Core Matters

Central banks' strategies to cement dovish bias

August 9, 2021

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- Fears of secular stagnation and a greater focus on inequality are leading to a new fiscal and monetary policy era, especially in the US.
- The new Fed strategy is geared to full employment and will tolerate higher realised inflation. Some aspects or metrics remain rather vague, calling for a close monitoring of the labour market and inflation expectations. We present new tools to monitor the evolution of both.
- The ECB's new strategy strengthens the forward guidance on rates, augments the policy toolbox and makes monetary policy greener. In the low inflation environment, the financial conditions will be a key driver of the ECB's policy. We develop a financing conditions index and find that its importance for monetary policy has increased.
- The BoJ will stick to its accommodation of fiscal expansion as its best means to overcome deflation risks.
- Persistent monetary support is a boon for risk assets but increases their exposure to the rise in yields which may follow.

CBs: new challenges amid stretched policy stance

The new US administration has embarked on an ambitious plan to mitigate inequalities and spur growth via a relaunch of public investment. This could be the starting point of a new era of macroeconomic policy, not only in the US but on an international level. It also appears to be a major **break-up with supply-side policies**, introduced forty years ago by the Reagan/ Volcker tandem. In economic terms, we see fears of **secular stagnation** and greater concerns about **inequality** as the main driving forces. On a higher level, mitigating the increasing split of societies, particularly so in the US, might be the ultimate motive.

Secular stagnation (in its most basic version: rather low growth rates for an extended period) and inequality are not independent of each other. Over the last decades, globalisation and technological progress have led to an increase in wealth, income and trade around the world but also to much more unequal distributions, especially in Advanced Economies. "Secular stagnation" has often been described as an "oversupply" of all things, which also constantly depresses inflation. This lack of demand could be "inequality-driven". As "rich" people typically have a higher savings rate and a lower marginal propensity to spend, the global "savings glut" creates a deflationary gap. Consequently, demand-side policies could help and fill the gap. However, to do this sustainably, taxes must be raised. The current initiative for a global minimum corporate tax shows the US ambition but also highlights political obstacles to push it through Congress.

Central banks have been accused of running easy monetary policies – not least through the Covid-19 crisis – that have pushed real estate and equity prices higher, thus especially supporting the "rich". Yet the major central banks are adjusting their strategy by implicitly taking into account inequality and slower potential growth. The Fed last year committed to a more inclusive approach to employment. From a distributional perspective this implies a higher weight on poor (primarily affected by unemployment) versus middle-income people (primarily affected by inflation). The ECB released an update of its strategy on July 8 to endorse a more complex strategy comprising climate change and side-effects from its policy stance. Among other things, the ECB stated in an accompanying document that it will "*continue to assess the two-way interaction between income and wealth distribution and monetary policy*." The Bank of Japan (BoJ) has recently developed more targeted tools (funding for lending schemes) that could be directed more specifically to sectors or special policies.

US: Gini-Coefficient and Unemployment Rate
Source: World Inequality Database, IMF
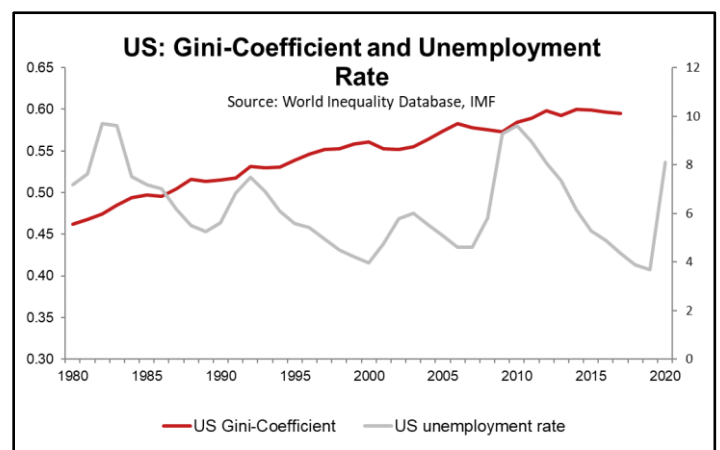
However, as the graph shows for the US, even very low unemployment failed to reduce inequality (measured by the Gini coefficient) in the past. In other words, cyclical policies have had a very limited impact on the structural inequality problem. Still, monetary policy can help to make fiscal policies more easily sustainable by buying government bonds, keeping key rates lower than otherwise (so-called financial repression) and tolerating higher inflation. It is debatable whether higher inflation would help the "poor" though.

Monetary policy has already been ultra-accommodative for more than a decade, which complicates the matter. Shadow rates adjust the policy rate by incorporating the effect of unconventional policy measures. Estimates for the major central banks show that they have been on a downtrend since the mid 90s and are currently negative. They first became negative in Japan with the BoJ fighting deflation; the GFC and the euro crisis led all other central banks to adopt measures that pushed the effective policy rate below zero. The Covid-19-induced policy measures pushed the shadow rates deeper into the negative. There are clearly limits for stretching these policies further. The recent spike in inflation and the uncertainty on how temporary it will be, add to the difficulties.

Shadow rates for key central banks

source: https://www.ljkmfa.com/test-test/international-ssrs/; %

	Fed	ECB	BoJ	BoE	SNB
1995-2000	5.5	3.4	0.1	6.3	2.0
2001-2007	2.7	2.8	-0.9	4.6	1.3
2008-2019	-0.4	-0.8	-2.5	-0.3	-1.3
2020 - July 2021	-1.3	-2.4	-3.1	-1.0	-2.0

The case seems the clearest for Japan. With no meaningful inflation at the horizon, the BoJ will hardly be constrained. The Fed is probably most exposed to higher inflation problems - but they recently strengthened the labour market side of the dual target. Regarding inflation, the ECB finds itself between the BoJ and the Fed and has a different setting. But the recent review has also cemented a dovish bias.

In this piece we take stock of where the Fed, ECB and BoJ stand in the development of their monetary policy framework. Each has its own challenges:

- The Fed faces a credibility test, as its new monetary policy framework, more tolerant to inflation, lacks clarity and is being implemented during a period of volatile inflation. This requires investors to have a view on how the evolution of employment and expected inflation will fare in comparison with the target.

- As part of its new strategy the ECB has adopted a symmetric inflation target, became more complex and greener. The fundamental challenge will be to find a balance between satisfying the statutory inflation target in a low growth environment without neglecting the risks of financial market fragmentation between states (a threat to the stability of the euro area). In a low inflation environment, financing conditions will be key for monetary policy. They also comprise intra-EMU government bond spreads and the term premium. Indirectly this supports debt sustainability.

- After three decades of near zero inflation, the Bank of Japan has added funding for lending to its policy tools. But its main focus will continue to be government deficit monetisation.

Fed: from planning to executing and communicating

The Fed is at a more advanced stage, as it laid out its new average inflation targeting regime (AIT) already last year. First, to tackle the risk of low inflation depressing long term expectations it will target the average inflation over a multiyear period. The labour market objective has also been modified: The Fed aims at full employment rather than minimising the variability of the unemployment rate around an estimated equilibrium value. Moreover, it has introduced gender, ethnical and educational metrics in its control function. However, the Fed allows itself a lot of flexibility and has not defined neither the time span over which inflation is averaged out nor provided a workable definition of full employment. Communication will steer market expectations. For this reason, it is becoming crucial for investors to derive proxies for the Fed target variables, to monitor their evolution relative to the thresholds that would trigger a reduction in accommodation. This is even more important given the timing of the rollout of the strategy. The sharp increase in inflation following the reopening of the economy and the slower than expected labour market recovery are already testing the credibility of the new setup.

The first test comes from the inflation side. The spike in inflation has been far stronger than anticipated and this is fuelling worries that it is not just due to base effects and temporary bottlenecks. This view is reinforced by the sharp increase in expectations. A prolonged period of above-target inflation could get entrenched in expectations, possibly triggering a wage-price spiral, especially if the labour market is tighter than expected due to a permanent reduction in labour supply. Such a situation would put the Fed in a bind, with inflation running above target, while the labour market is still far from full employment.

