STABILISATION POLICY AMID THE CORONAVIRUS CRISIS

KEY MESSAGES

- Monetary and fiscal policy reacted quickly to the crisis with very extensive support measures. Automatic stabilisers also play an important role.
- The Federal Government's stimulus package is contributing to the recovery and will likely increase economic output temporarily by 0.7 to 1.3 %, but some elements are not well targeted in all areas.
- Once there is a sustainable improvement in the economic situation in the future, the focus should be on the consolidation of public finances and on the normalisation of monetary policy.

SUMMARY

Germany, like other euro area member states, reacted to the deep recession brought about by the coronavirus pandemic with large-scale fiscally relevant measures, while the European Central Bank (ECB) eased monetary policy substantially.

The challenges for stabilisation policy can be divided into three separate phases. **In the first phase in spring 2020**, government-imposed measures and changes in the behaviour patterns of households and businesses resulted in a steep downturn in macroeconomic supply and demand. The role of stabilisation policy was to **help businesses and households get through the period of greatly reduced economic activity**. Monetary policy provided the banking system with substantial liquidity at favourable terms in order to strengthen the supply of credit and prevent a banking crisis. Extensive securities purchases helped support the financing conditions of member states and businesses. On the part of fiscal policy, automatic stabilisers, such as the progressive tax system, unemployment benefits and the short-time work allowance, had an immediate stabilising effect on household income and the earnings situation of businesses. Access to short-time allowance was even expanded significantly. In addition, comprehensive discretionary support measures were implemented, particularly guarantees, KfW loans, immediate assistance and temporary aid schemes, tax measures and direct participations.

With the easing of public health measures, **a second, still ongoing phase began in May 2020** in which **more economic activity is possible** again. Reluctance to consume and to invest can mean that aggregate demand does not keep pace with supply capacities. The automatic stabilisers and favourable monetary policy conditions can strengthen aggregate demand, as can discretionary measures. The **Federal Government's June 2020 stimulus package** contains a variety of measures, including the temporary reduction of the VAT rate and substantial investment projects. Overall, it is expected to raise GDP in 2020 and 2021 by around 0.7 to 1.3 %. **Some instruments are not very targeted**. Economic activity has slowed again on account of the recent restrictions. To support the economy further, it would be helpful to extend the scope of tax loss carry-back and differentiate temporary aid schemes more based on the degree to which businesses are affected by the crisis.

A **third phase** begins **with the prospectively sustainable improvement in the economic situation**. In this phase, the priority is **to put a framework in place that guarantees long-term growth**. The support measures should expire so they do not to stand in the way of change towards permanently competitive structures. Fiscal sustainability must be ensured by appropriate consolidation steps that do not harm growth. Monetary policy should communicate strategies on how to normalise pandemic-related measures and avoid the risk of fiscal dominance of monetary policy.

I. ROLE OF MONETARY AND FISCAL POLICY

93. **Governments and central banks** around the world took comprehensive economic policy action in response to the deep recession due to the coronavirus pandemic. **Stabilisation policy** seeks to reduce fluctuations in economic activity as much as possible, with monetary and fiscal policy playing a central role. The central bank can respond immediately to the economic downturn with an increased **supply of liquidity**, **lower interest rates** or **securities purchases.** However, it takes some time for the effect of these actions to be felt by households and businesses in the real economy. While fiscal policy can directly influence the situation of households and businesses through **transfers**, **taxation policy measures**, **loans** or **participation in ownership**, the implementation of discretionary fiscal policy measures takes time. **Automatic stabilisers** are fastest to take effect.

94. In the **euro area,** monetary policy is set at the European level, while member states are free to choose their fiscal policy within certain rules. The **ECB's** mandate is to guarantee price stability above all other objectives. According to its strategy, it achieves this objective most effectively over the medium term. This gives the ECB the flexibility to pay attention to the stabilisation of economic output over the economic cycle. Its measures are based on developments in the euro area as a whole, however. Only **fiscal policy,** which is the responsibility of the **member states,** can be geared towards the specific situations in the individual countries.

95. The coronavirus crisis requires **special stabilisation policy measures**. On the one hand, the scale of GDP contraction in the first half of 2020 is unprecedented. On the other hand, the intention was for many economic activities to not take place at all, or only to a limited extent, during this time in order to contain the spread of infection. Consequently, this called for a different policy response than in the event of a simple demand shortfall. For example, in a full-scale **shutdown,** there is little scope for a cut in interest rates to reduce households' propensity to save and for transfers to increase household spending, since consumer demands and the opportunity to spend are limited.

96. The **challenges** for stabilisation policy in the course of the coronavirus crisis can be divided into **three specific phases**. During the **first phase** between March and May 2020, the aim was to stop the rapid rise in infections and reduce the number of new cases through social distancing. ↘ ITEMS 99 FF. **Opportunities to work and consume** were **limited** in part by the government, and in part by households and businesses, which changed their behaviour to avoid the risk of infection. The role of stabilisation policy was to adopt support and financing measures to help businesses and households get through this phase.

97. The **second phase** only began in **June 2020** when many restrictions were lifted and **more economic activity was possible again**. ↘ ITEMS 132 FF. The high degree of uncertainty is likely to have caused a reluctance to consume and invest, however, such that macroeconomic demand did not keep pace with increasing

supply capacities. Therefore, automatic stabilisers, such as unemployment benefits and short-time work allowance, and the easing of monetary policy measures were able to have a bigger impact on demand in this second phase already. Discretionary **measures to stimulate demand,** such as the Federal Government's economic stimulus package, are also likely to have contributed to the recovery during this phase. Yet, as a new surge in infections was not effectively prevented, a limited shutdown is currently being implemented in an attempt to halt this rise in cases. Additional support measures are envisaged for affected businesses and self-employed persons.

98. Once a **significant improvement in the economic situation is achieved** in the future, Germany will enter a **third phase** in which the priority is to ensure suitable conditions for long-term growth. ↘ ITEMS 196 FF. Support measures that were developed for the emergency crisis situation should expire during this phase. For example, this includes the monetary policy pandemic emergency measures, which are temporary in nature. Following the sharp increase in debt in 2020, the focus will again be on the consolidation of public finances. Ultimately, the German economy – already facing serious structural challenges in some areas even before the coronavirus pandemic – will need to adapt to potential long-term changes in consumption behaviour and work habits as a result of the pandemic. Some business models will no longer have a future on the market. Consolidation efforts and the withdrawal of support measures must be as growth-friendly as possible so businesses do not delay necessary adaptation measures and stabilisation policy measures do not stand in the way of structural change. ↘ ITEMS 205 FF.

II. FIRST PHASE: HELP TO GET THROUGH THE SHUTDOWN

1. Pandemic affects both supply and demand

99. Unlike most recessions in the past, the coronavirus crisis is not the product of economic imbalances, a financial crisis or restrictive monetary policy. This time the cause is the **rapid spread of the SARS-CoV-2 virus** in February and March this year. Countries around the world placed extensive **restrictions** on public life, and therefore on many economic activities. At the same time, **reluctance on the part of households and businesses** – e.g. for fear of infection or an economic downturn – also meant that many activities did not take place at all or only to a limited extent.

100. The coronavirus pandemic has had a significant impact on both the supply and the demand side of the economy. ↘ BOX 7 Furthermore, unlike in past recessions, the economic downturn affects parts of the economy – like in the services sector, for instance – that are otherwise less vulnerable to cyclical fluctuations. In spring, the **overriding goal** of policy-makers was to **rapidly contain the virus** that had spread at an increasingly faster pace in March. In particular, the priority was

to reduce social contacts as much as possible in order to prevent additional infections and therefore the uncontrolled spread of the virus. Otherwise, there was the risk of overwhelming the healthcare system (GCEE Special Report 2020 items 23 ff.).

In addition to the government-imposed restrictions, economic actors also **voluntarily changed their behavior**. For example, households reduced their consumption and substituted goods and services involving a high risk of infection with less dangerous alternatives. Furthermore, international supply chains were disrupted and the global recession resulted in a drop in demand for German goods and services.

↘ BOX 7

Transmission channels and typology of current shocks

The overall economic impact of the coronavirus pandemic has already been analysed in many studies using macroeconomic models. They demonstrate that the pandemic has a **negative impact on both the supply and the demand side of the economy**. For example, the measures taken to contain the number of cases led to a decline in production, falling income and reduced opportunities to consume. Delayed deliveries from countries particularly hard hit by the pandemic impacted international supply chains. At the same time, the increased risk of infection resulted in a change in the behaviour of households, private consumer spending was reduced or, where possible, replaced by goods and services associated with a reduced probability of infection.

In the economic literature, some studies examine **the extent to which macroeconomic interdependencies reinforce** the negative effects of the **coronavirus shock**. Guerrieri et al. (2020) show that the supply-side restrictions due to the coronavirus can trigger an even stronger drop in demand. **Income losses** in sectors particularly hard hit lead to an decline in aggregated demand in the economy. This effect is reinforced because a share of households **lack savings** to be able to compensate for the decline in income. This drop in demand reduces firms gross value added, making it more difficult for them to get access to credit. Firms with **liquidity challenges** reduce their investments. This can exacerbate the recession and prolong it beyond the duration of the quarantine measures (Pfeiffer et al., 2020). Bayer et al. (2020) analyse the economic consequences of **heightened uncertainty**. Imminent loss of income causes households to reduce their spending and to save more instead.

Another part of the literature combines macroeconomic equilibrium models with **epidemiological models**. This makes it possible to examine the **interaction between economic decisions and the spread of the virus**. Eichenbaum et al. (2020) model the consumption and labour supply decisions of households with respect to the risk of infection. However, as the individuals in the model see the country-wide infection rates as given, they do not fully internalise the consequences of their consumption- and work-related decisions for the spread of the virus, and therefore aggravate the pandemic. Therefore, state-imposed restrictions can lead to an increase in welfare because they help reduce the **negative external effects** of the **individual decisions**. Following on from this, Krueger et al. (2020) show that households switch their consumption to goods and services that are associated with a lower risk of infection (e.g. having food delivered instead of eating out at a restaurant). Depending on the degree of substitutability of individual consumer goods and the different probability of infection, they show that voluntary social distancing reduces the rate of infection by as much as 80 %. This is consistent with the empirical findings of Farboodi et al. (2020) which show that social activity had already dropped even before the introduction of nationwide quarantine measures. Using a quantitative model, they argue that while voluntary reactions do slow the

spread of the virus, the optimal policy in the model includes accompanying government-imposed quarantine measures. Due to the high percentage of asymptomatic cases, individuals in the model do not fully internalise the costs of infecting others.

The key **economic policy implication** of these models is that, from **an infection control standpoint, a significant drop in output is required and economically reasonable**. With liquidity, fiscal and monetary policy measures can help maintain production capacities and support household incomes. However, they should not attempt to offset the drop in GDP in the height of the pandemic as this would run counter to public health requirements. They can strengthen demand to the extent that **demand deficiencies outweigh supply-side declines on the short term** (see Balleer et al. (2020) for Germany). Woodford (2020) also shows that liquidity assistance through fiscal policy is better suited to address the variety of financing problems that arise in sectors that are not directly impacted by the decline in activities associated with a high risk of infection. This is because monetary policy can only shift demand intertemporally via the interest rate. In the context of a heterogeneous agents New Keynesian (HANK) model, (GCEE Annual Report 2019 box 17), Kaplan et al. (2020) emphasise the need for targeted fiscal support measures to produce the maximum possible impact on demand.

101. Traditional economic stimulus programmes that are geared towards stimulating macroeconomic demand held little promise of success during this time (GCEE Special Report 2020 item 54). They would have even run counter to the public health measures implemented to restrict consumption. Instead, the priority in spring was to **stabilise incomes and the expectations of economic actors**. The aim was to maintain economic capacities which would be needed again once the virus was successfully under control. Many instruments were employed to this end, including short-time work allowance, which at least partly compensates for lost household income – and therefore lost purchasing power – and enables businesses to preserve jobs. The adequate provision of liquidity to businesses whose financial resources had diminished as a result of lost earnings also played an important role. The generous supply of liquidity from central banks, the easing of equity capital regulations and the provision of government guarantees allowed the banking system to maintain or expand lending to businesses hit by the crisis. With the purchase of securities, the central banks were also able to influence the risk premiums for sovereigns and businesses and counteract expectations of an increase in risk premiums.

102. If consumers postpone planned purchases because they are worried about income losses, this produces a negative consumption impulse. If businesses hold back on investments and employment due to uncertain business prospects, this drives down demand and may negatively impact medium- to long-term growth potential. **Heightened uncertainty** can cause risk premiums to rise, worsening the financing conditions of businesses, households and governments and thereby reducing their demand.

103. Action to reduce uncertainty is also an important factor if the priority is to contain the pandemic and its consequences. If the risk of infection is thought to be high, social activities may not occur despite the easing of restrictions. Surveys show that the assessment of the risk of personally getting infected with the coronavirus fell

significantly in the summer (Betsch et al., 2020; Blom et al., 2020). **Communication by the government** is crucial. For example, speeches made by the Federal Chancellor in April 2020 significantly influenced households' expectations with regard to the timeline for the easing of measures (Haan et al., 2020). Following the speech on 9 April, which painted a more optimistic picture, households expected restrictions to be lifted earlier. Planned extraordinary consumer spending simultaneously increased. By contrast, the press conference on 15 April at which the Federal Chancellor emphasised the fragility of Germany's success in containing the virus caused households to expect restrictions to last longer, and less consumption spending was planned.

104. Ultimately, the sectors of the economy that were hardest hit may face a permanent **loss of production capacities** if demand is frozen over a prolonged period. In this context, economic policy must consider that bankruptcies and the resulting loss of jobs can entail considerable costs to the overall economy, as the necessary reallocation of capital and labour is not without friction and value chains are destroyed (Pissarides, 1992; Ramey and Shapiro, 1998, 2001; Acemoglu and Tahbaz-Salehi, 2020). On the other hand, the support measures put public-sector budgets under considerable financial strain, and they can stand in the way of much-needed structural adjustments if they are kept in place for too long. ↘ ITEMS 196 FF.

2. Monetary easing and government bond markets

105. Early in the first phase of the coronavirus crisis, the ECB took measures to **stabilise the banking system and the financial markets**. This included actions to loosen the collateral framework for refinancing operations and additional longer-term refinancing operations. In the case of targeted longer-term refinancing operations (TLTRO), the interest rate was reduced to as low as –1 %. At the same time, securities purchases were scaled up massively and a large-scale Pandemic Emergency Purchase Programme (PEPP) was launched. In the second phase these measures are likely to boost aggregate demand in the euro area. This is then likely to contribute to the economic recovery and an increase in consumer price inflation, which will move the rate of inflation closer again to the ECB target of below, but close to, 2 % in the medium term.

106. With the refinancing operations, the ECB provided the banking system with immediate **central bank liquidity at favourable terms** on a large scale. For example, on 12 March 2020 it announced additional longer-term refinancing operations (LTROs) to cover the period until the next targeted longer-term refinancing operation (fourth operation of TLTRO III) with a 3-year maturity in June 2020. At the same time, the ECB reduced the interest rate on TLTROs to as low as 25 basis points below the average deposit facility rate. On 30 April, conditions were eased further such that the interest rate on TLTRO-III operations in the period from June 2020 to June 2021 can be as low as 50 basis points below the deposit rate. Currently, this corresponds to an interest rate of –1 %. With the TLTROs, the ECB seeks to specifically support lending by banks to the non-financial private sector in the euro area. Therefore, the possible volume is based on the lending by

banks to non-financial businesses and private households in the euro area without taking account of housing loans.

107. Furthermore, the ECB also implemented pandemic emergency longer-term refinancing operations (PELTROs). In contrast to TLTROs, PELTROs do not attach any conditions to the extension of credit. PELTROs serve as a backstop for market participants with little or no access to the TLTRO-III programme and are designed to bridge liquidity needs between the individual scheduled dates in the programme. As the revised conditions of the TLTRO-III programme are significantly more favourable, there has been little demand for PELTROs. The volume of the fourth round of **TLTRO-III** operations conducted in June 2020 amounted to around €1,300 billion and involved a **€548.5 billion increase in the net liquidity provided**.

108. To increase the availability of eligible collateral, the ECB **temporarily eased its requirements for the eligibility of collateral** on 7 April (ECB, 2020a). The easing of the conditions at which credit claims are accepted as collateral by the central bank is designed to promote the flow of bank credit. This easing is temporary for the duration of the pandemic crisis and linked to the duration of the PEPP. The conditions will be re-assessed before the end of 2020 and may be expanded if the participation of banks in liquidity-providing operations is restricted (ECB, 2020a).

This is achieved primarily by expanding the **additional credit claims (ACCs) framework**, which provides the possibility to National Central Banks to enlarge the scope of eligible credit claims for the finance sector in their countries. This includes loans with lower credit quality, loans to other types of debtors, not accepted in the ECB's general framework, and foreign-currency loans. This is primarily implemented by reducing valuation haircuts for all types of collateral (ECB, 2020a).

109. In the wake of the high market volatility at the start of the coronavirus pandemic, European banks' **supply of liquidity in US dollars** also deteriorated. To safeguard the provision of US dollars, the Bank of Canada, the Bank of England, the Bank of Japan, the ECB, the Federal Reserve and the Swiss National Bank took **coordinated action** and implemented appropriate measures (ECB, 2020b, 2020c). In addition to existing weekly refinancing operations with a maturity of one week, they have been offering additional **refinancing operations in US dollars** with an 84-day maturity on a weekly basis since 16 March (ECB, 2020b; Special Report 2020 item 163). Furthermore, the pricing was lowered to the US dollar overnight index swap rate (USD OIS rate) plus 25 basis points. Between 23 March and 1 July, they had been offering the 1-week US dollar refinancing operations on a daily basis (ECB, 2020c; 2020g).

110. In addition, the ECB implemented **extensive quantitative easing measures in the form of securities purchases**. With this move, the ECB seeks to stabilise the financial markets and reduce risks for monetary policy transmission by attempting to prevent a rise in government bond yields. As early as 12 March 2020, it increased the purchases by an additional €120 billion within the framework of the Public Sector Purchase Programme (PSPP). On 18 March, it then

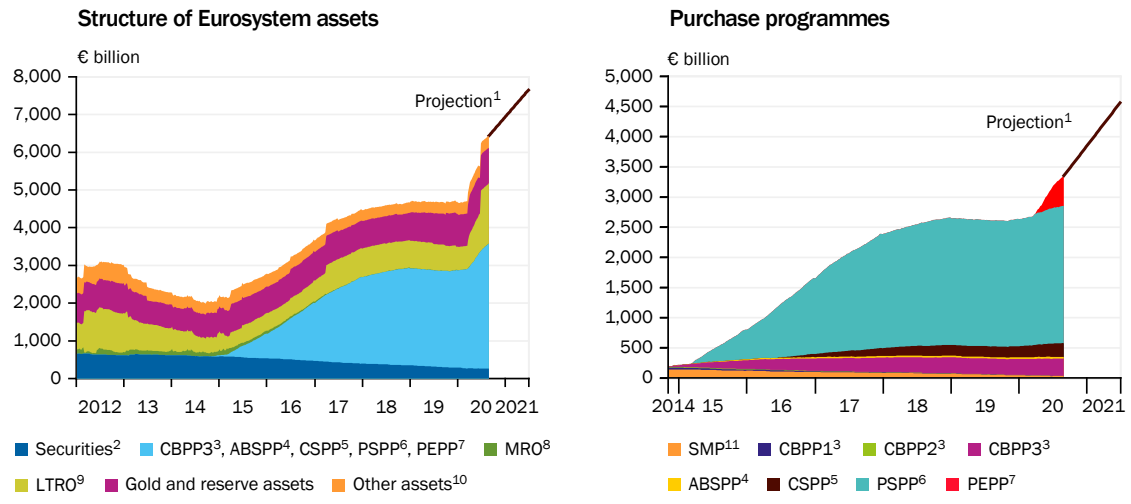
launched a new asset purchase programme, the Pandemic Emergency Purchase Programme (**PEPP**), and announced securities purchases of €750 billion until the end of the year, whereby assets under all existing asset purchase programmes can be purchased (ECB, 2020d). With this action, the ECB seeks to counter the risks to the monetary policy transmission mechanism and the economic outlook for the euro area posed by the outbreak of the coronavirus pandemic (ECB, 2020d). On 4 June, the Governing Council of the ECB decided to increase the envelope for the PEPP by €600 billion to a total of €1,350 billion (ECB, 2020e). It stated its intention to conduct additional purchases until the coronavirus crisis is over, but at least until the end of June 2021. Maturing principal payments from securities purchased under the PEPP will be reinvested until at least the end of 2022.

111. The resulting increase in the securities portfolio is likely to expand Eurosystem **assets** by an additional €2,942 billion by the end of June 2021. ↘ CHART 26, LEFT The overall volume of purchased securities as well as tender operations increases by 70.1 % compared to mid-March 2020. This is equivalent to approximately 15.4 % of euro area GDP in 2019 ↘ CHART 26, RIGHT, with the PSPP contributing around 3.8 % and the PEPP around 11.6 % of the euro area GDP in 2019. Apart from the purchase programmes, additional measures such as the longer-term and targeted longer-term refinancing operations (LTRO and TLTRO) will cause the ECB to **expand its balance sheet substantially**. ↘ ITEM 105 By the middle of next year, the Eurosystem's balance sheet is expected to have swelled to around 64.2 % of euro area GDP in 2019.

112. While the **purchase of public sector securities** conducted under the PEPP should be guided by the respective country's share of the ECB's capital key, as is

↘ CHART 26

Structure of Eurosystem assets and purchase programmes

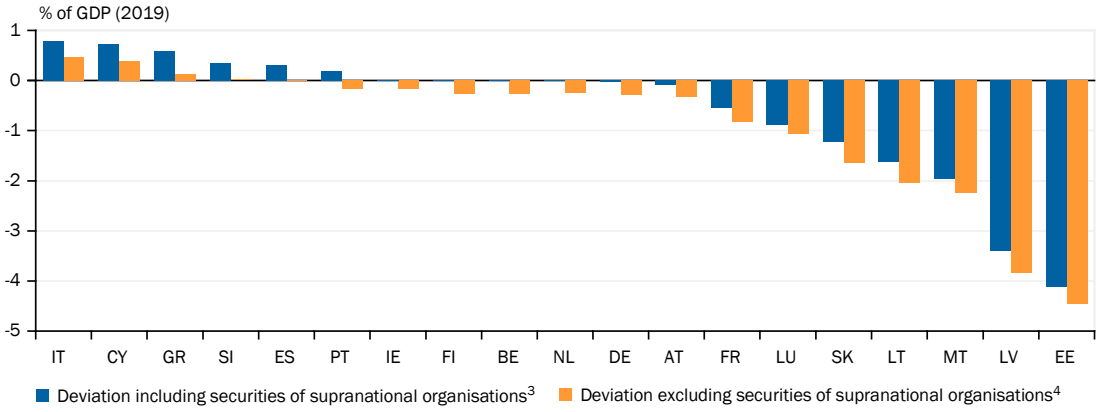


1 – Projections based on the monthly target of €32 billion (including the €120 billion framework of additional net purchases decided in March 2020) and the PEPP of €1,350 billion by June 2021 (less purchases already made). 2 – By euro area residents including purchases of bonds (SMP, CBPP1 and 2) held for monetary policy purposes. 3 – Covered Bond Purchase Programme. 4 – Asset-Backed Securities Purchase Programme. 5 – Corporate Sector Purchase Programme. 6 – Public Sector Purchase Programme. 7 – Pandemic Emergency Purchase Programme. 8 – Main refinancing operations. 9 – Longer-term refinancing operations, including TLTRO I (Targeted longer-term refinancing operations) since 24.9.2014, TLTRO II since 29.6.2016 and TLTRO III since 19.9.2019 less the repayments of TLTRO I operations 1, 3, 5, 7 on 28.3.2018 and less repayments of TLTRO I operations 2, 4, 6, 8 on 29.6.2018 and less repayment of TLTRO II operation 1 on 24.6.2020. 10 – Including other claims on euro area credit institutions. 11 – Securities Markets Programme.

Sources: ECB, own calculations

↘ CHART 27

Purchases of public sector securities under the PEPP[1] and their deviation from the capital key[2] of each member state



1 – Purchases until the end of September 2020. IT-Italy, CY-Cyprus, GR-Greece, SI-Slovenia, ES-Spain, PT-Portugal, IE-Ireland, FI-Finland, BE-Belgium, NL-Netherlands, DE-Germany, AT-Austria, FR-France, LU-Luxembourg, SK-Slovakia, LT-Lithuania, MT-Malta, LV-Latvia, EE-Estonia. 2 – Key for the ECB capital subscription (%) from 01.01.2019. The capital key is updated every five years. 3 – The Purchases of securities issued by supranational organisations (€28 billion) were divided over the other member states according to their shares in the purchases. 4 – The Purchases of securities issued by supranational organisations were not taken into consideration here.

