Central Bank Watch

Our views and perspective on the latest trends - FOR PROFESSIONAL INVESTORS - 9 May 2016

Everything you ever wanted to know about helicopter drops (but were afraid to ask)

- The textbook helicopter drop involves **a permanent injection of money into the economy.** From a monetary perspective, more money now and in the future means more inflation and from a fiscal perspective the fact that the spending today is not financed by taxes tomorrow means the stimulus can be highly effective.
- **Many central banks have already begun to head along the flight path of a helicopter drop.** In what we call *Persistent quantitative easing (QE)*, past, current and future asset purchases are unlikely to be unwound for years, if not decades.
- We identify other variants of helicopter drops, depending on the degree of permanence of the cash injection and the level of coordination between the central bank and government. In one variant, *Permanent QE* is paired with fiscal stimulus, such that fiscal expansion is fully monetized by the central bank.
- If permanent expansion of the monetary base proves legally or politically challenging, the central bank may engage in QE alongside fiscal stimulus without communicating how long the bonds will be held on its balance sheet. But this strategy could be perceived as “more of the same” as opposed to a change in central bank strategy, and would prove less effective in boosting growth and inflation.
- Even when implemented through asset purchases, **a helicopter drop will eventually deplete the capital of the central bank**. The central bank can recapitalize itself by printing money, but it may have to print a lot to raise the necessary seigniorage income, and that can lead to monetary and financial instability: a lot of inflation and significant losses for leveraged institutions holding fixed income assets.

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The economic malaise that followed the financial crash of 2008 has prompted numerous innovations in the monetary policy toolkit. The scale of the initial hit to demand and the stubborn refusal of inflation to return to target has forced central banks to turn to unconventional tools to inject additional stimulus into economies, from large-scale asset purchase programmes to negative deposit rates to multi-year fixed rate loans to banks. However, inflation has yet to achieve escape velocity so the period of innovation may not yet be over. Attention is increasingly turning towards more extreme options like so-called 'helicopter drops', in which the central bank makes a permanent injection of money into the economy. In this note we describe a range of policy interventions which fit under the broad umbrella of a helicopter drop of money, assess their likely impact and highlight some of the constraints on implementation.

Decoding Milton's metaphor

The term helicopter drop belongs to Milton Friedman, who famously posed the following thought experiment way back in 1969:

"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"

The idea of distributing hard currency to the general public as a means of stimulating the economy seemed far-fetched during the tranquil times of the so-called Great Stability before the crash. Indeed, when then Federal Reserve Governor Ben Bernanke had the temerity to reference Friedman's idea in a November 2002 speech about how US policymakers would deal with a deflationary episode, he was given the nick-name 'Helicopter Ben'. However, helicopter drops have become much more fashionable in the post-crash era, with some high profile commentators, academics and market participants arguing that helicopter drops would be a more effective way of reflating the economy than more QE or more negative rates. But what exactly is a helicopter drop?

The basic case for a helicopter drop is typically articulated as follows: policymakers can better stimulate the economy by putting cash directly in the hands of the general public, rather than relying on the transmission mechanism of unconventional monetary policy through financial markets reaching those agents in the real economy. However, as we shall go on to discuss, unconventional monetary policy still plays a pivotal role in the real-world implementation of a helicopter drop. Indeed, the technical details of helicopter drops are far less radical than you might think.

The many faces of the helicopter drop

There are a number of policy measures which superficially look quite different but conform to the basic template of the helicopter drop. We now briefly review some key operational judgements which distinguish the different forms of drops:

- Is the drop intermediated? In Friedman's original thought experiment the central bank prints currency and distributes it to the public. However, while central banks may be well-equipped to distribute cash to banks, finance ministers have the comparative advantage in raining cash on the real economy since the government has a ready-made distribution pipeline (the tax and benefit system) through which cash can be passed to households and companies. The central bank might finance the drop, but in practice the government would likely distribute it.

- Is the drop 'something for nothing' or 'something for something'? The currency that is distributed to the public is conventionally assumed to be a liability of the central bank. In one form of the drop the central bank gets nothing (no asset) in return for the cash. In another – and we believe more likely – variant the fiscal authority provides the central bank with an asset (to match the new liability) that derives its value from the future flow of tax receipts that the government expects to receive.

- If the central bank is given an asset, does it receive a marketable security? The government may provide the central bank with a promissory note (essentially an IOU) or it may instead issue a bond that is traded in financial markets and can be readily converted into cash.

- If the central bank gets nothing in return for the drop, does it print new money or convert old QE to a "drop"? The conventional 'something for nothing' helicopter drop involves the central bank passing new cash to the government and getting nothing in return. An alternative way to envisage this mechanism is for the central bank to announce that it will never sell assets purchased under QE. This variant converts past QE into a helicopter drop, though has the disadvantage of not being accompanied by any new expansion of the central bank balance sheet (it just eliminates the possibility of the balance sheet shrinking in the future).

Central bank capital and 'something for nothing' drops

Money is a liability of the central bank so a 'something for nothing' helicopter drop will lead to a reduction in the capital position of the central bank. While there is some disagreement about whether central banks can continue to function (i.e., achieve their inflation mandates) with a large negative capital position it is hard to argue that they can do so indefinitely.