Chair Powell and other Fed officials have repeatedly stated that the current burst of inflation is just a payback of last year's drop and therefore will count only partially to the average inflation that they target. However, the period of high inflation may last longer, and it may take months for the Fed to assess whether the outburst is over, or whether it has morphed into a more structural feature. In such a context, steering expectations by providing markets with information on intermediate targets and trigger points is critical. The surprise outcome of the June meeting, when the Fed signalled an earlier than expected lift-off in 2023, with no big changes to the outlook for inflation and employment showed how communication works in the new policy framework. The Fed showed that it did not forget inflation risk by suggesting potential policy action two years in the future. The strong market response eventually forced FOMC officials to qualify the statement, stressing that for the time being the economy needs accommodation, but highlighted the central banks' ability to drive expectations. On a more structural basis, and consistent with the imperative of having anchored long-term inflation expectations, the Fed has developed a quarterly indicator. It summarises the information contained in a large set of measures taken from both financial markets and surveys, scaled to the long term expected PCE inflation from the Philadelphia Fed's Survey of Professional Forecasters. This is meant to convey the Fed's unofficial view of where

inflation expectations are heading. This index is updated on a regular basis, but with a substantial lag (roughly two weeks after the end of the quarter). **We try to fill the gap by nowcasting every month the current quarter's aggregated expected inflation index**. As of the end of July, the index had climbed markedly from the 2020 historical low but remains slightly below the level prevailing before the 2014-2015 oil shock. Moreover, it shows tentative signs of stabilisation.

Long term PCE inflation expectations
Based on the Fed Common Inflation Expectations Index

July 2021 Nowcast
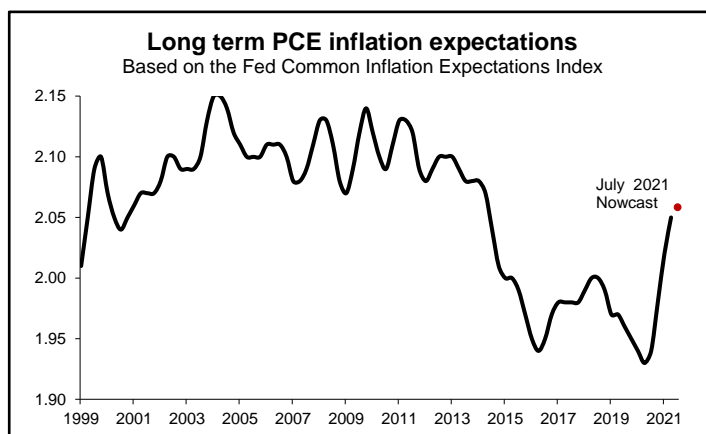
Expectations are anchored if they do not react to inflation surprises. We formally test it on financial market long-term expectations using the increasingly popular decomposition of the 5y5y breakeven proposed by the Fed, which seeks to strip our risk premia from TIPS inflation breakeven. We regress, using a three-year rolling sample, monthly change in expected inflation on the Citi inflation surprise index. A statistically significant coefficient indicates that expectations react to surprise, and therefore a higher risk of de-anchoring. The chart below shows limited evidence of de-anchoring from the second half of 2020 onwards. Going forward, this indicator will provide a simple measure of how effective the Fed is in keeping inflation expectations in check.

Sensitivity to inflation surprises: adj. 5y5y breakevens
Coefficient and +/1 2 std. dev range
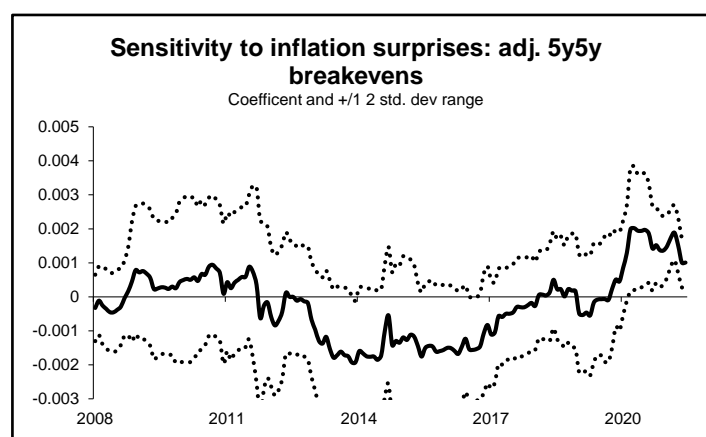
Concerning the labour market, the Fed has stated that it needs to see "further substantial improvement" toward full employment before ending bond purchases However, the definition of "broad based and inclusive employment growth" has not been (and will probably not be) defined with clarity. Two things are clear, however: first, it is an asymmetric target, as only shortfall from full employment will be considered (as opposed to positive and negative deviation from an estimated equilibrium level of unemployment); second, it also considers the distribution of the employment gains across age, ethnic and education groups. Therefore,

having a workable definition of "full employment" to use as a benchmark is important to assess market expectations on tapering and the subsequent rate lift-off. **We therefore developed two tools to track the aggregate evolution of the labour market**.

First, we created a **heatmap** of the most relevant series and compare their level with respect to the three months preceding the COVID-19 outbreak (from Dec 2019 to Feb. 2020), when labour market conditions were at the tightest level in almost two decades. The visual tool (shown in Appendix A) allows to check the aggregate evolution of the labour market and how "widespread and inclusive" it is. Looking at the July data, a few facts emerge:

- The fall in the unemployment rate is getting more homogeneous. Men and Blacks are the groups with the faster rebound in employment.
- Participation has recovered quickly among whites and remains particularly low among blacks. Employment among young workers is increasing faster than the average, whereas for those aged 55+ it has remained subdued. This appears the result of the failure of participation to pick up, due probably to people bringing forward retirement. Early retirement will cap participation only temporarily.
- Our preferred measure of wage growth (the median wage developed by the Atlanta Fed, which should be less sensitive to volatility across sectors) continues to grow at a controlled pace, with the notable exception of low skilled workers, which reflects the bottlenecks from the fast reopening of hospitality businesses (restaurants, hotels, etc.).

Second, we developed a more **quantitative tool**. We collected around 70 series, ranging from the standard unemployment rate to involuntary part time and percentage of workers holding multiple jobs. To measure of how widespread the gains are we also consider the (un)employment, participation, and wages gaps of ethnic, education categories with respect to a benchmark group. We built and index measuring their common trend and scale it to have unit variance and a zero average between December 2019 and February 2020. We assume that the period between December 2019 and February 2020 was characterised by "full employment". We can therefore assess how far the economy is from the Fed's target and the pace of progress. In July, the labour market was still 0.7 standard deviations below "full employment", a situation comparable to the first half of 2017.

US full employment index
Difference from Dec. 2019-Feb. 2020 average, in std. dev.
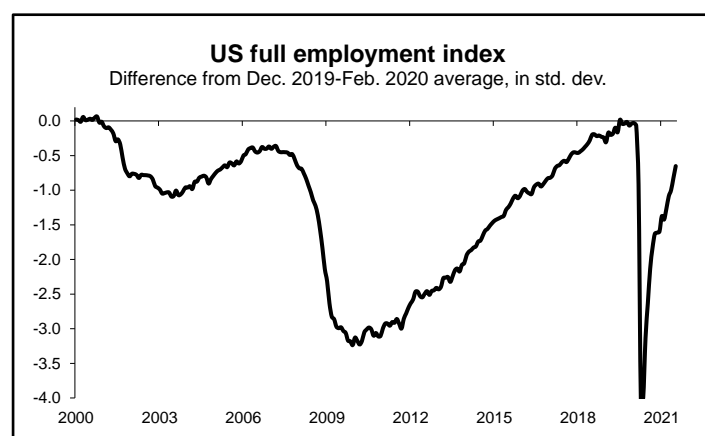
The joint reading of the indicators shows that accommodation will have to continue for a while. The **healing of the labour market remains incomplete** and the risks of inflation expectations drifting permanently above the target is limited. Given our current forecasts we think that bond purchases will be reduced from January 2022 on and will terminate by Q4. We expect the first rate hike by end Q2 2023.

