

the day after

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New Frontiers for Central Banks

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Monetary policy facing new challenges

Executive summary

*Central Banks (CBs) are by nature more flexible than governments. Thus, they have been the most proactive in this crisis, reintroducing large-scale asset-purchase programmes financed by money creation (QE policies). With this pandemic, a spectacular change in economic policy has taken place in just a few months: fiscal and monetary policies have become intertwined, and this is probably not reversible. While governments have become the **buyers of last resort**, CBs are playing their role as **lenders of last resort**. How far can they go? We argue here that **CBs are still far from being out of ammunition. Financial repression and fiscal dominance are here to stay**. CBs will maintain low bond yields for an extended period of time to alleviate the burden on the most leveraged agents.*

The structural weakness of nominal and real interest rates should lead investors to continue to 'hunt for yield'; in particular, this environment should encourage households to diversify their savings away from government bonds. Ultimately, we cannot rule out the emergence of new bubbles, the bursting of which could jeopardise macrofinancial stability. Regulation and taxation may have to be mobilised to contain asset-price inflation, particularly with regard to property market. Unconventional monetary policies call for more regulation, not less.

CBs will continue to provide liquidity as much as needed and to combat financial fragmentation. However, CBs alone cannot be expected to do the impossible; they can neither absorb on their own the increased economic fragmentation resulting from the crisis, nor even prevent companies in certain sectors from defaulting or even going bankrupt.

We believe that global deflation is at hand with the right policy mix. However, should the crisis deepen and deflationary pressure intensify, CBs would probably not hesitate to explore new avenues, of which all may have unwelcome side effects. We have to prepare for it and thus 'think the unthinkable': full-blown debt monetisation, helicopter money, debt cancellation or even very negative nominal interest rates.

The Covid-19 crisis has triggered the strongest global recession ever seen. Its duration and depth are still very uncertain. In order to avoid a major financial crisis, governments and CBs have been quick to put in place large-scale programmes. The economic policies implemented on both sides of the Atlantic are unprecedented, with stabilisation plans equivalent to 10-20% of GDP (including loans and guarantees) and CBs committing, more or less explicitly, to acquiring equivalent amounts of securities.

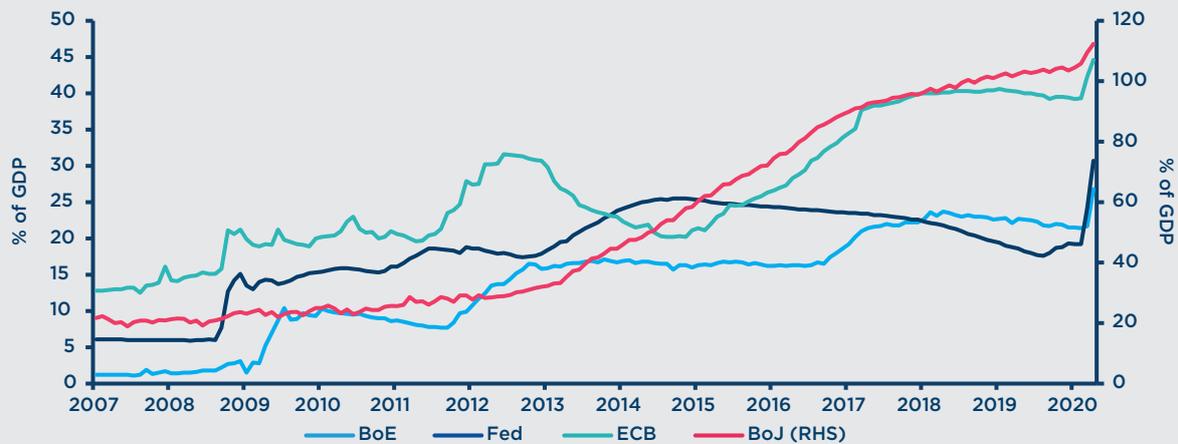
CBs are by nature more flexible than governments insofar as parliaments are not involved in their decision-making process. They were thus the most proactive in this crisis, lowering – when it was still possible – their key interest rates and reintroducing

large-scale asset-purchase programmes financed by money creation (i.e., QE policies). Arguing that circumstances were exceptional, **they have not only committed themselves to increase their balance sheet at a pace not seen before, but have also crossed new limits**. This can be exemplified, for instance, on the Fed's side, with the acquisition of 'fallen angels' bonds, and, on the ECB's side, with the decision to deviate temporarily, but significantly, from any rule of proportionality¹.

