



Economy ready for take-off – election polls hanging in the balance

- German growth: Ready for take-off.** The catalysts for a strong expansion of the German economy during the summer half are falling into place: Global demand is picking up strongly and the vaccination momentum is finally accelerating. The 7.7% mom jump in March retail sales is – in our view – a strong indication for pent-up consumer demand. The phase-out of lockdown restrictions for those fully vaccinated or negatively tested, suggest to us that by the end of May the lockdown impact will have substantially eased. These developments are in line with our earlier expectations. Still, given the slightly smaller than expected drop of Q1 GDP (-1.7%) and upward revisions to H2 2020, we have lifted our GDP forecast for 2021 from 3.7% to 4.0%. Inflation has risen beyond what was assumed given higher energy prices and basis effects from last year’s temporary VAT reduction. We now expect inflation (national def.) to average 2.5% (vs. 2.2% before) in 2021.
- Work from home percentage likely to peak in a few years’ time.** COVID-19-related government regulations seem to have lifted the work from home percentage by about 7 pp. However, the working from home boom stems not just from a significant increase in the sheer number of remote workers, but also from the fact that those who already had the option used it more extensively. As soon as infection risks abate, people are likely to return to the office for the time being, mostly because they prefer more direct and, above all, personal interaction with their colleagues. In the medium term, however, the work from home percentage will probably rise again due to the broadly positive experience during the pandemic. It is likely to peak at about 35%, i.e. below the potential rate of just above 45%.
- Coalition options – nothing is impossible (at least arithmetically).** The nominations of Annalena Baerbock and Armin Laschet as chancellor candidates have clearly helped the Greens to gain ground. They might not only be the kingmaker for the next government, but could now even appoint the next chancellor. The current shift in voters’ sentiment allows for a whole bunch of coalition options. We continue to attach a marginally higher probability to a black-green government compared to a Greens-led traffic light coalition with the SPD and the Liberals. Only the right-wing AfD has been ruled out as partner by all others. It remains to be seen whether the honeymoon of Mrs. Baerbock and the German voters will last until election day in September, as the green chancellor candidate now needs to explain to the voters how exactly she wants to achieve her policy proposals.

[Stefan Schneider](#)

Chief Economist
+49-69-910-31790

[Barbara Boettcher](#)

Senior Economist
+49-69-910-31787

[Jochen Moebert](#)

Senior Economist
+49-69-910-31727

[Marion Muehlberger](#)

Senior Economist
+49-69-910-31815

[Marc Schattenberg](#)

Senior Economist
+49-69-910-31875

Table of Content	
Forecast tables	2
German growth: Ready for take-off	3
Work from home percentage likely to peak in a few years’ time	7
Coalition options – nothing is impossible (at least arithmetically)	10
Data calendar	14
Financial forecasts	15
Data monitor	16



Key Economic Forecasts

Figure 1: Economic Forecasts

	Real GDP (% growth)			Consumer Prices (% growth)			Current Account (% of GDP)			Fiscal Balance (% of GDP)		
	2020	2021F	2022F	2020	2021F	2022F	2020	2021F	2022F	2020	2021F	2022F
Euroland	-6.7	4.6	4.8	0.3	1.7	1.1	2.0	2.3	2.6	-7.2	-7.4	-4.6
Germany	-4.9	4.0	4.2	0.4	2.3	1.1	7.1	6.2	5.9	-4.2	-5.9	-1.7
France	-8.2	6.2	4.5	0.5	1.4	1.3	-2.5	-1.5	-0.9	-9.2	-6.7	-4.1
Italy	-8.9	4.9	5.1	-0.1	0.9	0.7	3.6	3.4	2.7	-9.5	-10.0	-8.3
Spain	-10.8	6.3	7.4	-0.3	1.3	0.8	2.0	2.8	2.8	-11.0	-9.2	-5.3
Netherlands	-3.8	1.5	2.8	1.1	1.5	1.3	10.0	10.2	9.5	-8.0	-7.9	-6.2
Belgium	-6.3	4.2	3.9	0.4	1.7	1.2	0.0	-0.1	-0.7	-12.7	-9.4	-10.1
Austria	-6.6	2.9	5.1	1.4	1.4	0.5	2.1	2.6	2.8	-9.6	-7.2	-2.9
Finland	-2.8	2.2	3.0	0.4	1.9	0.9	-0.2	-0.5	-1.0	-8.0	-5.9	-4.1
Greece	-10.0	2.0	6.1	-1.3	-0.6	0.0	-7.4	-5.4	-4.2	-9.6	-7.2	-7.4
Portugal	-7.6	4.6	4.6	-0.1	1.2	0.9	-1.3	-0.5	-0.5	-9.1	-6.3	-6.8
Ireland	2.5	3.5	5.1	-0.5	1.3	0.2	5.0	7.5	10.0	-7.1	-5.7	-2.8
UK	-9.8	6.0	4.8	0.9	1.7	1.6	-3.1	-4.5	-5.1	-14.5	-8.9	-4.4
Sweden	-3.0	3.3	3.0	0.7	1.2	1.4	5.2	4.2	4.0	-3.1	-2.5	-1.5
Denmark	-2.7	3.5	2.5	0.3	1.0	1.2	7.8	6.8	7.0	-1.1	-2.6	-1.9
Norway	-1.3	3.5	2.7	1.3	2.8	1.9	1.9	4.0	4.2	-3.4	2.0	4.1
Switzerland	-3.0	3.7	2.8	-0.7	0.1	0.4	3.8	8.9	9.6	-2.6	-1.7	-0.7
Poland	-2.7	4.5	4.0	3.4	3.5	3.6	3.5	1.9	1.2	-4.8	-3.7	-3.3
Hungary	-5.0	4.7	5.2	3.3	3.8	4.0	-0.8	-0.5	-0.5	-8.1	-5.8	-4.5
Czech Republic	-5.6	3.9	4.3	3.2	2.4	2.3	1.1	0.3	0.1	-6.2	-6.3	-5.0
United States	-3.5	7.0	4.7	1.2	3.0	2.1	-3.1	-3.5	-3.5	-15.4	-14.3	-5.6
Japan	-4.9	2.7	2.3	0.0	0.2	0.6	3.3	4.4	4.5	-17.0	-13.3	-8.5
China	2.3	9.5	5.8	2.5	1.4	2.3	1.9	2.5	2.0	-6.2	-5.0	-4.2
World	-3.2	6.3		2.6	3.3							

Note: 2021/22 inflation forecasts for the Euro area and its member states (harmonised index of consumer prices) have not yet been revised subsequently the January 2021 prints.
Source: National Authorities, Deutsche Bank

Figure 2: Forecasts: German GDP growth by components, % qoq; annual data % yoy

	2019	2020	2021F	2022F	2020				2021			
					Q1	Q2	Q3	Q4	Q1F	Q2F	Q3F	Q4F
Real GDP	0.6	-4.9	4.0	4.2	-2.0	-9.7	8.7	0.5	-1.7	2.0	4.0	1.5
Private consumption	1.6	-6.1	-0.3	4.7	-2.3	-11.0	10.8	-3.3	-4.6	2.2	5.8	0.8
Gov't expenditure	2.7	3.3	2.2	0.3	0.6	2.1	0.6	-0.5	1.5	0.2	0.2	0.2
Fixed investment	2.5	-3.1	4.0	4.8	-0.8	-6.6	3.9	1.0	-0.4	2.2	2.0	1.6
Investment in M&E	0.5	-12.1	10.1	6.4	-6.9	-15.1	15.9	-0.1	2.0	2.0	4.0	3.0
Construction	3.8	1.9	0.8	3.6	4.3	-4.3	-1.3	1.8	-2.0	3.0	1.0	0.8
Inventories, pp	-0.7	-0.8	-0.7	-0.6	0.0	0.0	-2.0	1.4	-0.3	0.2	-0.1	0.0
Exports	1.0	-9.4	15.6	8.0	-3.3	-20.4	18.0	4.5	-1.0	9.1	5.0	3.0
Imports	2.6	-8.5	11.1	7.6	-2.0	-15.9	9.0	3.7	-2.0	10.1	4.2	2.0
Net exports, pp	-0.6	-0.9	2.6	0.8	-0.7	-2.9	3.9	0.6	0.4	0.2	0.7	0.7
Consumer prices*	1.4	0.5	2.5	1.5								
Unemployment rate, %	5.0	5.9	6.0	5.9								
Industrial production**	-4.2	-9.6	8.0	5.0								
Budget balance, % GDP	1.5	-4.2	-5.9	-1.7								
Public debt, % GDP	59.7	69.8	72.6	69.8								
Balance on current account, % GDP	7.1	7.1	6.2	5.9								
Balance on current account, EUR bn	267.1	220.6	215.0	212.0								

*Inflation data for Germany based on national definition. This can lead to discrepancies to other DB publications. **Manufacturing (NACE C)
Source: Federal Statistical Office, Deutsche Bank Research



German growth: Ready for take-off

- The catalysts for a strong expansion of the German economy during the summer half are falling into place: Global demand is picking up strongly and the vaccination momentum is finally accelerating.
- The 7.7% mom jump in March retail sales is – in our view – a strong indication for pent-up consumer demand. The phase-out of lockdown restrictions for those fully vaccinated or negatively tested suggest to us that by the end of May the lockdown impact will have substantially eased.
- These developments are in line with our earlier expectations. Still, given the slightly smaller than expected drop of Q1 GDP (-1.7%) and upward revisions to H2 2020, we have lifted our GDP forecast for 2021 from 3.7% to 4.0%.
- Inflation has risen beyond what was assumed given higher energy prices and basis effects from last year's temporary VAT reduction. We now expect inflation (national def.) to average 2.5% (vs. 2.2% before) in 2021.