ECB 2021 strategy update for challenging times

The only truly European economic policy institution is the ECB as fiscal policy is basically staying in the power of national governments (the Recovery and Resilience Facility being a temporary notable exception). In the past it therefore not only tried to substitute the lack of a common fiscal policy (e.g. through the euro crisis) by means of monetary policy measures but also preserved the integrity of EMU through extraordinary measures 2012. With the economically weaker countries tending to have higher debt-to-GDP ratios than the stronger ones, fiscal considerations indirectly gained importance for policy making. In its communication the ECB acknowledged this by stating that it fights *financial fragmentation,* meaning heterogenous rates for firms and households across jurisdictions. These rates are also depending on the solvency of the respective sovereign. The Covid-19 shock aggravated the situation causing the EMU-wide debt ratio to rise by about 17 pp from 2019 to 2021 to 102%, with some countries (e.g. Greece, Italy) now above 150% of GDP but the fiscally soundest members still below 60% (Baltics, Netherlands, Slovakia, Luxemburg).

Key elements of the ECB 2021 new strategy

Inflation target
- Symmetric around 2% yoy
- Medium term: inclusion of house prices in HICP
- Moderate overshooting if economy is at lower bound

Complex analysis
- Economic analysis complemented by a financial
- Analysis of side effects of unconventional policy measures, e.g. on the financial sector, inequality

Augmented policy tool box
Close to the effective lower bound forceful and persistent action is needed, suggesting that 'unconventional' measures like QE and TLTROs are now part of the regular toolbox.

Communication
- Different form of policy statement, better communication to wider public
- Next strategy review scheduled for 2025

Climate action plan
- Extension of macro projections and scenario analysis by climate factors
- Bank tests to include climate factors
- Departure from market neutrality
- Discrimination between ‚brown' and ‚green' firms regarding rating
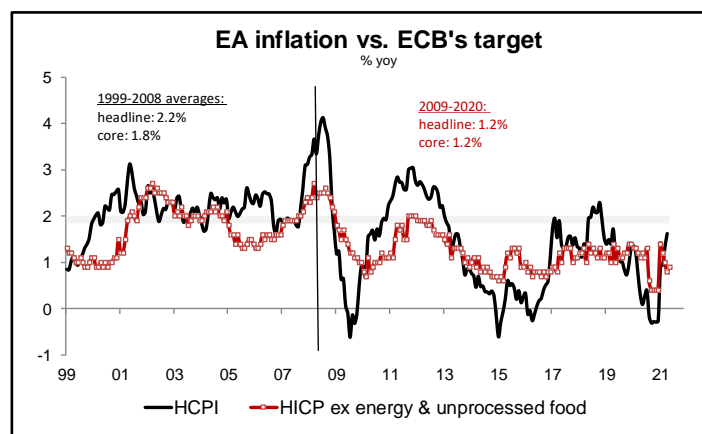
Accounting for rising constraints

The ECB revealed its new strategy on July 8, 2021. It moved to a symmetric inflation target, enhanced its analysis underlying policy decisions, augmented the policy toolbox, aimed at better communication and launched a climate action plan. Overall, the ECB's new strategy bears little surprise, but it will help to tackle key future challenges.

First, the real equilibrium short-term interest rate (r-star) will stay very low. In a study the ECB looked at r-star estimates and found that the median projection over the coming years varies from -2% to +2%. It conjectures that r-star will be "*staying at levels around zero, or slightly below, in the coming years, rather than rebounding.*" This

conclusion is also confirmed when focusing on the main determinant of r-star, potential growth. The demographic transition will lead to shrinking labour force and hence growth. Increased productivity is unlikely to offset this decline so that potential growth will recede from about 1 ½ % once the pandemic shock is digested to somewhat below 1% in ten years. A reasonable working assumption in our view is expecting r-star at around -0.5% in the medium term. The higher the inflation rate the easier it is for central banks to reach the targeted rate. While the inflation outlook becomes more uncertain in the post-Covid-19 world, we think that inflation still remains a distant threat. Assuming r-star at -0.5% implies an equilibrium nominal key rate of 1.5%. But business cycles will likely require below zero rates still for some time and in future cycles.

Currently, GDP remains well below potential with the effective policy rate at already -0.5%. This is close to what is generally considered as the lowest sensible level. A recent ECB paper sees this rate at around -1%. This reversal rate is the result of a trade-off between the positive impulse to activity and the negative side effects on the banking sector. Another bound comes from negative rates potentially making cash holding less expensive than a bank account deposit. According to a Bank of Canada paper this effective lower bound could be at around -2% but the incentive for financial innovations increases if negative rates were to persist for longer. In all, the ECB embarked on negative rates in 2014 and from here there seems to be little leeway for lower rates. Hence, the importance of other policy tools, like bond purchases.

Second, the **ECB has consistently missed its inflation objective since the GFC**. The pandemic was a further blow and ECB officials (e.g. Lane) made clear that the near-term objective is to bring inflation back to the pre-pandemic path.

EA inflation vs. ECB's target
% yoy

1999-2008 averages:
headline: 2.2%
core: 1.8%

2009-2020:
headline: 1.2%
core: 1.2%

—HCPI   —■—HICP ex energy & unprocessed food

Third, apart from business cycle considerations sovereign bond yields are set to rise from currently extremely depressed levels. Given elevated debt ratios, **yields of the Southern European economies have the potential to rise faster** and to deteriorate financial conditions beyond the ECB's comfort zone. Indirectly the poor state of public finances will also dampen the ability to increase rates should higher inflation kick in.

Fourth, the ECB has already expanded its **policy toolbox** over the past years. For instance, QE has become a regularly used policy tool since 2015. Looking ahead, there will be restrictions. Most importantly, the capital key buying and the issuer limit restrictions are to be mentioned. While the

ECB views them as self-imposed the [German Constitutional Court](#) considers them as necessary in order to avoid state financing. It is reported that the EC will call the European Court of Justice as it considers such a ruling as unlawful. When formulating its new strategy, the GC was probably aware of the risk of an institutional crisis related to monetary policy innovations. The GC merely acknowledged that when the effective lower bound (ELB) was reached, especially forceful action might be needed to fight deflationary risks. This warrants the employment of formerly unconventional tools, e.g. Targeted Longer-Term Refinancing Operations (TLTROs), and it is stated that this may also imply a period of temporary moderate inflation overshooting. At the same time the ECB "*recognises the need to limit possible side effects of the new policy instruments and therefore remains committed to continuing to perform careful proportionality assessment…*". In our view this confirms that the ECB is very aware that expanding its toolbox further requires convincing arguments to avoid institutional clashes.

Fifth, with climate change taking place the **greening of monetary policy** has come into the ECB's focus. As we explained [elsewhere](#) in greater detail, the ECB has over the past years increased its green awareness. The incorporation of green tools into the new strategy did not come as a surprise.

New ECB strategy strengthens forward guidance

Near term the key innovation is the **strengthening of the forward guidance** on policy rates, which lays the ground for the persisting negative key rates. Before the review, the Governing Council (GC) was only requiring inflation to converge to the target within the projection horizon before it could raise rates. The review strengthened these requirements in various ways: First, the inflation target is now symmetrical around 2% and no longer below but close to 2%. Second, at its [July meeting](#) the GC made clear that it wants to see "*inflation reaching two per cent well ahead of the end of its projection horizon and durably for the rest of the projection horizon*". In the Q&A session President Lagarde referred to the mid-point for the projection horizon as the relevant benchmark. Durably means that it shall not fall below 2%. That said, she also made clear that this was no mechanical exercise with the GC making its own judgement. Third, the ECB wants to be reassured by the actual development of underlying inflation, meaning that the "*realised progress in underlying inflation is sufficiently advanced to be consistent with inflation stabilising at two per cent over the medium term*". Fourth, this "*may also imply a transitory period in which inflation is moderately above target*".

