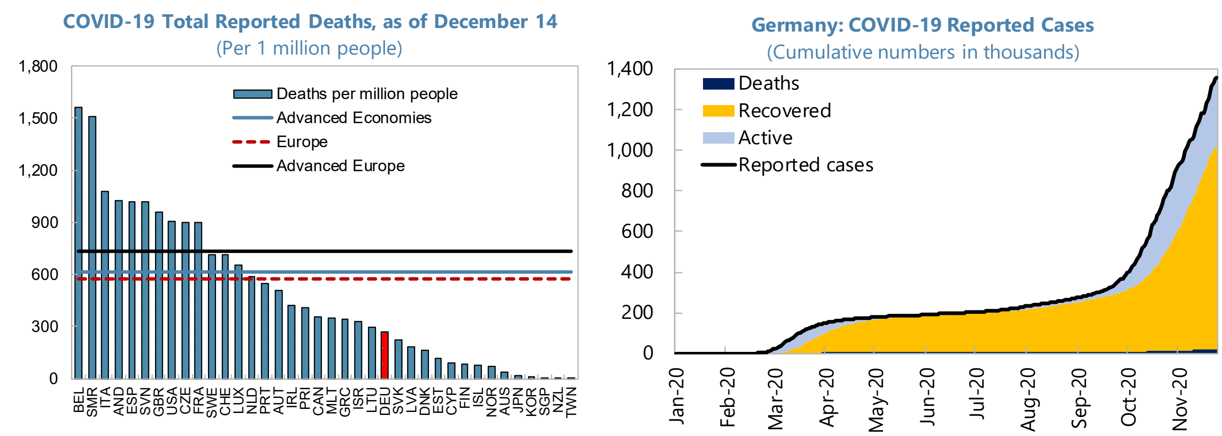
CONTEXT

1. Germany has to date been relatively successful at managing the COVID-19 epidemic. Germany quickly established widespread testing and contact tracing capacity, while efficiently utilizing its ample hospital capacity. During the first wave of infections in March-April, the government implemented border restrictions, closure of schools and non-essential businesses, social distancing requirements, and a ban on public gatherings. It also managed to protect the elderly population better than several European peers.[1] In combination, these measures resulted in some of the lowest case fatality rates and mortality rates in Europe (Figure 1, left panel). Following a steady decline in new infections, Germany began relaxing its physical distancing measures in late-April.

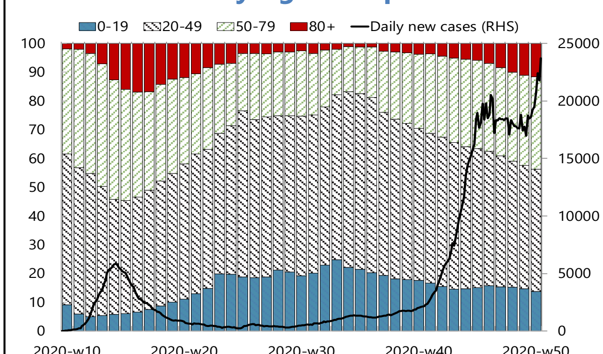
Figure 1. Germany: COVID-19 Cases



Sources: Johns Hopkins University and IMF staff calculations

2. A new wave of infections gathered momentum in the fall, with daily new cases exceeding the Spring peak by late October, triggering a new lockdown. Compared to the first wave, the second surge in infections has been concentrated among less vulnerable age groups, although recently the share of the elderly has been increasing (Figure 2). The government responded in October with a "lockdown light," requiring restaurants, bars, and cultural and entertainment venues to close. However, schools and daycares remained open. Facing continued

Figure 2. Germany: COVID-19 New Cases by Age Group



Sources: JHU, Robert Koch Institut and IMF staff calculations.

[1] According to the European Centre for Disease Prevention and Control, Germany's share of COVID-19 deaths reported from long-term care facilities and nursing homes, at 37 percent, was lower than other European countries where the share was around ½-⅔ (e.g., France, Norway, Spain).

high infections and rising mortality rates, the government significantly tightened the lockdown measures in mid-December: all non-essential stores are to be closed, as are schools and daycares. Gatherings are greatly restricted, and some states have introduced nightly curfews.

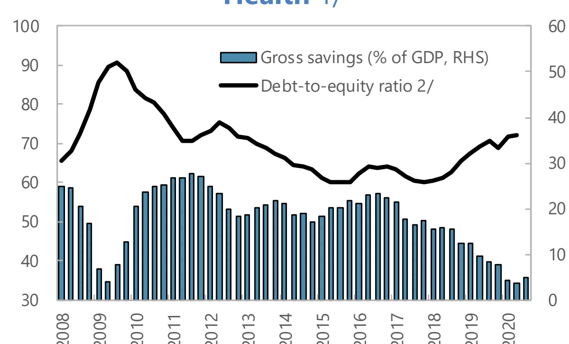
3. **The economy rebounded strongly in Q3 2020, but the resurgence of infections—and the renewed lockdown—demonstrates the continuing challenge of reopening the economy while keeping the virus in check.** Germany's economy experienced its largest post-war q-on-q contraction of 9.8 percent in Q2 2020, after shrinking by 1.9 percent in Q1 2020. Following the easing of containment measures since late-April, and aided by sizable and multi-pronged government support, the economy began to grow again in May. However, the resurgence of infections in Europe, including Germany, has clouded the economic outlook. Although recent medical announcements raise hopes of an effective vaccine becoming available sooner than earlier projected, significant uncertainties remain about the speed with which the vaccine can be distributed to the population, the degree of take-up, and the pace at which economic activity will resume in the face of voluntary changes to social behavior. The impairment of corporate and financial balance sheets—the severity of which remains unclear while policies such as a moratorium on insolvencies remain in place—could delay the recovery and magnify permanent output losses. Germany's export dependency also makes it susceptible to weaker external demand.

THE ECONOMIC IMPACT OF THE COVID-19 PANDEMIC AND POLICY RESPONSES

The Pre-COVID 19 Landscape

4. **Prior to the COVID-19 pandemic, Germany's economy was showing signs of recovery from a slowdown in mid-2019.** In 2019, a global contraction in trade—including a reduction in import demand from China amidst escalating trade tensions—negatively affected Germany's economy, especially the auto industry. This led to a decline in corporate savings and a reversal of the previous deleveraging trend, although corporate sector balance sheets remained generally strong (Figure 3).[2] Private consumption was buoyed by strong labor market conditions. The unemployment rate reached a historical low amid a continued rise in labor force participation. Inflation remained subdued despite accelerating unit labor costs.

Figure 3. Germany: Corporates' Financial Health 1/



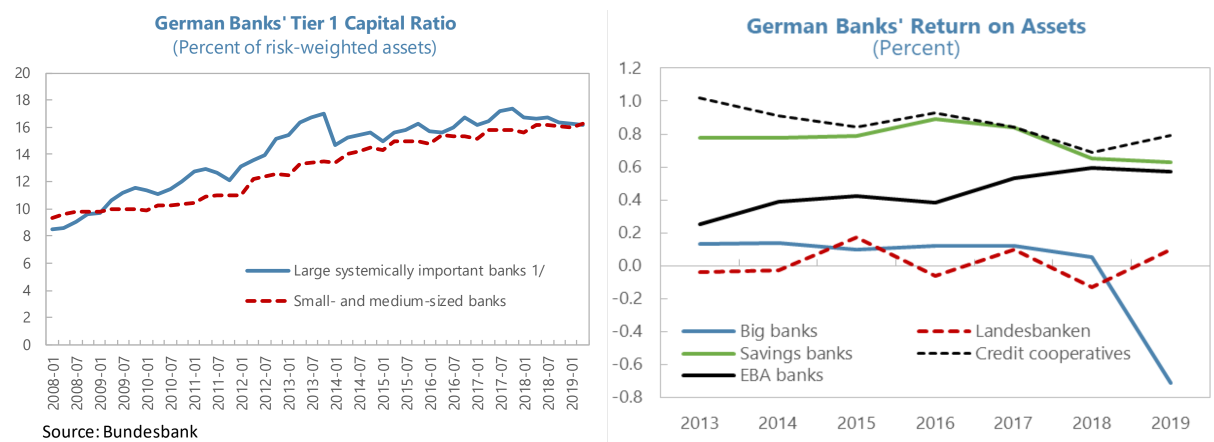
Sources: Bundesbank, Destatis, Haver Analytics, and IMF staff calculations.
1/ Both variables are four-quarter moving averages of quarterly data.
2/ Calculated as (debt securities + loans)/equity including investment fund.

[2] See also "The Rise of German Corporate Savings" in the IMF 2018 Staff Report for Germany.

5. The public sector balance sheet was strong. Germany's general government had maintained record-high budget surpluses for six years in a row. In 2019, the headline fiscal balance was 1.5 percent of GDP, slightly lower than the record level of 1.8 percent of GDP in 2018. The surpluses reflected strong revenue performance on the back of favorable labor market conditions and strong corporate profits, more than offsetting substantial recent increases in public investment. The public debt ratio decreased rapidly, moving below 60 percent of GDP by end-2019.

6. German banks suffered from chronic low profitability. Thanks to global efforts to enhance banks' risk management and loss absorption capacity since the Global Financial Crisis (GFC), German banks' capital adequacy had strengthened considerably (Figure 4, left panel), and their foreign exposures (the sum of claims on and liabilities to nonresidents) had declined by more than 10 percent of total banking assets since end-2008. But their profitability had been low—especially for big banks and Landesbanken—due to long-standing excess capacity and inefficiencies, exacerbated by compressed interest margins amid the low-for-long interest rate environment, with nominal deposit rates effectively subject to a lower bound (Figure 4, right panel).[3] Moreover, many large German banks' leverage ratios remained lower than European peers (Figure 21, bottom right panel).

Figure 4. Germany: Banks' Capital Adequacy and Profitability



Source: Bundesbank
1/ Comprises 13 other systemically important institutions (O-SIIs).

Source: Bundesbank.

7. Germany's external position had been for several years substantially stronger than implied by medium-term fundamentals and desirable policy settings. Prior to the COVID-19 crisis, the current account surplus had been trending down slowly and stood at 7.1 percent of GDP in 2019 (down from 7.4 percent in 2018). The bulk of the surplus reflected the large saving-investment surpluses of households and the government. The saving-investment balance of nonfinancial corporations, while still positive, had been narrowing on account of lower profit shares, as wage growth and labor income shares recovered from previously low levels. Overall, the current

[3] The large decline in the return on assets for big banks in 2019 was driven by a one-off effect stemming from Deutsche Bank's strategic restructuring.

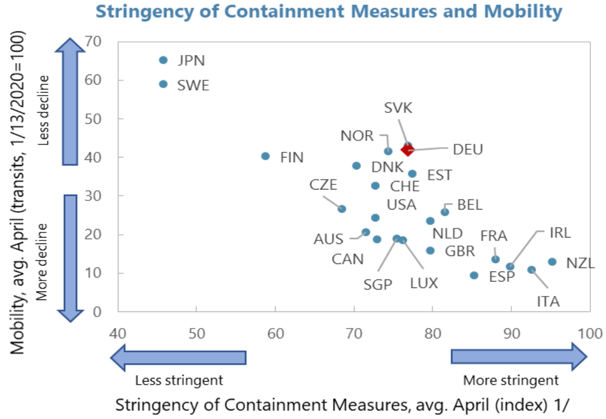
account surplus in 2019 was (still) assessed to be 3.3 to 5.3 percent of GDP higher than the estimated norm (see [IMF External Sector Report 2020](#)).

An Unprecedented Economic Contraction

8. **Germany's containment measures during the first wave were less stringent than many European peers, with consequently less impact on mobility (Figure 5, left panel).** On the back of a successful public health response, containment measures during April—at the peak of the first wave of the pandemic—were relatively lenient compared to many European countries that suffered high COVID-19 infection and mortality rates (e.g., Italy, Spain). Nonetheless, the measures caused substantial curtailment of business activity, especially of contact-intensive sectors, such as personal services, retail trade, and hospitality, as well as manufacturing production (Figure 5, right panel). The pandemic also disrupted global supply chains and caused external demand to decline. Domestic demand collapsed due to mobility restrictions, income losses, compromised confidence, and tighter financial conditions.

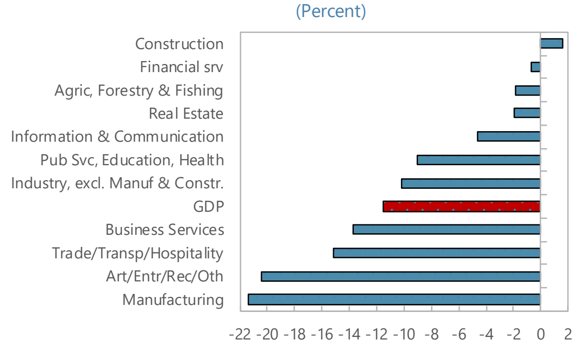
Figure 5. Germany: Stringency of Containment Measures and Production Decline by Sector

Stringency of Containment Measures and Mobility



Sources: Apple Inc, Oxford Coronavirus Government Response Tracker (OxCGRT), and IMF staff calculations.
1/ The index is based on eight policy indicators that aim to measure the strictness of 'lockdown style' policies (e.g., school closures and restrictions in movement). These indicators simply record the number and strictness of government policies, and should not be interpreted as 'scoring' the appropriateness or effectiveness of a country's response.

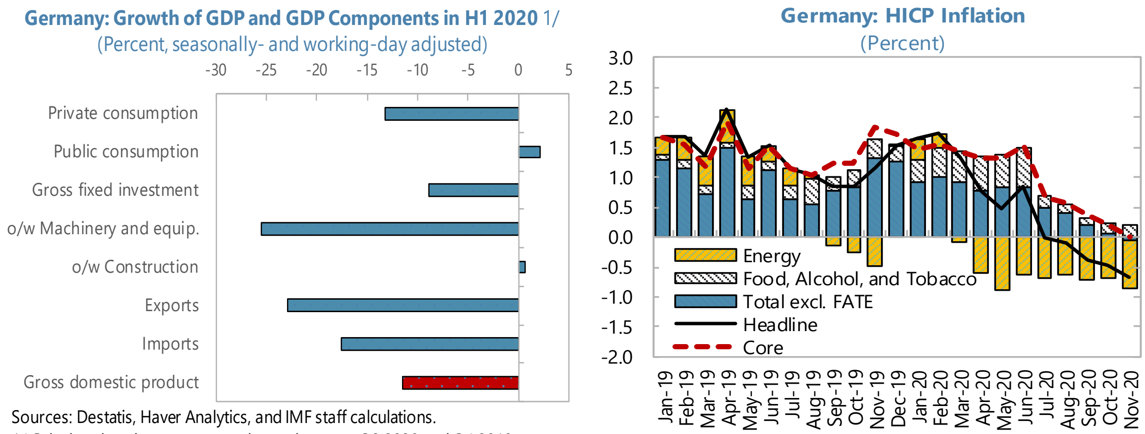
Germany: Production by Sector, change in H1 2020 1/
(Percent)



Sources: Destatis, Haver Analytics, and IMF staff calculations.
1/ Calculated as percentage changes between Q2 2020 and Q4 2019.

9. **Despite performing better than most European peers, Germany's economy entered a deep recession due to the pandemic.** In H1 2020, GDP contracted by an unprecedented 11.5 percent (Figure 6, left panel). The contraction was broad based: private consumption shrank by 13.2 percent and investment in machinery and equipment by 25.5 percent. Both exports and imports also collapsed in H1 2020 (by 22.9 percent and 17.6 percent, respectively). Because imports declined less than exports, the foreign balance declined. Construction held up in H1 2020 thanks to an increase in activity in Q1, but this was largely undone in Q2. Core inflation declined steeply from around mid-2020, reflecting both the fall in aggregate demand and a temporary VAT tax cut. Headline inflation fell even more sharply, entering negative territory from August, as food inflation declined while global energy prices slumped (Figure 6, right panel).

Figure 6. Germany: Development of GDP Growth and Inflation in 2020



Sources: Destatis, Haver Analytics, and IMF staff calculations.
1/ Calculated as the percentage change between Q2 2020 and Q4 2019.

Sources: Destatis, Haver Analytics, and IMF staff calculations.

A Multi-Pronged Policy Response

10. Making good use of long-accumulated fiscal space, the government deployed sizeable and timely measures to combat the pandemic. Multi-pronged policies aimed to reduce the economic fallout and later to support recovery (Box 1). Government measures in March and April focused on providing critical support to households and businesses and enhancing the public health infrastructure. In early June, as the economy was partially reopened, a new stimulus package was approved, aiming to boost the economic recovery.[4] In November and December, further measures were introduced to support the most affected businesses during the renewed lockdown, and existing measures on grants to firms and public guarantees were extended through mid-2021. The sum of all announced measures amounts to a total envelope of about 7.5 percent of GDP in 2020. Taking into account the expected implementation of these measures and the pace of the economic recovery to date (which affects the take-up rate of several programs), staff estimate a significant fiscal stimulus of 6.1 percent of GDP in 2020, more than double the stimulus during the GFC. Together with substantial automatic stabilizers, this fiscal expansion is expected to reduce the headline fiscal balance by about 7.8 percentage points of GDP in 2020. Including the full nominal envelope of loan guarantees, the fiscal package amounts to over 30 percent of GDP, among the largest in Europe.[5] Financing the deficit, together with off-budget borrowing by the newly created economic stabilization fund (WSF), is expected to increase public debt to about 71 percent of GDP

[4] In addition to support measures for domestic firms, the authorities also made changes to the foreign direct investment (FDI) screening mechanisms (a capital flow management measure), expanding the government's role in reviewing foreign takeover bids for companies deemed important to national security and public health.

[5] Fiscal costs on public guarantees are incurred only when the guarantees are called. The contracted guarantees are about €154 billion, or 19 percent of the total allocated envelop as of end-September. In the baseline scenario, staff assume an annual fiscal cost of 0.2 percent of GDP and 0.4 percent of GDP for public guarantees called in 2020 and 2021, respectively, amounting to about 13 percent of the guarantees contracted. This is a conservative assumption; by comparison less than 1 percent of contracted guarantees were called during the GFC.

by end-2020. To accommodate the new borrowing, the authorities made use of the escape clause of the constitutional debt brake rule, and suspended the political commitment to no new net borrowing by the federal government (the so-called "black zero").[6] In addition to supporting domestic demand, the sizable fiscal expansion is expected to generate some positive regional spillovers, especially given very accommodative monetary policy. However, previous Fund and other studies suggest that such spillovers are likely to be limited in scope.

Box 1. Germany's COVID-19 Mitigation and Recovery Measures

Mitigation Measures (March/April/November/December)

Scaling up health services. Budget support of about 1.2 percent of GDP was allocated to increase health and support services, including the procurement of protective equipment, compensation to hospitals, bonuses for increasing intensive care capacity, and support for the development of vaccines and treatments.

Protecting households. Kurzarbeit, a critical safety net protecting jobs and workers' income, was significantly expanded. In addition, the government increased child benefits, relaxed the rules governing childcare benefits for low-income parents and access to basic social security benefits, and provided temporary relief to tenants affected by the outbreak.

Direct budget support for businesses. Several federal aid programs totalling €80 billion provided grants to businesses and self-employed persons severely affected by the outbreak. Some state governments, such as North Rhine-Westphalia and Bavaria, complemented the federal programs by increasing the level of support and expanding coverage. The government also provided several options for deferring tax payments and reducing prepayments, while tax penalties will not be levied until the end of the year.

Credit support for businesses. The government rapidly expanded the volume and access to public loan guarantees through the state development bank, KfW, other state-level guarantee banks, the WSF aiming to support large and strategically important firms, and other new arrangements. The total guarantee amount increased by about €826 billion, about 25 percent of GDP. The WSF also includes €100 billion for government equity investments and €100 billion for refinancing the KfW special program.

Recovery Measures (June)

Boosting consumption. The government introduced a temporary VAT reduction from July 1 until the end of 2020 to bolster domestic demand. The standard VAT rate came down from 19 percent to 16 percent, and the reduced rate fell from 7 percent to 5 percent. In addition, there was a reduction in the original schedule of the renewable electricity (EEG) surcharge in 2021 and 2022, which should stimulate demand.

Investing in the future. In early June, the government's new measures included a "future package" of about €50 billion. The package focuses on supporting green investment, digital infrastructure, and health care. It includes investment in green technology and 5G expansion, further outlays on public health; and subsidies for purchasing electric vehicles.

[6] The constitutional debt brake imposes a structural borrowing ceiling of 0.35 percent of GDP for the federal government, while state governments (Länder) are constrained from any new structural borrowing. An escape clause—whose application is limited to emergencies outside government control—has been invoked.

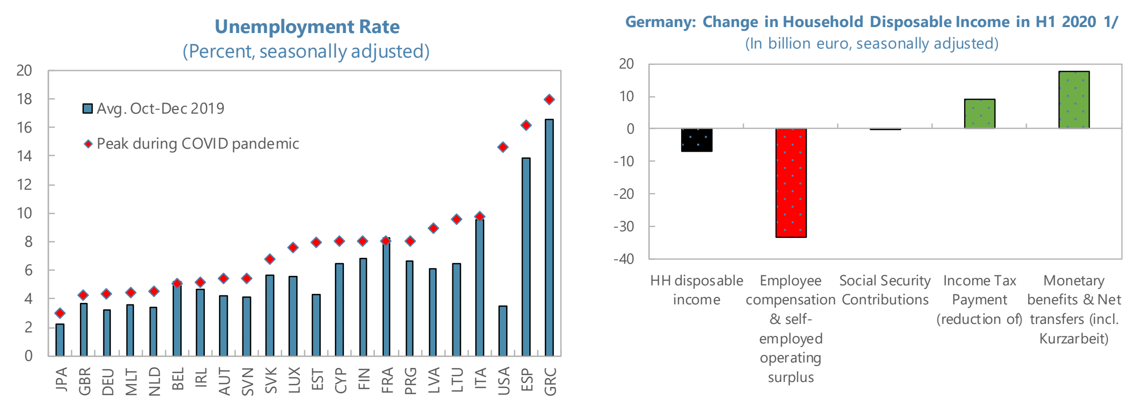
Table 1. Germany: COVID-19 Fiscal Packages

	Allocated Amount*					
	Total		2020		2021	
	billion euro	percent of 2020 GDP	billion euro	percent of GDP	billion euro	percent of GDP
Direct budget support	367	11.0	248	7.5	104	3.0
Revenue measures	42	1.2	26	0.8	15	0.4
Personal income tax	1	0.0	0	0.0	0	0.0
Corporate income tax	7	0.2	0	0.0	7	0.2
VAT	23	0.7	20	0.6	2	0.1
Social security contribution	11	0.3	5	0.2	5	0.2
Expenditure measures	325	9.8	222	6.7	89	2.6
Health and support services	40	1.2	23	0.7	17	0.5
Grant to firms	80	2.4	60	1.8	20	0.6
Kurzarbeit**	37	1.1	25	0.8	12	0.3
Child benefits	4	0.1	4	0.1	0	0.0
Subsidies on green electricity	11	0.3	0	0.0	11	0.3
Other current spending	16	0.5	6	0.2	9	0.3
Public investment (climate, digitalization, healthcare)***	48	1.5	14	0.4	20	0.6
Additional state spending	89	2.7	89	2.7	0	0.0
Indirect Budget Support	926	27.9				
Public guarantees	826	24.8				
Capital support through WSF	100	3.0				

* The allocated amount refers to the total envelope of each measure.
** Amounts are estimated based on the authorities' announced measures, adjusted for the differences in the IMF staff's macroeconomic framework.
*** The total amount is the budget allocation in the "future package," including public investment beyond 2021.

11. **Germany's well-established short-time work program ("Kurzarbeit") was significantly enhanced to help contain job losses.** Since end-2019, the unemployment rate (EU standardized definition) has risen by only 1.2 ppt (Figure 7, left panel). At the same time, short-time workers increased to 6 million in April, more than four times the peak during the GFC, mitigating the impact on unemployment (Box 2). Kurzarbeit has also supported household income: while employee compensation and income from self-employment fell by €33.2 billion in H1 2020, household disposable income declined by only €6.9 billion thanks to Kurzarbeit benefits, other government cash transfers, and a decline in income tax payments (Figure 7, right panel).

Figure 7. Germany: Unemployment Rate and Household Income



Sources: Eurostat, Haver Analytics, and IMF staff calculations.

Sources: Destatis, Haver Analytics, and IMF staff calculations.
1/ Changes between Q2 20202 and Q4 2019.

Box 2. Kurzarbeit - Germany's Short-Time Work Program

Germany's Kurzarbeit (KA) played an important role during the GFC and is widely credited for saving jobs and allowing a swift recovery post-crisis. It aims to strike a balance between protecting jobs during economic crises and avoiding too much rigidity in the labor market during normal times. The replacement rate for the reduced work hours is generous at 60 percent of net pay (or 67 percent for employees with children), which helps reduce precautionary savings during a crisis. At the same time, companies retain firm-specific human capital and avoid the costly process of separation, re-hiring, and training. Effective cost-sharing arrangements limit moral hazard issues. Employers must pay 80 percent of the social security contributions owed on the reduced working hours, which implies that the cost per hour worked increases non-linearly with the amount of working time reduction.

Normally KA is a complement to private work-sharing arrangements. Notably, "working-time accounts" allow employees to accumulate overtime balances when production needs are high and run them down when production needs are low, with no impact on paychecks. Usually firms can only apply for KA when working-time account balances have been run down beforehand. This also helps contain the fiscal cost of KA by allowing further cost-sharing with employers.