Central banks can be recapitalised in one of three ways:

- (i.) the fiscal authority can provide the central bank with an asset, though as we will discuss, there may be questions about whether the asset can truly be thought of as economic capital;
- (ii.) the central bank can retain some portion of the flow of seigniorage income that it currently distributes to the fiscal authority, allowing for gradual recapitalization; or
- (iii.) the central bank can print additional money to create a new source of seigniorage income to fund recapitalization more quickly.

This question of recapitalizing the central bank raises five key issues, in our view.

First, we doubt that the extent, timing and means of recapitalisation will be clear to the public or even policymakers at the time of the 'something for nothing' drop. Policymakers might discuss the end game explicitly at the time of the drop but we cannot be certain of that. After all, if there is genuine uncertainty about the costs for central banks of operating with negative capital then there is a reasonable case for waiting to gauge the extent of the problem before deciding how to fix it. However, the outcome matters to private sector agents so the transmission of the drop is particularly uncertain and will depend in large part on if, when and how the private sector expects the central bank to be recapitalized.

Second, if the helicopter drop is successful in stimulating the economy then the central bank will likely suffer further losses. This point applies to 'something for something' drops too: if the drop is ultimately successful then central banks could find themselves purchasing assets at the top of the market (i.e., when the risk free curve implicit in the price of those securities is still at a very low level). Even central banks who do not have to recognize mark-to-market losses will suffer negative income as they eventually tighten policy, since the earning on assets purchased when market rates were quite low will be less than payments to banks on ever-higher deposit rates (i.e., interest paid on reserves, in the case of the Federal Reserve).

Third, if the recapitalisation involves a drain on the resources of the fiscal authority – whether through the loss of seigniorage income or the diversion of tax receipts to the central bank – then the drop will involve a fiscal tightening at some point. This process is set to play out in the United Kingdom where the Bank of England has already distributed the cash buffer that was building up in its QE portfolio to the Exchequer. There is a clear acceptance that government borrowing will need to rise in the future when the interest income on the portfolio can no longer cover the cost of funding the portfolio and any capital losses on the bonds.

Fourth, recapitalizing the central bank via higher seigniorage income – as opposed to retaining some fraction of the existing flow of income – could lead to a significant increase in the central bank's balance sheet and the rate of inflation. Seigniorage income is the net interest margin that banks earn between their assets and liabilities. If that margin is relatively small then the central bank will need to significantly increase the size of its balance sheet if it wants to significantly increase the present discounted value of that flow. The scale of the required increase in the balance sheet will be hard to predict in advance, as is the link between money growth and inflation, but it is reasonable to conclude that this outcome is the most likely to lead to high and uncertain inflation.

Fifth, if the fiscal authority recapitalises the central bank through the gift of a bond but the central bank credibly commits to (1) permanently reinvest the maturing proceeds from that bond, (2) never sell the bond into the market, and (3) return any excess profits back to the government, then the improvement in the central bank's capital position is arguably an illusion (in effect, the central bank has acquired a zero coupon perpetual). However, so long as the central bank retains the option to sell its bond holdings or use interest income to build additional capital, than this concern does not bite since the central bank can derive economic value from the holdings. The same arguably holds if the public does not completely believe that current policymakers can irrevocably tie the hands of their successors to never utilize coupon income or maturing proceeds from the bonds.

The transmission mechanism of the drop

So which form of a helicopter drop – "something for nothing" or "something for something" – is preferable? As noted, a "something for nothing" drop in which the central bank eventually recapitalizes itself by producing additional base money and retaining the seigniorage can lead to runaway inflation, and is highly unlikely to be adopted. An alternative, recapitalization through seigniorage but without increasing base money, is likely too gradual a form of recapitalization to be credible. This leaves us with recapitalization by the fiscal authority, converting the helicopter drop to the "something for something variety". However, there is little rationale to delay providing the central bank with an asset. Indeed, assuming there are no legal or political constraints (and this may be a heroic assumption, as we discuss later) there are advantages of immediately implementing a "something for something drop" in which the central bank monetizes fiscal stimulus by purchasing government debt. Specifically, the public likely would see such a program as representing close coordination and cooperation between monetary and fiscal authorities. In contrast, if the central bank provides funds to the government and receives nothing in return, it risks the public interpreting this as a loss of central bank independence and an immediate depletion of the central bank's capital, which could lead to an uncontrolled rise in inflation. As discussed, over time the two variations are economically equivalent, but perceptions do matter. A central bank should prefer variants of helicopter drops that preserve perceptions of independence and adequate capital.

As we have seen, the obvious way to conduct a 'something for something' helicopter drop is for the government to distribute cash to the general public and the central bank to finance the project by purchasing government debt. The reader might reasonably ask how this differs from what is currently being done on the ground in Europe – namely, finance ministers easing fiscal policy and the central bank printing money to finance purchases of government debt?

The answer is: not much – at least in the short run. Central banks have already been engaging in monetary financing of deficits in the sense that central banks have printed money to purchase the government debt that was issued to fund those deficits. And if the economic outlook deteriorates then it would be reasonable to expect an expansion of this strategy to varying degrees across jurisdictions. Even in countries where finance ministers are unwilling or unable to consider further discretionary fiscal stimulus, we might expect to see a cyclical increase in government borrowing thanks to the automatic stabilisers, which could be met with an increase in the pace of QE.

