HSBC Global Research

23 November 2020

False negatives

Why cutting interest rates below zero may not be such a good idea

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Economics - Global

- Negative interest rates may be popular with some…
- …but they may only end up distorting the financial system without providing a useful economic stimulus
- Sustained fiscal support is a much better option

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For and against

Whereas the European Central Bank has been an avid supporter of negative interest rates, the Bank of England appears split on the issue while the Federal Reserve seems to be vehemently against.

Notes, coins, gold and silver are kings and queens

Conceptually, negative interest rates are problematic given the existence of notes and coin which, by definition, offer a zero nominal interest rate. True, notes and coin could be abolished but, in those circumstances, savers would doubtless look for alternative – if more cumbersome – stores of value. Gold and silver, for example, have done the trick through most of economic history.

Bank profitability and absent stimulus

Commercial banks are, in any case, reluctant to pass negative interest rates directly on to their retail – if not their corporate - customers (even if some retail customers may be faced with higher charges). As such, negative rates tend to squeeze the spread between deposit and lending rates which helps determine bank profitability. The result is fewer loans, more risk and, in time, lower economic activity.

From markets to "command and control"

There are ways around this problem, including "dual interest rates" – where lending rates are forced below deposit rates, as with the ECB's TLTRO policy - and helicopter money. In both cases, however, the weaknesses may outweigh the strengths: indeed, a dual interest system both threatens the integrity of bond markets and leads to a "command and control" financial system a long way removed from freely functioning capital markets.

The answer is right in front of you

It would be far better, frankly, for central bankers to admit that some of their increasingly experimental policies are doing more harm than good and argue increasingly in favour of much-needed fiscal stimulus. Indeed, such a policy might provide a path back to positive interest rates and an eventual restoration of central bank power that, since the global financial crisis, has had an ever-shrinking impact on economic performance.

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False negatives

- Negative rates may eventually do more harm than good
- The banking system and capital markets more generally are in danger of being distorted
- It may be time for central bankers to admit their impotence and argue more strongly in favour of fiscal heavy-lifting

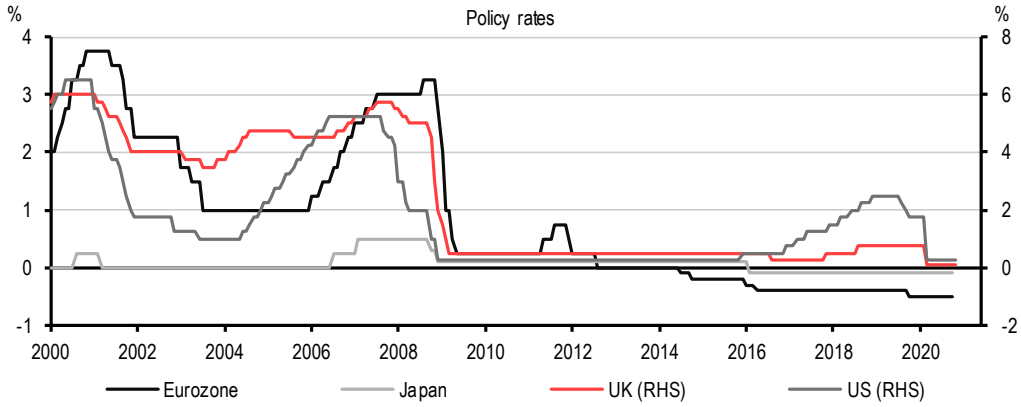
Empty buildings

Imagine having an aircraft carrier without aircraft or a concert hall without musicians. In both cases, we'd rapidly conclude that the infrastructure – whether boat or building – was rather pointless. Some might be wondering whether the same now applies to the Marriner S Eccles Building in Washington DC, the Old Lady of Threadneedle Street in the City of London or Sonnemannstraße 20 in Frankfurt-am-Main. The headquarters of respectively, the Federal Reserve, the Bank of England and the European Central Bank may be full of diligent economists, regulators and bankers but, at the end of the day, many of our monetary mandarins are scratching their heads, wondering whether they still have a purpose in life. With interest rates close to, at, or below zero, central bankers are in danger of running out of the monetary equivalent of aircraft or musicians (and, for that matter, the instruments the musicians play on).

