



# *Avoiding a great depression in the era of climate change*

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# Avoiding a Great Depression in the Era of Climate Change

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**Abstract** If loan issue falls faster than repayments, money becomes increasingly scarce, leading to deflationary pressures and unemployment. Central banks have responded by ‘quantitative easing’, a regressive form of money printing which buys off the national debt. Such credit could instead finance green infrastructure, health and social care, a basic income, and debt relief. Fiscal policy expansion which is not monetised, in contrast, results in crowding out. Given the ecological crisis caused by greenhouse emissions, the aim ought not to be resumption of business as usual. A social-ecological response to the crisis would deploy a mixture of public credit creation deployed in prioritised sectors, progressive taxation, and direct curbs on greenhouse emissions.

**Keywords** Great Depression. Climate change. Unemployment. Central Bank. Quantitative Easing. Fiscal policy.

**Summary** 1 Introduction. – 2 Why Fiscal Stimulus cannot be Financed by Bond Issues. – 3 Why Debt Monetisation Should not be Done by QE. – 4 Why We Do not Simply Need ‘Recovery’ of the Previous Economy. – 5 A Post-COVID Social Ecological Policy Package. – 6 Conclusions.

## 1 Introduction

If one asks the general public who creates the money supply, the majority response is invariably the government, via the central bank. This is emphatically not the central bank’s understanding, however. As Sir Mervyn King said in 2012, then governor of the Bank of England (hereafter “The Bank”):



When banks extend loans to their customers, they create money by crediting their customers' accounts [...] a damaged banking system means that today's banks are not creating enough money. We have to do it for them. [...] Insufficient money creation can lead to a contraction of the money supply and a depression.<sup>1</sup>

The governor was talking in the aftermath of the 2008 global financial crisis, and referring to Quantitative Easing (QE), rather than printing notes and coin. In fact, only 3% of the UK money supply is created as notes and coin in circulation in the modern era, and 97% is virtual credit, ordinarily supplied as private bank loans. The crisis in the wake of COVID-19 is estimated to be greater than that of 2008, with severe and immediate impact on jobs and GDP.

Whilst much media attention has been focused on the ability of firms and households to service their debts, less attention has been paid to the flow and composition of new loans. The balance between new loans and repayments determines how much money is circulating in the economy. If new lending dries up but the existing loans continue to be serviced, the means of payment present in the economy reduces, since the principal on the loans is destroyed when repaid, under banking rules of account. This dynamic is believed to have been responsible for the Great Depression of the 1930s. People found the depression hard to understand, since the workers, machines and materials were all still perfectly functional. It was as if the ghost in the machine had vanished. Nowadays, central banks are prepared to create credit to compensate.

Credit markets have been strongly affected. UK households repaid a record £7 billion (net) of bank loans in April, following £3.8 billion in March with a further £4.6 billion in May, and real estate transactions, which account for the bulk of UK credit, were just 10% of their pre-COVID count in May (BE 2020). Anticipating contraction The Bank has thus far increased its QE program by an enormous £300 billion at the time of writing (July 2020), increasing the stock of government bonds it holds to £745 billion, over 40% of the UK national debt. In the remainder of this article, I explain why such 'money printing' is the general form that any net 'stimulus' activity has to take, rather than through the government borrowing to spend. I then discuss implications of prospective stimulus activity of the burgeoning climate emergency.

Public understanding of these matters remains weak, not helped by economics texts portraying banks as 'intermediaries' passing money between lenders and borrowers, rather than creating credit. For example, see Williams and Turton (2014, ch. 5), who also state

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<sup>1</sup> Speech to South Wales Chamber of Commerce, The Millenium Centre, Cardiff, October 23, 2012.

that QE does not create money. The authors contradict themselves by saying that QE has maintained M4, the broad measure of money supply, when bank lending fell after 2008. The QE part of this contradiction can be resolved if the government pays off the bonds and The Bank retires the funds received. It seems unlikely that this will actually happen however. In the meantime, QE is clearly expanding the money supply.