Sources: ECB, Eurostat, own calculations

the case under the PSPP, the ECB announced that purchases will be conducted in a flexible manner. This allows for fluctuations in the distribution of purchase flows over time, across asset classes and among jurisdictions ↘ CHART 27. Currently, deviations from the capital key are modest, however, with slight over-purchases in favour of Italy and Spain and slight under-purchases for Germany and France.

113. To what extent recent Eurosystem purchases deviate from the capital key **is relevant from a legal and economic standpoint**. For example, in their judgements on the PSPP, both the Federal Constitutional Court and the Court of Justice of the European Union (CJEU) emphasised the importance of the restrictions contained in the PSPP (CJEU, 2018; Federal Constitutional Court, 2020a). Both courts agreed that rules that set issue and issuer limits or give the share of member state government bonds in the purchases a weighting according to the capital key indicate that this does not constitute prohibited monetary financing according to Article 123 TFEU (CJEU, 2018; Federal Constitutional Court, 2020a). From an economic perspective, the uneven, asymmetrical weighting of purchases of public sector securities by member state is also important if, for example, the Eurosystem can potentially block, or even must block, debt restructuring because it holds a high proportion of bond issues (Havlik and Heinemann, 2020).

114. The ECB securities purchases constitute a **large-scale support measure for the government bond markets and** the **financing costs of the member states** in the euro area. The government bonds of the member states make up the biggest share of the PEPP. By the end of September 2020, 90.18 % of purchases concerned government bonds. The share of sovereign debt purchased so far under the PEPP therefore amounts to 4.3 % of euro area GDP in 2019. Added to this are the purchases of government bonds under the PSPP. Based on these shares, total government bond purchases are expected to amount to 14.2 % of GDP in 2019 by June 2021. By way of comparison, ECB staff project an increase in the debt ratio

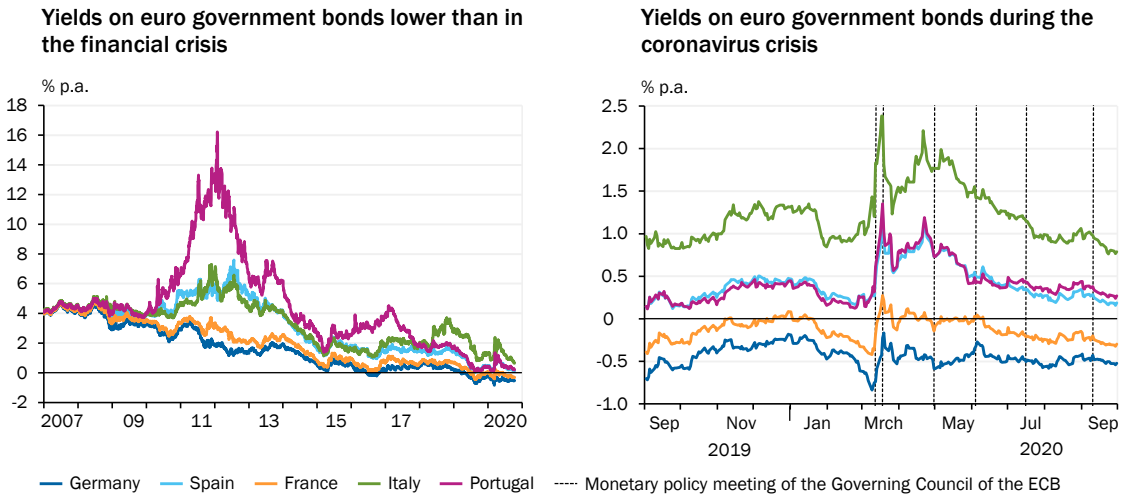
from 84 % in 2019 to 100 % in 2021 (September 2020 projections; ECB, 2020f). Therefore, the volume of purchases is close to the increase in debt. In light of this, it is hardly surprising that even highly-indebted member states continue to be able to fund themselves in the bond market. Thus, so far they have opted not to avail themselves of the cheaper credit lines of the ESM Pandemic Crisis Support Instrument (PCSI) for which the European partners have made €240 billion available. ↘ ITEM 261

115. From the end of February 2020, financial markets around the world started reacting to the development of the coronavirus epidemic in China towards a global pandemic. The adjustment in expectations temporarily triggered huge losses in many securities, high volatility and a drop in available liquidity. In addition, government bond yields for some countries rose by up to around 100 basis points. Following the announcement of the PEPP, the interest rates on government bonds of euro area member states fell again considerably. ↘ CHART 28 ECB intervention in the government bond markets is likely to have had a **significant impact on the yields** and consequently **kept down the interest rates of member states** (Schnabel, 2020). So far, there have been no signs of developments that went beyond temporary peaks.

116. A study conducted by the ECB estimates that the ECB's PEPP decisions of March and June and the scaling-up of the asset purchase programme (APP) decided in March reduced the GDP-weighted **ten-year sovereign bond yield by roughly 45 basis points** (Hutchinson and Mee, 2020). An update of the study by Altavilla et al. (2019) using data up until the end of June 2020 indicates that the APP programme had a significant effect on the overnight index swap (OIS) rates. As the dataset only covers the regular meetings of the ECB's Governing Council, the analysis cannot be extended directly to the PEPP announcement. The reaction of the financial market to the remark by ECB President Lagarde at the 12 March press conference that the role of the ECB is not to close spreads between Italy and

↘ CHART 28

Yields on euro government bonds



1 – 11 to 12 March, 18 March, 29 to 30 April, 3 to 4 June, 15 to 16 July, and 9 to 10 September 2020.

Sources: ECB, Refinitiv Datastream

other member states is very clear, however. In the course of the press conference, the interest rates for Italian 2-year government bonds jumped 21 basis points, and even rose by more than 30 basis points for 5-year and 10-year bonds.

117. The **dynamic market conditions**, particularly during the first two weeks of March this year, are **not comparable** with the start of the **financial crisis** in 2008, however. While the latter originated in the financial system and involved severe curbs on lending, the market turbulence in February/March of this year is likely to have been a reflection of the uncertainty of the spread, duration and (long-term) consequences of the pandemic.

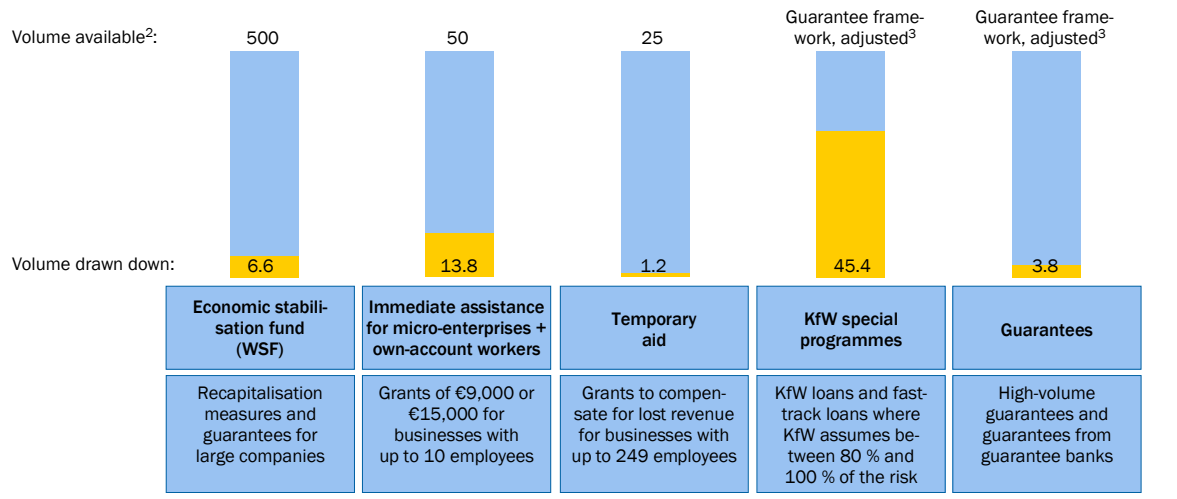
3. Fiscal support measures

118. The **provision of loans and grants** to businesses in financial difficulty on account of the coronavirus crisis is an important instrument to bridge liquidity bottlenecks in the first phase. While automatic stabilisers reduce the tax burden in the event of a drop in demand or decrease staff costs through the instrument of short-time work, for example, the additional assistance can go towards covering ongoing capital costs (Special Report 2020 item 143). This helps to **avert business bankruptcies** and to prevent a wide-scale reduction in capacities that will be needed again in the ensuing recovery (Special Report 2020 item 144). The suspension of the duty to file for insolvency has supported the retention of capacities.
↘ BOX 5

119. The coronavirus assistance at the federal and state (Länder) level is a combination of the economic stabilisation fund (WSF), taxation measures, guarantees, KfW

↘ CHART 29

Only small percentage of coronavirus assistance for businesses drawn down so far[1]
€ billiion



1 – Data as of 27. Oktober 2020. 2 – €100 billion for the possible refinancing of authorised KfW loans not considered in the economic stabilisation fund. 3 – In the first supplementary budget, the Federal Government increased the guarantee framework by €357 billion to €822 billion for this purpose (Deutscher Bundestag, 2020a).

Sources: Federal Ministry for Economic Affairs and Energy, Federal Ministry of Finance, KfW, Association of German Guarantee Banks

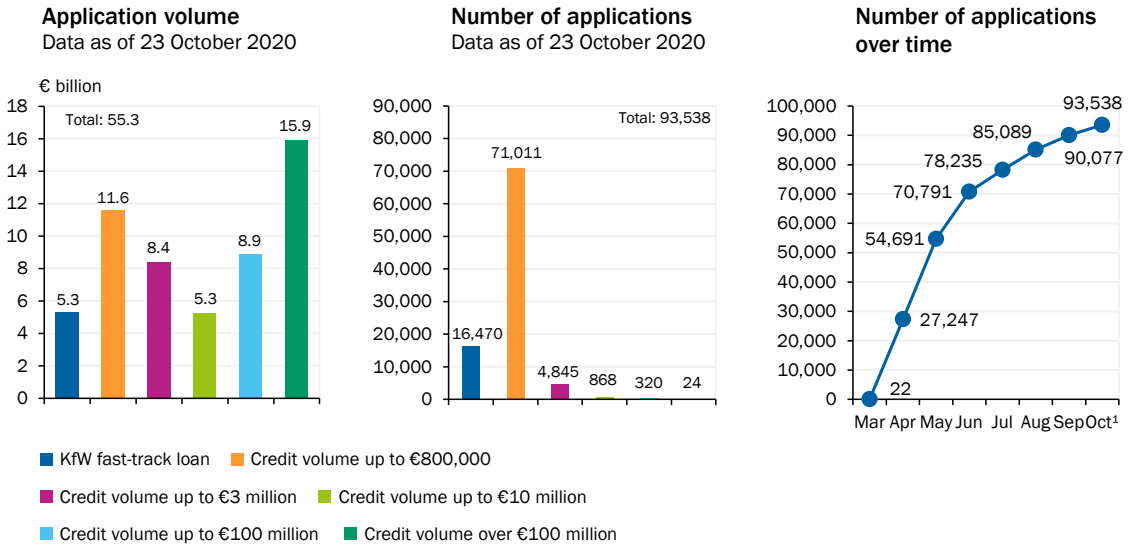
loans (the state-owned development bank), and immediate assistance and temporary aid schemes. ↘ CHART 29 As of 27 October, **grants and loans totalling €70.7 billion had been issued** (BMF, 2020a). However, the **volume of financial resources available far exceeds the amounts drawn down** so far. Compared to other European countries, Germany provides a very large volume of government assistance available for the consequences of the coronavirus pandemic. However, the take-up rate is comparatively low. ↘ ITEMS 258 F.

120. With the **economic stabilisation fund (WSF),** the Federal Government can provide particular assistance to large businesses. €100 billion are available for capital-related measures and €400 billion for guarantees. A further €100 billion are earmarked for any refinancing of adopted KfW programmes. By the end of August, the fund had provided €6.6 billion for stakes in Lufthansa and TUI Deutschland. In the case of Lufthansa, this comprises a silent participation of €4.7 billion, €0.3 billion in equity and an additional silent participation of €1 billion. In addition, there are KfW loans worth €3 billion (BMWi and BMF, 2020a). In the case of TUI, assistance is in the form of €150 million in WSF-held convertible bonds, in addition to KfW loans. MV Werften received a bridging loan of €193 million from the WSF. However, the government stake in Curevac was via the KfW and independent of the WSF, as Curevac is not a company that would have been negatively affected by the coronavirus crisis.

121. As part of **taxation measures** to safeguard liquidity, since March businesses have the option to **defer** payment of income tax, corporation tax, sales tax and vehicle tax, due this year, until next year at the very least. In addition, businesses and the self-employed can **reduce advance** income tax and corporation tax **payments** and have payments already made **refunded** (Special Report 2020 items 148 ff.). The maximum amount for loss carry-back was increased with the stimulus package in June from €1 million to €5 million (€10 million for joint assessment), and takes effect with tax returns for 2019. This means that more loss this year can be offset against taxable profits from last year. A **broader scope of loss carry-back,** in terms of the amount and the years considered, could greatly **relieve the burden specifically** on those companies that had a viable business model before the crisis (Feld et al., 2020b). With the expansion of **loss carry-forward**, businesses could offset future tax payments against current losses if these have not been offset through loss carry-back. This could give businesses additional growth prospects in the medium term.

122. The **KfW special programme** was launched on 23 March 2020 with an **unlimited funding volume** (Special Report 2020 items 145 ff.). Accordingly, the Federal Government increased the guarantee framework for KfW loans in the first supplementary budget by €357 billion to €822 billion (Deutscher Bundestag, 2020a). KfW's assumption of risk is 90 % for small and medium-sized enterprises and 80 % for large companies. KfW fast-track loans for investment and equipment for businesses with more than 10 employees are 100 % guaranteed and do not require a risk assessment by the intermediary bank (KfW, 2020). Therefore on-lending principal banks have little or no credit risk that could negatively influence the approval of liquidity support by the principal banks.

↘ CHART 30
Applications for KfW coronavirus assistance



1 – Data only available until w/e 25 October 2020.

Source: KfW

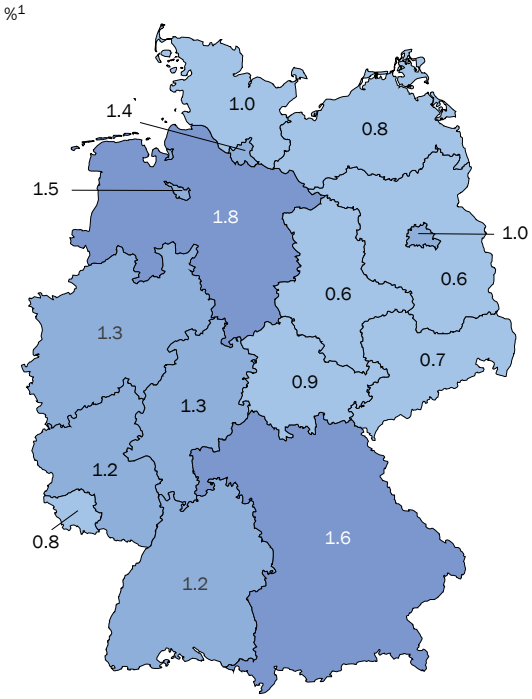
As of 23 October 2020, the number of applications amounted to 93,538 with a total volume of €55.3 billion. ↘ CHART 30, CENTRE LEFT The overwhelming majority of applications (71,011, or approximately 76 %) have an application volume of up to €800,000. The average application volume in this area is €163,354, indicating that the funds have **gone primarily to small and medium-sized enterprises**. Measured by volume in percentage of GDP and the number of applications compared to the total number of businesses the distribution of loans across the Länder is more heavily concentrated in the west of the country ↘ CHART 31. The differences are relatively modest, however. The number of new applications has decreased each month since the introduction of the programme. ↘ CHART 30, RIGHT Most eligible businesses are therefore likely to have already taken out the loans at the start of the crisis.

123. Apart from the loans, businesses particularly hard hit by the crisis can also apply for grants to cover their fixed operating costs in the form of immediate assistance and temporary aid. The **coronavirus immediate assistance programme** adopted in March **was aimed at small business and self-employed individuals** and could be used to cover ongoing operating costs and material expenses, such as rent and lease charges, loans for business space and leasing expenses, for a maximum period of three months (BMWi, 2020a). For businesses with up to five (ten) employees, the Federation covered €3,000 (€5,000) of eligible costs per month of assistance. Some *Länder* additionally topped up this assistance. The fact that the coronavirus crisis is particularly affecting business sectors that otherwise prove quite resilient in a recession is reflected in the **sectoral distribution of applications for the coronavirus immediate assistance**. ↘ CHART 32 RIGHT Applications were particularly concentrated among businesses in the hospitality sector, retail and in the services sector, which were hit hardest by the closures (BMF, 2020b). Overall, however, take-up of assistance was low: of

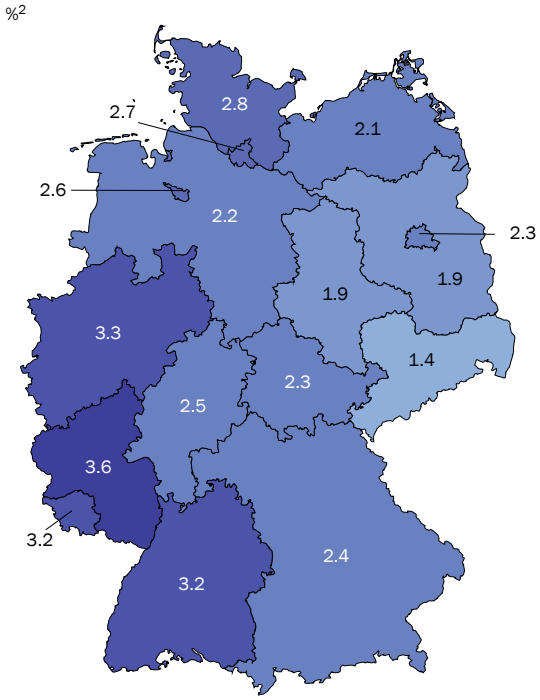
↘ CHART 31

Regional distribution of KfW coronavirus assistance in Germany

Higher concentration inn the west of Germany of both: the volume of loans relative to the Länder GDP…



…and the number of applications relative to the registered businesses



1 – Ratio of the volume of loans to the GDP of the particular Land in 2019. Data as of 30 September 2020. Total volume of €45,423 million, of which unallocated volume of €599 million, e.g. commitments of the Corona Matching or Liquidity Facility. 2 – Ratio of the number of applications to the active businesses in the individual Land in 2018. Data as of 23 October 2020. Total number of applications of 93,642, of which 79 unallocated applications.

Sources: Federal Agency for Cartography and Geodesy, Federal Statistical Office, KfW, National Accounts of the Länder, own calculations

the €50 billion made available, businesses have only drawn down around €13.8 billion, with about half of applications made at the start of the support period. ↘ CHART 32, LEFT

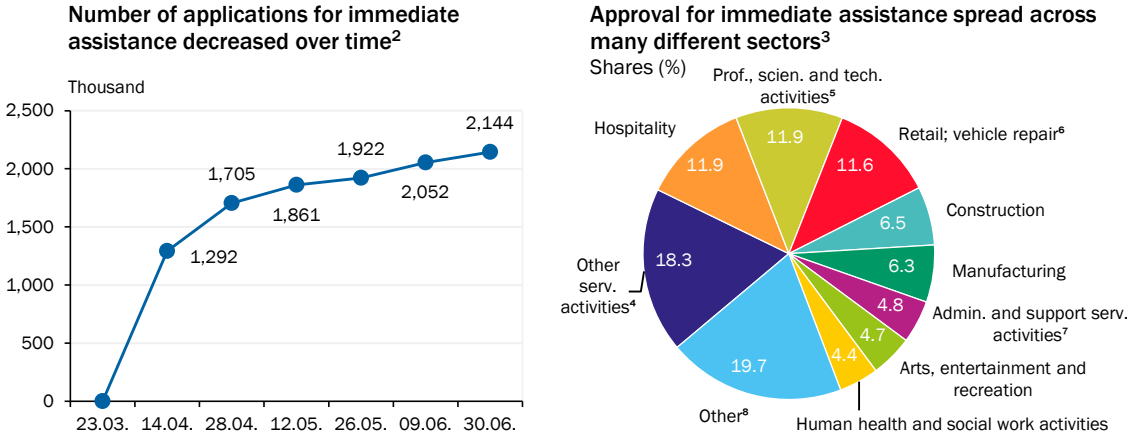
124. Under the subsequent economic stimulus package, immediate assistance was replaced by the **temporary aid scheme,** which also covers small and medium-sized businesses with up to 249 employees and large companies that do not have access to the WSF. As with the immediate assistance programme, the **number of applications submitted for temporary aid so far** is **substantially lower than expected**. Of the €25 billion made available, only €1.2 billion had been drawn down by 27 October. ↘ CHART 29 According to the data as of 8 August, roughly half of the applications were from micro-entities, followed by around 26 % from small-sized enterprises with a maximum of 49 employees, roughly 14 % from self-employed individuals, some 4 % from medium-sized enterprises employing up to 249 workers, and 0.25 % from large companies with over 250 employees. ↘ CHART 33 LEFT The majority of assistance went to small- and medium-sized enterprises with between 10 and 49 employees whose financing needs are likely to be higher than those of micro-entities. ↘ CHART 33, RIGHT

The eligible months for the **temporary aid scheme** are divided **into two specific periods**. The first concerns the months from June to August for which the deadline for applications was 9 October. **Businesses** whose revenue fell by at least 60 % on average in the months of April and May 2020 compared to the same months in the previous year on account of the coronavirus may **apply for assistance**. The **reimbursement** for fixed costs is based on the **severity** of the **downturn in revenue** experienced in the months from June to August: 40 % for downturns of at least 40 %; 50 % for downturns of at least 50 %; and 80 % for downturns of at least 70 %. The maximum reimbursement amount is €50,000 per month for medium-sized businesses and €3,000 (€5,000) for small businesses with up to five (ten) employees. Unlike in the case of the immediate assistance programme, 10 % of eligible costs are for personnel expenses (on a flat-rate basis) that are not covered by the short-time work allowance. However, the **entrepreneur's wage** is **not eligible for funding**. Due to the low number of applications, the Federal Government decided to extend the temporary aid scheme. This extension applies for the assistance months of September to December and entered into force in mid-October (BMWi and BMF, 2020b). Several changes have been implemented: for example, caps for small and medium-sized enterprises have been lifted and support rates have now been increased to 90 %, 60 % and 40 % depending on the revenue downturn, the thresholds for which have also been lowered. The flat-rate for personnel expenses has been increased to 20 %. Access thresholds are now more flexible, so businesses experiencing a downturn in revenue as low as 30 % may apply for assistance (BMF, 2020c).

125. The low number of applications could, on the one hand, be attributable to the fact that far fewer businesses than anticipated needed temporary aid due to the relatively quick economic recovery. On the other hand, **temporary aid** may **not** be reaching **businesses in need to a full extent**. For example, **an application for aid must be made through a tax accountant or auditor**. For many smaller businesses, an application for aid probably does not make financial sense

↘ CHART 32

Applications for coronavirus immediate assistance[1]

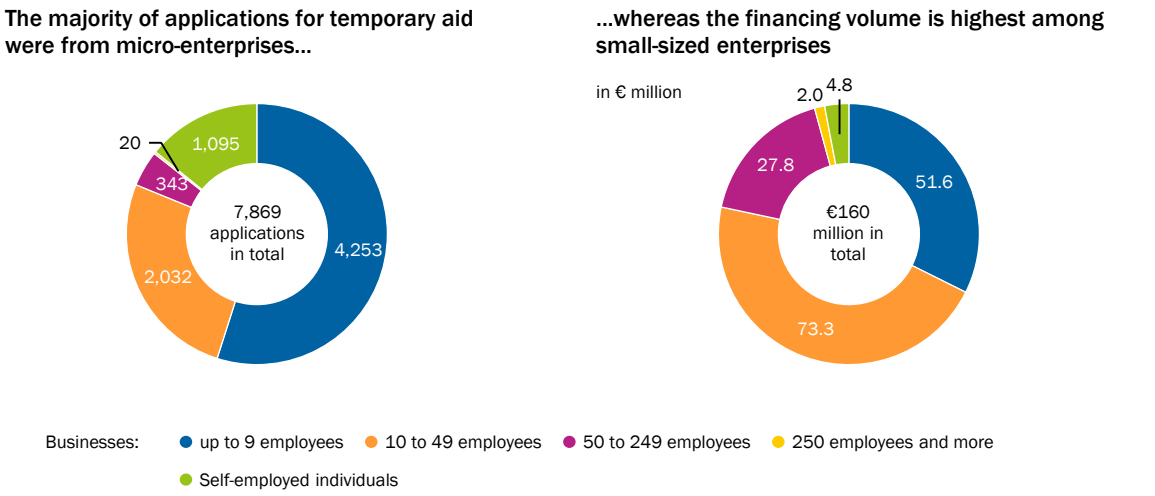


1 – Data as of 30 June 2020. 2 – The Federal Office of Economics and Export Control requested data from the Länder for biweekly reporting for the first time on 14 April 2020. The Free State of Bavaria and the Free Hanseatic City of Bremen were unable to provide data at that time. Therefore these values are not included in the figures for 14 April 2020. The Land of Berlin had not presented any figures by 30 June 2020; the latest available data have been used. 3 – According to the Classification of Economic Activities, 2008 Edition (WZ 2008). 4 – Other service activities. 5 – Professional, scientific and technical activities. 6 – Wholesale and retail trade; repair of motor vehicles and motor cycles. 7 – Administrative and support service activities. 8 – Information and communication; education; transportation and storage; financial and insurance activities; agriculture and forestry; fishing; real estate activities; energy supply; water supply, sewerage, waste management and remediation activities; mining and quarrying; other.