ECB's inflation target still distant
HICP, % yoy, quarterly data
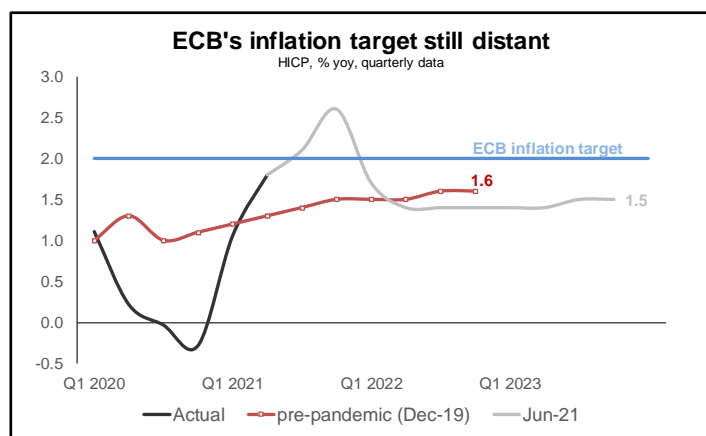
The ECB has thus lifted the threshold for raising policy rates significantly. Its June ECB 2021 macro projection it foresees headline inflation reaching only 1.5% by the end of 2023. In December, a projection for 2024 will be included for the first time. We expect it to be in the 1.5% to 2.0% range and look for only a sluggish uptrend in headline as well as underlying inflation in the medium term. **We see leeway for the ECB to push the first policy rate hike beyond 2024**, thereby contributing to the persistence of a low yield environment.

In all, the ECB has embraced an evolutionary approach rather than a revolutionary one like the Fed's AIT. A likely key reason was given by Chief Economist [Lane](#) who mentioned that the ECB always had a medium-term target with overshooting periods and that there were different inflation histories among countries. Moreover, the GC does not seem fully convinced about the merits of AIT on theoretical grounds. Over the past years the ECB had begun to emphasize the benefit from a symmetric inflation target and former ECB President [Draghi](#) already argued in 2016 that it would facilitate the absorption of shocks. Average inflation targeting (AIT) may help further but [ECB research](#) has questioned the net benefits.

House prices not impacting ECB policy yet

A comprehensive look at inflation also warrants the inclusion of house prices in the measurement of the HICP as owned houses are in part also consumption. However, technically this is not easy, and the ECB therefore decided to include house prices only at a later stage fully in the HICP. It will start with an analytical index for internal purposes and then construct experimental quarterly data including owner occupied housing (OOH) costs (likely in 2023). In a third stage (completed by 2026) an official quarterly index shall become available which "*could pave the way for moving to an HICP including OOH costs as the main index for monetary policy purposes*". It is not yet clear when the monthly HICP shall be augmented. During the transition period the current HICP remain the main reference index for monetary policy while the standalone OOH index "*will play an important supplementary role*".

EA inflation and OOH costs
HICP, % yoy, with owners occuoied house (OOH) costs and without, quarterly data
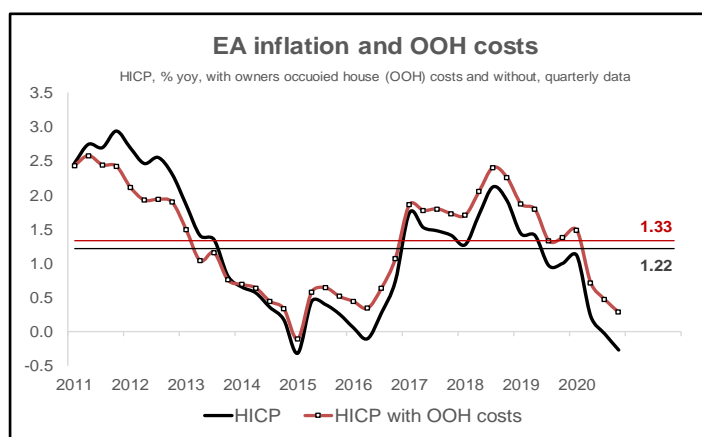
Based on experimental data we constructed our own OOH costs augmented HICP. Since the end of 2014 (when the ECB embarked on QE), the inclusion of OOH costs would have pushed headline inflation on average up by 0.3 pp and core inflation even by 0.4 pp. However, the dynamics are not impacted and longer term the difference narrows to just 0.1 pp. This also has ramifications for monetary policy. A simple Taylor rule exercise shows that with OOHP included

the policy rate should currently be 0.3 pp higher while for the average since 2014 it would have been 0.2 pp. This is in line with a study for the European Parliament concluding that the inclusion of OOH costs would have led to potentially different past monetary policy conclusions.

Apart from that, the new ECB strategy also accounts for financial stability considerations in its deliberations. House prices could become such a topic. There is indication for overvaluation and the ECB assesses housing market-related risks as "elevated". If house prices were to increase further, related stability risks would rise. Moreover, the ECB made clear that policy measures are underlying a proportionality assessment. This also comprises inequality. The rapid rise in house prices in some areas could add to these concerns. With inflation slowly trending up, house price related considerations could indeed be a factor for the ECB to start hiking rates. That said, we doubt that house price increases alone will be sufficient to end the low for longer policy of the ECB.

New ECB policy tools to focus on greening

With the low inflation environment likely continuing and rates close to the lower bound, QE will remain a key tool of monetary policy. After more than six years of QE, the ECB currently holds close to 30% of the outstanding stock of sovereign bonds. The compilation of this number is complicated by the fact that the ECB publishes it holdings only in terms of market value whereas outstanding debt is reported at face value. Nevertheless, calculations suggest that among countries there are huge differences. For the fiscally sounder economies like Germany, the Netherlands, Finland and Slovakia the issuer limit is likely already in reach while this is not the case for the fiscally less sound economies like Italy, France and Spain. While the pandemic-related increase of debt issuance might lower this ratio again, the 33% issuer limit may well be reached over the coming years. To avoid the risk of an institutional crisis we expect the ECB to stick to the issuer limit but to increase the share of other asset classes. For instance, for supranational bonds the issuer limit is 50%. The strong supply of the NGEU-related debt over the coming years is welcome from the monetary policy perspective. Including new asset classes like equities and bank loans would also be a possibility. But we see high hurdles and would expect this only in case of another emergency. All in all, the new strategy makes the formerly unconventional measures conventional by incorporating them in the toolbox but does not imply strong innovations.

We see more leeway for innovations in the monetary policy greening. Here the focus will be on the credit market, as we explained in a recent publication. Climate change will be incorporated in economic forecasts and stress tests. The ECB targets to abandon its market neutrality with respect to CSPP purchases by 2022 and to include climate risks into the collateral framework. We see for instance a good chance for green TLTROs. The lending conditions would then depend on green characteristics either of the lender or the project that is going to be financed. However, more far-reaching measures like green QE (comprising only green eligible bonds) will not come on the table in our view.

Financial conditions a key ECB policy driver

In an environment of low inflation and the ECB operating close to the lower bound, policy decisions will largely be driven by financing conditions. The Governing Council had always referred to them. But with the start of the pandemic it explicitly started to target them. Chief Economist Lane and President Lagarde specified the latter as combination of upstream (risk-free yield curve, sovereign yield curve) and downstream (loan supply, credit standards, bank lending rates, credit demand, corporate yields) factors. We think that both variables will continue to play an important role for monetary policy over the coming years. Importantly, through financing conditions, **financial fragmentation and government debt indirectly become a determinant of monetary policy**. Arguably, the fiscal factors only come into play only if there is no outright inflation problem. We would characterize this as 'fiscal dominance light' in a low inflation environment. Currently, credit conditions are all in all (as measured by the unweighted mean of its components) supportive compared with history, with only credit standards worse than normal, as our dashboard shows (see table below).

