consequences of carbon pricing via reduced electricity prices, which can cushion vulnerable households and increase citizen support. However, reduced electricity prices will only partly offset the increase in energy costs due to the carbon price and, overall, the biggest burden will still fall on low-income households (Bach et al., 2020[56]). This could be avoided by small transfers to low-income households, for example through existing social support systems. Another measure in the Climate Action Programme 2030 is an increase in the tax credit for long distance travel to work. The entire tax credit should be abolished instead, as it encourages car use and therefore emissions, with the biggest benefits going to high-income earners who commute over long distances (Edenhofer et al., 2019[69]).

The German government has agreed to pay EUR 4.35 billion to the owners of lignite-fired power plants. On the one hand, these payments are in contradiction to the “polluter pays” principle and increase the fiscal cost of reducing emissions. On the other hand, potential future costs from legal remedies are prevented. Payments to coal-fired generators aim to address concerns of investor risk from government policy change by compensating for lost profits and the waiver of legal remedies. However, governments do not guarantee that regulation will remain unchanged or asset prices unaffected, and market participants have long anticipated policy action to reduce emissions. Setting a precedent that heavy emitters will be compensated encourages investment in other polluting industries. As demonstrated by Carbon Price Support in the UK, a sufficiently high carbon price could have reduced coal emissions at lower cost. In this case there was no compensation of generators that were no longer economic.
Table 1.9. Lignite mining is concentrated in regions with relatively weak economies

<table>
<thead>
<tr>
<th>Region</th>
<th>Lignite share of gross value added, 2016</th>
<th>Unemployment rate, 2018</th>
<th>Business start-up rate</th>
<th>Population density</th>
<th>Broadband supply, 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>0.1%</td>
<td>5.2%</td>
<td>Low</td>
<td>Sparse</td>
<td>75%</td>
</tr>
<tr>
<td>Lausitz mining area</td>
<td>4.3%</td>
<td>6.7%</td>
<td>Just below average</td>
<td>Part of a densely populated Land</td>
<td>52%</td>
</tr>
<tr>
<td>Rhineland mining area</td>
<td>2.4%</td>
<td>6.4%</td>
<td>Part of a densely populated</td>
<td>Low</td>
<td>87%</td>
</tr>
</tbody>
</table>

Note: Lignite mining also occurs in the Central German and Helmstedt mining areas, but accounts for less than 0.3% of jobs there.

1.4. Further progress is needed to overcome the investment backlog

Stimulus spending should continue to be used to improve infrastructure, delivering long-term benefits through capital expansion. Green investments in particular, including in clean physical infrastructure, present high economic multipliers as well as strong climate change mitigation potential (Hepburn et al., 2020[70]). In many cases green investments will be private, incentivised by climate policy, but there is also a need to expand public network infrastructure, in particular public transport. While public investment has picked up since 2014, municipal investment remains insufficient to cover depreciation. The net municipal capital stock has declined by some EUR 80 billion since 2003 (Figure 1.21), contributing to a backlog estimated at EUR 147 billion, concentrated in transport and schools (KfW Research, 2020[71]). Investment is often low in municipalities with relatively weak local economies, with many having insufficient financial leeway to boost investment (Fratzscher, 2015[72]). Bardt et al. (2019[73]) estimate that EUR 450 billion in public investment will be needed over the next 10 years to overcome the backlog, expand early childhood education and all-day schooling, decarbonise, improve communication networks and adapt to demographic change (Table 1.10). As a share of GDP, public investment has been among the weakest in OECD countries (Figure 1.22) since the mid-1990s.

Figure 1.21. Public investment has picked up, but net municipal investment is still negative

Net public investment¹ by level of government, % of GDP

StatLink https://doi.org/10.1787/888934200717

1. Public gross fixed capital formation less depreciation. Source: OECD National Accounts database.
### Table 1.10. Estimated public investment requirement¹

<table>
<thead>
<tr>
<th>Area</th>
<th>EUR Billion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infrastructure at municipal level</td>
<td></td>
</tr>
<tr>
<td>Municipal backlog²</td>
<td>147</td>
</tr>
<tr>
<td>Expansion of public transportation</td>
<td>20</td>
</tr>
<tr>
<td>Education</td>
<td></td>
</tr>
<tr>
<td>Early childhood education</td>
<td>50</td>
</tr>
<tr>
<td>Expansion of all-day schools</td>
<td>9</td>
</tr>
<tr>
<td>Operation of all-day schools</td>
<td>25</td>
</tr>
<tr>
<td>Increase expenditure for universities and research funding</td>
<td>25</td>
</tr>
<tr>
<td>House construction</td>
<td></td>
</tr>
<tr>
<td>Government share</td>
<td>15</td>
</tr>
<tr>
<td>Supraregional infrastructure</td>
<td></td>
</tr>
<tr>
<td>Expansion of broadband/5G</td>
<td>20</td>
</tr>
<tr>
<td>Railways (federal government share)</td>
<td>60</td>
</tr>
<tr>
<td>Extension of highways</td>
<td>20</td>
</tr>
<tr>
<td>Decarbonisation</td>
<td></td>
</tr>
<tr>
<td>Government share</td>
<td>75</td>
</tr>
<tr>
<td>Total sum</td>
<td>466</td>
</tr>
</tbody>
</table>

1. Independent estimates by the German Economic Institute (IW) and Institute for Macroeconomics and Business Cycle Research (IMK) of the Hans Böckler Foundation. Includes some government spending not classified as public investment in the national accounts, such as spending to promote private investment (for example, subsidies for energy efficient renovations) and investment in human capital. 2. Predominantly roads and transport infrastructure, schools, public administration buildings, and sports and culture. Updated for 2020 data (KfW Research, 2020[71]).


### Figure 1.22. Public investment is low

General government investment, % of GDP, 2019 or latest available year

Source: OECD Economic Outlook database.

StatLink: https://doi.org/10.1787/888934200736

Funding for public investment has stepped up, but more needs to go to municipalities

The recent pickup in public investment is set to continue under the recovery package (Box 1.1 above) and with delivery of funding increases for public transport infrastructure. Over a longer period, reform of the debt brake (see above) could help to avoid excessively tight fiscal policy becoming a barrier to efficient infrastructure funding once the current exception expires.

