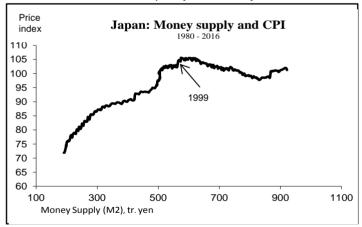


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- Since the Great Financial Crisis 2008/2009, central banks around the world have strongly resorted to unconventional policy tools. But they seem to have lost efficiency with regard to steering markets, inflation and inflation expectations.
- Against this backdrop, another last resort policy option named helicopter money has come into the focus of markets.
- Helicopter money comprises various forms of central bank financed measures to boost nominal growth. While its
 monetary transmission bypasses financial markets and the interest mechanism, it also raises risks concerning central
 bank independence.
- For the euro area, we consider helicopter money a rather remote policy measure whereas in Japan it may prove one
 of the last options left over the medium term.

Since the Great Financial Crisis (GFC) 2008/2009, central banks (CBs) around the world have strongly resorted to unconventional policy tools. Monetary easing has reached unprecedented levels with zero or even negative interest rates, extensive asset purchasing programs (QE) and intensive forward guidance. Of course, there are differences between the US, the euro area and Japan. While the ECB and the BoJ recently extended their monetary accommodation again, the US Fed ended its third QE program in October 2014 and has reluctantly started a key rate normalization. However, between 2007 and 2015, US base money rose by 366%, while the nominal GDP increased only by 23%. The share of base money in GDP increased from 5.7% to 21%. Developments in Japan and the euro area were similar.

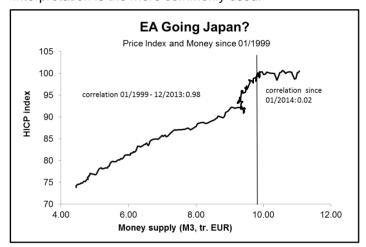
Despite these huge efforts, real growth rates have been meager and (core) inflation low. Currently, the US looks the most immune against deflation threats with core inflation at 2.1%. In the euro area, headline inflation receded to 0.1% yoy in June, while core inflation came in at 0.9% yoy. The comparable figures for Japan are -0.4% you and 0.7% vov. Of late, headline inflation was strongly influenced by the oil price slump. However, long-term inflation expectations - which should be largely immune to these shortterm energy price moves - have also slowed, signaling at least some limitations of CBs' capacity to steer inflation up. Japan is the most prominent case in this regard. Its deflationary period already began in 1999. Standard economic theory suggests a positive relationship between money supply and the price level. As the graph shows, this previously established relationship broke down. A similar picture can be found for the euro area since 2014. Despite ZIRP, NIRP and QE, CB policy has clearly lost influence.



What is "Helicopter Money"?

Against this background, another possible move of CBs into unchartered territory has come to the focus of markets recently: "Helicopter Money". The notion goes back to the economist Milton Friedman, a main contributor to an economic school called "Monetarism". As an experiment of thought he assumed that "a helicopter drops randomly \$1,000 in bills from the sky, which is hastily collected by members of the community and everyone is convinced that this is a unique event". In practical terms, the notion has been open to interpretations. In a first one, CBs would indeed be making direct transfers to the private sector financed by printing money, and this without direct involvement of the fiscal authorities. In fact, proposals have been

made for CBs to mail cash (or checks) directly to the public, also named quantitative easing for the people. In another idea, commercial banks would be in charge of administering the program. But, in terms of needed residential information (to guarantee equality and fraud protection) as well as general administration, CBs do not seem institutionally well equipped to fulfill this task. A close alternative was to rely on tax authorities. Then, the government could send out cash or consumption vouchers, still financed by the CB's money printing. Another way (Australia 2009) could be a tax rebate to all households. However, the latter examples already leads to a more general way of interpreting helicopter money as a financing instrument for expansionary fiscal policy. As such, the current bounds of monetary and fiscal policy would be blurred. In fact, the wider interpretation is the more commonly used.



Why should it work?

While fitting into a wider picture of monetary finance of fiscal policy, helicopter money has, however, also some distinctive features. First, it stresses the wealth effect: Money dropping from sky (like "manna from heaven") will make people feel richer which should lead them to spend more freely (unless completely saved), implying a rise in aggregate demand. Other features of the economy (state of labor market, output gap) will decide whether mainly output or inflation should rise. Nonetheless, it is widely agreed that nominal (!) GDP would benefit in any case.

A second distinctive feature is that helicopter money bypasses financial markets and the interest mechanism. Typically, expansionary monetary policy relies on reducing a key rate. In case of QE, newly created money is used to buy government bonds from private holders, thereby pushing down yields at the long end of the curve. By contrast, helicopter money relies on a wealth effect instead of an interest rate effect. Taking a wider perspective and abstracting from the direct transfers to households, helicopter money merges QE and classical fiscal policy. In this interpretation the demand effect is initiated by the government (via transfers to household or classical spending programs) and financed by the CB via money printing. It is considered more effective than government action alone, because the public does not need to put into account that government debt must be repaid one day (in technical terms: no Ricardian equivalence) and this debt does not need to be financed within capital markets (no crowdingout). Accordingly, helicopter money is also called "QE made permanent" or "monetization of public debt".

