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The Corona Crisis - is this the time for Helicopter Money?

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1. Introduction

The current economic crisis is the largest economic shock of the post WWII period. It is even larger than the 2008 Global Financial Crisis (GFC). Governments around the world took dramatic measures to stop the spreading of the notorious coronavirus. Italy and Spain were among the first advanced economies to ban all non-essential work for several weeks. In mid-March German authorities closed restaurants, cinemas, pubs and non-essential retailers. Only a couple of days later, the state of New York (the third largest U.S. state by GDP) followed and ordered a temporary shut down for all non-essential business.¹ By April 1, more than half of the U.S. population was under lockdown. While these non-pharmaceutical interventions (NPIs) are effective in order to “flatten the curve” (i.e. the number of new infections over time), they also have a dramatic impact on the world economy.

The shutdown of whole industries as well as major consumer outlets in countries across the world has delivered two-sided punches to the economy. Both demand and supply shocks are interacting and squeezing global GDP. Yet, the larger of these two shocks will be the demand shock, as economists are expecting a dramatic collapse in the largest component of GDP, consumption. On top of the closing of major consumption outlets such as cinemas, restaurants etc. comes the fact that as workers are laid off - or are expecting more difficult times ahead - they will cut their consumption.²

Within four weeks since the 100th registered infection in the US, the number of jobless claims surged to 6.6 million in the final week of March. At the time of writing, the crisis is yet to appear in the unemployment statistics of the Eurozone, but it is reported that Italy’s large informal sector is already under immense strain.³

Since the start of the economic crisis governments and central banks have been fighting to stop it from developing into a worldwide economic depression. On the fiscal side, the U.S. has launched a \$2 trillion stimulus package, which finances direct payments to taxpayers, loans to small businesses, and a \$500 billion corporate bailout fund.⁴ Germany has unpacked once again its Kurzarbeitergeld, which had been widely praised for its positive effect during the 2008 GFC. Indeed, this model is now being discussed to be extended to the EU as a whole. On the monetary policy side, central banks have used what downward interest space they had left immediately hitting the zero lower bound. The speed at which the major central banks then resorted to the use of their 2008 arsenal has been astonishing. But this time the quantitative easing (QE) programs and swap lines came at an even larger scale.

The fiscal policy programs that governments have to mount will further increase what is considered to be an already high level of public debt. At the same time, interest rates are near or below zero and central banks seem to have exhausted their arsenal of conventional tools. Macroeconomists, whose overriding goal is to stabilize cyclical fluctuation, find themselves in uncharted territory, searching for policy options to tackle the coronavirus economic crisis. What else is there to keep the world economy from collapsing?

¹ <https://www.ft.com/content/aecce1ec-6ad0-11ea-a3c9-1fe6fedcca75>

² <https://www.bloomberg.com/news/articles/2020-03-05/global-economy-is-gripped-by-rare-twin-supply-demand-shock>

³ <https://www.ft.com/content/08847c08-9582-4c48-9d2d-319f8593da19>

⁴ <https://www.nytimes.com/2020/03/25/us/politics/whats-in-coronavirus-stimulus-bill.html>

Because of the steady fall in the real rate of interest since the 1980s, economists have begun to consider a policy tool that hitherto has been a taboo; the monetary financing of fiscal deficits or more colloquially, Helicopter Money. Even though the idea can be traced back to a famous essay by Milton Friedman (1969) more than 50 years ago, it was only in the wake of Japan's long deflationary period in the 1990s and early 2000s that it appeared again on the radar of economists. Then after 2008 when many advanced countries reached interest rate levels near zero, the idea gathered steam. Finally, the coronavirus crisis of 2020 caused prominent economists and commentators to argue that the time for Helicopter Money has come.

This paper first describes the basic idea of Helicopter Money and the context in which it evolved from Milton Friedman's famous 1969 essay until today. Next, we discuss the challenges facing advanced economies, to which Helicopter Money has been proclaimed a possible solution. The final section will provide a review of the recent debate around Helicopter Money and discusses the effectiveness of this tool in the current and future crises.

2. The Challenge

The idea of Helicopter Money was born out of a challenge of current magnitude. The first reference to money-financed fiscal deficits can be found in a famous 1948 article by Milton Friedman, in which he dealt with the problem of how to combat cyclical fluctuations and economic crises on the scale of the Great Depression of the 1930s. Friedman (1948) proposed a monetary and fiscal framework that should guide future governments to offset shocks to unemployment, demand and prices. This framework should be able to deal with shocks on the scale of a second Great Depression, should it ever occur again. As unemployment soars, tax receipts fall, automatic stabilizers kick in and the government deficit will rise. But instead of issuing more government debt, the increased deficit should directly be financed by the central bank, because "[...] in a period of unemployment [issuing interest-earning securities] is less deflationary than to levy taxes. This is true. But it is still less deflationary to issue money."