To be fair, interest rates have been tumbling for many a year now. The Bank of Japan first encountered zero interest rates at the end of the 1990s. The European Central Bank first delivered negative rates in June 2014. And, as interest rates have headed lower more or less everywhere else, central banks have become ever more willing to experiment with what might best be described as "untried and untested" policies, designed either to change the market's expectations of future interest rate levels or, instead, to shift the relative prices of risky assets. From quantitative easing through to yield curve control, central bankers every so often emerge from their "laboratories" proclaiming the discovery of a new monetary "vaccine".

Yet, for all of their new-fangled approaches, faith in the traditional effectiveness of changes in interest rates has not entirely gone away, even if textbooks have tended to argue that, at around the zero rate bound, conventional monetary policy begins to lose traction. Both the Bank of Japan and the European Central Bank believe that negative interest rates are "working", to the extent that – in their view - both activity and inflation are higher than they otherwise would have been. The Bank of England is flirting with negative interest rates, even though members of the Monetary Policy Committee appear to be divided regarding the efficacy of a sub-zero interest rate world. Only the Federal Reserve appears to be unequivocal in its distaste for a journey beyond the so-called zero-rate bound.

1. Interest rates hit rock bottom – and in some cases then went beyond

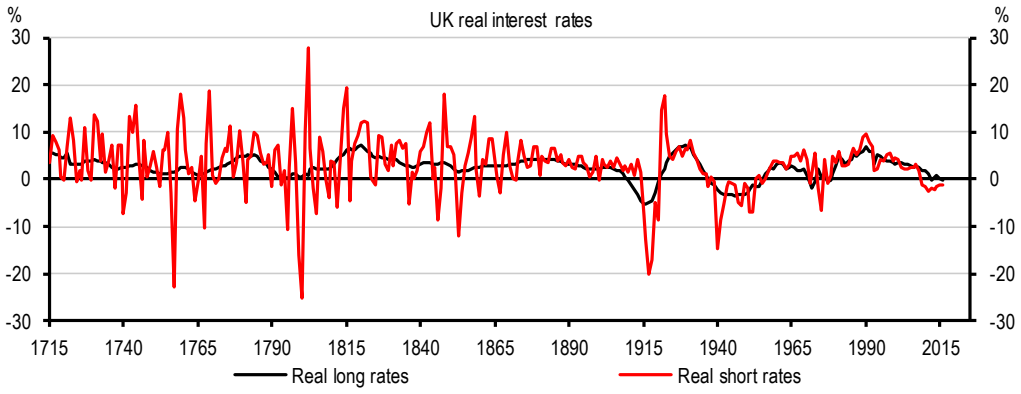


Source: Refinitiv Datastream

Negative interest rates: the conceptual challenges

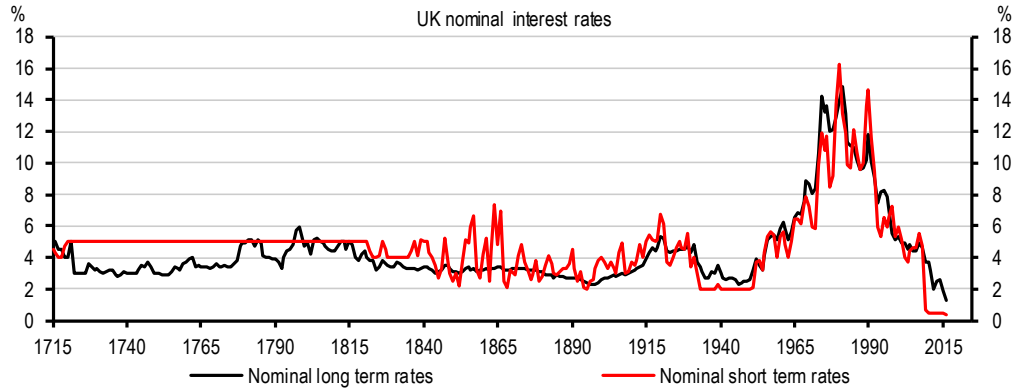
In real terms, negative interest rates are not particularly unusual. Chart 2 provides a history of real short- and long-term interest rates in the UK over the last 300 years. There have been plenty of occasions when, thanks to elevated inflation, real rates have turned negative. Chart 3 shows the path for nominal short- and long-term interest rates over the same period. Unlike real rates, nominal rates have never previously been negative, at least in the UK. We thus live in highly unusual times.