Financially weak municipalities need more federal support to finance infrastructure. Survey data indicate that 95% of municipalities expect decreasing revenues due to the COVID-19 crisis and most expect increases in expenditure, except capital expenditure (KfW Research, 2020[71]). The federal government
has stepped in to finance part of the temporary loss in revenue and increase in social transfers via a permanent increase in the share of accommodation costs for jobseekers paid federally (to up to 75%). Also, compulsory contributions by municipalities can now be paid by the Länder. The government should further increase transfers to municipalities, as EUR 7 billion available under the Municipal Investment Promotion Fund falls short of what is needed to substantially reduce the investment backlog. However, any debt relief for municipalities should come from the Länder, as they are responsible for budgetary oversight, and federal debt relief would raise moral hazard problems.

**Policy should actively seek to resolve capacity constraints**

Resolution of capacity constraints is essential to allow expansion of investment spending to translate into new infrastructure. The COVID-19 crisis may create spare capacity in some parts of the economy, but a reduction in migrant flows could exacerbate shortages of construction workers. The government should investigate opportunities to increase flexibility through reducing the stringency of occupational licensing (see above) and facilitating use of foreign labour in key construction occupations.

Capacity constraints also exist in local planning agencies, resolution of which requires active support from central government, clear allocation of responsibility for technical assistance and long-term commitment. Between 1991 and 2011, the number of municipal staff employed in areas of construction, housing, and infrastructure planning declined by one-third, and between 2011 and 2015 by another 9%. (Gornig and Michelsen, 2017[74]). Among European municipalities reporting under-provision of infrastructure, Germany has the highest proportion citing technical capacity as a major obstacle (European Investment Bank, 2017[75]). Major projects, including broadband rollouts, are infrequent, meaning it is efficient to expand expertise in Partnerschaft Deutschland (Table 1.11). Development of planning capacity locally could be supported by centralised courses, as by the Ministry of Social Development in Chile and the UK Infrastructure and Projects Authority in cooperation with Oxford Said Business School (Global Infrastructure Hub, 2019[76]). Cooperation between local governments, as for example in local government clusters in New Zealand and multi-jurisdictional projects in Switzerland, help to pool capacity, develop specialisation, increase consistency and efficiency, and share learnings (Allain-Dupré, Hulbert and Vincent, 2017[77]; NZ Productivity Commission, 2013[78]). Attracting staff to local planning roles will require flexibility on remuneration and other benefits to make these positions more attractive — civil engineers are in high demand and there is a large difference in earnings between public building authorities and the construction industry (Grömling and Puls, 2018[79]).

**Table 1.11. Past recommendations and actions taken on infrastructure investment**

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Action taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide more support for good municipal investment projects,</td>
<td>Commitment of most funds under the EUR 7 billion Municipal Investment Promotion Fund, though actual payment has lagged as it only occurs after work is completed. The federal government will reimburse municipalities for losses in revenue and permanently increase the federal share for some social benefits as part of the recovery package. Ongoing expansion of the capacity of Partnerschaft Deutschland to provide advice to local authorities on conceptual planning and strategic development, large scale project management and procurement options.</td>
</tr>
<tr>
<td>including by strengthening administrative capacity, especially in municipalities</td>
<td>Prevalence of PPPs remains low, meaning that one way to reduce the infrastructure backlog is underdeveloped.</td>
</tr>
<tr>
<td>burdened with high spending mandates (such as cash transfers).</td>
<td></td>
</tr>
<tr>
<td>Improve assessment and disclosure of long-term financial risks of public-private</td>
<td></td>
</tr>
<tr>
<td>partnerships (PPPs) of subnational governments. Share experience across levels of</td>
<td></td>
</tr>
<tr>
<td>government and national borders and harmonise procedures.</td>
<td></td>
</tr>
</tbody>
</table>

**Infrastructure governance reforms would yield productivity benefits**

Sound governance of infrastructure investment is associated with a significant boost in productivity growth of firms in infrastructure industries and in industries that use infrastructure intensively (Demmou and Franco, 2020[80]). Overall, infrastructure governance in Germany is good, reflected in relatively high quality
infrastructure despite low public investment (Figure 1.23). Nonetheless, there are areas for improvement, which are even more critical as investment spending increases.

First, strategic planning could be used more systematically to choose the highest quality projects. The OECD Recommendation on the Governance of Infrastructure, adopted in July 2020, emphasises the importance of a long-term strategic vision for infrastructure that takes into account synergies across sectors. Germany should assign periodic development of a long-term infrastructure plan and review of cost-benefit analysis to an institution that is independent of government and reports directly to parliament, a model successfully applied in the United Kingdom and Australia. Considering all infrastructure sectors within a single plan encourages greater alignment across sectors and investments (ITF, 2017[81]). Such an approach would build on the successful long-term analysis in the Federal Transport Infrastructure Plan 2030 by broadening the sectoral scope and involving an independent advisory but not decision-making body, potentially improving confidence for construction sector companies outside the transport sector to expand their production capacities. An independent institution could prioritise projects according to cost-benefit analysis – addressing the incentive for Länder to pursue local benefits (Bardt et al., 2014[82]) – and improve data on municipal infrastructure and its quality. Key to the effectiveness of such a body would be for its analyses to inform the parliamentary project selection process, as well as developing the expertise and reputation to influence decision-making.

Second, streamlining planning processes is crucial. Overly onerous and regionally-specific planning processes can delay investment and are sometimes used by local authorities to block investment projects committed at the national level. For example, changes to the design of the Fehmarn Belt Fixed Link were incorporated in Denmark through the parliamentary process within 6 months, while Schleswig-Holstein required three years for further consultation and regulatory approval (National Infrastructure Commission, 2017[83]). Expert opinion places Germany among the OECD countries with the greatest regulatory/administrative obstacles to infrastructure planning (Oprisor, Hammerschmid and Löffler, 2015[84]). A 2018 Act seeks to streamline transport-planning procedures, as does the Measures Act for specific listed projects and the draft 2020 Investment Acceleration Act. Consideration should be given to further steps proposed by the Commission on Growth, Structural Change and Employment (2019[68]), including linking the right to pursue legal action to the obligation to co-operate in planning, limiting the impacts of individual planning errors, increasing legal certainty, and shortening court proceedings and time limits.