In 1969, in his analysis of the optimum quantity of money, Friedman provided the famous thought experiment that led to the coinage of the term Helicopter Money: "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 [...]". While not intended as an actual policy proposal, the term helicopter drop got picked up again in 2002, a time when economists debated possible remedies for Japan's deflation.

In one of his first public speeches as member of the Board of Governors of the Federal Reserve System, Ben Bernanke specified that "a 'helicopter drop' of money" is equivalent to a money-financed tax cut." Not only did this speech label him with the nickname "Helicopter Ben", it also set out what came to be known as the Bernanke doctrine, the view that monetary policy is an effective means to combat deflation, should it ever occur again.⁵

Already two months earlier Eric Loneragan had argued in the Financial Times that Helicopter Money should be used not only in Japan, but also in the U.S.. Loneragan's proposal of Helicopter Money was closer to Milton Friedman's actual parable and called for a direct transfer of cash from the central bank to households even though the Fed still had room for

⁵ <https://www.federalreserve.gov/boarddocs/Speeches/2002/20021121/default.htm#f8>

interest rate cuts in 2002. Because interest rate cuts were facilitating consumer spending by inflating house prices and credit growth, thereby weakening household's balance sheets, Loneragan argued that direct cash transfers by the central bank would be preferable.⁶ His line of reasoning foreshadowed what was to hit the world economy with full force only six years later.

In 2008, the overleveraged housing market collapsed, and the Global Financial Crisis hit the world economy on a scale not seen since the Great Depression. Central banks responded with cutting interest rates to zero and engaging in broad asset purchases, now known as Quantitative Easing. But despite these unprecedented measures inflation failed to pick up and central banks missed their inflation target year after year. With monetary policy tools seemingly exhausted and fiscal policy discredited, because of the apparently high levels of government debt, the idea of Helicopter Money slowly fought its way from the sidelines to the forefront of policy debates among economists.

Ricardo Caballero (2010) and Michael Woodford (2012), two prominent MIT trained economists, proposed more or less explicitly that the government should resort to monetary financing of fiscal deficits.⁷ But it was too early for many economists to accept a paradigm shift in central banking, for the response came at once. Only a month after Michael Woodford's speech at Jackson Hole, Jens Weidman, president of the Bundesbank, delivered a speech in the citadel of pre-crisis central banking orthodoxy. In the halls of the Bundesbank, between paintings that depict a scene of Part Two of Goethe's Faust in which Mephisto, the personification of the devil, leads the emperor into temptation to finance the kingdom's expenditure by printing paper money, Weidman (2012) recounts the story to illustrate how "all this activity degenerates into inflation, destroying the monetary system".

Weidman's speech illustrates how big of a taboo, or sin, money financed fiscal deficits still was, even in the midst of the Eurozone crisis. But as the deflationary pressures under the extreme private and public deleveraging continued to mount, the voices that called for Helicopter Money grew louder. Ironically, the most prominent voices in support of breaking the taboo came not from the Eurozone, but from the UK. Most famously perhaps, Lord Adair Turner (2013, 2017) took on Weidman's narrative and argued for breaking with the taboo of permanent monetization of government debts. But Helicopter Money also gained support in a wide network encompassing prominent commentators of the Financial Times, academics and bloggers.

In 2019, the idea resonated in Germany and Marcel Fratzscher said that "Helicopter Money is feasible and more likely than many can imagine". After that even the most conservative economic commentators in Germany started to anticipate that Helicopter Money was only a question of time.⁸ But the reintroduction of QE in the Eurozone, despite its obvious ineffectiveness, made clear that orthodoxy in the ECB still prevailed. While one would expect that the ECB would be the last institution to engage in Helicopter Money, Eric Loneragan has

⁶ <http://www.philosophyofmoney.net/wp-content/uploads/2015/01/Beyond-rates-FT-2002.pdf>

⁷ Caballero argues that the Fed should add a drainage contingency to the helicopter drop, so that resources will be transferred back to the Fed once the economy returns to full employment. This differs from the standard helicopter drop where the increase in base money is permanent. <https://voxeu.org/article/helicopter-drop-us-treasury>

While Woodford (2012) doesn't explicitly say that his proposal is akin to a helicopter drop, his policy prescriptions essentially repeat Bernanke's (2002) proposal:

⁸ https://www.focus.de/finanzen/boerse/experten/gastbeitrag-von-gabor-steingart-zeichen-zeigen-die-ezb-plant-das-helikoptergeld-fuer-alle_id_10972085.html

argued that the ECB is already effectively engaging in outright money-financed fiscal transfers to the private sector by setting the interest rate on its loans below its average deposits rates (see section 4).

This is puzzling in so far as we would expect much more resistance to any plan that the ECB should openly and actively expand this channel of direct transfers to the private sector. Germany has seen the introduction of five different currencies over the last 150 years, a period that covered two world wars, one hyperinflation, reunification and the Eurozone crisis, the latter leading to the foundation of the right-wing populist party AfD. The artwork in the halls of the Bundesbank that depict the monetization of government debt as a sin by the devil illustrates how hard it is to move the opinion of German central bankers.