The ECB's Financing Conditions Dashboard

z-scores of respective variables with values > 0 indicating better than average financial conditions, < 0 the reverse; own calculations with latest data on lending rate estimated

	2020	Q1 2021	May-21	Jun-21	Jul-21	Aug-21
Gov. bond spread (GDP weighted)	0.83	1.55	1.20	1.30	1.41	1.51
Term premium (10Y-1Y OIS)	1.55	1.24	0.77	0.86	1.12	1.34
BLS credit standards	-1.76	-2.01	-0.99	-0.68	-0.37	-0.07
BLS credit demand	-0.71	-0.95	-1.05	-0.47	0.11	0.68
High Yield spread	-0.89	0.85	1.12	1.26	1.12	1.07
Lending rate	1.28	1.39	1.37	1.40	1.40	1.44
unweighted mean	0.05	0.35	0.40	0.61	0.80	1.00

last update: 05/08/2021

However, this may merely reflect the negative output gap. When controlling for activity and inflation, broader financial conditions, as measured by our FCI indicator (see box) switched from supportive in March into tightening territory in spring. The key drivers were higher government bond spreads and an increased term premium as markets shifted to a post pandemic expected higher growth and inflation outlook, largely driven by the US. These considerations probably also stood behind the Governing Council's decision not to announce a change in PEPP purchases at its June meeting or at the July meeting for the coming quarter. In July, however, the indicator has turned on the back of government bond spread tightening and a fall in the term premium (bull flattening).

We expect ECB policy decisions to be guided with a focus on financing conditions over the coming years. These conditions already play an important role for the setting of monetary policy. With QE and other measures like TLTROs now standard as part of the new strategy, the ECB policy stance is more appropriately reflected in the shadow rate (which accounts for the effects of QE and other measures on short term rates). Fundamentally, policy rates should be driven by r-star and the business cycle variables such as the output gap and the deviation of inflation from target. Our analysis finds (in line with the literature) that for the ECB the output gap does not add to the explanation of the policy stance.

Adding the FCI in contrast helps to explain past ECB behaviour (see box below). Our analysis shows that there was a structural break in the ECB's behaviour since December 2014. Inflation expectations still had the biggest weight (58% vs 64% before) in the ECB's reaction function, followed by r-star (22% vs 24% before) but FCI gained importance (19% vs 10% before). The output gap almost played no role. Rolling regressions also suggest that inflation expectations and FCI gained importance over the recent years.

Looking ahead, given the tight situation of public finances and the risk that the post-Covid-19 fallout deteriorates the credit situation (e.g. via NPLs), the ECB will continue to put a great weight on financing conditions in our view. The major risk to this benign scenario is an externally induced increase in in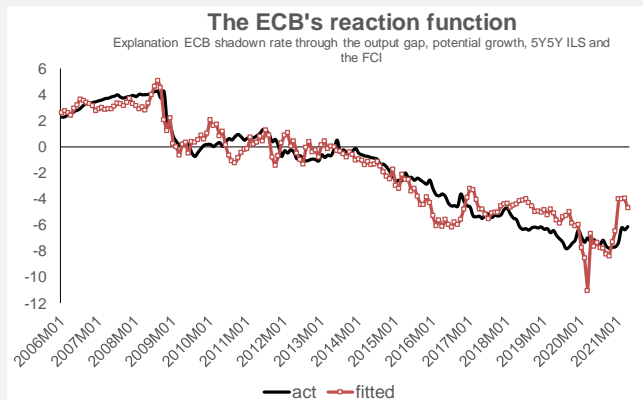flation. Stronger and more persistent US inflation might spill over to the euro area or a series of supply shocks might alter the inflation outlook more lastingly. Also, an outright housing price bubble could at some point no longer be addressed by macroprudential measures only but also require tighter financing conditions. The GC is probably aware of the especially challenging times and already announced to review its strategy again in 2025, just four years after the recent update. The previous strategy was in place for 18 years.

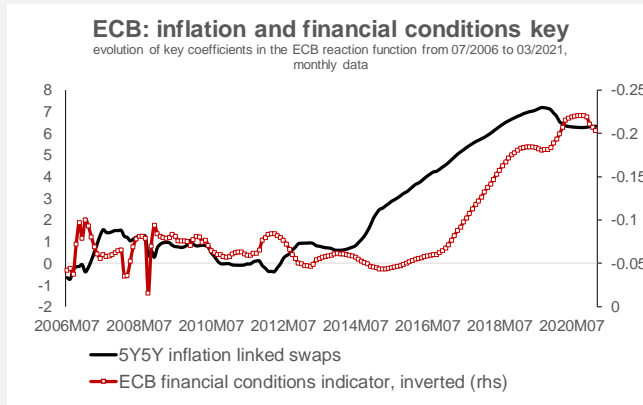
Box: The ECB's reaction function

We explain the monthly evolution of the ECB shadow rate (*ECB_shadow*) from 01/2006 to 03/2021 by means of a constant (C), potential growth as a proxy for the natural interest rate (r*), the output gap (OG), the 5Y5Y implied inflation linked swap inflation rate (5Y5Y) as proxy for the steering of medium-term inflation expectations. We augment this standard approach by the FCI and impose a breakpoint in 12/2014 to assess whether the behaviour changed when the ECB announced QE because of the low inflation environment. We obtain

$$ECB\_shadow = -13.8 + 0.26 \cdot r^* + (0.04) \cdot OG + 6.3 \cdot 5Y5Y$$
$$-0.11 \cdot FCI \quad \text{(until 11/2014)}$$
$$-0.46 \cdot FCI \quad \text{(since 12/2014)}$$

where ( ) indicates that OG was not significant.

The ECB's reaction function
Explanation ECB shadown rate through the output gap, potential growth, 5Y5Y ILS and the FCI

The increasing importance of the FCI is also confirmed by means of rolling regressions. They show that in the low inflation environment the ECB's focus shifted even more towards targeting *5Y5Y* and *FCI*.

ECB: inflation and financial conditions key
evolution of key coefficients in the ECB reaction function from 07/2006 to 03/2021, monthly data

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Box: The ECB financing conditions indicator

For the construction of our ECB financing conditions indicator (FCI) we use as input variables along the lines what had been proposed by e.g. Lane:

Spread: Difference between the GDP weighted 10Y government bond yield curve and the 10Y OIS

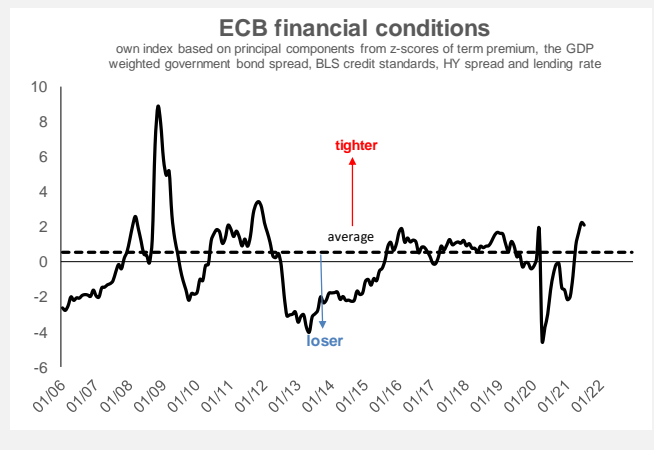*Term_Premium:* Difference between 10Y and 1Y OIS yields

HY_spread: An option adjusted high yield spread

BLS_credstand: An unweighted average of past and expected credit standards for firms, consumer credit and housing credit from the ECB's Bank Lending Survey. Monthly data are generated by linear interpolation.