2. Real interest rates have turned negative during wartime and other periods of mounting inflationary pressure



Source: Bank of England. Note: The real long rates are based on annuities and consols prior to 1929.

3. Over three centuries, nominal interest rates have never before been negative



Source: Bank of England. Note: The nominal long rates are based on annuities and consols prior to 1929, nominal short term rates are an annual average observation.

The existence of cash is, perhaps, the most obvious reason why interest rates cannot fall very far into negative territory. By definition, cash offers a zero nominal interest rate. Put another way, a US dollar is worth a dollar in nominal terms at all times. True, a dollar's value can rise and fall relative to other currencies, alternative stores of value (gold or equities, for example) or compared with a basket of goods and services (through either inflation or deflation). But cash is, in effect, an anchor for other forms of money, including (most obviously) bank deposits. In the event that interest rates on bank deposits fell into increasingly negative territory, there would eventually come a point when deposits were withdrawn and stored, instead, in the form of cash.

We have no way of knowing where, on a scale of negative rates, that transformation would happen. Imagine, however, that nominal interest rates fell to, say, minus 10 per cent. Under those circumstances, would anyone keep their money in a bank? The choice, after all, would be between maintaining the nominal value of cash and the certainty of losing a nominal 10 per cent each and every year. Admittedly, the cash would have to be stored securely. Sleeping at night would be tricky if the cash was simply stuffed under the mattress. The answer, presumably, would be a massive expansion of vaults, other storage facilities and cash "insurance" policies, particularly if the central bank was indicating through forward guidance that very negative interest rates would be in place for the long term.

Initially, these vaults would trigger a collapse in the banking system as we currently know it. With an absence of deposits (liabilities), banks would not easily be able to make loans (assets). In effect, central banks would have destroyed the existing banking system, the equivalent of turning the thermostat up high enough to cause the boiler to explode.

Doubtless, a new monetary system would eventually emerge. If the majority of cash at any one time remained in vaults, new banks would materialise to make loans on the back of this cash (reflecting the deposit multiplier model beloved of textbooks but hopelessly at variance with current financial reality). There would be the beginnings of what might be usefully described as a "local" Gold Standard: anyone experiencing a "run" on cash would have to bid more to gain access to more money and, as such, pay a higher interest rate. There would not, however, be a centralised interest rate set by central banks: "local rates" would be determined by the degree to which individuals were long, or short, of cash reserves (the equivalent of countries being long or short of gold under the Gold Standard). Under these conditions, a successful future monetary policy would depend not so much on the adjustment of interest rates but, instead, on changes in the volume of notes and coin within the vaults.

All of which is another way of saying that, so long as cash exists (whether in home currency or in a foreign denomination), we're most unlikely to see interest rates falling to minus 10%. No central bank would want to be blamed for the destruction of the banking system as we know it.

Negative interest rates: the practical arguments

Nevertheless, at least some central banks have gone where no textbook once dared to go. In a speech given in August 2020[1], Isabel Schnabel, Member of the ECB's Executive Board, justified this journey with the following observations:

"Forward guidance…left the door open for the possibility of further rate cuts. This restored a fundamentally important element of monetary policy: the possibility for the market to anticipate further policy cuts….The zero lower bound was no longer constraining market expectations."

"Negative interest rates reinforced the effects of our asset purchases: when banks' excess reserves are remunerated at negative interest rates, there is a strong incentive to reduce them by shifting into risker assets, such as long-dated government bonds…[and] with the start of negative interest rates, we have observed a steady increase in the growth rate of loans extended by euro area monetary financial institutions."