Due to the unprecedented nature of the pandemic, the KA's parameters have been appropriately adjusted to make access easier and more generous.

- Firms are now eligible to apply if only 10 percent (used to be one-third) of their workforce is subject to reduced work hours of 10 percent or more. Moreover, the coverage of KA has been extended to temporary workers.

- For workers facing a greater-than 50 percent reduction in working hours, the replacement rate was increased from 60 percent (67 percent for parents) to 70 percent (77 percent for parents) starting from the fourth month, and was further increased to 80 percent (87 percent for parents) starting from the seventh month.

- Social security contributions to be paid by employers have been waived. The duration of KA was extended to a maximum of 24 months.

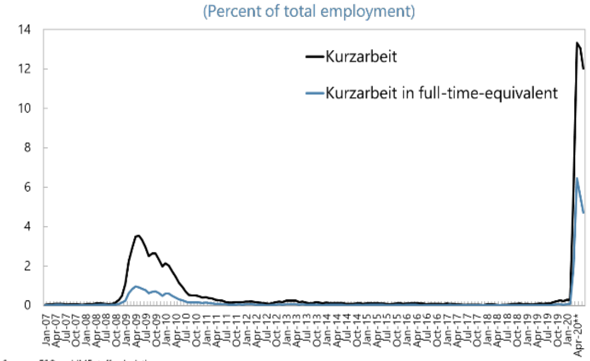
- The requirement to draw down working time account balances and exhaust leave balances before using KA have been suspended.

- Workers on KA can draw income from an additional job without a reduction in KA benefits provided the combined income does not exceed the previous net income.

KA seems to have already played an important role in preserving jobs. From the beginning of March to the end of May, the number of workers whose employers pre-notified KA was about 12 million, or a quarter of the labor force. This number is much greater than peak applications during the GFC, less than 2 million from February to April of 2009. Based on official estimates, confirmed KA workers reached a peak of 6 million in April, while unemployment only increased by about 0.6 million. All sectors are affected. About 32 percent of KA workers are in the trade and hospitality sectors, followed by 29 percent in the manufacturing sector and 16 percent in the business service sector. In contrast, more than 80 percent of KA workers were active in the manufacturing sector during the GFC.

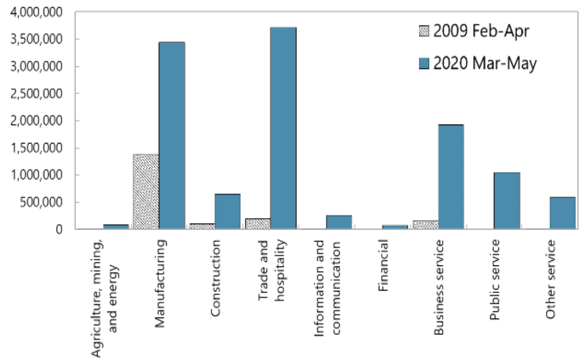
Box 2. Kurzarbeit - Germany's Short-Time Work Program (concluded)

Workers under Cyclical Kurzarbeit*
(Percent of total employment)



Sources: FSO and IMF staff calculation
* There are three types of KA programs: i) cyclical KA, for economic reasons, ii) seasonal KA, related to weather conditions, and iii) transitional KA that accompanies restructuring measures.
** March to June values are estimates.

Workers Applying Kurzarbeit by Sector
(Numbers)



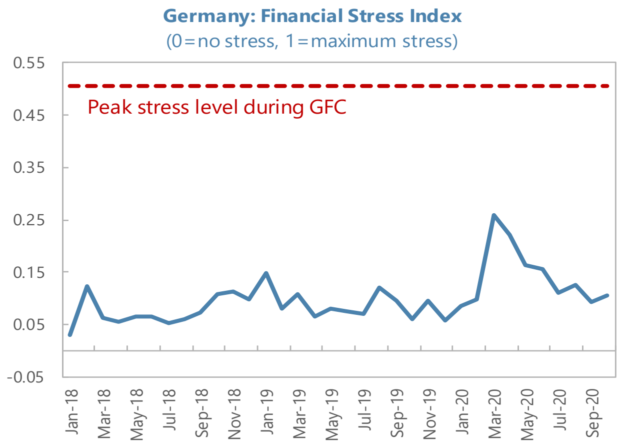
Sources: FSO and IMF staff calculation
* February and March were the two months with the largest numbers of workers in Kurzarbeit applications in 2009.

12. Since the onset of the pandemic, financial policies have been adjusted to support the flow of credit. According to the ECB's market-based composite index[7], financial stress peaked at an early stage of the crisis, although the stress level remained well below the GFC (Figure 8, left panel). Amid the modest rise in financial stress, net new bank lending to nonfinancial corporations grew significantly in March, on the back of increased precautionary cash demand during the pandemic (Figure 8, right panel). The ECB has responded forcefully to ease financial conditions and safeguard monetary transmission by expanding asset purchase programs—including by introducing the pandemic emergency purchase program (PEPP)—and providing sizable liquidity to banks. At the same time, the German authorities have released the countercyclical capital buffer and extended ECB-issued regulatory and operational relief to German banks under national supervision.[8] Together with restrictions on dividend distribution and share buy backs, this has helped cushion the impact of the crisis on banks and supported lending.

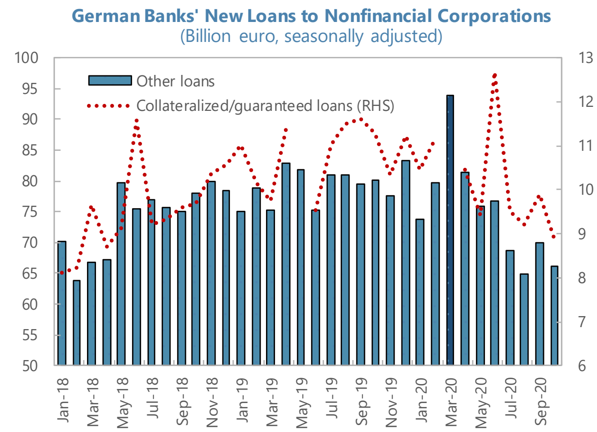
[7] The ECB's country-level index of financial stress (CLIFS) comprises six, mainly market-based, financial stress measures that capture three financial market segments: equity markets, bond markets, and foreign exchange markets. When aggregating the sub-indices, the CLIFS takes the co-movement across market segments into account.

[8] Banks were allowed to use their capital conservation buffer and operate temporarily below both the level and quality of capital required under Pillar 2, as well as below liquidity coverage ratio requirements. Supervisors have also temporarily granted flexibility in loan classification and provisioning requirements.

Figure 8 Germany: Financial Sector Developments



Source: ECB



Sources: Bundesbank, Haver Analytics, and IMF staff calculations.

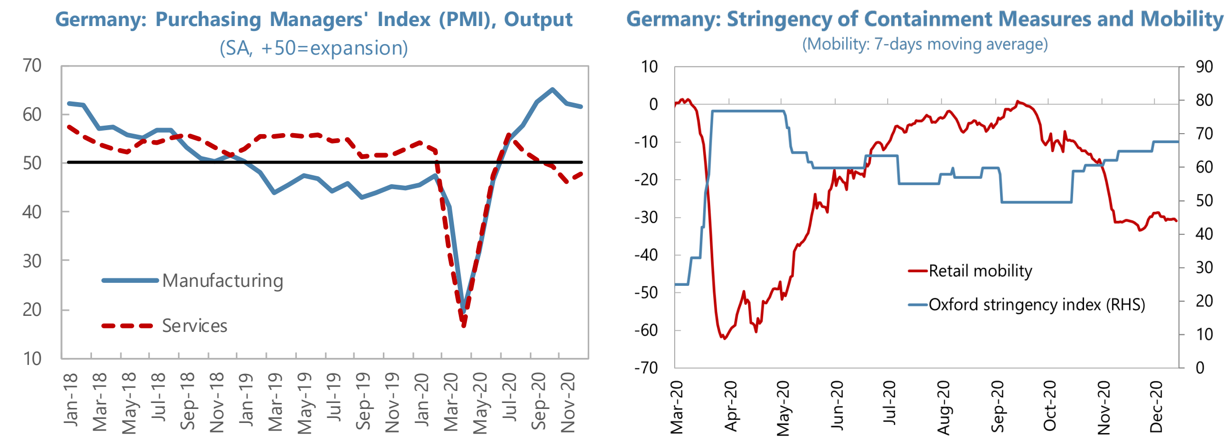
13. The government has also implemented measures to mitigate borrowers' liquidity concerns and reduce credit risk. Kurzarbeit and cash grants have provided important liquidity support for firms. In addition, the government rapidly expanded the volume of, and access to, loan guarantees, mainly through the public development banks KfW, and the WSF. So far, a modest 20 percent of the large federal guarantee envelope has been contracted, possibly reflecting relative resilience thanks to accumulated equity buffers among firms as well as the extensive wage subsidies provided through the Kurzarbeit.[9] The announcement of this large program may nevertheless have helped to shore up confidence. A debt service moratorium was legislated through end-June 2020 for households financially affected by the COVID-19 crisis. Separately, banks have voluntarily negotiated case-by-case debt service moratoria with a range of corporate and household customers.

OUTLOOK AND RISKS

14. The gradual easing of containment measures since late April has led to a partial rebound in economic activity. High-frequency data suggest that the German economy bottomed out in April-May, with a recovery underway by June. For example, manufacturing and service PMIs started recovering in May and returned to expansionary territory by July (Figure 9, left panel). However, the second wave of the pandemic and the renewed lockdown have led to a decline in mobility starting in October (Figure 9, right panel). This has caused the service PMI to weaken again, although the manufacturing PMI remains robust.

[9] The Federal guarantee envelope includes €100 billion federal loan guarantees under the WSF, for which no guarantee take-up data is publicly available. Excluding WSF guarantees, the take up rate exceeds 40 percent as of end-September 2020.

Figure 9. Germany: High-Frequency Indicators



Sources: IHS Markit and Haver Analytics.

Sources: Google, OxCGRT, Haver and IMF staff calculations.

15. **Staff's baseline projections envisage a choppy recovery, unevenly distributed across sectors, and with large quarterly swings.** While an effective vaccine—or vaccines—may begin production relatively soon, widespread distribution is not assumed to occur until the second quarter of 2021. Moreover, some amount of mandated mobility restrictions and voluntary social distancing are expected to persist until a large fraction of the population has been vaccinated, acting as a drag on demand for contact-intensive sectors, such as retail, accommodation, and food services. The baseline does not assume widespread financial distress. However, some degree of scarring, arising from a rise in bankruptcies and erosion of human capital is assumed to weigh on growth prospects in the near and medium term.

16. **Despite the projected recovery in 2021, output is not expected to return to its pre-crisis level until 2022.** GDP grew by a robust 8.5 percent in Q3 2020 (SWDA), as containment measures were relaxed and the government's stimulus package—including the temporary VAT cut—lifted domestic demand. Amid the resurgence of new infections, mobility in retail and recreation declined again, suggesting an economic contraction in Q4 2020. However, as the renewed lockdown only started in November and was initially considerably less stringent than the March-April lockdown, the contraction is expected to be much smaller than in Spring. For the year as a whole, GDP is projected to fall by -5.4 percent. In 2021, a weak first quarter, during which the country continues to tackle winter infection outbreaks, is expected to be followed by three quarters of positive growth as vaccinations become widespread and normal economic activity resumes. Aggregate demand is likely to trail the supply-side recovery, leaving a sizeable albeit narrowing output gap in 2021, while the level of output is not forecast to return to the pre-COVID 19 level until 2022.

17. **Growth is expected to return to potential over the medium term, but there is likely to be a permanent loss of output.** While some of the economic activity "lost" during the lockdown may be made up later, experience from past severe recessions suggest that there could be long-lasting damage as human and physical capital is depleted. Accordingly, potential output in 2025 is

projected to be around 2½ ppt below the level envisaged before the pandemic. The additional domestic demand created by the Next Generation EU Package is expected to be small. However, the EU is a key trading partner for Germany (around half of goods exports go to the EU), so any additional demand that the Next Generation EU Package creates in other member states will spillover to benefit Germany.

18. Inflation is projected to rise in 2021, on the back of the expiration of the VAT cuts and rebound in energy price inflation. Headline inflation is expected to increase to 1.2 percent, from 0.4 percent in 2020. However, underling inflationary pressures should remain subdued, given the continued sizable negative output gap. Despite the planned stepwise increase in the minimum wage by almost 12 percent by mid-2022[10], overall wage growth will likely remain contained as trade unions prioritize job security over wage increases amidst the uncertainty created by the pandemic.

19. The COVID-19 crisis is expected to reduce the current account surplus in the near term, as exports decline sharply. Staff project a temporary dip of the current account surplus below trend due to the severe disruption to world trade. Because domestic demand in Germany has held up relatively well compared to trading partners, import compression will only partially offset the steep decline in exports. Other partial offsets include improved terms-of-trade, and an improving services trade balance driven by disruptions to international travel. Overall, staff project a current account surplus of 6.6 percent of GDP in 2020, stronger than implied by medium-term fundamentals and desirable policies (see Annex I). Over the medium term—after the impact of the pandemic has receded—the current account surplus is projected to recover and then resume its modest gradual narrowing. Absent further policies, the current account surplus is expected to remain large in the medium term (above 6.5 percent by 2026).

20. Bankruptcies have not risen to date, partly due to the insolvency moratorium, but might jump when exceptional policy support is unwound. Staff analysis suggests that about 11 percent of German firms would have become illiquid and insolvent under baseline growth projections had no policy measures been taken.[11] However, in this scenario insolvencies would be concentrated among smaller firms, thus impairing only about 2½ percent of firm debt in Germany, about half the average impact for euro area countries.[12] In some sectors hit hard by the pandemic, the impact would have been larger; for example, almost 30 percent of the debt held by firms in the accommodation and food sector would have become impaired (Figure 10, left panel). A range of policy measures were deployed to support firms' liquidity and solvency conditions, notably a temporary change to the insolvency law to defer legal action against insolvent debtors, scheduled to be fully phased out at the end of January 2021 (Figure 10, right panel). Other measures include wage

[10] The minimum wage will be raised in four stages starting in January 2021, from the current €9.35 per hour to €10.45 per hour by mid-2022.

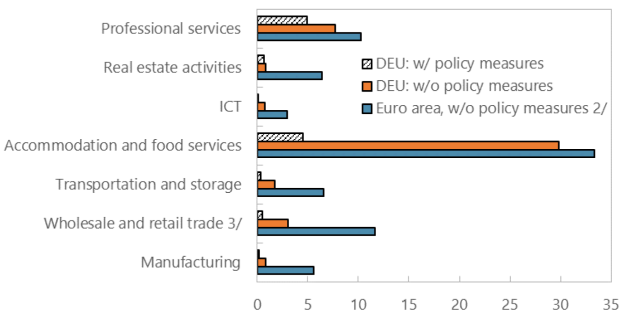
[11] See "Corporate Liquidity and Solvency in Europe during the Coronavirus Disease Pandemic: The Role of Policies", IMF Regional Economic Outlook: Europe, October 2020, Chapter 3.

[12] The share of illiquid and insolvent firms before the COVID-19 pandemic was around 0.7 percent of firm debt in Germany.

subsidies (including Kurzarbeit), tax deferrals, cash grants, and debt moratoria. With measures, the share of the economy-wide impaired debt is estimated to decline by one percentage point (to 1½ percent of the economy-wide firm debt), and by 85–90 percent for the accommodation and food, trade, and professional services sectors.

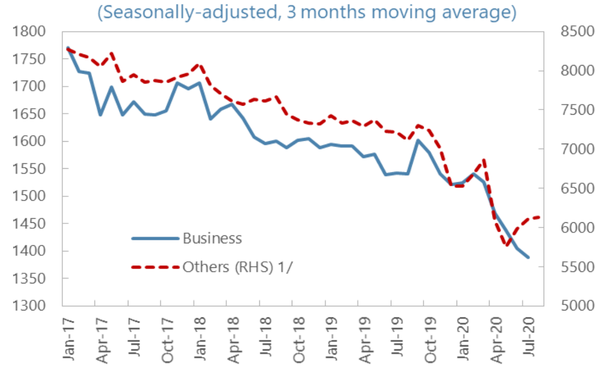
Figure 10. Germany: Insolvencies

Germany: Estimated Impact of Pandemic on Corporate Insolvency 1/
(Percent, debt weight)



Source: IMF.
1/ Share of firms that are insolvent and illiquid. Policy measures include wage subsidies, tax rebate/deferral, cash grants, debt moratoria, loan guarantees, and equity injection.
2/ Excluding Germany.
3/ Including repair of motor vehicles and motorcycles.

Germany: Number of Insolvencies
(Seasonally-adjusted, 3 months moving average)



Sources: Destatis, and IMF staff calculations.
1/ Including consumers, individuals in partnerships, self-employed, and deceased persons estates.

21. There is unprecedented uncertainty around the baseline forecast, and risks to the outlook are tilted to the downside (Annex II: RAM):

- If new infections continue to surge or intensify, longer-lasting national lockdowns might become necessary, with adverse economic consequences. In addition, delays in vaccine distribution, and/or low vaccine take-up could also require stricter containment measures, or lead to persistent behavioral changes that prompt a costly reallocation of resources. Financial markets could reassess real economy risks, leading to a repricing of risk assets and reduced credit supply. On the upside, faster progress with vaccines and therapeutics, as well as changes to the workplace and by consumers to reduce transmission, may allow activity to return more rapidly to pre-pandemic levels than currently projected.

- A strong and sustainable recovery would be impeded if a wide cross-section of firms experience deep liquidity shortfalls and bankruptcies, which, in turn, would compound job and income losses while adversely affecting banks' capital adequacy. Failure to address the pandemic's labor market impact, especially on the youth, the elderly, and women, could reduce Germany's long-term growth potential (see Paragraph 31 and Annex IV).

- As an export-dependent economy, Germany remains vulnerable to shocks to external demand, such as a no-deal Brexit. Intensified geopolitical tensions and security risks (e.g., in response to pandemic) could cause socio-economic and political disruption, disorderly migration, higher commodity prices (if supply is disrupted), and lower confidence. Geopolitical competition and fraying consensus about the benefits of globalization could accelerate de-globalization, leading to reshoring and reduced trade, lowering potential growth.

Authorities' Views

22. The authorities broadly shared staff's assessment of the macroeconomic outlook and risks. They estimate that the "lockdown light" will have a more muted impact on economic activity than the earlier lockdown in Spring, given that—at least initially—only a limited number of sectors were affected, while schools and daycares, as well as borders, remained open. They warn that such partial lockdowns might need to recur in the first quarter of 2021, as cold weather facilitates indoor virus transmission. The authorities attributed Germany's relative success in handling the economic shock so far to the timely deployment of sizable and multi-pronged support measures, combined with favorable initial conditions such as strong balance sheets of firms and households. But they expect insolvencies to rise in the coming quarters. In the most recent projection, the government estimates a reduction in medium term GDP (i.e., for 2024) compared to pre-crisis projections of around €100 billion (around 3 percent of 2019 GDP). The authorities agreed on key downside risks to the outlook, but also noted upside risks like an improvement in global trade relations following the US elections, and faster-than-expected mass vaccinations.

POLICIES TO SUPPORT A STRONG RECOVERY

Policies should support a strong and sustainable recovery, minimizing scarring from the COVID-19 recession and risks to financial stability. Germany's recovery package provides temporary broad-based demand stimulus along with welcome measures to build back a greener and smarter economy after the recession. Additional fiscal policy efforts, if needed, should be guided by the future path of the epidemic and the pace of economic recovery. Labor market policies should aim to avoid hysteresis, while allowing structural reallocation of resources once the recovery is firmly entrenched. Financial policies should remain geared towards averting systemic risks, while supporting credit supply to the economy.

A. Fiscal Policy

23. Fiscal policy should remain sufficiently accomodative, and the debt brake rule suspended, until there is evidence of a sustained recovery. While many elements of the COVID-19 measures are due to expire in 2021, the budget plan for 2021 appropriately maintains considerable demand support at a time when interest rates remain at the zero lower bound and fiscal multipliers are correspondingly large. Staff project that the headline balance will improve by about 2.9 percent of GDP in 2021, reflecting the economic rebound and the phasing out of measures such as the temporary VAT tax cut and extraordinary public health expenditures. However, several new measures will help support the recovery. These include an increased depreciation allowance to incentivize business investment, a further extension of the Kurzarbeit program, and the ramping up of public investment, particularly in green energy and digitalization. In addition—as already agreed before the pandemic—the solidarity surcharge will be phased out for the majority of taxpayers, and a basic pension will provide an additional payment to pensioners who had contributed to the social security system for at least 33 years with annual income less than 80

percent of the average wages throughout the entire period. Both measures will boost disposable income for low- and middle-income households. Overall, the headline fiscal balance and the primary structural balance are projected, respectively, to remain 4.9 percentage points and 3.5 percentage points lower than their pre-COVID 2019 levels. Staff support a continued suspension of the debt brake rule to enable this fiscal path.

24. The authorities should stand ready to deploy additional fiscal measures if the recovery falters or undershoots. The decisive policy actions implemented since the beginning of the pandemic will help limit longer-term adverse effects on balance sheets and labor markets. However, the economic recovery remains fragile and uncertain, with GDP not projected to regain its pre-crisis level until 2022. Therefore, the pace of fiscal normalization needs to be carefully calibrated to the epidemic's future path and economic conditions. The authorities should remain vigilant for signs of balance sheet distress and labor market scarring and stand ready to deploy additional measures if needed. Additional measures should be targeted and—to the extent possible—conform with structural fiscal policy objectives (see Paragraph 26). Options include:

- *Providing further liquidity support to firms in contact-intensive sectors.* Should firms' balance sheets remain weak, the government could relaunch or extend existing aid packages. The unused funds from existing grant programs could be deployed in a timely manner.

- *Lowering the labor tax wedge*. Reducing labor taxation on low- and middle-income households would increase disposable income, and, given their high marginal propensity to consume, boost domestic demand, while also incentivizing labor supply over the medium term. This can be implemented in various ways, for example, by reducing the marginal tax rate on incomes below the median, or by reducing social security contributions for low-income workers.[13]

- *Increasing R&D tax incentives.* A new tax incentive for R&D activities was introduced at the beginning of 2020, providing a tax credit up to €500,000 per year for 25 percent of R&D costs up to €2 million. This limit was raised to €4 million in the June stimulus package. Given the positive spillovers from R&D, this ceiling could be further raised, allowing the tax credit to be utilized not just by small- and medium-size enterprises (SMEs) but also by larger firms, thereby supporting new ways of conducting business in the wake of the pandemic.

- *Expediting public investment and stepping up climate expenditure.* Apart from supporting demand during the COVID-19 crisis, higher public investment would help raise potential growth and lower external imbalances. Moreover, boosting climate expenditure could help to build a more sustainable and resilient economy. To this end, the government should maintain and prioritize a pipeline of projects that can be implemented quickly and would yield productivity gains well past the pandemic.

[13] See the Selected Issues Paper "Tax Pressures and Reform Options" for the IMF 2019 Article IV Consultation for Germany.

25. Given the extraordinary policy measures and public resources deployed to combat the crisis in a relatively short period of time, high governance standards and careful monitoring are essential. Most fiscal support schemes rely on institutions and programs that have long-standing track records and established governance standards (Kurzrarbeit is administered by the Federal Employment Agency, loan guarantees by KfW and state-level guarantee banks). KfW loan guarantee programs require that bank credit screening meets certain minimum standards. In addition, the bulk of the new guarantee programs through KfW involve a risk-sharing element, such as syndicated lending. Large-volume loan guarantees and equity injections through the WSF are subject to approval by a committee composed of representatives of various ministries and the chancellery. Grants to firms administered at the state-level are appropriately guided by the principle that eligible firms must not have been loss-making prior to the COVID crisis, though its implementation has faced some operational challenges.[14] To support the economy while safeguarding public resources, all support schemes should be butressed by rigorous monitoring.

26. Looking beyond the near term, the emphasis should be on "building better for the future." Fiscal policy should focus on delivering and sustaining a recovery that addresses Germany's long-term challenges and supports external rebalancing. Globally, the pandemic is likely to result in a changed economic landscape characterized by greater remote working and less business travel. Consequently, a focus will be needed on strengthening Germany's digital infrastructure through targeted public investment. At the same time fiscal policy should be deployed to meet long-existing structural challenges such as boosting growth potential through greater physical and human capital investment (including a focus on life-long learning to support the structural changes after the pandemic); incentivizing innovation; bolstering labor supply; and increasing disposable income for low-income households. Fiscal space is expected to remain substantial, with the public debt ratio returning to pre-COVID levels as support packages are withdrawn (Annex III). There should therefore be ample fiscal resources available to encourage such structural transformation.

27. An important element of building the economy of the future will be in the area of climate change. Implementing the authorities' climate policy plan will incentivize green investment and consumption and support a green recovery. Germany has set ambitious goals to reduce carbon dioxide (CO2) and other greenhouse gases (GHGs) emissions by 55 percent below 1990 levels by 2030 and net-zero by 2050. The Climate Action Program 2030, adopted in late 2019, lays out a concrete action plan to this end. Renewable energy sources and energy efficiency are the foundations of the program. Coal-based power plants will be phased out by 2038, and renewables will become the primary energy source, supported by increasing investment in renewable technologies. At the same time, energy use sectors, such as buildings, transport, and industry will be encouraged to focus on improving energy efficiency through a range of measures, such as tax incentives for energy-efficient modernization of buildings, increasing e-cars and public charging points, and subsidies for green electricity.