What distinguishes the helicopter drop from the current approach of looser fiscal policy and QE is that the drop involves a fundamental change in monetary strategy. With a helicopter drop the injection of cash into the economy is permanent – the central bank has no intention of eventually unwinding the balance sheet expansion, as those central banks that have already engaged in QE have announced they will eventually do.

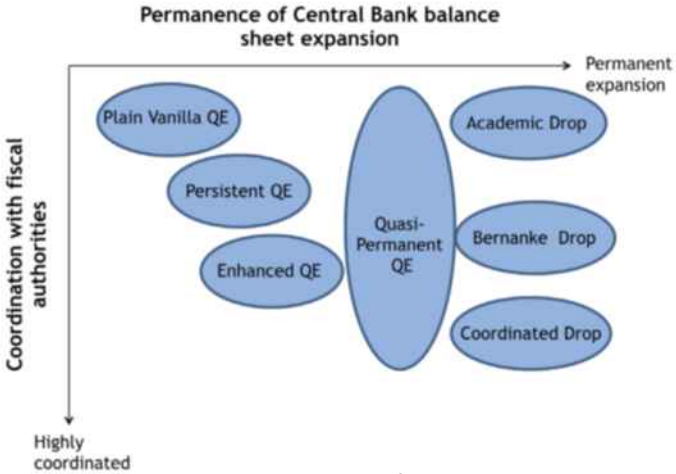
The central banks are committing to a looser stance in the future. As such, a higher stock of money in the future implies a lower path of interest rates too, other things equal. Of course, other things are not necessarily equal and if the policy is successful, then inflation expectations should rise and that should cause interest rates to rise too. The permanent nature of the helicopter drop therefore implicitly signals a shift in strategy, towards a looser stance in the future (larger money stock) and hence a higher path for inflation.

If fiscal authorities handle disbursement of funds, the fiscal leg of the drop is never paid for out of future tax receipts because the central bank holds the government debt for perpetuity. For those who worry about Ricardian offsets from conventional fiscal stimulus, where households save more now in anticipation of higher taxes later, the promise of permanent monetary financing might imply higher multipliers from that stimulus.

Bringing it all together: different combinations of balance sheet expansion and coordination with fiscal authorities

In prior sections, we argued that in a helicopter drop, central banks would likely aim to match its creation of new base money with an expansion of its assets, in order to avoid immediately depleting its capital. In addition, a helicopter drop is most effective when the public believes the expansion of the monetary base will be permanent. Lastly, we noted that a helicopter drop might very well be combined with fiscal stimulus[1]. Using this approach, elected officials control the distribution of funds that are provided by the central bank. Across these arguments, there are essentially two dimensions to consider – the level of permanence of the expansion in base money, and the level of policy coordination between the central bank and fiscal authorities. Thought of in this light, there are a number of approaches to balance sheet expansion that take on the appearance of debt monetization and, ultimately, a full-bore helicopter drop. These approaches are captured in the following graphic and accompanying text.

Two dimension of drops: permanence of central bank balance sheet expansion and coordination with fiscal authorities



Source: BNP Paribas Investment Partners

Plain Vanilla QE: Independent of decisions by fiscal authorities, the central bank undertakes balance sheet expansion by purchasing assets such as government bonds in the open market in order to meet legally-mandated macroeconomic objectives, such as maintain inflation close to target. Fiscal authorities may opportunistically expand issuance or term out the maturity of the debt to take advantage of lower rates, but these decisions are taken without coordinating policy with the central bank. In addition, the central bank communicates its intention to unwind asset purchases once certain economic conditions have been met, through some combination of asset sales and a passive, gradual roll-off of maturing assets.

Persistent QE: Although the central bank intends to unwind bond purchases, multiple rounds of purchases, proximity to the lower bound and business cycle fluctuations suggest that reducing the size of the balance sheet could take years, if not decades. While central banks may continue to communicate intentions to eventually reduce their balance sheets, the public increasingly see this intention as aspirational as opposed to achievable within a reasonable time period. As the central bank continues to expand asset purchases or balance sheet normalization, there is likely enhanced discussion with fiscal authorities on the interactions between monetary and fiscal policy.

Enhanced QE (or a 'stealth drop'): Central bank asset purchases coincide with fiscal stimulus, though there is ambiguity about the level of coordination between the central bank and finance ministry, perhaps to avoid the appearance of debt monetization. For similar reasons there is no pledge by the central bank that the resulting balance sheet expansion will be permanent, but there is a strong and immediate presumption of permanence on the part of the public.

Quasi-Permanent QE: The central bank commits to permanent expansion of the balance sheet, but highlights certain conditions that provide an option to unwind the expansion, such as a significant inflation overshoot. This softer form of a helicopter drop could occur with various levels of coordination with fiscal authorities.

Academic Drop: The central bank increases base money and also takes responsibility for decisions on how to distribute funds to the public. This variant describes Milton's theoretical description of a helicopter drop, and presumes little to no coordination with fiscal authorities.

Bernanke Drop: In a recent blog post, Ben Bernanke suggests a legislated scheme under which the Federal Open Market Committee (FOMC) could debit a Treasury account with funds to be used for fiscal stimulus. The FOMC would retain sole authority over decisions to fill the Treasury account. This proposal seeks to preserve the Federal Reserve's independence and avoid unchecked monetary financing. It presumes a high degree of coordination in setting up the process, but potentially less coordination thereafter.