By committing to buy government and corporate debt, CBs contribute to maintaining very low nominal bond yields and containing debt service. In other words, they **ease the solvency constraint**. This is particularly true for public debt. Sovereign-debt issuance (net of CB redemptions and purchases) will be

1. The ECB's purchases are supposed to follow the capital keys (proportion to the national CB share of the ECB's capital).

Figure 1: CB balance sheets, as a share of GDP



Source: Amundi, Bloomberg, Data as of 27 May 2020.

negative in the major advanced economies in 2020. In the United States, this is the first time this has happened.

At the end of the day, governments have become the **buyers of last resort**, while CBs are playing their role as **lenders of last resort**. Basically, the principle on which their joint action is based is that there is always a possibility, even in a liquidity trap, of stimulating global demand through a proper combination of monetary and fiscal policy. Historically, economic and financial crises have always given the authorities the opportunity to equip themselves with the appropriate instruments or regulations to contain them². However, with this pandemic, a spectacular change in economic policy has taken place in just a few months: fiscal and monetary policies have become intertwined, and this is probably not reversible.

How far can CBs go? This issue is quite controversial. The long-term economic consequences of non-conventional policies (large-scale asset purchases and/or negative rates) are still primarily unknown, since CBs had never before increased the size of their balance sheets to such an extent, nor lowered their interest rates in negative territory.

We argue here that **CBs are still far from being out of ammunition**, and may continue to explore new avenues looking ahead, like helicopter money, debt cancellation, yield-curve control or even (very) negative interest rates.

First, we will carry out a brief review of QE policies, stressing their diversity. Then, we will look at the possibility for CBs to explore new avenues, either through yield-curve control or very negative nominal interest rates. We will then look at the possible macrofinancial impact and the consequences for investors.

Public-debt monetisation, 'fiscal QE' and helicopter money

It is important to understand the impact of CB policies on their balance sheets in order to understand the paths forward. Let's recall briefly the basics of QEs. Under QE policies, the size of the CB's balance sheet increases simultaneously on both the liability and the asset side. In its narrowest sense, QE consists of issuing money to acquire government securities³. Technically, on the liability side, the commercial banks' reserves with the CB (the amount of money in circulation) increase; while the CB's claim on the government that

2. It was following the crisis of the 1930s that the Fed adopted the statutes that enabled it to face the GFC of 2008. It is thanks to the sovereign debt crisis of 2012 that the ECB is today able to support (among other things) the guarantees provided by governments. Most of the tools mobilised (or that could be mobilised today) in the Eurozone were put in place after 2012 to save the euro.

3. This does not include liquidity-providing operations, which are more traditional operations whose impact on the CB's balance sheet is temporary.

it has acquired is shown on the asset side⁴. Another form of QE consists of purchasing private-sector securities (corporate bonds or even equities). This type of QE is sometimes presented as a **'fiscal QE'** because it can be broken down theoretically into two distinct operations: a QE on government debt and a parallel issuance of government-debt securities to buy private assets. This type of QE is qualified as 'fiscal', as it implicitly uses taxpayer guarantees to subsidise private firms.

Helicopter money⁵ (direct transfers from the CB to private agents) is another form of QE that has very different consequences for the CB's balance sheet. Under helicopter money, the money created is supposed to support directly aggregate demand⁶. In theory, helicopter money is equivalent to a fiscal stimulus financed by the CB⁷. However if CBs directly transfer money to private agents, the transfer becomes permanent⁸. The increase in the balance sheet no longer corresponds to an increase in the Treasury's debt to the CB, and public finance metrics (deficit- and debt-to-GDP ratios) remain unchanged despite additional expenditure. This option is thus technically different from debt monetisation, at least when the balance sheets of the Treasury and the CB are duly separated.

As a result, the CB falls in **negative equity**. In theory, the Treasury would have to opt for recapitalisation. For that, the government may issue a perpetual zero-coupon bond. However, this CB's claim on the government would be fictitious insofar as it has no time

horizon. However, CBs do not face the same constraints as commercial banks. In particular, there is nothing to prevent a CB from continuing to operate, even when it is in a negative-equity position. Yet this option has its limitations. If money creation far exceeds a CB's assets, this can generate a widespread loss of confidence and inflation expectations that would lead to increased savings or flight to real assets (e.g., gold, real estate).