Sources: Federal Ministry of Finance, Federal Office for Economic Affairs and Export Control

↘ CHART 33

Coronavirus temporary aid scheme[1]



1 – Data as of 8 August 2020. Does not contain numbers from Baden-Württemberg for technical reasons. Includes persons in the liberal professions with 602 applications and a volume of €4.8 million. No information for 126 approved and partially approved applications with a total volume of €0.5 million.

Source: Federal Ministry for Economic Affairs and Energy

given the relatively high costs involved compared with the volume of aid provided. The main explanation given for the involvement of a third, verifying party in the application process is to ensure the targeted allocation of funds and prevent abuse (Federal Government, 2020). One reason could be that the immediate assistance, which was largely disbursed without direct verification, subsequently resulted in many reporting proceedings – 100,000 in North Rhine Westphalia alone (Wirtschaft NRW, 2020) – whereby businesses were requested to provide feedback on their actual liquidity needs.

126. It is a **positive** fact that the link to the **decline in revenue specifically** benefits those businesses most affected by the crisis. However, the **fixed limits** for revenue downturn, which determine the individual reimbursement amount, are **problematic**. These fixed limits mean that businesses whose revenue downturn is slightly below a threshold are treated differently to businesses just above the threshold. Businesses that would manage to scrape over the threshold with a lot of work and effort might feel they are better off remaining just below the revenue limit in order to receive subsidies. Furthermore, revenue downturn varies greatly across business sectors. An approach that is based on average revenue downturn in a specific sector, with a sliding scale rather than fixed limits, would provide more targeted assistance to businesses that are in difficulty because of the coronavirus pandemic.

127. Furthermore, it is likely that an application for **immediate assistance and temporary aid** was **hardly ever considered an option for many self-employed individuals** – who make up roughly 5 % of the working population (Federal Statistical Office, 2020) – even though they would be eligible in principle. The fixed operating costs that are applied for the assessment are likely to be low for this grouping, as they often work from home. Nevertheless, these self-employed individuals were just as affected by lost revenue as larger businesses if they were

unable to do their job, or only to a limited extent, for the duration of the state-imposed restrictions. This constitutes **unequal treatment compared to larger businesses**, which, on account of their business model, have a higher share of operating costs in total costs and receive a cost reimbursement. Furthermore, the aforementioned administrative effort the application process requires is probably particularly high for self-employed individuals compared to the expected reimbursement. In addition, in contrast to wage and salary workers (employees), self-employed individuals are not entitled to short-time work allowance even if they pay into statutory unemployment insurance.

128. Overall, policy-makers **quickly made liquidity assistance available for businesses** of all sizes. The fact that there has only been limited take-up of this assistance could be attributable to the high administrative barriers, particularly in the first phase of the temporary aid scheme. The requirements were eased with the introduction of the second application phase, which is likely to result in higher take-up rates among smaller and medium-sized enterprises. Whether this extended support reaches the businesses affected in time remains to be seen, however. The restrictions imposed owing to the second wave of infection have prompted the Federal Government to introduce additional assistance measures.
↘ ITEMS 190 F.

4. Short-time work allowance

129. In addition to unemployment benefits and progressive income tax, short-time work allowance (Kurzarbeitergeld, KuG) can also act as an **automatic stabiliser**, allowing businesses to flexibly adapt their labour input to the current demand without having to let workers go. The allowance reduces the amount of pay lost by employees in jobs subject to compulsory social security coverage, and can therefore **stabilise consumer demand**. At the same time, the short-time work allowance makes it easier for businesses to keep staff expertise and knowledge within the company, eliminating the need for costly and time-consuming recruitment procedures when the economy picks up.

130. After containment measures in March this year have been introduced the number of claims for **short-time work allowance** reached a **record high** . During the financial crisis, cyclical short-time work allowance was applied for around 3.3 million people in the entire year of 2009. By contrast, short-time work allowance applications were filed for around 11.7 million workers between March and May 2020. The actual reduction in working hours is accordingly high. In April, when claims had reached an interim peak, current extrapolations of the Federal Employment Agency (BA) indicate that **roughly 6 million people were claiming short-time work allowance with an average reduction in working hours of almost 50 %**. Short-time work allowance notifications and claims have been declining steadily since April. Nevertheless, in June around 4.4 million people received short-time allowance, with an average working time reduction of 37 %. By contrast, in May 2009 – at the peak of short-time work during the financial crisis – around 1.1 million workers were on short-time work, with an average reduction in working hours of around 26 %.

131. As soon as corona-related restrictions were introduced, a variety of measures were taken to **expand access to short-time work allowance** and lower costs for companies. Normally, 30 % of staff in a business have to be endanger by loss of earnings before the business can apply for short-time work allowance. This rate was reduced to 10 %. Furthermore, workers did not have to build up negative working time balances, which is usually a prerequisite of the BA. Additionally, residual labour costs for companies were reduced, as social security contributions are reimbursed in full by the BA.

Short-time work produces its effect particularly through the institutional setup and the resulting planning certainty for businesses (Balleer et al., 2016). The effects of discretionary changes on the functioning of short-time work are therefore not always clear. Given the strong dynamics of the restrictions, the short-time work allowance with easier conditions of access is likely to have constituted **quick and easy-to-implement assistance**, however. It is likely to have provided **targeted support** to those businesses that could not operate at all or only to a limited extent after the containment measures have been introduced (Special Report 2020 items 131 f.). The extension of access and the reduction in costs are likely to have helped reduce job losses significantly in the first half of 2020. ↘ ITEMS 208 FF.

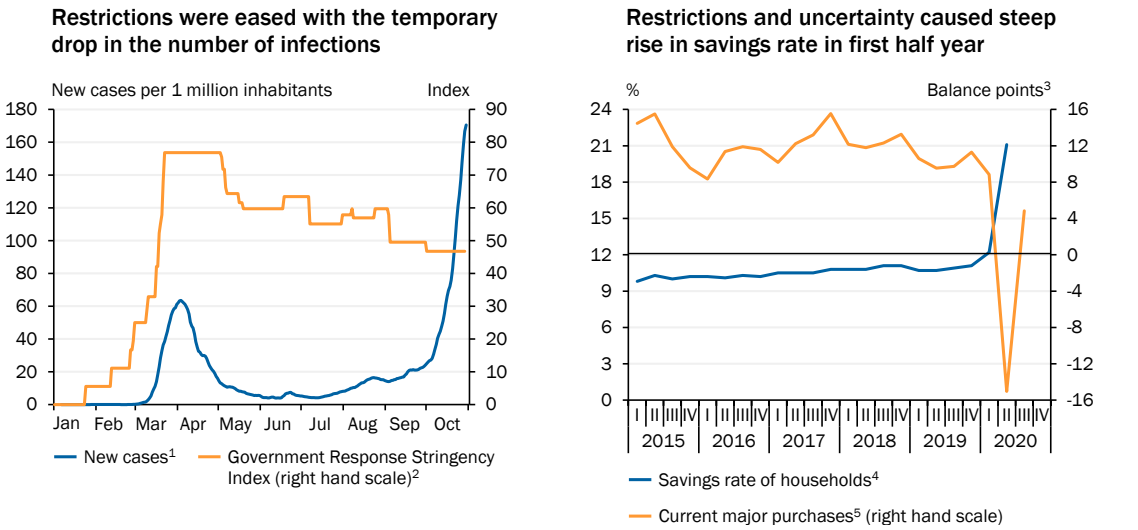
III. SECOND PHASE: STABILISATION AND ECONOMIC RECOVERY

132. With the decline in the number of new infections, the phase from the end of April to mid-October **involved the gradual easing of containment measures**. ↘ CHART 34, LEFT The areas of retail that had been shut could gradually reopen and many social activities were permitted again with restrictions. The economy began to recover as a result. ↘ ITEMS 46 FF. However, revenues in the hospitality sector or in transport services, for example, are well below the pre-crisis level, not least due to **continued restrictions**. Large events and activities where compliance with physical distancing and hygiene rules could not be guaranteed remained prohibited. With effect from November 2020, the hospitality sector and other services, in addition to events, are hit by closures once again and tighter restrictions on social contacts have been implemented.

133. The closure of businesses during the shutdown, the continued imposition of restrictions that dampen shopping activity, the fear of infection, the generally heightened level of uncertainty and deteriorated income expectations were responsible for a sharp drop in consumer spending in the first half of 2020. ↘ ITEM 51 As disposable income did not fall as much, due in no small part to government support, the **saving rate increased significantly in the first half year**. ↘ CHART 34, RIGHT Estimates for the euro area suggest that normal factors behind the saving rate, such as households' expectations regarding future income and the risk of job loss, cannot explain the sharp increase in the saving rate in the first half of

↘ CHART 34

Course of COVID-19 and development of the savings rate in Germany



1 – Registered infections. Moving average of the past 7 days. 2 – The index records the number and stringency of government measures to contain the pandemic without evaluating their suitability. It can take on values between 0 and 100. 3 – Difference between positive and negative answers. 4 – Saving in relation to disposable income. 5 – According to European Commission consumer survey. Assessment of whether current economic situation is adequate to make major purchases.

Sources: European Commission, Federal Statistical Office, Oxford COVID-19 Government Response Tracker, Blavatnik School of Government, RKI, own calculations

2020 (Dossche and Zlatanos, 2020). This indicates that the limited consumption possibilities during the lockdown, in particular, were responsible for this increase.

134. The **representative population survey** conducted on behalf of the German Council of Economic Experts ↘ BOX 8 also supports this conclusion for Germany. When asked why their consumption expenditure dropped in the first half year, 82 % of those surveyed stated that they were less active on account of the coronavirus restrictions and therefore spent less money. By contrast, only 43 % indicated that they were saving because of the economic situation.

↘ BOX 8

Population survey on the effects of the VAT reduction

To assess the impact of lowering the VAT rate in quantitative terms, the German Council of Economic Experts conducted a **representative survey of the population** in September 2020 in collaboration with the Institute for Applied Social Sciences (infas). As part of the telephone-based multi-topic survey regularly conducted by infas, 1,014 randomly selected persons (aged 18 and over) were asked whether and to what extent the stimulus package and, in particular, the VAT rate reduction influenced their consumption and savings patterns. The standardised survey of socio-demographic attributes, such as age, gender, education, professional status, income and the number of household members, allows making representative statements for the general population. For this purpose, the sample is extrapolated according to certain weights. The weighting ensures that a representative sample is produced despite individuals' different accessibility by phone and willingness to take part in the survey. Furthermore, the socio-demographic attributes enable a differentiated analysis of the crisis' impact and the resulting changes in behaviour across different population groups.

The information collected enables a two-dimensional **analysis of consumption and spending habits** as a result of the temporary VAT reduction. At first it is determined whether and to what extent private households indicate that they have adjusted their consumption and spending habits to the VAT reduction. The economic environment of those surveyed, and how it has been impacted by the coronavirus crisis, plays a significant role in this context. This is captured by control questions regarding income development in the first half of 2020 and expectations for the rest of the year. More recent studies on the effect of discretionary fiscal policy measures suggest that the households do not use the majority of government transfers for additional consumption, tending to save it instead (Behringer and Dullien, 2020; Coibion et al., 2020; Haushaltskrisenbarometer, 2020). These results form the basis for another focus of the survey that identifies possible reasons for a higher savings rate. It is therefore possible to draw conclusions on the extent to which the restrictions in public life, worry about possible infection and economic uncertainty have a bearing on the stimulation of consumption that is intended with the VAT rate reduction.

135. The survey does, however, reveal a considerable degree of **heterogeneity along the income distribution**. While 36 % of those surveyed in the lowest income group stated that they had experienced income losses of over 20 % in the first half year, only 2 % of those in the highest income group were similarly affected. ↘ CHART 35, LEFT The income groups also differ with regard to consumption spending. ↘ CHART 35, RIGHT The lowest income group aside, it is interesting to note that

↘ CHART 35

Changes in income and consumer spending by income group

1 – Survey conducted by the infas Institute for Applied Social Sciences commissioned by the GCEE. 1,014 persons aged 18 and over surveyed by phone on the basis of a nationally representative random sample. 2 – Net equivalent income (according to new OECD scale). Case numbers of income groups: up to €999: N = 44; €1,000 to €1,999: N = 256; €2,000 to €2,999: N = 276; €3,000 to €3,999: N =157; €4,000 or more: N = 103. No information on household income available for 178 of those surveyed. 3 – Possible answers: dropped by more than 20%; dropped by up to 20%; remained the same; increased by up to 20%; increased by more than 20%; don't know / no input. 4 – The question refers to regular purchases such as larger purchases in the first half of 2020. Ongoing expenses such as rent or repayments are not meant here. 5 – Possible answers: dropped by more than 20%; dropped by less than 20%; remained the same; increased by less than 20%; increased by more than 20%; don't know / no input.

Sources: Feld et al. (2020a), infas Institute for Applied Social Sciences, own calculations

drops in consumption spending of over 20 % were more frequent than drops in income of over 20 %.

136. If the pandemic can be kept largely under control, consumer spending is likely to normalise. According to consumer surveys conducted by the European Commission, in the third quarter private **households** were **increasingly prepared to make major purchases again**. ↘ CHART 34, RIGHT However, households will probably only make up lost spending to a limited extent. For example, in the population survey only 18 % of those whose spending dropped in the first half year indicated that they wanted to catch up on purchases they had been unable to make. In addition, in the services sector capacity constraints, which existed even before the coronavirus pandemic, come up against strong catch-up effects (GCEE Special Report 2020 items 59 ff.). The restrictions that apply since then – such as limited numbers of customers – continue to restrict capacities. The **stimulation of demand alone** is therefore **not likely to be very promising**.

137. Measures that increase aggregate demand may be appropriate when the **output gap is negative**, i.e. the actual aggregate output is below potential output. While Germany's economic output is still far lower than last year despite the recovery of recent months, it is important to bear in mind that many economic activities could not take place due to the public health restrictions, and some are still only possible to a limited extent. Therefore, potential output is also likely to be lower, at least temporarily, but this will not correspond to the total drop in actual GDP. ↘ ITEM 88

138. It remains a priority to ensure that the crisis in the real economy **does not become a crisis in the financial system**. Bankruptcies and lay-offs are looming, particularly in the hard-hit sectors where there is no sign of a return to normality soon. ↘ ITEM 74, ↘ BOX 5 The temporary assistance for businesses, initially extended until the end of the year, should at best help businesses to have access to enough liquidity to keep their business afloat until economic activity returns to normal and the businesses can emerge from the crisis again through their own efforts. Otherwise, increased business bankruptcies might simply be postponed. The impact this has on the banking system must be considered. If there is a wave of loan defaults, this impacts banks' equity base. If these banks are reluctant to lend or tighten their standards, this could put otherwise healthy businesses in difficulty. The economic recovery would be delayed. Right at the start of the pandemic, banking supervision announced temporary easing of capital and liquidity requirements to prevent any tightening of lending standards. In addition, the anticyclical capital buffer was lowered in many countries. ↘ ITEMS 304 FF.

1. Strategies to stimulate the economy

Capacity utilisation and easing of monetary policy

139. At the start of the pandemic, the focus of the central banks was to stabilise the financial markets and the banking system. In the first phase, the **restrictions on supply and capacity** for public health reasons **ran counter to** the demand-stimulating effect of monetary **easing to some extent**. The measures taken by

the ECB can, however, stimulate overall demand in the course of the reopening of the economy. This is particularly the case when output and supply capacities recover faster than demand, for example because uncertainty weighs on people's propensity to spend. Monetary stabilisation policy can therefore cushion the pandemic-induced recession and also **facilitate the economic recovery**.

140. Unlike fiscal policy measures, monetary policy is not confronted with implementation lags - due to political decision-making processes, for instance - and can therefore be implemented immediately. However, the **effect of monetary policy on the economy** is only felt **over time**. Empirical, model-based estimates suggest that it takes two to four quarters until the full effect of interest rate cuts on economic output is felt, and more than one year until this is fully reflected in the inflation rate (Christiano et al., 1999; Batini and Nelson, 2001; Gerlach and Svensson, 2003; Wieland et al., 2016).

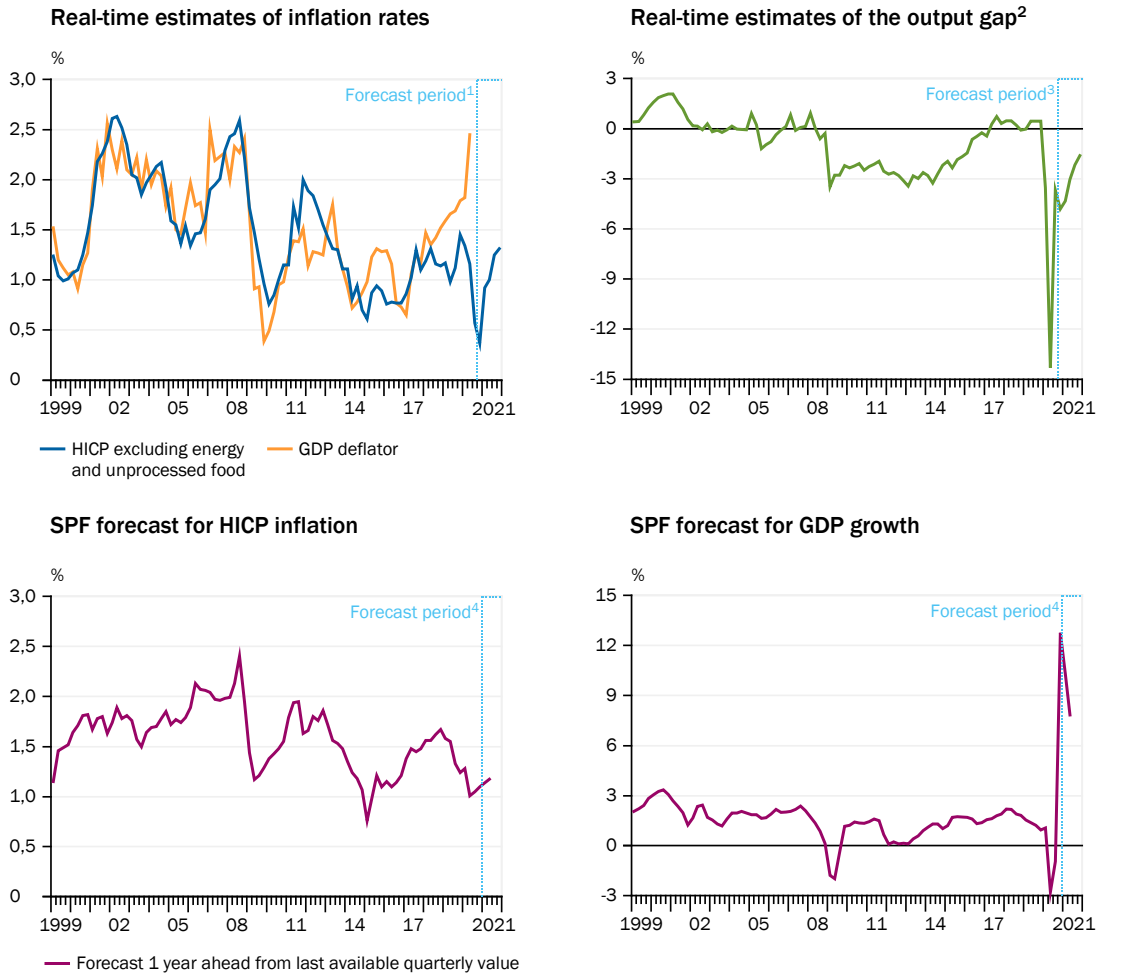
141. From the European perspective, a further difficulty is that ECB **monetary policy** must **be oriented towards the euro area as a whole**, and not to individual member states. Moreover, the stabilisation effect of monetary policy in heterogeneous currency areas can vary considerably (GCEE Annual Report 2018 items 406 ff.). This heterogeneity is further amplified by the different degrees to which individual member states are impacted by the coronavirus pandemic and its consequences, and is likely to be an obstacle to stabilisation in some member states. Automatic stabilising systems at the national level are therefore called for here (GCEE Annual Report 2018 items 426 ff.).

142. Not least, it is important to remember that price stability has priority under the ECB's mandate. If this is guaranteed, the ECB can support other objectives, such as the stabilisation of the economy. In a recession, a decline in economic activity usually goes hand in hand with a drop in inflation. Monetary easing then simultaneously helps to cushion the recession and increase inflation, bringing it closer to the inflation target. A **monetary policy stabilisation strategy** therefore must take inflation trends and capacity utilisation into account and translate this development into an appropriate and proportionate reaction by policy instruments – central bank rates for refinancing operations and quantitative easing measures such as securities purchases.

143. In this context, monetary policy – and discretionary fiscal policy alike – can **only react to estimates** and forecasts of **relevant indicators in real-time**, as there is a lag before actual values are available. ↘ CHART 36, TOP LEFT shows two measures of inflation as available in real time: the **core rate of the harmonised index of consumer prices (HICP) and the change in the GDP deflator**. Before the financial crisis, there was a notable degree of co-movement between the two indicators, but since then a gap has opened up. The core rate of HICP, which excludes the prices of energy and unprocessed foods, does not vary as much with the price of oil as the overall index. Nevertheless, it fell from 1.45 % in the fourth quarter of 2019 to 0.57 % in the third quarter of 2020. By contrast, inflation measured in real time with the GDP deflator rose from 1.8 % in the fourth quarter of 2019 to 2.5 % in the second quarter of 2020. The decline in the core rate can be partially explained by the fact that prices of imported goods are included which

↘ CHART 36

Real-time estimates of inflation and the output gap and SPF forecasts for HICP inflation and GDP growth in the euro area



1 – Forecast by the GCEE. 2 – Estimate by the European Commission. 3 – Calculated with the GDP growth forecast by the GCEE. 4 – Values for 2021Q1 and 2021Q2 are the weighted average of the forecasts for one year ahead and two years ahead.

Sources: European Commission, Feld and Wieland (2020), Survey of Professional Forecasters (SPF), own calculations

have become relatively cheaper due to the appreciation of the euro. The GDP deflator, which factors in all goods and services produced in the euro area, already rose more than the core rate of HICP in 2018 and 2019, due in part to the sharp increase in the prices of investment goods and in the construction sector. The price index for public goods and services has made a positive contribution since the third quarter of 2019 and particularly so in the second quarter of 2020. The increase in the second quarter of 2020 is also attributable to the fact that the prices of exports produced in the euro area are rising at a relatively faster pace than the prices of imported goods and services.

144. The **one-year-ahead-forecast starting** from the last available quarterly observation that is published in the Survey of Professional Forecasters (SPF) of 30 October 2020 assumes that HICP inflation will then be back above 1 %. ↘ CHART 36, BOTTOM LEFT According to this survey, which is regularly conducted by the ECB, consumer price inflation expectations between the third quarter of 2020 and the third quarter of 2021 are therefore below the ECB's target of close to, but below, 2 %.

145. Economic output contracted sharply in the second quarter of 2020 and rose again significantly in the third quarter. In the second quarter, therefore, a very big gap opened in relation to the European Commission's estimate of potential ouptut. ↘ CHART 36, TOP RIGHT However, this estimate of potential output does not take into account that **distancing measures and reactions greatly reduced** the **potential in the second quarter**. In this respect, the values for the subsequent quarters paint a more realistic picture with an estimated output gap of –3.7 % in the third quarter and a projection of –4.5 % for the fourth quarter based on the forecast of the German Council of Economic Experts. The SPF forecasts for GDP growth for one year ahead from the last available quarterly observation were –2.8 % and roughly –1 %, respectively, in the second and third quarter. In the fourth quarter, the SPF forecast captures the anticipated rebound in the form of a 12.75 % growth rate between the lowest point in the second quarter of 2020 and the second quarter of 2021. ↘ CHART 36, BOTTOM RIGHT.