Coordinated Drop: This approach combines permanent QE with full coordination with fiscal authorities; the central bank buys government bonds (most likely in the secondary market) and pledges never to unwind the purchases, while legislators enact fiscal stimulus such as increased spending or tax cuts.

Retroactive drops

There is one variant of a helicopter drop that we have not included in our taxonomy, despite frequent mention among investors, for the simple reason that it would be of very little value. But given its frequent appearance in discussions of helicopter drops, it is worth exploring. This variant is one we call a Retroactive Drop, in which the central bank "tears up" or otherwise works with the finance ministry to extinguish bonds purchased under QE. This has the effect of immediately converting prior QE into a helicopter drop; with the bonds removed from its balance sheet, the central bank gives up its ability to permanently reduce reserves in the system by selling the assets.

We struggle to see what positive impact this form of helicopter drop could achieve in the circumstances in which it would be on the agenda. First, there is no additional expansion of the money supply with a retroactive drop, in contrast to a helicopter drop implemented through new asset purchases. Thus it would only lead to a shift in inflation expectations if the public thought that the central bank would have otherwise reduced the money supply by unwinding QE purchases. This channel seems far-fetched. In most economies where QE has been conducted, expectations for central banks to unwind their balance sheet are already so far off in the future that in all likelihood a decision to undertake a tear-up of bonds purchased under QE might not greatly influence the public's expectations for the amount of reserves in the system over the longer term. This is particularly the case for the Bank of Japan, as we believe that market participants currently see almost no probability of the central bank reducing the size of its balance sheet over the long run.

1. However, we ought to worry about a Ricardian response to the inflation tax. Those whose permanent income is reduced by the erosion in the value of securities, contracts and benefit entitlements which pay a return that is not indexed might increase saving (in real assets) in response to the announcement of the drop.

We suspect that the idea of a "tear up" has gained credence among investors because it appears to address debt sustainability issues by extinguishing debt without resorting to a restructuring. In theory, the additional taxes (or bond issuance) that would otherwise be required to cover the cost of servicing that debt are no longer needed once the debt is extinguished. However, this benefit is again largely illusory if the bonds were expected to remain on the central bank's balance sheet indefinitely, which is probably the only scenario in which 'tearing up the bonds' would even be discussed. In such a scenario, the government would never have needed to raise taxes or issue new debt to pay off these obligations, as the central bank could be counted on to reinvest maturing proceeds into new government bonds. And in the meantime, the interest collected from the government on these bonds would be remitted right back to the finance ministry.

Not only do we see little value in the "tear up" version of a helicopter drop, it has the immediate cost of depleting the central bank's capital, requiring an eventual recapitalization. Given the circumstances leading to the drawdown of capital, the government would be unlikely to recapitalize the central bank by providing it with government bonds. Instead, the recapitalization would be achieved by the central bank issuing new liabilities and purchasing bonds in order to increase seigniorage income – in which case the central bank balance sheet will eventually look roughly the same as if it had expanded the money supply to fund a helicopter drop in the first place.

Have the 'stealth drops' already begun?

Many central banks have already moved into the realm of what we label 'Persistent QE'. In the United States, for example, investors do not expect any runoff of the Federal Reserve's asset purchases until the short-term policy rate rises enough to provide sufficient ammunition to ease policy in subsequent downturns. Investors currently see a policy rate of around 1.50 percent as a reasonable threshold for beginning a gradual unwinding of the balance sheet. Using this threshold and the Committee's policy rate projections, the FOMC would not even begin a gradual, multi-year balance sheet reduction until the middle of 2017, almost a decade after the first round of QE began. Interest rate futures prices reflect expectations that balance sheet unwinding would not begin until at least 2020. Should a recession occur over the next several years, balance sheet runoff would be delayed even further. And in such a scenario, the balance sheet could even grow.

The prospect of the ECB reversing its sovereign bond purchases looks even more remote; after all, the ECB is still adding to its portfolio. It may take a considerable time before the ECB finds itself in circumstances where it would be prudent to allow the balance sheet to go into run-off. The Bank of Japan appears even further away from beginning to contemplate a reduction in its balance sheet, particularly given the potential funding difficulties that the government may eventually face given a high government debt-to-GDP ratio.

Likewise, looking back, we can see examples of central banks that engaged in what could charitably be called persistent monetary financing even if it did not meet the exacting requirement of permanent monetary financing to qualify as a true helicopter drop.

In short, stealth drops have taken place in the past and in our view offer the path of least resistance for policymakers seeking to inject additional stimulus without falling foul of legal or political constraints.

Time consistency problems

A common critique of QE is that it works in theory but not in practice. Similarly, the power of the helicopter drop hinges on a theoretical economic mechanism which also does not obviously hold in practice. Specifically, The transmission mechanism of the helicopter drop relies on agents and investors understanding that the bonds purchased under QE will never be sold back into the market – as opposed to say five to 10 years in the future – and that this distinction matters for, say, the savings behaviour of households and the price of financial assets. This brings us to a familiar problem with the helicopter drop – time consistency.

The world of economic policy is rife with time consistency problems. Policymakers would like to be able to influence behaviour today by announcing that they will take some action tomorrow. However, that announcement is ineffective because it is not viewed as credible, as agents understand that when tomorrow comes the policymaker will have an incentive to renege on her promise. Helicopter drops suffer from this problem. The authorities may promise that the injection of money or the purchase of government debt is permanent but it is not immediately obvious that investors will believe that announcement.