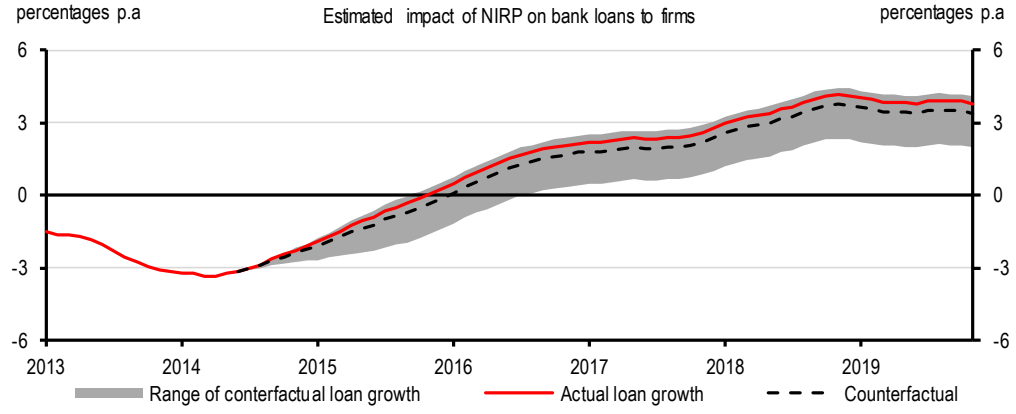
On the face of it, then, there are advantages associated with breaching the zero rate bound: negative interest rates encourage a more symmetrical market view regarding future interest rate movements (no longer can it be said that the only way is up), riskier assets rise in value, with attendant wealth effects and improved capital market access for borrowers and issuers, and loan growth picks up (see chart 4 for the ECB's estimate of the impact on loan growth relative to the counterfactual in which rates did not turn negative).

Too good to be true? Sadly, yes. A separate and important issue relates to bank profitability. As Schnabel admits, *"since banks are generally reluctant to pass on negative interest rates to their retail clients…the funding conditions of deposit-taking institutions typically fail to drop in tandem with the decline in lending….this effect is particularly pronounced for banks with a high deposit-to-asset ratio"* (true, in particular, for the UK banks). Still, in the euro area there is evidence that banks have the ability and the willingness to impose negative deposit rates on their corporate customers (in turn, an incentive for companies to do something more economically constructive than sit on a pile of cash). This, in turn, implies that the squeeze in margins may not be quite as severe as it might otherwise have been.

Schnabel adds, however, that *"by stimulating aggregate demand, negative interest rates have measurably contributed to an improvement in the macroeconomic outlook, thereby enhancing credit quality….[F]rom 2014 to 2019, the negative effects from lower net interest income and the charge on excess reserves were broadly compensated by a reduction in loan-loss provisions."*

[1] See https://www.ecb.europa.eu/press/key/date/2020/html/ecb.sp200826~77ce66626c.en.html

4. The ECB thinks bank lending has been higher than it would have been thanks to the negative interest rate policy



Source: ECB Economic Bulletin, Issue 03/2020

That's fine, up to a point. What happens, however, if other forces leave aggregate demand lower rather than higher, irrespective of a policy of negative interest rates? This is no idle academic question. After all, the COVID-19 pandemic has delivered precisely such an outcome: economic activity more or less everywhere is much more depressed than anyone imagined at the beginning of 2020, thanks in part to the "forced saving" or "deferred spending" of countless households and businesses. In these circumstances, the negative impact on bank profitability stemming from a squeeze in interest margins is reinforced by lower demand and, thus, rising loan-loss provisions (a result that helped end the Swedish Riksbank's flirtation with negative interest rates). The twin effects of negative rates and lower activity are more or less guaranteed to crimp bank profitability, to reduce the volume of loans and to undermine the traditional transmission mechanism of monetary policy. In addition, commercial lending rates may not fall in line with "official" interest rates, thus rendering interest rate policy toothless (as is happening currently with UK mortgage lending, particularly for those with higher loan-to-value loans). In other words, we may be reaching the point where interest rate cuts have perverse policy effects (one particularly odd effect during Sweden's earlier experiment with negative interest rates was the unusually prompt payment of tax: many Swedish companies decided that it was cheaper to pay the government early than to watch the money in their bank accounts slowly shrink over time).