From that point of view, it is not too surprising that it was the Bank of England, the central bank that manages the oldest currency in continuous use, which was the first central bank to engage openly in Helicopter Money in the 21st century. When the coronavirus crisis evolved into the biggest economic crisis since the Great Depression, the UK government announced that it will increase its account with the Bank of England to expand direct monetary financing of government expenditures.

3. What Went Wrong?

The idea of money financed fiscal deficits did not fall from the sky to aid against the recent economic fallout. Helicopter Money, as the last section has shown, grew out of the experience of the deflationary interwar period. The idea then disappeared from the radar of economists during the period of stagflation and the fight for larger central bank independence in the 1970s and onwards. During the 1990s and early 2000s policy makers in Europe and the U.S. resorted to controlling short-term interest rates to stabilize fluctuations in the business cycle. These decisions were informed by the Taylor Rule and the still widely used Dynamic Stochastic General Equilibrium Models. Economists praised themselves with their technical apparatus and neglected the possible use of more unorthodox policy tools. As Robert Lucas famously claimed in 2003: “[The] central problem of depression prevention has been solved, for all practical purposes, and has in fact been solved for many decades.”

Today, we are in depression territory again and have to reconsider the tools of depression economics. But the “return of depression economics” - and with it the reappearance of Helicopter Money in public policy debate - came well before the coronavirus crisis and even before the 2008 GFC (Krugman, 2000). Japan had been facing deflationary pressure since 1991 and even in the U.S. the FOMC's target federal funds rate, the policy rate of the Federal Reserve System, had been lowered to one percent in 2003 when the debate around Helicopter Money gained traction.

Indeed, short-term nominal interest rates have seen a secular decline from their peak in the early 1980s, as can be seen in figure 1. Since the 2008 GFC the effective federal funds rate has been near zero. The little ground that short-term nominal interest rates in advanced countries recovered between 2015 and 2018 did not suffice to stem even a mild recession. Indeed, the Fed started lowering its policy rate already in 2019, well before the coronavirus crisis. Many economists have therefore argued that since 2009 we are stuck at the zero lower bound (ZLB). Perhaps most prominently, Olivier Blanchard (2019) argued in his AEA presidential address

that advanced economies will remain in a low interest rate environment for many years to come.

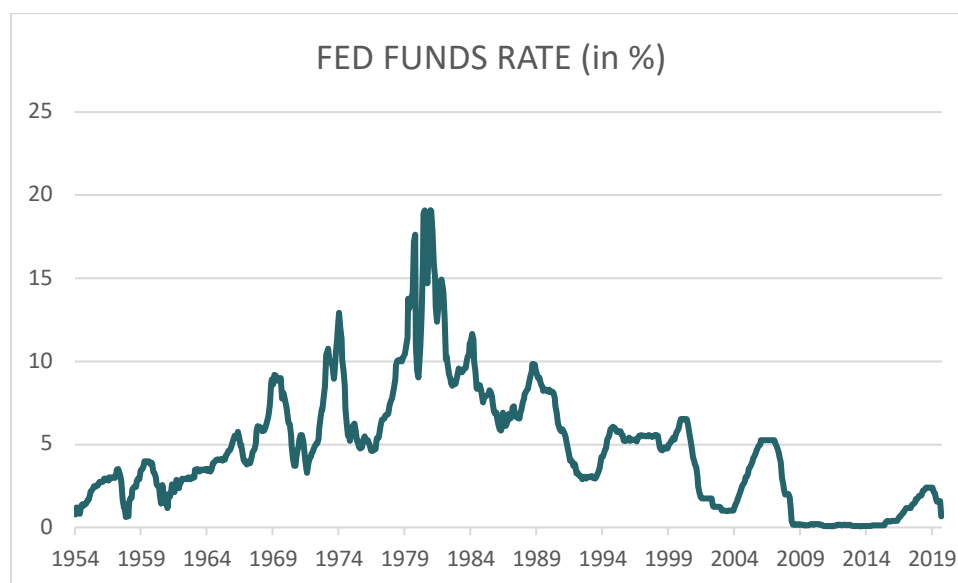


Figure 1: Effective Federal Funds Rate. Data is from [FRED](#).

Indeed, it is not only the policy rate that has fallen since the 1980s. The rate of return on safe assets, both short and long-term, has been falling since the mid-80s fight against inflation (Jordá et al, 2019). However, this is not a unique incident in economic history. Harvard economist Larry Summers (2014) has famously argued that we might be in a new period of secular stagnation. The hypothesis which Summers revived was first advanced in Alvin Hansen's 1939 AEA presidential address. Hansen (1939) sought to explain the dramatic decline in the return on safe assets that followed the Great Depression with deeper factors responsible for structurally deficient nominal demand and a low interest rate equilibrium.