The fundamental source of the time consistency problem is that, as noted above, the helicopter drop implies a change in monetary strategy. After all, if the permanent injection of money is perfectly consistent with the current strategy then the announcement of the helicopter drop would be a redundant 'statement of the obvious'. The fact that the helicopter drop is newsworthy reveals that it is not considered to be consistent with 'business as usual' inflation targeting.

Investors may worry that once the helicopter drop has sprung the economy from a deflation episode the central bank will try to shift back to the 'business as usual' strategy, by withdrawing the 'excess liquidity' from the system by selling the bonds back into the market or refusing to reinvest the proceeds as the bonds mature. One might reasonably wonder how the current crop of Central Bank Governors can commit their successors to honour an announcement made today. If investors thought this way then the helicopter drop would prove less effective on announcement, since it will then be treated as just another round of fiscal and monetary easing.

Pandora's box

Alongside these concerns about the credibility of an announcement to permanently expand the money supply, there is also a concern that rather than reversing the helicopter drop when it proves effective, the authorities may instead choose to double up. Launching the first helicopter drop may prove as wise as opening Pandora's box.

Helicopter drops finance government spending by printing money as opposed to raising new taxes or issuing new bonds. Politicians may conclude that the helicopter drop relaxes the resource constraint on government spending and become increasingly reliant on monetary financing. Investors might therefore conclude that contrary to Friedman's thought experiment, what was supposed to be 'a unique event which will never be repeated' could morph into a permanent fixture.

If investors believe that finance ministers will make systematic use of helicopter drops to finance government spending then they are likely to demand much greater compensation for future inflation on account of the implied news on the stock of money. Even the fear that finance ministers might make greater use of helicopter drops in the future might lead to a significant increase in the compensation that investors demand for the risk that inflation erodes nominal returns. As Otmar Issing recently observed:

"Once you expose the money-printing machine to governments, it is done. You can try to organize, institutionalize, limits to that and argue that an independent central bank could stop it any day -- this is an illusion."

How big should the drop be? Price level path targeting (PLPT)

We have highlighted how the key feature – and arguably the fatal flaw too – of a helicopter drop is the fact that the authorities promise that the increase in the stock of money and the central bank's holdings of government debt is permanent. The question that confronts policymakers is then how to quantify the size of the optimal drop and how to make the announcement of that permanent expansion credible whilst also containing fears of repeated drops and runaway inflation. In short, policymakers need a framework for conducting prudent helicopter drops.

The answer may lie in a policy innovation that we discussed in the previous edition of the Central Bank Watch: price level path targeting. Recall that under price level path targeting policymakers pledge to temporarily exceed their inflation mandates and drive the price level back towards a pre-crisis trend following a sustained period in which inflation has under-shot the target. Also remember that price level path targeting suffers from credibility issues of its own: investors may both question whether the central bank will renege on its promise to engineer over-shoots once inflation is back at the target and whether the central bank has tools to engineer that over-shoot even if it wanted to deliver it.

One could therefore argue that price level path targeting and helicopter drops are a match made in a disinflationary heaven. The permanent injection of money and purchases of debt is the stimulus today that is required to achieve the price level path target tomorrow. The price level path target is the anchor that defines the size of the optimal drop, providing an appropriate and transparent yardstick which would indicate whether the authorities are under- or over-utilising the helicopter technology. Together they make the shift in monetary strategy a little more credible.

Legal constraints

One of the complications involved in helicopter drops is that previous generations of policymakers have put in place legal constraints which were intentionally designed to constrain their successors' room for maneuver on this front. In this section we will focus primarily on the jurisdiction where we believe the legal constraints are the most significant – Europe – but we will briefly discuss the state of play in the United States and Japan at the end of this section.

President Draghi has said that the idea of the ECB conducting helicopter drops is 'fraught with operational, legal and institutional difficulties'. After all, the EU Treaty – which also constrains the Bank of England as well as the European Central Bank – has an explicit prohibition on monetary financing. Indeed, as the ECB's Chief Economist noted in a speech last year, the Treaty rules out the possibility that finance ministers could instruct the central bank to launch the helicopters:

"the independence that has been given to the ECB (and, in particular, the purpose of the monetary financing prohibition enshrined in Article 123 of the Treaty) is precisely to ensure that the central bank has full control over its balance sheet – that it cannot be forced by governments into monetising deficits or inflating away debts"

The qualified nature of the European Court of Justice's ruling on the ECB's capacity to buy sovereign bonds under the Outright Monetary Transactions (OMT) programme also speaks to how problematic 'permanent QE' would be. In particular, the strict restriction on allowing governments to 'circumvent budgetary discipline' was reasserted by the Court:

'such purchases may not be used to circumvent the objective of prohibiting the monetary financing of the Member States, since that objective seeks to encourage the Member States to follow a sound budgetary policy, not allowing monetary financing of public deficits or privileged access by public authorities to the financial markets to lead to excessively high levels of debt or excessive Member State deficits. Thus, when the ECB purchases government bonds on secondary markets, sufficient safeguards must be built into its intervention to ensure that the latter does not contravene the prohibition of monetary financing'

Finally, we can observe that there are explicit constraints built into the current QE programme in order to satisfy the legal concerns that were raised about the OMT and the ECB's desire to be pari passu with private investors. The Governing Council has self-imposed issue limits (currently 33%) on its sovereign bond purchases in order to:

'safeguard market functioning and price formation as well as to mitigate the risk of the ECB becoming a dominant creditor of euro area governments'.