## **2 Why Fiscal Stimulus Cannot be Financed by Bond Issues**

Many commentators apparently believe that government deficits must be financed by selling bonds, and that therefore if the government wants to stimulate the economy by spending more, it must sell more bonds. This overlooks the fact that bonds are purchased using existing money, not new credit. Thus, every pound that goes towards purchasing bonds is a pound that is not being invested elsewhere. Necessarily, no new purchasing power is created, and therefore additional bond issues do not counteract monetary contraction taking place through falling bank loan volume. This is the lesson of Japan's apparent failure to use fiscal policy to boost output following the collapse of its land value bubble in the 1990s. These points are argued convincingly, both theoretically and empirically, by Werner (2005).

For example, the UK's "Green New Deal" group argued for a package including green infrastructure spending financed by bond issues, repeating their call in the wake of COVID-19 (GNDG 2008). The TUC amongst others have also called for government spending to increase "given the low cost of borrowing", seemingly unaware of any crowding-out problem. A common argument is that only government spending can stimulate demand in a recession, as monetary policy to expand bank lending is 'pushing on a string'. It remains the case, however, that new government bonds are not bought with new bank credit. So to the extent that fiscal deficits are financed by bond issues, government borrowing competes for existing (and declining) liquid funds in the hands of pension funds and other investors.

The upshot is clearly that fiscal and monetary policy are not, contrary to what central bankers routinely profess, independent. The viewpoint typical of financial sector actors, including ratings agencies, that governments should not print money to finance expenditures ('monetise the deficit') arguably aligns with the interests of the financial sector to control the supply of money and debt. This interest has recently crystallised into arrangements such as central bank independence and diplomatic agreements such as that in the Maastricht Treaty not to monetise deficits. This situation may help explain why convoluted procedures such as QE are devised to do so

when necessary. Central bank independence is itself dubious however, when the government appoints the governor and can veto its key decisions, as under the Bank of England Act 1998.<sup>2</sup>

### 3 Why Debt Monetisation Should not be Done by QE

QE involves the central bank buying government bonds and other assets including company bonds, on the ‘secondary’ market, meaning bonds that have been auctioned by the government previously. For example, it involves buying gilts<sup>3</sup> held by pension funds, with the latter receiving deposits in their bank accounts in return. Since The Bank is publicly owned, this means the public sector is effectively printing money to buy back its debt (‘debt monetisation’).

The problems with QE include firstly that it is regressive; because it raises asset prices it benefits owners of bonds and shares, who tend to be well off. Persons with property also benefit through lower interest payments on mortgages, and the effects of this on land values as reflected in house prices. The Bank itself reported that the top 5% of households by financial assets held 40% of them, with most households owning little or none. Asset-holding households gained an estimated £600 billion from £325 billion of purchases in the first wave of QE (BE 2012). Secondly, QE is strategically blind, since there is no control over where the money that is printed ultimately ends up. Those selling their bonds might use the money to buy more bonds, shares, land, property or related financial products. Mostly these will be trades in existing assets, not generating new goods or services. A third problem is that low interest rates, though they lower debt service costs, discourage bank lending by making it less profitable. Finally, there are adverse effects on pension funds, motivating the abandonment of defined benefit pensions, undermining people’s financial security in retirement.

Given its demonstrable ills, QE should not be continued if there are viable alternative forms of monetising deficits. There are at least three. One is that The Bank simply credits government accounts as necessary. Equivalently, the treasury may order The Bank to credit non-government accounts as appropriate for its purchases. Alternatively, The Bank can buy government bonds with new credit. Finally, the government could make loan contracts with banks to finance its deficits. These would result in fresh credit being issued, unlike sales

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<sup>2</sup> See in particular the extensive “reserve powers” of the Government under the section 19 of the Act: <http://www.legislation.gov.uk/ukpga/1998/11/section/19>.