[14] The early implementation of grants under the "Soforthilfe" scheme encountered problems of user fraud, in response to which the authorities tightened eligibility criteria and screening mechanisms.

Table 2. Germany: General Government Operations, 2019–25
(Percent of GDP)

	2019	2020 Proj.	2021 Proj.	2022 Proj.	2023 Proj.	2024 Proj.	2025 Proj.
Headline Balance	1.5	-6.3	-3.4	0.1	0.4	0.6	0.6
Change from the previous year	*-0.3*	*-7.8*	*2.9*	*3.5*	*0.4*	*0.2*	*0.0*
Primary Structural Balance	*2.1*	*-4.1*	*-1.4*	*1.0*	*1.1*	*1.1*	*1.1*
Implied Fiscal impulse 1/	*0.1*	*6.1*	*-2.7*	*-2.3*	*-0.1*	*-0.1*	*0.1*
Structural Balance	1.3	-4.8	-2.0	0.4	0.6	0.6	0.6
Public gross debt (Maastricht definition)	60	71	71	68	65	63	60

Sources: Ministry of Finance, Bundesbank, Federal Statistical Office, and IMF staff estimates and projections.
1/ Negative of the difference between the projected primary structural balance in each year and that of the year before.

Authorities' Views

28. **The authorities emphasized that their policies have been closely calibrated to the progress of the pandemic, and that they stand ready to deploy additional measures if needed.** The policy mix evolved throughout the pandemic, from the expansion of the safety net in the March rescue package, to the June stimulus program supporting broad-based recovery, and then to the aid package targeting the most affected businesses during the renewed lockdown. The authorities stressed the importance of their measures in supporting private sector confidence in this highly uncertain environment. They remain vigilant for any further signs of economic distress, and are ready to step up support if needed. However, they did not identify a current need for a further extension of the assessment basis for the R&D tax allowance, as it was just lately doubled from €2 million to €4 million (the arrangement is in place until end-June 2026). An evaluation is to be undertaken in 2025. Moreover, the returns to further increasing the threshold may not be very substantial, since large firms already receive compensation for R&D through other government programs. The authorities agreed with staff's assessment that public debt is sustainable under all reasonable stress scenarios and that fiscal space remains available for additional support.

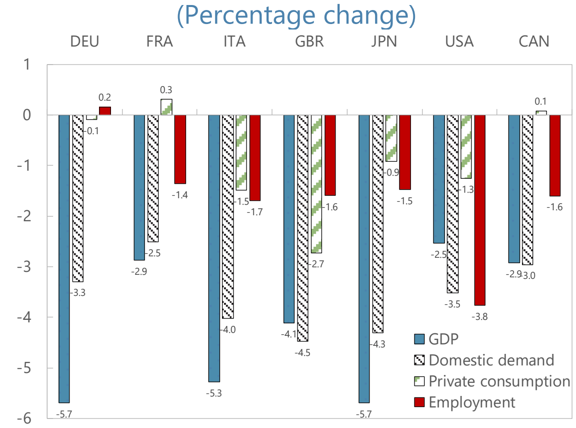
29. **The authorities highlighted the transformational nature of several of their recent measures, which are expected to support structural changes after the pandemic.** The "future package" in the June stimulus program allocated €26.2 billion to the Energy and Climate Fund, a special reserve for implementing the government's climate policies; €1 billion to support digital learning in schools; and €5 billion on 5G infrastructure. In addition, the medium-term budget plan continues to be guided by the government's policy priority: promoting climate-friendly and inclusive growth.

B. Preventing Labor Market Scarring and Growing Inequality

30. Kurzarbeit should remain a central pillar in supporting the labor market as long as economic activity remains weak. The program contributed to Germany's remarkable labor market resilience during the GFC, when Germany suffered a large GDP contraction due mainly to collapsing external demand. Among G7 countries, only Germany experienced no fall in employment in 2009 (Figure 11). Kurzarbeit also helped stabilize labor income, support private consumption, and reduce the need for precautionary savings, which in turn supported the smooth economic recovery after the GFC. In the current pandemic, Kurzarbeit has again played an important role in preserving jobs (see Paragraph 11). Kurzarbeit will remain supportive in 2021, but some parameters will gradually be tightened. For example, the full exemption of employer's social security contributions on reduced hours will expire by end-June 2021, which will then, from July to December 2021, be replaced with a 50 percent waiver of the contributions. Workers who apply for Kurzarbeit by end-March 2021 will receive increased benefits through end-2021.

Figure 11. G7: GDP Growth and Employment in 2009

(Percentage change)



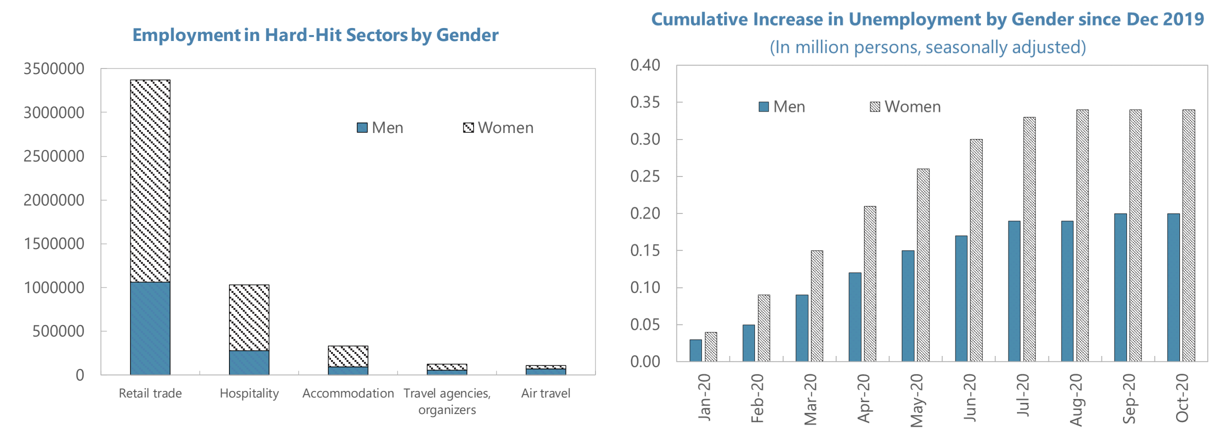
Sources: WEO and IMF staff calculation.

31. Nonetheless, by itself Kurzarbeit is inadequate to overcome the impact of the COVID-19 crisis on the labor market, given the wide range of sectors affected. The pandemic is affecting far more sectors than the GFC, which exerted its chief impact on manufacturing. In particular, marginal employees—who disproportionately work in pandemic-hit services sectors and are comprised largely of women—are not covered by Kurzarbeit. The empirical record also indicates that economic crises tend to have a disproportionately large and lingering effect on young and old-age workers, with a possible persistent impact on potential growth.

- **Women.** Women make up the majority of employment in contact-intensive services (Figure 12, left panel) and also comprise 64 percent of marginal employees. As a result, the cumulative increase in unemployment since the beginning of 2020 for women has been roughly double that of men (Figure 12, right panel). This threatens to partly roll back the progress in improving female labor market participation achieved in the past, which had underpinned a narrowing of the gender wage gap and a reduction in overall income inequality prior to the crisis. The adverse impact on women may linger beyond the acute downturn if hurdles to re-enter the labor market persist, that is, if some of the affected sectors need to shrink permanently, or if reduced school hours/daycare schedules require prolonged absence from work by mothers. The crisis may also widen income inequalities along other dimensions.

- **Youth and elderly workers.** Poor labor market conditions can substantially disrupt early careers, with a lingering wage and productivity impact. At the same time, workers who are eligible for early retirement and become unemployed due to the pandemic may decide to exit the labor market permanently. Although Germany's unemployment rates have risen only moderately so far, the rates may increase over a six-month to one-year period if the recovery is delayed or the labor market structure shifts. A lower employment rate for young and old-age workers, combined with lower labor productivity of young workers, could significantly lower Germany's growth potential (Annex IV).

Figure 12. Germany: Labor Market Outcomes and Exposure by Gender



Source: Federal Employment Agency (BA)

Sources: Haver (ILO Monthly Labor Market Statistics)

32. Supporting the re-integration of crisis-hit workers into labor markets, especially among the worst affected groups, would help reduce the scarring effect of the pandemic. It is important to sustain expanded Kurzarbeit benefits through end-2021, as planned. At the same time, strengthening incentives for job search while reducing hiring costs for viable firms (e.g., by providing a hiring subsidy or subsidies for firm-sponsored apprenticeships) will be important to facilitate post-pandemic re-integration. The authorities should remain vigilant to the particular difficulties likely to face women, the youth, and elderly workers, and target measures to facilitate their re-entry to the labor force. Meanwhile, the basic social safety net should remain flexible and generous, protecting the most vulnerable groups. Access to basic social security has been relaxed and the processing time shortened through March 2021. Given the unprecedented uncertainty associated with economic recovery, the basic social safety net should remain easily accessible to vulnerable groups until their labor market prospects mend.

33. As the recovery gains momentum, policies should shift from protecting jobs to supporting workers and facilitating efficient resource reallocation. Once the recovery is firmly established, the parameters of Kurzarbeit should be normalized. The crisis is likely to have transformational effects on the economy well beyond the duration of the pandemic itself as, for example, home delivery substitutes for brick and mortar retail, and stay-at-home employees increasingly provide professional services. These changes, and other structural adjustments such as

moving to a greener economy, will require a reallocation of workers from shrinking sectors to expanding sectors; and this reallocation should not be hindered by incentives that prolong unproductive matches. An emphasis will be needed on promoting training to upgrade skills and increase the employability of workers, while targeting jobs that are likely to be viable over the medium term. For example, further stepping-up investment in full-time quality care in kindergartens and schools could help re-integrate women into the labor market. The flexibility brought by digitalization could bring more job opportunities for old-age workers, provided that the requisite training is encouraged and made widely available. Labor market policies can also be effectively supplemented by measures to promote the creation of new businesses and jobs, such as reducing administrative burdens through streamlining regulations and fully implementing the National e-Government Strategy.

Authorities' Views

34. The authorities agreed that Kurzarbeit should remain the main labor market stabilization tool in the near term. They highlighted the role that Kurzarbeit and its enhancements have played in limiting job losses while supporting firms' liquidity and workers' incomes during the first wave of the pandemic, thus reprising the success of the instrument during the GFC. The authorities agreed that it was too early to normalize Kurzarbeit's parameters now, given the new surge in infections. But looking ahead, they stressed that this central pillar of support remains only a bridge into 2021 as the rules on the enhancements to Kurzarbeit are set to be pared back by end-2021.

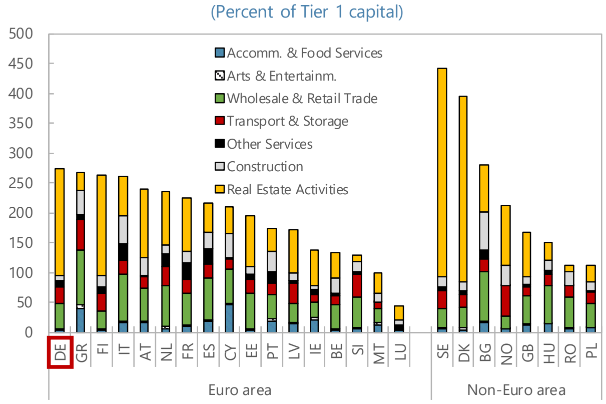
35. While broadly sharing the view that women, young people, and elderly workers have been bearing a larger burden, the authorities cautioned that it was still too early to identify any long-lasting scarring effect. They acknowledged that women have a high employment share in contact-intensive service sectors and comprise the majority of vulnerable marginal workers, but pointed out that the rise in the female unemployment rate is less pronounced in the national unemployment statistics than in survey-based ILO unemployment data. The authorities are closely monitoring the labor market prospects of young graduates, and have put in place bonuses for SMEs to maintain or expand apprenticeships, complementing other long-standing programs to address the structural shortage of skilled labor. They also stressed that existing active labor market instruments, such as wage subsidies for workers with placement difficulties (e.g., the elderly and/or low-skilled unemployed) and continuous education and training, would contribute to re-integrating affected groups into the labor market once the crisis abates. Furthermore, the promotion and possibilities of continuous training for workers on Kurzarbeit have been improved. In particular, employers receive financial incentives to further the professional qualifications of staff who are on Kurzarbeit.

C. Reinforcing Financial Stability

36. The COVID-19 crisis has magnified pre-existing vulnerabilities in the German banking sector, but most large banks are expected to be able to absorb the shock to their balance sheets. Staff analysis documents major German banks' sizable loan exposure to sectors highly affected by the pandemic (Figure 13, left panel), exposing them to lower profits, rising default risk, and higher charge-offs for un-provisioned loan losses. At the same time, strong corporate equity buffers and policies supporting borrowers' liquidity have so far limited credit defaults. Staff estimate that the asset-weighted average Common Equity Tier 1 (CET1) capital ratio of large German banks could decline by 2 ppt by end-2021 under the baseline macroeconomic projection of a rebound in economic activity in 2021. However, mitigating policies could play an important role in limiting the erosion of capital, reducing the capital impact by half (Box 3). Although German banks are generally resilient under the baseline scenario, capital erosion could be substantially larger if downside risks to growth materialize.

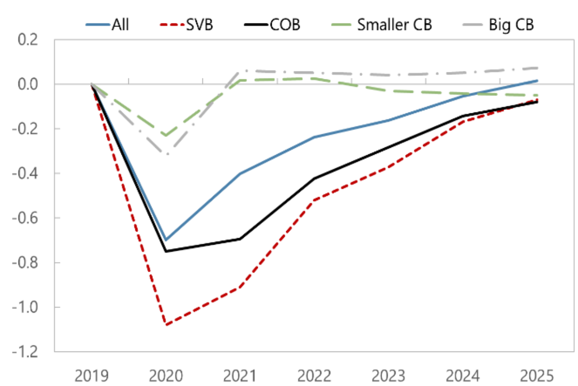
Figure 13. Germany: Banks' Vulnerability to The Pandemic

Large European Banks' Exposure to Pandemic Highly-Affected Sectors
(Percent of Tier 1 capital)



Sources: EBA 2020 Transparency Exercise and IMF staff calculations.

German Banks' ROA Response to Projected Macroeconomic Conditions



Sources: Fitch Connect, WEO, and IMF Staff calculations

Note: The ROA response is calculated based on an empirical model of banks profit and macroeconomic variables, estimated using German bank-level data from Fitch Connect separately for each bank type and applying macroeconomic projections under the October 2020 WEO baseline. SVB=saving banks, COB=co=operative banks, CB=commercial banks.

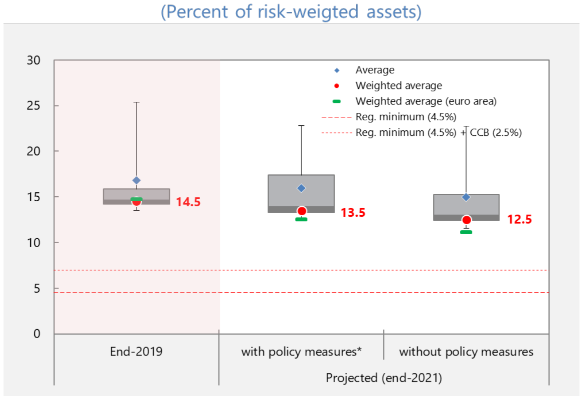
Box 3. The Impact of COVID-19 and Mitigation Policies on Large German Banks' Solvency[1]

The pandemic could affect banks' capital adequacy through multiple channels. In a forthcoming paper, staff assess the impact of the COVID-19 shock on large European banks' solvency, accounting for key borrower support measures (e.g., grants, tax deferrals / rebates, wage subsidies, loan guarantees, debt moratoria). The exercise assumes three key channels through which the economic shock of the pandemic affects banks' Common Equity Tier 1 (CET1) ratios:

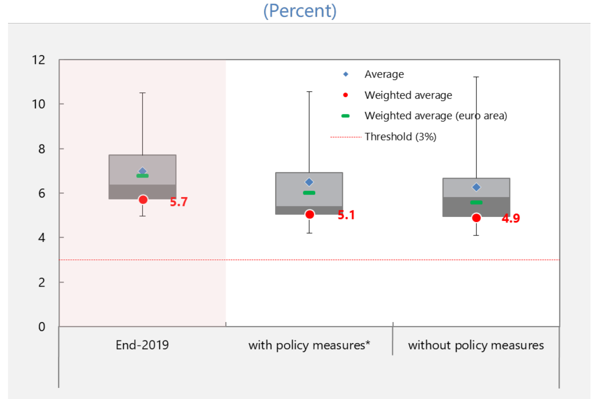
- Lower GDP growth and higher unemployment depress banks' profitability. The impact is assessed using the elasticity of bank profitability (i.e., return-on-assets) to the macroeconomic variables estimated for 41 European countries over 2008-19. Empirical studies suggest that the decline in overall profits can be attributed mainly to larger loan loss provisioning arising from heightened default risk of businesses and households during times of stress. Loan guarantees help reduce provisions for new loans while debt moratoria reduce interest income.
- Rises in bankruptcies and poor distressed asset recovery rates lead to write-offs of impaired loans. Write-offs are lower when borrower measures reduce bankruptcies and, thus, the probability of default on bank loans. We use the estimated share of firm debt that would have been impaired under the baseline macroeconomic projection with and without policy measures, as discussed in Paragraph 20, to determine the size of write-offs.
- Higher default risk also increases credit risk weights, i.e. the amount of capital that must be set aside to cover higher unexpected losses. The rise in risk weights is mitigated if new lending is guaranteed by the government.

Results suggest that major German banks remain broadly resilient under the baseline scenario, with policies acting to cushion the hit to capital. The exercise includes 15 of the largest banks in Germany (mostly large commercial banks and Landesbanken), covering 43 percent of total banking sector assets. We assume that 15 percent of envisaged bankruptcies occur in 2020 and 85 percent in 2021, in line with the insolvency moratorium in place for illiquid and insolvent firms until end-September 2020. With no mitigating policies, the aggregate CET1 ratio of large German banks is estimated to decline by about 2 percentage points by end-2021 (left figure). The dispersion of capital adequacy across major German banks also widens. Policies would provide a substantial cushion of roughly 1 ppt (difference in the weighted average CET1 ratio with and without policies by end-2021). Together with policies, the projected economic rebound in 2021 is expected to limit the impact to banks' earnings and capital. Similar results are found for banks' capital-to-asset ratios (right figure).

German Banks: CET1 Capital Ratio
(Percent of risk-weigted assets)



German Banks: Capital-to-Asset Ratio
(Percent)



Sources: EBA; ECB; ESRB; FitchConnect; and IMF staff estimates.
Note: The grey shaded area of the boxplots shows the inter-quartile range (25th to 75th percentile), with whiskers at the 10th and 90th percentile of the distribution.
1/ Based on EUR Department Paper (forthcoming): "The Impact of COVID-19 on European banks."

37. Smaller saving banks will likely suffer more losses than large banks owing to their high exposure to SMEs, while large private banks continue to face long-term challenges. Historically, the profitability of saving banks and, to a lesser extent, co-operative banks tends to be most affected by domestic macroeconomic conditions, likely owing to their larger exposure to SME lending (Hellwig, 2018). Under baseline macroeconomic projections, the average return on assets (ROA) for savings and co-operative banks could decline by around 1 ppt more than commercial banks in the near term, absent further policy interventions, and only recover slowly in the medium term (Figure 13, right panel). This is driven primarily by higher loan loss provisioning and lower interest income. However, saving and co-operative banks generally entered the crisis with higher capital buffers than other banks and are therefore better positioned to absorb losses. Nevertheless, heightened profitability and solvency pressures provide an opportune moment to accelerate long-standing banking-sector consolidation among saving and co-operative banks. This would make the banking sector as a whole more resilient to future shocks.

38. Phasing out borrower support measures and unwinding capital relief during the recovery period will require a careful balancing act. Bankruptcies could start rising as the insolvency moratorium for illiquid and insolvent firms expired at end-September 2020[15], posing a significant risk to financial stability. At the same time, lending conditions could tighten as several exceptional borrower support measures expire and default risk increases. The government should therefore ensure a smooth transition by continuing some direct support for firms, targeting those whose operations have been temporarily impaired by health risks or social distancing restrictions and firms that are crucial for the economy to function, while facilitating the exit of unviable companies (Paragraph 24). Implementing such triage is inherently difficult, however, given the uncertainty surrounding the post-pandemic landscape, likely justifying erring on the side of caution at this point and preserving some firms that will ultimately prove to be unviable. A fall in banks' capital diminishes their capacity to extend credit—which will be vital for economic recovery. Hence the temporary relaxation of regulatory capital requirements (Paragraph 12) should stay in place until the recovery has firmed up. Since it will take time for businesses and households to recover, bank capital and liquidity buffers should be rebuilt gradually, minimizing disruptions to the supply of new loans. Bank supervisors should maintain restrictions on discretionary dividend distributions and share buy backs during the recapitalization period. To improve profitability, German banks should further reduce administrative costs, enhance governance standards, and increase non-interest revenues (i.e., fees and commissions). This is particularly urgent as the continued lower-for-longer interest rate environment will keep interest margins under pressure, while the still fragile and uncertain economic recovery might limit loan growth and require increased provisioning in the near term.

[15] The insolvency moratorium for indebted yet liquid firms remains in place through end-January 2021.

39. As the recovery gains momentum, financial policy measures should be made more targeted to prevent credit misallocation and the rise of "zombie" firms.[16] With most of the credit risk of guaranteed loans shifted to the state and creditworthiness screening becoming highly streamlined, some moral hazard in lending and loan evergreening is likely.[17] In addition, the insolvency moratorium has complicated the monitoring of firms' solvency conditions. The authorities should, therefore, carefully monitor the build-up of credit risks. The 100 percent loan guarantee program is appropriately being phased out by mid-2021, and remaining guarantee programs' coverage should be adjusted going forward to prevent credit misallocation. Specifically, eligibility criteria should be tightened to better target illiquid but solvent firms. As the recovery gathers momentum, prudential standards should be normalized—and clearly communicated—to incentivize the timely recognition of problem assets. Germany's insolvency regime is already among the most efficient in Europe, which should help with reallocating resources after the crisis, and facilitating the swift repair of bank balance sheets.[18] To further reduce disruptive insolvencies, the authorities should expedite the transposition of the EU Directive on Preventive Restructuring Frameworks, which allows companies that are currently in distress but can still demonstrate a sound business model to prevent insolvency, provided that they convince their creditors of a viable medium-term strategy and put forward a preventive restructuring plan.

40. German life insurers' profitability is expected to continue to suffer from the low interest rate environment due to a large share of guaranteed products. German life insurers entered the pandemic with solvency ratios that were well above the 100 percent threshold set by supervisors. Yet, their profitability has long been squeezed by the low-for-long interest rate environment, owing to a large share of products that offer higher guaranteed benefit rates than investment returns (Figure 14, left panel). To boost profitability, life insurers have been increasing the maturity of their assets while taking larger credit risks (Figure 14, right panel). At the onset of the COVID-19 pandemic, a further flattening of the yield curve of German government bonds and drop in equity prices adversely affected insurers' profitability. Looking ahead, downgrades of corporate credit ratings and declines in commercial real estate prices could further weigh down profitability. Supervisors should continue monitoring these risks. At the same time, given the substantial uncertainty regarding the scale and duration of the crisis, life insurers should adopt a prudent

[16] Zombie firms tend to be less productive than average, weighing on aggregate productivity. Moreover, the survival of zombie firms can crowd out investment and employment in healthy firms. Specifically, zombies depress the prices of healthy firms' products, and raise their wages and their funding costs, by competing for scarce resources (Banerjee and Hofmann, 2018).

[17] The expanded KfW guaranteed loans are subject to a streamlined risk assessment process: for loans up to €3 million Euro, KfW does not carry out its own risk assessment as usual. For loans between €3 and €10 million, KfW only carries out a simplified risk assessment. For the Quick Credit Program with 100 percent guarantees, no risk assessment or collateral is required.

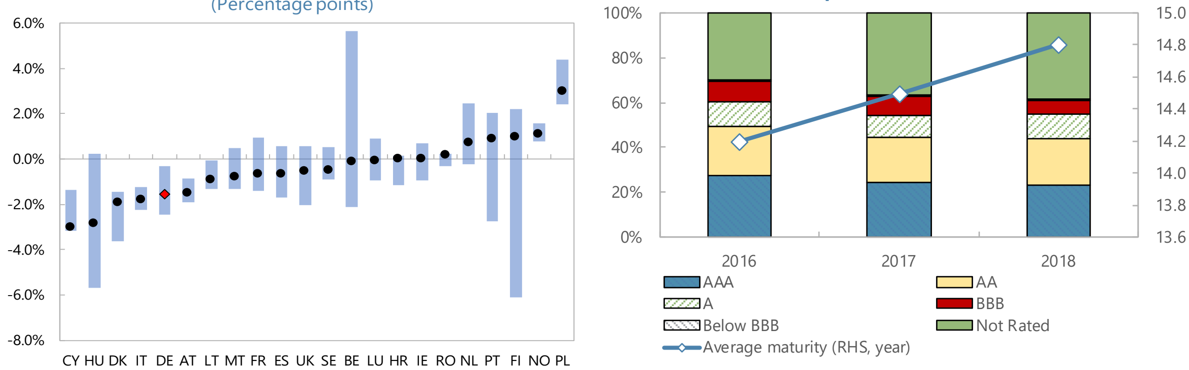
[18] With its high recovery rate, and relatively cost-effective and rapid legal procedures, Germany's insolvency regime is ranked well among peers (OECD, 2018). In turn, Germany has a relatively low standard deviation of total factor productivity across sectors, suggesting that factors of production are able to move easily between sectors (Aiyar and others, 2019).

approach. For example, they should temporarily suspend discretionary dividend distributions and share buy backs, with the objective of preserving capital and contributing to financial stability.