Strong external momentum

Since November last year real world trade has been rising at the 1.0% mom. In February it exceeded its pre-COVID-19 level by 3.6%. Although the momentum might initially be curtailed by transport shortages, the Baltic Dry Index has increased by 60% compared to its Q4 2019 level, spot rates at the Shanghai container transport market have almost tripled during the same time, the more and more synchronized global recovery should allow for double-digit growth rates during summer. The Bundesbank's leading indicator of global industrial production has been rising strongly in recent months. This index is a good leading indicator for Germany's foreign order intake. The modest correction of the PMI new export order index (from 69.1 to 67.5) in April might be a first indication of transport shortages. However, more forward-looking export expectations in the ifo index, are just two points shy of their all-time high reached in January 2011. Export expectations in the investment goods sector even recorded a new all-time high in April.

Figure 3: Shanghai Containerized Freight Index (SCFI) and Baltic Dry Index



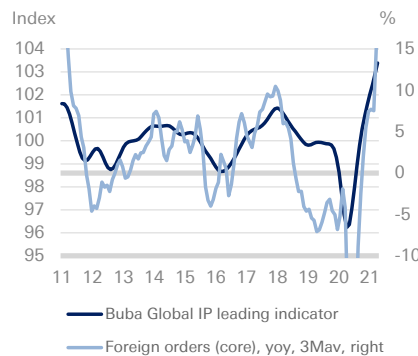
Source: Bloomberg Finance LP, Shanghai Shipping Exchange

Figure 4: Positive export outlook



Source: ifo, IHS Markit, CPB, EU Commission

Figure 5: Foreign orders & global IP (LEI)



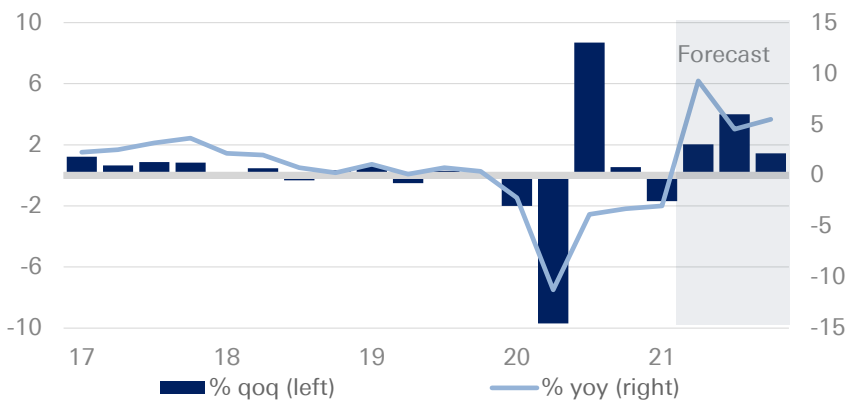
Source: Deutsche Bundesbank



COVID-19: Third wave breaking, substantial reopening during May

There is increasing evidence that the peak of the third wave is behind us. The seven-day incidence per 100k has dropped to 125,7 compared to 197 in late December. Given warmer temperatures and the accelerating vaccination progress – 31.5% (May 6) of the total population have received their first inoculation and 8.8% are fully protected – we expect the seven-day incidence to decline below 50 in the coming weeks, assuming we will be spared more aggressive mutations. The substantial reduction of restrictions for those fully vaccinated or recovered has just been decided.

Figure 8: German GDP growth set to speed up with easing of social distancing



Source: Federal Statistical Office, Deutsche Bank Research

Q1 GDP drop driven by shrinking private consumption

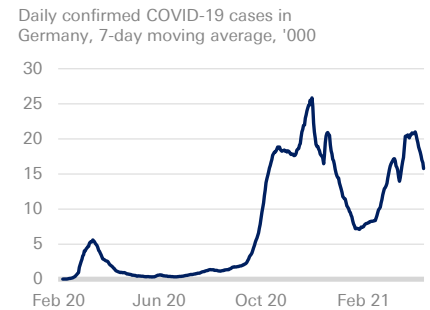
According to the statistical office's commentary, Q1 GDP was dragged down by private consumption (retail sales fell 6.9% qoq), while net exports contributed to growth. Already during Q1 the dichotomy between accelerating external demand and domestic demand, pulled down by COVID-19 restrictions, has started to vanish. Retail sales, which slumped in December (-8.0% mom) and in January (-6.2%), improved by 2.7% in February before surging by 7.7% in March. New car registrations (90% yoy) are creeping higher month-to-month. Business surveys in the service sector have retreated slightly in April but remain in neutral (PMI 49.9) or slightly positive (ifo 3.5) territory.

Sectoral bottlenecks slowed manufacturing output in Q1, despite bulging order books

New orders are rising by an accelerating rate since the start of the year (February's rise got revised up to 1.4% from 1.2%, Jan +0.8%). The March increase was propelled by big-ticket orders, ex. big ticket orders rose by 1.6%. The year-over-year rate surged to 27.8%, obviously the result of the dramatic 2020 lockdown basis effect. However, even compared to February 2020, i.e. before COVID-19 hit, orders are up by 9.1%.

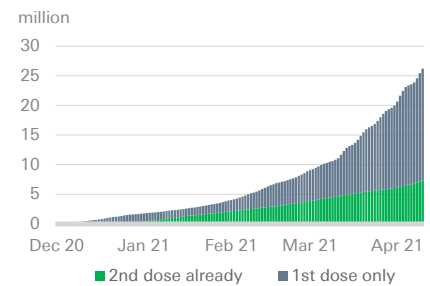
Despite the very good order situation, manufacturing output in Q1 declined slightly by almost 0.3% qoq. The main reason was supply bottlenecks for intermediate products, which slowed production in the automotive industry (-12.2% qoq). In contrast, output in the mechanical engineering (6% qoq) and electrical equipment (3.8% qoq) sectors, for example, increased significantly in Q1.

Figure 6: Declining number of new infections



Source: RKI

Figure 7: German vaccination campaign has gained momentum

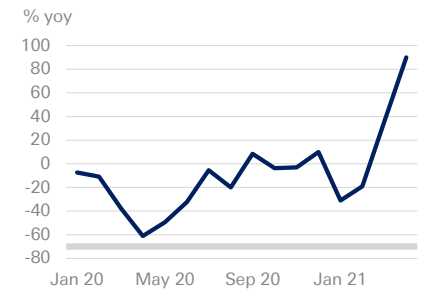


Source: impfdashboard.de, RKI, BMG



The German car industry seems to have overcome the COVID-19 crisis. Sentiment among the car industry and its suppliers continued to rise strongly in April and has reached its highest level for two years, propelled by strong demand resulting in a further increase of order books. While capacity utilisation has increased to 91.1%, more than a half of the reporting companies complained about supply shortages. Especially the limited availability of silicone chips caused several plants to work shorter hours. Still, the number of workers on short shift continues to fall and has reached 45K in April, compared to 560K a year ago, at the height of the COVID-19 crisis. However, the current competition among political parties to outdo each other with stricter CO₂ reduction targets might weigh on business sentiment in the coming months.

Figure 9: New passenger car registrations



Source: Haver Analytics LP

Construction activity is picking up again after a weak start to the year caused by negative weather effects. Despite the strong increase in production in March (10.8% mom), a decline of almost 4% qoq is emerging for the Q1 as a whole. In the coming months, the recent upward trend could consolidate, although supply bottlenecks and price increases for building materials as well as the ongoing shortage of skilled workers are likely to increasingly affect sentiment again.

Figure 10: Order intake and order book levels



Source: Deutsche Bundesbank

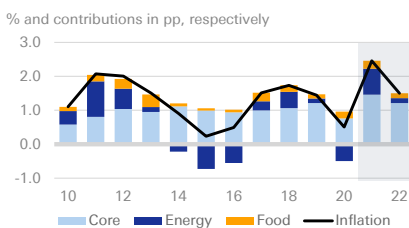
Peak growth in summer

We expect quarterly growth rates to accelerate towards 4% in Q3. However, we had to learn last year how difficult it is to predict the growth momentum of a reopening economy. This time around strong external demand suggests that the risk are skewed to the upside. Meaning that our latest upward revision of annual GDP growth to 4% might not have been the last one.

