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# **A permanent zero interest rate would maximise GDP.**

Ralph S. Musgrave.

## **Abstract.**

The arguments for government borrowing do not stand inspection, thus the effect of such borrowing is to artificially raise interest rates above their free market level. Since GDP is maximised where prices are at the free market level, absent good reasons for thinking otherwise, it follows that the GDP maximising rate of interest is zero, in the sense that no interest should be offered to those holding base money.

It is just possible that there are arguments for a limited amount of borrowing to fund public investments like infrastructure, though conventional thinking on that point is chaotic at the moment. But even if that infrastructure idea is accepted, it does not change the above “permanent zero interest rate” conclusion.

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## 1. Introduction.

The idea that government should not borrow, i.e. the idea that a permanent zero interest rate is best, is not new: Friedman (1948, Section II), Mosler (2010, 2<sup>nd</sup> last paragraph) and Forstater and Mosler (2005) advocated it. The purpose of this paper is to set out much more detailed reasons for a “no borrowing / zero interest rate” regime than given by the first two of the later three works, and simpler and clearer reasons than given by the third.

To make the “no government borrowing” argument, it is clearly necessary to show that the arguments for government borrowing are without merit, and much of the discussion below is concerned with that point. Nine arguments for government borrowing are examined below and shown to be badly flawed (sections 2-10), though it is conceded that if the advocates of government borrowing to fund infrastructure and similar public investments get their act together, they could possibly make a case for such borrowing.

The discussion assumes that government is “monetarily sovereign”, that is, government together with its central bank issues its own money: that applies to countries like the US or UK which have their own form of money (the US dollar and the Pound). Although the same arguments apply to common currency areas like the Eurozone, care needs to be taken in applying the arguments to individual Eurozone countries, i.e. countries which do not issue their own currencies. The exact way in which these arguments do apply to individual Eurozone countries is not considered below.

The word “state” refers here to government and central bank combined, while the word “government” refers to government alone and “central bank” to central bank alone. The word “infrastructure” will not be used henceforth: the phrase “public investment” will be

used instead since there are forms of public investment other than infrastructure which could be funded via government borrowing.

## **2. Government bonds provide a means of saving?**

One argument for government borrowing is that relevant bonds provide savers with a means of saving.

However, without government bonds, savers are free to stock up on as much base money as they like. That is, under the regime advocated here, where the state creates enough base money to keep the economy at capacity, but offers no interest on that money, any increased desire by the private sector to save or hoard base money is easily accommodated by the state issuing more of the stuff. As to whether savers have any sort of moral right to interest on their savings, it is hard to see why, particularly given that it is taxpayers who fund that interest. It is not clear why money should be confiscated from one set of people (taxpayers) simply because another set want more interest on their savings than is available from private sector investments.

Moreover, it might seem that interest should be offered on base money so as to encourage saving. Unfortunately while the artificially high rate of interest brought about that policy would certainly encourage savers to hold a larger stock of interest yielding base money than they otherwise would, it would result in a smaller stock of real savings: real in the sense of physical assets, investments in education and so on. In short, the population would have a larger stock of an entirely artificial or fictitious asset (i.e. base money, any amount of which can be created at the press of a computer keyboard button), and a smaller stock of what really matters, that is, real

assets. In particular, mortgagors have to pay more interest where the above “encourage saving” policy is adopted, and thus live in smaller houses. That all makes a nonsense of the “encourages saving” idea.

### **3. Smoothing out receipts from tax.**

Another argument for government borrowing is that it can allegedly smooth out irregularities in government income derived from tax: more money arrives in government coffers from tax in some months than others.

The latter idea is in fact a classic example of one of the most common mistakes in economics, namely extrapolating from the microeconomic to the macroeconomic. That is, if a microeconomic entity like a household or firm is short of cash for a few months, it has to do something about it: e.g. ask the bank for a temporary loan.

In contrast, no such problems face a state: for the months when receipts from tax are less than usual, states can simply print money, and do some “unprinting” during months when receipts from tax are higher than normal. Of course that arrangement involves government borrowing in that government borrows from the central bank, but there is no borrowing involved in the sense of the state borrowing from the private sector.