**Figure 1.23. The quality of infrastructure is fairly high**

Quality of overall infrastructure score, from 1 (lowest score) to 7 (highest score), 2017

![Graph showing the quality of infrastructure score for various countries](https://doi.org/10.1787/888934200755)

Note: The score is based on the assessment of business leaders operating in the country in response to the question: how do you assess the general state of infrastructure (e.g. transport, communications and energy) in your country? [1 = extremely underdeveloped – among the worst in the world; 7 = extensive and efficient – among the best in the world]

Third, Germany can better leverage data to improve value for money in procurement. Governments should systematically collect, analyse and integrate procurement data with other information systems (Chapter 2), consistent with the OECD recommendation to promote evidence-informed decision making for infrastructure (OECD, 2020[85]). As documented in the 2016 Economic Survey, a lack of federal coordination undermines the potential for learning across municipalities. Germany has several centralised procurement initiatives and greater use of these could increase efficiency and effectiveness of public procurement (OECD, 2019[86]). Independent observatories, as for transport projects in France, are one way to better monitor outcomes across different delivery models.

**Enabling the energy transition through network reforms**

Delays to grid expansion due to public opposition threaten the delivery of new north-south connections needed to accommodate further renewable generation. Most wind capacity is located in northern Germany, whereas most demand comes from metropolitan and industrial areas in the south and west. Grid stabilisation measures were required on 329 days in 2017, costing consumers hundreds of millions of euros (IEA, 2019[60]). Recent reforms to planning and consultation processes move in the right direction by reaching agreement around priority lines upfront and better coordinating the role of the Länder. Measures to decrease permitting procedure times, solve grid constraints and improve the business case for repowering old wind sites (which currently requires new planning approval) could result in over 40% more onshore wind growth by 2024 (IEA, 2019[60]).

Improved price signals would reduce system-wide costs and help prioritise the most important transmission investments. Currently, new generation projects do not face any locational price signals for accessing transmission. Further, action should be taken on extending temporal price signals to incentivise demand-side solutions such as distributed generation, storage and timing of flexible energy use such as electric vehicle charging. A necessary pre-condition is accelerating and expanding the smart meter rollout to all households.

1.5. Germany leads the OECD in recycling, but also generates much waste

As Germany progresses on climate policy and green investment, moving towards a more circular economy would reduce materials use and environmental impacts by avoiding wasteful use, and encouraging reuse, recycling and shared use. Overuse of primary materials causes high energy use, pollution from landfill and incineration, marine litter, and ecosystems toxicity from uncontrolled disposal (OECD, 2018[87]). The transition could take place with potentially significant positive, or at least without negative, consequences for economic growth and overall employment (McCarthy, 2017[88]).

Thanks to aware citizens, a well-established waste management system and a long tradition of environmental regulation, Germany leads the OECD in recycling. Recycling standards are high and landfilling of untreated waste is practically non-existent after measures were taken in 2005 to ban landfilling of waste with a high calorific value. Using the Polluter Pays Principle ensures financing of the necessary infrastructure. A high environmentally-related public research and development budget, reflected by many patents in the field, help to improve waste management and minimise the pollution burden, in Germany and worldwide. A new Packaging Act in 2019 set ambitious recycling targets and required registering to a new national authority before putting packaging on the market. The Act should increase transparency and ensure a fair distribution of related costs among producers. In 2020, an amendment to the Circular Economy Act prioritised recycled products in public procurement, created a legal basis to extend producer responsibilities to littering in public spaces and limited the ability of retailers to destroy unused products.

Nevertheless, waste generation has not decreased. On the contrary, between 2010 and 2016, total waste generation increased by 10% mainly due to construction and demolition, which accounts for nearly 60% of total waste. Municipal waste generation is also above most OECD countries (Figure 1.24), and has
remained stable in recent years. Germany recycles two thirds of its municipal solid waste, and under the current measuring system has already reached the 2035 EU target of 65%. However, recycling levels have stabilised recently, which may reflect diminishing returns on additional investments. In order to move up the ‘waste hierarchy’, Germany should put more effort into preventing waste, and making reuse more economically attractive.

Figure 1.24. A lot of recycling, but also much waste
Municipal waste treatment, kg per capita, 2018 or latest available

Pricing instruments and fiscal measures, as applied in Germany according to the polluter pays principle, are effective and efficient ways to internalise environmental costs and provide incentives for circular economic activities. Such measures encourage technology and business model innovation (Aghion et al., 2016[89]), and may speed up digitalisation in waste management systems. The agreement with the retail sector to charge for plastic bags in 2016 is one example of how even a low price can help prevent overconsumption. Consumption of plastic bags fell by a third in 2017 (European Commission, 2019[90]). The administrative costs of such measures are often low. In Ireland, for example, the introduction of a 15 Euro cent tax on plastic bags reduced use by about 90%, while the administration costs amounted to only 3% of revenues (Convery, McDonnell and Ferreira, 2007[91]). Effluent charges, first introduced in Germany in 1981, are another example of a pricing instrument that plays a role in improving wastewater treatment and reducing discharges (Rademaekers et al., 2011[92]).

As the largest waste stream, the construction industry is a major target for circular approaches. Although about 90% of construction and demolition waste is recycled, the building sector hardly uses any secondary materials. Therefore, recycling of construction and demolition waste is mostly converting valuable products into low-value raw materials. Taxes or levies on virgin raw materials used in construction, such as gravel and sand, could increase demand for recovered waste (European Environment Agency, 2020[93]). Economic instruments have reduced the use of these resources in Denmark, Sweden and the UK (Söderholm, 2011[94]). To mitigate the effect on housing construction costs, revenues could be invested in reducing waste processing costs. For example, by subsidising digital solutions for tracing the origins and qualities of building products and materials, governments can reduce market failures caused by imperfect information (Börkey and Barteková, 2020 forthcoming[95]).