Figure 14. Germany: The Life Insurance Sector

Life Insurers' Investment Return–Guaranteed Rate Differential 1/
(Percentage points)

German Life Insurers: Average Asset Maturity and Composition of Corporate Bond Portfolio

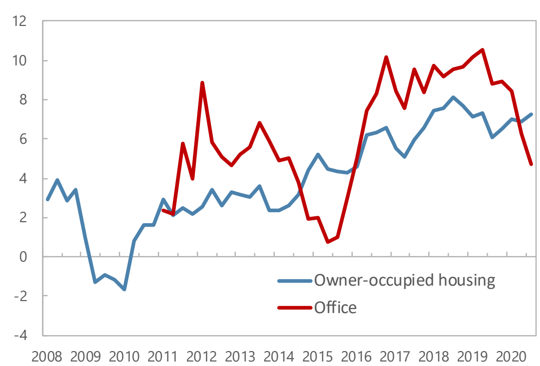


Source: EIOPA
1/ As of end-2018. Figure shows the 25th, 50th, and 75th percentiles.

Sources: EIOPA, Bafin, and IMF staff calculations.

41. The pandemic has elevated uncertainty about the real estate market, raising the urgency of closing data gaps and expanding macroprudential policy tools. Housing prices maintained rapid growth through Q3 2020 (Figure 15), supported by underlying supply shortages and a strong mortgage market. However, demand for housing could subside if the pandemic leads to a persistent decline in household income. The supply of mortgage loans could also be affected if banks face capital shortages. In addition, a shift to the "new normal," where more workers regularly work from home, could lead to a rebalancing of demand for housing in city centers. Meanwhile, the growth of office prices has been softening since the onset of the pandemic. While Brexit-related demand—relocating offices from the U.K. to Germany—may continue to support demand for commercial properties, the shift to the "new normal" could reduce the underlying demand for offices, especially in city centers. German banks are among Europe's most exposed to commercial real estate (CRE) (Paragraph 36), making them susceptible to drops in CRE prices. Since lack of granular loan information hinders a full assessment of potential financial stability risks in specific market segments, these data gaps should be closed speedily. In addition, Germany should expand its macroprudential toolkit to include income-based instruments (e.g., debt-to-income or debt-service-to-income cap) for residential and commercial real estate (CRE) lending. Other instruments for CRE should also be considered, recognizing that the sector is characterized by considerable heterogeneity in financing structures.

Figure 15. Germany: Real Estate Prices
(Year-over-year percent change)



Sources: Bundesbank, vdpResearch, and IMF staff calculations.

42. The recent Wirecard scandal demonstrates the needs for reforms to Germany's auditing framework and accounting enforcement. German fintech Wirecard AG—a large player in payment processing—acknowledged accounting fraud involving at least €1.9 billion in fictitious cash balances, and filed for insolvency on June 25. Although the financial stability implications were minor due to the limited size of its banking business, the event revealed deficiencies in audit regulation and accounting enforcement in Germany. Classifying Wirecard AG as a fintech firm, not a financial holding, allowed the company to fall into a regulatory crack in terms of financial reporting and AML/CFT activities. This, combined with Germany's complex two-stage accounting enforcement and a relatively long mandatory audit rotation time of 10 years—with a possible extension for another 10 years for nonfinancial corporations—tended to shield the firm.[19] In early October, the cabinet approved a welcome reform plan that aims to combat accounting fraud by strengthening BaFin's supervisory powers and capacity, tightening the rule governing mandatory audit rotation through eliminating the possibility to extend beyond 10 years, and strengthening corporate governance. To eliminate regulatory blind spots, the plan also paves a way for BaFin to supervise a company group as whole, even if only selected subsidiaries are subject to its supervision.

43. According to FATF's latest mutual evaluation for Germany, measures to prevent foreign officials from laundering the proceeds of corruption are generally sound, but need to be strengthened in some areas.[20] The framework applying preventive measures to financial institutions, as well as nonfinancial business and professions is sound. This applies to requirements to conduct customer due diligence (including for foreign politically exposed persons) and filing suspicious reports. However, there might be questions about whether these requirements are being effectively implemented in all institutions in light of high-profile cases involving German banks in recent years. The frameworks for investigating and prosecuting money laundering cases and cooperating internationally are relatively robust and their effectiveness will be assessed during next year's FATF assessment.[21] Previously, a lack of readily accessible beneficial ownership information about companies and trusts made it difficult to undertake investigations on behalf of foreign counterparts. In particular, it became difficult for banks and others to identify the true owners of accounts in the names of corporates. To help address this weakness, the authorities have introduced a Transparency Register.

[19] Germany has a "two-stage" accounting enforcement framework. Under the framework, two entities are in charge: the Financial Reporting Enforcement Panel ("DPR") at the first stage, and BaFin at the second stage. The DPR is a private-sector entity that brings together national employers' associations, trade unions, and industry associations of banks, insurers, and accountants, among other members. BaFin steps in only when the DPR is viewed as having failed to resolve a problem.

[20] In line with the Framework for Enhanced Engagement on Governance, this paragraph discusses the facilitation aspects of foreign corruption. An update of the OECD's peer review of the German framework to assess the implementation and enforcement of the Convention on Combating Bribery of Foreign Public Officials in International Business Transactions ("supply side of corruption") will be reported in 2021.

[21] Germany's next FATF assessment is due to be adopted in October 2021 and the matters reported here will be updated accordingly.

Authorities' Views

44. The authorities agreed that German banks' profits and capital are likely to decline, but emphasized the important cushioning effect of exceptional borrower support, and ample buffers accumulated prior to the pandemic. Based on their models, the authorities expect a significant increase in bankruptcies in the nonfinancial corporate sector. While the banking sector is likely to withstand expected losses across a wide range of scenarios, the authorities pointed to the high degree of uncertainty, which makes it difficult to predict developments in bankruptcies and their impact on financial stability. They broadly agreed that savings and co-operative banks may also face a large drop in profits, but emphasized that smaller banks entered the crisis with generally higher capital buffers, making it easier for them to absorb losses. The authorities concurred that regulatory capital relief should remain in place in the near term, acting as an important signal for banks to use buffers in support of lending to the economy. Credit risks will need to be closely monitored in light of persistent uncertainty and the extraordinary support measures in place. The authorities shared the view that German insurers have weathered the pandemic relatively well, but that underlying challenges remain. They agreed that banks and insurers should pursue a prudent dividend policy and limit or refrain from dividend distributions or share buybacks in view of existing uncertainties.

45. The authorities are making progress in narrowing gaps in real estate loan data and expanding macroprudential tools. A statutory order for regular data collection by the Bundesbank on residential real estate loans is scheduled to enter into force at the beginning of 2021, with the first set of data expected in 2022. The Finance Ministry is also preparing a report for the Bundestag, evaluating the existing macroprudential instruments for residential properties (i.e., a loan-to-value cap and an amortization requirement that can be applied to residential real estate loans and housing-related commercial real estate loans), which also covers the question of expanding the toolbox to income-based instruments. Appropriate borrower-based instruments for CRE loans would need to reflect diverse CRE financing structures, and adding such instruments to the toolbox is beyond the scope of the current evaluation program.

46. The authorities highlighted important steps taken to enhance audit regulation and accounting enforcement and further strengthen AML/CFT systems. They agreed with staff's assessment of issues with audit procedures and accounting enforcement, and indicated that the planned comprehensive reform would help close regulatory loopholes. They also intend to take up at the EU level any regulatory deficiencies in payment transactions, since this area is fully harmonized under EU law. Since the 2019 Article IV consultations, BaFin has taken a number of measures to enhance the effectiveness of the AML/CFT framework, such as legislative amendments, risk analysis and supervisory measures, as well as organizational adjustments and enhanced administrative cooperation. For example, in September 2019, the Anti-Financial Crime Alliance (AFCA) was established as the German AML public-private partnership, where BaFin is one of the public-sector representatives on the Board. The latest EU AML-Directive (5AMLD) also came in force in Germany on January 1, 2020. With regard to the risk-based approach, Germany has made significant progress including the publication of the National Risk Assessment in 2019 and the

finalization of several sectoral risk assessments. The ongoing FATF mutual evaluations focus on the effectiveness of AML/CFT systems (i.e., preventive measures, investigation and prosecution), as well as adjustments to the framework (e.g., measures to improve accessibility to beneficial ownership information).

STAFF APPRAISAL

47. To date, Germany has been relatively successful at managing the pandemic and its economic fallout. Early and widespread testing and contact tracing, and efficient use of abundant hospital capacity have resulted in one of the lowest mortality rates in Europe. The authorities swiftly launched unprecedented support measures to combat the economic consequences of the pandemic, taking advantage of substantial fiscal space. The multi-pronged fiscal and guarantee packages announced in March and June—with a total envelope of over 30 percent of GDP—were among the largest in Europe. While actual spending has been well below the initial envelope, these measures provided critical income and liquidity support to affected households and businesses, and bolstered confidence.

48. The outlook is highly uncertain, and risks are tilted to the downside. An unprecedented economic contraction in the second quarter was followed by a stronger-than-expected rebound in the third quarter, helped by supportive policies. But the resurgence of infections—and the new lockdown—demonstrate the continuing challenge of reopening the economy while keeping the virus in check. Output is not expected to return to its pre-crisis level before 2022. Despite the temporary current account reduction due to disruptions caused by the pandemic, Germany's external position in 2020 is expected to be stronger than implied by medium-term fundamentals and desirable policies. Risks to the outlook are substantial. A failure to bring new infection waves under control could necessitate stricter and longer lasting lockdowns. Broader risks, such as a no-deal Brexit, a re-escalation of trade tensions, and other shocks to the global economy could also weigh on Germany's open and trade-oriented economy. On the upside, quicker progress on a vaccine—as suggested by recent medical announcements—may allow a speedier resumption of economic activity.

49. Fiscal policy should remain sufficiently accommodative until there is evidence of a sustained recovery. Although some stimulus measures are due to expire at the end of this year, the 2021 budget appropriately maintains considerable demand support, with the escape clause of the debt brake rule remaining activated to support this fiscal path. The authorities should remain vigilant for signs of balance-sheet distress and labor market scarring and stand ready to deploy additional measures if needed. Such measures could include additional grants to viable firms, reduced social security contributions from low-income earners, and expedited public investment and spending on climate change mitigation policies. While public debt will increase in the near term, it remains sustainable across multiple stress scenarios and should not pose an obstacle to vigorous fiscal policy action. Strong governance standards and transparent monitoring of implemented measures are crucial to ensure efficient resource allocation and maintain public trust.

50. Looking beyond the near term, fiscal policy should aim to "build better for the future." Once the crisis abates, the focus should shift to addressing long-term challenges of structural transformation: potential growth should be boosted by investing in digital infrastructure, encouraging innovation, and bolstering labor supply. Policy should aim to make medium-term growth greener, by implementing the government's ambitious climate investment plan, and more inclusive, by raising the disposable income of low-income households. These measures should also contribute to reducing long-standing external imbalances. The structural fiscal balance is expected to improve significantly from 2022 onwards, as the economy recovers and support measures expire, leaving ample fiscal resources for the necessary structural transformation, including challenges posed by demographic developments.

51. Labor market policies should remain protective to prevent scarring and widening inequalities. The COVID-19 crisis disproportionately affects contact-intensive services, with women bearing a particularly high burden due to their high employment shares in these sectors. To limit scarring and preserve valuable job matches, it is essential that crisis-induced changes to the parameters of Kurzarbeit remain in place until a sustained recovery is underway. Since marginal workers, many of them women, and the self-employed, are not eligible for Kurzarbeit, the extended basic income should also be maintained until their labor market prospects improve.

52. As the recovery gains momentum, labor market policies should shift to facilitating the necessary reallocation while protecting the most vulnerable. The pandemic is likely to bring long-term changes to the economy, such as a shift towards more remote working and online purchases. Strengthening incentives for job search should be accompanied by policies to reduce hiring costs for viable firms, for example through bolstering existing hiring subsidies and subsidies for apprenticeships. Further stepping-up investment in full-time quality care in kindergartens and schools could help re-integrate women into the labor market, while investments in digitalization and lifelong learning could enhance labor mobility.

53. Financial policies should strike a careful balance between unwinding extraordinary support measures and ensuring banks' ability to lend. With the insolvency moratorium being phased out, corporate bankruptcies are likely to rise. At the same time, lending conditions could tighten as several exceptional borrower support measures expire and default risk increases. To safeguard financial stability, the government should ensure a smooth transition by continuing some direct support for firms, targeting those whose operations have been temporarily impaired by health risks or social distancing restrictions and firms that are crucial for the economy to function, while facilitating the exit of unviable companies. The planned implementation of the EU Directive on Preventive Restructuring is a welcome step; one which will help distressed but viable firms avoid disruptive insolvencies, thereby preserving productive capital—including job-specific human capital—and supporting financial stability.

54. The German banking sector is likely to take a significant hit to profits and capital but remains broadly resilient under the baseline economic outlook. The COVID-19 recession exposes banks to rising default risk and lower revenues. However, existing capital buffers, the

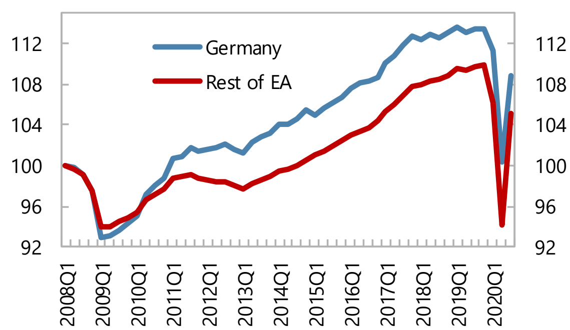
temporary relaxation of regulatory capital requirements, and a range of measures to mitigate borrowers' liquidity concerns and reduce credit risk, will help cushion the impact on bank solvency. Since it will take time for businesses and households to recover, bank capital buffers should be rebuilt gradually, minimizing disruptions to the supply of new loans. Bank supervisors should maintain restrictions on discretionary dividend distributions and share buy-backs until the full impact of the pandemic becomes clearer. They should also continue encouraging banks to tackle the long-standing issue of low profitability, through restructuring efforts to boost non-interest revenues and reduce administrative costs.

55. It is recommended that the next Article IV consultation take place on the regular 12-month cycle.

Figure 16. Germany: Growth Developments

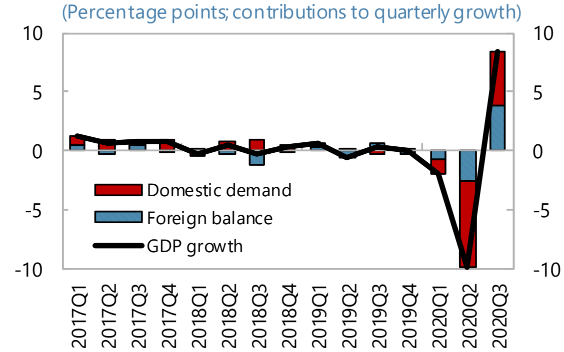
The COVID-19 pandemic caused an unprecedented economic contraction in H1 2020…

Selected Economies: Real GDP



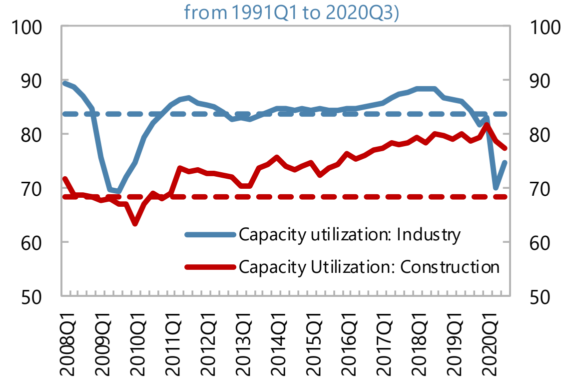
…by disrupting global supply chains and reducing external demand while also compressing domestic demand via mobility restrictions, income losses, and tighter financial conditions.

Demand Components of GDP Growth
(Percentage points; contributions to quarterly growth)



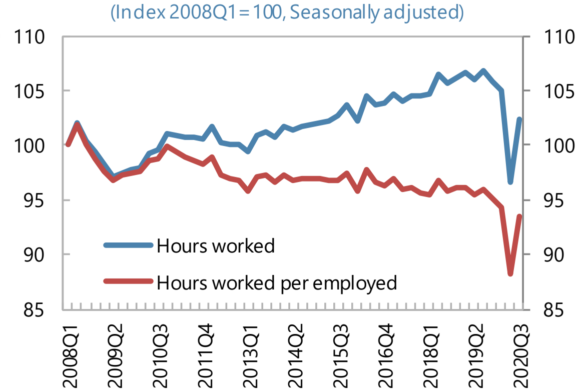
Capacity utilization plummeted in H1 2020, especially in the industrial sector…

Indicators of Capacity Utilization
(Percentage points; dotted lines denote averages from 1991Q1 to 2020Q3)



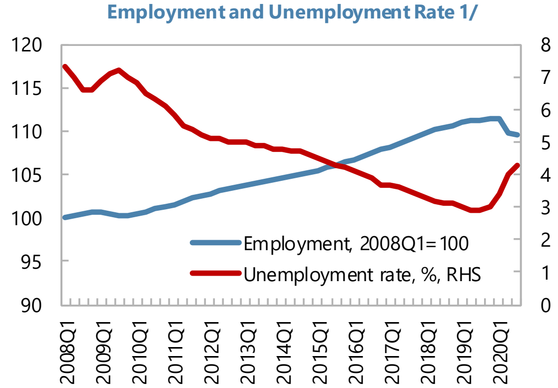
…and hours worked also declined substantially…

Hours Worked
(Index 2008Q1=100, Seasonally adjusted)



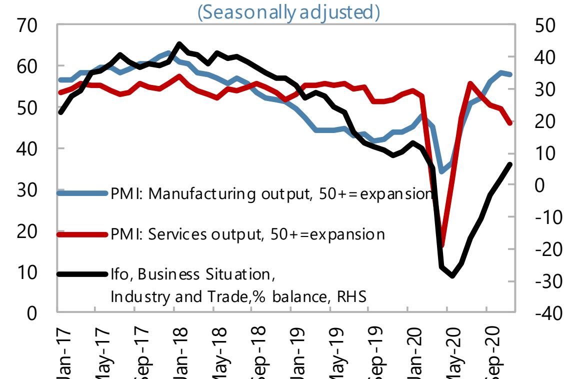
…but the the impact on the unemployment rate was relatively limited thanks to Kurzarbeit.

Employment and Unemployment Rate 1/



Economic activities started recovering in mid-2020, but a renewed lockdown is weighing on the service sector.

Business Survey
(Seasonally adjusted)

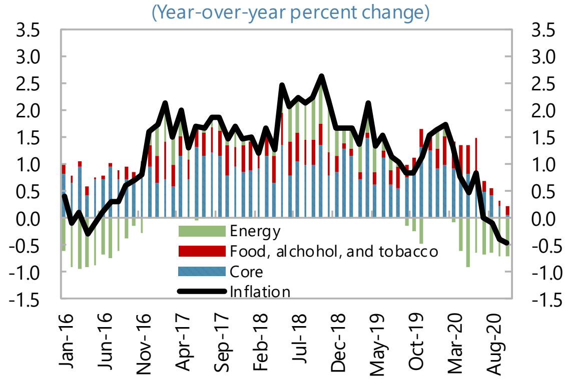


Sources: Destatis, Haver Analytics, IFO Institute, INS, IMF *World Economic Outlook*, Markit, and IMF staff calculations.
1/National Accounts Concepts.

Figure 17. Germany: Prices and Labor Market

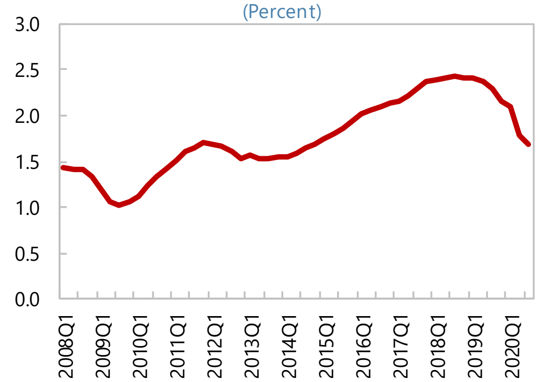
Inflation weakened in March-April as energy prices fell, then declined further into the negative territory in H1 2020 on the back of temporary VAT cuts.

Contributions to Headline Inflation
(Year-over-year percent change)



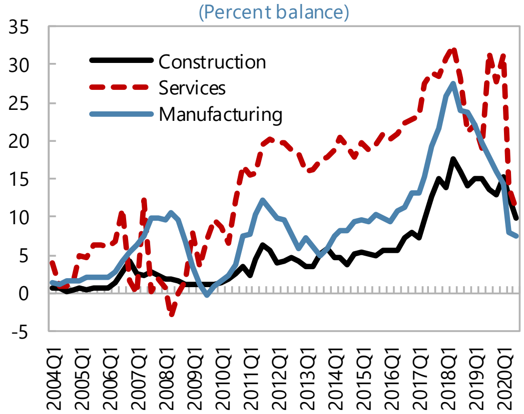
The pandemic has reduced the tightness of labor market conditions…

Job Vacancy Rate 1/
(Percent)



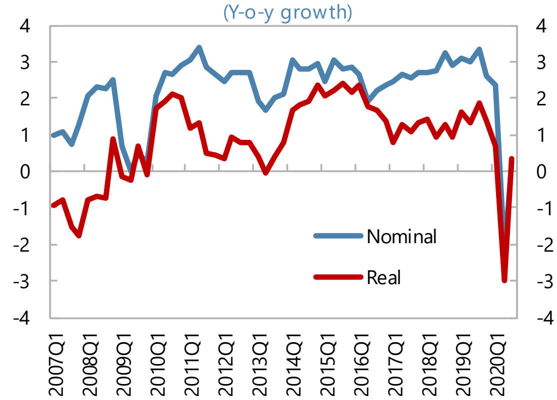
… shaved the share of firms with labor shortages across the sector…

Firms with Labor Shortages
(Percent balance)



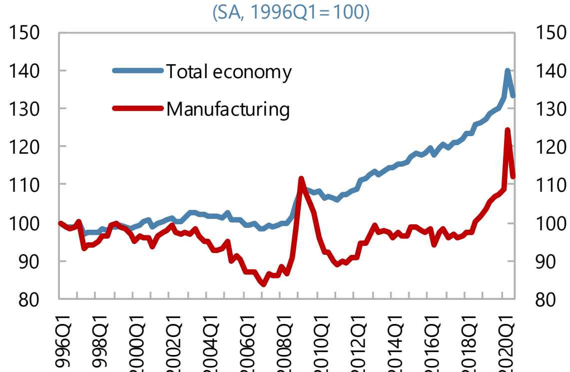
… and lowered wages.

Compensation Per Employee
(Y-o-y growth)



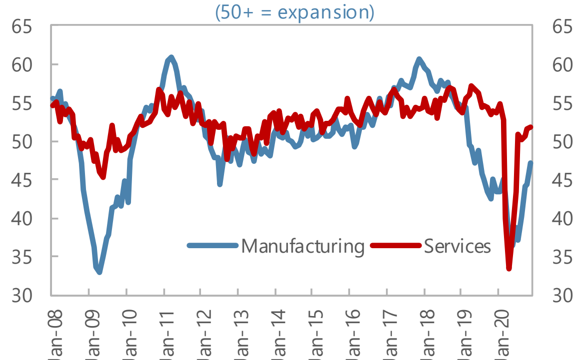
However, unit labor costs rose sharply in H1 2020 on the back of job retentions through Kurzarbeit.

Unit Labor Costs
(SA, 1996Q1=100)



The sentiment for employment has improved since mid-2020, but the momentum for manufacturing remains relatively weak.

PMI Employment
(50+ = expansion)

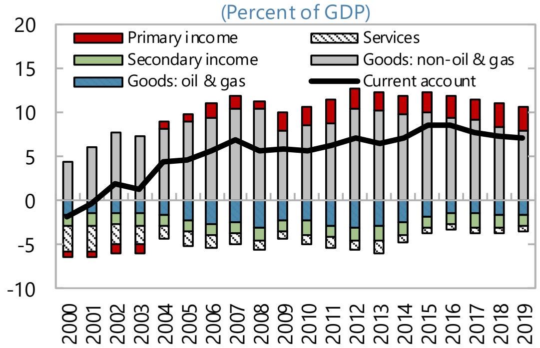


Sources: Bundesbank, Federal Statistical Office, Eurostat, Haver Analytics, Markit, and IMF staff calculations.
1/ The number of vacancies divided by the number of employees subject to full social security payments.