Prices expected to increase by 2 ½% in 2021

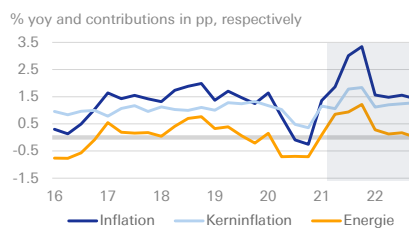
Headline inflation (national def.) has continued on its upward trajectory, with the yoy rate reaching 2% in April. Since February the seasonal adjusted inflation rate rose by an average 0.3% mom. Granted a major part of the upward momentum is coming from energy, with the yoy rate rising to 7.9%. Core inflation has increased a more modest 0.1% mom on average during the last the months, the yoy increase is fluctuating between 1.3% and 1.4%. Like in other countries input and output prices (PMI) have surged. In the manufacturing PMI the input price index rose to 84.3 April (all-time high 88.0 in February 2011). The output price index (64.4) even marked its second consecutive all-time high. While input prices have started to increase in the service sector, too, there is so far little momentum in output prices.

Figure 11: Inflation outlook (CPI - national def.)



Source: Federal Statistical Office, Deutsche Bank Research

Figure 12: CPI: Quarterly profiles



Source: Federal Statistical Office, Deutsche Bank Research

Price expectations at the consumer level made up for their slump from last spring, but are not significantly higher than in the previous four years. Wage growth is still depressed by the COVID-19 pandemic. Hourly wages were up close to 2.5% yoy



before the pandemic hit. In early 2021 the yoy has fallen to slightly below 1.5%. Still, surging commodity prices and supply shortages for an increasing range of pre-products will result in more cost pressure for German corporates. Ifo price expectations in the construction sector, for example, have skyrocketed, marking a new all-time high of 40.5 in April (previous 34.8 in August 2018). Buoyant demand will add to companies' pricing power in the coming months. This together with the basis effect from the H2 2020 VAT reduction will push the core rate towards 2% in the second half of the year. At year-end headline inflation could exceed 3%. In H1 2022 the impact of the VAT base effect will drop out and the yoy rate in energy prices will flatten substantially, bringing headline inflation back towards 1 ½%. However, recent price increases might well spill over into consumers price expectations and hence wage growth once the economy fully recovers, providing a significant upward risk to this forecast.

Stefan Schneider (+49 69 910-31790, stefan-b.schneider@db.com)
Marc Schattenberg (+49 69 910-31875, marc.schattenberg@db.com)



Work from home percentage likely to peak in a few years' time

- COVID-19-related government regulations seem to have lifted the work from home percentage by about 7 pp. However, the working from home boom stems not just from a significant increase in the sheer number of remote workers, but also from the fact that those who already had the option used it more extensively.
- As soon as infection risks abate, people are likely to return to the office for the time being, mostly because they prefer more direct and, above all, personal interaction with their colleagues. In the medium term, however, the work from home percentage will probably rise again due to the broadly positive experience during the pandemic. It is likely to peak at about 35%, i.e. below the potential rate of just above 45%.

Hybrid working models look set to become the new post-COVID consensus

The COVID-19 pandemic has triggered major shifts in working models. While the work from home¹ percentage had already risen before the pandemic, employees had often found it difficult to get their employers to agree to remote working solutions. Meanwhile, the discussion has shifted and now focuses on the question to which extent people are going to continue to work from home. We are certainly in for some surprises, mainly because there is no long-term experience with working from home on this scale and the available research is limited. At the moment, most forecasts are based on employee and manager surveys, and the conclusions may differ considerably. Nonetheless, a new consensus about hybrid working models seems to be emerging. Numerous enterprises signal that a mix of two days per week spent at home and three days at the traditional office is likely to become the new post-COVID normal.

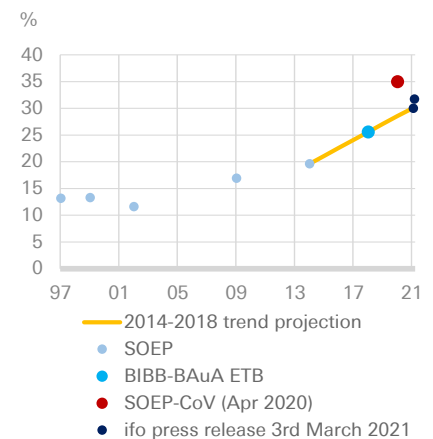
Even before the pandemic the number of people working from home had risen considerably

During the 1990s, the work from home percentage remained relatively steady, at about 12%. It increased later on and reached 26% in 2018, as calculated on the basis of the employment surveys of the Federal Institute for Vocational Education and Training (Bundesinstitut für Berufsbildung, BiBB). Extrapolating the average increase of 1.5 pp per year registered between 2014 and 2018 suggests that the percentage came to c. 28% by the end of 2019. According to the ifo Institute, it rose to 35% by spring 2020. This would put the corona impact of the first lockdown at 7pp. In February and March 2021, the percentage was slightly above 30%, which means that the rate of increase returned to the trend seen between 2014 and 2018. Thus, the working from home boom triggered by the pandemic is not so much due to a significant increase in the number of remote workers, but rather caused by the circumstance that those who already had the option of working from home reduced the hours spent at the office even more.

Infection Protection Act increases potential work from home ratio

It seems reasonable to assume that widespread favourable experiences during the lockdown months have increased the work from home potential. According to the ifo Institute, the potential work from home percentage (defined as the share of

Figure 13: 1997-2021: Percentage of employees working from home



Source: SOEP, BIBB-BAuA, Labour Force Survey 2018, 2018, cesifo Forum Alipour, Falck et al (2020)

¹ In this article, the term "working from home" will mean "remote working" or "teleworking", unless stated differently.



employees who may work from home at least some of the time) is currently 56%.² In contrast, DAK Gesundheit, a statutory health insurance provider, conducted a panel survey and found the potential work from home ratio to be 45%.³ According to the DAK study, 38% of all employees worked from home in February 2021. This means that work from home capacities, as determined in the survey, were almost completely used. The recently adopted amendments to the Infection Protection Act might temporarily push up the percentage of employees who work from home. Up until now, employers were obliged to give their employees the option of working from home, but employees did not have to take them up on this offer. Now, there is a regulatory obligation for people to work from home, if at all possible. This will keep the work from home percentage high until the end of June 2021 (i.e. the expected end-date of the lockdown) and help gauge the actual medium-term work from home potential. For this endeavour, we also need to remember that, once social distancing restrictions are eased, companies will shift their focus back to operative and commercial requirements, which will be an important factor in determining how many employees may be working from home.

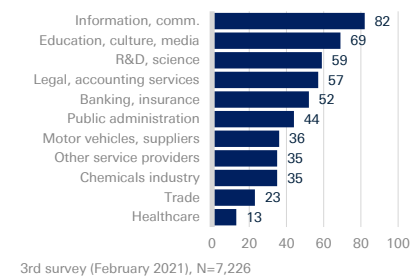
What will the office look like after the pandemic?

A recent DB Research "Talking Point" publication already summarised many of the key factors which are likely to increase the work from home percentage in the medium term.⁴ The main advantages for employees are probably that they are more flexible in terms of time and place and that they save time by not having to commute. In the longer run, working from home might even increase workforce participation.⁵ Generally speaking, working from home may reduce the opportunity costs of gainful employment. This is certainly positive in view of the overall demographic development. Parents or people who care for sick or old family members may find it easier to work, and older and experienced workers may simply choose to extend their working lives. Companies may benefit from having to spend less on rent for office space, from productivity gains due to accelerated digitisation and from the fact that international workers may work from any place in the world. All this may make working from home an attractive option.

Despite these favourable drivers, we expect the long-term potential to be limited to just above 45%, with only up to 35% being exploited in the long run. There is no way around the fact that the number of activities suited to working from home is limited. Moreover, employees are likely to prefer certain weekdays (Tuesday, Wednesday, Thursday) as "office days" under the hybrid working models. If these preferences cannot be met, employees may become less interested in working from home. And ultimately, at least some workers may find that they simply do not have adequate space at home to work efficiently.

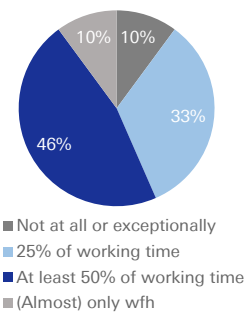
Even as digitisation increases and the service sector and office work become more important, many tasks simply require personal interaction if they are to be done well in the long run. In addition, corporate productivity may be negatively affected when it comes to creative thinking or unplanned innovation (serendipity). Moreover, new employees in particular will be interested in personal contacts and exchange since learning has always a social component to it.

Figure 14: Regular WFH



Source : DAK Gesundheit

Figure 15: Employees' wishes concerning working from home



3rd survey (February 2021), employees working from home, N = 3,004

Source : DAK Gesundheit

2 Alipour, Jean-Victor, Oliver Falck, Andreas Peichl and Stefan Sauer (2021). [Working from Home Potential Still not Fully Exploited](#). ifo Schnelldienst digital 2021, 2, No.6.
 3 DAK-Gesundheit (2021). [Digitalisierung und Homeoffice in der Corona-Krise – Update](#)
 4 Möbert, Jochen and Marc Schattenberg (2021). Working from home potential only half fulfilled in Germany. Is there a productivity paradox? Deutsche Bank Research. Talking Point.
 5 Schattenberg, Marc (2020). Work from home has come to stay. Deutsche Bank Research Germany Monitor.