Taxes and fees could help better manage household waste. The government recently set a target of halving food waste by 2030, as 55 kilograms of food per person is thrown away each year. The VAT on most foodstuffs is at a reduced rate of 7%. Phasing out this tax expenditure, mitigating the effect on poor families by using the social benefits system, could be one way to encourage prevention. It would also help to reduce greenhouse gas emissions from the livestock sector and reduce administrative costs and economic distortions, as pointed out in the 2014 survey (OECD, 2014[96]).
Relying even more heavily on pay-as-you-throw systems than already done in Germany would be more ambitious, but would provide stronger incentives to prevent waste. In 2013, the government of South Korea introduced compulsory food waste recycling using special biodegradable bags, which helped to increase the amount of food waste recycled to 95%. Fees for the bags help encourage home composting and meet 60% of the cost of running the scheme (World Economic Forum, 2019[97]). In San Francisco, the city charges residents and businesses for collection of their bins based on bin size, frequency of collection and the type of waste. Fees for collection of the trash bin are about ten times higher than for recycling and compostable containers. Additionally, the city uses incentives to avoid contamination of recycling and compostable bins. Businesses, for example, can obtain a credit if they protect the bin from being contaminated (Heinrich, 2017[98]).

1.6. An inclusive and flexible labour market is crucial during the recovery

The crisis risks exacerbating existing labour market inequalities. Low-wage earners and women are particularly vulnerable to rising unemployment, as their share in some heavily hit industries is comparatively large (Figure 1.25) and they are more often in marginal employment, thus ineligible for short-time work (Kalina and Weinkopf, 2018[99]; Hammerschmid, Schmieder and Wrohlich, 2020[100]). Similarly, young workers are at risk as hiring might be subdued for some time and graduating during a recession can lead to long-lasting scarring effects. Lower skilled VET graduates particularly suffer from adverse starting conditions as they face lower future employment stability and persistent wage loss (Umkehrer, 2019[101]).

During the downturn, the government should exercise caution in proceeding with proposals to substantially increase minimum wages and strengthen collective bargaining extensions. While the introduction of a minimum wage in 2015 and incremental increases to EUR 9.35 per hour have increased wages at the bottom of the distribution without adverse employment effects (Caliendo, Schröder and Wittbrodt, 2019[102]), there is greater risk of negative effects during a downturn (Boeri, Cahuc and Zylberberg, 2015[103]). The designated minimum-wage commission is well-structured and took these risks into account in recommending slow and stepwise increases in the minimum wage, starting with EUR 9.50 on 1 January 2021 and reaching EUR 10.45 by mid-2022. Plans by the Labour Ministry to increase voluntary participation in collective bargaining have potential to boost employment, consistent with OECD experience of collective bargaining that is “organised decentralised” and characterised by a high degree of wage coordination across different bargaining units (OECD, 2019[104]). The proposal of strengthening agreement extension further, however, requires careful design in terms of representation of workers and employers, public interest and flexibility, as it may hurt both firms and workers not associated with social partners (OECD, 2018[105]).
Figure 1.25. Share of low-wage earners, women and youth is high in some affected sectors

Demographic and work characteristics in different industries, 2018

Source: Eurostat, Structure of Earnings Survey

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The tax and benefit system should be better designed to encourage moving to jobs with higher earnings

Upward earnings mobility for low-wage earners, who are often in part-time or marginal employment (Kalina and Weinkopf, 2018[99]), is weak (Grabka and Schröder, 2019[106]). As around half of all low-skilled workers earn low wages, upskilling would increase their earnings potential (Chapter 2). Promoting training and facilitating the job matching process will be critical if the current downturn persists or consumer preferences change and reallocation of workers between firms or sectors becomes necessary. Active labour market policies tend to be more effective during times of economic slowdown, and particularly benefit females and the long-term unemployed (Card, Kluve and Weber, 2018[107]).

The design and withdrawal of different transfers causes high marginal effective tax rates (METRs) at low earnings and disincentivises working more and moving to better-paying jobs (Bertelsmann Stiftung, 2017[49]). For households without children this is driven by high withdrawal rates of subsistence benefits for earnings of more than EUR 100 per month, while for households with children child supplements could
be phased out more slowly (OECD, 2014[96]). Despite recent reforms of child allowances, METRs continue to be high (Figure 1.26). Slower and more coordinated withdrawal of social assistance, child supplement and housing benefits could smooth and lower METRs and increase overall labour supply (SVR, 2019[108]). This would extend the income range that would qualify for benefit payments, though higher tax receipts due to increased employment may offset some of the extra spending. It might, however, reduce the number of hours worked, especially among second earners, typically women (Bruckmeier, Mühlhan and Wiemers, 2018[109]), which is a problem associated with household-income based transfers in general (Immervoll and Pearson, 2009[110]). Reducing the tax burden on the income of second earners remains important to raise employment among women, as recommended in previous surveys (Table 1.12; OECD (2018[111])). This can be achieved, for example, by introducing a separate tax-free allowance and relating health insurance premiums to the number of adults in a household.

Figure 1.26. The transfer and benefit system creates weak incentives to expand working hours
Effective marginal tax rate at % of average wage, 2019

Note: The vertical axis shows the effective marginal tax rate in % for a 10 percentage point increase in earnings at various gross employment income levels. Scenarios with children are based on two children at the ages of 4 and 6. Annual housing costs are assumed to be 20% of average wage. Median and percentile values for OECD are based on OECD countries except Germany. Results are based on rules as of 1 January 2019. The orange line adjusts the Germany 2019 model to include reforms implemented in July 2019 and 2020 concerning withdrawal rates of child allowances: parental income is withdrawn at a rate of 45% instead of previously 50% and the cliff edge is abolished. For single parents, alimony payments, which count as child income, are only withdrawn at 45% instead of 100%. Increased levels of child allowance from July 2019 are not taken into account. Source: OECD calculations from OECD Tax-benefit model, http://oe.cd/taxBEN.