Finally, note that, from a fundamental point of view, nothing prevents the CB from writing off the sovereign debt it has accumulated or from keeping it indefinitely on its balance sheet by rolling bonds over as they mature. Debt cancellation would be akin to helicopter money. If the CB decides to restructure some or all of the debt accumulated under past asset-purchase programmes, this is a form of transfer to the Treasury⁹. Given all the legal issues that CBs would face by doing so, they are exploring other avenues.

Yield-curve control (YCC) back to the forefront

With CB key rates close to zero, yield-curve control policies (YCC) are back in the spotlight. During YCC, the CB seeks to control a particular point or segment of the yield curve (often the ten-year yield). To do so, the CB implicitly commits itself to purchase the amounts of government bonds needed to achieve its objective. If the CB is credible, owing to market arbitrage, bond yields tend to move close to their target. The YCC is often akin to a form of QE but with different

4. In practice, this is in fact monetary financing by the State. The ECB can only directly acquire government bonds on the secondary market. It is explicitly forbidden to buy on the primary market, because it is a direct financing of the State. That said, through substitution effects in the portfolios of private agents, there is indeed monetary financing by the State, but it is indirect: States finance themselves more easily because of the natural porosity between the primary and secondary markets.

5. The parable of the helicopter dates back to Milton Friedman, who first made an analogy between unrequited money creation and a (one-off) helicopter distribution of banknotes. *"Let us suppose now that one day a helicopter flies over this community and drops an additional \$1,000 in bills from the sky, which is, of course, hastily collected by members of the community. Let us suppose further that everyone is convinced that this is a unique event, which will never be repeated."*, Milton Friedman, *"The optimum quantity of money"*, 1969.

6. Provided that economic agents do not anticipate a corresponding rise in inflation.

7. The United States was the first to cross the Rubicon of 'helicopter money'. In April 2020, the US Congress passed a plan that requires the Treasury to send checks to American households; Congressmen knew perfectly that in the end, the Fed would foot the bill. The Fed through money creation will buy Treasuries, as needed.

8. Allowing the CBs (whose leaders are not democratically elected) to take discretionary fiscal actions may pose a legal problem. In the United States, for example, it would require Congressional approval. In the Eurozone, even though it is not legally banned, it would probably trigger legal action against it.

9. The CB is not a creditor like others. Therefore, this is a strong argument to disentangle market debt (held by private investors, including commercial banks) from debt held by the CB.

modalities: bond purchases adjust to bond yields, and not the other way around. The CB thus loses the control of its balance sheet. The yield peg could even lead the CB to reduce its balance sheet (quantitative tapering): this could be the case if private-investor demand exceeds the government financing needs (new issuance and refinancing).

The YCC was implemented in the United States in the post-war period, until 1947. Since 2016, the BoJ has explicitly targeted the ten-year JGB yield rate at zero: this policy, combined with negative key rates, has been successful insofar as it has allowed the BoJ to reduce its bond purchases and contain its balance sheet. The most recent FOMC minutes show that the YCC is being seriously considered by the Fed.

The YCC is possible in real monetary unions (e.g., United States, Japan, United Kingdom) where there is only one single public-debt instrument. However, it is not in the Eurozone for at least two reasons. First, because the ECB would have to target several yield curves simultaneously, one for each member state. In addition to operational difficulty, there would be a political obstacle: the ECB has no legitimacy to estimate the credit risk embedded in each sovereign debt. Whatever the target, it would be subject to endless political debate. Secondly, the ECB would face a legal problem because it would have to commit (*ex-ante*) to buying assets without any rule of proportionality, or even to monetising public debt, which is prohibited by the TFEU.

Think the unthinkable: (very) negative nominal interest rates

Since the 1980s, CBs have always cut their key interest rates very sharply during

recessions. Major CBs (Fed, ECB, BoJ) have on average lowered their rates by around 4% in response to severe recessions. However, in the current environment of low inflation in advanced economies, CBs have less room for manoeuvre when key rates reach their 'zero lower bound' (ZLB).

But the ZLB is not a law of nature. Between 2012 and 2016, certain CBs have tried to free themselves from this bound. The CBs of Switzerland, Sweden, Denmark, Japan and the ECB reduced their key rates below zero for the first time in economic history, but ultimately only marginally. The effectiveness of negative interest rate policies (NIRPs) is still highly controversial. Large financial institutions remain very strongly opposed to it¹⁰. The dominant view among economists is that nominal interest rates cannot be expected to move significantly below zero. In this case, economic agents would prefer to hoard their money in the form of cash, so that CBs could no longer stimulate demand and credit. Another argument most often put forward is that negative rates reduce banks' profitability and lead them to reduce their lending.