Other observers have been more sceptical about the "benefits" of negative nominal interest rates. An *Economic Letter* published by the Federal Reserve Bank of San Francisco[2] argues that "*both bank profitability and bank lending activity* [for European and Japanese banks] *erode more the longer such negative policy rates continue, primarily due to banks' reluctance to pass negative rates along to retail depositors. This appears to negate one of the main arguments for moving policy rates below the zero bound.*" Short term benefits associated with an initial boost to non-interest income (in the form of higher charges and capital gains on holdings of securities) are quickly outweighed by losses on interest income and, as such, "*under extended negative rate episodes, evidence shows that both bank profitability and bank lending activity decline*", implying that an intended economic boost may fail to materialise.

It's hardly a ringing endorsement. While it's undoubtedly true that banks will inevitably look for ways in which to boost profitability in these circumstances – perhaps by introducing fees on bank accounts or (ultimately inconsistent with financial stability objectives) lending to higher

[2] See https://www.frbsf.org/economic-research/publications/economic-letter/2020/september/commercial-banks-under-persistent-negative-rates/

yielding but riskier customers – the long-term impact is increasingly negative. If the San Francisco Fed is to be believed, conventional monetary policy is in danger of becoming counterproductive – from the perspective of loan supply - when interest rates end up persistently below zero.

Negative interest rates: The pursuit of wealth

That same "counterproductive" charge might also apply to loan demand. Anyone who's ever given a moment's consideration to their pension prospects has – explicitly or otherwise – had to think about the "discount rate" to be applied to their future benefits. In simple terms, the lower the interest rate, the more money you need today to meet tomorrow's pension needs. If the interest rate declines to unimaginably low levels, there's an increased chance that those needs will go unmet.

It's one reason why companies have shifted from defined benefit to defined contribution pension schemes. Interest rates have been progressively declining for decades and, as such, the current discounted value of pension fund liabilities has been rising. One way to limit the risk to shareholders is to place the pension risk back onto the shoulders of employees through defined contribution schemes.

Yet, regardless of where the risk lies, the implications in macroeconomic terms are roughly the same. There are three main options: (i) current savings have to rise to make up for a pension shortfall (ii) individuals and the pension funds which invest their money have to take more risk to increase their chances of meeting their pension ambitions (which serves only to increase the danger of financial instability) or (iii) retirement age has to rise.

In truth, all three effects are at work. Retirement age is rising, partly a reflection of an increased burden from the baby boomer generation, which has led to an "inverted" population pyramid in many "mature" countries. Financial instability has increased as a "hunt for yield" has encouraged investors to acquire riskier assets (without such a "hunt", there would have been no sub-prime crisis and, by implication, no global financial crisis). And, in at least some countries, rather than encouraging more in the way of borrowing, lower interest rates appear only to have delivered higher levels of saving (which, in turn, push interest rates down even further). Germany and Sweden are the most obvious examples. Put another way, as interest rates drop below zero, it's quite possible that monetary policy begins to offer what might be best described as "reverse stimulus".

Making negative rates work better: some possible remedies

Abolish cash

COVID-19 has encouraged most of us to economise on our use of notes and coin. Yet, even before the pandemic, economists had argued that it was time to say goodbye to cash[3]. Abolition would, after all, allow central banks to set interest rates at any negative level, thereby removing any lingering fears about the constraining impact of "zero interest rate" notes and coin on monetary policy. And, with people increasingly using cards and phones rather than notes and coin in shops and restaurants, it might be argued that there is no time like the present to head down the abolition path.