Important decisions for the future

During the corona pandemic, both employees and employers have come to realise that working from home is a viable option in many cases. This finding may shape the future of work. Moreover, both employers and employees have made considerable investments in technical infrastructure. It would make sense to use this infrastructure more permanently. In addition, everybody has learned more about how to deal with the new situation at work.

As working from home has become more popular, policymakers have realised that additional regulation is necessary. The [legal initiative on mobile working](#) aims to create a framework for both employers and employees to regulate working from home. As of today, the bill does not include a right to working from home, but gives employees a legal right to discuss the issue with their employers. These discussions are to focus on the division of tasks in general, on working hours, on work protection issues and on unresolved insurance issues. At the same time, it will remain possible to conclude agreements at the company level. If the bill is adopted, working from home may get a boost in the future.

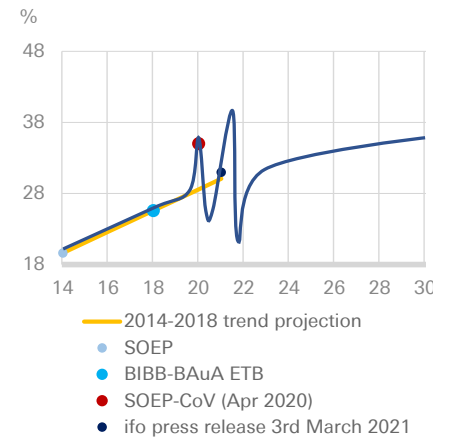
Despite the favourable aspects discussed above, the future development is still uncertain.

We expect the work from home percentage to be volatile

Our scenario for the future of working from home is as follows. During the coming weeks, the work from home percentage may rise to a new high (above the 35% registered in spring 2020) due to the obligation to work from home under the lockdown restrictions. If, as we expect, the COVID-19 crisis is largely overcome during H2 2021, the percentage is likely to decrease considerably. People will return to the office because they want to communicate directly and in person. This should reduce the work from home ratio significantly, at least for some time. In 2021 and 2022, the average work from home percentage will probably amount to 29%. It looks set to rise palpably later on and reach its maximum towards the end of the decade. Taking into account the trend ahead of the pandemic, the percentage is likely to peak at c. 35%. This means that the actual maximum will probably be far below potential. Our scenario is based on our assumptions concerning the productivity and performance of employees who work from home and on our view that many employees will be glad to meet their colleagues in person and speak to them directly in the long run. Once the exceptional rules for the prevention of infections can be relaxed, companies will shift their focus back to operative and commercial factors to shape their rules for working from home. Figure 16 depicts our scenario.

Marc Schattenberg (+49 69 910-31875, marc.schattenberg@db.com)
Jochen Möbert (+49 69 910-31727, jochen.moebert@db.com)

Figure 16: 2014-2030: Percentage of those who work from home (potential scenario)



Source: SOEP, BIBB-BAuA, Labour Force Survey 2018, cesifo Forum Alipour, Falck et al (2020)



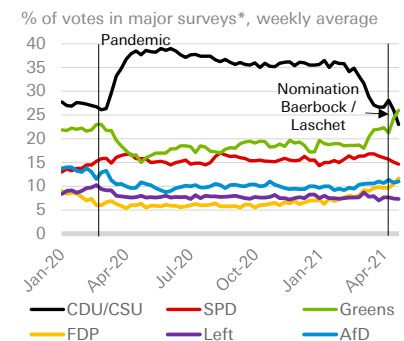
Coalition options – nothing is impossible (at least arithmetically)

- The nominations of Annalena Baerbock and Armin Laschet as chancellor candidates have clearly helped the Greens to gain ground. They might not only be the kingmaker for the next government, but could now even appoint the next chancellor.
- The current shift in voters' sentiment allows for a whole bunch of coalition options. We continue to attach a marginally higher probability to a black-green government compared to a Greens-led traffic light coalition with the SPD and the Liberals. Only the right-wing AfD has been ruled out as partner by all others.
- It remains to be seen whether the honeymoon of Mrs. Baerbock and the German voters will last until election day in September, as the green chancellor candidate now needs to explain to the voters how exactly she wants to achieve her policy proposals.

A multitude of coalition options – at least theoretically. After the nomination of the Green and CDU/CSU chancellor candidates, a shift in voters' sentiment is becoming increasingly clear in the polls (see figure): The Greens have gained political momentum after the well-orchestrated nomination of Annalena Baerbock as chancellor candidate. At the same time, the CDU/CSU further lost voters' support after the rather chaotic and disharmonious nomination of Armin Laschet as chancellor candidate. This further weakened the parties' approval ratings, which had suffered from a growing dissatisfaction with the CDU/CSU-led government's corona crisis management (see FG March 31). The Liberals are also beneficiaries of this trend. Since the beginning of the year they have been steadily moving away from the critical 5% threshold for entering the Bundestag, now polling at 10%. The current conservative-green neck-to-neck race and the new strength of the Liberals make the outcome of the federal election on September 26 appear as open as it could possibly be (see our analysis about tipping the scale in a tight election race), creating even new options, not possible so far. Keeping in mind that all parties have excluded forming a coalition with the far-right AfD, here are the possible coalition scenarios:

- **CDU/CSU/Greens – still most likely and most popular:** The perception that more and more people can imagine a government without the Conservatives – conveyed by some commentators – is not (yet) reflected in surveys. Only a stable less than 20% of voters would prefer a government without the CDU/CSU, while 40-50% wish for a conservative-led government (see figure). In particular voters aged 65+ are much less inclined towards a government without the Conservatives, while the youngest voters, aged 18-29, seem to have no qualms about such a scenario (Spiegel, April 28). At the same time, about 40% of voters would like the Greens to be part of the next government, with the CDU/CSU-led black-green coalition still being the most popular option. However, as in this case the CDU/CSU would rule with an expectedly strong green partner, coalition talks will be challenging. The parties will have to overcome several differences, especially with respect to (i) the choice of measures (regulation vs. innovation) and pace in climate policy, (ii) allowing or not for higher fiscal deficits to finance investments and (iii) the reform of the welfare state (minimal wages, social security systems).

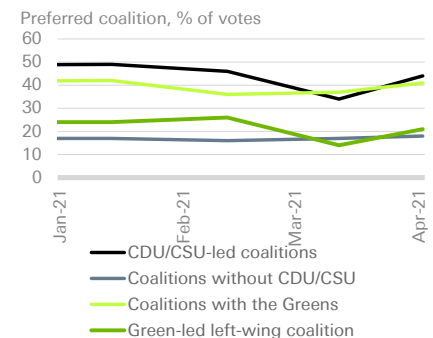
Figure 17: Popularity of major political parties since COVID-19 outbreak



Note: * Major political surveys taken into account: Allensbach, Kantar, Forsa, FG Wahlen, Infratest, INSA.

Source: Wahlrecht.de, Deutsche Bank Research

Figure 18: Most preferred coalitions with both Conservatives and Greens



Source: FG Wahlen Politbarometer, Deutsche Bank Research



- **The other way round – green-black option less plausible.** But what if the Greens overtake the Conservatives in the elections? We doubt that the CDU/CSU is willing to take a junior position at the federal level. In particular the Bavarian sister party, Söder’s CSU, would likely reject this. The fate of the SPD as the junior partner in most of the Merkel governments as well as the recent experience in the state of Baden-Wuerttemberg has shown that it is not that easy to get out of the junior role again. The pressure to accept the Greens’ political agenda even beyond climate change would get down to the very core of the Conservatives’ convictions in fiscal, tax or social policy – in more general terms the elements of a social market economy. In our view, the Conservatives would rather opt for a strong opposition role and modernize the party during the next term. But probably the Green party would prefer different coalition options if it came out as the strongest party.
- **Greens-led “traffic light” coalition – the Greens’ best shot for chancellorship:** After a Greens election victory a coalition with the SPD and FDP seems most likely. Although the Liberals have warmed up to the idea, their policy stance differs considerably from the one of the SPD and the Greens (taxes, social welfare, climate change instruments, EU policy) as FDP party leader Christian Lindner continuously stresses. The Liberals’ rise in the polls is probably based on their (constructive) criticism of the pandemic management, defending citizens’ rights in the current lockdown. In case the FDP joins such a traffic light coalition their voters would expect the party to be the liberal, market-focused counterbalance to the other two more centrist-left coalition partners. This will complicate coalition talks in a number of policy areas, not least because the SPD would probably insist on a strong social element to the Green climate change policy, i.e. significant compensation for less well offs. Still, in the recent forming of an SPD-led traffic light coalition in Rhineland-Palatinate, the Liberals showed a surprisingly high readiness to compromise and ensured remaining part of the coalition.
- **“Jamaica” – the more likely the stronger the Liberals get:** Coalition talks for a so-called Jamaica coalition (CDU/CSU, Greens, Liberals) failed in 2017 as the Liberals pulled out of the talks. This time, the FDP would likely go for it if this were the only way back into the government after eight years. When stating in their election manifesto that they intend to become so strong that no “serious” coalition can be formed without them, the Liberals presumably had this coalition in mind. In view of the current polls this seems to be an ambitious goal. As long as the Conservatives and the Greens together have a majority, taking in another coalition partner does make little sense.
- **Green-red-red – rather far-fetched.** An eco-left coalition of the Greens, SPD and Left is the favorite of the Greens’ more fundamental voters (Spiegel, April 28) and the Conservative voters’ nightmare. With the Greens’ polling high such a coalition could currently find a slim but rather fragile majority. The Left’s foreign policy ideas, calling for the abolishment of the NATO, building a new security system including Russia and an EU spending less for defense, might be an insurmountable hurdle for other would-be coalition partners. While these three parties form coalitions on regional level (states of Bremen, Berlin and Thuringia), we view such a coalition rather unlikely.