In today's context secular stagnation means that desired (ex ante) savings could exceed desired (ex ante) investment because of the ICT revolution and the resulting fall in the price of capital goods or slower population growth. But as Adair Turner has argued, money financed fiscal deficits is an effective remedy to the problem of deficient nominal demand. And the same point was made by Milton Friedman (1948) who argued that overt monetary finance would be an adequate framework to tackle secular stagnation.

But there has been another potentially more powerful mechanism that led to deficient nominal demand and the current low interest rate environment. Mian et al. (2020a) have recently proposed a "theory of indebted demand". This strand of the literature has identified secular economic shifts that raised the debt level in the 1980s. In particular increasing inequality and financial liberalization have produced large debt burdens because the marginal propensity to save differs along the income distribution. Because the rich save more, a tax cut that disproportionately favours the rich creates more credit supply to the poorer part of the population. Mian et al. (2020b) have labelled this "the savings glut of the rich", referring to Bernanke's (2005) "global savings glut". But when borrowers try to repay their debt, their spending cuts are only partially offset by increased spending by the rich. Aggregate demand is therefore depressed by an increase in debt. The savers' increasing desire to save pushes down the interest rates, which in turn increases the demand for even more debt.

The financial sector has been crucial in facilitating these dynamics. Figure 2 shows that bank credit as a percentage of GDP has increased dramatically from close to 60% in 1984 to almost 140% in 2009. And recent research has shown that this rise in private credit has increased the frequency and severity of financial crises (Schularick and Taylor, 2012). Moreover, the increase in bank credit since the 1970s was driven largely by an increase in real estate lending to households. The traditional service of banks – lending to companies – constitutes now only a minor share of their business. The consequences are fatal. As Jordá, Schularick and Taylor have shown, “recessions tend to be considerably deeper and recovery much slower when the preceding boom saw a strong expansion of mortgage debt” (Jorda et al., 2016).

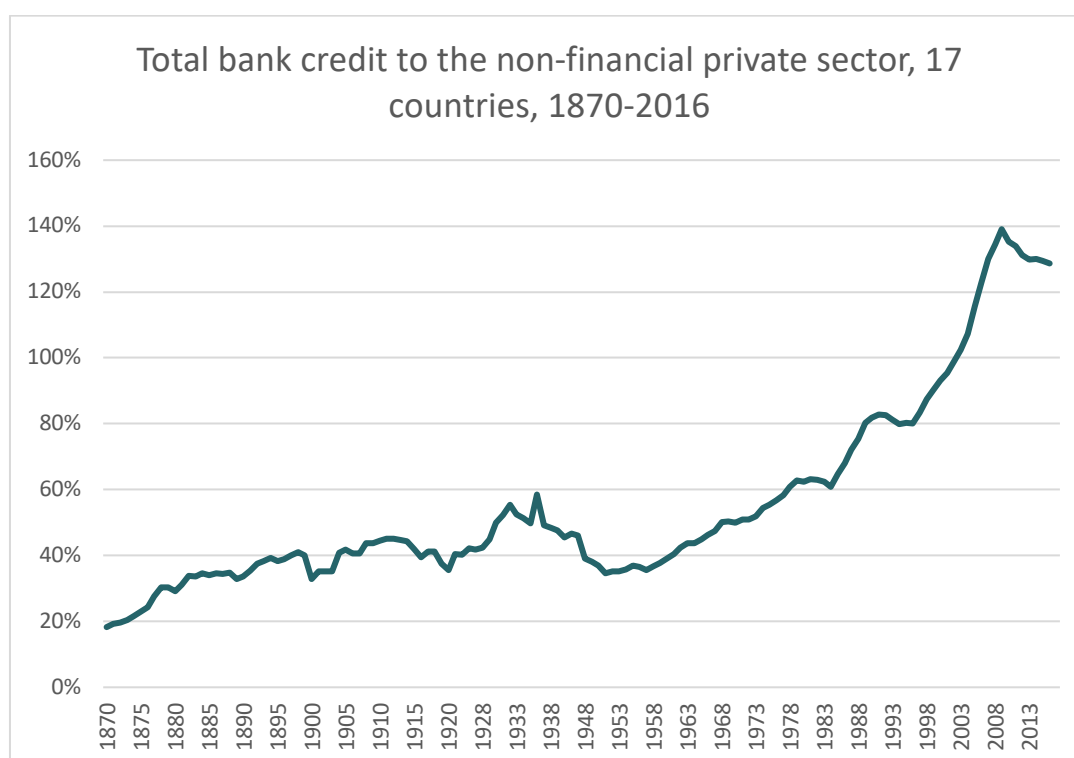


Figure 2: Data is from Jordá et al. (2017)

Since the GFC of 2008, the world economy is caught in a severe debt overhang which has put a drag on the real economy. Similar to the Japanese experience of the 1990s, Europe and the US had entered a “balance sheet recession”. Even with interest rates close to zero, households were trying to pay down their debt by cutting consumption, which put a drag on demand. Cutting interest rates even further and engaging in quantitative easing programs directed at stimulating the economy proved to be inefficient. Moreover, monetary policy directed at bringing down interest rates works only by restimulating excessive credit growth, thereby sowing the seeds for the next financial crisis.