[3] See, for example, Rogoff, K.S., *The Curse of Cash*, Princeton University Press, 2017. The most recent example, associated with discussion of digital currencies, is from Haldane, A., *Seizing the Opportunities from Digital Finance*, Speech to TheCityUK 10th Anniversary Conference, 18 November 2020

Yet it's not quite that simple. If only one country abolished notes and coin, its citizens would be free to hold notes and coin in an alternative currency[4]. To be fully effective – in other words, to allow a central bank the freedom to set interest rates at any level, positive or negative - the abolition would have to be worldwide, an unlikely event.

And even if cash were abolished, people would quickly find alternative stores of value. For much of human history, gold and silver have provided what empires, kingdoms, principalities, dukedoms and vassal states could not: a source of financial stability. If central banks end up dipping into our savings to deliver a specific monetary outcome, it's not difficult to imagine the collapse of the fiat money system that has dominated our finances for the last 100 years.

Dual interest rates

If commercial banks are either unwilling or unable to impose negative interest rates on their retail depositors, they are unlikely to lend as much as the central bank might be hoping to see (unless, that is, negative interest rates are imposed in camouflaged fashion via fees and charges on bank deposits). Either lending rates won't fall in line with central bank ambitions – in which case the central bank has effectively lost any influence over the transmission mechanism of monetary policy – or commercial banks will simply refuse to lend at a loss. Either way, monetary policy becomes a lot less effective.

One way around this – now embraced by, among others, the European Central Bank – is to introduce a system of "dual" interest rates[5]. Rather than commercial banks making loans on the back of their deposit base (or, for that matter, their access to wholesale funding), they can instead access funds directly from the central bank at a negative interest rate on condition that those funds, in turn, are lent out to the economy at large, preferably in ways that will boost demand. In the ECB's case, this procedure is carried out through Targeted Long-Term Refinancing Operations (TLTROs). [*In the bank's words, "The third TLTRO programme consists of a series of seven targeted longer-term refinancing operations, each with a maturity of three years, starting in September 2019 at a quarterly frequency. Borrowing rates in these operations can be as low as 50 basis points below the average interest rate on the deposit facility [author's note: currently -50bp] over the period from 24 June 2020 to 23 June 2021, and as low as the average interest rate on the deposit facility during the rest of the life of the respective TLTRO III.*]

There are some immediate difficulties with this approach. If retail deposit rates remained in positive territory, there would be little point in retail investors investing in, say, corporate bonds offering a guaranteed nominal loss: banks would, in effect, be offering an interest rate to savers "above" the market clearing rate" (or, alternatively, lending at "below" the market-clearing rate) and other forms of saving might be "crowded out"[6]. As such, and over time, either the corporate bond market would slowly disappear or be increasingly owned by banks with "cheap" funding, some of which would be operating increasingly under "zombie" conditions. The same might eventually apply to government bonds (banks incentivised to take the "cheap" ECB money and purchase government debt would be offering an indirect version of monetised fiscal financing).

The central bank, meanwhile, might eventually have to determine which commercial banking loans were "justified" (the ECB doesn't do so currently but others, such as the Hungarian Central Bank, have done: yet, under these conditions, an increase in risk aversion by banks

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[4] The fx implications of such developments are not entirely predictable

[5] See, for example, *https://voxeu.org/article/dual-interest-rates-give-central-banks-limitless-fire-power* by Lonergan, E. and Green, M

[6] This would be the equivalent of an upside down Regulation Q, the rule that prevented banks from offering interest rates on retail savings, thereby making it easier for the US government to borrow on the cheap

would limit the volume of lending, irrespective of the central bank's apparent generosity). Lending to companies might seem reasonable but those companies involved in speculation (from hedge funds to property investors) might not be directly seen to be adding to a nation's wealth. Lending to companies which use the funds – directly or otherwise – to invest abroad might also fall foul of lending "guidelines". Presumably there would be greater emphasis on "owner-occupied" mortgages than on "buy-to-let" mortgages, even if that meant, indirectly, a reduction in rental accommodation. It wouldn't be long before an open financial system was replaced by a "command and control" structure more in keeping with Soviet-style state planning.