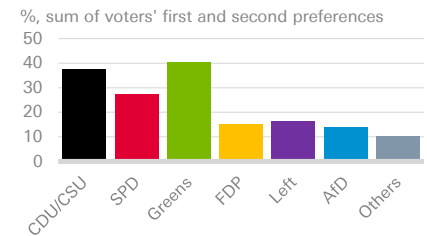
- What about an SPD-led government? – SPD chancellor candidate a minister at best.** For about three years, the SPD has been hovering at the 15% mark in polls. Even if the rather popular chancellor candidate FM Scholz won back votes from the left-wing competitors, it is hard to imagine the SPD becoming the strongest party. Still, the SPD has been spurred by the election victory in Rhineland-Palatinate in March where the party leads a traffic light coalition. After this election, Scholz called the traffic light coalition a “strong option” for the federal level, and reemphasized in a TV-interview that the SPD could lead the next government with an election result in the upper 20%. This is closer to wishful thinking than the reality of the current political sentiment. Also, a surprising SPD victory over the Greens would probably not come with an SPD-Green-FDP majority.

Why the Greens might have a challenging time to convert their popularity into solid votes. The Greens have now a similar large pool of potential voters as the CDU/CSU (see figure). The current disappointment with the Conservatives has shrunk their voter potential: Whereas in January a good half of the electorate could imagine voting for the CDU/CSU, the figure is now down to 40% according to the INSA poll.⁶ In particular, both the Greens and the FDP are seen as a viable alternative by many CDU/CSU voters (see figure). In turn, the Greens can mainly win votes from the CDU/CSU but also SPD and Left voters.⁷ Especially two factors will help the Greens to win votes:

- Being “the climate party”** as climate change is a main concern of voters apart from the pressing concerns about the COVID-19 pandemic (FG Wahlen, Politbarometer). In addition, climate has become “the” election topic with the recent German Federal Constitutional Court ruling stating that the current government’s climate policy legislation is not ambitious enough. Still, the Greens will have to reveal how and with what price attached the implementation of their climate change proposals will happen. Also, the Greens might now face increasing headwind from within their own camp. The court ruling could tilt the weights towards the more radical activists, torpedoing the Greens’ more moderate election campaign that aims to calm down concerns by German voters that everything will be subordinated to climate action.
- Baerbock being the most popular among the three candidates** for chancellorship (see figure). She credibly stands for change, a modern Germany and a new leadership style.

However, a Greens-led government would be a historic change for Germany, a country so far characterized by a culture of high political stability, moderation and centrism. Contrary to what the polls suggest, the government still gets comparatively good marks – despite the disillusionment after one year of pandemic (60% are satisfied with the government and 76% with Chancellor Merkel; FG Wahlen, Politbarometer). It is therefore not obvious that voters are desperate for a change, especially if the Conservatives manage to credibly sell their intention for the modernization of state and society even after 16 years in office. These three factors make campaigning for Greens challenging:

Figure 19: Maximum voter potential



Source: KAS, survey from February 2020

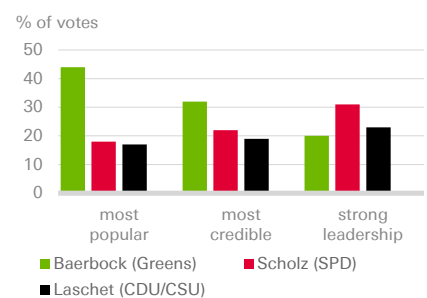
Figure 20: Alternative vote – voters consider voting for...

2nd preference - would also vote for, % of voters	1st preference - voting intention					
	CDU/CSU	Greens	SPD	FDP	Left	AfD
None - loyalists	33	31	24	31	29	50
CDU/CSU		12	18	38	2	23
Greens	25		39	7	30	1
SPD	9	29		8	24	2
FDP	18	2	3		1	9
Left	1	12	11	4		5
AfD	4	1	1	4	1	

Explanatory note: Among voters who intend to vote for the CDU/CSU, 25% are considering voting for the Greens instead, 18% for the FDP and 9% for the SPD.

Source: KAS survey from February 2020

Figure 21: Baerbock most popular and credible



Source: ARD Deutschlandtrend, May 6

6 The Allensbach Institute reports the same trend (FAZ, March 23), although it finds overall a lower voter potential for both parties. According to their estimates, the CDU/CSU’s voter potential dropped in this survey from 42% in February to 29% in March, while the Greens’ potential remains stable at about 30%.
7 Konrad Adenauer Stiftung, Des Wählers Herz, February 2021



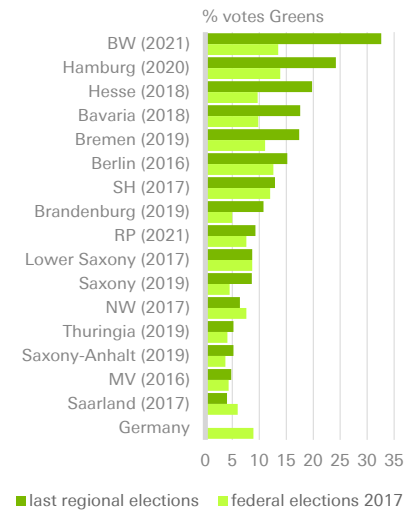
1. **The Greens are not (yet) a people's party.** They have so far been successful among an urban, academic voter base and in Western Germany (see figure). Also, according to surveys people still see them as a "one-topic" party strongly identified with climate policy. If (larger) parts of the society get the impression that almost everything incl. social and economic issues is subordinated to this goal, they might reconsider their choice.
2. **The Greens will be in the focus of the other parties' election campaign** given their current strength and potential to attract voters from the Conservatives as well as the SPD. The Greens will likely have to defend their non-mainstream ideas like the introduction of a basic income, the complete phase-out of fossil combustion engines for cars from 2030 onwards, or a fundamental change in the security structure as Germany should become nuclear free. This will also challenge the Greens' displayed harmony as there is still a gap between the pragmatic Green leaders and the more fundamental basis.
3. **The Greens' rather limited government experience** could raise doubts among voters as to whether they are suited for the top job. Currently, the party is part of 11 state governments, but with the exception of Baden-Wuerttemberg only as junior partner. In addition, the ruling Conservatives could regain a lead with a positive campaign momentum, taking credit for the vaccination success and the reopening of the economy in summer.

Bottom line: Balancing these arguments does not (yet) convince us that Germany will have a Green chancellor. The strengths and weaknesses of the two parties in the neck-to-neck race, the Conservatives and the Greens, will only unfold over the next weeks.

Barbara Böttcher (+49 69 910-31787, barbara.boettcher@db.com)
Marion Mühlberger (+49 69 910-31815, marion.muehlberger@db.com)

We thank Ursula Walther for her valuable contribution.

Figure 22: Greens far more successful in western Germany



Last regional election year in brackets. BW = Baden-Wuerttemberg, NW = North-Rhine Westphalia, SH = Schleswig-Holstein, RP = Rhineland-Palatinate, MV = Mecklenburg-Vorpommern

Source: Bundeswahlleiter, Wahlrecht.de, Deutsche Bank Research



Germany: Data calendar

Date	Time	Data	Reporting period	DB forecast	Last value
21 May 2021	9:30	Manufacturing PMI (Flash)	May	67.0	66.2
21 May 2021	9:30	Services PMI (Flash)	May	55.0	49.9
25 May 2021	8:00	Real GDP (% qoq) - Details	Q1 2021	-1.7	-1.7
25 May 2021	10:00	ifo business climate (Index, sa)	May	98.0	96.8
31 May 2021	14:00	Consumer prices preliminary (% yoy, nsa)	May	2.2	2.0
1 Jun 2021	8:00	Retail sales (% mom, sa)*	April	-2.0	7.7
1 Jun 2021	9:55	Unemployment rate (% , sa)	May	6.1	6.0
7 Jun 2021	8:00	New orders manufacturing (% mom, sa)	April	1.5	3.0
8 Jun 2021	8:00	Industrial production (% mom, sa)	April	1.5	0.7
9 Jun 2021	8:00	Trade balance (EUR bn, sa)	April	15.0	14.3
9 Jun 2021	8:00	Merchandise exports (% mom, sa)	April	1.5	1.2
9 Jun 2021	8:00	Merchandise imports (% mom, sa)	April	1.0	6.5

*An earlier data release may be possible due to the Federal Statistical Office.