Post-2008 monetary policy has thus failed to bring down the high debt levels. While there was some minor reduction in private debt-to-GDP, this was matched by an increase in public debt-to-GDP. In the aftermath of the 2008 financial crisis companies and households started their process of deleveraging by cutting investment and consumption, which caused government deficits to increase as tax revenues fell and social expenditure rose. As Adair Turner (2017)

has argued, “debt doesn’t go away – it simply shifts around”. Even worse, combined private and public debt has been increasing steadily over the last 20 years.

Figure 3 shows total credit to the non-financial sector for advanced countries disaggregated into public and private debt. Total credit in advanced countries has increased from 210 to 270 percent of GDP between 1999 and 2019. Today, the world is burdened with excessive amounts of public and private debt and the coronavirus crisis will further increase these debt levels. Economists are warning to repeat the mistakes of the post-2008 recovery period, when governments tried to reduce public deficits too early. Instead, there is widespread consensus that fiscal policy is an effective tool to counter a post-crisis recession, especially if economies are at the ZLB. However, the question remains how governments will ever repay their relentlessly rising public debt. The Eurozone faces the additional difficulty that it doesn’t have a joint debt instrument. As public debt increases disproportionately across the Eurozone, this raises the risk of default or Eurozone exit for peripheral countries. Finally, the standard way of reducing high public debt-to-GDP levels is by imposing austerity measures on countries. But fiscal tightening, especially in times of deficient aggregate demand, results in severe adverse effects on growth.

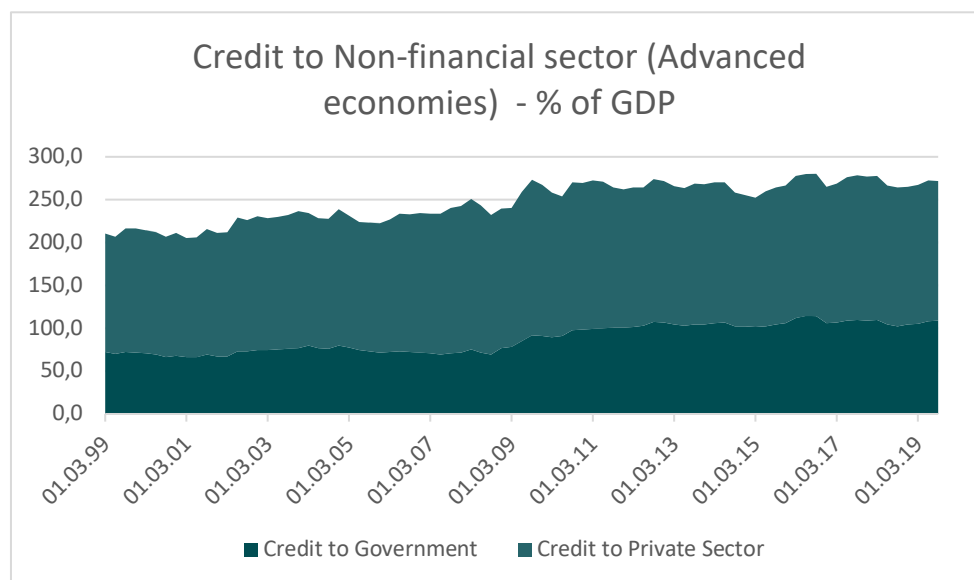


Figure 3: From BIS total credit statistics

Yet, the one alternative to bringing down debt-to-GDP ratios when other monetary policy measures have been exhausted is still considered a taboo as section 2 has shown. Helicopter Money would increase base money in circulation without the issuance of new debt. This would increase spending power and put upward pressure on inflation. Irrespective of whether the central bank transfers money directly to households and companies in the form of cheques or to the government to finance a larger deficit, the debt-to-GDP ratio will fall. This should help central banks reach their inflation targets and raise interest rates.

However, there are historical reasons that Helicopter Money is a taboo for many policy makers. The possibility for governments to finance their budgets via the printing press incentivizes them to make use of this instrument ever more often. As time passes on this may lead into hyperinflation. Again, this is the story of Faust part II, that features so prominently in the halls of the Bundesbank. More than just fiction, Germany and other central European countries

experienced the horrors of hyperinflation in the 20th century and have good reason to be careful in resorting to the unorthodox tool of monetary financing. The hyperinflation in Germany eroded much of the wealth of the middle class and thereby directly contributed to the rise of the Nazi party. It also indirectly contributed to the rise of National Socialism because the experience of the early 1920s made Weimar Germany hold on to the Gold Standard even in the midst of the Great Depression, which prevented it from pursuing expansive policies.