Figure 18. Germany: Balance of Payments

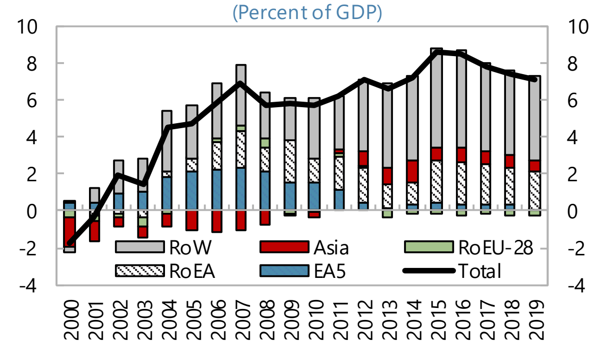
The current account (CA) continued to edge down in 2019 to 7.1% of GDP.

Current Account Balance Breakdown
(Percent of GDP)



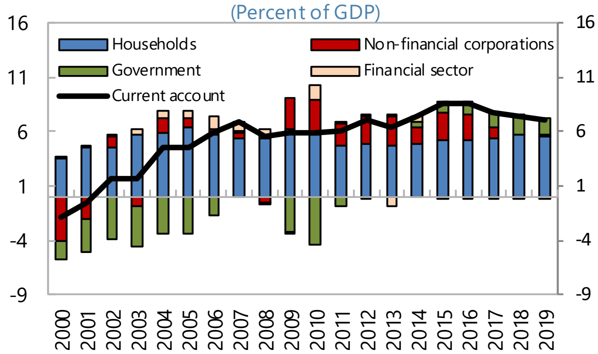
The rebalancing was again broad-based.

Current Account Balance by Region
(Percent of GDP)



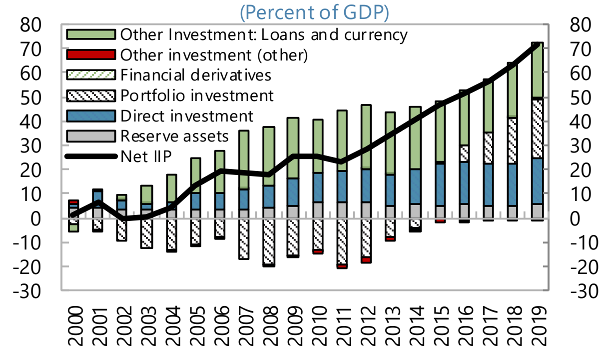
Nonfinancial corporations' saving investments were balanced, while household net lending remained high.

Current Account and Sectoral Saving-Investment Balances
(Percent of GDP)



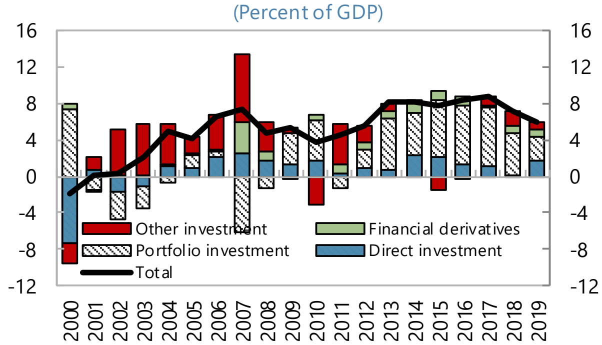
The Net International Investment Position exceeded 70 percent of GDP by end-2019.

Net International Investment Position by Instrument
(Percent of GDP)



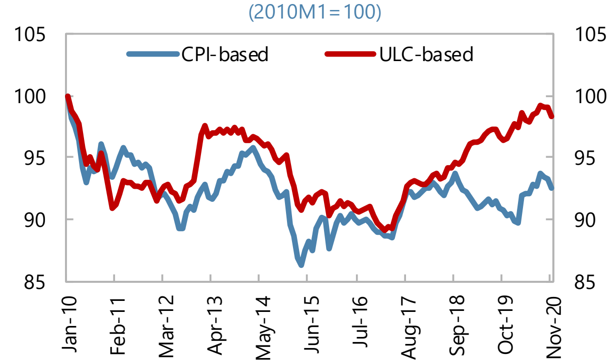
The decline in CA surplus mirrored a reduction in the surplus of portfolio and other investment, while direct investment edged up.

Financial Account
(Percent of GDP)



The ULC-based REER appreciated in 2019 with faster wage growth, while the CPI-based REER depreciated with a weakening Euro.

REER 1/
(2010M1=100)

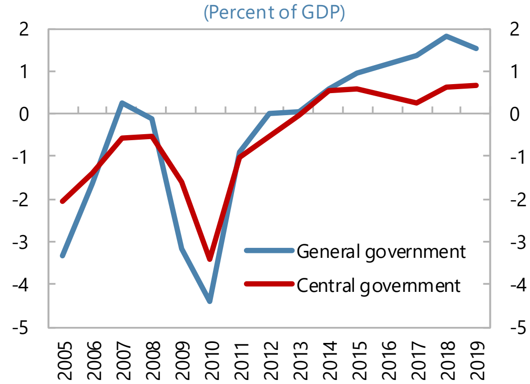


Sources: Bundesbank, DOTS, GDS, Haver Analytics, IMF *World Economic Outlook*, and IMF staff calculations.
1/ The ULC-based REER is measured using ULC statistics for the manufacturing sector in Germany and 37 trading partners, using the OECD System of Unit Labor Cost Indicators.
Note: EA5= Euro area economies (Greece, Ireland, Italy, Portugal, Spain) with high borrowing spreads during the 2010-11 sovereign debt crisis.

Figure 19. Germany: Fiscal Developments and Outlook

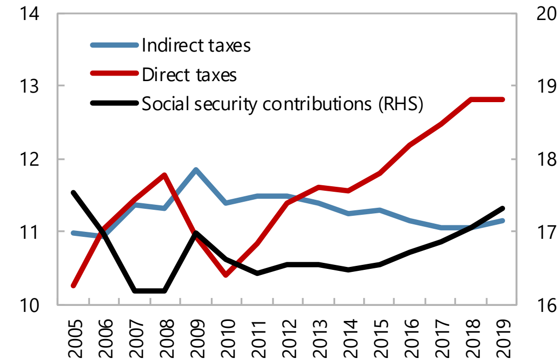
Before the pandemic, the general government had maintained record-high surpluses for several years…

General and Central Government Balances
(Percent of GDP)



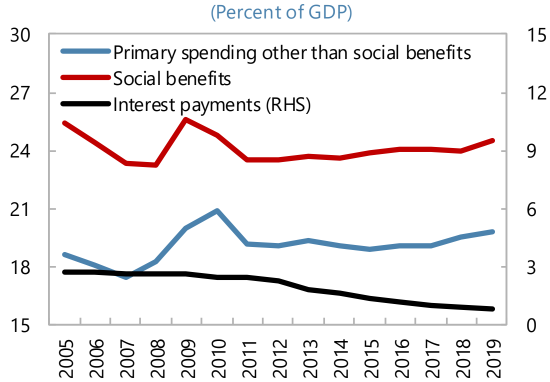
…supported by continued rises in direct taxes…

Tax Revenue and Social Security Contributions
(Percent of GDP)



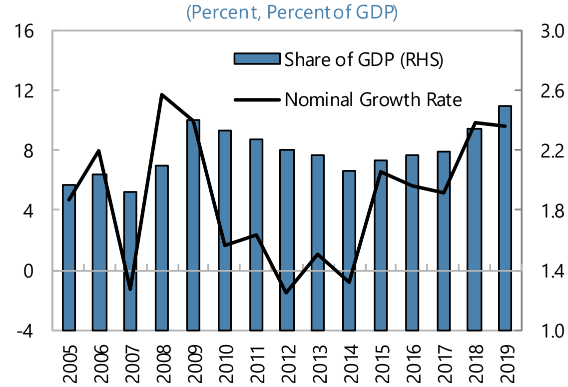
… and declining interest payments.

General Government Spending
(Percent of GDP)



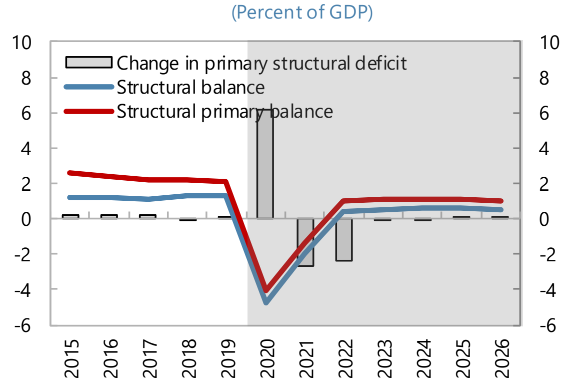
Public investment increased substantially in recent years.

General Government Gross Fixed Capital Formation
(Percent, Percent of GDP)



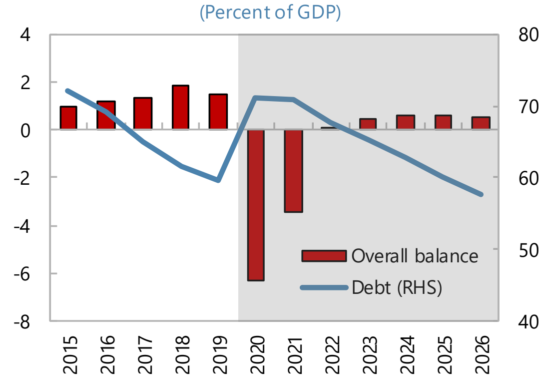
To combat the pandemic, sizable fiscal measures were deployed…

General Government Structural Balances, Staff Projection
(Percent of GDP)



…but, as the crisis measures phased out, the public debt ratio will fall back to the pre-crisis level over the medium term.

General Government Fiscal Outlook, Staff Projection
(Percent of GDP)

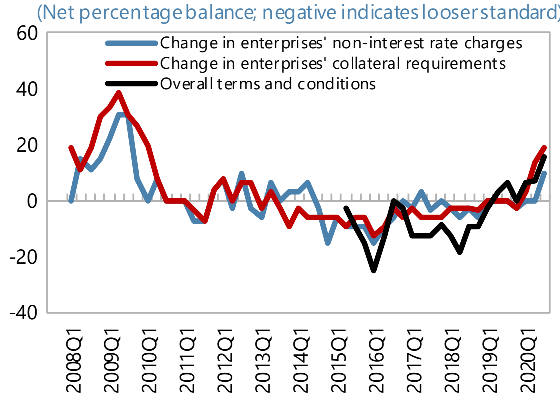


Sources: Federal Statistical Office, Ministry of Finance, and IMF staff calculations and projections.

Figure 20. Germany: Credit Conditions and Asset Prices

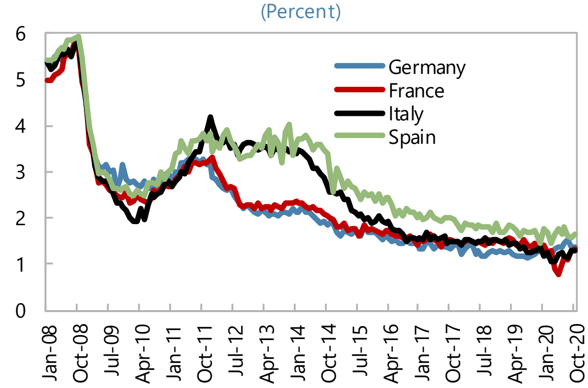
Since the onset of the pandemic, lending standards have tightened moderately…

Change in Bank Lending Standards, past 3 months
(Net percentage balance; negative indicates looser standard)



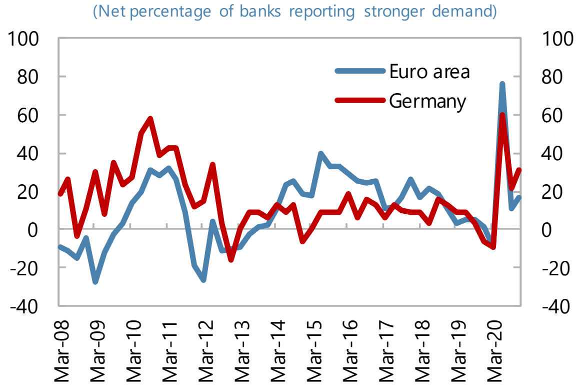
… but lending rates barely changed at very low levels.

Lending Rates on New Loans to Non-financial Corporations
(Percent)



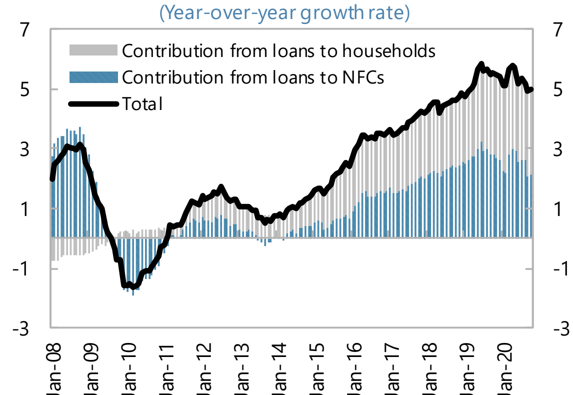
Demand for corporate credit surged in Q2 2020 on precautionary cash needs…

Change in Credit Demand by Enterprises in the Next 3 Months
(Net percentage of banks reporting stronger demand)



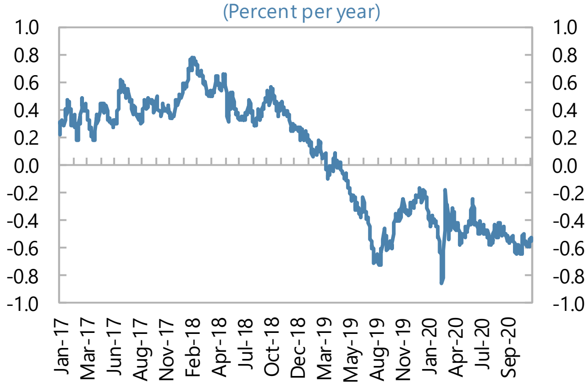
… leading to a continued high credit growth in 2020.

Lending by Monetary Financial Institutions
(Year-over-year growth rate)



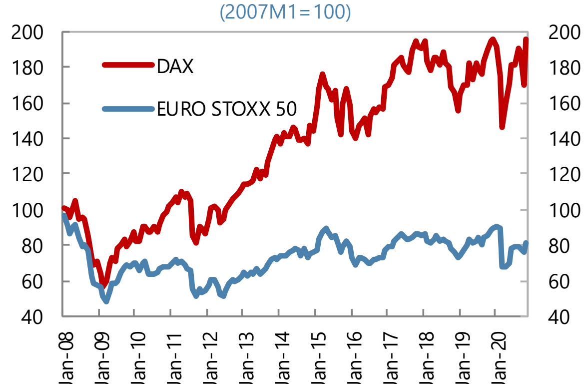
Following a dip in March to -80 bps, German government bond yields have been hovering around -40 to -60 bps with some fluctuations.

10-year Bond Yield
(Percent per year)



After losing a quarter of value in March, from December 2019, German equities have restored pre-pandemic values.

Stock Market Indices
(2007M1=100)

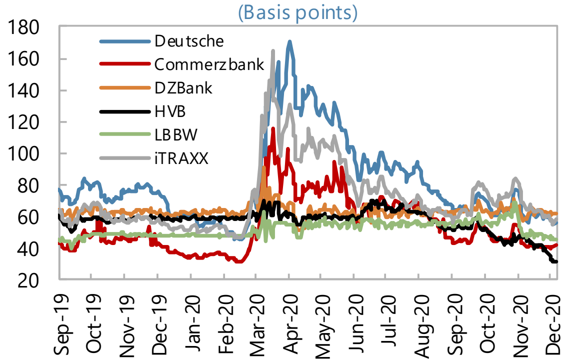


Sources: Bundesbank, Bloomberg Finance L.P, ECB, Haver Analytics, and IMF staff calculations.

Figure 21. Germany: Recent Developments in the German Banking Sector

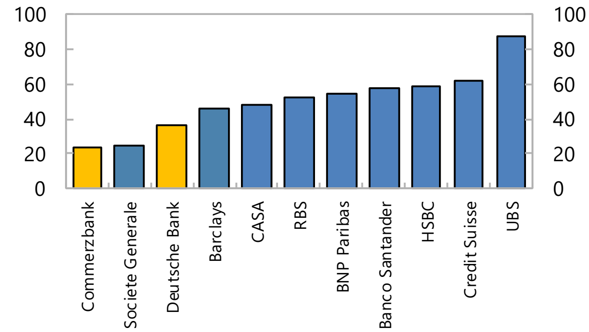
Investor sentiment towards the two largest banks deteriorated at the onset of the pandemic, which, however, have largely been corrected.

German Banks 5-Year CDS Spreads
(Basis points)



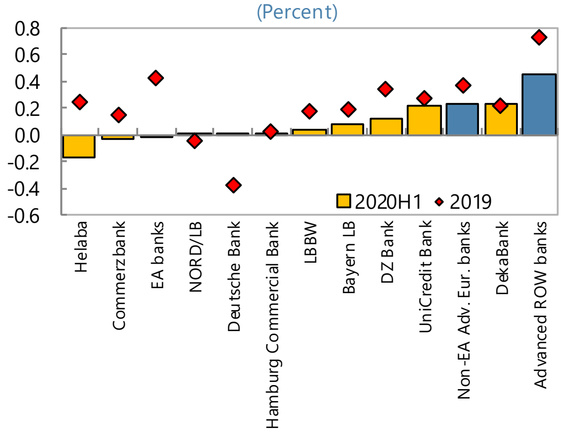
The two largest banks keep trading at a discount to European peers...

Price to Book Ratio, December 7, 2020
(Percent)



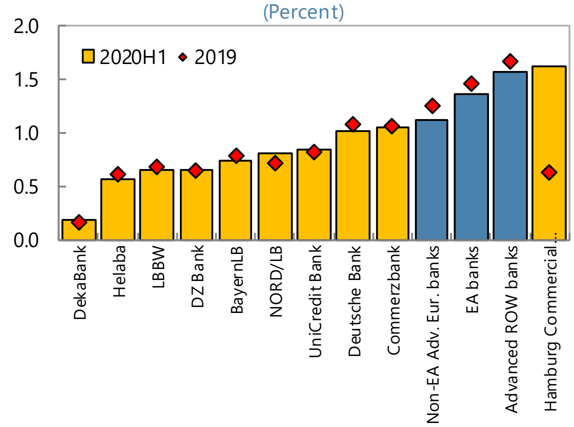
...on the back of low profitability...

Return on Assets
(Percent)



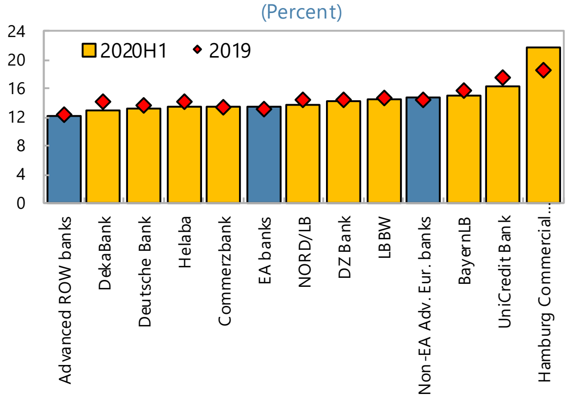
...reflecting low interest rate margins and high cost compared to European peers.

Net Interest Margin
(Percent)



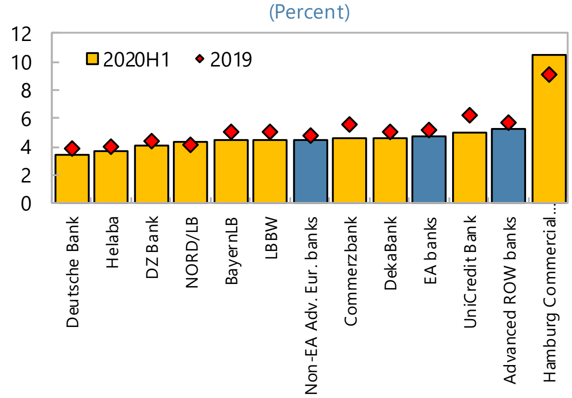
Despite the unprecedented economic contraction, German banks maintained generally comfortable risk-weighted capital buffers in H1 2020...

(Phase in) Common Equity Tier 1 Ratio
(Percent)



...yet some German banks' leverage remains higher than European peers.

Leverage Ratio 1/
(Percent)

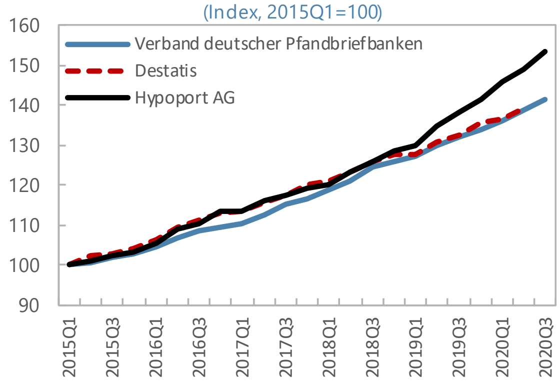


Sources: Bloomberg Finance L.P., ECB, IFS, S&P Global Market Intelligence, and IMF staff calculations.
1/ Leverage ratio is defined as common equity net of intangibles as a percent of total assets net of intangibles.

Figure 22. Germany: Housing Market Developments

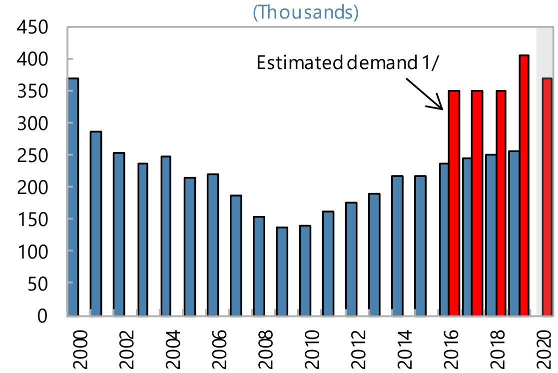
Despite the pandemic and declines in household income, residential housing prices have continued to rise through Q3 2020…

Residential Housing Prices
(Index, 2015Q1=100)



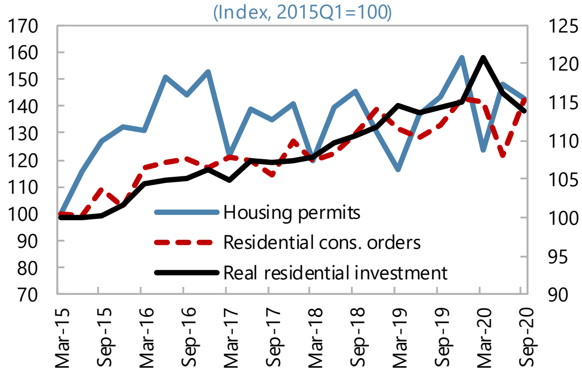
… due in part to supply shortages owing to the persistent under-supply of new housing since the refugee surge in 2015.

New Residential Housing Units
(Thousands)



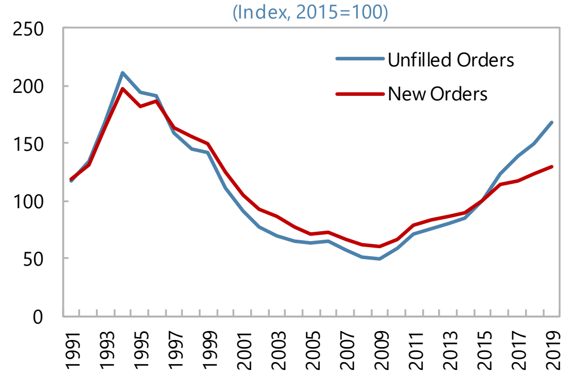
Residential investment has picked up since 2018…

Real Estate Supply Indicators, 2020Q3
(Index, 2015Q1=100)



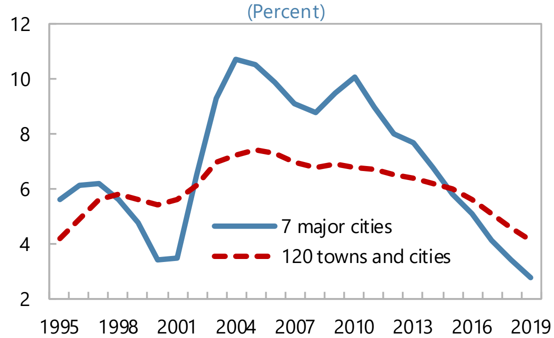
… yet unfilled orders continued to rise in 2019 amid a further increase in new orders.

New Orders and Unfilled Orders Construction
(Index, 2015=100)



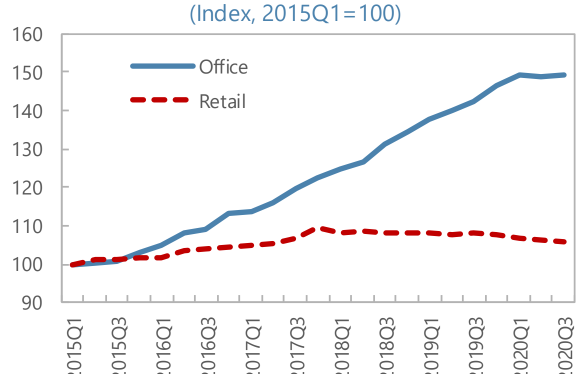
The supply-demand condition for offices tightened through 2019…

Vacancy Rate for Offices, by Town Category
(Percent)



… supporting continued rises in office prices until the pandemic interrupted the upward trend.