The logic is that the ECB would feel obliged (under its interpretation of the Treaty) to always vote against any restructuring of sovereign debt and therefore it cannot allow itself to establish a blocking minority that prevents an orderly restructuring via its holdings of any given security. Some market participants believe that there is some wiggle room around the need for these issue limits on purchases of legacy debt which do not have collection action clauses (CACs) attached to the securities – i.e., if the ECB needs to upscale its QE programme. However, since CACs are now mandatory on new debt issued by Eurozone sovereigns these issue limits pose a material constraint on the capacity of the ECB to permanently finance the lion's share of the issuance that supports a fresh stimulus package.

This is not to say that the European central banks are completely out of options. As the ECB's Chief Economist has observed, the central banks could implement the literal interpretation of Friedman's drop, which does not involve the fiscal authority as an intermediary and therefore does not involve monetary financing, and is instead funded through seigniorage income:

"You can issue currency and you distribute it to people. That's helicopter money. Helicopter money is giving to the people part of the net present value of your future seigniorage, the profit you make on the future banknotes"

Even that step would be controversial. Bundesbank President Weidmann commented:

'That would be nothing other than completely mixing monetary policy and fiscal policy and would not be compatible with central bank independence'

Indeed, President Weidmann has spoken out against the whole concept of helicopter drops:

'Some academics might find this instrument a thrilling possibility, but it should not be part of the policy debate. It would be a rather dangerous instrument. There would be consequences; it would rip a hole in our balance sheet. This would erode trust in our balance sheet and undermine the credibility of the central bank. (…) In the end, it completely blurs the boundaries between monetary policy and fiscal policy'

Turning now to the state of play elsewhere in the world, we do not see the legal constraints impinging on helicopter drops to quite the same extent as in Europe.

In Japan there are some restrictions on what the central bank can do in the primary market. Article 5 of the Public Finance Law prohibits the Bank of Japan from underwriting issuance and restrictions on outright purchases but the Law does allow for exceptions ('when there is a necessity') up to an amount sanctioned by the parliament. However, the Bank of Japan is free to roll over its holdings of government debt and there are no restrictions on secondary purchases. It is not obvious that there is an insurmountable barrier to a helicopter drop here. Nonetheless, it is worth noting that Governor Kuroda has argued that it would be impossible for the Bank of Japan to conduct a drop:

'In advanced nations nowadays, fiscal policy is determined by the government and the parliament while monetary policy is decided by the central bank, which is separate from government and parliament. Deciding and implementing these things together would contradict the current legal framework. So unless the existing legal framework changes, helicopter money isn't possible, and we at the Bank of Japan aren't thinking about it at all'.

For the Federal Reserve, there does not appear to be any specific constraint on helicopter drops, so long as the asset received from fiscal authorities is purchased in the open market. Thus on the surface, a helicopter drop in the United States, should it ever be needed, would look much like QE, with the Federal Reserve purchasing Treasury bonds from its counterparties, the primary dealers. The main differences would be that Congress would at the same time announce a fiscal stimulus program, and the FOMC would make clear that this new round of asset purchases would never be unwound – the balance sheet expansion would be permanent.

Political constraints

In our view the real constraint on full-blown helicopter drops is not legal. After all, laws can always be changed. The real constraint is political – that is, the willingness to flexibly interpret (exploit) the current legal framework and the capacity to efficiently and expeditiously change that framework when circumstances dictate.

It is for this reason that we believe that the constraints on helicopter drops are more formidable in the Eurozone than elsewhere. First, the process of changing treaties is extremely time consuming when you are working with multiple parliaments and where you may also need to establish the support of the electorate via referenda. Second, and more important, the resistance to the idea of (permanent) monetary financing is to our mind more ingrained in the public conscience in parts of Europe than in other jurisdictions. In our view, it is not an exaggeration to say that efforts to legalize helicopter drops might test the patience of the German political class and populace to the breaking point.

Some sense of the political constraints on Eurozone drops can be gauged from a recent story in the German press which quotes sources in the German Finance Ministry saying that the Government would consider taking the ECB to court if it attempted to conduct a 'direct drop' with the objective of clarifying the limits of what the ECB can do under the Treaty.

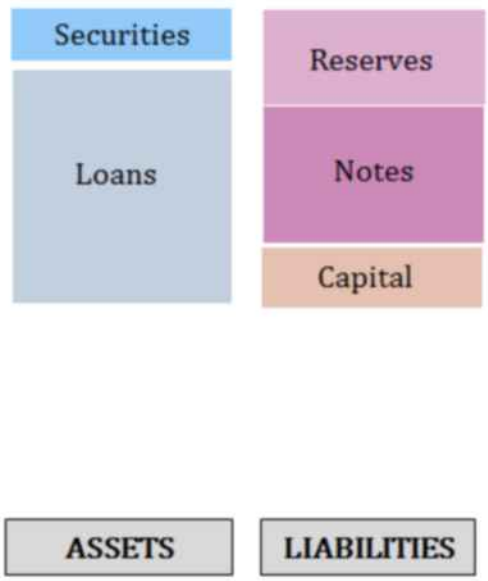
Academic drops and financial stability risks