Do not forget that it is ultimately the real interest rate, not the nominal rate, that matters for the economy. CBs are often wrongly blamed for the excessively low level of interest rates. But they are in fact just as much victims of falling real interest rates as commercial banks. Moreover, real interest rates are not determined by monetary policy in the long run. Global real interest rates have fallen since the mid-1980s for structural reasons¹¹.

Certain economists¹² thus continue to promote NIRPs and even say that nominal interest rates can be put in very negative territory. In practice, they argue that legal,

10. It is often argued that commercial banks cannot pass on the costs to depositors. But in reality, there is empirical evidence that European banks have been able to pass on negative interest rates to their large customers relatively easily. As a matter of fact, many institutional investors are still willing to hold government bonds bearing negative yields. Moreover, those in favour of NIRPs advocate that measures can be put in place to protect households, for example by compensating commercial banks for bank deposits below a certain threshold.

11. Various explanations have been put forward: the increase in global savings due to the demographic cycle; the demand in emerging markets for the safe assets of advanced countries (e.g., lower trend productivity growth); the falling cost of capital goods; and the secular stagnation of global aggregate demand.

12. Kenneth Rogoff has recently been most vocal.

regulatory and tax measures could increase the cost of cash hoarding¹³. Contrary to the conventional wisdom, it would not be necessary to eliminate paper currency¹⁴.

Let us mention that if the Fed is still strongly opposed to the NIRP¹⁵, the BoE now seems to consider seriously this possibility. However, let us be clear: for practical reasons, the introduction of very negative key rates cannot happen overnight. Such a move would have to be prepared well in advance. We cannot deny that technology and electronic money are opening up new avenues through the traditional interest-rate channel. But we believe that this option would only be envisaged if the other options fail (i.e., if deflationary pressures intensify).

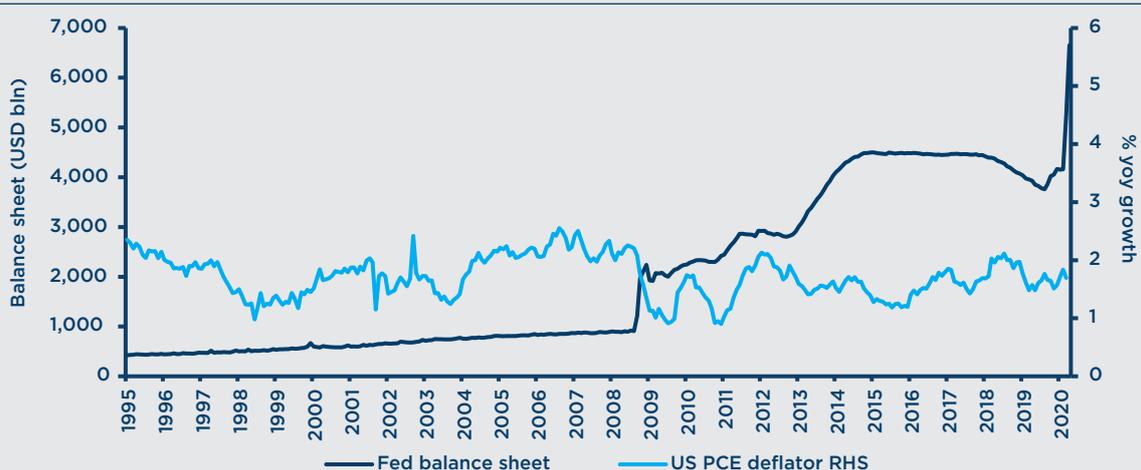
CBs have moved in uncharted territory and macrofinancial stability is at stake

With QE policies, there is no longer a clear boundary between fiscal and monetary

policy¹⁶. Subsequently, should there be a conflict between CB's mandate and government's objectives (cyclical stabilisation, public-debt sustainability), CB operational independence could be in jeopardy¹⁷. We believe this risk is more pronounced in the United States – where the Fed operates under close congressional oversight – than in the Eurozone, where the ECB's independence is enshrined in an international Treaty. **If the Fed were to lose its operational independence, it could de-anchor inflation expectations, and the consequences could be disastrous for the US dollar.**

Even if CBs keep their independence, giving the illusion that money can always be created *ex nihilo* is like opening Pandora's box, with demands of all kinds (pension increases, tax cuts, wage increases, etc.) which are potential sources of inflation. In the current regime, characterised by low nominal GDP growth, short-term interest rates close to zero and very high debts by historical standards, the benefits of monetisation seem to outweigh

Figure 2: Fed balance sheet and core PCE deflator



Source: Amundi, Bloomberg. Data as of 27 May 2020.