Helicopter Money therefore poses real dangers that should not be ignored. But economics seems to have taken this position to the extreme over the last couple of decades. In the period of the Great Moderation, economists focused solely on keeping inflation low and assumed that a more complex financial system would make the economy more stable. This created ignorance over the extreme leverage that built up from the 1980s onwards and effectively led advanced economies into a high debt and low interest rate environment. That is why there are equal arguments that monetary financing might be a useful tool in certain situations. This situation may well have arrived now, as we are caught in a severe debt overhang and have exhausted our standard tools of monetary policy. The current choice between debt financing and monetary financing - to stem the costs of the coronavirus crisis - is then a choice “between debt and the devil”. But as Adair Turner has argued, modern democracies may well be able to set the institutional boundaries for Helicopter Money to constrain governments from its excessive use. An honest debate on current proposals, their potentials and possibilities, as well as its technical implementation and control mechanisms is the purpose of the last section.

4. The New

New research has realized the limitations of Quantitative Easing and standard tools of monetary policy. Some economists have therefore called for money financed fiscal deficits or Helicopter Money. However, different definitions of Helicopter Money and different policy proposals exist, which has created some confusion. For example, in February 2020 the Hong Kong government sent cheques directly to households to increase their spending power. In mid-March the U.S. congress followed suit and passed its economic stimulus bill, which included one-off payments to households. It matters, however, how these cash handouts are financed. If these vouchers are financed via an increase in government debt, this is plain fiscal policy.

Yet, the whole point of Helicopter Money is an increase in base money as opposed to an increase in debt. That is why Helicopter Money is usually defined as monetary financing of fiscal deficits, which involves the central bank’s balance sheet. Most economists have therefore described Helicopter Money as a cooperation between the central bank and the fiscal authorities (e.g. Galí, 2019). As Bernanke (2002) said: “A money-financed tax cut is essentially equivalent to Milton Friedman's famous ‘helicopter drop’ of money.”

However, this blurs the distinction between monetary and fiscal policy, as Eric Lonergan has pointed out. The strictest definition of “Helicopter Money”, as in Friedman’s (1969) original essay, doesn’t involve the fiscal authority at all but envisions the central bank handing freshly printed money directly to the people. Thus, some economists have argued that Helicopter Money in its ideal form is monetary policy and in 2015 Mark Blyth, Eric Lonergan and Simon Wren-Lewis (2015) have called for the Bank of England to make direct transfers to its citizens - QE for the people.⁹

⁹ <https://www.theguardian.com/business/economics-blog/2015/may/21/now-the-bank-of-england-needs-to-deliver-qe-for-the-people>

The main advantage such a proposal has is that it is independent of the fiscal authorities and thus doesn't endanger the independence of the central bank. It is likely that this would greatly speed up the response to a serious economic crisis. Direct cash transfers to citizens could be authorized by the central bank without making decisions about how to spend the newly created money. The positive effect on nominal demand would come much quicker than a fiscal stimulus program, which yet needs to be planned and carried out.

Lonergan has argued that quasi-Helicopter Money in its pure form already exists in the Eurozone. Under its Dual Rate system, the ECB today offers a lower interest rate on lending to banks than it does on paying interest on deposits. More precisely, the ECB currently offers loans to banks under its "targeted long-term refinancing operation" (TLTRO) at a negative interest rate, while it keeps the average rate it pays on deposits above the TLTRO rate. That means that the ECB is effectively transferring money to the private sector.

So far the press note that the TLTRO rate "can be as low as 25 basis points below average deposit facility rate" has largely gone unnoticed by economists, which is part due to the obfuscation of central banks.¹⁰ This alone poses a challenge for democracy that also goes at the heart of the counterargument against the use of Helicopter Money. Should transferring purchasing power to the private sector not be something that democratically elected governments should decide upon?

While there are various proposals of how central banks could stimulate nominal demand by using some form of pure Helicopter Money (e.g. repricing mortgages at negative interest rates), there will likely be some groups who benefit more than others from these helicopter drops. There is thus a strong case to make for fiscal policy, where governments decide on what to spend the money on. Moreover, the distributional consequences of money vs. debt financed transfers can be problematic as well. Debt financed fiscal transfers can be settled by taxes later on and society effectively decides on the distribution of the tax burden. Inflation, which money financed transfers will produce at some point, will benefit some groups of the wealth distribution (those with no or negative wealth and those with highly diversified portfolios) more than others (those in the middle of the wealth distribution).