Although the helicopter drop is often portrayed as the solution for countries that have become trapped in a balance sheet recession it is possible, and arguably probable, that the drop could lead to financial instability. In the academic version of the helicopter drop the permanent expansion in the money supply can drive the central bank into technical insolvency (negative capital). As noted earlier, the central bank can always recapitalise itself through seigniorage income, but it might have to print money on an industrial scale to generate sufficient income to build back capital and that could result in a significant increase in inflation. We also noted earlier that this unanticipated burst of inflation could erode the net worth of any individual or institution that holds a security, contract or benefit entitlement that pays a nominal return which is not indexed to inflation. Our particular concern is around long-term conventional bonds where we ought to expect a sharp correction in the compensation that investors demand for inflation risk (and hence the price). However, the point applies more broadly: the implied correction in the value of the currency will lead to significant losses (and gains) for any agent running a currency mismatch across their balance sheet. The question is then whether those agents on the receiving end can manage the hit to their net worth, or whether the drop leads to financial stress or even a default cascade. If, for example, leveraged financial institutions – and in particular banks – are holding large portfolios of long-term conventional bonds then the news that the central bank plans to recapitalise via an inflation tax could potentially drive those institutions into insolvency (at least on a mark to market basis), and that could ultimately lead to a domestic financial crisis, undermining the positive impact of the initial drop.

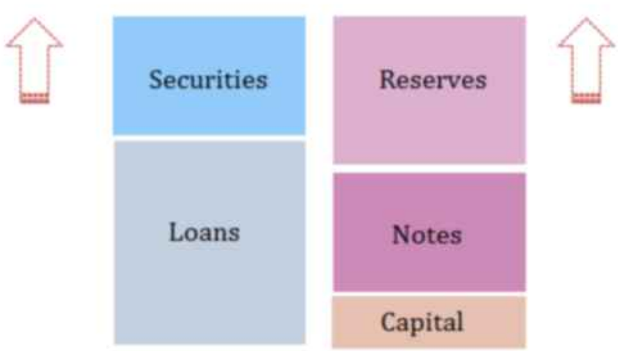
Appendix

Illustration of the impact of various forms of helicopter drops on the central bank balance sheet

Baseline

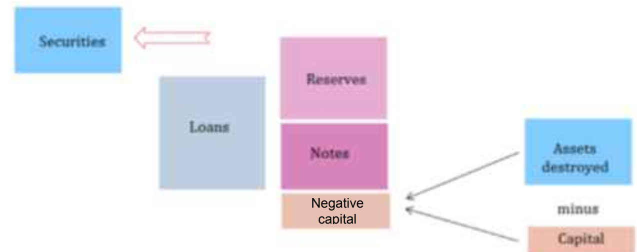


Plain Vanilla QE



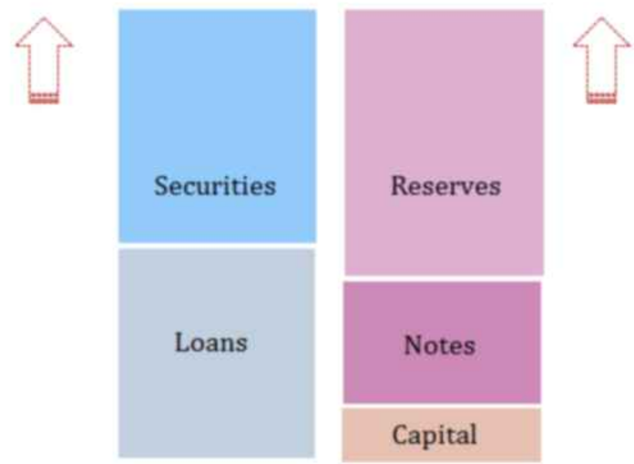
Central bank prints reserves and purchases securities. Capital can be depleted over time as interest income falls (interest paid out on reserves/deposits less than interest received on asset portfolio). Remittances to Government come to an end and may reverse.

Tearing up QE bonds (Retroactive Drop)



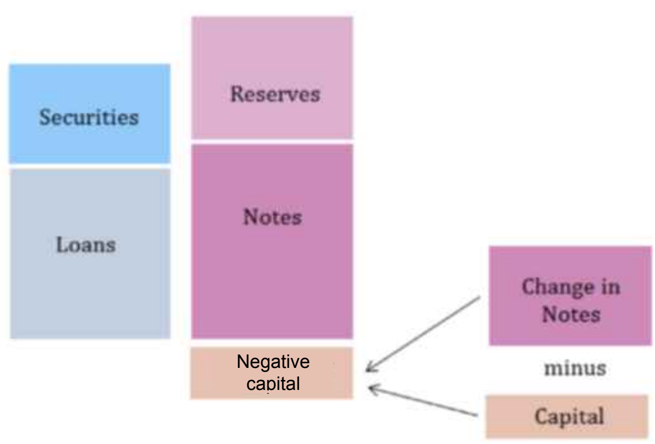
No first round impact on notes and reserves (the money supply) and therefore inflation.