Central Bank independence to be challenged

This directly touches the current institutional settings of monetary policy, especially its independence. Accordingly, a strongly controversial discussion has evolved. Apart from the fear-stricken German hyperinflation experience, monetary independence has been widely recognized as progress, as it deprives politicians of using money printing for increasing their re-election chances. Accordingly, with regard to the ECB Article 123 of the Lisbon Treaty, the Federal Reserve act of 1935 in the US, and Article 5 of Public Finance Law in Japan render monetary financing of governments illegal. That, of course, could be changed. Proponents of the view argue, that the CBs would still decide on their own about the size of the monetary expansion. They had to judge the lack of nominal demand and increase base money accordingly. However, central bankers will be appointed by governments, meaning they are not completely independent. Lengthening their terms could be a partial remedy. Opponents of this position typically argue by historical failures and ask, whether the current economic situation is indeed so dire as to justify the risks.



Economic criticism

From a balance sheet point of view, helicopter money, in a narrow sense (without involving the government), could be rather limited. The issuance of cash is a liability which is not matched by additional assets. Thus, the CB would face negative equity on its balance sheet ("go technically bankrupt") if it increased the money creation beyond its capital plus reserves. However, with involvement of the government, the problem could be overcome by adding an unredeemable government balancing item, leading to an increase of both sides of the balance sheet.

More importantly therefore is criticism regarding the economic working of the measure:

- (1) For the government, monetary finance looks like a "free lunch". However, perceived wealth is, in fact, created by exploiting the trust of people into the currency (fiat money). Overly using this instrument could damage this trust.
- (2) Doubts also exist with regard to the demand impact of more wealth. If people would see direct cash from the CB as a signal that difficult times lay ahead, the money could be predominantly used for precautionary savings.
- (3) Transfers to households are only one way of expansionary fiscal policy, and not considered the most efficient. Fiscal multipliers recently estimated by Center of Economic Policy Research show the impact of public investment on GDP (at 1.22x) to be much higher than that of transfers (0.54) or tax rebates (0.44). Thus, instead of distributing

checks, the government should rather set up infrastructure projects. However, this line of arguments is open to criticism regarding the poor choices of fiscal programs. Historically, fiscal programs quite often ended up being no more than a flash in a pan, thereby failing to initiate a self-sustaining recovery. To create sustained inflation, the program would have to be repeated.

What is the likely market impact?

With no historical experience, the impact of helicopter money can only be judged by theory. As helicopter money generally leads to higher nominal GDP, a positive effect on inflation expectations is also very likely. Hence, bonds yields should rise because of a higher inflation premium. In addition, as the CB steps further into unchartered territory. a risk premium might be added. Thus yields could see a curve steepening. Thirdly, CBs might see helicopter monev as to reduce QE, thereby lowering overall bond demand. In sum, we would assume longer-term nominal yields to rise, while real yields nevertheless could still fall. With regard to the exchange rate, there are conflicting forces at play. PPP theory suggests higher inflation to result in a depreciation of the currency. By contrast, as this monetary policy does not rely on the interest mechanism and longer term yields could even rise, the interest parity theory points at an appreciation. Thus, the net effect looks inconclusive.

Finally, the equity market looks most prone to benefit. Except for the case of a very large savings rate, nominal GDP would rise, pushing up profits which should help stock prices to rise. Later on, wage effects could reduce the impact again.

Who might employ helicopter money?

Against the above discussion, the question arises what country actually might have the need and the political will to adopt helicopter money as a new policy tool.

We think that the euro area has embarked on a mild recovery path that does not necessitate such a drastic step. Moreover, a change of Article 123 is subject to unanimity. As it stands now, we do not see a backing of helicopter money to find a majority in the political arena and an unanimous change of the Lisbon Treaty seems even more unrealistic to us.

The situation in Japan looks different. Here monetary policy has tried for years to end deflation, with Abenomics pushing this policy onto an even more aggressive path. Results are still limited. Recently, core-core inflation (0.7% yoy) looked vulnerable to the re-appreciation of the yen. Of late, PM Abe seems to resort more strongly to fiscal measures again. In addition to a supplement budget in January the second part of the sales tax hike was postponed. Another support package is likely soon to follow. According to the IMF, Japan's net borrowing was 5.2% of GDP in 2015, with general government gross debt at 248% of GDP. The BoJ already owns about 35% of outstanding government debt, while nominal GDP in Q1 2016 was 2.1% lower than in Q1 2007. Thus, with economic policy running out of ammunition over time, helicopter money may be one of the only options left. However, given the rather opposing views of BoJ Governor Kuroda but also from Koichi Hamada. one of the architects of Abenomics, even here we do not expect it to be imminent although some market participants have started to take on this view.

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