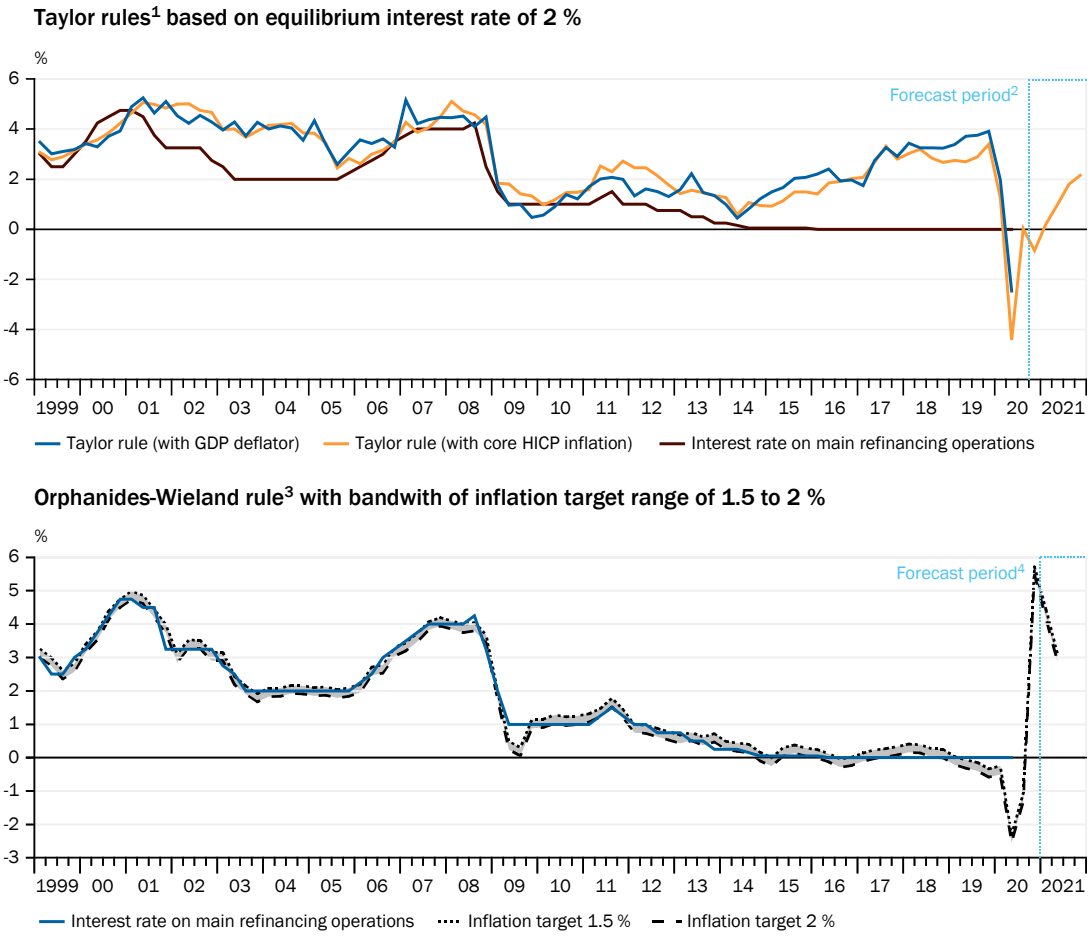
146. To what extent monetary policy should react to such developments, i.e. what would constitute a **proportional reaction for stabilisation reasons**, can be determined from monetary policy reaction functions and rules. Effective stabilisation policy is systematic and predictable so that it has a stabilising effect on the expectations of market participants. For example, the well-known Taylor rule (1993) responds to the output gap with a **proportionality factor** of 0.5 (GCEE Annual Report 2017 items 356 f.). The interest rate rule by Orphanides and Wieland (2013), which has provided a good explanation of ECB policy over many years (Bletzinger and Wieland, 2017; Hartmann and Smets, 2018; GCEE Annual Report 2017 items 352 ff.), reacts with a factor of 0.5 to the difference between the SPF forecast of economic growth and the estimated potential growth rate.

147. Applied to the euro area, the Taylor rule ↘ CHART 37, TOP, and also the Orphanides and Wieland rule, ↘ CHART 37, BOTTOM call for **considerable easing of monetary policy** owing to the recession brought about by the coronavirus. The Taylor rule curve even shows a very sharp drop in the second quarter of 2020. This is, however, due to the fact that the output gap utilized in the rule does not capture the capacity restrictions owing to health policy measures. It would make sense to use an estimate that factors in these restrictions. A simpler alternative would be to base the interest **rate prescriptions of the Taylor rule** on the estimate and forecast of the output gap for the subsequent two quarters, rather than on the drop in the second quarter. Even then, the Taylor rate stands between 0 % and –0.9 %. If we also factor in a lower, long-term equilibrium real interest rate, which has a value of 2 % in the chart according to the original Taylor rule, the resulting Taylor interest rate is lowered correspondingly. By comparison, the long-term forecast of the members of the US Federal Open Market Committee for the long-run equilibrium real interest rate currently only stands at 0.3 to 0.5 %.

148. On the other hand, the **interest rate rule** according to Orphanides and Wieland (2013) does not require an estimate for the long-run equilibrium real interest rate. This reaction function produces an interest rate reduction of 2 to 2 ½ percentage points in the second quarter of 2020. In the third quarter, the value for the interest rate level is still at –1 % but then shoots up a good 6 percentage points on account of the rebound effect and the anticipated growth rate of 12.5% between the trough

↘ CHART 37

Comparison of monetary policy rules for the euro area



1 – Equation: $i = 2 + \pi + 0.5(\pi - \pi^*) + 0.5(y)$. i denotes the money market interest rate implied by the Taylor rule; it depends on the real long-term equilibrium interest rate (estimated to be 2 %), on the current inflation rate's deviation from the central bank target, $(\pi - \pi^*)$, and on the output gap, y. Based on the data of the ECB realt-time database and AMECO: the value of the current quarter is used for the inflation, and the value of the previous quarter for the output gap. 2 – Forecast is based on current forecasts of the GCEE. 3 – Equation: $i_t = i_{t-1} + 0.5(\pi^P - \pi^*) + 0.5(\Delta q^P - \Delta q^*)$. i_t denotes the estimated ECB key interest rate, it depends on the key interest rate of the previous period, i_{t-1}, on the deviation of the inflation forecast from the central bank target, $(\pi^P - \pi^*)$, and on the deviation of the growth forecast, Δq^P, from the estimated potential growth, Δq^*. The estimates of the potential growth are based on real-time data of the European Commission. The forecasts are based on data of the Survey of Professional Forecasters. The forecast value in three quarters is used for the inflation, and the forecast value in two quarters for the growth. 4 – Forecast of the SPF. Values for 2021Q1 and 2021Q2 are the weighted average of the forecasts for one year ahead and two years ahead.

Sources: Feld and Wieland (2020), Survey of Professional Forecasters (SPF), own calculations

in the second quarter of 2020 and the second quarter of 2021. As with the Taylor rule, it must also be noted here that the drop of GDP in the second quarter and the ensuing rise also concerns the potential level to a large extent. The difference between the forecast of GDP growth and the European Commission's estimated potential growth, which is largely unchanged over the period, therefore overstates the gap that is relevant for monetary policy. If, on the other hand, GDP growth and potential growth are set as equal, the interest rate rule produces an easing of 0.5 percentage points on the basis of the lower inflation forecast alone.

149. In response to the crisis, the ECB already cut the interest rate on three-year targeted refinancing operations to as low as –1 % in March. It did not, however, reduce the interest for short-term main refinancing operations and the interest on banks' deposits with the Eurosystem any further. As an investment in cash guarantees savers a nominal interest rate of zero percent, evasive action, and therefore

an **effective interest rate floor,** can be expected if money market rates are negative. While this interest rate floor has not yet been reached it is probably not much lower than –1 %. In this respect, the results of the interest rate rules can be understood as a **signal for quantitative easing**.

150. Using macroeconomic models, the rate cut resulting from the **interest rate rules** can be translated into a corresponding **increase in the central bank's balance sheet through the purchase of securities**. This requires a comparison between the effect of an interest rate cut and the effect of securities purchases on economic output and inflation. On the basis of an ECB study, the ECB's Chief Economist Philip Lane estimates that - taken together - the ECB's policy measures taken in the first half of 2020 will increase GDP by roughly 1.3 % and contribute around 0.8 percentage points to the inflation rate cumulatively between 2020 and 2022 (Hutchinson and Mee, 2020; Lane, 2020). To calculate a comparable effect of an interest rate reduction, one can use macroeconomic models of the euro area. A comparative study by Wieland et al. (2016) using 8 models finds that an interest rate reduction of 2.8 percentage points would increase GDP by up to 1.3 %. According to this, the **ECB measures would** correspond **approximately to a rate cut of 2 ½ to 3 percentage points**. The ECB's easing of monetary policy is therefore greater than the easing implied by the rules. **According to the interest rate rules, and with the data available in October 2020,** an **additional increase in** quantitative measures would **therefore not be necessary**.

Discretionary fiscal policy and stimulus packages

151. On the fiscal policy side, **automatic stabilisers,** in particular, react directly to developments in the economy. They have an immediate stabilising effect. Unemployment insurance and short-time work allowance, for instance, immediately support the incomes of those affected. Short-time work allowance means that businesses can avoid having to lay off staff they will probably need again later. Finally, these systems are already at work before data on macroeconomic development are available. In addition, the progressive taxation system is also an automatic stabiliser, as is the possibility of loss carry-back, which provides short-term liquidity to firms. Furthermore, government consumption expenditure must also be mentioned, as it accounts for around one fifth of economic output and is mostly unaffected by cyclical fluctuations.

Nonetheless, automatic stabilisers do produce the **need for government action, however**. For example, higher deficits must be accepted and corresponding (supplementary) budgets adopted. Furthermore, it is possible to change the rules for the individual automatic stabilisers, such as by increasing the scope of loss carry-back, or by raising and extending the short-time work allowance.

152. According to **estimates** by an ECB study, **automatic stabilisers** are likely to play an important role **in the euro area during the coronavirus crisis**, but vary significantly across individual member states (Bouabdallah et al., 2020). The study examines two sources of automatic stabilisation. The first is found in those **elements of the government budget that react to the business cycle**. On

the expenditure side, unemployment assistance plays a key role, while tax progressivity is the most relevant on the revenue side, ensuring that private sector revenues decline less than economic output. The second source of stabilisation of economic activity are **non-cyclical elements**, such as wage payments in the public sector, transfer payments and intermediate consumption, as these do not vary much, or at all, with the economic downturn. According to the study, automatic stabilisers in the euro area are forecast to account for roughly 2.8 % of GDP in 2020, with non-cyclical public expenditure accounting for most.

153. The 1967 **Act to Promote Economic Stability and Growth** (*Stabilitäts- und Wachstumsgesetz*) provides general guidelines for economic policy action (Michaelis et al., 2015). The aims it defines are price stability, a high level of employment, external balance and steady and adequate economic growth. In the event of disturbances to the macroeconomic equilibrium, the government must implement economic and fiscal policy measures. The effectiveness of the fiscal instruments is a key criterion. If the aim of economic policy action is to boost economic output, priority can be given to instruments that have a high multiplier. Here, it is important to distinguish between solely short-term or medium- and long-term stimulating effects, however.

154. **Discretionary stimulus packages** can follow **two distinct strategies** (GCEE Annual Report 2019items 116 ff.), described as "timely, targeted and temporary" (TTT) or "permanent, pervasive and predictable" (PPP). The **TTT strategy** focuses on measures that take effect without delay and are targeted to activities that have relatively high multipliers. They should only be temporary, and applied while the economy is still in a slump. By contrast, the **PPP strategy** places an emphasis on measures that are permanent, pervasive and predictable. They are to strengthen growth both in the short term and the long term, with future revenue and income expectations being an important transmission channel.

155. From the **TTT strategy** perspective, the priority is to select measures that **avoid lags**, i.e. lags in recognising the need for fiscal policy action and lags in the political decision-making process. Neither lag is likely to have been of much relevance in the coronavirus pandemic, however. The need for action was easily justified. Due to the shutdown, there was enough time to move forward with the necessary political decision-making processes. Different measures are differently suited for timely implementation, however. While tax rate reductions or transfer payments to households can be implemented quickly, the implementation of public-sector investment projects takes longer. ↘ BOX 10 Many measures in the stimulus package ↘ ITEMS 160 FF. are geared towards an immediate impact, such as the reduced VAT rate or the child bonus. The macroeconomic effect of public investment, on the other hand, is to be expected only with some delay. ↘ BOX 9

156. In terms of the **targeted** nature of actions, measures **under the TTT strategy** should be geared to the sectors and areas where a high multiplier can be expected. Currently, there would be a need to consider that a number of business sectors are particularly hard hit by the coronavirus crisis. General measures with many beneficiaries can increase the risk of deadweight effects, thereby reducing effectiveness. The same applies if households save the additional disposable income or use

it to reduce their debt (Börsch-Supan et al., 2009; Taylor, 2011; Sahm et al., 2012; GCEE Annual Report 2013 items 219 ff.; GCEE Annual Report 2019 items 117 ff.). The child bonus is targeted in that it particularly benefits low-income families who are likely to have a higher propensity to consume. Further to this, a broader tax scope of loss carry-back and targeted temporary assistance for particularly hard-hit businesses could take better account of the heterogeneous impact of the coronavirus crisis.

157. Finally, a **stimulus package that follows the TTT strategy** must be limited to the **duration of the economic downturn**. This is based on the idea that the package is supposed to close a temporary economic gap. Accordingly, long-term measures, such as public sector investment projects spanning several years, would be ruled out. The public spending associated with such measures, which affect demand, generally continues long after the recession is over. With regard to VAT, the limited, temporary nature of the change is important, as the effect of incentivising consumers to bring purchases forward would be lost if the reduction were extended.

158. The **PPP strategy** sets a reliable framework for the purposes of constancy of economic policy. It is based on the empirical evidence that **consumption spending** – particularly for consumer durables – is strongly **correlated with permanent income expectations** (Friedman, 1957; Fernández-Villaverde and Krueger, 2011; Casalis and Krustev, 2020) and that **private investment spending is influenced by future expected earnings** over the course of these investments (Abel, 1981; Hayashi, 1982; Abel and Eberly, 2011). Accordingly, households' future income expectations and the profit expectations of businesses play an important role. Fiscal measures that are permanent and pervasive and that predictably improve the general conditions for higher economic output in the long term can boost income expectations and thereby strengthen investments and consumption demand in the short term (GCEE Annual Report 2019 items 121 ff.).

159. **On the revenue side,** permanent **tax cuts** can provide incentives for investments, the take-up of employment and business initiatives (Taylor, 2008). By triggering more employment and a more intensive utilisation of the existing capital stock, a tax cut can also stimulate production in the short run (Lieberknecht and Wieland, 2019). On the **government expenditure side,** investment spending that **improves the infrastructure** and thereby facilitates production processes, for example, is the best fit for a **PPP strategy**. While a tax cut can be implemented quickly, a comprehensive tax reform would be more time-consuming. As with an increase in spending, there is the question of the implications for the sustainability of public finances. Measures that lead to a permanently higher potential output contribute to the financing themselves, but are likely to only partly and not fully compensate for lost revenues or increased spending (Trabandt and Uhlig, 2011; Lieberknecht and Wieland, 2019).

2. The Federal Government's economic stimulus package

160. On 3 June 2020, the Federal Government put forward a package of measures to manage the coronavirus crisis and stimulate the German economy in the longer term (Coalition Committee, 2020a). The economic and crisis management package contains short-term measures to boost demand and cushion the economic and social effects of the crisis. At the same time, the "future package" seeks to promote investment and innovation in the areas of digitisation, climate technologies and health. The **full scope** of the measures, referred to below as the **stimulus package**, amounts to **more than €150 billion**. According to the Federal Government, €130 billion of this will be allocated to 2020 and 2021 (Federal Ministry of Finance and Federal Ministry for Economic Affairs and Energy, 2020; Coalition Committee, 2020a). On foot of the stimulus package and the measures agreed in March, the overall federal budget faces substantial extra expenditure in 2020. The Federal Government has adopted two supplementary budgets. ↘ ITEMS 215 FF.

161. The stimulus package comprises a **range of measures**. These include the temporary reduction of VAT (€20 billion), the child bonus (€4.3 billion), **capping of the EEG surcharge** (€11 billion) and the stabilisation of social insurance contributions (€5.3 billion in 2020). It also includes a raft of measures to ensure the liquidity of firms and to foster investment. These include, for example, the expansion of the declining-balance method of depreciation (€3 billion forward-purchasing effect), investment in education (€3 billion) and the bringing forward of **federal investment projects** (€10 billion). Furthermore, the stimulus package envisages several **transfer payments from central government to the Länder and municipalities**.

Overall, it would be important to carry out **detailed**, **standardised** monitoring throughout Germany of the measures agreed during the coronavirus pandemic and their implementation at the level of central government, Länder and municipalities. The **data collected** in this way should be made publicly and centrally accessible for scientific evaluation.

162. A significant **part of the stimulus package** is geared towards temporary measures and is therefore in keeping with the TTT strategy – for example, VAT reduction or the child bonus. **In addition,** the stimulus package incorporates **large investment projects**, which are expected to take several years to implement in full. These measures are in keeping with the PPP strategy to the extent that they are in fact capable of permanently increasing the growth potential of the economy.

Measures such as **capping the EEG surcharge** for 2020 and 2021 or **limiting social insurance contributions** to 40 % in the coming year offer temporary relief for households and companies alike. However, unlike a fundamental energy price reform, ↘ ITEMS 391 FF. for example, these measures alone do not have the potential to improve the overall economic situation in the longer term. The package also envisages depreciation rules for movable assets that are aquired or manufactured in 2020 and 2021. ↘ ITEM 181 It excludes any long-term tax relief measures

for households or companies, such as those suggested by the GCEE (GCEE Annual Report 2018 items 558 ff.). The planned partial abolition of the solidarity surcharge at the start of 2021 will have a positive effect on liquidity. However, since it had already been agreed prior to the coronavirus crisis, it will not further improve expectations during the crisis.

Estimating the macroeconomic effects

163. The overall economic impact of the stimulus package can be estimated using a **structural macroeconomic model**. ↘ BOX 9 For this purpose, a New Keynesian model that has become established in recent academic literature (Christiano et al., 2005; Smets and Wouters, 2007) was extended by including a more detailed government sector. The parameters of the model were estimated using German macroeconomic data. The results of the simulation suggest that **fiscal policy measures could increase GDP by 0.7 % to 1.3 % this year**. This corresponds to the measures having a multiplier effect of around 0.6 to 1.0 in 2020.

164. The stimulus package is likely to have a stabilising effect in **2021** as well. The simulation yields that **GDP will be 0.4 % to 0.7 % higher** than it would have been in the counterfactual scenario without the package. This also corresponds to a multiplier of 0.6 to 1.0. These estimates are comparable with the range of results in various other studies (Boysen-Hogrefe et al., 2020; Deutsche Bundesbank, 2020; IWH, 2020; Michelsen et al., 2020; Wolter et al., 2020). In a comparison of several models, the Joint Economic Forecast Project Group (2020) indicates that the stimulus package will increase GDP by between 0.3 % and 1.2 % in 2020 and by between 0.3 % and 1.5 % in 2021.

165. The estimated **impact depends** on the assumptions of the model and on the **structure** of the stimulus package. As well as the scope and timing of these measures, the fact of whether they are primarily consumptive or investment-relatedplays an important role in their overall economic effect The analysis considers a further continuation of the favourable interest rate level, as well as the government's intertemporal budget constraint. Further, the design of future consolidation will impact the overall economic effect, especially in the medium term. For example, expected future tax increases or a drop in public spending for the purpose of repaying the national debt incurred will weaken private demand. Higher taxes on capital or wages have a negative effect on GDP in the model analysis, as they reduce the incentive to invest or supply labour.

↘ BOX 9

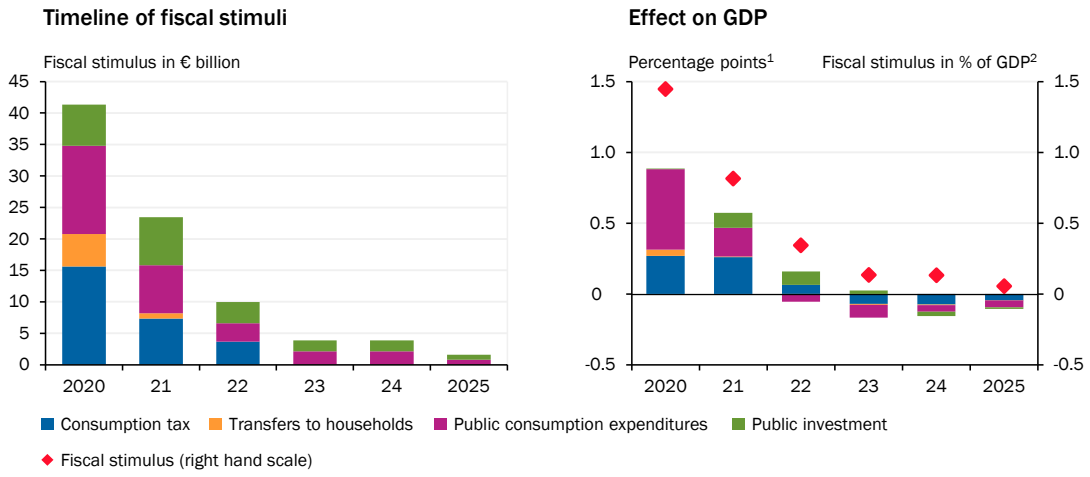
A quantitative analysis of the stimulus package

The macroeconomic effects of the **stimulus package** agreed in June 2020 are analysed and quantified below using a structural model. The New Keynesian model used is based on the study by Drautzburg and Uhlig (2015). The authors use their model to analyse the American Recovery and Reinvestment Act (ARRA) from 2009. The underlying **macroeconomic model** builds upon the work of Christiano et al. (2005), Smets and Wouters (2007) and Cogan et al. (2010). As in Cogan et al. (2013), the model incorporates credit-constrained households and a **comprehensive tax and transfer system**. Productivity-enhancing public investment is also considered. This model framework allows most of the individual measures in the stimulus package to be included. In addition,

the model can map a further continuation of the favourable low-interest rate environment for a certain period. The model parameters were estimated on the basis of quarterly data from 2000 to 2020 for Germany. The share of credit-constrained households is calibrated to 25 % in line with the literature. Recent studies have found similar values for Germany (Gadatsch et al., 2016). Debortoli and Galí (2017) demonstrate that, if credit-constrained households are taken into account, this allows the dynamics that are essential to the effects of aggregated shocks to be mapped in the same way as in models that differentiate household heterogeneity to a greater extent (Galí, 2018; Kaplan et al., 2018; GCEE Annual Report 2019 items 643 ff.). The estimated model coefficients are comparable with the results of other model-based studies (Coenen et al., 2012). For example, the implied Frisch elasticity for the labour supply amounts to 0.34.

The measures in the stimulus package are divided into public expenditure and revenue instruments in the model: **public consumption**, **public investments**, **transfers to households** and **consumption taxes**. The measures are modelled over the period 2020 to 2025 ↘ CHART 38 LEFT The estimate of the fiscal policy stimuli is based on the volumes of the measures indicated by the Federal Government (Coalition Committee, 2020a) and their categorisation in accordance with the national accounts stipulations. Thus, many of the measures designated as investment measures may have consumption elements in the national accounts sense. This applies, for example, to personnel expenditure and infrastructure expenditure, which, in some cases, incorporates maintenance and repair. Since such expenditure is not part of gross fixed capital formation in the national accounts sense (Christofzik et al., 2019), some portions of the expenditure are evaluated as public expenditure on consumption in the model simulation. Transfers from central government to regional and local authorities are not included in the simulation, as these would not lead directly to additional expenditure by the Länder and municipalities.

↘ CHART 38
Stimulus package simulation



1 – Percentage deviation from scenario without stimulus package. Contributions of individual categories of measures. 2 – For each year, the calculated fiscal stimulus is shown relative to nominal GDP along the model estimated balanced growth path.

Sources: Deutsche Bundesbank, ECB, Federal Government, Federal Ministry of Finance, Federal Statistical Office, Gilchrist and Mojon (2018), own calculations

The **stimulus package measures influence GDP differently over time**. While transfers and public consumption can only stimulate macroeconomic demand temporarily, investment expenditure may have a positive effect in the longer term. To that end, however, it is essential that such spending increases the productivity of companies in a sustainable way (Ramey, 2020). In the model, increasing public capital stock is assumed to result in greater private productivity. However, this is unlikely to apply equally to all individual investment measures in the stimulus package. In addition, the distinction between public investment and consumption expenditures is unclear in terms of their effect on growth (GCEE Annual Report 2019 items 531 ff).