Persistent/Enhanced/Permanent QE

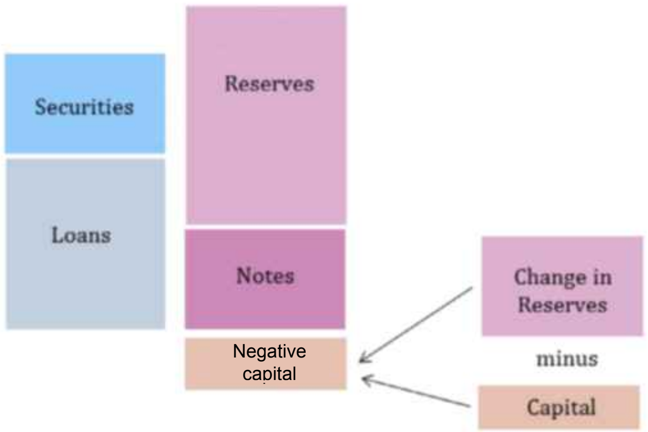


Larger cumulative expansion in the balance sheet through repeated rounds of asset purchases *and* increase in the balance sheet is persistent or even permanent. Central bank reinvests proceeds as assets mature.

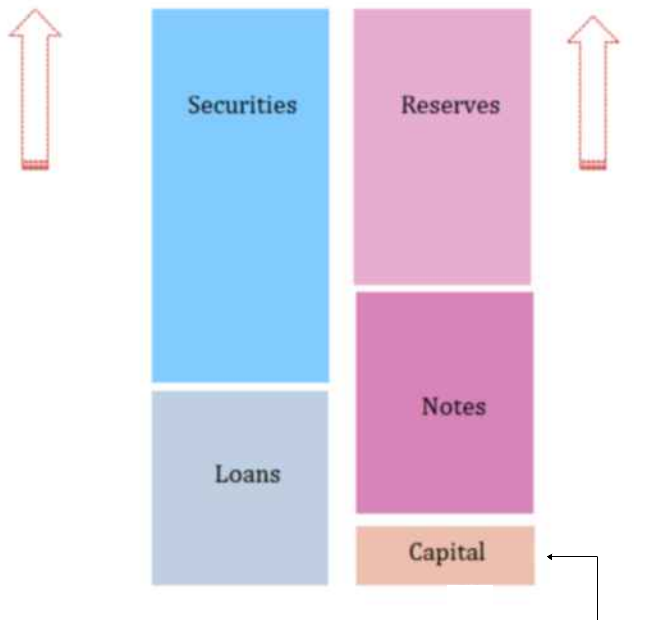
Direct drop (M. Friedman)



Direct drop (Bernanke)

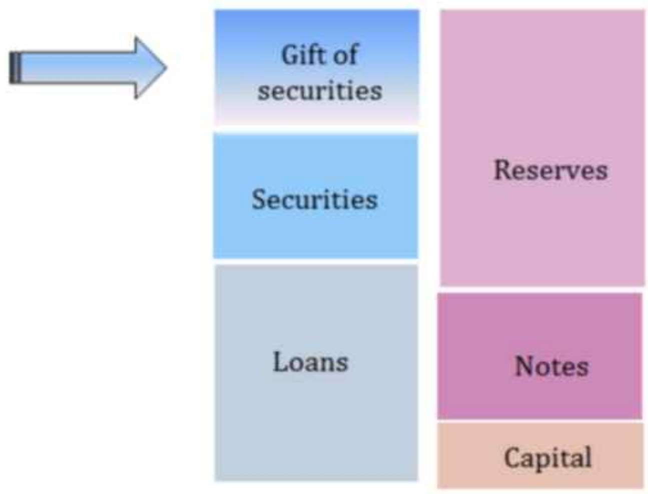


Second round effects: recapitalising the central bank



Balance sheet expansion necessary to generate sufficient seigniorage income to rebuild capital; continued purchase of assets could keep real yields low.

Direct drop (Bernanke) & gift of an asset = QE balance sheet



Richard Barwell
Senior Economist
richard.barwell@bnpparibas.com

Richard Barwell is a Senior Economist at BNP Paribas Investment Partners. He is responsible for promoting collaboration between investment teams and formulating alpha-generating investment views across all asset classes. Richard joined our company in August 2015 and is based in London. Prior to joining us, Richard was Senior European Economist at the Royal Bank of Scotland, Markets & International Banking, Senior UK Economist at the Royal Bank of Scotland, Global Banking & Markets, and a Senior Economist at the Bank of England. Richard has 14 years of investment experience. He holds a BSc in Economics and Econometrics from the University of Nottingham, and an MSc in Mathematical Economics and Econometrics and PhD in Labour Economics, both from the London School of Economics and Political Science.

Steven Friedman
Senior Investment Strategist
steven.friedman@bnpparibas.com

Steven Friedman is a Senior Investment Strategist at BNP Paribas Investment Partners. He is responsible for developing thematic views on the market, economic and policy outlook in the US and other major economies. Steven joined our firm in 2013 and is based in New York. Prior to his current role, Steven was a Director for the Central Banks and Official Institutions team at FFTW, a subsidiary of BNP Paribas Investment Partners. He also held various positions at the Federal Reserve Bank of New York, including Director of Market Analysis and Director of Foreign Exchange and Investments. Steven also spent two years at the Bank for International Settlements as a member of the Basel Committee Secretariat. Steven has 17 years of investment experience. He holds a BA in Government and Russian studies from Wesleyan University, an MA in International Relations from The Paul H. Nitze School of Advanced International Studies at The Johns Hopkins University, and an MBA from Columbia Business School.