StatLink   https://doi.org/10.1787/888934200812
### Table 1.12. Past recommendations and actions taken on labour market inclusion and education

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Action Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strengthen support for unskilled adults to obtain professional qualifications.</td>
<td>The Act on Opportunities to Gain Qualifications, in effect since 2019, has expanded training opportunities for individuals independent of age, qualification and firm size whose jobs are affected by structural change, or who wish to pursue continuing vocational training in a profession affected by skilled labour shortages. Employers can receive a wage subsidy for the time their workers spend in skill development programmes. The act also strengthened the counselling of the Federal Employment Agency. In 2020, the “Arbeit-von-morgen-Gesetz” was implemented to strengthen training further in view of ongoing structural change related to digitalisation and climate change. The law includes measures to increase the support rate to firms for training subsidies if a large share of employees requires training, to ease the application process for subsidies and to grant workers without a vocational degree the legal right for subsidies to obtain qualifications.</td>
</tr>
<tr>
<td>Provide financial incentives for employers to provide workplace learning for the low-skilled.</td>
<td>Offer more training programmes for the modular acquisition of qualifications in lifelong learning and foster the recognition of skills acquired on the job. Ensure modular training contributes towards full qualifications.</td>
</tr>
<tr>
<td>Offer more training programmes for the modular acquisition of qualifications in lifelong learning and foster the recognition of skills acquired on the job. Ensure modular training contributes towards full qualifications.</td>
<td>The pilot project ValiKom has developed a joint procedure to assess and validate occupational skills and competences acquired outside the formal education system. It applies self-assessment and external assessment to document prior learning and examine the equivalence of the competences compared to formal regulated professions. At the end of 2018 BMBF started ValiKom-Transfer, involving up to 30 chambers and opening the validating process to more occupations. In June 2019 the partners of the National Skills Strategy agreed to check the possibility of anchoring the ValiKom approach within the legal or regulatory framework.</td>
</tr>
<tr>
<td>Improve transparency in the adult education market and facilitate access to guidance on adult training. Carefully monitor the outcome of financial support programmes for adult learning and education.</td>
<td>The National Skills Strategy (Nationale Weiterbildungsstrategie) aims to facilitate career advancement for broad sections of the population, to strengthen skilled labour development, and to foster long-term employability in a changing world of work.</td>
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<tr>
<td>Phase out child benefit supplement (Kinderzuschlag) paid to parents receiving a housing allowance more slowly.</td>
<td>A reform in 2019 increased the monthly maximum benefit from EUR 170 to EUR 185 per child. For single parents, the withdrawal rate based on alimony payments has been lowered from 100% to 45%. In January 2020, the abrupt phase-out of the benefit was replaced by a smooth phase-out and the withdrawal rate for parental income decreased from 50% to 45%. Since 2017, the duration of employment on jobs filled by temporary agency workers is limited to 18 months.</td>
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<tr>
<td>Reduce the gap in employment protection between permanent and temporary workers. Ease employment protection for regular job contracts, for example by reducing notice periods. Limit use of multiple successive fixed term contracts and strengthen enforcement of workplace regulation for workers on non-standard contracts.</td>
<td>Since 2017, the duration of employment on jobs filled by temporary agency workers is limited to 18 months.</td>
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<tr>
<td>Target preferential tax treatment of minijobs towards low-wage workers. Tax subsidies should not be provided for combining jobs.</td>
<td>No action taken.</td>
</tr>
<tr>
<td>Improve access of immigrants to public sector jobs.</td>
<td>No action taken.</td>
</tr>
<tr>
<td>Improve training and the recognition of immigrants’ skills.</td>
<td>As part of the new immigration law for skilled migrants in effect since 2020, recognition and administrative procedures have been improved and accelerated. A central point of contact for individuals abroad seeking information on recognition was established within the labour agency. Access to language classes and training support has increased from 2019.</td>
</tr>
<tr>
<td>Increase the minimum amount of time the second parent has to take parental leave, from the current two months, for the couple to receive the maximum leave entitlement.</td>
<td>No action taken.</td>
</tr>
<tr>
<td>Lower the tax burden on wage income of second earners. Link health insurance premiums to the number of adults in a household.</td>
<td>No action taken.</td>
</tr>
<tr>
<td>Raise quality standards in childcare and early childhood education. Expand primary education to high quality full-day education programmes.</td>
<td>The “Gute-Kita-Gesetz” was implemented in 2019 through individual agreements with all 16 states providing funding of EUR 5.5 billion until 2022 for measures to improve childcare quality, reduce fees, and adapt childcare to local needs. As part of the 2020 recovery package, additional funds for expansion of full-time schooling will be granted for states that start deploying funds in 2020/2021. For early childhood education expansions carried out in 2020/2021, additional support of EUR 1 billion will be granted.</td>
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<td>Provide more financial resources to schools with a comparatively high share of pupils with weak socio-economic background in particular at lower secondary level.</td>
<td>A 2019 joint federal–Länder programme to support primary and lower-secondary schools in socio-economically disadvantaged areas (“Schule macht stark”) will provide EUR 250 million over 10 years from school year 2021-22.</td>
</tr>
<tr>
<td>Strengthen general education within vocational schools, and maintain the strong labour market orientation of vocational education and training. Improve access to university education for upper secondary vocational graduates.</td>
<td>An amendment to the vocational training act in 2020 introduces internationally comparable degree designations, facilitates part-time vocational education programmes and transfer of credit for sequential programmes.</td>
</tr>
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</table>
Housing policy reforms can support labour mobility, inclusion and decarbonisation

Driven by favourable financing conditions, sustained economic growth, increased immigration, growing urban populations and a weak supply response (Figure 1.27), house and rental prices started to rise faster than the OECD average in 2011 and accelerated from 2016. Though housing is still comparatively affordable, costs including fees and energy costs put a large burden on low-income households (OECD, 2020[112]). Rent and house price increases have adverse distributional effects, particularly in Germany where the share of renters is high (Causa, Woloszko and Leite, 2019[113]; Baldenius, Kohl and Schularick, 2019[114]). The number of building permits has risen steadily since 2009, suggesting some increase in the capacity of building supply to respond to demand, though less permits were issued in 2019 than in the mid-to late-1990s. Increasing the supply response, building on the comprehensive housing strategy from 2018 (Table 1.13), remains important.