Many economists have thus argued for Helicopter Money in the form of a cooperation between fiscal and monetary authorities. This would involve the central bank crediting the fiscal authority with an amount of central bank money at a "checking account", which the fiscal authority is free to spend. In effect, this is what the UK did on April 9, 2020 when the government announced it would extend the size of the Treasury's bank account at the Bank of England, known historically as the "Ways and Means Facility". The UK has thus become the first country to use money financed fiscal deficits to fight the coronavirus crisis.¹¹

The major concern with money financed fiscal spending is that governments might be tempted to use it even when the macroeconomic circumstances don't warrant its use anymore. While it is an effective tool in times of deficient nominal demand and with interest rates at the zero lower bound, there are the real dangers that governments will make excessive use of their new financing options, which could pave the road to hyperinflation. Economists such as Adair Turner (2017) and Ben Bernanke (2016) have thus called upon economists to think about governance structures that could provide governments with the option to resort to monetary

¹⁰ https://www.philosophyofmoney.net/draghis-historic-farewell/#_ftn2 and https://www.ecb.europa.eu/press/pr/date/2020/html/ecb.pr200312_1~39db50b717.en.html

¹¹ <https://www.ft.com/content/664c575b-0f54-44e5-ab78-2fd30ef213cb>

financing in extraordinary situations, without endangering the independence of the central bank.

How Helicopter Money would look like, depends on the setting of the specific currency area and how fast different measures can be implemented. While a money financed fiscal deficit is now already in place in the UK, the direct financing of governments by the ECB is legally prohibited in the Eurozone. While it might be possible to find ways around this, e.g. by financing via the EIB, this conflicts with democratic transparency. For the Eurozone, the easiest way to implement Helicopter Money would therefore be via its existing monetary toolbox and its system of tiered reserves and dual interest rates. With the TLTRO rate currently below the average interest rate on reserves the ECB is effectively engaging in Helicopter Money. But these helicopter drops so far seem to arrive only with the banks and the ECB has yet to find a mechanism of how to drop the money directly on to the bank account of households.

Finally, there is a strong argument to make that we should spend the money on investing in our infrastructure, health system and to facilitate the transition to a clean energy economic system. Moreover, the question remains why countries should resort to direct monetary financing in the first place and not finance a fiscal spending program with asset purchasing programs by the central bank. Indeed, proponents of Modern Monetary Theory (MMT) have argued that it is irrelevant whether the government finances its spending with bond sales or via Helicopter Money.¹² Instead MMTers claim that a government such as the U.S. does not face financial constraints but only constraints on economic capacity and that economists should therefore insist on keeping spending up in order to fight the crisis.

But MMT might not hold for the Eurozone, let alone for emerging market and developing economies. The recurrent drama in the Eurozone exemplifies this. Italy, one of the countries hardest hit by the current pandemic, has seen its fiscal spending increase substantially since the outbreak. But Italy is in a currency union and shares its central bank with 18 other countries, which creates the potential for default. When markets started to price in this scenario by charging higher interest rates for Italian bonds relative to its Eurozone peers in March, ECB president Christine Lagarde responded that the ECB is “not here to close spreads”.¹³ The ECB then paddled back and brought the emerging fiscal crisis under control with its Pandemic Emergency Purchase Programme (PEPP). But asymmetries in the Eurozone remain and it is questionable whether this recurring crisis will be solved without the issuance of a joint debt instrument.

¹² <https://www.project-syndicate.org/commentary/modern-monetary-theory-is-not-helicopter-money-by-yevanersisyan-and-l-randall-wray-2020-04>

¹³ <https://www.reuters.com/article/us-ecb-policy-italy-minister/italy-furious-at-ecbs-lagarde-not-here-to-close-spreads-comment-idUSKBN20Z3DW>

Bibliography

- Anstey, Chris, and Enda Curran. *Global Economy is Gripped by Supply-Demand Shock*. Bloomberg, March 5th 2020, <https://www.bloomberg.com/news/articles/2020-03-05/global-economy-is-gripped-by-rare-twin-supply-demand-shock>.
- Balmer, Crispian, and James Mackenzie. Italy furious at ECB's Lagarde 'not here to close spreads' comment. Reuters, March 13th 2020, <https://www.reuters.com/article/us-ecb-policy-italy-minister/italy-furious-at-ecbs-lagarde-not-here-to-close-spreads-comment-idUSKBN20Z3DW>.
- Bernanke, Ben S. "Deflation: making sure 'it' doesn't happen here: remarks before the National Economists Club, Washington, DC, November 21, 2002." *Board of Governors of the Federal Reserve System (US) Speech* (2002).
- Bernanke, Ben S. *The global saving glut and the US current account deficit*. No. 77. 2005.
- Bernanke, Ben S. "What tools does the Fed have left? Part 3: Helicopter money." *Brookings Institution* (2016).
- Blanchard, Olivier. "Public debt and low interest rates." *American Economic Review* 109.4 (2019): 1197-1229.
- Blyth, Mark, and Eric Lonergan, Simon Wren-Lewis. *Now the Bank of England needs to deliver QE for the people*. Guardian, May 25th 2015, https://www.focus.de/finanzen/boerse/experten/gastbeitrag-von-gabor-steingart-zeichen-zeigen-die-ezb-plant-das-helikoptergeld-fuer-alle_id_10972085.html.
- Chaffin, Joshua. *New York hits 'pause' to try to slow coronavirus spread*. FT, March 20th 2020, <https://www.ft.com/content/aecee1ec-6ad0-11ea-a3c9-1fe6fedcca75>.
- Edmondson, Catie. *5 Key Things in the \$2 Trillion Coronavirus Stimulus Package*. New York Times, March 25th 2020, <https://www.nytimes.com/2020/03/25/us/politics/whats-in-coronavirus-stimulus-bill.html>.
- Friedman, Milton. "A Monetary and Fiscal Framework for Economic Stability." *The American Economic Review* 38.3 (1948): 245-264.
- Friedman, Milton. *The optimum quantity of money, and other essays*. No. HG538 F866. 1969.
- Galí, Jordi. "The effects of a money-financed fiscal stimulus." *Journal of Monetary Economics* (2019).
- Giles, Chris and Philip Georgiadis. *Bank of England to directly finance UK government's extra spending*. Financial Times April 9th 2020, <https://www.ft.com/content/664c575b-0f54-44e5-ab78-2fd30ef213cb>
- Hansen, Alvin H. "Economic progress and declining population growth." *The American economic review* 29.1 (1939): 1-15.