Commercial Real Estate Prices
(Index, 2015Q1=100)



Sources: bulwiengesa AG, Destatis, Federal Ministry of the Interior, Building and Community, vdpResearch, Local Real Estate Surveyor Commission, Haver Analytics, and IMF staff calculations.
1/ The estimate by the Federal Ministry for the Environment for 2016-18 and by the Federal Ministry of Interior for 2019-20.

Table 3. Germany: Selected Economic Indicators, 2017–21

	2017	2018	2019	*Projections* 2020	2021
National accounts	(Percent change, working-day adjusted)				
GDP	2.9	1.3	0.6	-5.7	3.5
Private consumption	1.8	1.5	1.6	-6.2	3.8
Public consumption	1.6	1.2	2.7	4.1	-0.3
Gross fixed investment	3.2	3.6	2.6	-4.7	4.5
Construction	1.6	2.7	3.8	0.8	2.1
Machinery and equipment	5.1	4.5	0.7	-14.2	9.2
Final domestic demand	2.1	1.9	2.1	-3.7	3.0
Inventory accumulation 1/	0.7	-0.1	-0.8	-0.4	0.0
Total domestic demand	2.9	1.8	1.3	-4.1	3.0
Exports of goods and services	5.4	2.5	1.0	-10.8	8.1
Imports of goods and services	5.8	3.8	2.6	-8.0	7.5
Foreign balance 1/	0.3	-0.4	-0.6	-1.8	0.6
	(Percent change, non-adjusted)				
GDP	2.6	1.3	0.6	-5.4	3.5
Private consumption	1.5	1.5	1.6	-5.9	3.9
Public consumption	1.6	1.2	2.7	4.3	-0.3
Gross fixed investment	2.5	3.5	2.5	-4.0	4.1
Construction	0.8	2.6	3.8	1.3	2.1
Machinery and equipment	4.2	4.4	0.5	-13.8	9.2
Final domestic demand	1.8	1.9	2.0	-3.3	3.0
Inventory accumulation 1/	0.8	-0.1	-0.7	-0.5	0.0
Total domestic demand	2.7	1.8	1.2	-3.8	3.0
Exports of goods and services	4.8	2.3	1.0	-10.4	8.1
Imports of goods and services	5.3	3.6	2.6	-7.7	7.5
Foreign balance 1/	0.1	-0.4	-0.6	-1.8	0.6
Output gap (percent of potential GDP)	1.0	1.2	0.4	-3.1	-2.0
Unemployment	(Percent)				
Unemployment rate 2/	3.8	3.4	3.2	4.2	4.3
Unemployment rate 3/	3.5	3.2	3.0		
Prices and incomes	(Percent change)				
GDP deflator	1.4	1.7	2.2	1.9	1.8
Consumer price index (harmonized)	1.7	1.9	1.4	0.4	1.2
Consumer price index (harmonized), core	1.5	1.6	1.4	0.9	1.2
Compensation per employee (total economy)	2.5	2.9	3.0	-1.3	2.0
Unit labor cost (total economy)	1.3	3.0	3.3	4.7	-0.7
Real disposable income 4/	2.0	1.9	1.5	0.0	0.5
Household saving ratio (percent)	10.6	10.9	10.9	16.1	13.2

1/ Contribution to GDP growth.
2/ ILO definition.
3/ National Accounts Concepts.
4/ Deflated by national accounts deflator for private consumption; not SWDA.

Table 3. Germany: Selected Economic Indicators, 2017–21 (concluded)

	2017	2018	2019	2020 (Projections)	2021 (Projections)
Public finances		(Percent of GDP)			
General government					
Overall balance 5/	1.4	1.8	1.5	-6.3	-3.4
Structural balance	1.1	1.3	1.3	-4.8	-2.0
General government debt	65.0	61.6	59.5	71.1	70.9
Federal government					
Overall balance 5/	0.2	0.6	0.7	-4.4	-1.5
Balance of payments		(Percent of GDP)			
Current account	7.8	7.4	7.1	6.6	7.0
Trade balance 6/	7.8	6.7	6.4	5.3	6.2
Services balance	-0.7	-0.6	-0.6	0.0	-0.3
Primary income balance	2.3	2.7	2.7	2.6	2.5
Secondary income balance	-1.5	-1.4	-1.4	-1.4	-1.4
Monetary data		(Percent change)			
Money and quasi-money (M3) 7/ 8/	4.3	4.5	4.6		
Credit to private sector 7/	4.2	4.9	5.4		
Interest rates		(Period average in percent)			
Three-month interbank rate 7/	-0.3	-0.3	-0.4		
Yield on ten-year government bonds 7/	0.4	0.4	-0.2		
Exchange rates					
Euro per US$	0.89	0.85	0.89		
Nominal effective rate (2005=100) 9/	99.6	102.5	101.4		
Real effective rate (2005=100) 10/	94.8	97.0	95.4		
Memorandum Items:					
Nominal GDP (billions of euros)	3259.9	3356.4	3449.1	3326.2	3502.6
Population growth (percent)	0.4	0.3	0.2		
GDP per capita (thousands of euros)	39.4	40.5	41.5		

Sources: Deutsche Bundesbank, Federal Statistical Office, IMF staff estimates and projections.

5/ Net lending/borrowing.

6/ Excluding supplementary trade items.

7/ Data refer to end of December.

8/ Data reflect Germany's contribution to M3 of the euro area.

9/ Nominal effective exchange rate, all countries.

10/ Real effective exchange rate, CPI based, all countries.

Table 4. Germany: General Government Operations, 2017–26

(Percent of GDP)

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
				Projections						
Revenue	45.6	46.3	46.7	46.5	46.0	46.7	46.9	46.8	46.9	46.9
Taxes	23.5	23.9	24.0	23.0	23.6	23.9	24.1	24.1	24.2	24.2
Indirect taxes	11.1	11.1	11.2	10.5	11.4	11.4	11.6	11.6	11.7	11.7
Direct taxes	12.5	12.8	12.8	12.5	12.2	12.5	12.5	12.5	12.5	12.5
Social contributions	16.9	17.1	17.3	17.8	16.8	17.2	17.2	17.3	17.3	17.3
Grants	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Other current revenue	5.1	5.3	5.3	5.6	5.5	5.5	5.5	5.3	5.3	5.3
Expense	44.2	44.5	45.2	52.9	49.5	46.7	46.5	46.2	46.3	46.3
Compensation of employees	7.7	7.7	7.9	8.5	7.9	7.8	7.8	7.8	7.8	7.8
Goods and services	5.2	5.2	5.3	6.3	6.0	5.6	5.4	5.3	5.3	5.3
Interest	1.0	0.9	0.8	0.7	0.6	0.6	0.5	0.5	0.5	0.5
Subsidies	0.8	0.9	0.9	2.6	1.8	1.2	1.1	1.1	1.1	1.1
Social benefits	24.0	24.0	24.5	27.0	25.7	24.9	25.1	25.0	25.1	25.1
Social benefits in kind	8.5	8.5	8.7	9.4	9.0	8.7	8.8	8.8	8.8	8.9
Social transfers	15.5	15.5	15.8	17.6	16.7	16.2	16.3	16.3	16.3	16.3
Pensions	8.9	8.9	9.1	9.4	9.3	9.3	9.3	9.3	9.3	9.3
Child benefits	0.6	0.6	0.6	0.7	0.6	0.6	0.6	0.6	0.6	0.6
Unemployment benefits	1.3	1.2	1.3	2.3	1.8	1.4	1.4	1.4	1.4	1.4
Other social transfers	4.7	4.8	4.9	5.1	5.0	4.9	4.9	4.9	4.9	4.9
Other expense	5.5	5.8	5.8	7.8	7.4	6.6	6.6	6.5	6.5	6.5
Gross public investment	2.2	2.3	2.5	3.0	3.0	2.4	2.6	2.7	2.7	2.7
Net acquisition of nonfinancial assets	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net lending/borrowing	1.4	1.8	1.5	-6.3	-3.4	0.1	0.4	0.6	0.6	0.6
Primary balance	2.4	2.8	2.3	-5.6	-2.8	0.6	0.9	1.1	1.1	1.0
Memorandum items:										
Structural balance	1.1	1.3	1.3	-4.8	-2.0	0.4	0.6	0.6	0.6	0.5
Change in structural balance	*-0.1*	*0.1*	*0.0*	*-6.1*	*2.8*	*2.4*	*0.2*	*0.1*	*0.0*	*0.0*
Structural primary balance	2.2	2.2	2.1	-4.1	-1.4	1.0	1.1	1.1	1.1	1.0
Change in structural primary balance	*-0.2*	*0.0*	*-0.1*	*-6.1*	*2.7*	*2.3*	*0.1*	*0.1*	*-0.1*	*-0.1*
Public gross debt (Maastricht definition)	65.0	61.6	59.5	71.1	70.9	67.6	65.2	62.6	60.1	57.6

Sources: Bundesbank, Federal Statistical Office, Ministry of Finance, and IMF staff estimates and projections.

Table 5. Germany: Medium Term Projections, 2017–26

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
				Projections						
Real sector	(Percentage change unless otherwise indicated, working-day adjusted)									
Real GDP	2.9	1.3	0.6	-5.7	3.5	3.1	1.7	1.4	1.2	1.1
Total domestic demand	2.9	1.8	1.3	-4.1	3.0	3.0	1.5	1.4	1.3	1.1
Private consumption	1.8	1.5	1.6	-6.2	3.8	3.5	1.5	1.3	1.2	1.1
Households saving ratio (in percent)	10.6	10.9	10.9	16.1	13.2	11.8	11.6	11.6	11.6	11.5
Foreign balance (contribution to growth)	0.2	-0.4	-0.6	-1.8	0.6	0.3	0.2	0.1	0.0	0.0
	(Percentage change unless otherwise indicated, non-adjusted)									
Real GDP	2.6	1.3	0.6	-5.4	3.5	3.1	1.7	1.4	1.2	1.1
Total domestic demand	2.7	1.8	1.2	-3.8	3.0	3.0	1.5	1.4	1.3	1.1
Private consumption	1.5	1.5	1.6	-5.9	3.9	3.4	1.5	1.3	1.2	1.1
Households saving ratio (in percent)	10.6	10.9	10.9	16.1	13.2	11.8	11.6	11.6	11.6	11.5
Foreign balance (contribution to growth)	0.1	-0.4	-0.6	-1.8	0.6	0.3	0.2	0.1	0.0	0.0
Output gap (percent of potential GDP)	1.0	1.2	0.4	-3.1	-2.0	-0.6	-0.3	-0.1	0.0	0.0
	(Percentage change unless otherwise indicated)									
Employment (millions of persons)	41.5	41.7	42.2	42.3	42.4	42.7	42.8	42.8	42.7	42.6
Labor productivity (per employed person)	1.2	-0.1	-0.3	-5.7	2.7	2.1	1.2	1.1	1.1	1.1
Consumer prices	1.7	2.0	1.3	0.4	1.2	1.4	1.5	1.7	1.9	2.1
Consumer prices (core)	1.5	1.6	1.4	0.9	1.2	1.3	1.4	1.6	1.8	2.0
Compensation per employee	2.5	2.9	3.0	-1.3	2.0	2.4	2.9	3.2	3.5	3.7
External sector	(Percent of GDP)									
Current account balance	7.8	7.4	7.1	6.6	7.0	7.1	7.0	6.9	6.8	6.8
Trade balance (goods and services)	7.0	6.2	5.8	5.4	5.9	6.2	5.9	5.6	5.5	5.4
Net international investment position	56.4	63.4	71.7	77.9	80.4	83.5	87.8	92.0	95.9	99.6
General government										
Overall balance	1.4	1.8	1.5	-6.3	-3.4	0.1	0.4	0.6	0.6	0.6
Gross debt	65.0	61.6	59.5	71.1	70.9	67.6	65.2	62.6	60.1	57.6

Sources: Federal Statistical Office, Bundesbank, and IMF staff estimates.

Table 6. Germany: Balance of Payments, 2017–26

(Percent of GDP)

				Projections						
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Current account	7.8	7.4	7.1	6.6	7.0	7.1	7.0	6.9	6.8	6.8
Trade balance	7.0	6.2	5.8	5.4	5.9	6.2	5.9	5.6	5.5	5.4
Trade in goods	7.8	6.7	6.4	5.3	6.2	6.6	6.6	6.4	6.3	6.3
Exports	38.5	38.5	37.9	35.2	36.4	36.7	37.2	37.6	37.8	37.9
Imports	30.8	31.8	31.5	29.9	30.2	30.1	30.6	31.2	31.5	31.7
Trade in services	-0.7	-0.6	-0.6	0.0	-0.3	-0.4	-0.7	-0.8	-0.8	-0.9
Exports	8.7	8.8	9.0	8.1	8.1	8.3	8.3	8.4	8.5	8.6
Imports	9.4	9.4	9.6	8.1	8.4	8.6	9.0	9.2	9.3	9.5
Primary income balance	2.3	2.7	2.7	2.6	2.5	2.3	2.4	2.6	2.7	2.8
Receipts	6.8	6.8	6.7	5.8	5.6	5.5	5.4	6.0	6.6	7.5
Payments	4.4	4.1	4.0	3.2	3.1	3.3	3.0	3.4	3.8	4.6
Secondary income balance	-1.5	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4
Capital and Financial Account	8.6	7.1	6.0	6.6	7.0	7.1	7.0	6.9	6.8	6.8
Capital account	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Financial account	8.7	7.1	6.0	6.6	7.0	7.1	7.0	6.9	6.8	6.8
Direct Investment	1.1	0.1	1.6	1.0	0.9	1.2	1.0	1.0	1.1	1.0
Abroad	4.4	4.4	3.5	4.1	4.0	3.9	4.0	3.9	3.9	3.9
Domestic	3.2	4.3	1.9	3.1	3.1	2.7	3.0	2.9	2.9	2.9
Portfolio investment balance	6.4	4.7	2.8	4.2	4.2	4.0	4.1	4.0	4.0	4.0
Financial derivatives	0.3	0.7	0.6	0.5	0.7	0.7	0.6	0.6	0.6	0.6
Other financial transactions	0.9	1.5	1.0	0.9	1.3	1.2	1.2	1.2	1.2	1.2
Change in reserve assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net errors and omissions	1.0	-0.3	-1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Sources: Bundesbank, Federal Statistical Office, IMF Statistics Department, and IMF staff estimates.
Note: Based on Balance of Payments Manual 6.

Table 7. Germany: International Investment Position, 2011–19
(Percent of GDP)

	2011	2012	2013	2014	2015	2016	2017	2018	2019
Assets	254.3	266.0	247.1	261.7	260.8	264.2	259.6	257.4	274.1
Direct investment	48.7	53.3	54.0	56.2	59.4	60.3	61.0	62.8	65.5
Portfolio investment	68.3	76.2	79.5	86.5	88.2	90.1	91.2	86.9	96.9
Equity and investment fund shares	18.6	20.6	23.7	26.4	28.9	30.5	33.7	30.5	37.2
Debt securities	49.7	55.6	55.8	60.1	59.3	59.6	57.5	56.4	59.7
Financial derivatives (other than reserves) and employee stock options	34.0	34.8	22.4	27.0	22.0	19.5	14.6	12.7	13.0
Other investment	96.5	94.9	86.1	86.6	85.9	88.7	87.6	89.9	87.8
Reserve assets	6.9	6.9	5.1	5.4	5.3	5.6	5.1	5.2	5.8
Liabilities	231.0	237.3	212.5	221.0	214.2	212.9	203.1	194.1	202.5
Direct investment	35.9	40.0	41.3	41.3	42.2	42.9	43.7	45.3	46.6
Portfolio investment	87.4	92.7	87.7	90.3	87.1	83.3	78.3	68.5	72.6
Equity and investment fund shares	16.2	19.4	22.2	21.4	22.2	21.8	22.7	17.0	19.1
Debt securities	71.1	73.4	65.4	68.9	64.9	61.5	55.5	51.5	53.5
Financial derivatives (other than reserves) and employee stock options	34.5	34.5	22.0	27.8	22.5	20.4	15.0	13.3	12.9
Other investment	73.2	70.0	61.6	61.5	62.4	66.2	66.1	67.1	64.2
Net International Investment Position	23.3	28.7	34.7	40.8	46.6	51.4	56.4	63.4	71.7
Direct investment	12.7	13.3	12.7	14.8	17.2	17.4	17.3	17.5	18.9
Portfolio investment	-19.1	-16.5	-8.1	-3.8	1.1	6.7	12.9	18.4	24.3
Financial derivatives (other than reserves) and employee stock options	-0.5	0.2	0.4	-0.8	-0.5	-0.9	-0.4	-0.6	0.1
Other investment	23.2	24.8	24.6	25.1	23.6	22.6	21.5	22.8	23.7

Sources: Deutsche Bundesbank, IMF Statistics Department, and IMF staff calculations.
Note: Based on Balance of Payments Manual 6.

Table 8. Germany: Core Financial Soundness Indicators for Banks, 2014–19
(Percent)

	2014	2015	2016	2017	2018	2019
Capital adequacy						
Regulatory capital to risk-weighted assets	18.0	18.3	18.8	19.4	18.9	18.6
Commercial banks	17.2	17.3	17.9	18.8	18.1	18.3
Landesbanken	18.4	19.4	21.4	22.3	20.2	20.0
Savings banks	16.6	16.7	16.9	17.4	17.6	17.3
Credit cooperatives	17.4	17.6	17.7	17.6	17.5	17.1
Regulatory Tier I capital to risk-weighted assets	15.4	15.7	16.3	16.9	16.6	16.5
Commercial banks	15.5	15.5	16.0	16.7	16.0	16.4
Landesbanken	14.7	15.6	16.6	17.5	15.6	15.7
Savings banks	14.5	14.8	15.2	15.8	16.2	16.1
Credit cooperatives	13.5	14.1	14.5	14.8	15.0	14.9
Asset composition and quality						
Sectoral distribution of loans to total loans						
Loan to households	28.7	29.0	28.5	28.6	29.1	29.46
Commercial banks	22.3	22.2	20.9	20.8	21.42	22.23
Landesbanken	5.6	5.5	5.4	5	4.17	3.96
Savings banks	57.0	58.2	57.8	57.1	55.28	54.53
Credit cooperatives	69.8	68.8	68.2	67	65.98	64.71
Loans to non-financial corporations	15.2	15.2	14.9	15.1	15.69	16.07
Commercial banks	12.0	12.0	11.0	11.4	12.6	13.12
Landesbanken	22.5	23.5	24.1	23.3	22.18	21.86
Savings banks	21.7	22.4	23.1	24	25.07	25.21
Credit cooperatives	16.6	16.8	17.4	18.3	18.98	19.57
NPLs to gross loans	2.3	2.0	1.7	1.5	1.2	1.1
Commercial banks	1.4	1.2	1.2	1.1	1.1	1
Landesbanken	4.8	4.5	3.6	3.2	1.7	0.9
Savings banks	2.3	1.9	1.6	1.3	1.2	1.1
Credit cooperatives	2.4	2.0	1.8	1.6	1.4	1.2
NPLs net of provisions to capital	21.3	17.4	14.7	11.9	9.1	6.8
Commercial banks	8.5	6.9	9.2	5.5	6.1	3
Landesbanken	53.6	42.2	30.7	30.1	10.6	4.9
Savings banks	23.1	19.7	16.3	13.6	11.9	10.4
Credit cooperatives	22.6	19.5	17.3	15.9	14.4	12.5

Table 8. Germany: Core Financial Soundness Indicators for Banks, 2014–19 (concluded)
(Percent)

	2014	2015	2016	2017	2018	2019
Earnings and profitability						
Return on average assets (after-tax)	0.2	0.2	0.2	0.2	0.2	0.0
Commercial banks	0.1	0.1	0.1	0.1	0.1	-0.5
Landesbanken	-0.1	0.1	-0.1	0.1	-0.2	0.1
Savings banks	0.5	0.5	0.6	0.6	0.4	0.4
Credit cooperatives	0.6	0.6	0.7	0.6	0.5	0.6
Return on average equity (after-tax)	4.0	4.0	4.3	4.1	2.4	-0.4
Commercial banks	3.5	2.2	3.2	2.8	1.5	-9.0
Landesbanken	-1.5	1.9	-2.0	1.0	-3.9	1.6
Savings banks	6.7	6.5	7.4	6.7	4.8	4.8
Credit cooperatives	8.6	7.4	8.4	7.1	5.5	6.6
Interest margin to gross income	75.4	75.0	71.2	69.5	72.3	69.5
Commercial banks	66.4	67.0	63.4	60.7	67.8	61.8
Landesbanken	89.9	82.5	74.9	73.9	74.2	73.0
Savings banks	79.8	78.2	76.4	73.9	71.7	71.4
Credit cooperatives	79.2	78.4	76.5	75.3	74.6	73.5
Trading income to gross income	2.9	2.9	2.4	4.5	2.9	2.0
Commercial banks	5.8	5.3	2.6	8.0	4.9	3.2
Landesbanken	1.2	5.4	10.2	11.5	8.8	6.4
Savings banks	0.0	0.0	0.0	0.0	0.0	0.0
Credit cooperatives	0.0	0.0	0.0	0.0	0.0	0.0
Noninterest expenses to gross income	69.2	70.4	69.3	71.9	73.1	76.0
Commercial banks	73.4	75.6	74.3	79.4	79.3	84.9
Landesbanken	70.9	69.1	63.6	72.5	76.6	78.5
Savings banks	68.3	68.9	67.8	67.1	68.3	71.4
Credit cooperatives	65.9	66.6	66.6	65.7	66.2	67.1
Liquidity						
Liquid assets to total short-term liabilities	145.5	146.5	146.6	151.3	151.7	161.2
Commercial banks	128.3	128.4	127.9	131.4	140.3	147.4
Landesbanken	139.0	139.2	146.4	150.8	126.0	152.6
Savings banks	238.9	246.3	253.7	263.6	198.6	186.0
Credit cooperatives	233.3	241.7	246.9	242.2	162.2	169.9
Sensitivity to market risk						
Net open positions in FX to capital	4.0	4.6	4.0	3.7	3.2	3.7
Commercial banks	1.9	1.8	1.9	2.1	2.2	2.6
Landesbanken	7.3	10.6	6.4	4.0	3.1	2.6
Savings banks	4.8	4.8	4.4	4.3	3.5	4.0
Credit cooperatives	7.7	7.9	7.9	8.2	7.4	7.6

Source: Deutsche Bundesbank. The authorities provide annual data only and disseminate them once a year.

Table 9. Germany: Additional Financial Soundness Indicators, 2014–19

(Percent, unless otherwise indicated)

	2014	2015	2016	2017	2018	2019
Deposit-taking institutions						
Capital to assets	5.6	5.9	6.0	6.3	6.5	6.3
Commercial banks	5.0	5.2	5.1	5.6	5.7	5.5
Landesbanken	4.9	5.4	5.7	5.4	5.0	4.8
Savings banks	7.9	8.3	8.6	9.0	9.1	9.1
Credit cooperatives	7.4	7.7	7.9	8.2	8.3	8.4
Geographical distribution of loans to total loans						
Germany	74.6	75.9	76.6	78.7	78.0	77.6
EU-member countries	15.8	15.1	14.0	12.6	13.2	14.2
Others	9.6	9.0	9.4	8.7	8.8	8.2
FX loans to total loans	11.5	11.4	11.2	9.8	9.7	9.4
Personnel expenses to noninterest expenses	51.5	51.1	50.3	50.4	50.2	49.3
Commercial banks	42.7	42.8	42.7	42.5	41.5	40.8
Landesbanken	50.2	50.6	45.1	46.0	50.4	49.0
Savings banks	63.4	63.1	62.6	63.3	62.2	61.7
Credit cooperatives	60.1	60.3	60.0	59.7	59.0	57.3
Trading and fee income to total income	24.6	25.0	28.8	30.5	27.7	30.5
Commercial banks	33.6	33.0	36.6	39.3	32.2	38.2
Landesbanken	10.1	17.5	25.1	26.1	25.8	27.0
Savings banks	20.2	21.8	23.6	26.1	28.3	28.6
Credit cooperatives	20.8	21.6	23.5	24.7	25.4	26.5
Funding						
Customer deposits to total (non-interbank) loans	86.9	85.0	82.1	80.6	81.8	82.1
Commercial banks	109.2	101.7	90.5	84.9	88.3	91.1
Landesbanken	40.2	43.7	39.8	40.0	32.8	35.8
Savings banks	110.0	109.5	109.5	108.0	107.5	105.1
Credit cooperatives	117.5	116.9	117.7	116.2	115.2	112.8
Deposits/total assets	63.9	65.8	66.8	68.8	69.1	66.5
Commercial banks	63.3	66.2	68.5	72.9	73.3	67.7
Landesbanken	55.1	58.6	58.4	60.3	59.9	57.5
Savings banks	86.7	86.6	86.5	86.2	85.9	86.2
Credit cooperatives	87.0	87.1	87.2	87.1	87.1	87.2
Interbank assets/total assets	33.9	33.7	34.9	36.2	35.6	33.9
Commercial banks	34.8	36.4	39.3	41.0	39.4	35.6
Landesbanken	32.6	30.8	30.7	35.5	38.2	36.2
Savings banks	20.3	18.2	17.9	17.3	17.7	17.9
Credit cooperatives	22.7	21.6	21.2	20.4	20.2	20.3
Interbank liabilities/total assets	21.7	21.6	21.9	21.9	21.2	20.1
Commercial banks	23.6	23.9	26.0	26.8	25.3	23.1
Landesbanken	27.9	28.1	27.0	27.5	30.8	27.8
Savings banks	13.1	11.9	11.1	10.7	10.2	10.3
Credit cooperatives	13.1	12.7	12.3	12.6	12.4	12.4
Loans/assets	39.5	41.1	41.6	42.8	44.3	43.3
Commercial banks	28.1	29.3	29.7	32.0	34.7	32.8
Landesbanken	40.5	43.9	46.1	44.9	44.6	43.9
Savings banks	63.9	65.1	65.5	66.1	66.0	66.2
Credit cooperatives	61.2	61.8	62.0	62.6	63.1	63.5
Securities holdings/assets	19.0	18.5	17.4	16.7	16.2	15.3
Commercial banks	12.8	12.6	11.9	11.3	10.7	9.7
Landesbanken	20.9	19.9	18.2	16.9	15.7	15.1
Savings banks	25.2	25.2	24.6	23.7	23.2	22.2
Credit cooperatives	27.8	26.9	26.8	26.0	25.4	24.2
Spread between highest and lowest interbank rates 1/	4.1	8.9	3.5	4.1	...	49.4
Spread between reference loan and deposit rates 2/	318	301	280	260	242	225

1/ Spread between highest and lowest three month money market rates as reported by Frankfurt banks (basis points). The value for 2018 is missin due to the methodology in Q4 2018.