<sup>3</sup> Gilts (gilt-edged securities) are UK government liabilities offering investors regular payments before maturity. See DMO (nd).

of bonds in the primary market. The contracts could be made non-tradable to prevent them becoming, as bonds are, objects of speculation (Werner 2014). It is worth noting in passing that as an issuer of the currency via The Bank, the government cannot be in a position not to pay debts denominated in sterling. It is therefore strange to suggest, as the current governor of The Bank has,<sup>4</sup> that the government might somehow run out of cash. The usual objection to monetising a deficit is that it is inflationary. This apparently applies in full to QE, however, so is out of place in a discussion of alternative methods.

Perhaps one reason that The Bank has not pursued open debt monetisation is that it is against the terms of the Maastricht Treaty, the economic cornerstone of the EU project. Should it continue to be politically necessary to avoid open monetisation by The Bank, it is not clear why the option outlined by Werner (2014) would be objectionable.

#### **4 Why We Do not Simply Need ‘Recovery’ of the Previous Economy**

In the aftermath of the 2008 financial crisis, environmentalists were hoping to see reduced greenhouse gas (GHG) emissions. They were severely disappointed. Carbon emissions fell only for one year before continuing a relentless upward trajectory (Peters et al. 2019), with policy-makers’ attention fixated on the economy.

Similarly, many progressive commentators have been speculating that a different economy might emerge after COVID-19 lockdown. We have to realise that economic ‘recovery’ conceived only in terms of stimulus instruments (the budgetary measures we have been discussing) means increasing greenhouse emissions again. It was no accident they grew alongside GDP. This is because there is limited substitutability of fossil fuel energy for renewables, given the much higher “power density” of the former (Giampietro, Mayumi 2010). That is, to achieve the same power output to the rest of society, renewable energy infrastructure uses far more land and labour, making fossil fuel use inevitable for most industrial applications. Whilst it seems possible, then, to reactivate the economy by monetised government spending without any structural planning, this is not what should happen given the imperative to reduce global GHG emissions.

Le Quéré et al. (2020) estimate that following the large fall in economic activity by April when economic activity was largely con-

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<sup>4</sup> Interview with *The World Tomorrow*, Sky News, June 22 2020. <https://news.sky.com/story/coronavirus-governor-says-bank-of-england-saved-britain-from-effective-insolvency-12012369>.

fined to essentials, if economies operated at their previous intensity by mid-June, there would be a 4% annual reduction in GHGs. There would be a 7% fall if certain restrictions remained until the end of the year, comparable to what would be needed to meet the aims of the UN Paris Agreement on climate change.

In the medium term, energy supply constraints following 'peak oil' reinforce these considerations. Conventional crude oil, which has more favourable energetic properties than unconventional hydrocarbons, has been static since around 2006 (Bentley, Mushalik, Wang 2020), suggesting an imminent decline. To simply 'restart' the economy and recover its previous intensity would, it seems, squander much of the remaining higher quality energy resources on inessential consumption.

## 5 A Post-COVID Social Ecological Policy Package

There is limited space here to expound an appropriate response to the ecological crisis. Bardsley (2012) proposed a policy package in detail which I now summarise. To prevent a repeat of the 2009 experience, fossil fuel use needs to be constrained. This could be imposed by capping quantities of coal, oil and gas upstream, that is, requiring fossil fuel companies to purchase emissions permits covering the carbon content of any fuel they sell. An equitable way of doing this is for the emissions rights (permits) to be allocated to the population, either individually (a policy proposal named 'cap and share') or in trust ('cap and dividend'), so that when permits are sold the population acquires the revenue. This would compensate them financially for price increases deriving from energy scarcity, and households with the lowest emissions would benefit the most. See Comhar (2008) for an evaluation applying the E3ME model of Barker (1999), plus Kunkel and Kammen (2011) and Bardsley, Schnepf and Buechs (2017) for illustration of redistributive effects of the policy applied to specific sectors.