Figure 1.27. Housing supply is not very responsive to prices

Note: Panel A shows estimates of the long-run supply elasticity from 1980Q1 to 2017Q4. For Panel B, a thick solid black line shows the median. The high/low values of the whiskers are either 1.5 times the interquartile range or the extreme value for the sample, whichever diverges further from the median. Each indicator is cross-sectionally demeaned and expressed relative to its maximum value. Data refer to 2017 or the latest available date except for developable land and the change in built-up area per capita that refer to 1992 and 1990, respectively. The cross-sectional sample consists of 25 countries, except for the land-use restrictiveness proxy (covering 24 countries) and rent control indicator (19 countries). The marginal tax is the average marginal effective tax rate for home-owners who buy without credit. The index of rent control is sourced from Kholodilin (2018[25]). Developable land is the share of non-built-up, non-water land in each country in 1992. The land-use restrictiveness proxy captures the presence and importance of land-use regulations at lower levels of government. The higher the indicator, the more land-use planning decisions are decentralised, which has been found to result in tighter restrictions (Ahrend, Gamper and Schumann, 2014[115]). Property taxes is the share of property taxes over total tax revenues. Source: (Cavalleri, Cournède and Özsögüt, 2019[116])

StatLink 2  https://doi.org/10.1787/888934200831

While Germany is among the OECD countries spending the most on housing allowances, social housing is limited (Figure 1.28, Panel A). Portable housing allowances are generally preferable with respect to mobility, but do not guarantee good housing and may raise rental prices (Kangasharju, 2010[117]). Federal support of EUR 5 billion for social housing over the period 2018 – 2021 and an additional EUR 1 billion per year for the years 2022 – 2024 are welcome, but improved targeting towards low-income households will...
be crucial (Panel B). Strengthening the currently low application of misallocation fees might not be enough (Wissenschaftlicher Beirat beim Bundesministerium für Wirtschaft und Energie, 2018[118]), if the social-housing stock is limited. The introduction of regular means testing and transition to market-based rents as incomes increase would provide revenue to further expand social housing while also encouraging tenants whose circumstances have improved to move to other forms of housing. Potential disincentives for economic advancement and effects on social mixing in social housing would need to be carefully managed.

Figure 1.28. The social housing stock is low and targeting could be improved

![Diagram A] Number of social rental dwellings
Share of the total number of dwellings, %

![Diagram B] Percentage of households in social rental housing by income quintile
2018 or latest available year, %

Note: Subsidised rental housing covers all housing rented at below-market-rate, including social rental housing, employer-provided housing and housing where rent levels are fixed by law.
Source: OECD calculations based on OECD Affordable Housing Database.

Tighter rent controls, such as the recent rent freeze in Berlin, should be avoided. With the introduction of the rental brake in 2015, which slows the growth of rent prices in tight markets, Germany ranks at the higher end in terms of strictness (Figure 1.27 above, Panel B). While rent control helps equalise the power balance between tenants and landlords, potential drawbacks include reduced construction, fewer upgrades or misallocation of housing (OECD, 2020[119]). New dwellings have been exempt from the rental brake, and negative effects on construction have not been found so far (Mense et al., 2018[120]). Nevertheless, uncertainty about future expansion could reduce supply in the longer term. Furthermore, limiting the return on rental units – especially through a rent freeze – can lead to increased conversion of rental to owner-occupied units (Kholodilin and Kohl, 2019[121]) and strict tenant-landlord regulation might pose obstacles to residential and labour mobility (Causa and Pichelmann, forthcoming[122]).

Since 2008, primary energy consumption in buildings has declined by 16% in large part due to high efficiency standards for new buildings (IEA, 2020[123]). In recent deliberations to merge different regulations into a single law, however, the government has abstained from raising standards further partly to keep rising construction costs in check. Similar to other standards, energy efficiency requirements have contributed to increasing construction costs in the past (Holm and Sprengard, 2015[124]; Walberg,
Gniechwitz and Halstenberg, 2015\textsuperscript{[126]). However, they also help to reduce energy bills. The government will assess current standards in 2023, taking into account construction and living costs. Existing standards, such as requirements for parking in cities, should also be re-assessed with climate objectives in mind (BMUB, 2015\textsuperscript{[126]).

Annual energy-efficient building renovation rates need to increase from currently 1% to at least 1.5% to achieve Germany’s 2050 goal of a near climate-neutral building stock (dena, 2019\textsuperscript{[127]). While financial subsidies for renovation exist and have been increased in the government’s Climate Action Programme 2030 and recovery package, the split-incentives problem whereby landlords pay for retrofits while tenants benefit from lower energy bills needs to be addressed better. Rent increases following retrofits should be based on energy savings rather than renovation costs, as in the Dutch social housing sector (Müller et al., 2016\textsuperscript{[128]), so as to increase transparency and avoid higher gross rents (Weber and Wolff, 2018\textsuperscript{[129]). Introducing minimum standards for existing buildings combined with targeted support for lower-income owners could also boost renovation. In the UK, dwellings with an energy-performance standard of F or below are no longer allowed to be rented out (Economou and Bertoldi, 2015\textsuperscript{[130]).

**Table 1.13. Past recommendations and actions taken on housing policy**

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Action Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve housing supply in dynamic cities fostering densification in urban areas, for example, with incentives for compact development on brownfield sides.</td>
<td>In 2018, a comprehensive housing strategy was formulated aimed at creating 1.5 million new dwellings by 2021. Measures directly targeted at an increased housing supply are earmarked federal funding for social housing of EUR 5 billion from 2018 to 2021, the adoption of a model type approval in the federal building code, a temporary tax deduction for the construction of new rental dwellings until 2021, measures to speed up approval processes, and an evaluation of the costs of new standards for construction. The real estate tax reform allows municipalities to levy an additional tax on vacant construction land from 2025 onwards. From 2020 onwards, support for urban development has a larger focus on sustainable development including brownfield sites for housing.</td>
</tr>
<tr>
<td>Update real estate valuations while protecting low-income households.</td>
<td>In 2019, reform of the property tax has been decided on, which will take effect in 2025. Real estate valuations will be updated and continue to be based on both land and buildings. Reform has been designed to be fiscally neutral. An opening clause for states to design their own property tax was introduced as well as an option to levy extra tax on vacant construction land.</td>
</tr>
<tr>
<td>Extend capital gains taxes on residential real estate except for owner-occupied housing.</td>
<td>No action taken.</td>
</tr>
</tbody>
</table>

**The high share of part-time work among women contributes to a large gender wage gap**

The unadjusted gender wage gap (20% in 2019) has changed little over the past twenty years (Statistisches Bundesamt, 2020\textsuperscript{[131]). At 16.2%, the gap among full-time employees is lower, indicating differences in working hours as one factor (Figure 1.29, Panel A). Sector and occupational segregation explains about 30% of the wage gap, as women are overrepresented in jobs with low pay (Boll and Lagemann, 2018\textsuperscript{[132]). The wage gap is smallest for young women (Schrenker and Zucco, 2020\textsuperscript{[133]), and increases as women reach childbearing age (Panel B). Reflecting this labour-market experience, the gender pension gap is among the highest in the EU and lifetime earnings of women and especially mothers are well below male earnings (Bönke et al., 2020\textsuperscript{[134}). While the employment rate is comparatively high, one factor driving the earnings gap is the high female part-time share (Figure 1.30, Panel A). Having children increases the incidence of part-time work (Panel B), as women spend more time on childcare (OECD, 2017\textsuperscript{[135]).