13. See also Lilley and Rogoff (2019), Agarwal and Kimball (2015) and Buiter and Panigirtzoglou (2003).

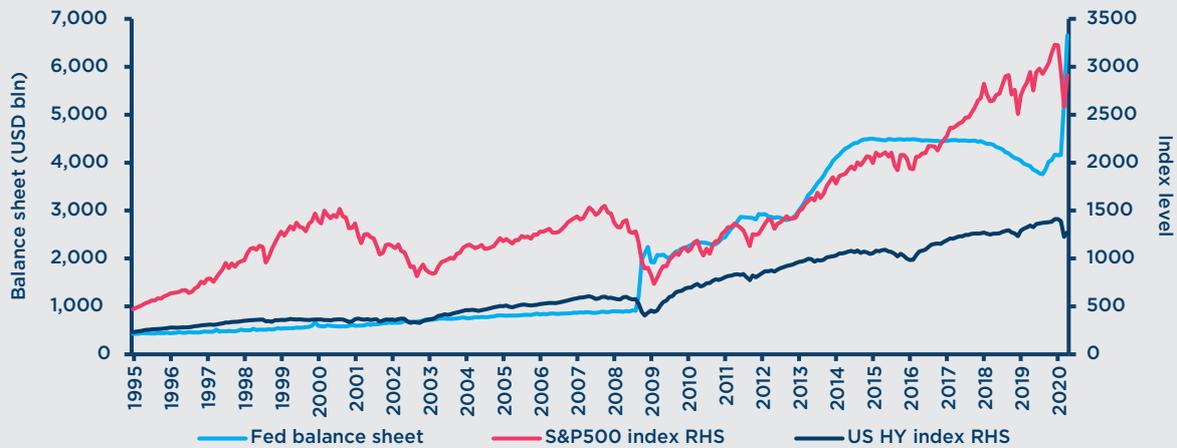
14. For instance, Kenneth Rogoff has proposed creating either a dual-exchange rate system, with an 'exchange rate' between paper money and electronic bank reserves or eliminating large note bills (a proposal that has also been put forward to limit tax evasion and combat criminal activities). The objective is to increase the cost of large-scale hoarding of money paper. In addition, he suggests that regulators could impose additional constraints that would in practice increase even more the cost of paper-money hoarding. At the end of the day, the cost of hoarding cash for large financial institutions (pension funds, insurance companies) would become prohibitive.

15. Jerome Powell recently recalled that FOMC members were unanimous to reject this possibility.

16. Note that this border has already been crossed with the QEs since 2008. In the case of helicopter or unlimited monetisation, the confusion goes up a notch.

17. CB operational independence is fairly recent (it has become widespread since the 1980s). CB independence is an institutional reality, but an economic fiction. Indeed, the Treasury is the beneficial owner of the CB: it collects the profits of the CB and, in return, is responsible for its losses. Subsequently, from a theoretical standpoint, we should look at their consolidated balance sheets.

Figure 3: Fed balance sheet and risky assets



Source: Amundi, Bloomberg. Data as of 26 May 2020.

the costs. Let us recall that some historical experiences with debt monetisation have been successful (Japan in the 1930s or Canada after the Second World War)¹⁸.

Nevertheless, the unlimited expansion of CB balance sheets could lead to a collapse in the external value of the currency. States that have little credibility on the international stage – many emerging countries are in this case – cannot implement this type of policy. **On a global scale, unlimited QEs might even trigger a crisis in the international monetary system,** with the potential for a general flight to real assets (property bubble, gold, etc.), or even encourage the development of cryptocurrencies.

As an alternative to traditional QEs, YYC could reinforce the forward guidance with a strong commitment to maintain long-term bond yields at low levels. As a complement (or an alternative), negative key rates could ultimately boost inflation expectations and steepen the yield curve. Such a move would benefit to banks and could help corporates and households to renegotiate their debts.