Source : Deutsche Bank Research, Federal Statistical Office, Federal Employment Agency, ifo, IHS Markit

Sebastian Becker, Marc Schattenberg, Jochen Möbert (+49) 69 910-31727



Financial Forecasts

	US	JP	EMU	GB	CH	SE	DK	NO	PL	HU	CZ
Key interest rate, %											
Current	0.125	-0.10	0.00	0.10					0.10	0.79	0.25
Jun 21	0.125	-0.10	0.00	0.10					0.10	0.90	0.25
Sep 21	0.125	-0.10	0.00	0.10					0.10	0.90	0.25
Dec 21	0.125	-0.10	0.00	0.10					0.25	1.05	0.50

3M interest rates, %		
Current	0.16	-0.07
Jun 21	0.25	0.03
Sep 21	0.25	0.03
Dec 21	0.35	0.10

10Y government bonds yields, %				
Current	1.57	0.09	-0.23	0.79
Jun 21	1.80	0.20	-0.17	0.54
Sep 21	2.00	0.20	-0.08	0.57
Dec 21	2.25	0.20	0.00	0.67

	EUR/USD	USD/JPY	EUR/GBP	GBP/USD	EUR/CHF	EUR/SEK	EUR/DKK	EUR/NOK	EUR/PLN	EUR/HUF	EUR/CZK
Current	1.21	109.15	0.87	1.39	1.10	10.17		10.02	4.57	358.28	25.73
Jun 21	1.25	108.00	0.86	1.45	1.10	10.00		10.25	4.55	350.00	25.50
Sep 21	1.28	106.50	0.88	1.45	1.11	9.88		10.00	4.40	345.00	25.00
Dec 21	1.30	105.00	0.90	1.45	1.12	9.75		9.75	4.40	340.00	24.80

Source : Bloomberg Finance LP, Deutsche Bank Research



Germany – Data monitor

	Q2 2020	Q3 2020	Q4 2020	Q1 2021	Q2 2021	Nov 2020	Dec 2020	Jan 2021	Feb 2021	Mar 2021	Apr 2021
Business surveys and output											
Aggregate											
Ifo business climate	80.9	91.6	91.9	93.2		91.0	92.2	90.3	92.8	96.6	96.8
Ifo business expectations	82.0	96.1	93.2	95.5		91.9	93.1	91.3	94.9	100.3	99.5
Industry											
Ifo manufacturing	78.1	90.3	95.8	101.3		95.5	97.9	97.9	101.3	104.8	105.4
Headline IP (% pop)	-18.8	13.9	6.4	-0.2		1.2	1.5	-0.5	-2.0	0.7	
Orders (% pop)	-23.6	31.9	7.5	2.3		2.7	-1.9	0.8	1.4	3.0	
Capacity Utilisation	71.4	74.4	79.1	80.4	86.7						
Construction											
Output (% pop)	-2.3	-0.4	0.4	0.0		2.1	-3.5	-2.4	-2.3	17.7	
Orders (% pop)	-5.9	3.4	5.6			2.2	2.4	2.1	-3.7		
Ifo construction	95.6	101.7	101.1	100.5		101.0	101.1	98.7	100.0	102.7	101.7
Consumer demand											
EC consumer survey	-14.0	-9.0	-10.5	-11.4		-11.6	-10.5	-14.0	-12.0	-8.2	-7.9
Retail sales (% pop)	0.9	4.0	1.4	-6.9		1.6	-8.0	-6.2	2.7	7.7	
New car reg. (% yoy)	-47.4	-6.7	1.0	-6.4		-3.0	9.9	-31.1	-19.0	35.9	90.0
Foreign sector											
Foreign orders (% pop)	-29.7	43.6	7.1	2.7		3.1	-2.8	3.2	-0.2	1.6	
Exports (% pop)	-21.7	20.7	4.6	3.6		1.9	0.3	1.7	1.0	1.2	
Imports (% pop)	-15.8	12.3	5.4	2.8		4.4	-0.2	-3.0	3.6	6.5	
Net trade (sa EUR bn)	25.2	49.7	50.1	54.2		15.9	16.5	21.0	18.9	14.3	
Labour market											
Unemployment rate (%)	6.2	6.3	6.1	6.0		6.1	6.1	6.0	6.0	6.0	6.0
Change in unemployment (k)	533.7	89.3	-84.7	-65.0		-38.0	-34.0	-35.0	11.0	-6.0	9.0
Employment (% yoy)	-1.2	-1.3	-1.4	-1.6		-1.4	-1.5	-1.6	-1.7	-1.4	
Ifo employment barometer	89.3	94.9	96.2	95.8		96.7	95.5	95.1	94.6	97.6	98.3
Prices, wages and costs											
Prices											
Harmonised CPI (% yoy)	0.7	-0.2	-0.6	1.7		-0.7	-0.7	1.6	1.6	2.0	2.1
Core HICP (% yoy)	1.1	0.5	0.0	1.8		-0.1	-0.1	2.0	1.7	1.6	1.1
Harmonised PPI (% yoy)											
Commodities, ex. Energy (% yoy)	-5.5	3.9	14.1	33.4		12.9	17.2	25.1	32.3	43.5	54.1
Crude oil, Brent (USD/bbl)	33.1	43.3	45.3	61.2		44.2	50.2	55.3	62.0	65.7	65.2
Inflation expectations											
EC household survey	38.9	25.4	28.6	33.4		28.4	31.0	30.7	31.5	38.0	35.0
EC industrial survey	-4.9	0.1	3.3	14.9		2.5	5.1	8.3	13.1	23.4	30.6
Unit labour cost (% yoy)											
Unit labour cost	8.0	2.6	2.1								
Compensation	-2.2	0.7	1.2								
Hourly labour costs	5.4	3.0	3.8								
Money (% yoy)											
M3	6.9	7.3	8.2	7.1		8.2	8.2	9.2	9.0	7.1	
M3 trend (3m cma)						7.7	8.0	8.5	8.8	8.4	
Credit - private	4.7	4.3	4.1	4.2		4.1	4.1	4.2	4.1	0.0	
Credit - public	3.1	9.5	22.9	6.7		8.9	22.9	15.4	15.5	6.7	

% pop = % change this period over previous period.

Source: Deutsche Bundesbank, European Commission, Eurostat, Federal Employment Agency, German Federal Statistical Office, HWWI, Ifo, IHS Markit



Appendix 1

Important Disclosures

*Other information available upon request

*Prices are current as of the end of the previous trading session unless otherwise indicated and are sourced from local exchanges via Reuters, Bloomberg and other vendors. Other information is sourced from Deutsche Bank, subject companies, and other sources. For disclosures pertaining to recommendations or estimates made on securities other than the primary subject of this research, please see the most recently published company report or visit our global disclosure look-up page on our website at <https://research.db.com/Research/Disclosures/CompanySearch>. Aside from within this report, important risk and conflict disclosures can also be found at <https://research.db.com/Research/Topics/Equities?topicId=RB0002>. Investors are strongly encouraged to review this information before investing.

Analyst Certification

The views expressed in this report accurately reflect the personal views of the undersigned lead analyst(s). In addition, the undersigned lead analyst(s) has not and will not receive any compensation for providing a specific recommendation or view in this report. Stefan Schneider, Barbara Boettcher, Jochen Moebert, Marion Muehlberger, Marc Schattenberg.



Additional Information

The information and opinions in this report were prepared by Deutsche Bank AG or one of its affiliates (collectively 'Deutsche Bank'). Though the information herein is believed to be reliable and has been obtained from public sources believed to be reliable, Deutsche Bank makes no representation as to its accuracy or completeness. Hyperlinks to third-party websites in this report are provided for reader convenience only. Deutsche Bank neither endorses the content nor is responsible for the accuracy or security controls of those websites.

If you use the services of Deutsche Bank in connection with a purchase or sale of a security that is discussed in this report, or is included or discussed in another communication (oral or written) from a Deutsche Bank analyst, Deutsche Bank may act as principal for its own account or as agent for another person.

Deutsche Bank may consider this report in deciding to trade as principal. It may also engage in transactions, for its own account or with customers, in a manner inconsistent with the views taken in this research report. Others within Deutsche Bank, including strategists, sales staff and other analysts, may take views that are inconsistent with those taken in this research report. Deutsche Bank issues a variety of research products, including fundamental analysis, equity-linked analysis, quantitative analysis and trade ideas. Recommendations contained in one type of communication may differ from recommendations contained in others, whether as a result of differing time horizons, methodologies, perspectives or otherwise. Deutsche Bank and/or its affiliates may also be holding debt or equity securities of the issuers it writes on. Analysts are paid in part based on the profitability of Deutsche Bank AG and its affiliates, which includes investment banking, trading and principal trading revenues.