In 2019, a right to return to full-time hours after a period of part-time employment was introduced, but it is still too early to observe outcomes. Flexitime and teleworking have been shown to reduce part-time work among mothers (Chung and van der Horst, 2018\textsuperscript{[136]). Increased telework during the pandemic has shown
that much potential working from home had been left untapped and could make firms and workers use this arrangement more frequently in the future (Grunau, Steffes and Stefanie, 2020[137]; Alipour, Falck and Schüller, 2020[138]). Policy could strengthen those working arrangements further by granting, where applicable, all employees a legal right to flexible arrangements including teleworking or encouraging social partners to cover flexibility in collective bargaining (OECD, 2017[139]). In the Netherlands, employees are entitled to ask their employer for flexible working hours. The employer should honour such a request unless there is a significant reason for not doing so. Encouraging flexible work arrangements may increase the well-being of both women and men and reduce large gender wage gaps, especially within occupations that reward long hours disproportionately (Zucco, 2019[140]). Similarly, promoting higher female employment in STEM and ICT fields could reduce the gender gap as these occupations generally provide high earnings and a high capacity to work from home (Chapter 2).

Figure 1.29. The gender pay gap for full-time employees has changed little in the last decade

A. Gender pay gap
Median wages, full-time employees¹, %

B. Gender pay gap by age group
Mean wages, 1970-1974 cohort²

Note: The gender wage gap is defined as the difference between male and female wages divided by male wages.

1. Full-time employees are defined as those individuals with usual weekly working hours equal to or greater than 30 hours per week.

2. Data for 25-29 years old refers to 1998 (instead of 1999) for Denmark, Korea, Norway and the Slovak Republic; to 1997 for Ireland. Data for 35-39 years old refers to 2008 (instead of 2009) for Australia, Austria, Denmark, Finland, Germany, Norway, Korea, and the Slovak Republic; to 2007 for Belgium, the Czech Republic and Ireland. For Austria, 25-29 refers to 20-29, 35-39 refers to 30-39.

Source: OECD (2020), Gender wage gap (indicator); OECD (2012), Closing the Gender Gap: Act Now.

StatLink 2 https://doi.org/10.1787/888934200869
Figure 1.30. Women, particularly mothers, often work part-time

A. Part-time incidence

Part time incidence, total employment, women, %, 2019

B. Weekly hours of employed women

25-54 years old

No children Children below 7 Children below 18

Source: OECD Labour Force Statistics; OECD calculations based on GSOEP v34.

StatLink 2  https://doi.org/10.1787/888934200888

Family and care policies are on the right track but equal sharing still has some way to go

As the COVID-19 pandemic has shown, flexible work arrangements are not a substitute for institutional childcare. Previous expansions of early childhood education and full-day schooling have lifted participation to or above the OECD average and increased maternal labour-market engagement (Gambaro, Marcus and Peter, 2019[141]; Zimmert, 2019[142]). Still, the demand of 12% of parents with children below age three was not met in 2018 (Alt et al., 2018[143]), and shortfalls are increasing (IW Köln, 2020[144]). Additionally, six per cent of parents with children in preschool or primary school required longer hours. Planned expansions are, therefore, welcome, but more remains to be done. Going forward, flexibility in care hours will be important. As part of agreements with the federal government, some states plan to adapt opening hours to parents’ needs or to encourage the engagement of childminders, who can provide tailored and flexible care due to smaller groups.

Without steps to increase supply, rapid expansion of the early childhood education system could result in staff shortages. Germany may need close to half a million new early childhood education staff by 2030, which far exceeds the expected number of appropriately qualified graduates over the same period (OECD, 2019[145]). Salaries for workers in the field are relatively low (Oberhuemer and Schreyer, 2017[146]) and the vast majority of workers in the profession are women. Increasing wages and opportunities for career progression may help attract more teachers and reduce the overall gender pay gap.
Increased paternity leave can strengthen care sharing and increase female employment (Huerta et al., 2013[147]; Tamm, 2019[148]; Patnaik, 2019[57]). The introduction of two minimum “daddy-months” in 2007 has boosted paternity leave (Figure 1.31), and ElterngeldPlus, which allows combining parental leave and part-time employment, seems to have lengthened paternity leave slightly (Samtleben, Schäper and Wrohlich, 2019[149]). Still, women take the vast majority of leave (Statistisches Bundesamt, 2018[150]). As previously recommended, leave reserved for the second parent could be extended (OECD, 2018[111]). As fathers often report financial motives as reasons for not taking longer leaves (Samtleben, Schäper and Wrohlich, 2019[149]), financial incentives could be extended, especially as Germany is only around the OECD average for both overall spending on parental leave and replacement rates for fathers (OECD, 2020[151]; OECD, 2020[152]).

Figure 1.31. The paternal share of parental leave exceeds the OECD average

Recipients of publicly administered parental leave benefits or publicly-administered paid parental leave, 2016

Note: Data refer to recipients/users of publicly-administered parental leave benefits or publicly-administered paid parental leave, and do not include users of maternity or paternity leave unless the country in question does not make a distinction between the different leaves (e.g. Iceland, Portugal). Data refer only to those using statutory schemes and do not include individuals using only employer-provided parental leave or parental leave pay. Data for Germany refer to 2015.

Source: OECD Family Database.