Lending_rate: Average of the lending rates for non-financial corporates (> 1 mn and > 5Y) and the personal lending for new house loans (between 5Y and 10Y).

For constructing the FCI we performed a principal component analysis of the standardized variables to get the weights (loadings). In order to control for the business cycle, we regressed each of these variables on a gauge for inflation (5Y5Y inflation rate from ILS) and activity (the EC's ESI). The final FCI is then obtained as the sum of the resulting residual for each variable multiplied with respective loading across the five variables.

The FCI is directly impacted by fiscal conditions through the effect on the variables *Spread* and *Term_Premium*. Indirectly *Lending_rate* is also affected.

ECB financial conditions
own index based on principal components from z-scores of term premium, the GDP weighted government bond spread, BLS credit standards, HY spread and lending rate


Japan: BoJ lacks control over inflation

Over the last decades, the Bank of Japan (BoJ) has been in the unusual situation of facing repeated periods of deflation. In fact, inflation has averaged only 0.16% since the mid-1990s. The Covid-19 crisis pushed headline inflation temporarily back into negative territory again.

The BoJ's challenge is unique. Money supply and the price level have completely decoupled. As the graph shows, prior to 1998 M2 and CPI had the usual positive relationship.

However, this relation broke down and the massive expansion of M2 thereafter has not lifted the price level in any substantial way. This poses not only an economic problem but also a theoretical one. The BoJ is indeed robbed of the effects of its most fundamental policy tool, i.e. money supply.

Japan: Money supply and CPI
1980 - 2021
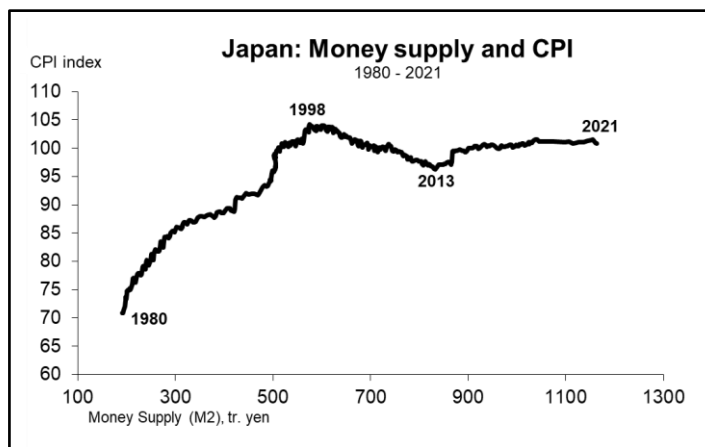
Japan's first period of extended deflation (1997-2005) is widely interpreted as the result of the burst of the real estate bubble and the stock market slump in 1990. However, deflationary tendencies repeated during the Great Financial Crisis from 2009 to 2012, again in mid-2016 and most recently with the Covid-19 crisis. The mechanisms behind these periods are much less clear, but any hypothesis must be able to explain, why – on the one hand – monetary expansion has almost no impact on inflation while – on the other hand – this is not true for aggregate demand. The output gap (calculated by the BoJ) and CPI inflation still have a strong positive correlation, with a delay of about six months.

Japan: Output gap and Inflation
pp of GDP, inflation = all items less fresh food and energy, yoy
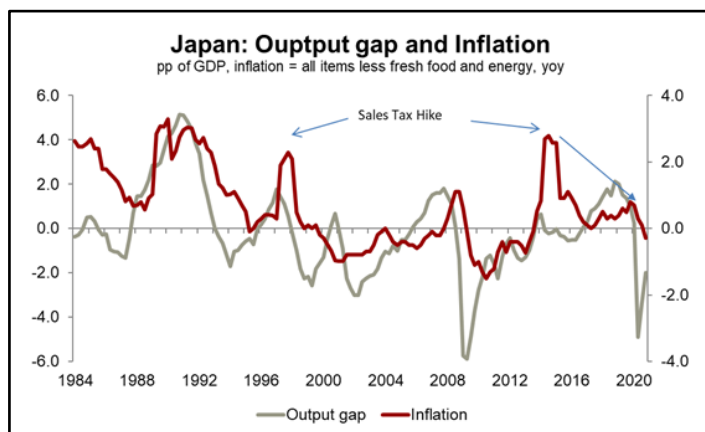
Consequently, the transmission mechanism must be broken within the monetary realm. We consider insights from the flow of funds statistics prior to the Covid crisis as most useful in this regard[1]. It generally shows that Japanese corporations maintained a substantial, positive financial surplus. Corporates in aggregate can rely very much on self-financing and describe, for instance in the BoJ's Tankan report, their financial position as easy. For the BoJ this implies that raising money supply (which traditionally fosters credit availability at a lower price) is "pushing on a string". Or to put it differently, the imbalances between savings and

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[1] It looks too early to judge whether the crisis has changed relative financial positions lastingly.

investment create a deflationary gap. And this gap is likely perpetuated by Japan's demographic development. Japan's population growth peaked in the early 1990s and turned negative in the last decade. An ageing population tends to reduce extension investments (but not replacement investment) while households tend to save more, preparing for retirement.

Elements of the BoJ strategy

The BoJ's response has historically been built on the hope that money supply and inflation will recouple at one point in time. The bank's policy has been geared towards monetary easing with ever more "aggressive" tools. The current monetary policy – Quantitative and Qualitative Monetary Easing **Policy (QQE) – goes back to April 2013** (as the monetary "arrow" of Abenomics). The goal was to achieve an inflation target of 2% "at the earliest possible time, with a time horizon of about two years". The means was a massive monetary impulse, stressing on top of traditional monetary transmission channels (interest and exchange rate) the inflation expectations management. **In 2016, the BoJ added yield curve control (YCC) to QQE which de-facto shifted the policy from quantity to price control**.

Eight years after the introduction of QQE, the target to reach 2% inflation within two years has clearly proven too ambitious. "Lowflation" has prevailed. Even the BoJ official outlook for inflation in FY 2023 is only 1%. Moreover, the limits of monetary policy look stretched. The BoJ's balance sheet amounts now to more than 127% of GDP, compared to 30-40% in the US and the euro area. Given this background, we see the BoJ ongoing and further strategy to consist of three elements:
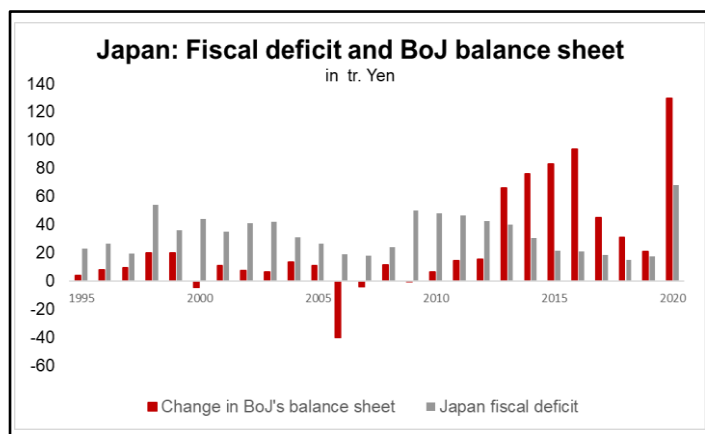
- Continue to prepare for a "protracted battle" and manage the side effects
- Closely coordinate with fiscal policy
- Manage expectations

If the above-mentioned reasons for "lowflation" are true, the influence of the BoJ on these fundamental variables is rather limited. Thus, the BoJ needs to fight a protracted battle. It looks unlikely that incumbent Governor Kuroda will change the underlying policy and thereby concede defeat of a policy, he pushed to install. Unfortunately, extended QQE with YCC is not without side effects. Buying ever more government bonds could wreck the market. Especially pension funds also rely very much on JGBs. Secondly, negative rates and a flat yield curve jeopardises (mostly smaller, regional) commercial banks' profitability and thus could contribute to a further weakening of the monetary transmission channel.