It is assumed that the risk-free nominal interest rate will remain constant until 2023. As of 2023 and for a period of 20 years, public debt will be reduced to the original level relative to economic output. This period corresponds to the repayment plan agreed in the second Supplementary Budget Act ↘ ITEM 218 In contrast to the repayment plan, the consolidation in the model is subject to specific consolidation strategies that serve to reduce the debt-to-GDP ratio to its original level without the stimulus package. The individual consolidation steps arise endogenously. To the extent that expenditure cuts or tax increases are necessary for this purpose in the model, future **consolidation** counteracts the macroeconomic stimulation.

The overall effect of all measures on GDP reaches its peak in the first year of implementation, after which it continuously diminishes. This is explained by the assumption that the greater part of the stimulus package will be implemented in 2020. ↘ CHART 38 RIGHT According to the simulation, GDP will accordingly be around 1 % higher this year than in the counterfactual scenario. The **multiplier** is approximately 0.7 in 2020 and 2021. This means, for example, that, for every billion euro spent up to that point, GDP in 2021 will be around €700 million higher than in the counterfactual scenario.

This **point estimate is subject to a certain degree of uncertainty** due to the model assumptions and the estimated coefficients. Thus, the multiplier for 2020 ranges from less than 0.6 to 1.0 when changes are made to individual coefficients. However, the variations of the coefficients deviate from the estimated values, which means they are less likely based on the model estimate for Germany. A higher share of credit-constrained households, for instance, results in a higher multiplier. Since their incomes are too low to allow for savings, credit-constrained households use their entire disposable income for consumption. In addition, a variation in the labour supply elasticity influences the multiplier effect of the stimulus package due to the distortionary taxation, in particular in the medium term. The expectation of a more prolonged expansionary monetary policy also reinforces the effect on the economy, as it reduces the real tax burden, thereby strengthening demand. Price and wage rigidities also play a role. When prices are more flexible, fiscal policy measures result in a greater price increase, which also reduces real interest rates if nominal interest rates remain constant (Farhi and Werning, 2016). However, this effect may be reversed by distortionary taxation on wages (Drautzburg and Uhlig, 2015).

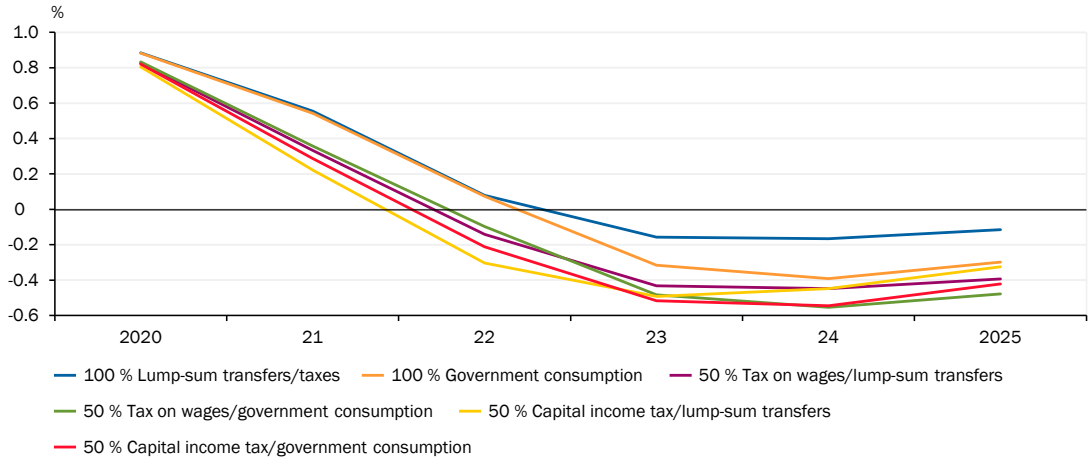
It must be noted that the model neglects to include the interdependencies that exist between Germany and other countries. The multiplier is likely to have been lower if these had been incorporated. In contrast, the model economy could underestimate the degree to which the multiplier effect depends on the economic situation and thus also underestimate its effectiveness in a recession (Gechert and Rannenberg, 2018; Berg, 2019). For example, Buchheim and Watzinger (2019) and Buchheim et al. (2020) demonstrate, by means of two case studies in Germany, that public infrastructure measures during a phase of under-utilisation in the labour market may have stronger employment effects in the affected sectors or regions than what would be the case in the event of a labour shortage. In general, the empirical evidence on the **macroeconomic effect of expansionary discretionary fiscal policy measures** falls within a broad range. In structural models, the multiplier is between 0.2 and 1.5 for tax cuts and increases in expenditure. Time-series models estimate significantly greater effects in some cases but cannot identify causal links as clearly (Gechert, 2015; Ramey, 2019).

In the baseline scenario↘ CHART 38 RIGHT **consolidation** is implemented by higher (lower) lump-sum taxes (lump-sum transfers). Income taxes and capital taxes are kept constant. This assumption minimises the dampening effect of the expected consolidation, as lump-sum taxes do not distort the decisions of households to work, consume or save. In reality, there are no lump-sum taxes in Germany. However, as the model maps the influence of the higher taxes or lower government expenditure expected in future on the decisions made by households and companies, **various consolidation assumptions** can be simulated ↘ CHART 39 ↘ TABLE 12 shows the range of results when the individual coefficients are adjusted as in the baseline scenario. A reduction in public

consumption expenditures to reduce debt has a similar effect on GDP as lump-sum taxes in the first few years. From 2023 onwards growth in GDP is much weaker. If financing of the debt is based on a partial increase in the tax rates on labour income and capital income, this will curtail the macroeconomic effects of the measures, at least starting from the coming year. The main reason for this is the **distortionary effect of tax increases on employment and investment decisions**. If the debt is financed exclusively through the raising of distortionary taxes, the negative effect on GDP is correspondingly stronger in the simulations. Overall, an expenditure-based consolidation compared with a revenue-based consolidation results in a substantially higher cumulative GDP over the period under review. This applies equally in the case of simulated parameter combinations that deviate from the basic specification. ↘ ITEM 237

↘ CHART 39

Effects of various consolidation assumptions on GDP[1]



1 – Percentage deviation of GDP from scenario without stimulus package.

Sources: Deutsche Bundesbank, ECB, Federal Statistical Office, Gilchrist and Mojon (2018), own calculations

↘ TABLE 12

Effects of various consolidation assumptions on GDP[1]

Consolidation measure	2020		2021		2025	
	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
100 % Lump-sum transfers/taxes	0.74	1.31	0.35	0.73	– 0.17	– 0.05
100 % Government consumption	0.74	1.28	0.27	0.74	– 0.37	– 0.12
50 % Tax on wages/government consumption	0.66	1.21	– 0.06	0.37	– 0.58	– 0.33
50 % Tax on wages/lump-sum transfers	0.68	1.21	– 0.01	0.39	– 0.46	– 0.28
50 % Capital income tax/government consumption	0.65	1.19	– 0.12	0.33	– 0.47	– 0.19
50 % Capital income tax/lump-sum transfers	0.66	1.16	– 0.09	0.30	– 0.36	– 0.14

1 – Percentage deviation of GDP from scenario without stimulus package.

Sources: Deutsche Bundesbank, ECB, Federal Statistical Office, Gilchrist and Mojon (2018), own calculations

VAT reduction

166. With the **temporary VAT reduction** that came into effect on 1 July this year, the standard VAT rate was reduced from 19 % to 16 %, while the reduced VAT rate was cut from 7 % to 5 % – both for a limited period until the end of the year. The

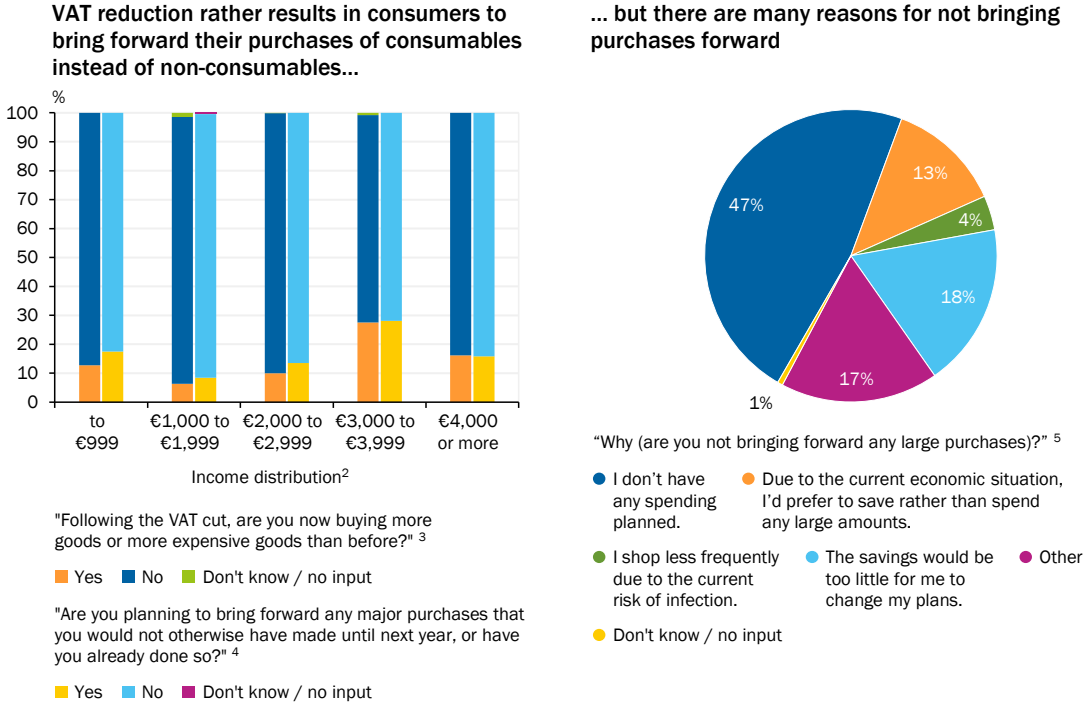
temporary VAT reduction is intended, above all, to achieve a stabilising effect and stimulate the **intertemporal substitution of consumption**. In this way, the Federal Government seeks to encourage households to bring forward into the second half of 2020 some of their planned consumer spending for next year, as they anticipate that prices will begin to rise again at the start of 2021. It is of critical importance to this measure that a rise in prices from January of next year is credible (D'Acunto et al., 2020). Furthermore, if the tax reduction is passed on by companies to end customers, the resulting income effect may lead to a **rise in real purchasing power**.

167. In order to assess the effect of the temporary VAT reduction on the **consumption patterns** of private households, the GCEE, in collaboration with the infas Institute for Applied Social Sciences (infas), conducted a **representative population survey** (infas, 2020). ↘ BOX 8 In September, some 1,014 people were surveyed in relation to changes to their income and consumption in the first half of 2020, as well as on their expectations of the stimulus package and, in particular, the VAT reduction and how it would change their consumption patterns.

168. The results of the survey indicate that the **intertemporal substitution of consumption** and the income effect due to the rise in purchasing power are **limited.** ↘ CHART 40 LEFT The majority of respondents expect prices to rise in January 2021 to

↘ CHART 40

Forward purchasing due to VAT reduction[1]

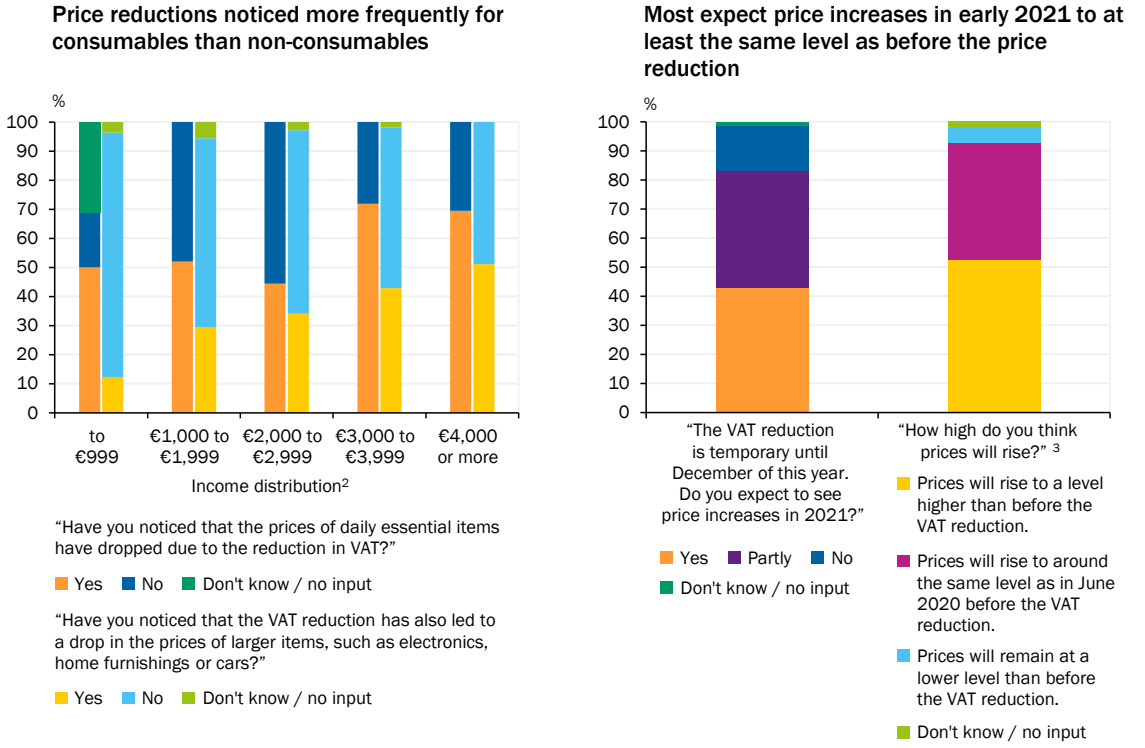


1 – Survey conducted by the infas Institute for Applied Social Sciences commissioned by the GCEE. 1,014 persons aged 18 and over surveyed by phone on the basis of a nationally representative random sample. 2 – Net equivalent income (according to new OECD scale). Case numbers of income groups: up to €999: N = 44; €1,000 to €1,999: N = 256; €2,000 to €2,999: N = 276; €3,000 to €3,999: N =157; €4,000 or more: N = 103. No information on household income available for 178 of those surveyed. 3 – This question was only put to respondents who had noticed a reduction in the prices of daily essential items as a result of the VAT reduction. 4 – This question was put to all survey participants. 5 – This question was only put to respondents who do not plan to bring forward any large purchases.

Sources: Feld et al. (2020a), infas Institute for Applied Social Sciences, own calculations

↘ CHART 41

Perceptions and expectations of price changes[1]



1 – Survey conducted by the infas Institute for Applied Social Sciences commissioned by the GCEE. 1,014 persons aged 18 and over surveyed by phone on the basis of a nationally representative random sample. 2 – Net equivalent income (according to new OECD scale). Case numbers of income groups: up to €999: N = 44; €1,000 to €1,999: N = 256; €2,000 to €2,999: N = 276; €3,000 to €3,999: N =157; €4,000 or more: N = 103. No information on household income available for 178 of those surveyed. 3 – Repondents who at least partly expect to see price rises in early 2021.

Sources: Feld et al. (2020a), infas Institute for Applied Social Sciences, own calculations

at least their level prior to the VAT reduction in June. ↘ CHART 41 RIGHT The necessary prerequisite for a substitution effect is thereby fulfilled. However, only 11 % of those surveyed reported that they are considering bringing forward the consumer spending they had planned for next year. The results of an online survey by the Cologne Institute of Economic Research (IW), in which 11 % of respondents reported having already brought planned saving forward, confirm that the substitution effect of the VAT reduction is likely to be low (Beznoska et al., 2020).

169. There are many diverse reasons for the general absence of an intertemporal substitution of consumption. ↘ CHART 40 RIGHT Almost half of all respondents indicated that they were not planning to make any large purchases. Another 18 % stated that the savings generated by the VAT reduction would not be sufficient for them to change their current plans, while 13 % cited the current economic situation as the reason for this. They would currently **prefer to save their money** than to make large purchases. Only 10 % of respondents reported that they would buy more or more expensive consumable goods as a result of the VAT reduction. This indicates that the VAT reduction has only a minor income effect. In the case of consumables and large purchases, it was predominantly people on higher incomes who stated that their consumption patterns would change. ↘ CHART 40 LEFT

170. The degree to which **companies pass on the VAT reduction** to consumers in their prices is likely to be a factor in determining how consumer behaviour is changing (Crossley et al., 2014). However, the results of the survey suggest that the VAT reduction is only being partly passed on and to varying degrees, depending on the type of goods involved. Just over half of those surveyed stated that they had even noticed reductions in the prices of consumable items. For non-consumables, the share was just one third of respondents. ↘ CHART 41 LEFT The survey conducted by the Cologne Institute of Economic Research also found that over half of all respondents had noticed price reductions as a result of the VAT cut, but without distinguishing between consumable and non-consumable items (Beznoska et al., 2020). The higher a person's income, the more likely they were to notice price changes. This heightened awareness of price reductions among the highest income groups is likely to be explained in part by varying preferences in consumption. In the survey data, this is most evident in the case of slow-moving consumer goods. ↘ CHART 41 LEFT

171. If the VAT reduction is only partially passed on to consumers, this has a **liquidity effect for companies**, which may help them to stabilise their revenue. However, companies recording a high turnover benefit more from this effect than those that have experienced a drop in sales due to the coronavirus pandemic. The extent to which the tax reduction is passed on to consumers is reflective of the companies' strategic planning. In sectors that experience considerable competitive pressure, such as retail, for example, demand may demonstrate a high degree of price elasticity. In addition, demand for slow-moving consumer goods is likely to react more strongly than demand for consumables to a drop in prices inclusive of VAT. Furthermore, a change in prices is associated with varying degrees of administrative costs, depending on the individual sector.

172. The **empirical evidence on the pass-through of previous VAT changes** provides a number of insights. Benedek et al. (2015) and Büttner and Madzharova (2019) study the effect of VAT changes in a large number of European countries. They identify almost complete pass-through of the VAT changes, with estimates of the speed of price adjustments varying between four months and more than one year. The German Bundesbank (2008) documents similar experiences with regard to the VAT increase in Germany in 2007, with a third of the price changes occurring before the reporting date.

Meanwhile, Benzarti et al. (2020) report that increases in VAT are passed on twice as often as reductions in VAT. In particular, using the example of a temporary cut in VAT for Finnish hairdressers, they show that this asymmetric price response can lead to higher prices in the long term. The literature on the temporary VAT reduction in the United Kingdom between 2008 and 2009 also points to a sizeable pass-through initially, followed by an early reversal in prices due to the anticipated tax increase (Chirakijja et al., 2009; Pike et al., 2009; Crossley et al., 2014).

173. With respect to those **sectors** that are **particularly hard-hit by the coronavirus restrictions,** the available empirical evidence indicates a low **pass-through** of tax cuts. Benzarti and Carloni (2019) show that, where VAT was reduced for restaurants in France in 2010, more than 50 % of the cuts were retained

by the companies in the form of higher profit margins. In Finland and Sweden, Harju et al. (2018) find that while chain restaurants passed on VAT reductions in full, independent restaurants retained them entirely for themselves. Wagner and Weber (2016) investigate to what extent the general increase in VAT in Germany in 2007 and the special reduction in VAT introduced for the hotel industry in 2009 were passed on to overnight guests. Their study reveals that in contrast to the tax increase in 2007, the tax reduction was only passed on to a small extent.

174. One possible explanation for the heterogeneous pass-through of VAT reductions is provided by Montag et al. (2020). This study identifies a rapid but **incomplete and heterogeneous pass-through of this year's VAT reduction in Germany** for petrol and diesel. In particular, an 83 % tax reduction was passed on to diesel drivers, while the reduction in the price of petrol only corresponded to between 40 % (E5) and 61 % (E10) of the tax cut. The authors interpret their results to mean that diesel owners may be more price-sensitive, since they cover more than twice the number of kilometres clocked up annually by drivers of petrol cars.

175. It is difficult to estimate to what extent the reduction in VAT has increased the shift in demand from **bricks-and-mortar retail** to **e-commerce**, which has gathered pace since the pandemic. In order to minimise red tape and the cost of price changes for suppliers when implementing the VAT cut, exceptions from the Price Indication Ordinance (BMWi, 2020b) may be applied. For example, retailers and service providers can grant flat-rate discounts directly at the checkout. Although the conversion costs are likely to be higher, especially for small and medium-sized enterprises, **competition** and **customers' price sensitivity** should be more important factors in the extent of tax pass-through.

176. The reduction in VAT is one of the **most cost-intensive measures** in the stimulus package. This is despite the fact that the tax cut also applies to state purchases, which, according to Bach (2020), means a reduction in financing needs from €20 billion to €15.6 billion. Moreover, the administrative costs of implementing the temporary changeover for small and medium-sized enterprises are not insignificant. In terms of the TTT strategy, the reduction in VAT boasts the advantages that it is quick to implement (timely) and temporary. However, it is likely to have a **limited impact on the economy**. The available empirical literature and the results of the survey indicate that the reduction in VAT is **not highly targeted** in relation to private households. It plays less of a role in supporting the purchasing power of the groups that have been particularly hard hit by the crisis. While higher-income households respond more strongly to the measure, their response is associated with major deadweight effects. By comparison, a reduction in electricity consumption tax would offer greater relief to lower income groups (Feld et al., 2020b) ↘ ITEMS 408 FF. and provide a greater boost to their consumption, due to their lower savings rates.

As regards the medium-term effect of the VAT reduction, it should be noted that **counteracting effects** are likely to occur when it **expires in 2021**. For example, the price increase expected to take place after the VAT reduction expires as well as advance spending will place a strain on demand and economic recovery in

spring 2021. In particular, where VAT returns have not been completed, prices may temporarily increase beyond the level before the cut.

Investments

177. The stimulus package includes substantial additional public investment expenditure in the second half of 2020 and subsequent years. **Public investment** can help boost **growth potential.** In terms of the PPP strategy, public investments can be particularly useful during an economic slowdown if they open up additional long-term growth prospects and thus trigger **positive earnings expectations in the short term.** In terms of the TTT strategy, the question is whether public investments can be made in a timely manner. This is particularly likely to be the case if the relevant capacities in the construction industry are free due to the recession. This would also be an argument in favour of bringing forward infrastructure investments that have already been planned.

178. **Intragovernmental transfers** to relieve the Länder and municipalities should help ensure that investments at the municipal level are not influenced as strongly by the coronavirus recession and the associated decline in tax revenues. However, it remains unclear to what extent these transfer payments trigger additional investments or only bring them forward (Felbermayr and Kooths, 2020).

179. General government gross fixed capital formation in relation to economic output has risen continuously since 2014, after a sharp decline in the 1990s, especially at the municipal level, and a period of stagnation from the mid-2000s. There are many reasons for this development (Board of Academic Advisors to the Federal Ministry for Economic Affairs and Energy, 2020; GCEE Annual Report 2019 items 521 ff.). A number of factors that represent **possible obstacles to timely implementation** are relevant for assessing the economic impact of the public investments planned as part of the stimulus package. At the municipal level, **historical outstanding liabilities** could well hinder local governments from carrying out their own investments, but they do not explain the low take-up rate of federal and state funding. This is likely to be related to inadequate **planning and administrative capacity** and regulations, which lead to protracted **planning and approval procedures**. ↘ BOX 10

180. The Board of Academic Advisors to the Federal Ministry for Economic Affairs and Energy (2020) considers a **sustainable increase and stabilisation of public investments** over time to be necessary. By dismantling institutional barriers, including those in the political decision-making structures, and by promoting greater continuity in the planning of investment projects, incentives could be offered to eliminate current capacity bottlenecks, for example in the construction sector. The Board of Academic Advisors to the Federal Ministry for Economic Affairs and Energy (2020) proposes that investment promotion agencies be established. These agencies would be financed in the long term by the budgets of the federal and state governments and meet high standards of governance. While the decision-making authority of the investment project should lie with the applying municipality, the advisory board provides sufficient control options for the funding Länder and the Federal Government.

181. In order to promote private investments, the option of the **decreasing-balance method of depreciation of movable fixed assets** will be reintroduced as part of the stimulus package. This accelerated depreciation applies up to an amount of 25 % or 2.5 times the straight-line depreciation and is **limited** to those fixed assets that will be purchased or manufactured in 2020 and 2021 (BMF, 2020d). The measure generates an **incentive to pull-forward investments**, which can therefore be refinanced more quickly. In addition, ongoing projects benefit from a liquidity effect since these can be offset against the tax prepayment. The high level of uncertainty about further developments and the future earnings environment should in theory discourage any pulling-forward of investments. However, experience from 2006 and 2007 has shown that a temporary decreasing-balance method of depreciation, originally planned as countercyclical, may have a procyclical effect (GCEE Annual Report 2008 item 438). With an accelerated recovery in the next year, the induced phase shift could be problematic.