2/ Spread in basis points.

Table 9. Germany: Additional Financial Soundness Indicators, 2014–19 (concluded)

(Percent, unless otherwise indicated)

	2014	2015	2016	2017	2018	2019
Insurance sector						
Solvency ratio, Life	163	159	344	394	461	387
Solvency ratio, Non-life (without reinsurance and health insurance)	319	311	286	292	289	285
Return on average equity, Life 3/	5.1	3.1	2.2	3.7	5.4	4.8
Return on average equity, Non-life 3/ (without reinsurance and health insurance)	3.5	3.3	3.9	4.6	4.1	3.9
Market liquidity						
Average bid-ask spread in the securities market (government bills)	0.007	0.005	0.005	0.005	0.005	0.002
Corporate sector						
Total debt to equity 4/	82	81	82	77	93	89
Earnings to interest and principal expenses 4/ 5/	1377	1583	1875	2138	2330	2279
Number of applications for protection from creditors 4/ 6/	13480	13056	12056	11967	11434	11434
Households						
Household debt to GDP 4/	53.3	52.4	52.5	51.8	52.4	53.4
Household debt service and principal payments to income 4/ 5/	1.7	1.5	1.3	1.2	1.0	0.9
Real estate markets						
Real estate prices, new dwellings 7/	86.0	92.3	100	109.8	119	127.1
Real estate prices, resale 7/	85.2	91.6	100	108.7	118	125.2
Real estate prices, new and resale 7/	85.3	91.8	100	108.8	118.1	125.5
Real estate prices, long time series 8/	111.9	117.1	126	133.7	142.5	150.8
Real estate prices, commercial property 9/	120.9	129.5	139.8	154.6	163	171.5
Residential real estate loans to total loans	19.0	19.2	18.5	18.6	19.4	20.4
Commercial real estate loans to total loans	5.8	5.8	5.6	5.6	5.9	6.3

Source: Deutsche Bundesbank. The authorities provide annual data only and disseminate them once a year.

3/ Profits after tax devided by equity.

4/ Indicator compiled according to definitions of the Compilation Guide on FSIs.

5/ Excluding principal payments.

6/ Resident enterprises that filed for bankruptcy.

7/ Residential property price index (yearly average, 2016 = 100); source: Bundesbank calculations based on price data provided by bulwiengesa AG for 127 towns and cities, weighted by transactions.

8/ Residential property price index (yearly average, 2010 = 100, long time series); source: Bundesbank calculations based on varying data providers (until 2005: bulwiengesa AG, from 2006 onwards: vdpResearch, from 2014 onwards: Federal Statistical Office); varying composition of regions and housing types.

9/ Commercial property price index (office and retail property, yearly average, 2010 = 100), source: capital growth data provided by bulwiengesa AG for 127 towns and cities; separate indices are calculated for office property and retail property.

Annex I. External Sector Assessment

<table>
<tr><td colspan="6">Overall Assessment: On a preliminary basis, and adjusting for transitory factors, the external position in 2020 was stronger than the level implied by medium-term fundamentals and desirable policies. However, this assessment is highly uncertain given the lack of full-year data for 2020 and the COVID-19 crisis, and a complete analysis will be provided in the 2021 External Sector Report. Staff project the fall in the current account surplus to be temporary as the COVID crisis leads to a severe disruption in world trade. Over the medium-term—after the impact of the pandemic has receded—the current account surplus is projected to recover to higher levels and then resume its modest gradual narrowing, supported by a gradual realignment of price competitiveness and solid domestic demand. As Germany is part of the euro area, the nominal exchange rate does not flexibly adjust to the country's external position, but stronger wage growth relative to euro area trading partners is expected to contribute to realigning price competitiveness within the monetary union. However, the projected adjustment is partial, and additional policy actions will be necessary for external rebalancing.

Potential Policy Responses: The sizeable fiscal stimulus in response to the COVID crisis is a welcome use of Germany's substantial fiscal space. In the near term, policies should continue mitigating the outbreak, while supporting households and businesses in a way that minimizes economic scarring effects and facilitates a swift recovery. If imbalances and policy distortions that existed prior to the COVID-19 outbreak persist in the medium term, a growth-oriented fiscal policy, with greater public sector investment in areas such as, digitization, infrastructure and climate mitigation, would help crowd in private investment, promote potential growth and make the economy more resilient. Structural reforms to foster entrepreneurship (for example, by expanding access to venture capital, and stronger tax incentives for research and development) would also stimulate investment and reduce external imbalances. Additional tax relief for lower-income households, boosting their purchasing power, and pension reforms prolonging working lives would help reduce excess saving and ameliorate external imbalances.</td></tr>
<tr><td>Foreign Asset and Liability Position and Trajectory</td><td colspan="5">Background. Germany's positive NIIP surpassed 70 percent of GDP in 2019, more than doubling its level over the last five years. The net rise in foreign assets over this period has, however, still fallen short of the accumulation of CA surpluses. The NIIP of financial corporations other than monetary financial institutions is large and positive (65 percent of GDP), whereas that of the general government is large and negative (26 percent of GDP), partly reflecting Germany's safe-haven status. The NIIP is expected to exceed 80 percent of German GDP by 2022, as the projected CA surplus remains large through the medium term but is expected to be partly offset by valuation changes. Foreign assets are well diversified by instrument. The stock of Germany's TARGET2 claims on the Eurosystem has increased during the pandemic and associated quantitative easing (QE) operations of the ECB, standing at over €1 trillion as of October 2020 (32 percent of GDP).

Assessment. With continued implementation of QE measures by the ECB, Germany's exposure to the Eurosystem remains large.</td></tr>
<tr><td>2020Q2 (% GDP)</td><td>NIIP: 73.1</td><td>Gross Assets: 302.7</td><td>Debt Assets: 181.7</td><td>Gross Liab.: 229.6</td><td>Debt Liab.: 162.4</td></tr>
<tr><td>Current Account</td><td colspan="5">Background. The CA surplus has widened significantly since 2001, peaking at 8.6 percent of GDP in 2015 and falling gradually since then. In 2020, the CA surplus is projected to temporarily decline to 6.6 percent of GDP (from 7.1 percent of GDP in 2019), despite an improved balance on oil and gas as well as services (driven in turn by a sharp fall in global oil prices and outbound tourism). The bulk of the CA surplus reflects the large saving-investment surplus of households. The saving investment balance of the government is expected to turn strongly negative due to the unprecedented fiscal stimulus, while the NFC balance is also projected to decline due to lower profits.

Assessment. The cyclically adjusted CA balance from the EBA model is estimated to reach 6.5 percent of GDP. Staff assesses the CA norm at 2 to 4 percent of GDP, with a midpoint 0.35 percent of GDP above the 2.7 percent CA norm implied by the EBA model. This upward adjustment reflects uncertainty over the demographic outlook and the impact of recent large-scale immigration on national savings.</td></tr>
</table>

	Staff also assesses the cyclically adjusted CA balance to be 0.9 percent of GDP lower than estimated by the model to account for the temporary sharp drop in international oil prices and outbound travel associated with the pandemic. Taking these factors into account, staff assesses the 2020 CA gap to be in the range of 1.6 to 3.6 percent of GDP.					
2020 (% GDP)	Actual CA: 6.6	Cycl. Adj. CA: 6.5	EBA CA Norm: 2.7	EBA CA Gap: 3.8	Staff Adj.: –1.25	Staff CA Gap: 2.6
Real Exchange Rate	**Background.** The CPI-based REER appreciated by 2.4 percent through October 2020 relative to the 2019 average, reflecting primarily the appreciation of the euro against the currencies of key trading partners—notably the US dollar. **Assessment.** The EBA REER Level model yields an undervaluation of 15.5 percent, whereas the undervaluation implied by the assessed CA gap is in the range of 4 to 9 percent (using an estimated elasticity of about 0.4).[1] Taking these estimates into consideration in conjunction with the 2020 real appreciation, staff assesses the 2020 REER to have been undervalued in the range of 2 to 12 percent, with a midpoint of 7 percent.[2]					
Capital and Financial Accounts: Flows and Policy Measures	**Background.** In 2020H1, net derivatives and other investment outflows comprised the bulk of the capital and financial accounts balance. Reversing a long-standing trend, net portfolio investment outflows turned negative due to increased foreign purchases of domestic debt. Net FDI outflows remained positive but declined due to higher inflows. **Assessment.** Safe-haven status and the strength of Germany's current external position limit risks.					
FX Intervention and Reserves Level	**Background.** The euro has the status of global reserve currency. **Assessment.** Reserves held by euro area countries are typically low relative to standard metrics. The currency floats freely.					

[1] The EBA REER Index model implies that the REER is close to equilibrium. However, the EBA REER Index model has an unusually poor fit for Germany.

[2] The range of the REER gap (-2 to -12 percent) is obtained from the range of the CA gap and an estimated semi-elasticity of the CA balance to the REER of around 0.4, considering also the EBA REER Level gap and actual REER change through September 2020.

Annex II. Risk Assessment Matrix[1/]

Source of Risks	Relative Likelihood	Impact	Policy Response
Global risks to the economic outlook			
I. Unexpected shifts in COVID-19 pandemic. • **Downside.** The disease proves harder to eradicate (e.g., due to difficulties in finding/distributing a vaccine), requiring more containment efforts and impacting economic activity directly and through persistent behavioral changes (prompting costly reallocations of resources).	H	H Demand in contact-intensive services remains low for longer amid dwindling support for continued large fiscal measures. Financial markets reassess real economy risks leading to a repricing of risk assets, unmasking of debt-related vulnerabilities, and weakening banks and nonbank financial intermediaries–forcing them to reduce credit (further weighing on growth).	▪ Maintain and intensify if needed public health measures, in particular large-scale testing and contact tracing, and invest in medical infrastructure and research. ▪ Fully use available fiscal space to support households and businesses overcome liquidity needs while encouraging necessary reallocation of resources.
• **Upside.** Recovery from the pandemic is faster than expected due to speedier distribution of newly developed of vaccines and/or therapeutics. A faster-than-expected behavioral adjustment to the virus could also boost confidence and economic activity.	L	H	
II. Accelerating de-globalization. Geopolitical competition and fraying consensus about the benefits of globalization lead to further fragmentation. Reshoring and less trade reduce potential growth.	H	H With its high degree of trade openness, Germany is especially susceptible to fluctuations in global demand.	▪ Continue support for the multilateral rules-based trading system, trade liberalization, and free trade agreements. ▪ Let automatic stabilizers fully operate. ▪ Consider a discretionary fiscal expansion. If the output gap widens significantly, depending on the size and nature of the shock to the economy; sustain the invocation of the escape clause under the national debt brake rule.

1/ The Risk Assessment Matrix (RAM) shows events that could materially alter the baseline path (the scenario most likely to materialize in the view of IMF staff). The relative likelihood is the staff's subjective assessment of the risks surrounding the baseline ("low" is meant to indicate a probability below 10 percent, "medium" a probability between 10 and 30 percent, and "high" a probability between 30 and 50 percent). The RAM reflects staff views on the source of risks and overall level of concern as of the time of discussions with the authorities. Non-mutually exclusive risks may interact and materialize jointly.

Source of Risks	Relative Likelihood	Impact	Policy Response
III. Intensified geopolitical tensions and security risks (e.g., in response to the pandemic) cause socio-economic and political disruption, disorderly migration, higher commodity prices (if supply is disrupted), and lower confidence.	H	H Loss of social cohesion, amplifying the negative impact on labor markets and firms.	▪ Extend temporary support for the most vulnerable groups (through a strengthened social safety net). ▪ Deploy targeted labor market measures to re-integrate hard-hit workers after the pandemic.
Regional risks			
IV. A disorderly Brexit	H	H [Significant disruptions, including border delays and a sudden increase in tariff and non-tariff costs, and long-term efficiency losses from a disorderly Brexit.]	▪ [Contingency planning and collaboration between the U.K. and EU authorities to reduce cliff-edge effects and disruptions.
V. A shift in market sentiment against some high-debt euro area countries. Policy slippages with weak growth outturns in some high-debt euro area countries could raise concerns over debt sustainability, while disregard for the common fiscal rules and rising yields test the euro area policy framework in the medium term.	H	M Rise in sovereign yields may have knock-on effects on the broader financial sector and affect German banks. Germany is also especially susceptible to fluctuations in global demand.	▪ The authorities should ensure that banks' liquidity and capital buffers are adequate, engage in contingency planning, and put in place coordination mechanisms among the relevant authorities involved.
Domestic risks			
VI. Deeper scarring of corporate balance sheets and labor markets. The downturn and structural changes triggered by the crisis leads to waves of bankruptcies despite temporary liquidity support. Job losses in affected firms/sectors become permanent.	M/L	H Loss of firm-specific human capital triggered by a rise in unemployment. Adverse spillovers to other sectors through lower incomes and intermediate input demand. Further pressure on bank capital adequacy triggering further credit tightening.	▪ Stand ready to implement further policy support measures for firms and workers if needed. ▪ Maintain the flow of credit by making sure financial policies are adequately targeted and effectively deployed (e.g., loan guarantees)
VII. Key sectors fail to adjust in a timely fashion to technological change and digitalization. Lack of progress in adapting to the technological and digital revolution—especially among German automakers—could undermine Germany's position as an innovation leader.	M	H Loss of competitiveness and shrinking market shares for Germany's key export products (automobiles and machinery) threaten the country's growth model, increasing structural unemployment and lowering potential growth.	▪ Public investment in digitalization would crowd-in private investment and boost the digital infrastructure. ▪ Ensure that the energy transition (from coal to green energy) proceeds as planned. ▪ Provide incentives for electric vehicle ownership, including public upgrades to e-mobility.

Source of Risks		Relative Likelihood	Impact	Policy Response
VIII.	**Increase in the share of "zombie" firms.** Prolonged untargeted policy support could prevent exit of fundamentally unviable firms.	M/L	M/H Distortion of competition lowers productivity and further slows the adjustment to technological change.	▪ Phase out policy support as the recovery gains hold. ▪ Shift to targeted support to encourage resource reallocation toward growing sectors.

Annex III. Public Debt Sustainability Analysis

Before the COVID-19 pandemic, Germany's public debt had declined rapidly, falling below the 60 percent mark by end-2019. The government's multi-pronged fiscal measures to combat the economic fallout of the crisis are expected to push the debt up to about 71 percent of GDP by end-2020, an increase of 12 percentage points. Due to the temporary nature of the policy measures and the expected economic recovery, public debt sustainability will not be jeopardized. The debt ratio is projected to fall back to 60 percent of GDP over the medium term. A negative growth shock and a combined macro-fiscal shock represent the largest risk to the debt outlook. However, in both cases, debt would return to a downward trajectory after the shock.

A. Baseline Scenario

1. Macroeconomic assumptions. Real GDP growth is projected to shrink by 5.4 percent in 2020, before a rebound of 3.5 percent in 2021. Growth will converge to its potential level over the medium run, estimated at 1.2 percent per year, and inflation—measured by the GDP deflator—will reach 2.1 percent. Sovereign interest rates remain low and are currently negative up to a 30-year maturity. Average interest rates of public debt are expected to continue falling, from 1.3 percent in 2019 to 0.8 percent in 2025.[1]

2. Germany's temporarily high level of government debt calls for using the higher scrutiny framework. Public gross debt in 2020 is expected to be above the indicative DSA threshold (60 percent of GDP) for high scrutiny. Debt will increase significantly in 2020, reaching 71 percent of GDP, reflecting unprecedented fiscal stimulus to combat the economic fallout and support recovery. Due to the temporary nature of the policy measures and the expected economic recovery, the debt ratio will fall back to 60 percent of GDP by 2025. Estimated gross financing needs will decline from 20 percent of GDP in 2020 to below 7 percent of GDP in 2025.

3. The realism of baseline assumptions. Previous forecasts of macro-fiscal variables have been conservative. The median forecast error for real GDP growth during 2011–19 is close to zero. The median forecast error for inflation (GDP deflator) is 0.33 percent, suggesting that the staff underestimated inflation in the past (particularly post-2010). The median forecast bias for the primary balance is 0.53 percent of GDP, relatively conservative for surveillance countries.

4. The projected fiscal adjustment is feasible. The maximum 3-year adjustment of the cyclically adjusted primary balance (CAPB) lies in the top quartile of historical and cross-country experience. However, this adjustment mainly reflects the withdrawal of the sizable and temporary fiscal measures adopted in response to the pandemic. Moreover, Germany was able to deliver larger fiscal consolidations in the past, notably in 2011 and 2012.

[1] The interest rate on new borrowing is derived from forecasts of the real interest rate and inflation, and it does not necessarily match market-based interest rate forecasts. Using market-based forecasts would make little difference to the debt sustainability analysis.

B. Shocks and Stress Tests through the Medium Term

5. Germany's government debt should remain below the elevated level of 2020 over the medium term under plausible macro-fiscal shocks, while gross financing needs should fall below 10 percent of GDP. Under all considered macro-fiscal stress tests, both the debt-to-GDP ratio and gross financing needs either continue to drop or return to a downward path after the shock. Temporary shocks to real GDP growth or a combined macro-fiscal shock would drive a temporary increase in debt. At the same time, gross financing needs would continue to decrease throughout the projection period. Given the historical variability of growth, Germany's debt dynamics are most sensitive to growth shocks (detailed results below).

List of shocks and stress tests[2]

6. Growth shock. Under this scenario, real output growth rates are lower than in the baseline by one standard deviation over 2021–22, i.e., by 2.6 percentage points. The assumed decline in growth leads to lower inflation (0.25 percentage points per 1 percentage point decrease in GDP growth), and the interest rate is assumed to increase 25 basis points for every 1 percent of GDP worsening of the primary balance. Debt would peak at 77 percent of GDP in this case, but converge to 69 percent of GDP by 2025.

7. Primary balance shock. This scenario examines the effect of a dual shock of lower revenues and a rise in the interest rate, leading to a cumulative 1.4 percent deterioration in the primary balance over 2021–22 (a one standard deviation shock to the primary balance). The shock would result in a modest deterioration of debt dynamics.

8. Interest rate shock. This scenario assumes an increase of 370 basis points in debt servicing costs throughout the forecast horizon, mimicking the historical maximum interest rate experienced since 2010. The effect on public debt and gross financing needs would also be relatively modest.

9. Additional stress test: Combined macro-fiscal shock. This test combines shocks to growth, the interest rate, and the primary balance; while avoiding double-counting the effects of individual shocks. The impact on debt dynamics is slightly worse than that of a growth shock.

10. Additional stress test: Contingent fiscal shock. This scenario assumes a cumulative 3 percent of GDP (about 100 billion euros) additional fiscal cost for public guarantees called over 2021–22. This assumes that contracted guarantees will double from the level of end-September, and about one-third of the guarantees contracted will be called. While a sizable shock, the impact on debt ratio is relatively limited, with debt-to-GDP continuing to fall rapidly.

[2] Given that virtually all outstanding sovereign debt is denominated in euros, the scenario of a real exchange rate shock would not have a relevant effect on debt and is therefore not discussed.

Figure A1. Germany: Public Sector Debt Sustainability Analysis (DSA)—Baseline Scenario

(in percent of GDP unless otherwise indicated)

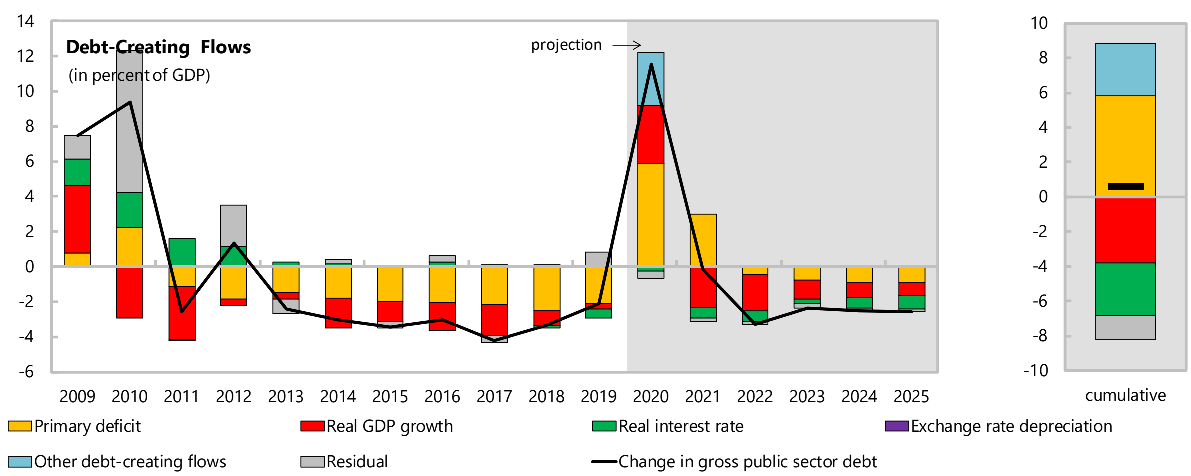
Debt, Economic and Market Indicators [1/]

	Actual			Projections					
	2009-2017 [2/]	2018	2019	2020	2021	2022	2023	2024	2025
Nominal gross public debt	75.2	61.6	59.5	71.1	70.9	67.6	65.2	62.7	60.1
Public gross financing needs	15.8	10.7	10.6	20.2	12.4	8.1	6.9	6.2	6.8
Real GDP growth (in percent)	1.3	1.3	0.6	-5.4	3.5	3.1	1.6	1.4	1.2
Inflation (GDP deflator, in percent)	1.5	1.7	2.2	1.9	1.7	1.7	1.3	1.7	2.1
Nominal GDP growth (in percent)	2.8	3.0	2.8	-3.6	5.3	4.8	3.0	3.1	3.3
Effective interest rate (in percent) [4/]	2.6	1.5	1.3	1.4	0.9	0.9	0.9	0.8	0.8
10-year bond yield	1.6	0.4	-0.2	-0.4	-0.4	-0.2	0.1	0.4	0.8

As of November 20, 2020		
Sovereign Spreads		
EMBIG (bp) 3/	0	
5Y CDS (bp)	11	
Ratings	Foreign	Local
Moody's	Aaa	Aaa
S&Ps	AAA	AAA
Fitch	AAA	AAA

Contribution to Changes in Public Debt

	Actual			Projections							
	2009-2017	2018	2019	2020	2021	2022	2023	2024	2025	cumulative	debt-stabilizing primary balance [9/]
Change in gross public sector debt	-0.1	-3.4	-2.1	11.5	-0.1	-3.3	-2.4	-2.5	-2.6	0.6	
Identified debt-creating flows	-1.3	-3.5	-2.9	12.0	0.1	-3.1	-2.1	-2.4	-2.4	2.0	
Primary deficit	-1.1	-2.5	-2.1	5.9	3.0	-0.4	-0.8	-0.9	-0.9	5.8	-1.5
Primary (noninterest) revenue and grants	44.6	46.1	46.5	46.3	45.8	46.5	46.7	46.6	46.7	278.7	
Primary (noninterest) expenditure	43.5	43.5	44.4	52.2	48.8	46.1	45.9	45.7	45.8	284.5	
Automatic debt dynamics [5/]	-0.2	-0.9	-0.9	3.1	-2.9	-2.7	-1.4	-1.4	-1.5	-6.8	
Interest rate/growth differential [6/]	-0.2	-0.9	-0.9	3.1	-2.9	-2.7	-1.4	-1.4	-1.5	-6.8	
Of which: real interest rate	0.8	-0.1	-0.5	-0.2	-0.6	-0.6	-0.3	-0.6	-0.8	-3.0	
Of which: real GDP growth	-1.0	-0.8	-0.3	3.3	-2.3	-2.1	-1.1	-0.9	-0.7	-3.8	
Exchange rate depreciation [7/]	0.0	0.0	0.0	…	…	…	…	…	…	…	
Other identified debt-creating flows	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	
Privatization/Drawdown of Deposits (negative)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Contingent liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Please specify (2) (e.g., ESM and Euroarea loans)	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	
Residual, including asset changes [8/]	1.2	0.1	0.8	-0.4	-0.2	-0.2	-0.2	-0.2	-0.2	-1.4	



Source: IMF staff.