However, the BoJ can monetize the government net fiscal deficit. Thereby, it would indirectly use the existing positive correlation of aggregate demand and inflation and side-step the broken credit-mechanism. At the same time, it would not diminish the bond market size substantially further (the net fiscal deficit does not include extending existing debt) and thus jeopardise the market functioning for e.g. pension funds. In the three years prior to the Covid-19 crisis the BoJ's balance sheet expansion already seemed to converge towards this net fiscal deficit. During the crisis in April 2020, the BoJ scrapped the previous upper purchase limit

(¥80 tr per year). Given the unusual circumstances and large fiscal programs (by that time the government had announced a new headline emergency package of ¥117 tr, 20% of GDP, of which ¥48.4 tr was fiscal spending), the bank thereby neutralised any impact of JGB issues on its YCC policy. At the same time, it de-facto endorsed any amount of JGBs to be issued by the government. In fact, we expect fiscal and monetary policy to move largely in lock-step, once the worst of the pandemic induced crisis is over.

Japan: Fiscal deficit and BoJ balance sheet
in tr. Yen

Legend: ■ Change in BoJ's balance sheet ■ Japan fiscal deficit

In addition, in its **policy review in mid-March the BoJ drew on a lesson from incentivising by 10 bps** its "Special Funds-Supplying Operations to Facilitate Corporate Financing regarding the Novel Coronavirus (COVID-19)", which is basically a funding-for-lending scheme. While aggregate bank lending had hovered around 2.5% yoy for years, it shot temporarily up to more than 6% yoy after that decision. As a result, the BoJ decided to establish a rather complicated "Interest Scheme to Promote Lending". Under this scheme, the BoJ will pay additional interest rates to financial institutions' current account balances (held at the BoJ). These balances correspond to the amount outstanding of funds that have been provided through the BoJ's various fund-provisioning measures. Moreover, the Special Fund supplying operations will be categorized into three groups with different incentives. And the reference category will have the same interest rate as the absolute (sic!) value of the short-term policy rate. Thus, a policy rate cut would automatically increase the subsidy.[2] The BoJ said that this direct link to the policy rate has been set up "with a view to enabling the Bank to cut short- and long-term interest rates nimbly while considering the impact on the functioning of financial intermediation".

In sum, the BoJ is pushing the credit channel anew. The Covid-19 fund supplying operation had already a significant impact on the BoJ's balance sheet composition, which shifted markedly towards loans (reducing the share of JGBs from 84% in 2019 to about 75% by end-2020). However, firm's credit demand during Covid-19 is a special case and commercial bank's compensation for an interest rate cut still only partial. Thus, we consider the hurdles for such "nimble" rate moves still as high. Moreover, the lending growth rate receded to 0.8% yoy in June 2021, so that its previous spike is rather due to the special Covid-19 circumstances. Nevertheless, overall the BoJ's new scheme introduced a new element into expectation's formation process of the market

participants. On top, this new tool is well designed to support special growth areas or sectors. A special facility following this lending promotion scheme to foster the greening of the economy was already announced in mid-July 2021. But the BoJ offers to pay commercial banks only 0% interest, the weakest form of its incentives. It is also reported that the BoJ does not want to get stuck in assessing how "green" funded projects are. All in all, the funding for lending schemes look to requires an even closer coordination with the government which we expect to be the fundamental development over the next years.

Low yields but increased bond market volatility

The most important takeaway is that the review of monetary policy will bring about a **structural reduction in policy rates**. This view relies not only on greater tolerance towards short-term inflation pressures, but also on the assumption that inflation will stay at levels below central banks' targets. The Fed's AIT, the ECB's focus on favourable financing conditions and the ongoing fight of the BoJ against deflation warrant low key rates, thereby anchoring the short end of the curve. At the long end of the curve the central banks' higher tolerance for inflation will help to keep real yields low. Debt becomes more sustainable thereby reducing the sovereign risk premium also helping to keep borrowing costs in check.

A pronounced dovish bias is consistent with a low growth, high debt environment but can have several side effects, some of them may be unpleasant:

- By being less aggressive on inflation, especially the Fed and the ECB face a higher **risk of de-anchoring inflation expectations**.
- QE has become an orthodox policy tool thereby supporting debt sustainability. Thereby, the **frontiers between fiscal and monetary policy will increasingly be blurred**.
- Looking ahead, we think that fiscal policy will increasingly focus on topics like inequality and sustainable development. This implies a **bigger role for governments which would need to be accommodated by central banks**. While we think that at the margin the degrees of freedom for monetary policy could be reduced, we do not expect central banks to become hostage of fiscal policy. It is important to notice that the interaction of income and wealth distribution with monetary policy and the greening of the economy became part of the ECB's new strategy. The BoJ is most linked with the government sector. It will continue to absorb the net issuance of JGBs.
- Persistently low interest rates can create **asset price bubbles** and thereby even aggravate distributional issues. While central banks have since the GFC developed macroprudential tools to keep them under control, asset price inflation could run counter the fiscal effort to reduce inequality. As pointed out recently by the Bank for International Settlement in its Annual Report, a loose monetary policy that boosts equity and house prices can increase wealth inequality if ownership is very concentrated.

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[2] E.g. a policy rate cut from -0.1% to -0.25% would increase the interest rate paid to banks (absolute value) from 0.1% to 0.25%.

Turning to the implications for financial assets, structurally lower interest rate and, more generally, a focus to avoid tighter financial conditions will support risk assets. **This may require a tightening in macroprudential measures** to prevent bubbles emerging in, for example, house prices. On a separate note, a big caveat for European credit is how far the ECB will push the **discrimination between the green vs. brown assets**. Moreover, the willingness to accept longer periods of inflation overshooting may **increase the risk premia and make bouts of bond market volatility more frequent**. All this may eventually put an upward pressure on long term rates thereby offsetting some of the yield-dampening effects from the expected overall supportive central bank stance.

Annex: A dashboard for the US labour market

The dashboard below allows to track the aggregate evolution of the labour market by comparing the latest data with the pre COVID outbreak. It seeks also to illustrate how even is the evolution across groups.