↘ BOX 10

Obstacles to the timely implementation of public investments

The Federal Government's **economic stimulus programme** includes extensive investment and funding programmes, of which **investments in infrastructure account for** a **significant portion.** Wolter et al. (2020) estimate that the programme could generate additional construction investment worth over €20 billion in 2020 and 2021. However, it should be noted that the federal and state governments did not fully exhaust existing investment pools before the coronavirus pandemic (GCEE Annual Report 2019 items 546 ff.). There are essentially three **obstacles** that could make it difficult to implement investment projects quickly **at municipal level**: the municipalities' **available financial resources**, administrative hurdles caused by complex **planning and approval procedures** and **a lack of capacity** in administration and the **construction sector**. In some cases, these problems are likely to have worsened due to the coronavirus pandemic, while in other cases they have been alleviated.

Convoluted tendering and planning approval procedures, the involvement of various public agencies and cumbersome legal provisions **either slow down** or **stymie** the **rapid implementation** of public investments. One such example is the planning effort involved in expanding a motorway. The compliance effort required to prepare and examine the preliminary draft and plan approval documents takes between 519 and 2539 days (Federal Government and Federal Statistical Office, 2012). **Increased standardisation** and tighter legal scope could in particular expedite infrastructure projects with regional significance. Furthermore, the National Regulatory Control Council recommends that **court proceedings** be accelerated by scheduling first hearings as early as possible. This would promote amicable settlements and prevent lengthy legal disputes (National Regulatory Control Council, 2019).

In addition, the results of surveys carried out by the German Confederation of Skilled Crafts (ZDH) show that the quarantine measures implemented due to the **coronavirus pandemic have created more hurdles in** the **approval procedures**. In June, 25 % of the craft businesses surveyed reported that they still had **limited access to administrative services.** Of these services, building authorities accounted for the second highest number of mentions among survey participants with 38 % (ZDH, 2020). Options for working from home in municipal administration are likely to be limited, due to a lack of IT infrastructure. ↘ ITEM 559 In the ZDH's view, the partial lack of legal certainty surrounding the digital implementation of administrative acts poses a particular risk to the implementation of construction projects.

Limited personnel capacity in **municipal administration** is closely associated with the high administrative barriers. In construction management in particular, the number of employees in terms of full-time equivalents fell by around 9 % between 2011 and 2015 (Gornig and Michelsen, 2017). The age structure of the labour force is likely to exacerbate these shortages in the years ahead. In 2018, 46 % of employees in municipal administration were aged over 50. A renewed increase in the number of infections and the associated restrictions could place additional pressure on the existing bottlenecks in administration and delay investment projects. In the medium term, the digitisation of administrative processes could help reduce bottlenecks. For example, productivity could be increased through the exchange of information between different authorities thanks to greater digital networking within public administration. ↘ ITEMS 552 FF. Furthermore, public administration is currently unlikely to possess all of the necessary expertise required to implement large infrastructure projects. These projects would therefore benefit from external planning and implementation (Expert Commission on Strengthening Investment in Germany, 2016).

Wolter et al. (2020) estimate that the investment projects envisaged in the economic stimulus package in 2020 and 2021 will lead to **additional demand for labour** of about 60,000 employees in public administration. In addition to the increased need for staff in the healthcare system, the authors also expect demand for administrative staff to increase. However, it is doubtful that all of these vacancies can be filled with suitably skilled workers at short notice.

Persistent capacity bottlenecks in the **construction sector** are expected to block the rapid expansion of public investment activity. In its 2019 annual report, the GCEE already discussed the high level of capacity utilisation in the construction industry, rapid price increases and limited options for expansion (GCEE Annual Report 2019 Box 16). The survey data from the German Chamber of Commerce and Industry (DIHK) suggest that order books in the construction industry have not been significantly affected by the economic downturn triggered by the pandemic. In all four survey waves conducted between March and June, the construction industry reported the lowest decline in sales of all economic sectors (DIHK, 2020a, 2020b, 2020c, 2020d). Of the companies surveyed in the construction sector, 35 % more companies reported a positive business situation than a negative one. In addition, the coronavirus pandemic is likely to make it more difficult to engage skilled workers and construction companies from abroad.

3. Tackling the second wave of infections

Health policy considerations

182. The coronavirus pandemic is not over yet. A rebound in infection rates is taking place in many locations. ↘ ITEMS 47 FF. This makes it all the more important to find a way of **dealing with the pandemic and the second wave of infections** that protects the health of the population and avoids the full-scale shutdown imposed in spring 2020. The aim of a risk-adapted strategy should be to avoid restrictions wherever possible and at the same time ensure effective health protection. Specifically, this means preventing the uncontrolled spread of the virus, strengthening the health system, protecting groups at high risk of a severe COVID-19 infection, avoiding social and psychological hardship as far as possible, enabling economic activities, avoiding unnecessary health risks and upholding the principle of proportionality in the event that fundamental rights are affected (Abele-Brehm et al., 2020).

183. There is still **considerable uncertainty** about **how long the crisis** will last. Various factors, such as seasonal fluctuations, the duration of immunity after infection or the extent of cross-immunities with other coronaviruses, influence the course of the pandemic. However, these factors have not yet been adequately researched (Kissler et al., 2020). Since the pandemic would not come to an end by itself until 60 % to 70 % of the population were immune to the virus, it could persist for several years without an effective vaccine (Kwok et al., 2020; Moore et al., 2020). Even in the event of a vaccine becoming available, outbreaks could recur over a longer period of time if only a short immunity duration is achievable (Kissler et al., 2020). In Germany, the estimated proportion of adults with antibodies against SARS-CoV-2 was still very low at just under 1.3 % in mid-August, according to the Robert Koch Institute (RKI, 2020a).

184. **Dealing with the second wave of infections** is the most important challenge relating to the further course of the pandemic. **Clear communication by policymakers**, especially with regard to combatting the pandemic and the restrictions required for this purpose, is essential in this regard. Such communication should include, for example, the criteria according to which new restrictions are agreed.

Changes in the behaviour of households and companies that take place independently of the measures imposed by the authorities are also vital (Aum et al., 2020; Lin and Meissner, 2020). For example, consumers are likely to refrain from certain activities if they estimate the associated risk of infection to be too high, even if these are permitted by the state and are even supported by economic policy measures. Social activities such as going to restaurants or to the cinema experienced a significant decline in several countries already before the shutdown (Born et al., 2020; Maloney and Taskin, 2020a, 2020b).

185. Minimising the duration and scope of the restrictions is crucial. The aim of the current restrictions is to enable comprehensive tracing, once again, of the chains of infection. Clusters play a particular role in the infection process: these can cause exponential growth in infections through multiple transmissions and thus make the pandemic worse. **Containing the growth of clusters** by precisely defining possible cluster situations, rapidly identifying the sources and immediately isolating the individuals involved is likely necessary in order to avoid recurring restrictions (Drosten, 2020). However, it is questionable whether universal screening to identify individual cases is effective (Drosten, 2020; Viswanathan et al., 2020). Universal screening, especially of professional groups that have a large amount of personal contact with other people, can offer the population a certain level of security, reduce fear of infection and allow economic and social activity to continue in a controlled manner (Romer, 2020; Test the world, 2020). Measures that curb the spread of the virus, such as wearing mouth and nose coverings, physical distancing and quarantine for those who may have had contact with an infected person are likely to remain essential for containing the virus (Viswanathan et al., 2020).

The **Corona-Warn-App** was developed to help the health authorities **trace and interrupt the chains of infection.** ↘ ITEM 547 The app can speed up the identification of high-risk encounters and the notification of contacts, while also recording encounters with unknown people. The number of users needed for the app to contribute effectively to combatting the pandemic depends largely on what other measures are being used, in particular to protect vulnerable groups (Grimm et al., 2020). By mid-September, the app had been downloaded over 18 million times (RKI, 2020b). However, the number of downloads does not indicate how many people are actually using the app. It is unclear, for example, whether the users transmit a positive test result or, in the event of a high-risk encounter, whether they follow the recommended measures.

186. Accurate complete contact tracing will require a **vast increase in personell,** especially in health authorities. However, the available labour force cannot be expanded immediately (Pimpertz, 2020). On 5 September, the Federal Government and the Länder agreed on the creation of at least 1,500 full-time jobs in the public health service for doctors, technical and administrative staff by the end of 2021 and at least a further 3,500 by the end of 2022 (BMG, 2020). However, these posts will not be created and filled in enough time to cope with the second wave of infections this year. **Digitising the healthcare system** remains an important challenge (GCEE Annual Report 2018 items 895 ff.). For example, a large number of the health authorities do not transmit the number of infections digitally. This causes considerable time delays and inaccuracies in tracking the chains of infection. (Schreyögg, 2020).

Implications on stability policy measures

187. We cannot assume that the coronavirus pandemic will be overcome within the coming months. Our future economic development depends in large part on successfully tackling the pandemic. The current **dynamic pace** of infection transmission poses a risk to the continued economic recovery. ↘ ITEMS 60 FF. Already, the recovery is expected to stall in the winter half-year. If there is a renewed sharp decline in economic activity, increased use should be made of temporary aid schemes, KfW loans and short-time work. This would increase the effect of automatic stabilisers, while implementation of the Federal Government's investment projects would help stabilise the economy. In addition, the low-interest rate environment favours private consumption over savings. Moreover, monetary policy has decided on extensive bond purchases, which are far from exhausted and whose maturity date has already been extended until at least June 2021.

188. The economic situation, in particular the **external environment**, seems to be **more favourable so far** than in March 2020 during the first wave of infections. Economic developments in China, one of Germany's most important trading partners, are much more positive than in the spring. Meanwhile, the number of infections in China remains low. ↘ ITEM 3 However, many European countries have been more badly affected by the second wave of infections than Germany. Nationwide restrictions have already been imposed in some countries. The external economic conditions for the German economy therefore look set to deteriorate. However, the health system and the general population are likely to be better prepared for

a worsening of the pandemic compared to spring. Governments can draw on the experience gained during the first wave of infections. Moreover, economic support measures are already in place at national and European level.

189. In the first and second phases of the coronavirus pandemic, the Federal Government launched a variety of measures. Many of these measures remain active, do not need to be relaunched and can help, without additional delay, to mitigate a potential economic slowdown caused by the second wave. The **fiscal means to pursue these measures** should also be **available** through the credit authorisations granted to the Federal Government in the two supplementary budgets. While a review of the Federal Government's net borrowing over the course of the year is not necessarily indicative of the value for the full year, the Federal Government's net borrowing at the end of the third quarter only stands at €85.1 billion (BMF, 2020e). This corresponds to around 39 % of the credit authorisations granted by the second supplementary budget for 2020 of up to €217.8 billion. ↘ ITEM 215 The availability of sufficient fiscal funds in 2021 should also not restrict efforts to combat the pandemic if, as planned, the exception clause from the debt brake is used again. ↘ ITEM 216

190. Stabilisation measures already implemented, such as **temporary aid schemes** or **KfW loans,** had only seen a low take-up rate as at the end of October. ↘ ITEM 124 As a result, sufficient funding is available for the time being for the extended measures decided on by the Federal Government at the end of October to address the second wave of infections (BMF, 2020f). Companies with up to 50 employees that have been required to close under the regulations may apply for a grant covering up to 75 % of their turnover for November 2019. In this case the grants are provided as a lump-sum and cannot only be applied for ongoing operating costs. Other supports already received, such as short-time work allowances, are offset against the grants. Due to state aid restrictions, a lower proportion applies to larger companies. For a company founded after November 2019, October 2020 is taken as the basis for assessment. Self-employed individuals can choose to base their applications on their average turnover for 2019. In addition, separate aid is to be made available to companies that are indirectly affected by the closures. The KfW fast-track loans were also extended to companies with fewer than 10 employees and a third phase of the temporary aids was announced. The temporary aids are to be extended beyond the current year and include improved conditions.

191. The lump-sum support for all types of costs should provide relief in particular for self-employed individuals, who are unlikely to have any appreciable claim to support from the regular temporary aid schemes because of their low ongoing operating costs. However, with regard to the third option of temporary aid, the question of why there has been such a **low take-up of the funds made available** so far needs to be clarified. It is necessary to examine whether certain aid measures were not needed or whether only a small number of companies considered submitting an application because of other reasons, such as the amount of administrative effort involved, for example. This should relate in particular to temporary aid schemes for businesses and to support measures for self-employed indivduals. ↘ ITEM 125 The extension of KfW's fast-track loans to small business can

help self-employed individuals in particular, but only if they have been operational on the market since at least January 2019.

192. In contrast, the **short-time work** scheme has been much in demand since the beginning of the pandemic, not least because of the easier access provided to the scheme. ↘ ITEMS 208 FF. Although the number of registrations has steadily decreased since April 2020, a second wave of infections could see a big resurgence in the take-up of short-time work. In any event, the short-time work scheme remains available. Furthermore, the easier access to the scheme adopted in the spring and the longer maximum period of entitlement to the benefit have essentially been extended until the end of 2021. ↘ ITEM 209 However, even without a second wave and resulting increase in short-time work, the Federal Employment Agency's reserves are likely to be exhausted soon. In order to secure the agency's liquidity, the Federal Government anticipated necessary borrowing totalling €9.3 billion in August 2020 (BMF, 2020c). Should the demand for short-time work increase again, higher borrowings could be necessary.

193. The Federal Government has already adopted **further discretionary fiscal measures for 2021** independently of the coronavirus pandemic. These will bring some degree of relief to households. For example, the partial abolition of the solidarity surcharge will come into force in January 2021. Provision has also been made for an increase in the basic tax-free allowance and a shift in income tax brackets. Families will receive targeted support in the form of further measures under the Second Family Relief Act, which provides, among other things, for a higher child allowance and an increase in child benefit. Finally, additional pressure on electricity costs will be avoided by capping the EEG surcharge. ↘ ITEM 367 It is also likely that a large number of the investment measures in the stimulus package will be implemented in 2021. These effects will be diminished with the expiry of the temporary reduction in VAT at the beginning of 2021 and the introduction of a price on carbon dioxide emissions in the heating and transport sectors. (Nöh et al., 2020). ↘ ITEM 366

194. Nonetheless, the impact of these measures on overall economic development is likely to depend on the future course of the pandemic and any associated restrictions. For example, the **temporary reduction in VAT** was intended to have a **forward-purchasing effect** in the third and fourth quarters. ↘ ITEMS 166 FF. However, a sharp increase in the number of infections and new health policy restrictions could result in smaller forward-purchasing effects than originally expected. The second wave of infections may not yet be over when this measure expires in January 2021. Observations from the first half of 2020 also suggest that households saved significantly more during the first shutdown than before the pandemic. ↘ TABLE 11 A large portion of the higher disposable income associated with, for example, the partial abolition of the solidarity surcharge could therefore be saved at first. However, this measure results in higher permanent incomes, so savings are expected to rise less markedly than with a temporary increase in income (Jappelli and Pistaferri, 2010, 2014).

195. Should additional fiscal policy measures be considered in order to stabilise the economy, an extension of the **tax loss carry-back scheme** would make sense.

↘ ITEM 121 In addition, a reduction in electricity consumption tax and the EEG surcharge as part of an **energy price reform** could exert a positive impulse to the economy. This would support sector coupling and offer relief to lower-income households, which have a higher propensity to consume. ↘ ITEM 408 For self-employed individuals, the introduction of a salary for the self-employed is under discussion. This could close the gap in temporary aids so far and could be helpful especially if the coronavirus restrictions are tightened again. Further extending the suspension of the obligation to file for insolvency is unlikely to be helpful in a second wave. However, the pending amendment to the Insolvency Act (to be enacted by the end of 2020) could bring about improvements. In the financial system, the developments relating to a rise in insolvencies and associated non-performing loans should be monitored, as well as the impact on existing buffers. Macroprudential regulation has already been substantially eased to support lending within the banking system.

IV. THIRD PHASE: ENSURING SUSTAINABILITY DURING THE UPTURN

196. To the extent that a recovery can be consolidated within the foreseeable future in a third phase and the economic situation improves, the framework conditions that will ensure a sustained upturn and long-term growth must be borne in mind. Support measures should **not impede** the **transition** towards sustainable competitive structures. Fiscal sustainability must be ensured by taking appropriate **consolidation steps** in order for the state to retain its capacity to act and again meet European and national requirements. ↘ ITEMS 215 FF. However, this process should **avoid measures** that weaken **potential growth**.

197. As the economic recovery takes hold in the euro area, monetary policy should bring the special and temporary **emergency pandemic measures** to an end in line with previous plans. It is also vital to communicate a clear strategy on how, as part of a future normalisation of monetary policy, to reduce the high level of securities again, depending on macroeconomic developments. This would address the risk of fiscal dominance of monetary policy.

198. Since the aim to date has been to maintain economic capacity, it must be ensured, as the recovery continues, that the support and bridging measures implemented in response to the crisis do not result in companies adapting too late to an inevitable structural change ↘ ITEMS 205 FF. which was already gaining momentum in some economic sectors before the crisis (GCEE Special Report 2019 items181 ff.; GCEE Annual Report 2019 Box 1). Furthermore, adjustments in consumption patterns and production processes, which were initially aimed at reducing the risk of infection with COVID-19, can bring about behavioural changes in the longer term and lead to further structural change in the economy.

1. Normalising monetary policy

199. The measures adopted by the ECB at the **beginning of the pandemic in spring** were initially announced as **temporary measures**. These include easing of the collateral framework as well as favourable terms for long-term refinancing operations and the PEPP. However, this programme was rapidly scaled up and then extended **until at least June 2021**. The maturing principal payments from the securities purchased under the PEPP will also be reinvested by the end of 2022. Accordingly, it will take a very long time until the securities holdings are substantially reduced.

200. **As per original announcements**, the ECB **emergency measures introduced** due to the pandemic are expected to end as the recovery is consolidated and the economic situation improves. After the crisis, it will be vital to preserve the previous separation of the PEPP emergency purchase programme from the Forward Guidance communication on government bond purchases within the framework of the PSPP. Under the PEPP, the ECB provides liquidity that not least supports the government bond markets. ↘ ITEM 110 FF. In addition to the markets, **extensive EU programmes are available** for financing national debts resulting from the crisis. At present, these programmes already allow member states that are highly indebted to finance their debts more cheaply than on the markets via the ESM-PCSI credit lines. Aside from extensive grants, other loans are also available with favourable terms as part of the European Union recovery plan. ↘ ITEMS 269 FF.

201. With regard to the PEPP, a constitutional complaint has been submitted to the Federal Constitutional Court. The court had already carried out a **constitutional review** of the PSPP programme. The different assessments of the Federal Constitutional Court and the European Court of Justice on the proportionality of the PSPP programme led for the first time to an ultra vires ruling by the Federal Constitutional Court (BVerfG, 2020b). Dealing with European or constitutional questions is beyond the remit or authority of the GCEE, even though two of its members were asked by the German Constitutional Court to provide expert third party statements on the economic issues (Feld, 2020; Wieland, 2020). The Federal Constitutional Court ruled that, with regard to the decisions adopted in order to introduce and implement the PSPP, the ECB had failed to either examine or demonstrate that the measures taken were proportionate (BVerfG, 2020a). Given their responsibility for integration in these matters, the Bundestag and the Federal Government are obliged to raise an objection to the previous handling of the PSPP.

202. The Council of the European Central Bank subsequently allowed the German Bundesbank to provide the Federal Government and the Bundestag with confidential documents in order to **assess the proportionality** of previous PSPP decisions (Lagarde, 2020). Furthermore, in connection with the expansion of the PEPP programme in June 2020, the Governing Council published a more detailed explanation of proportionality in the accounts of its monetary policy meetings (ECB, 2020e). This stated that the benefits of the bond purchases clearly outweighed the negative side effects. However, since the unintended side effects could accumulate

over time and ultimately outweigh the benefits, continuous reviews would be necessary. On July 2, 2020, the German Bundestag finally published its conclusion, in line with the assessment of the Federal Ministry of Finance, that the ECB's statement on the implementation of a proportionality assessment of the PSPP was reasonable (Deutscher Bundestag, 2020b). A dialogue on monetary policy is also to take place (German Bundestag, 2020c). In accordance with its statutes, the ECB reports to the European Parliament, the Council of the European Union, the European Commission and the European Council.

203. The Council of the European Central Bank is currently **reviewing its monetary policy strategy**. In this context, it is also necessary to review the instruments and measures that have been deployed since the financial crisis and the coronavirus pandemic in terms of their effectiveness and proportionality (within the meaning of Article 5 TEU). Feld and Wieland (2020) develop a procedure for systematically demonstrating the proportionality of monetary policy measures such as the PSPP or the PEPP. To this end, the procedure should examine how any risks resulting from monetary policy can be contained. On the one hand, it is particularly important to consider deflation risks, given the proximity of interest rates to their lower limit. On the other hand, however, **risks** that arise from a long-term low interest rate policy and high bond purchases and that could lead to **financial or fiscal dominance of monetary policy** should be kept in mind. Financial dominance would hinder the normalisation of monetary policy, which will be required in the future if financial stability is threatened due to high risks of interest rate changes in the banking system or excessive valuations of assets. Fiscal dominance would mean that higher interest costs for member states would hamper normalisation. In order to avoid a financial or fiscal dominance of monetary policy, the member states in particular are urged to meet their obligations with regard to micro- and macroprudential regulation and the fiscal sustainability of public finances.

204. In particular, the ECB has not yet presented a **comprehensive normalisation strategy** that would reveal how it could reduce its portfolios of securities again in the longer term and normalise the central bank's balance sheet. The GCEE has already shown, in its 2017 and 2018 annual reports, how the previous forward guidance communication could be further developed into a normalisation strategy (GCEE Annual Report 2017 items 389 ff.; GCEE Annual Report 2018 items 352 ff.). It would therefore be useful to expand the previous forward guidance into an **ECB Governing Council forecast**, similar to the forecasts issued by central banks pursuing an inflation strategy. This forecast could show the development and future normalisation of monetary policy in the context of a sustained improvement in the economic situation and an increase in inflation. Given the high coordination effort that this would require among members of the Governing Council, an alternative would be to publish a **survey of the forecasts of each member of the Council**, as is the case with the US Federal Open Market Committee, which also publishes forecasts for the central bank interest rate. The Norwegian and Swedish central banks also publish their central bank interest rate forecasts. The ECB could expand its communication on the future development and normalisation of monetary policy by publishing the **expected path of the**

central bank interest rate and supplementing this with a balance sheet projection.

2. Exiting the bridging measures

205. The aim of the **fiscal support measures** for companies from the federal and state governments is to provide temporary support to companies that have experienced economic difficulties due to the coronavirus pandemic but that otherwise have a viable business model. The longer these supports are available, the more it is likely that aid will be given to companies that are **not just facing temporary difficulties due to the pandemic**, but whose business model is generally no longer viable. Providing further financial support to such companies could **impede the necessary structural change** and unnecessarily tie up resources.

As the **economic situation continues to improve**, an extension to the temporary aid schemes may be abandoned. Instead, **made-to-measure solutions** could be found for industries and regions that continue to be subject to severe coronavirus restrictions.

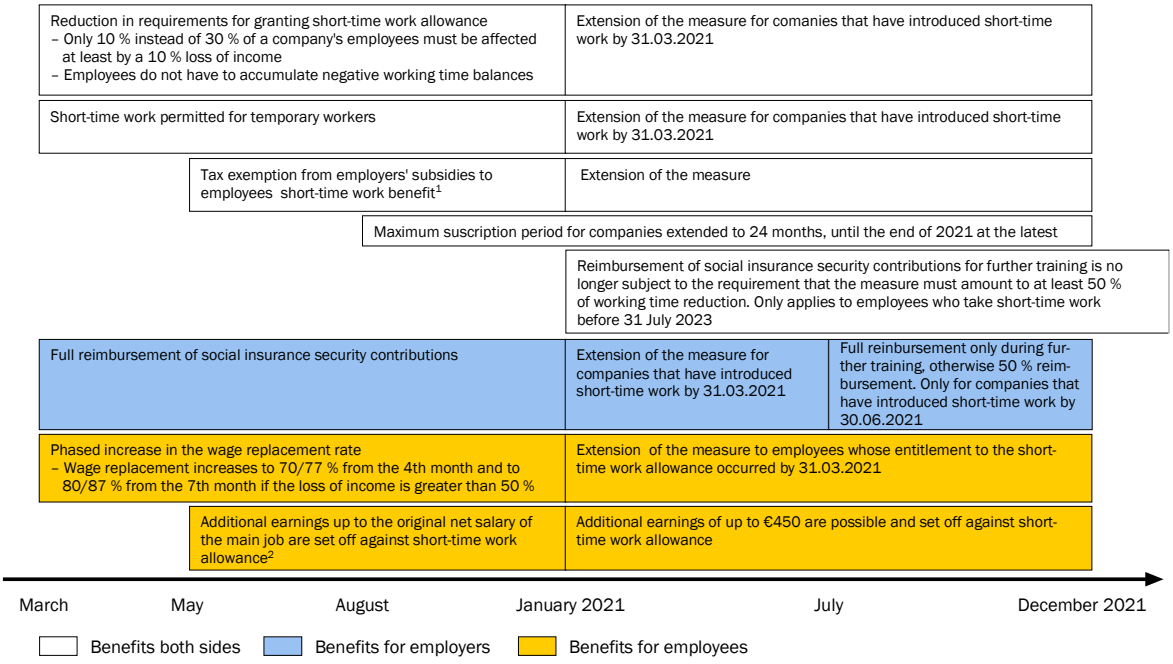
206. The same applies to the **KfW loans**. Financial lending has so far proven to be stable and a credit crunch has been prevented. For this reason, any KfW loans forwarded by banks **without risk assessment** should be **phased out**. In this way, over-indebtedness and subsequent company bankruptcies with resulting higher accumulated loans can be avoided, while an additional burden on banks could also be forestalled. Nor should the **suspension** of the **obligation to file for insolvency** be extended, since this ties up resources, hinders productivity growth and enables further risky loans. ↘ BOX 5

207. **Public shareholdings and participations** funded by the **WSF** should only be temporary and the state should be able to point to an exit scenario (GCEE Special Report 2020 items 157 ff.). While the other fiscal support measures have a predetermined (although in some cases already extended) expiry date, this is not envisaged for the government's participation in Lufthansa or TUI, for example. There is a **risk** that the previous state-owned company participations will **remain in place in the long term**, similar to the case of Commerzbank, in which the Federal Government has still yet to sell shares that it took on during the financial crisis. Such measures can result in companies failing to adapt to structural changes as they expect to receive continued supported from the state. In light of further possible company participations by the WSF and with 15 companies currently in the application review stage (BMWi, 2020c), the lack of an exit strategy must be viewed as critical.