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Women are still a minority in management positions

The low share of women in managerial positions also contributes to the gender wage gap (Figure 1.32). While a quota for supervisory boards in 2015 has been successful in raising the share to about 35%, female managers are still rare even in firms covered by supervisory board quotas (Kirsch and Wrohlich, 2020[153]). The national gender equality strategy, adopted in July 2020, introduced nine goals, including promoting more women to management positions and supervisory boards. The government is discussing a proposal to expand the quota for supervisory boards. Pay-transparency laws are a key lever to promote gender equality. Early evidence on the 2017 German law suggests room for improvement, as few employees use their right to inquire about colleagues’ wages and many firms neglect their reporting requirements (Federal Ministry for Family Affairs, 2019[154]). Moving beyond individual entitlements and requiring more general reporting on gender pay gaps as in France and the UK may be necessary. Such instruments are relatively new and studies on their effects are still scarce, but reporting of gender-disaggregated statistics in Denmark has reduced pay gaps.
Figure 1.32. Women are under-represented in managerial positions
Female share of management employment and female share of labour force, all ages, 2018 or latest available year

1. Employment in management is based on the International Standard Classification of Occupations (ISCO) and refers to total management (category 1 of ISCO-08 or ISCO-88).

Note: For Colombia, the female share of managerial employment is the female share of the employed that hold jobs classified in International Standard Classification of Occupations 1968 (ISCO 68) major group 2 (administrative and managerial workers); for Canada, Chile and the United States, the female share of managerial employment is the female share of the employed that hold jobs classified in International Standard Classification of Occupations (ISCO) 88 category one (as legislators, senior officials and managers). For all other countries, the female share of managerial employment is the female share of the employed that hold jobs classified in International Standard Classification of Occupations (ISCO) 08 category one (as managers).

Source: OECD Labour Force Statistics; ILOSTAT.

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<table>
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<tr>
<th>MAIN FINDINGS, key policy insights chapter</th>
<th>RECOMMENDATIONS (key recommendations in bold)</th>
</tr>
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<tr>
<td><strong>Macroeconomic policies to support the recovery</strong></td>
<td><strong>Boosting public investment</strong></td>
</tr>
<tr>
<td>Fiscal policy is highly expansionary and an immediate return to a tight deficit limit under the debt brake could derail the recovery.</td>
<td>Stand ready to give further support if the recovery is weak. Gradually remove fiscal support once the recovery is well underway. Pursue planned fiscal consolidation while addressing long-term challenges.</td>
</tr>
<tr>
<td>Public investment has picked up since 2014, but not enough to resolve the infrastructure backlog. Future needs will increase with the energy transition, digital transformation and ageing.</td>
<td>Further increase spending on high-quality public investment, including through funding to municipalities. Continue to prioritise green investments in stimulus policies.</td>
</tr>
<tr>
<td>Capacity constraints in the construction industry and local planning offices hold back the delivery of new infrastructure.</td>
<td>Bolster local planning capacity through inter-municipal cooperation, training and expanding staffing in key technical roles.</td>
</tr>
<tr>
<td>Infrastructure governance is generally good, but there are weaknesses that restrict productivity benefits from public investment.</td>
<td>Assign an independent advisory body with responsibility for preparing a long-term strategic infrastructure plan. Streamline planning processes and improve public procurement through better data collection and compilation.</td>
</tr>
<tr>
<td><strong>Structural reforms for a sustainable recovery</strong></td>
<td><strong>Increasing labour market inclusion</strong></td>
</tr>
<tr>
<td>The tax burden on low labour income is high, due to high social security contributions, while environmental and property taxation is low and exemptions to inheritance and capital income taxes contribute to high wealth inequality.</td>
<td>Reduce taxation of labour income, while removing inheritance tax exemptions, raising reduced VAT tax rates to the standard rate, and strengthening environmental, property and capital income taxation.</td>
</tr>
<tr>
<td>Progress in reducing greenhouse gas emissions has been concentrated in electricity generation, with the transport sector in particular facing considerable challenges to meet its 2030 goal.</td>
<td>Provide low-emissions alternatives through expanding public transport and charging networks, urban planning that creates proximity between people and places they visit for work or leisure, and facilitating telework.</td>
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<tr>
<td>Substantive emissions pricing is being introduced for transport and heating, but inconsistencies in energy taxation remain.</td>
<td>Make emissions pricing more consistent across sectors and fuels. Eliminate harmful subsidies such as the tax credit for long distance commuting.</td>
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<tr>
<td>While energy-efficient standards are high for newly constructed buildings, renovation rates for existing buildings need to increase.</td>
<td>Increase minimum energy efficiency standards for existing housing and tie allowable rent increases to energy savings.</td>
</tr>
<tr>
<td>Germany leads the OECD in recycling, but as a high income country also generates much more waste than most OECD countries.</td>
<td>Make more use of pricing mechanisms to promote waste prevention and make reuse and recycling more attractive.</td>
</tr>
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<td><strong>Occupational entry regulations affect a high share of the workforce, which leads to higher prices, slows labour market dynamism and hurts the ability of immigrants to use their skills.</strong></td>
<td>Liberalise entry conditions, prioritising sectors subject to supply constraints (such as construction) and preserving the strengths of the vocational education and training system.</td>
</tr>
<tr>
<td>High marginal effective tax rates at the bottom of the income distribution create disincentives to expand labour market participation and can trap individuals in low-wage employment.</td>
<td>Reduce marginal effective tax rates for low income earners through slower and more coordinated withdrawal of social assistance, child supplement and housing benefits.</td>
</tr>
<tr>
<td>Germany has relatively strict rent control, which is associated with lower housing supply elasticities and reduced labour mobility.</td>
<td>Reduce strictness of rent controls in markets where more supply is needed, such as Berlin.</td>
</tr>
<tr>
<td>More fathers are taking parental leave but often limited to the minimum two months. Financial motives are often cited as reasons for not taking leave or not taking longer leaves.</td>
<td>Encourage longer leave periods by fathers by, for example, increasing the number of months dedicated to the second parent or increasing replacement rates.</td>
</tr>
<tr>
<td>The gender pay gap exceeds the OECD average.</td>
<td>Advance the law on pay transparency to require more broadly applicable reporting on gender-disaggregated wage and pay statistics by firms.</td>
</tr>
<tr>
<td>Quotas have boosted women’s representation on supervisory boards, but advancement into top management positions remains limited.</td>
<td>Extend the quota for supervisory boards to more firms and management boards.</td>
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<td>Mothers, even those with older children, often work part time. Flexible work arrangements can reduce part-time work.</td>
<td>Strengthen legal rights to flexible working arrangements for all employees, including teleworking where possible.</td>
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