Green spending is necessary, financed directly by the central bank or with loan contracts with private banks, and has potential to provide many jobs. This should include extensive thermal insulation upgrades both for commercial and residential property, in addition to development of renewable energy infrastructure. Agroecological and other land management schemes should be developed and deployed to combine enhanced carbon storage in soils and biomass with improved food security. Biochar techniques for example appear promising, if complex.

In a future defined increasingly by resource and ecological limits to growth, extreme inequality will become increasingly abhorrent as the position of the worst off becomes more precarious. A substantial



land (site) value tax would be a powerful tool for redistribution, and would also help to reduce burgeoning housing costs by eroding speculative gains from landholdings. A shift of the revenue base away from taxes on labour and capital also makes sense to encourage productive activity, and this would not exacerbate GHG emissions given an overall cap. Spending on public health and social care systems, which should be more resource efficient and equitable than private sector counterparts because of the sharing of resources across the population, will also serve to alleviate inequality. Efficiency should not be over-emphasised however, as having excess capacity has proved crucial to the ability of health systems to respond to the crisis.

Debt relief should be introduced if household mortgage debts prove intolerable. This would be problematic if it were to reward irresponsible borrowing, however. A solution could be for each household to receive vouchers which can be exchanged for debt, with the loan issuer exchanging the voucher for central bank money, alleviating bank losses. If the household does not have debt the voucher could instead be exchanged for domestic thermal upgrades or renewable energy bonds. Since this relief scheme would benefit the banks this measure should be conditional, for example on reintroduction of credit controls to give government more power to direct economic activity.

A universal basic income could be partly constituted by the debt relief and carbon revenue elements of the package but could be supplemented as necessary with government spending. This concept could be extended to one of universal basic services encompassing minimum standards of energy and food provision.<sup>5</sup>

It must be admitted that such a program seems very unlikely to happen. However, given the alignment of the current economic system towards ecologically disastrous outcomes, a package that would actually operate in the other direction must inevitably be radical. The objective should be to find the least improbable set of measures that would work to constrain and reduce emissions, whilst maintaining welfare in an increasingly resource-constrained world. Compare it to the UK government's actual response: massive money printing for QE, loan schemes for business, including loans to big business underwritten by the treasury with few conditions attached, a small increase in benefits, temporary income / employment support schemes for those in work, grants for home insulation which benefit property owners, some mortgage relief but no rent relief except for business. There are to be no new controls on GHG emissions. Further infrastructure spending has been announced but it is not yet clear if this

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<sup>5</sup> I owe this observation to Brian Davey (personal correspondence).

adds to pre-COVID manifesto commitments.<sup>6</sup> The regressive nature of QE deserves repeating. BE (2012) estimated that the first wave of QE gave an average transfer of £10,000 per UK household but reaped only by the richest 50%. It seems the UK is largely helping the better off.

Perhaps the main problem with the package proposed is the difficulty of implementing hard controls on fossil fuel use unilaterally. It might be possible to devise a way of doing this via carbon tariffs. But it would be difficult to drive emissions down year on year, as Le Quéré et al. (2020), along with the mainstream of climate scientists, deem necessary, without international cooperation.

## 6 Conclusions

Printing money to buy back bonds (QE) is regressive and strategically blind. A social ecological stimulus would, in contrast, openly monetise the Public Sector Borrowing Requirement without raising asset prices, and strategically direct credit towards green infrastructure, agroecology, and essential goods and services, including health and social care. Curbing greenhouse emissions is however, inconsistent with maintaining current levels of consumerism, so the overall aim should not be a general upturn in output. The economic response to COVID should rather take place within a framework of hard constraints on greenhouse gas emissions. Suitable policies exist, but plausibly require international cooperation to be implemented. In the absence of such a framework, government spending packages should be targeted, at provision of essential goods and services on a universal basis, development of post-fossil-fuel infrastructure, environmental and agroecological schemes.

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<sup>6</sup> An overview of government-funded schemes responding to the COVID crisis is given by Deloitte (2020). The overall stimulus effect depends how they are financed, which is not outlined in the document.

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