208. At the start of the coronavirus pandemic, the regulations surrounding the **short-time allowance** were extended in various ways. ↘ CHART 42 Before the pandemic, 30 % of the employees of a company had to be affected by lower labour demand in order to be entitled forshort-time allowance. However, the quota was reduced to 10 % at the outset of the pandemic. In addition, the obligation on companies to

↘ CHART 42

Adjustment to the short-time work scheme under the coronvirus pandemic



1 – Company agreements that define subsidies during short-time work are often based on net wages. Thereby, employers can also benefit from the exemption. The regulation was announced in June 2020 but applies retrospectively until February 2020. 2 – The Sozialschutz-Paket of 27.03.2020 already contained a regulation applicable from April to October 2020 for additional earnings from a new job in an essential occupation. The regulation was expanded in Sozialschutz-Paket II of 20.05.2020.

Sources: Federal Ministry of Finance (2020g), Federal Ministry of Labour and Social Affairs (2020g), Coalition Committee (2020b), own illustration

establish negative working hours balances was waived, while short-time allowances were extended for temporary workers. Since March 2020 the BA fully reimburses the social insurance contributions to businesses. Previously, companies had to bear the employer- and employee-sided contributions that cease to apply due to short-time work (**residual labour costs**). For employees on short-time work, a phased increase in the wage replacement rate and an extension of the rules on additional earnings were introduced.

209. The current draft of the **Beschäftigungssicherungsgesetz** and additional ordinances prolong these **discretionary interventions** to **remain in place until the end of 2021** to a large extent. In addition, the maximum duration of short-time work allowance was increased from twelf to 24 months, but no later than the end of 2021. However, only those companies and their employees who submit an application for short-time work before 31 March 2021 will benefit from this extension. In addition, between July and December 2021, the BA will only reimburse social insurance contributions to those companies that carry out training during the period of short-time work. Otherwise, only half of the social insurance contributions will be borne. ↘ CHART 42

210. The short-time allowance is discussed as one of the reasons for the relatively small rise in unemployment in Germany during the recession of 2008 and 2009 (Burda and Hunt, 2011; Brenke et al., 2013; GCEE Annual Report 2009 Box 13; GCEE Annual Report 2019 items 113). However, the short-time allowance is not a panacea. Like other insurance benefits, the instrument is subject to the risk of **moral**

hazard. The easier the access to short-time work schemes, the greater the inefficiencies associated with their use are likely to be (Cahuc, 2014). Not only can this lead to an unnecessary increase in unemployment insurance expenditure, which in turn can result in higher social insurance contributions. It can also delay structural change: Skilled workers and capital remain bound to inefficient businesses.

Usually, the short-time allowance provides various **mechanisms** to **minimise the effects of moral hazard**. These mechanisms include the residual labour costs and the time limit of twelf months on short-time work in economic downturns. Extending the maximum period of entitlement to the benefit and providing full reimbursement of social insurance contributions until mid-2021 could result in inefficiently high take-up of the short-time allowance (Cahuc and Carcillo, 2011). While such schemes can prevent job losses, overall efficiency losses may occur (Cooper et al., 2017).

211. It is reasonable to extend the eligibility period if the **economic obstacles** caused by the coronavirus pandemic – and therefore through no fault of one's own – persist beyond twelf months. While GDP in 2021 cannot currently be expected to reach its pre-crisis level, overall order levels are likely to have improved significantly compared to the first half of 2020. ↘ ITEM 45 This will likely allow competitive companies to return to **normal operations**. It is, however, foreseeable that existing or new containment measures introduced to tackle the coronavirus will further restrict some companies in their activities in 2021. In this case, the extended short-time allowance can give greater planning certainty, take account of the no-fault situation and prevent negative employment effects.

212. During the extended short-time work scheme, measures that make use of downtime to provide **further training to employees** are useful (Kruppe and Osiander, 2020; Weber, 2020). Even before the outbreak of the coronavirus pandemic, the Federal Government's Gute-Arbeit-von-Morgen Act had planned to increase incentives for further training during short-time work. The measures have now been expanded. The **funding conditions** with regard to the duration of further training have been **relaxed**. Originally, it was envisaged that further training would have to amount to at least 50 % of lost working hours before the BA would reimburse the companies' social insurance contributions. The requirement has now been lifted for companies whose employees avail of short-time work between January 2021 and July 2023. ↘ CHART 42 However, additional conditions apply to the funding eligibility of further training schemes, which could reduce people's willingness to take part in skills development measures. In addition, the current full reimbursement of social insurance contributions for companies that implement short-time work up to 30 June 2021 reduces the incentives for further training. This reimbursement of social insurance contributions will only be differentiated according to qualification measures as of July 2021.

213. The **phased increase in the wage replacement rate** of up to 80 % (87 % for people in households with children) also reduces individual incentives to look for a new job. This in turn could reduce the pressure on employers to restore normal conditions as quickly as possible. A more expedient approach would be to reduce the wage replacement rate over time in order to provide growing incentives to look

for work. Alternatively, the wage replacement rate could be linked to further training. The increase in the wage replacement rate also gives rise to a questionable disparity of treatment between people on the short-time allowance and people who have lost their job and are on unemployment benefit I (Feld et al., 2020c).

214. The structural change on the labour market could be accompanied by additional targeted **education and further training schemes**. Such schemes can help to meet the changing demand for skilled workers, resulting for example from new, lower-emission technologies or digitisation. ↘ ITEMS 442 FF. AND 569 The **Qualifizierungschancengesetz**, in force since January 2019, and the **Gute-Arbeit-von-morgen Act**, which was passed this year, both expand public funding for further training. The provision of further training to employees is now eligible for funding regardless of educational qualifications, age or company size. In addition, the BA's advisory mandate was expanded. The agency should now inform employees and companies, as well as jobseekers, about opportunities for qualification and further training measures.

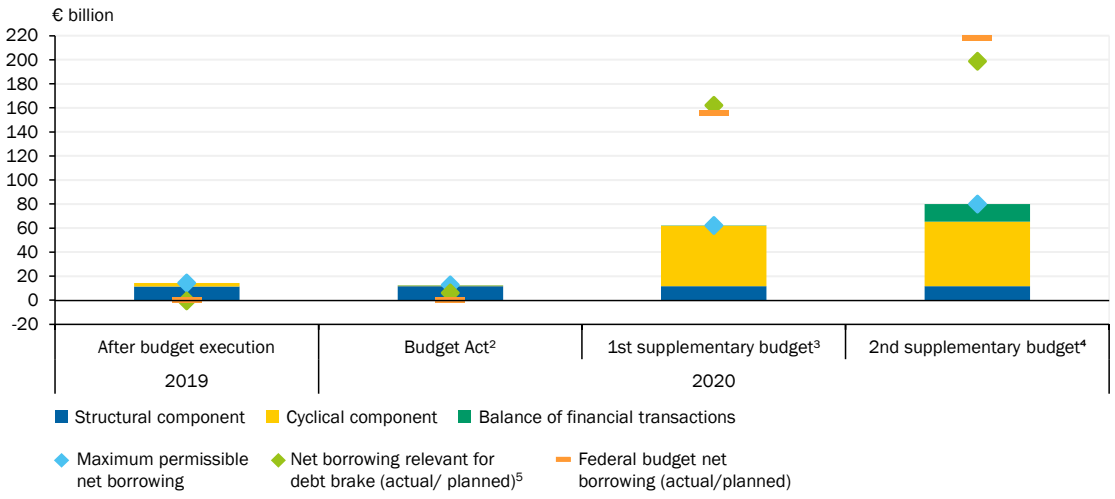
3. Consolidating public budgets

Debt brake requirements and structure of the repayment plans

215. While the budget act adopted at the end of 2019 did not provide for any net new borrowing for the Federal Government in 2020, the Federal Government is now assuming net new borrowing of up to €217.8 billion for 2020 under the two **supplementary budgets**. ↘ CHART 43 The first supplementary budget in March initially included credit authorisations to the amount of €156 billion in order to finance the package of measures on the impact of the coronavirus pandemic. The

↘ CHART 43

The Federal Government's borrowing limit according to the debt brake in 2019 and 2020[1]



1 – In 2020, the restriction on the maximum permissible net borrowing has no legally binding effect: the exception clause of the debt brake according to Art. 115 (2) sixth sentence of the Basic Law was applied. 2 – Version passed on 21 December 2019. 3 – As amended on 27 March 2020. 4 – As amended on 14 July 2020. 5 – Planned net borrowing in the federal budget minus the financial balances of federal funds and special funds.

Sources: BMF, own calculations

second supplementary budget in July increased these credit authorisations by an additional €61.8 billion in order to secure the financing of the stimulus package of €130 billion.

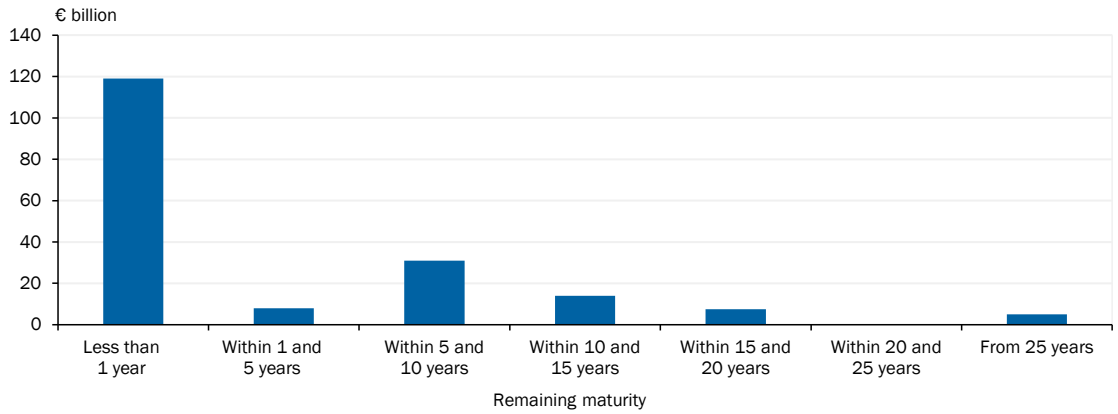
216. The net borrowing made possible by the two supplementary budgets, if fully exhausted, exceeds the net new borrowing permitted by the debt brake by €118.7 billion. This is allowed by activating the debt brake's exception clause. The provisions of Article 115 (2) sixth sentence of the Basic Law provide for a deviation from the borrowing limits in the event of natural disasters or extraordinary emergency situations that are outside the control of the government. For the 2021 budget, the Federal Government is rightly planning to make use of the **exception clause again** on account of the continuing extraordinary emergency situation.

217. For its **unscheduled new borrowing** related to the coronavirus pandemic, the Federal Government has so far largely issued **short-term bonds** and has used fewer long-term bonds. ↘ CHART 44 Short-term bonds make sense in a crisis due to low interest rates and temporarily higher demand, while issuing long-term bonds requires a certain amount of time lead in order to prepare for the market and assess demand. Nevertheless, the **low interest rate environment could** be used to increase the average maturities as in previous years (BMF, 2020h) and to fix the low interest rates in the longer term. For this purpose, in addition to the longest German government bond that has a maturity of 30 years, similar to other countries such as France or the United Kingdom, bonds with longer maturities such as 50 years could be used. This could provide better distribution of the fiscal burden of the pandemic with lower interest costs.

218. If the debt brake's exception clause is used, a repayment plan must be decided in accordance with Article 115 (2) seventh sentence of the Basic Law. The repayment plan includes the net new borrowing that exceeds the maximum permissible limit after the budget execution. In this process, the actual economic development and resulting consequences for the maximum permissible net new borrowing are

↘ CHART 44

Additional federal securities issued in 2020[1]



1 – Issues and planned issues of federal securities by the end of 2020 compared to the information in the issuance schedule for 2020 from December 2019.

Sources: German Finance Agency, own calculations

taken into account. The **repayment plan** approved by the Bundestag **for the supplementary budgets for 2020** provides for a **linear proportional repayment** over 20 years starting in 2023 (Deutscher Bundestag, 2020d). This means that annual payments of around €5.94 billion will be due for repayment until 2042, provided that the credit authorisations are fully exhausted. Another repayment plan will be necessary if it is decided, as planned, to make use of the debt brake's exception clause again for 2021. The draft budget for 2021 once again provides for a linear-proportional repayment plan from 2026 over a period of 17 years.

219. The requirements for the repayment plan in the Basic Law only specify a repayment period that is appropriate. There are no further formal requirements regarding the structure. Both the repayment plan for the supplementary budgets from 2020 and the budget for 2021 provide for proportional repayment independent of cyclical position. In certain circumstances, this could lead to additional procyclical burdens within the long-term repayment periods. In order to avoid this type of effect, a **cyclically sensitive structuring of the repayment plans** could be considered.

Comparable to the requirements of a theoretical repayment obligation from the **control account**, this structuring could be linked to the condition of a **specific change in the output gap** and a limit on the absolute amount of a repayment instalment. However, while this would enable cyclically sensitive repayment, it would apply a degree of uncertainty to the total duration of the repayment. Alternatively, this type of approach could be combined with a **minimum repayment period**. Regardless of the repayment period, moving away from proportional structuring of the repayment instalments could also be considered. Depending on economic expectations, the **rate of repayment** could be adjusted to be either **progressive** or **regressive**, for example. However, by way of qualification, it should be noted here that the repayment periods significantly exceed the usual forecast horizons and that therefore great uncertainty would surround the shape of repayments for most of the repayment period.

Last but not least, a repayment plan that shows a **target value for the debt-to-GDP ratio** instead of repayment of the absolute net new borrowing would be conceivable. This ratio is central to the sustainability of public finances and would thus be placed at the core of the repayment plan. For example, a return to the debt-to-GDP ratio prior to activating the escape clause of the debt brake could be a target value for such repayment. On a cautionary note, it should be borne in mind that, due to the uncertain development of the debt-to-GDP ratio and the lack of direct control over GDP development, any planning of repayment instalments in budgets within the repayment period will inevitably be associated with great uncertainty and inaccuracy. This debt-to-GDP ratio could also be used or postponed for further exemptions from the debt brake and repayment plans.

220. The Federal Government plans to revert to the **debt brake** requirements as of the budget for **2022**. To this end, it plans to completely exhaust the reserve built up in recent years by 2024. According to its own forecast, this should amount to

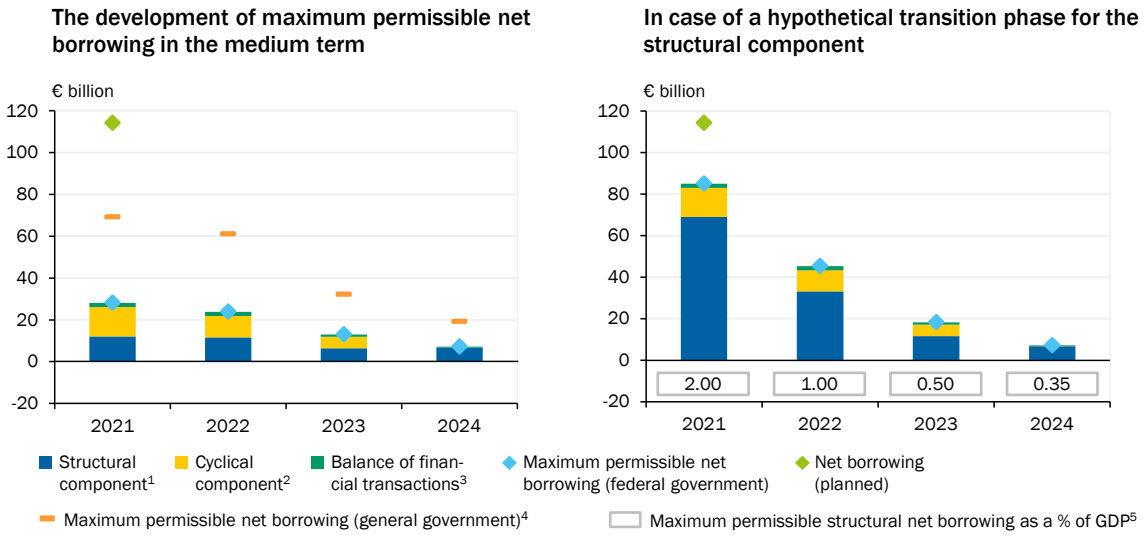
€48.2 billion by the end of 2021. Furthermore, **additional need for fiscal policy action** is included in the medium-term budget planning of the Federal Government to comply with the requirements of the debt brake. According to the Federal Government's medium-term budget plan, this need will amount to €9.9 billion in 2022, €16.4 billion in 2023 and €16.2 billion in 2024. While forecasting these amounts is subject to a degree of uncertainty, the Federal Government plans to use cyclically-induced additional revenue and reduced expenditure in full to cover these items.

221. Taking into account the Federal Government's interim forecast in September 2020, the **maximum permissible net borrowing** under the debt brake for the Federal Government in **2022** amounts to approximately **€23.8** billion. ↘ CHART 45 LEFT This figure is expected to decrease to €12.9 billion in 2023 and to €7.2 billion in 2024. While these limits apply to the Federal Government, the European fiscal rules set forth requirements for the general government. Taking into account the stipulations for the medium-term budgetary objective for the structural balance of –1 %, permissible new borrowing for the Federal Government together with the Länder, municipalities and social insurance amounts to around €61 billion in 2022. ↘ CHART 45 LEFT This value will drop to around €19 billion by 2024, not least because of the lower medium-term budgetary objective of –0.5 % of GDP.

222. A renewed **transition period** for the debt brake could be considered in order to address the specific fiscal challenges posed by the coronavirus pandemic. For example, the transition period between 2010 and 2016 provided for a gradual reduction in the amount of structurally permissible net new borrowing. Afterwards,

↘ CHART 45

The development of maximum permissible net borrowing in the medium term



1 – Structural components for the years 2023 and 2024 take into account the repayment obligation from the supplementary budget for 2020 amounting to around €5.9 billion per year. 2 – Calculated on the basis of the Federal Government's interim forecast of 1 September 2020. 3 – From the year 2022, values for financial transactions are obtained from the Federal Government's medium term budget planning for 2020 to 2024. 4 – According to the requirements of the European structural budget balance rule and with application of the medium-term budgetary objective for the structural budget balance of –1 % in 2021 and 2022 and of –0.5 % in the following years. 5 – Assuming a hypothetical transition phase for the structural component between 2021 and 2024 and a return to the statutory limit of 0.35 % by 2024.

Sources: BMF, BMWi, European Commission, own calculations

the balance of the control account was set to zero. A similar approach in principle could be considered for the period up to 2024. For example, assuming a structural scope for borrowing of 1 % for 2022, the Federal Government's permissible level of net new borrowing would amount to around €43 billion in 2022. ↘ CHART 45 RIGHT If this scope were to be reduced by 0.5 percentage points, the Federal Government would have a level of permissible new borrowing of around €23 billion in 2023. The balance of the control account could again be set to zero at the same time as the return to a structural scope of 0.35 % of GDP in 2024. At the end of the 2019 budget, this balance amounts to around €52 billion.

223. The extent to which concrete revenue or expenditure-side measures are required to carry out the government budget consolidation that is specified by the debt brake will, of course, depend on how actual revenue and expenditure develop over the coming years. A rapid recovery followed by sustained high growth, for example, would increase revenue while reducing the budget deficit and debt-to-GDP ratios. If the low interest-rate environment persists, the **state's interest savings** would continue to support consolidation. For example, Blanchard et al. (2020) and the IMF (2020) assume that interest rates will stagnate below the GDP growth rate for some time and thus make a substantial contribution to reducing the debt ratio. However, there is a certain risk of a reversal of the relationship between interest rates and growth (GCEE Annual Report 2019 Box 13). In addition, future demographic developments as well as a slowdown or some decline in globalisation could contribute to higher real interest rates.

224. To the extent that concrete consolidation measures become necessary, the **weighting of revenue-based and expenditure-based measures** is likely to have an impact on economic growth. The simulation results for the stimulus package, which examine the financing of these temporary measures, suggest that consolidation, even by means of only temporarily increased income taxes, has a more negative impact on economic growth than either reducing or lowering the increase in government spending. This result confirms earlier studies using other structural, macroeconomic models that take into account the resulting changes in the behaviour of households and companies. For example, Cogan et al. (2013) and Burgert and Wieland (2013) explore different consolidation strategies and find that **expenditure-based consolidations** that avoid an increase in distortionary income taxes are **associated with higher growth**. Wolters (2013) uses one such model to examine the consolidation plans of the member states of the euro area for the years 2012 to 2014. According to this model, the reduction in government spending due to falling debt interest provides greater financial scope. This can be used for tax cuts that have a long-term welfare-enhancing effect (GCEE Annual Report 2013 items 224 ff.).

225. Narrative identification approaches and vector autoregressive models provide **varying empirical evidence**. Alesina et al. (2019) use a narrative approach to identify successful consolidation episodes. Their results, based on 200 consolidation episodes in 16 industrialised countries, suggest that a reduction in the government debt level via the expenditure side has **less of an impact** on GDP than consolidation based on higher taxes. However, other studies based on time series

models suggest that a reduction in **government expenditure during a recession can have more negative effects** than a tax increase (Gechert and Rannenberg, 2018). With this in mind, consolidation should be avoided while the economy is in crisis. Mertens and Ravn (2012) and Christofzik et al. (2020) use narrative identification methods as part of a vector autoregressive time series model for the United States and Germany. They identify high positive multiplier effects from tax cuts in the longer term. However, there may be **temporary opposing effects on growth** if there is a longer period of time between announcement and implementation.

Supplementary budgets of the Länder, supporting the municipalities

226. In recent years, **all of the Länder have implemented the debt brake** constitutionally or within the framework of their budget laws. All Länder-specific debt brakes provide for an escape clause similar to that of the Federal Government. This clause allows the Länder to deviate from the structurally balanced

↘ CHART 46 [##398]

Credit authorisations of the Länder[1]

1 – BW-Baden-Württemberg, BB-Brandenburg, MV-Mecklenburg Western Pomerania, ST-Saxony-Anhalt, SN-Saxony, BY-Bavaria, SH-Schleswig-Holstein, BE-Berlin, SL-Saarland, NW-North Rhine-Westphalia, HE-Hesse, NI-Lower Saxony, HB-Bremen, TH-Thuringia, RP-Rhineland-Palatinate, HH-Hamburg. 2 – The expected tax revenues are taken from the most recent budgets or supplementary budgets.

Sources: Federal Statistical Office, Länder budgets, own calculations

budget otherwise required, if an emergency situation has been identified that is beyond the control of the government. Consequently, the Länder have included repayment obligations in the legal texts for net borrowing in the course of an emergency.