Beyond all this, there is also an element of dishonesty about dual rates. In effect, the central bank is granting a subsidy to the banking system, encouraging banks to make loans at interest rates that would otherwise not be on offer. It would be more truthful – albeit politically controversial – to deliver the same outcome via the tax system, through the provision of subsidised loans (to be fair, it's a policy that has become understandably more acceptable – temporarily - as part of the COVID-19 response). It is difficult to imagine, however, that politicians would wish to admit that taxpayers' money was being used both to prop up lending volumes and, by implication, commercial bank profitability over the long run.

Helicopter money: quantity trumps price

Why bother worrying about the price of money when the alternative is to control its supply? Helicopter money in theory does just that. The central bank agrees to "buy" newly issued government debt to add to its balance sheet and, in exchange, the government receives newly minted cash that can be used either to cut taxes (the famous helicopter drop) or increase public spending.

Admittedly, this kind of action requires a level of coordination between the monetary and fiscal authorities that may be tricky to pull off. And, as numerous commentators – most famously, Ben Bernanke, the former Chair of the Federal Reserve[7] – have argued, it's important to retain central bank independence and thus avoid so-called fiscal dominance. In theory, however, it might work: other things equal, boosting the supply of money and guaranteeing that the additional funds are spent should be enough to boost both activity and inflation.

Again, however, there are complications. Helicopter money works primarily via increases in inflation and inflationary expectations. Debtors end up better off even as creditors are left to lick their wounds. The assumption is that debtors are more likely to spend their money than creditors (in other words, they tend to have higher marginal propensities to consume) and, thus, that demand is likely to rise. In truth, however, this is no more than a wealth tax in disguise: politically more appealing, perhaps, but unlikely to command a huge amount of support in countries with ageing populations dependent on their cash savings. Meanwhile, if citizens lose confidence in the integrity of a nation's monetary and fiscal institutions thanks to mounting fears of fiscal dominance, there's a risk that monetary velocity rises at an unstable pace. Put another way, people may wish to get rid of their cash as quickly as possible in a bid to safeguard themselves against future inflation. By doing so, however, they are only likely to unleash the inflationary outcomes they fear (hyperinflations, after all, typically rely upon this mechanism of monetary fear).

[7] See https://www.brookings.edu/blog/ben-bernanke/2016/04/11/what-tools-does-the-fed-have-left-part-3-helicopter-money/

The erosion of markets, the exit strategy and the fiscal alternative

Readers with long memories may recall that, when first introduced in the western developed world shortly after the global financial crisis, quantitative easing was regarded as a short-term policy, even if Japan's experience suggested otherwise. It would be quickly removed once the banking system had recovered and credit was able to flow through economies more easily again. More than a decade later, however, quantitative easing is still with us and interest rates are at rock bottom (and, in some cases – remarkably - below rock bottom). Over the same period, markets have – arguably – slowly been quasi-nationalised. Only the bravest investor today is likely to position on a "pre-euro-exit" rise in, say, Italian bond yields given the ECB's huge bond purchasing firepower. Risks that previously could be revealed in the pricing of financial assets now remain hidden. The bond vigilantes have slowly been killed off.[8]

Might similar problems occur with negative interest rates? We've already established that any system of "dual" rates operates as a subsidy to the banking system and, as such, may be difficult to remove once banks have become accustomed to raising funds directly from the central bank rather than from retail or corporate depositors. We've also noted that traditional capital markets may have to shrink in the light of an apparent "saver's arbitrage", thanks to the gap between negative lending rates and positive deposit rates. And even though there is no guarantee that central banks will continue to offer allotments to the banking system in sufficient size to keep lending rates below zero, it would be odd if negative interest rates were simply to disappear overnight, particularly given the difficulties associated with raising inflation back to the 2% targets embraced by so many of the world's central banks. Why raise rates when inflation targets remain out of reach?[9]

If the presence of negative interest rates were linked to COVID-19 alone, the case in their favour might be stronger (interestingly, there has been no further descent into negative territory during the pandemic). In those circumstances, negative rates would only need to be in place during periods of actual or feared lockdown in which businesses were left temporarily short of revenue. There would be a perfectly reasonable expectation that the extra monetary help was intended only to be temporary and that it was better to borrow now than at some – more expensive - point in the future. The argument collapses, however, once it's recognised that the ECB first delivered negative rates six years before the onset of COVID-19. Pandemics may come and go but, like quantitative easing, negative interest rates might end up being with us indefinitely.