1/ Public sector is defined as general government.

2/ Based on available data.

3/ Long-term bond spread over German bonds.

4/ Defined as interest payments divided by debt stock (excluding guarantees) at the end of previous year.

5/ Derived as [(r - π(1+g) - g + ae(1+r)]/(1+g+π+gπ)) times previous period debt ratio, with r = interest rate; π = growth rate of GDP deflator; g = real GDP growth rate; a = share of foreign-currency denominated debt; and e = nominal exchange rate depreciation (measured by increase in local currency value of U.S. dollar).

6/ The real interest rate contribution is derived from the numerator in footnote 5 as r - π (1+g) and the real growth contribution as -g.

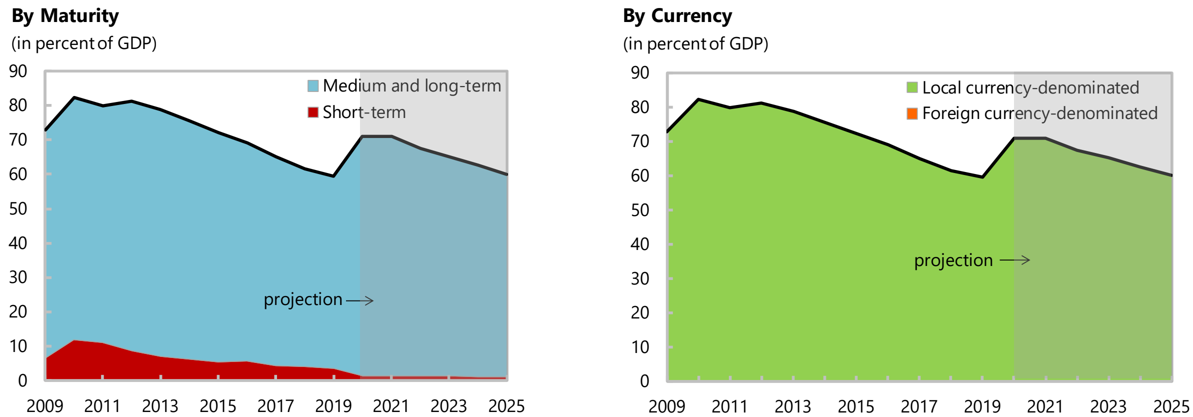
7/ The exchange rate contribution is derived from the numerator in footnote 5 as ae(1+r).

8/ Includes asset changes and interest revenues (if any). For projections, includes exchange rate changes during the projection period.

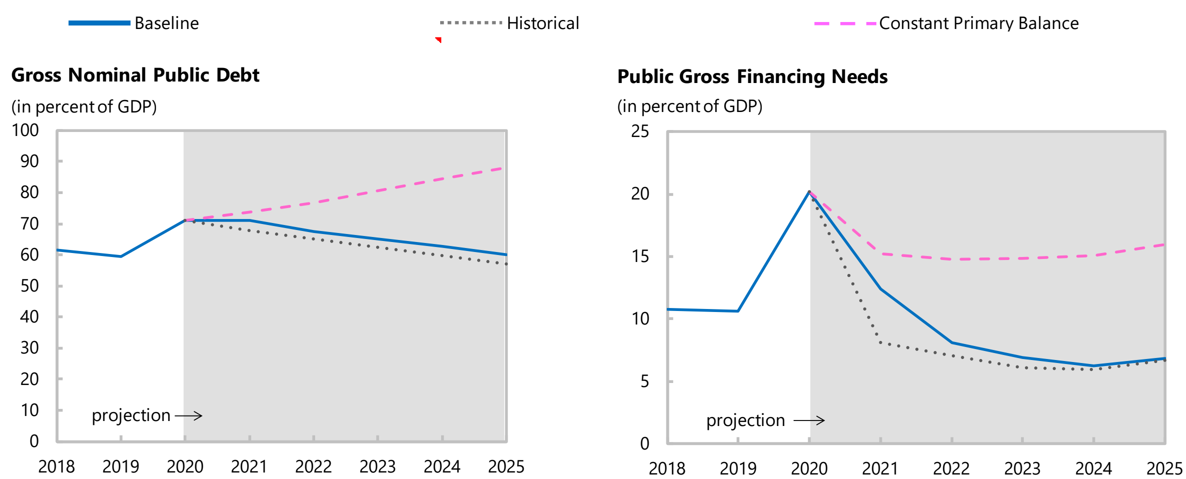
9/ Assumes that key variables (real GDP growth, real interest rate, and other identified debt-creating flows) remain at the level of the last projection year.

Figure A2. Germany: Public DSA—Composition of Public Debt and Alternative Scenarios

Composition of Public Debt



Alternative Scenarios



Underlying Assumptions

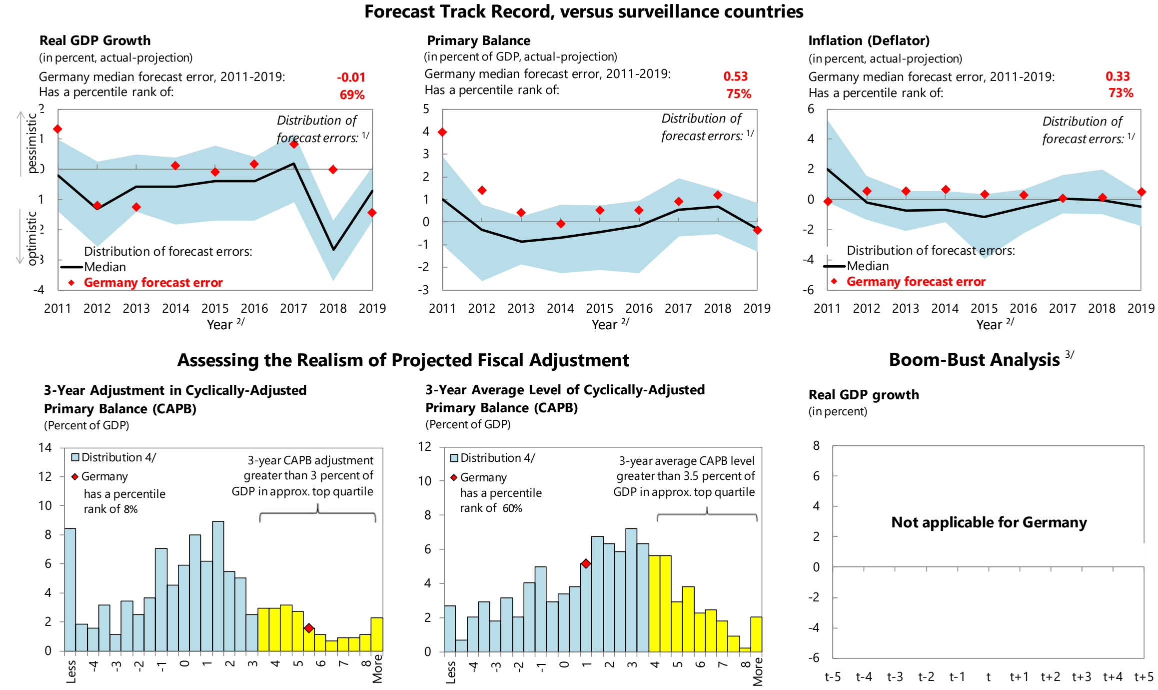
(in percent)

Baseline Scenario	2020	2021	2022	2023	2024	2025
Real GDP growth	-5.4	3.5	3.1	1.6	1.4	1.2
Inflation	1.9	1.7	1.7	1.3	1.7	2.1
Primary Balance	-5.9	-3.0	0.4	0.8	0.9	0.9
Effective interest rate	1.4	0.9	0.9	0.9	0.8	0.8
Constant Primary Balance Scenario						
Real GDP growth	-5.4	3.5	3.1	1.6	1.4	1.2
Inflation	1.9	1.7	1.7	1.3	1.7	2.1
Primary Balance	-5.9	-5.9	-5.9	-5.9	-5.9	-5.9
Effective interest rate	1.4	0.9	0.8	0.8	0.7	0.7

Historical Scenario	2020	2021	2022	2023	2024	2025
Real GDP growth	-5.4	1.2	1.2	1.2	1.2	1.2
Inflation	1.9	1.7	1.7	1.3	1.7	2.1
Primary Balance	-5.9	1.5	1.5	1.5	1.5	1.5
Effective interest rate	1.4	0.9	1.1	1.3	1.2	1.4

Source: IMF staff.

Figure A3. Germany: Public DSA—Realism of Baseline Assumptions



Source : IMF Staff.

1/ Plotted distribution includes surveillance countries, percentile rank refers to all countries.

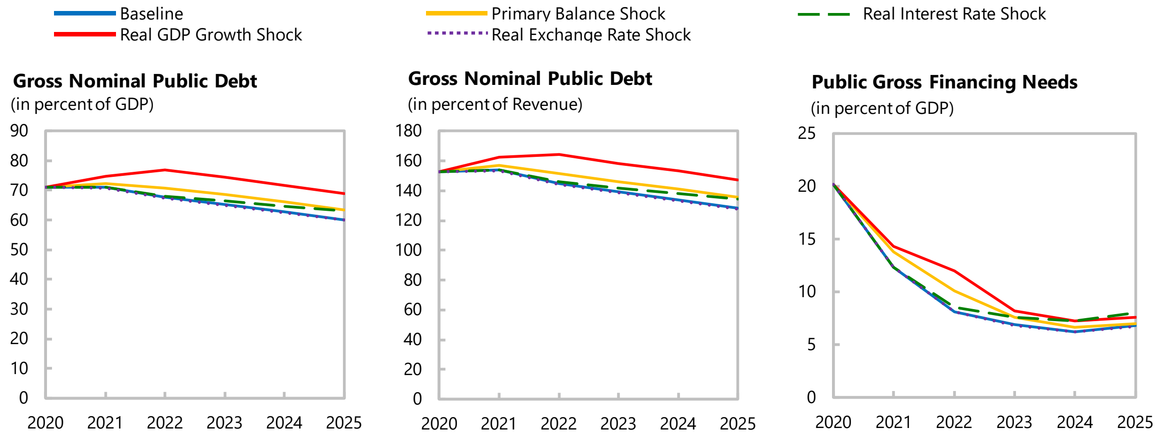
2/ Projections made in the spring WEO vintage of the preceding year.

3/ Not applicable for Germany, as it meets neither the positive output gap criterion nor the private credit growth criterion.

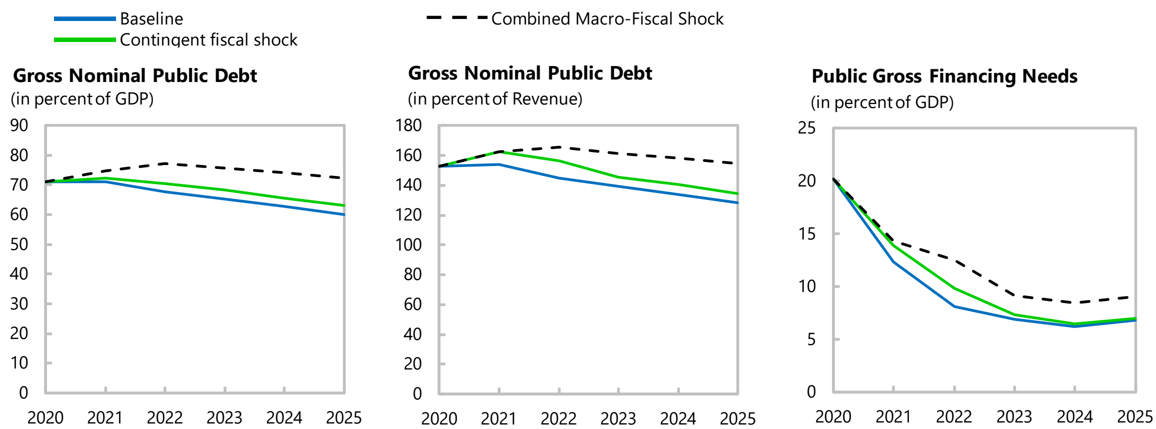
4/ Data cover annual obervations from 1990 to 2011 for advanced and emerging economies with debt greater than 60 percent of GDP. Percent of sample on vertical axis.

Figure A4. Germany: Public DSA—Stress Tests

Macro-Fiscal Stress Tests



Additional Stress Tests



Underlying Assumptions

(in percent)

Primary Balance Shock	2020	2021	2022	2023	2024	2025
Real GDP growth	-5.4	3.5	3.1	1.6	1.4	1.2
Inflation	1.9	1.7	1.7	1.3	1.7	2.1
Primary balance	-5.9	-4.4	-1.3	0.6	0.8	0.9
Effective interest rate	1.4	0.9	0.9	1.0	0.9	0.9
Real Interest Rate Shock						
Real GDP growth	-5.4	3.5	3.1	1.6	1.4	1.2
Inflation	1.9	1.7	1.7	1.3	1.7	2.1
Primary balance	-5.9	-3.0	0.4	0.8	0.9	0.9
Effective interest rate	1.4	0.9	1.5	1.9	2.1	2.4
Combined Shock						
Real GDP growth	-5.4	0.8	0.5	1.6	1.4	1.2
Inflation	1.9	1.1	1.0	1.3	1.7	2.1
Primary balance	-5.9	-4.6	-2.6	0.6	0.8	0.9
Effective interest rate	1.4	0.9	1.5	2.0	2.2	2.5

Real GDP Growth Shock	2020	2021	2022	2023	2024	2025
Real GDP growth	-5.4	0.8	0.5	1.6	1.4	1.2
Inflation	1.9	1.1	1.0	1.3	1.7	2.1
Primary balance	-5.9	-4.6	-2.6	0.8	0.9	0.9
Effective interest rate	1.4	0.9	0.9	1.1	0.9	0.9
Real Exchange Rate Shock						
Real GDP growth	-5.4	3.5	3.1	1.6	1.4	1.2
Inflation	1.9	2.2	1.7	1.3	1.7	2.1
Primary balance	-5.9	-3.0	0.4	0.8	0.9	0.9
Effective interest rate	1.4	0.9	0.9	0.9	0.8	0.8

Source: IMF staff.

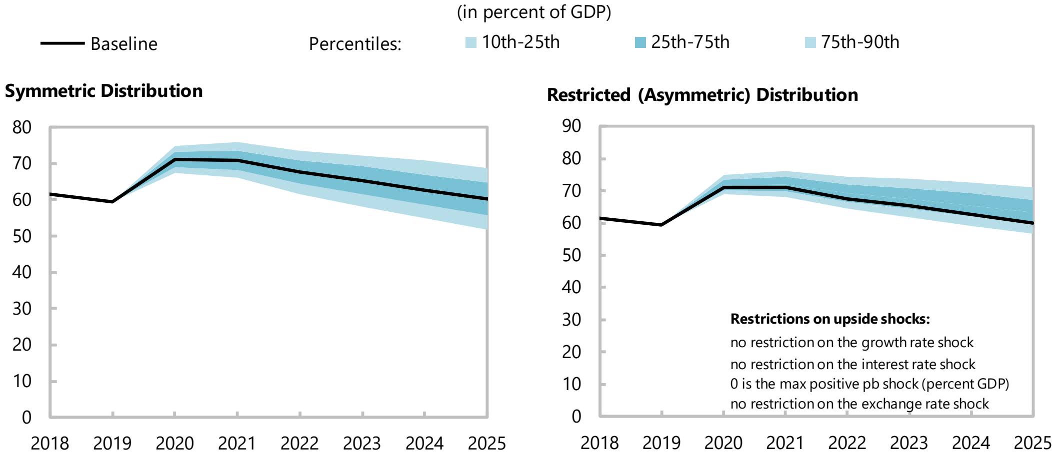
Figure A5. Germany: Public DSA Risk Assessment

Heat Map

Debt level 1/	Real GDP Growth Shock	Primary Balance Shock	Real Interest Rate Shock	Exchange Rate Shock	Contingent Liability shock
Gross financing needs 2/	Real GDP Growth Shock	Primary Balance Shock	Real Interest Rate Shock	Exchange Rate Shock	Contingent Liability Shock
Debt profile 3/	Market Perception	External Financing Requirements	Change in the Share of Short-Term Debt	Public Debt Held by Non-Residents	Foreign Currency Debt

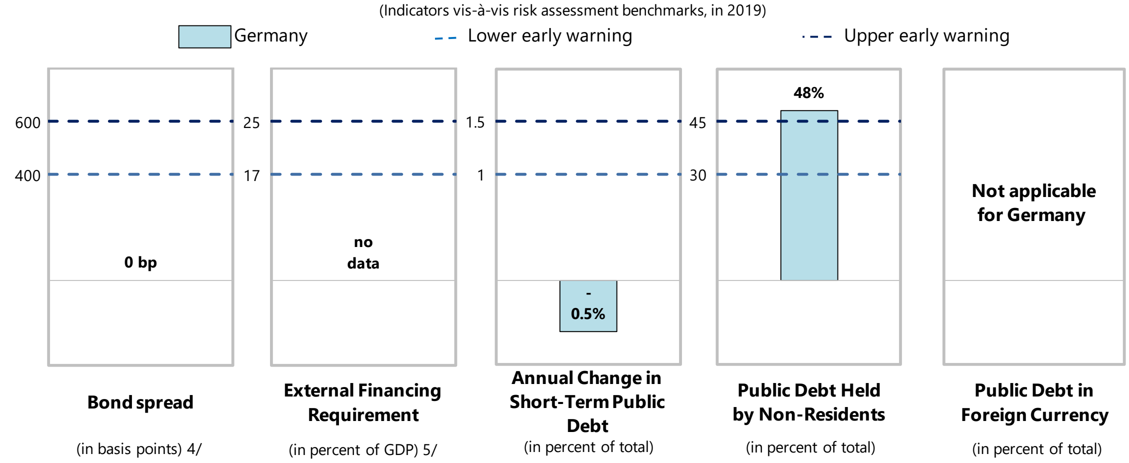
Evolution of Predictive Densities of Gross Nominal Public Debt

(in percent of GDP)



Debt Profile Vulnerabilities

(Indicators vis-à-vis risk assessment benchmarks, in 2019)



Source: IMF staff.

1/ The cell is highlighted in green if debt burden benchmark of 85% is not exceeded under the specific shock or baseline, yellow if exceeded under specific shock but not baseline, red if benchmark is exceeded under baseline, white if stress test is not relevant.

2/ The cell is highlighted in green if gross financing needs benchmark of 20% is not exceeded under the specific shock or baseline, yellow if exceeded under specific shock but not baseline, red if benchmark is exceeded under baseline, white if stress test is not relevant.

3/ The cell is highlighted in green if country value is less than the lower risk-assessment benchmark, red if country value exceeds the upper risk-assessment benchmark, yellow if country value is between the lower and upper risk-assessment benchmarks. If data are unavailable or indicator is not relevant, cell is white.
Lower and upper risk-assessment benchmarks are:

400 and 600 basis points for bond spreads; 17 and 25 percent of GDP for external financing requirement; 1 and 1.5 percent for change in the share of short-term debt; 30 and 45 percent for the public debt held by non-residents.

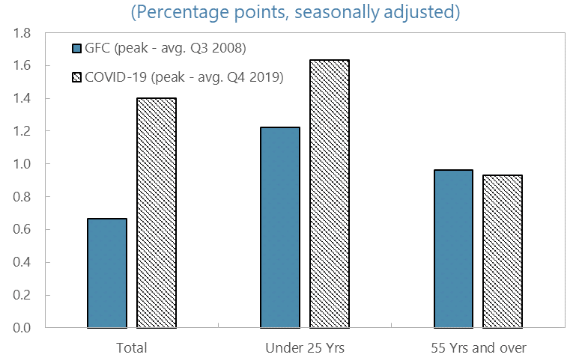
4/ Long-term bond spread over German bonds, an average over the last 3 months, 22-Aug-20 through 20-Nov-20.

5/ External financing requirement is defined as the sum of current account deficit, amortization of medium and long-term total external debt, and short-term total external debt at the end of previous period.

Annex IV. COVID-19's Long-Term Impact on the Labor Market

1. **The COVID-19 pandemic could disproportionately affect young and old-age cohorts and lead to a long-term impact on the labor market.** Although Germany's unemployment rates have risen relatively moderately so far, owing at least in part to Kurzarbeit, young and old-age workers' career paths could have shifted permanently. Young people may choose to remain in education or training. At the same time, the literature suggests that those who graduate during an economic crisis or are already in the labor market may have to endure a longer unemployment period. Moreover, even if they manage to find jobs, they tend to receive lower wages and have less favorable career prospects than they could expect during normal time. Thus, the COVID-19 pandemic and associated recession could lead to a long-term productivity loss for this cohort. Meanwhile, workers who are eligible for early retirement or become unemployed due to the pandemic may end up permanently exiting the labor market, especially given a generally low probability of re-employment for old-age workers. Both forces could weigh on aggregate potential growth, which is already expected to be negatively affected by the aging population and low productivity growth projected over the long term.

Germany: Changes in Registered Unemployment Rates
(Percentage points, seasonally adjusted)

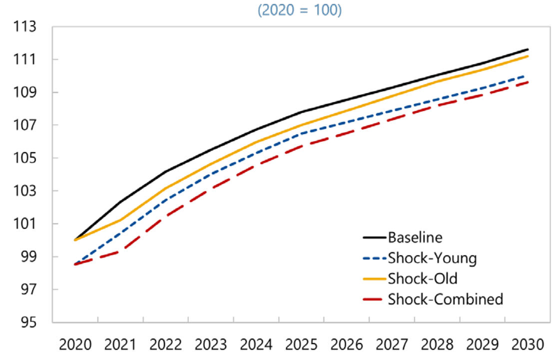


Sources: Bundesbank, Haver Analytics, and IMF staff calculations.

2. **Simulations suggest that a long-term erosion of labor productivity for the young cohort and a decline in the old-age cohort labor participation rate could reduce Germany's output by almost 2 percentage points compared to the baseline.**

- **Baseline.** Germany's potential growth is projected to converge to 1 percent in five years and further down to 0.75 percent by 2030. This reflects a decline in growth of labor supply from a negative 0.05 percent in 2025 to a negative 0.3 percent in 2030 while we assume total-factor productivity (TFP) growth to stay at about 0.7 percent per year. The unemployment rate would gradually decline, from the peak of 4.3 percent in 2020 to about 3.5 percent of natural rate in five years.

Germany: Long-Term Potential Output
(2020 = 100)



Source: IMF staff estimate

- **The shock scenario**. A delayed recovery in the labor market and scarring effects on young and old-age cohorts are assumed. Capital accumulation is assumed to follow a balanced growth path.

- **Young cohort.** The labor force participation rate for the age group 15–19 years is assumed to remain below the baseline by 2.5 percentage points in 2021, with many youths deciding to continue or return to education, and converge back to trend in 2023. A half of this impact is assumed for the age group 20–24 years. In addition, the employment rates—defined as the employed divided by the active labor force—for the age group 25–29 years are assumed to be 1 percentage point below the baseline in 2021 and a half percentage point below in 2022. We further assume a shock to the young cohorts' wages, which also leads to the same decline to their labor productivity. It is assumed that their wage and productivity decline by 10 percentage points from the baseline in 2020 and remain below the baseline by 5 percentage points through 2030.[1]
- **Old-age cohort.** During the GFC, the labor force participation rates for old-age workers increased, likely due to the negative wealth effect. However, the current pandemic is a public health crisis, which disproportionally affects elderly workers. We, therefore, assume that the declines in the employment rates for the age groups 60-64 years and 65-69 years in 2020 to be transited to the decline in their labor force participation in 2021. While this is a one-time shock, its impact on the labor market would only gradually as these groups pass the statutory retirement age.
- **Combined**. The combined impact on both young and old-age cohorts reduce labor input by 0.7 percentage points in 2025 and by 0.4 percentage points in 2030 relative to the baseline. TFP would be below the baseline by about 0.8 percentage point lower in 2025 and about 1 percentage point lower in 2030. Although the productivity impact on young cohort is assumed to stabilize by 2025, the share of this cohort in the labor market is projected to continue increasing, leading to a further loss in TFP.

3. **While the shock to growth potential is not massive, the disproportional impact on the vulnerable groups calls for policy measures to support young workers' career development and expand the working lives of the elderly.** The literature suggests that the long-term career impact on young workers is very sensitive to their skills and the labor market's institutional settings. In particular, low-skilled young workers tend to suffer greater long-term income losses. This gap can be narrowed through policy measures aimed to foster further educational attainment and enhance the training-to-work transition (e.g., wage subsidies). In addition, cross-country analyses indicate that flexible labor markets could improve job mobility and reduce long-term income losses. Meanwhile, the COVID-19 pandemic can have transformational effects on the economy and the demand for labor. To prolong working lives and enhance the elderly's employability, it is crucial to provide and encourage lifelong learning. The flexibility brought by digitalization could bring more job opportunities to old-age workers.

[1] There is a wide range of empirical estimates on the young cohort's long-term wage impact after crises on young cohorts. This note approximates the results of Umkehrer (2019), which is based on administrative employment data in Germany.