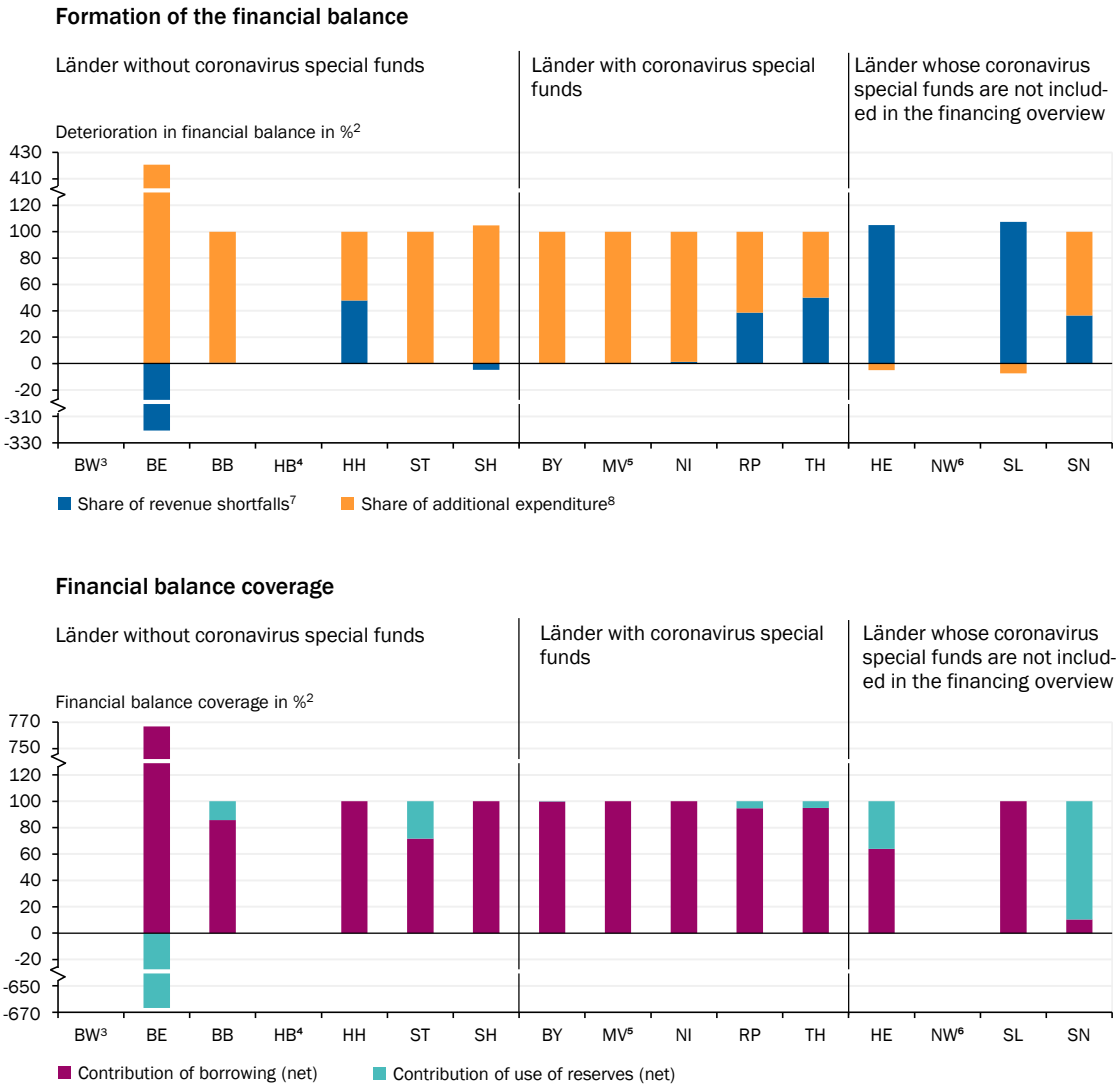
227. During the coronavirus pandemic and in the face of the resulting revenue shortfalls and additional expenditure, all of the Länder have decided on **additional credit authorisations** under the debt brake's escape clause in the current budget year. With the exception of Bremen, which only adopted the current budget in July of this year, all Länder have made use of supplementary budgets for this purpose. The credit authorisations range from €259 million in Saxony-Anhalt, which corresponds to 2.1 % of the total budget for 2020, to €25 billion in North Rhine-Westphalia, which corresponds to around 31.2 % of the total budget. ↘ CHART 46 Overall, the current budget plans of the Länder, including the supplementary budgets and the newly created special funds, include an increase in net borrowing of over €100 billion compared to the budget plans prior to the pandemic. In addition, the governments of the Länder of Baden-Württemberg, Mecklenburg-Western Pomerania and Schleswig-Holstein have submitted bills for additional supplementary budgets to their respective state parliaments.

228. An analysis of the **changes in the budget balances** in the **supplementary budgets** shows that most of the Länder are primarily planning on additional spending. ↘ CHART 47 This mainly applies to the Länder that passed their supplementary budgets in the spring. At that time, it was difficult to estimate the expected revenue shortfalls. The supplementary budgets of Hesse and Saarland were only passed in July and June. These almost exclusively make provision for compensation for reduced tax revenues. In terms of contribution to financing, some Länder have **drawn on reserves**, besides taking out additional loans. Berlin in contrast has topped up the reserve with €5.5 billion from the €6 billion borrowed. According to the latest figures, the budget balance for the Länder as a whole in July was – €27 billion, or €34.4 billion below the previous year's figure. (BMF, 2020i). Extensive transfers from the federal government to the Länder as part of the stimulus package prevent an uneven and larger decline. In particular, tax revenues in July fell by 6.9 % compared to the previous year.

229. Some Länder have transferred the income from the additional credit authorisations to a **special fund.** This will be used to finance the crisis-related revenue shortfalls and additional expenditure in the coming years. These special funds have differing legal structures, depending on the different Länder, and are thus presented differently in the financing overviews of the supplementary budgets. With its **Act on Securing a Positive Future** *(Gute-Zukunft-Sicherungsgesetz),* Hesse has created a fund totalling €12 billion in addition to the supplementary budget. The repayment plan for this fund deviates from the strict requirements of the implementing law of the state debt brake. In addition to the financing of their budget, Saxony and the Saarland have decided on credit authorisations for their newly created special funds. North Rhine-Westphalia's Supplementary Budget Act provides for a credit authorisation of up to €25 billion for pre-financing of a pandemic special fund.

↘ CHART 47

Financial balance changes and their coverage in the Länder supplementary budgets for 2020[1]



1 – BW-Baden Württemberg, BE-Berlin, BB-Brandenburg, HB-Bremen, HH-Hamburg, ST-Saxony-Anhalt, SH-Schleswig-Holstein, BY-Bavaria, MV-Mecklenburg-Western Pomerania, NI-Lower Saxony, RP-Rhineland-Palatinate, TH-Thuringia, HE-Hesse, NW-North Rhine-Westphalia, SL-Saarland, SN Saxony. 2 – Changes to the respective positions as a percentage of the financial balance. 3 – As at October 2020, no updated financial overview was available for Baden-Württemberg. 4 – As at October 2020, Bremen had not passed a supplementary budget for 2020. 5 – In the 2020 budget Mecklenburg-Western Pomerania has borrowed up to €700 million to cover expenditure needed to combat the coronavirus pandemic. Since no updated financial overview was available as at October 2020, the amount was added to expenditure. 6 – North Rhine-Westphalia has not published an updated financial overview as part of the two supplementary budgets passed in 2020. 7 – Revenues without borrowing, use of reserves, revenues from surpluses; positive values denote a decrease in revenue in the supplementary budget. 8 – Expenditure without repayment of loans, allocation to reserves and expenditure to cover shortfalls; positive values denote an increase in expenditure in the supplementary budget.

230. The special funds are earmarked to mitigate the consequences of the crisis. ↘ TABLE 13 They are used to finance expenditure on **health protection**, the Länder shares of the **Federal Government's stimulus measures** and municipal support programmes. Some Länder have combined the investment expenditure goals with other objectives, such as climate protection and intensification of digitisation. The Bavaria Fund will mobilise up to €26 billion to provide guarantees to companies and a further €20 billion to buy stakes in companies. However, the **levels of funding** from the special funds do **not necessarily correspond** to the resulting **fiscal stimulus**, since they are not solely used to finance additional

↘ TABLE 13

Länder special funds bundling coronavirus-related costs

	Volume (in € billion)	The three largest individual measures according to financing needs	Time limit (where foreseeable)
BY	20.0	Guarantees for companies: € 26 billion Equity investment in companies: € 20 billion	Stabilisation measures feasible: 2021 (thereafter only for already existing equity investments)
HE	12.0	Financing of losses in tax revenue: € 5 billion Support for municipalities: € 2.5 billion Support for companies and investment funding: € 1.8 billion	Financing of measures: 2023 Time limit for special fund: 2050
MV[2]	0.7	Support measures for companies Support measures for healthcare system Digitisation measures	–
NI	7.0	Financing of losses in tax revenue: € 1.4 billion Support for municipalities: € 1.1 billion Financing of the Second Coronavirus Tax Assistance Act of the Federal Government: € 1.1 billion	–
NW[3]	25.0	Investment in healthcare system Additions to the Federal Government's stimulus package Support for municipalities	–
RP	1.1	Compensation to municipalities for losses in trade tax revenue: € 0.253 billion Support for companies: € 0.25 billion Pandemic prevention in healthcare system: € 0.16 billion	Approval of measures: 2022 Expenditure carried out: 2023 Time limit of special fund: 2023
SL[4]	0.8	Compensation to municipalities for losses in trade tax revenue: € 0.09 billion Financing of losses in tax revenue: € 0.08 billion Hospital special fund: € 0.08 billion	Resources available: 2024 Financing of expenditure: 2055 Resolution of special fund: 2055
SN	6.9	Reinforcement funds for expenditure related to pandemic: € 4.7 billion Financing of losses in tax revenue: € 1.8 billion Healthcare system support: € 0.152 billion	Resources available: 2022 Financing of expenditure: 2030 Resolution of special fund: 2030
TH	1.4	Coronavirus aid from the Federal Government: € 0.288 billion Compensation to municipalities for losses in trade tax revenue: € 0.185 billion Reimbursements under the COVID-19 Hospital Relief Act: € 0.178 billion	Time limit of special fund: 2021

1 – BY-Bavaria, HE-Hesse, MV Mecklenburg-Western Pomerania, NI-Lower Saxony, NW-North Rhine-Westphalia, RP-Rhineland-Palatinate, SL-Saarland, SN-Saxony, TH-Thuringia. 2 – The order of the individual measures does not reflect the financing needs. 3 – The order of the individual measures does not necessarily reflect the financing needs, since the contributions from the special fund to top up federal funds are not clearly traceable. 4 – According to the current economic plan, the value of the Saarland special fund is € 759 million. However, the Saarland Ministry of Finance and Europe is authorised to take out loans of up to € 1.4 billion to cover the dis-bursements of the special fund.

Sources: Special funds legislation and Länder supplementary budgets

expenditure. For example, most Länder also use their special funds to compensate for the crisis-induced tax revenue shortfalls in their core budgets.

231. The coronavirus crisis has severely affected not only the **fiscal situation** of the Federal Government and the Länder, but also that of municipalities. Many municipalities were already in a tight budget situation beforehand. Aside from federal government support measures, such as the long-term increase in the federal share of covering accommodation costs for the long-term unemployed and expenditure on expanding childcare, all-day schools or the public health service (BMF, 2020j),

↘ TABLE 14

Financial support provided to the municipalities by the Länder[1]

	BW	BY	BB	HE	MV	NI	NW	RP	SL	SN	ST	SH	TH
GewSt compensation payments[2]	1,000	1,300	180	661	60	400	1,400	253	85	453	81	275	100
Funding from KFA[3]	1,000		212		103	600		400	55			92	85
Local public transport grants	237	255				220	300	75	65			5	41
Grants for care services, etc.	250	200							10	60	15	105	31
Other	210	400	96	489	38	253	1,002	100	410	148	130	152	45
Total	2,697	2,155	488	1,150	201	1,473	2,702	828	625	660	226	629	302

1 – In € million. Without the city-states of Berlin, Bremen and Hamburg. BW-Baden-Wurttemberg, BY-Bavaria, BB-Brandenburg, HE-Hessen, MV-Mecklenburg-Vorpommern, NI-Lower Saxony, NW-North Rhine-Westphalia, RP-Rhineland-Palatinate, SL-Saarland, SN-Saxony, ST-Saxony-Anhalt, SH-Schleswig-Holstein, TH-Thuringia. 2 – GewSt-Local business tax. For 2020 in BW, BY, HE, NW, ST, TH and for 2020 and 2021 in BB, MV, NI, RP, SL, SN, SH. 3 – KFA-Fiscal equalisation among municipalities.

Source: Länder

the **Länder** have initiated **various financial supports for the municipalities**. ↘ TABLE 14 In addition to their respective shares in reimbursing local business tax losses, most Länder provide one-off relief to their municipalities in addition to stocking up of federal funds, for public transport or childcare for example. In addition, funds will be made available for municipal revenue sharing. Some measures focus on providing liquidity by advancing payments to municipalities, while allowing them to defer their payments due. Some municipalities can therefore expect to face a higher burden in the next financial year.

232. For the most part, the Länder measures do **not provide for long-term relief for municipal budgets**. However, the Federal Government's adoption of a greater proportion of the costs of housing of the long-term unemployed provides considerable support to the municipalities. North Rhine-Westphalia and Hesse are addressing the municipalities' debt problems as part of their coronavirus aid programmes. Hesse implemented a 50 % payment suspension for the municipalities' own shares in the Hessenkasse support programme and released the municipalities from the "*Schutzschirm*" umbrella programme earlier than scheduled. However, there is no long-term relief or structural support for municipal budgets. In North Rhine-Westphalia, the 64 particularly heavily indebted municipalities participating in the "*Stärkungspakt*" compact have access to an additional €342 million.

233. The **repayment plans** required for borrowing under the escape clause vary widely between Länder. In particular, they differ in terms of **loan repayment start dates**, the maximum planned **duration** of debt repayment and the annual repayment amount. ↘ TABLE 15 While Saxony-Anhalt plans to fully repay the debt raised within three years from 2022, North Rhine-Westphalia's supplementary budget provides for a debt reduction **corresponding to the economic situation** within a maximum of 50 years. Rhineland-Palatinate's repayment plan is based exclusively on the economic development of the state. As of 2024, 6 % of the loan amount will be repaid in years with a positive cyclical component, while

↘ TABLE 15

Länder repayment plans[1]

	BW	BY	BE	BB	HB	HH	HE[2]	MV	NI	NW	RP[3]	SL[4]	SN[5]	ST[6]	SH	TH[7]
Start	2024	2024	2023	2022	2024	2025	2021	2024	2024	?	2024	2025	2023–2025	2022	2023	2022
Maximum repayment period (years)	10	20	27	30	30	20	7 / 30	10	25	50	17 – 25	30	6	3	20	5
Highest possible annual repayment (€ million)	500	1,000	222	66	30	128	84–337 / 200–445	70	352	?	138 – 207	47	1 000	59 – 100	50	364

1 – BW-Baden-Württemberg, BY-Bavaria, BE-Berlin, BB-Brandenburg, HB-Bremen, HH-Hamburg, HE-Hesse, MV- Mecklenburg Western Pomerania, NI-Lower Saxony, NW-North Rhine-Westphalia, RP-Rhineland-Palatinate, SL-Saarland, SN-Saxony, ST-Saxony-Anhalt, SH-Schleswig-Holstein, TH-Thuringia. 2 – The repayment plan provided for in the second supplementary budget includes a repayment of 5 % of the loan amount annually in 2021 and 2022, 10 % in 2023 and 20 % annually from 2024 to 2027. The repayment plan for the "Hessens gute Zukunft sichern" special fund includes repayment of €200 million annually from 2021 to 2023, €300 million euros annually from 2024 to 2026, €400 million annually from 2027 to 2030 and 5 % of the amount remaining after 2030 in each case in the years 2031 to 2050. 3 – Rhineland-Palatinate's repayment plan includes a repayment of 4 % of the loan amount in years with a negative cyclical component and 6 % in years with a positive cyclical component. 4 – The repayment amount relates to full use of the credit authorisation in the "Pandemic" fund. 5 – Repayment in accordance with the Saxony Act on the Coronavirus Recovery Fund (Corona-bewältigungsfondsgesetz); loans can be taken out until 2022, and repayment begins in the third year after the loan was taken out. 6 – The repayment plan in Saxony-Anhalt provides for a repayment of €100 million in each of the years 2022 and 2023 as well as a final instalment of the remaining approximately €59 million in 2024. 7 – Repayment plan according to the medium-term financial plan for the years 2020 to 2024.

Sources: Länder budgets, own calculations

4 % will be repaid in years with a negative cyclical component. The maximum repayment period varies accordingly between less than 17 years and 25 years. The plan for the Hessian special fund provides for a total repayment by 2050 with gradually increasing repayment amounts. Compared to the seven-year repayment set in the state constitution, which applies to borrowing in the state budget, this offers significant relief in the years to come.

234. In contrast to the Federal Government and the Länder, the municipalities are not included in the regulations of the debt brake. They can use loans for debt rescheduling and for charges arising from interest and principal payments, provided that their fiscal capacity is not exceeded. Furthermore, based on the principle of the golden rule, municipalities can take out loans to the value of their public investments. Liquidity loans are intended only to compensate for subannual liquidity shortages. The extraordinary additional burdens on municipal budgets imposed by the coronavirus pandemic could lead to a significant increase in debt through liquidity loans. This poses the risk that **liquid loans**, contrary to their actual purpose, will continue to be used **systematically to finance current municipal expenditure**. It is therefore appropriate for the Länder to ensure that their municipalities are adequately supplied with finance.

A differing opinion

235. One of the GCEE members, Achim Truger, disagrees with the opinions expressed by the majority of Council members in Chapter 2 "Stabilisation policy amid the coronavirus crisis" on some points. His dissenting view mainly concerns the question of the **fiscal consolidation strategy**, not least against the background of the **risks of the debt brake**.

236. In the event that an active consolidation of public budgets become necessary, **the majority of Council members tends to favour expenditure-based consolidation**. This approach is justified by the model simulations carried out and by results from the literature. ↘ ITEM 224 F. However, neither justification stands up to further examination: Both macroeconomic model analyses and the empirical literature about the fiscal multiplier just as plausibly permit or indeed even suggest the opposite conclusion. This conclusion could, if necessary, just as well justify a **revenue-based consolidation through higher taxes or levies** from a macroeconomic point of view.

237. In the simulation of the stimulus package using a model estimated for Germany that is based on the study by Drautzburg and Uhlig (2015) for the United States, higher taxes on labour and capital in the consolidation assumed from 2023 onwards lead to more negative effects on GDP than an expenditure-based reduction in lump-sum transfers or government consumption. However, **sensitivity analyses** with the model show that the differences between consolidation via government consumption or via taxes respond **noticeably to variations in the model parameters**. For example, the difference between revenue-based and expenditure-based consolidation is significantly reduced, especially in the medium term, if the proportion of credit-constrained households is increased to 50 % or if the labour supply elasticity is reduced by 25 %. ↘ TABLE 12 Even within the given model framework, the question therefore arises as to whether far-reaching conclusions on strategy can be drawn based on quantitative differences that are possibly relatively small between the consolidation strategies.

238. **Other new-Keynesian empirical models** arrive at **systematically higher multipliers on the expenditure side compared to the revenue side**. This applies, for example, to detailed simulations of the level of the fiscal multiplier for individual countries in the euro area with the widely used National Institute Global Econometric Model (NIGEM): "Our analysis suggests that fiscal multipliers arising from government spending measures are larger than those arising from changes in taxation." (Carreras et al., 2016). This also applies to Germany in the simulations.

239. The overview article by Ramey (2019) on the macroeconomic effects of fiscal policy also shows multiplier values for the model class of **dynamic stochastic general equilibrium models** (DSGE), which at least do **not differ systematically** in terms of the expenditure and revenue sides.

240. For empirical **time series-based studies**, the Ramey survey (2019) shows, for the most part, significantly higher multipliers on the revenue side than on the expenditure side. However, Caldara and Kamps (2017) show that the strategy of **identifying fiscal shocks** plays a crucial role in estimating multipliers in time series studies. Using a new identification strategy, applied to essential studies from the literature, they revise their results and conclude that **expenditure-based multipliers** are higher than revenue-based multipliers. Finally, and contrary to the narrative studies listed by the majority of Council members, Gechert et al. (2020b) conclude higher multipliers on the expenditure side in their narrative study.

241. In a meta-regression analysis of 104 empirical studies of the fiscal multiplier, Gechert (2015) arrives at the conclusion that the **multiplier for government consumption is close to one** and 0.3 to 0.4 points **higher than the tax and transfer multipliers**. The study shows the multiplier of public investment to be most systematically the largest. In a meta-analysis of 98 empirical studies, Gechert and Rannenberg (2018) also tend to identify a higher expenditure-based multiplier, which proves to be **particularly high during a downturn**, while the revenue-based multiplier seems to be lower than the expenditure-based multiplier, but independent of the economic cycle.

242. Due to the current high level of uncertainty, especially given the second wave of infections and the necessary health policy measures, the precise **impact of the crisis on public finances** in the coming years is difficult to predict. The annual report therefore does not provide any specific information on the correct time for consolidation nor on the level of consolidation requirements. The majority of the Council members also rightly draws attention **to the need for growth-friendly consolidation** and mentions fiscal policy options such as an extended path of debt reduction for the Federal Government's structural deficit or a cyclically aligned repayment plan.

However, in view of the **exceptional nature of the situation** in the midst of a global pandemic and the deep economic crisis it has caused, it is necessary to explicitly warn fiscal policymakers in the Federal Government and Länder of **prematurely adopting a consolidation course** – an undisputed necessity in the medium term – and also of the **risks of the debt brake** in this regard.

243. Discretionary expenditure cuts and/or increases in taxes and levies should therefore be avoided for the foreseeable future. **Premature consolidation measures** can lead to strong **negative effects on economic output**, which could also reduce potential output in the long term due to hysteresis effects. (Fatás and Summers, 2018). The rapid fiscal consolidation following the global financial and economic crisis in Germany was not driven not by spending cuts or tax increases, but was mostly due to the expiry of stimulus measures and the surprisingly fast and dynamic economic recovery (Rietzler and Truger, 2019).

244. For these reasons, the fiscal policy of the federal and state governments should **actively** make use of the **scope** provided by the debt brake **for economic stabilisation and strengthening public investment**. In particular, the Länder should make use of the leeway to protect their **municipalities** from the fiscal burdens caused by the crisis and, where necessary, to allow for the **repayment of historical debts**. Otherwise, there is a risk of serious and macroeconomically counterproductive cuts to public investment in cash-strapped municipalities.

To address this issue first and foremost, the debt brake's **escape clause** in the federal and state governments should be applied for **as long as necessary**, possibly within the framework of a path of debt reduction for the structural deficit; at present, there is no need to define the number of years (for example to 2022 as currently envisaged by the Federal Government). Second, the **repayment plans** for loans taken under the debt brake's escape clause should be **significantly ex-**

tended. Third, there is an urgent need to adjust the **method of cyclical adjustment** used under the debt brake. In the short term, revisions of potential output could be dispensed with or the path of potential output could be subjected to significant statistical smoothing (Gechert et al., 2020a).

245. The **risks** of the method of **cyclical adjustment** used so far by the European Union can be illustrated using the example of the revision of the Federal Government's macroeconomic projection from autumn 2019 to spring 2020. Potential output for 2021 was revised downwards by 2.4 % in real terms and 2.9 % in nominal terms between the autumn projection 2019 and the spring projection in 2020. In the years 2022 to 2024, which apply to the fiscal planning of the federal and state budgets, the revision rises continuously to 3.0 % in real terms and 3.7 % in nominal terms in 2024. As a result, the **general government structural balance deteriorated** by 1.6 percentage points in 2021 and by some 2.1 percentage points in 2024. For the Federal Government, the deterioration in the structural balance caused by revisions amounts to 0.6 % of GDP in 2021, or some €20 billion, while in 2024 it is already 0.9 % of GDP (Gechert et al., 2020a). The Federal Government's autumn projection, available since 30 October, does not qualitatively alter the above diagnosis.

246. **Permanent tax cuts for households and businesses,** as discussed by the majority of Council members ↘ ITEM 162, or as a possible further element of a new stimulus package↘ ITEM 195 **are highly problematic in terms of fiscal policy**. These would cause structural revenue losses in the public budgets and lead to unnecessary consolidation pressures on the expenditure side. An economic policy measure worth considering, on the other hand, would be a temporary re-launch of the child bonus, which very effectively provides relief to households with low and medium incomes but was only allocated the modest sum of €300 per child in the stimulus package adopted in the summer. (Gechert et al., 2020a).

247. There is no doubt that fiscal consolidation is useful and necessary in the event of a sustained recovery. However, this does not necessarily mean returning to compliance with an unchanged fiscal framework. On the contrary, the German **debt brake** can be said to exhibit a **fundamental need for reform**, especially with regard to the possibility of long-term credit financing of public investment (**golden rule of public investment**) (Truger, 2016; Expertise 2007; GCEE Annual Report 2019 items 562 ff., MV Schnabel and Truger). In this regard, the reform debate initiated before the current crisis should be continued.

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