There is, however, an alternative, one that might lead to interest rates eventually heading higher again for the most positive of reasons. Rather than boosting the economy via monetary policy, it might be better to boost the economy via fiscal policy instead. True, Japanese government debt has risen over a sustained period of time with only limited economic success and, importantly, no increase in interest rates. It could be argued, however, that the Japanese Ministry of Finance has always been a "reluctant" borrower: chart 5, for example, shows that the scale of any single year "stimulus" has tended to be modest compared with choices made elsewhere.

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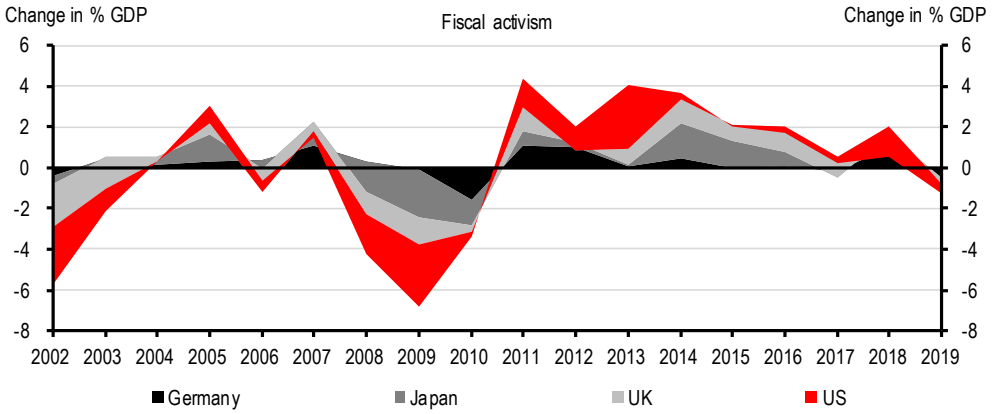
[8] Some have argued that, with QE in danger of buying the entire stock of government debt, the only other option for central banks is to deliver negative rates. This isn't obviously true. First, governments can easily choose to issue a lot more debt. Second, QE doesn't have to be limited to the purchase of government bonds. In extremis, central banks could buy equities, precious metals, oil, artworks and antiquarian books.

[9] Sweden was lucky: inflation rose enough to justify raising interest rates back above zero. The Eurozone, to date, has been unlucky

5. Fiscal "activism" among major OECD economies



Source: OECD Economic Outlook, The chart tracks changes in the "structural" budget balance for each country on an annual basis: it provides a rough calculation of "stimulus" or "austerity" in any one year with a more negative number implying a higher degree of stimulus

If, instead, governments can be encouraged to be willing borrowers – and at current interest rates, they could happily afford to be – there may be a way out of our current messy state of affairs. Arguably, COVID-19 has helped show the way by emphasising how much room governments have to raise fiscal borrowing beyond the limits of conventional fiscal rules. Even if there was no appetite for tax cuts and welfare payments, it should at least now be possible for governments to imagine investing in the kind of green infrastructure that could, in time, make our planet more inhabitable than it is today (in the words of President-Elect Biden, a chance to "Build Back Better").

Who better to push for such an initiative than the central banks themselves? Already both Christine Lagarde, President of the ECB, and Jerome Powell, the Chair of the Federal Reserve, have done so. Yet they have not quite declared that monetary policy is reaching the point of impotence. Were they to do so, the debate as to who, ultimately, has the capacity (and the responsibility) to kick start the economy could finally move on. And, with luck, the return of positive interest rates might allow central banks to regain the pivotal role in economic affairs that, frankly, they have slowly been losing in the long aftermath of the Global Financial Crisis.

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