US Labour Market Dashboard

	Pre Covid Avg.*	Jul-21	Jun-21	May-21	Apr-21	Mar-21	Feb-21	Jan-21	Dec-20	Nov-20	Oct-20	Sep-20	Aug-20	Jul-20	Jun-20	May-20	Apr-20	Mar-20
Unemployment rate																		
Overall	3.5	5.4	5.9	5.8	6.1	6	6.2	6.3	6.7	6.7	6.9	7.8	8.4	10.2	11.1	13.3	14.8	4.4
Broad	6.9	9.2	9.8	10.2	10.4	10.7	11.1	11.1	11.7	12	12.1	12.8	14.2	16.5	18	21.2	22.9	8.8
Median duration of un.	9.1	15.2	19.8	19.3	19.8	19.7	18.3	15.3	16.8	18.9	19	17.8	16.7	15.1	13.4	7.5	1.9	5.8
Prime age (25-54)	3.0	4.9	5.5	5.2	5.5	5.5	5.7	5.8	5.8	6.1	6.4	7.1	7.5	9.1	9.7	11.5	12.8	3.6
Asian	2.7	NA	5.8	5.5	5.7	6	5.1	6.6	5.9	6.7	7.6	8.8	10.6	11.9	13.9	14.9	14.5	4.1
Black	6.1	8.2	9.2	9.1	9.7	9.6	9.9	9.2	9.9	10.3	10.8	12	12.8	14.4	15.3	16.7	16.7	6.8
Hispanic	4.3	6.6	7.4	7.3	7.9	7.9	8.5	8.6	9.3	8.4	8.8	10.3	10.5	12.7	14.5	17.6	18.9	6
White	3.0	4.8	5.2	5.1	5.3	5.4	5.6	5.7	6	5.9	6	7	7.4	9.2	10.1	12.3	14.1	3.9
Men	3.5	5.6	6	6	6.3	6.2	6.3	6.4	6.7	6.9	7	7.7	8.3	9.8	10.5	12.2	13.6	4.4
Women	3.5	5.2	5.7	5.5	5.8	5.9	6.1	6.3	6.7	6.4	6.8	8	8.6	10.6	11.7	14.5	16.1	4.4
Less than high school	5.6	9.5	10.2	9.1	9.3	8.2	10.1	9.1	9.8	9.2	9.9	10.7	12.6	15.1	16.4	19.6	21	6.9
High School	3.6	6.3	7	6.8	6.9	6.7	7.2	7.1	7.8	7.8	8.1	9	9.8	10.8	12.2	15.3	17.3	4.3
College dropout	2.8	5	5.8	5.9	5.8	5.9	5.9	6.2	6.3	6.3	6.6	8.1	8	9.9	10.9	13.2	15	3.7
At least college	1.9	3.1	3.5	3.2	3.5	3.7	3.8	4	3.8	4.2	4.2	4.7	5.3	6.7	6.9	7.4	8.4	2.5
Employment to population																		
Overall	61.1	58.4	58	58	57.9	57.8	57.6	57.5	57.4	57.4	57.4	56.6	56.5	55.2	54.6	52.8	51.3	59.9
Prime age (25-54)	80.4	77.8	77.2	77.1	76.9	76.8	76.5	76.4	76.3	76	76	75.1	75.3	73.9	73.6	71.3	69.6	79.5
Young (16-24)	51.7	50.2	50	50	49.7	49	49.1	48.7	48.4	48.8	48.9	47	45.3	42.6	41.3	38.9	36	49.2
Old (55+)	39.3	36.7	36.5	36.5	36.4	36.5	36.2	36.3	36.3	36.5	36.7	36.3	36.4	35.9	35.2	33.9	33.3	38.3
Asian	62.1	NA	59.6	59.8	59.2	59.3	59	58.6	58.2	58.5	58	57.3	57	56.2	52.9	52	52.1	61.1
Black	59.1	55.8	55.9	55.4	55.3	54.9	54.2	54.7	53.9	54	53.7	52.5	52.5	51.5	50.8	49.6	48.8	57.7
Hispanic	64.7	61.4	60.6	60.5	60.1	60.4	59.9	59.4	59.2	59.9	59.8	58.2	58.5	56.4	55.9	52.9	51.4	63
White	61.0	58.9	58.4	58.4	58.2	58	57.7	57.3	57.7	58	58.3	57.4	57.2	56.1	55.7	53.6	51.8	60
Men	71.3	69.4	68.5	68.3	68	67.7	67.4	67.1	67.3	67.6	68.1	67.3	67	65.9	65.1	63.2	61.4	70.2
Women	56.8	53.9	53.7	53.8	53.8	53.9	53.5	52.9	53.4	53.6	53.4	52.2	51.9	50.8	50.4	48.3	46.9	55.9
Less than high school	43.9	42.3	39.6	38.9	40.1	40.8	41.2	40.8	40.7	41.4	41.5	38.9	39.3	38.3	36.1	34	34.1	42.7
High School	56.4	51.8	52	51.7	51.5	51.1	50.8	51.3	51.1	51.1	51.3	50.1	49.7	49.6	48.7	46.6	44.9	54.6
College dropout	62.8	59.9	59.4	59.7	59.3	59.6	59	58.4	58.6	58.4	58.3	58.4	59.1	57.4	56.9	55	53	62.1
At least college	72.1	70.1	69.8	70.2	69.6	69.4	69.1	69.3	69.1	69.1	69	68.8	68.8	67.3	67.6	66.7	65.6	71.2
Labour force participation																		
Overall	63.1	61.7	61.6	61.6	61.7	61.5	61.4	61.4	61.5	61.5	61.6	61.4	61.7	61.5	61.4	60.8	60.2	62.6
Prime age (25-54)	83.0	81.9	81.8	81.4	81.5	81.4	81.3	81.3	81.1	81.0	81.4	81.0	81.5	81.4	81.6	80.7	80.0	82.6
Young (16-24)	56.3	55.3	55.2	55.5	55.8	55.1	55.1	54.8	55.3	55.2	55.5	54.4	53.2	52.2	52	51.8	49.6	54.7
Old (55+)	40.3	38.4	38.4	38.4	38.3	38.2	38.3	38.3	38.6	38.8	38.8	38.9	39.4	39.3	38.9	38.4	38.5	39.7
Asian	69.2	67.6	67.5	67.4	67.6	67.3	67.4	67.5	67.4	67.4	67.7	67.6	67.7	67.1	67.2	66.7	66.2	68.5
Black	57.7	56.4	56.3	55.8	55.8	56.2	55.9	55.5	55.9	56	56.1	55.7	56	56.3	56.2	55.1	54.4	57.1
Hispanic	63.8	NA	63.2	63.4	62.8	63	62.2	62.8	61.8	62.7	62.8	62.9	63.8	63.8	61.4	61.1	60.9	63.8
White	63.0	60.8	61.6	60.9	61.2	60.7	60.1	60.3	59.8	60.2	60.2	59.7	60.2	60.2	60	59.6	58.6	61.8
Men	67.6	65.7	65.5	65.3	65.3	65.6	65.4	65	65.3	65.4	65.6	64.9	65.3	64.7	65.4	64.1	63.3	67
Women	63.2	61.6	61.3	61.4	61.5	61.4	61.4	61.4	61.6	61.5	61.8	61.6	61.8	61.5	61.6	61	60.3	62.6
Hours/Wages																		
Hours Worked	34.3	34.8	34.8	34.8	34.9	34.9	34.6	35	34.7	34.8	34.8	34.8	34.7	34.6	34.6	34.7	34.2	34.1
Atlanta Fed wage tracker (yoy %chg)	3.7	NA	3.4	3.4	3.5	3.5	3.5	3.5	3.5	3.6	3.6	3.6	3.6	3.6	3.6	3.7	3.6	3.7
- White	3.6	NA	3.4	3.4	3.4	3.5	3.5	3.5	3.5	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
- Nonwhite	4.3	NA	3	3.2	3.4	3.4	3.5	3.5	3.6	3.4	3.5	3.5	3.7	3.8	4.1	4.2	4	4.3
- High Skill	3.7	NA	3.4	3.4	3.5	3.5	3.5	3.5	3.6	3.7	3.7	3.7	3.7	3.6	3.6	3.7	3.6	3.7
-Mid skill	3.6	NA	3.3	3.4	3.5	3.5	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.7	3.8	3.8	3.7	3.6
- Low skill	3.7	NA	3.6	3.4	3.5	3.5	3.2	3	3.1	3.1	3	3	3.1	3.1	3	3.1	3.2	3.3
- Male	3.9	NA	3.6	3.6	3.7	3.7	3.7	3.7	3.7	3.8	3.8	3.7	3.7	3.7	3.7	3.7	3.7	3.8
- Female	3.5	NA	3.2	3.2	3.3	3.3	3.3	3.4	3.4	3.4	3.4	3.5	3.5	3.5	3.6	3.6	3.6	3.5
Expectations																		
NFIB - % planning to raise employment	19.7	NA	28	26	21	22	18	17	17	21	18	23	21	18	16	8	1	9
NFIB - % have raised wages	33.7	NA	39	34	31	28	25	25	21	24	23	23	18	15	14	14	16	31
NFIB - % planning to raise wages	22.3	NA	26	22	20	17	19	17	14	20	18	16	14	14	13	10	7	16
Conf. Board Cons.conf. - Job plentiful	46.7	54.9	54.7	48.5	36.3	27.5	23.1	21	21	26.3	26.7	23.6	21.4	22.3	20.5	16.5	18.8	43.3

Imprint

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Sources for charts and tables:	Refinitiv/Datastream, Bloomberg, own calculations
	Version completed: see front page

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