Both QEs and negative nominal interest rates have **unwelcome side effects**¹⁹. By anchoring

the risk-free rate at a very low level for a long period, **these policies distort market prices and tend to inflate risky assets, regardless to their fundamentals.** QEs are clearly welcome when risky assets are undervalued (this was the case just after the great financial crisis in 2008). However, they may ultimately generate bubbles on a wide range of assets (corporate credit, equities, real estate, illiquid assets etc.), endangering macro-financial stability. **Not to mention that by favouring capital holders (i.e. the wealthiest), they also have unwelcome distributional effects.**

What are the consequences for investors?

Financial repression and fiscal dominance are here to stay. Ultimately, most of the monetary policy options imply that nominal rates will have to remain low for a considerable period. This is in practice the only way to ensure public-debt sustainability.

In theory, the monetary policies envisaged, when combined with fiscal stimulus, should eventually revive economies and raise inflation expectations, probably above the official targets of the major CBs (2%). Given

18. Japan escaped the depression of the 1930s thanks to a highly expansionary policy mix combining public spending and monetary financing. In Canada, the central bank regularly financed government spending until the 1970s, without inflationary consequences.

19. Those who advocate very negative real interest rates argue that aggregate demand could restart faster than with QEs, limiting side effects. They also argue that by avoiding a quasi-fiscal role, CBs could more easily maintain their operational independence and their usual reaction functions.

the level of leverage in the system (both private and public debt at historical highs), some inflation would be welcome by the authorities. Against this backdrop, the Fed and the ECB strategic reviews, which have been delayed by the crisis, may soon come back to the forefront and will be scrutinised by investors²⁰.

In addition, we see other various consequences for investors:

- The structural weakness of nominal and real interest rates should lead them to continue to 'hunt for yield'; in particular, this environment should clearly encourage households to diversify their savings away from government bonds.
- With interest rates expected to remain persistently low, and not very volatile, currencies should play an increasingly role: in practice, they will be the only market variables likely to absorb cyclical divergences between economies. There should therefore be more volatility in FX markets. This should give more importance to currencies as an asset class.
- Emerging countries should eventually benefit from the policies implemented in the most advanced economies. Indeed, they will continue to benefit from higher nominal potential growth, to offer higher bond yields, and their currencies have depreciated quite significantly in the crisis (many of them have become undervalued).
- Finally, on a more structural note, with a persistently lower discount rate, the equilibrium value of risky assets is likely to be revised upwards over time.

The above consequences for investors are not immediate, and are still largely hypothetical, in particular when it comes to consequences for the fair value of risky

assets when bond yields are controlled and artificially maintained at low levels. Ultimately, we cannot rule out new bubbles, the bursting of which could jeopardise macrofinancial stability. Regulation and taxation may thus have to be mobilised to contain asset-price inflation, particularly with regard to property market. Unconventional monetary policies call for more regulation, not less.

Conclusions

Contrary to the conventional wisdom, monetary policy options are far from having been all fully explored. Given CB proactivity, we do believe that reflation is at hand with a well-calibrated dosage between monetary and fiscal policy. On the one hand, this will require more risk monitoring from regulators, while on the other, this should open new opportunities to investors.

In all likelihood, CBs will continue to manage actively their balance sheet in order to ease the financial constraints that would otherwise weigh on the private and public sectors that are heavily indebted. Public and private debts owed to CBs can be easily rolled over time. This can alleviate the debt burden on the most leveraged agents. However, CBs alone cannot be expected to do the impossible: they cannot make companies whose prospects have deteriorated creditworthy. Thus, bankruptcies and defaults may still be on the cards in certain sectors.

Looking ahead, the scale of the Covid-19 crisis is such that it will likely encourage CBs to explore new avenues, of which all may have unwelcome side effects. Should this crisis deepen, we should be prepared to 'think the unthinkable': full-blown debt monetisation, helicopter money or very negative nominal interest rates.

20. CBs could decide to target the price level, rather than the inflation rate; or in a more pragmatic manner, they could emphasize that their inflation target is symmetric. In practice, this would mean ensuring that prices grow by an average of 2% over the long term, thus allowing inflation rates to deviate temporarily from their 'target' (i.e. to overshoot) to compensate for the long period of undershooting (core inflation well below its target on average since the GFC). Looking at market inflation expectations, it is clear that investors have not yet priced in this change.



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