Johnson, Miles and Davide Ghiglione. 'Pasta and beans' - Italy's shadow workers are out of the safety net. FT, March 30th 2020, <https://www.ft.com/content/08847c08-9582-4c48-9d2d-319f8593da19>.

Jordà, Òscar, Moritz Schularick, and Alan M. Taylor. "The great mortgaging: housing finance, crises and business cycles." *Economic policy* 31.85 (2016): 107-152.

Jordà, Òscar, Moritz Schularick, and Alan M. Taylor. "Macrofinancial history and the new business cycle facts." *NBER macroeconomics annual* 31.1 (2017): 213-263.

Jordà, Òscar, et al. "The rate of return on everything, 1870–2015." *The Quarterly Journal of Economics* 134.3 (2019): 1225-1298.

Krugman, Paul R. *The return of depression economics*. WW Norton & Company, 2000.

Lonergan, Eric. *Beyond interest rates*. Financial times, September 9th 2002, <http://www.philosophyofmoney.net/wp-content/uploads/2015/01/Beyond-rates-FT-2002.pdf>.

Lonergan, Eric. *Draghi's historic farewell*. Philosophy of money, September 15th 2019, https://www.philosophyofmoney.net/draghis-historic-farewell/#_ftn2.

Lonergan, Eric. European Central Bank. *ECB announces easing of conditions for targeted longer-term refinancing operations (TLTRO III)*. March 12th 2020, https://www.ecb.europa.eu/press/pr/date/2020/html/ecb.pr200312_1~39db50b717.en.html.

Lucas Jr, Robert E. "Macroeconomic priorities." *American economic review* 93.1 (2003): 1-14.

Mian, Atif R., Ludwig Straub, and Amir Sufi. *Indebted Demand*. No. w26940. National Bureau of Economic Research, 2020.

Mian, Atif R., Ludwig Straub, and Amir Sufi. *The saving glut of the rich and the rise in household debt*. No. w26941. National Bureau of Economic Research, 2020.

Nersisyan, Yeva, and L. Randall Wray. *The Myth of "Helicopter Money"*. Project Syndicate, April 20th 2020, <https://www.project-syndicate.org/commentary/modern-monetary-theory-is-not-helicopter-money-by-yeva-nersisyan-and-l-randall-wray-2020-04>.

Schularick, Moritz, and Alan M. Taylor. "Credit booms gone bust: Monetary policy, leverage cycles, and financial crises, 1870-2008." *American Economic Review* 102.2 (2012): 1029-61.

Steingart, Gabor. *Diese Zeichen zeigen: Die EZB plant das Helikoptergeld für alle*. Focus, July 30th 2019, https://www.focus.de/finanzen/boerse/experten/gastbeitrag-von-gabor-steingart-zeichen-zeigen-die-ezb-plant-das-helikoptergeld-fuer-alle_id_10972085.html.

Summers, Lawrence H. "US economic prospects: Secular stagnation, hysteresis, and the zero lower bound." *Business economics* 49.2 (2014): 65-73.

Turner, Adair. "Debt, money, and Mephistopheles: how do we get out of this mess?." 2013.

Turner, Adair. *Between debt and the devil: Money, credit, and fixing global finance*. Princeton University Press, 2017.

Weidmann, Jens. "Money creation and responsibility." *Speech at the 18th colloquium of the Institute for Bank-Historical Research (IBF) in Frankfurt*. 2012.

Woodford, Michael. "Methods of monetary policy accommodation at the interest-rate lower bound." *Jackson Hole Symposium*.