Opinions, estimates and projections constitute the current judgment of the author as of the date of this report. They do not necessarily reflect the opinions of Deutsche Bank and are subject to change without notice. Deutsche Bank provides liquidity for buyers and sellers of securities issued by the companies it covers. Deutsche Bank research analysts sometimes have shorter-term trade ideas that may be inconsistent with Deutsche Bank's existing longer-term ratings. Some trade ideas for equities are listed as Catalyst Calls on the Research Website (<https://research.db.com/Research/>), and can be found on the general coverage list and also on the covered company's page. A Catalyst Call represents a high-conviction belief by an analyst that a stock will outperform or underperform the market and/or a specified sector over a time frame of no less than two weeks and no more than three months. In addition to Catalyst Calls, analysts may occasionally discuss with our clients, and with Deutsche Bank salespersons and traders, trading strategies or ideas that reference catalysts or events that may have a near-term or medium-term impact on the market price of the securities discussed in this report, which impact may be directionally counter to the analysts' current 12-month view of total return or investment return as described herein. Deutsche Bank has no obligation to update, modify or amend this report or to otherwise notify a recipient thereof if an opinion, forecast or estimate changes or becomes inaccurate. Coverage and the frequency of changes in market conditions and in both general and company-specific economic prospects make it difficult to update research at defined intervals. Updates are at the sole discretion of the coverage analyst or of the Research Department Management, and the majority of reports are published at irregular intervals. This report is provided for informational purposes only and does not take into account the particular investment objectives, financial situations, or needs of individual clients. It is not an offer or a solicitation of an offer to buy or sell any financial instruments or to participate in any particular trading strategy. Target prices are inherently imprecise and a product of the analyst's judgment. The financial instruments discussed in this report may not be suitable for all investors, and investors must make their own informed investment decisions. Prices and availability of financial instruments are subject to change without notice, and investment transactions can lead to losses as a result of price fluctuations and other factors. If a financial instrument is denominated in a currency other than an investor's currency, a change in exchange rates may adversely affect the investment. Past performance is not necessarily indicative of future results. Performance calculations exclude transaction costs, unless otherwise indicated. Unless otherwise indicated, prices are current as of the end of the previous trading session and are sourced from local exchanges via Reuters, Bloomberg and other vendors. Data is also sourced from Deutsche Bank, subject companies, and other parties.

The Deutsche Bank Research Department is independent of other business divisions of the Bank. Details regarding our organizational arrangements and information barriers we have to prevent and avoid conflicts of interest with respect to our research are available on our website (<https://research.db.com/Research/>) under Disclaimer.

Macroeconomic fluctuations often account for most of the risks associated with exposures to instruments that promise to pay fixed or variable interest rates. For an investor who is long fixed-rate instruments (thus receiving these cash flows), increases in interest rates naturally lift the discount factors applied to the expected cash flows and thus cause a loss. The longer the maturity of a certain cash flow and the higher the move in the discount factor, the higher will be the loss. Upside surprises in inflation, fiscal funding needs, and FX depreciation rates are among the most common adverse macroeconomic shocks to receivers. But counterparty exposure, issuer creditworthiness, client segmentation, regulation (including changes in assets holding limits for different types of investors), changes in tax policies, currency convertibility (which may constrain currency conversion, repatriation of profits and/or liquidation of positions), and settlement issues related to local clearing houses are also important risk factors. The sensitivity of fixed-income instruments to macroeconomic shocks may be mitigated by indexing the contracted cash flows to inflation, to FX depreciation, or to specified interest rates – these are common in emerging markets. The index fixings may – by construction – lag or mis-measure the actual move in the underlying variables they are intended to track. The choice of the proper fixing (or metric) is particularly important in swaps markets, where floating coupon rates (i.e., coupons indexed to a typically short-dated interest rate reference index) are exchanged for fixed coupons. Funding in a currency that differs from the currency in which coupons are denominated carries FX risk. Options on swaps (swaptions) the risks typical to options in addition to the risks related to rates movements.

Derivative transactions involve numerous risks including market, counterparty default and illiquidity risk. The appropriateness



of these products for use by investors depends on the investors' own circumstances, including their tax position, their regulatory environment and the nature of their other assets and liabilities; as such, investors should take expert legal and financial advice before entering into any transaction similar to or inspired by the contents of this publication. The risk of loss in futures trading and options, foreign or domestic, can be substantial. As a result of the high degree of leverage obtainable in futures and options trading, losses may be incurred that are greater than the amount of funds initially deposited – up to theoretically unlimited losses. Trading in options involves risk and is not suitable for all investors. Prior to buying or selling an option, investors must review the 'Characteristics and Risks of Standardized Options', at <http://www.optionsclearing.com/about/publications/character-risks.jsp>. If you are unable to access the website, please contact your Deutsche Bank representative for a copy of this important document.

Participants in foreign exchange transactions may incur risks arising from several factors, including the following: (i) exchange rates can be volatile and are subject to large fluctuations; (ii) the value of currencies may be affected by numerous market factors, including world and national economic, political and regulatory events, events in equity and debt markets and changes in interest rates; and (iii) currencies may be subject to devaluation or government-imposed exchange controls, which could affect the value of the currency. Investors in securities such as ADRs, whose values are affected by the currency of an underlying security, effectively assume currency risk.

Unless governing law provides otherwise, all transactions should be executed through the Deutsche Bank entity in the investor's home jurisdiction. Aside from within this report, important conflict disclosures can also be found at <https://research.db.com/Research/> on each company's research page. Investors are strongly encouraged to review this information before investing.

Deutsche Bank (which includes Deutsche Bank AG, its branches and affiliated companies) is not acting as a financial adviser, consultant or fiduciary to you or any of your agents (collectively, "You" or "Your") with respect to any information provided in this report. Deutsche Bank does not provide investment, legal, tax or accounting advice, Deutsche Bank is not acting as your impartial adviser, and does not express any opinion or recommendation whatsoever as to any strategies, products or any other information presented in the materials. Information contained herein is being provided solely on the basis that the recipient will make an independent assessment of the merits of any investment decision, and it does not constitute a recommendation of, or express an opinion on, any product or service or any trading strategy.

The information presented is general in nature and is not directed to retirement accounts or any specific person or account type, and is therefore provided to You on the express basis that it is not advice, and You may not rely upon it in making Your decision. The information we provide is being directed only to persons we believe to be financially sophisticated, who are capable of evaluating investment risks independently, both in general and with regard to particular transactions and investment strategies, and who understand that Deutsche Bank has financial interests in the offering of its products and services. If this is not the case, or if You are an IRA or other retail investor receiving this directly from us, we ask that you inform us immediately.

In July 2018, Deutsche Bank revised its rating system for short term ideas whereby the branding has been changed to Catalyst Calls ("CC") from SOLAR ideas; the rating categories for Catalyst Calls originated in the Americas region have been made consistent with the categories used by Analysts globally; and the effective time period for CCs has been reduced from a maximum of 180 days to 90 days.

United States: Approved and/or distributed by Deutsche Bank Securities Incorporated, a member of FINRA, NFA and SIPC. Analysts located outside of the United States are employed by non-US affiliates that are not subject to FINRA regulations.

European Economic Area (exc. United Kingdom): Approved and/or distributed by Deutsche Bank AG, a joint stock corporation with limited liability incorporated in the Federal Republic of Germany with its principal office in Frankfurt am Main. Deutsche Bank AG is authorized under German Banking Law and is subject to supervision by the European Central Bank and by BaFin, Germany's Federal Financial Supervisory Authority.

United Kingdom: Approved and/or distributed by Deutsche Bank AG acting through its London Branch at Winchester House, 1 Great Winchester Street, London EC2N 2DB. Deutsche Bank AG in the United Kingdom is authorised by the Prudential Regulation Authority and is subject to limited regulation by the Prudential Regulation Authority and Financial Conduct Authority. Details about the extent of our authorisation and regulation are available on request.

Hong Kong SAR: Distributed by Deutsche Bank AG, Hong Kong Branch, except for any research content relating to futures contracts within the meaning of the Hong Kong Securities and Futures Ordinance Cap. 571. Research reports on such futures contracts are not intended for access by persons who are located, incorporated, constituted or resident in Hong Kong. The author(s) of a research report may not be licensed to carry on regulated activities in Hong Kong, and if not licensed, do not hold themselves out as being able to do so. The provisions set out above in the 'Additional Information' section shall apply to the fullest extent permissible by local laws and regulations, including without limitation the Code of Conduct for Persons Licensed or Registered with the Securities and Futures Commission. This report is intended for distribution only to 'professional investors' as defined in Part 1 of Schedule of the SFO. This document must not be acted or relied on by persons who are not professional investors. Any investment or investment activity to which this document relates is only available to professional investors and will be engaged only with professional investors.

India: Prepared by Deutsche Equities India Private Limited (DEIPL) having CIN: U65990MH2002PTC137431 and registered office at 14th Floor, The Capital, C-70, G Block, Bandra Kurla Complex Mumbai (India) 400051. Tel: + 91 22 7180 4444. It is registered by the Securities and Exchange Board of India (SEBI) as a Stock broker bearing registration no.: INZ000252437;



Merchant Banker bearing SEBI Registration no.: INM000010833 and Research Analyst bearing SEBI Registration no.: INH000001741. DEIPL may have received administrative warnings from the SEBI for breaches of Indian regulations. Deutsche Bank and/or its affiliate(s) may have debt holdings or positions in the subject company. With regard to information on associates, please refer to the "Shareholdings" section in the Annual Report at: <https://www.db.com/ir/en/annual-reports.htm>.

Japan: Approved and/or distributed by Deutsche Securities Inc.(DSI). Registration number - Registered as a financial instruments dealer by the Head of the Kanto Local Finance Bureau (Kinsho) No. 117. Member of associations: JSDA, Type II Financial Instruments Firms Association and The Financial Futures Association of Japan. Commissions and risks involved in stock transactions - for stock transactions, we charge stock commissions and consumption tax by multiplying the transaction amount by the commission rate agreed with each customer. Stock transactions can lead to losses as a result of share price fluctuations and other factors. Transactions in foreign stocks can lead to additional losses stemming from foreign exchange fluctuations. We may also charge commissions and fees for certain categories of investment advice, products and services. Recommended investment strategies, products and services carry the risk of losses to principal and other losses as a result of changes in market and/or economic trends, and/or fluctuations in market value. Before deciding on the purchase of financial products and/or services, customers should carefully read the relevant disclosures, prospectuses and other documentation. 'Moody's', 'Standard Poor's', and 'Fitch' mentioned in this report are not registered credit rating agencies in Japan unless Japan or 'Nippon' is specifically designated in the name of the entity. Reports on Japanese listed companies not written by analysts of DSI are written by Deutsche Bank Group's analysts with the coverage companies specified by DSI. Some of the foreign securities stated on this report are not disclosed according to the Financial Instruments and Exchange Law of Japan. Target prices set by Deutsche Bank's equity analysts are based on a 12-month forecast period..

Korea: Distributed by Deutsche Securities Korea Co.

South Africa: Deutsche Bank AG Johannesburg is incorporated in the Federal Republic of Germany (Branch Register Number in South Africa: 1998/003298/10).

Singapore: This report is issued by Deutsche Bank AG, Singapore Branch (One Raffles Quay #18-00 South Tower Singapore 048583, 65 6423 8001), which may be contacted in respect of any matters arising from, or in connection with, this report. Where this report is issued or promulgated by Deutsche Bank in Singapore to a person who is not an accredited investor, expert investor or institutional investor (as defined in the applicable Singapore laws and regulations), they accept legal responsibility to such person for its contents.

Taiwan: Information on securities/investments that trade in Taiwan is for your reference only. Readers should independently evaluate investment risks and are solely responsible for their investment decisions. Deutsche Bank research may not be distributed to the Taiwan public media or quoted or used by the Taiwan public media without written consent. Information on securities/instruments that do not trade in Taiwan is for informational purposes only and is not to be construed as a recommendation to trade in such securities/instruments. Deutsche Securities Asia Limited, Taipei Branch may not execute transactions for clients in these securities/instruments.

Qatar: Deutsche Bank AG in the Qatar Financial Centre (registered no. 00032) is regulated by the Qatar Financial Centre Regulatory Authority. Deutsche Bank AG - QFC Branch may undertake only the financial services activities that fall within the scope of its existing QFCRA license. Its principal place of business in the QFC: Qatar Financial Centre, Tower, West Bay, Level 5, PO Box 14928, Doha, Qatar. This information has been distributed by Deutsche Bank AG. Related financial products or services are only available only to Business Customers, as defined by the Qatar Financial Centre Regulatory Authority.

Russia: The information, interpretation and opinions submitted herein are not in the context of, and do not constitute, any appraisal or evaluation activity requiring a license in the Russian Federation.

Kingdom of Saudi Arabia: Deutsche Securities Saudi Arabia LLC Company (registered no. 07073-37) is regulated by the Capital Market Authority. Deutsche Securities Saudi Arabia may undertake only the financial services activities that fall within the scope of its existing CMA license. Its principal place of business in Saudi Arabia: King Fahad Road, Al Olaya District, P.O. Box 301809, Faisaliah Tower - 17th Floor, 11372 Riyadh, Saudi Arabia.

United Arab Emirates: Deutsche Bank AG in the Dubai International Financial Centre (registered no. 00045) is regulated by the Dubai Financial Services Authority. Deutsche Bank AG - DIFC Branch may only undertake the financial services activities that fall within the scope of its existing DFSA license. Principal place of business in the DIFC: Dubai International Financial Centre, The Gate Village, Building 5, PO Box 504902, Dubai, U.A.E. This information has been distributed by Deutsche Bank AG. Related financial products or services are available only to Professional Clients, as defined by the Dubai Financial Services Authority.

Australia and New Zealand: This research is intended only for 'wholesale clients' within the meaning of the Australian Corporations Act and New Zealand Financial Advisors Act, respectively. Please refer to Australia-specific research disclosures and related information at <https://australia.db.com/australia/content/research-information.html> Where research refers to any particular financial product recipients of the research should consider any product disclosure statement, prospectus or other applicable disclosure document before making any decision about whether to acquire the product. In preparing this report, the primary analyst or an individual who assisted in the preparation of this report has likely been in contact with the company that is the subject of this research for confirmation/clarification of data, facts, statements, permission to use company-sourced material in the report, and/or site-visit attendance. Without prior approval from Research Management, analysts may not



accept from current or potential Banking clients the costs of travel, accommodations, or other expenses incurred by analysts attending site visits, conferences, social events, and the like. Similarly, without prior approval from Research Management and Anti-Bribery and Corruption ("ABC") team, analysts may not accept perks or other items of value for their personal use from issuers they cover.

Additional information relative to securities, other financial products or issuers discussed in this report is available upon request. This report may not be reproduced, distributed or published without Deutsche Bank's prior written consent.

Backtested, hypothetical or simulated performance results have inherent limitations. Unlike an actual performance record based on trading actual client portfolios, simulated results are achieved by means of the retroactive application of a backtested model itself designed with the benefit of hindsight. Taking into account historical events the backtesting of performance also differs from actual account performance because an actual investment strategy may be adjusted any time, for any reason, including a response to material, economic or market factors. The backtested performance includes hypothetical results that do not reflect the reinvestment of dividends and other earnings or the deduction of advisory fees, brokerage or other commissions, and any other expenses that a client would have paid or actually paid. No representation is made that any trading strategy or account will or is likely to achieve profits or losses similar to those shown. Alternative modeling techniques or assumptions might produce significantly different results and prove to be more appropriate. Past hypothetical backtest results are neither an indicator nor guarantee of future returns. Actual results will vary, perhaps materially, from the analysis.

The method for computing individual E,S,G and composite ESG scores set forth herein is a novel method developed by the Research department within Deutsche Bank AG, computed using a systematic approach without human intervention. Different data providers, market sectors and geographies approach ESG analysis and incorporate the findings in a variety of ways. As such, the ESG scores referred to herein may differ from equivalent ratings developed and implemented by other ESG data providers in the market and may also differ from equivalent ratings developed and implemented by other divisions within the Deutsche Bank Group. Such ESG scores also differ from other ratings and rankings that have historically been applied in research reports published by Deutsche Bank AG. Further, such ESG scores do not represent a formal or official view of Deutsche Bank AG.

It should be noted that the decision to incorporate ESG factors into any investment strategy may inhibit the ability to participate in certain investment opportunities that otherwise would be consistent with your investment objective and other principal investment strategies. The returns on a portfolio consisting primarily of sustainable investments may be lower or higher than portfolios where ESG factors, exclusions, or other sustainability issues are not considered, and the investment opportunities available to such portfolios may differ. Companies may not necessarily meet high performance standards on all aspects of ESG or sustainable investing issues; there is also no guarantee that any company will meet expectations in connection with corporate responsibility, sustainability, and/or impact performance.

Copyright © 2021 Deutsche Bank AG



David Folkerts-Landau

Group Chief Economist and Global Head of Research

Pam Finelli
Global Chief Operating
Officer Research

Steve Pollard
Global Head of Company
Research and Sales

Anthony Klarman
Global Head of
Debt Research

Michael Spencer
Head of APAC
Research

Andreas Neubauer
Head of Germany
Research

Gerry Gallagher
Head of European
Company Research

Matthew Barnard
Head of Americas
Company Research

Tim Rokossa
Head of German
Company Research

Peter Milliken
Head of APAC
Company Research

Jim Reid
Global Head of
Thematic Research

Francis Yared
Global Head of Rates Research

George Saravelos
Global Head of FX Research

Peter Hooper
Global Head of
Economic Research

International Production Locations

Deutsche Bank AG

Deutsche Bank Place
Level 16
Corner of Hunter & Phillip Streets
Sydney, NSW 2000
Australia
Tel: (61) 2 8258 1234

Deutsche Bank AG

Equity Research
Mainzer Landstrasse 11-17
60329 Frankfurt am Main
Germany
Tel: (49) 69 910 00

Deutsche Bank AG

Filiale Hongkong
International Commerce Centre,
1 Austin Road West, Kowloon,
Hong Kong
Tel: (852) 2203 8888

Deutsche Securities Inc.

2-11-1 Nagatacho
Sanno Park Tower
Chiyoda-ku, Tokyo 100-6171
Japan
Tel: (81) 3 5156 6000

Deutsche Bank AG

1 Great Winchester Street
London EC2N 2EQ
United Kingdom
Tel: (44) 20 7545 8000

Deutsche Bank Securities Inc.

60 Wall Street
New York, NY 10005
United States of America
Tel: (1) 212 250 2500