As for the idea that during the months when receipts are lower than normal (i.e. when the private sector has more than a normal amount of cash) the private sector will go on a spending spree with that cash, that is unlikely: to illustrate, if a private sector entity knows it will have to pay \$Y in tax a few months’ time, and has about \$Y more than it really needs in the bank, it is unlikely to go on a spending spree with that cash.

#### **4. Funding public investments.**

Another popular argument for government borrowing is that it can fund public investments. Indeed, so popular is that idea that it has its very own name: the “golden rule”. Or to be more exact, the golden rule is the idea that government should borrow only to invest, not to fund current spending.

One important anomaly in the golden rule is that education is one huge investment, but it is never suggested that borrowing should fund all education. It is widely accepted that “investment” means expenditure which yields benefits over several years or decades and education certainly has that characteristic. In short, advocates of the golden rule seem to think it applies to physical investments, but not necessarily to intellectual investments.

Of course the types of education that are funded via borrowing (including borrowing by those receiving the education) rather than tax varies from country to country. But certainly the first ten years or so of education in most countries (kid’s education) is normally funded via tax, for those who choose state education rather than private education for their kids.

##### **4.1 Investment justifies borrowing?**

Another factor which makes the golden rule appealing is that borrowing often funds investments in the private sector, from which it seems to be deduced that investment automatically justifies borrowing. Unfortunately that argument is flawed.

Few entities (households, corporations, etc) borrow to make investments if they have enough spare cash to fund the investment. There is clearly no point in paying interest to anyone when you do

not need to. And governments have a near inexhaustible source of cash, namely the taxpayer. In addition, the state can print a limited amount of money in most years.

Moreover, it is not even true that it is just investments that justify borrowing: it can perfectly well make sense to fund consumption / current spending via borrowing. For example if a credit-worthy individual wants to spend a significant sum on a consumption item (e.g. a wedding and honeymoon) and repay the money over a few years, there would no good reason for a bank to turn down that loan application.

To summarize, the justification for borrowing is not the fact of making an investment: it is the fact of being short of cash.

And finally, for some more arguments against the golden rule, see Kellerman (2006).

#### **4.2 Spreading costs over generations.**

Another popular argument for funding public investment via borrowing is that such borrowing spreads the cost of the investment over the generations that benefit from the investment: i.e. future generations allegedly pay part of the cost in that they have to pay interest on the loans and repay the principal.

However, that argument is flawed: it assumes time travel is possible! That is, the real resources required to build a bridge in 2018 (steel, concrete, person-hours, etc) cannot possibly be supplied by people living in 2030: the laws of physics (never mind the laws of economics) dictate that they must be supplied by those living in 2018 or earlier.

As for the idea that future generations must repay the debt incurred to create public investments, future generations do not just inherit that liability: they also inherit an asset, namely the bonds that fund public investments. The latter liabilities and assets cancel each other out.

The only exception to the latter “zero inheritance” point arises where one country borrows from another so as to fund investments, as explained by Musgrave (1939). That is, it is clearly physically possible for country A to supply the physical goods and/or labour needed to create an investment in country B in any given year, with physical goods etc flowing the other way in subsequent years so as to repay the debt. (Incidentally Musgrave did not actually advocate the latter cross border method of funding public investments: he simply pointed to the fact that cross border arrangements could in theory be used to spread costs across generations.)

But any country trying to exploit the latter “Musgrave” phenomenon with a view to spreading costs across generations faces an obvious problem: if country A tries to induce country B to fund its public investments, there is nothing to stop country B doing the reverse, that is trying to get country A to fund country B’s public investments! Indeed most countries in the world have significant holdings of the debt of other countries’ debt, which reduces the entire “get future generations to pay” idea to a bit of a nonsense.

### **4.3 Is time travel is possible?**

In contrast to the above claim that time travel is not possible, Rowe (2012) claimed time travel is in a sense possible. Rowe’s argument was as follows.



Say a government funds investment in a particular decade via borrowing. The relevant bonds will be bought by people of working age saving for retirement. Then, during their retirement, they will sell those bonds, or at least some of them to the next generation, which itself is also saving for retirement.

That process can clearly continue for several generations, until the final generation. Instead of benefitting from the bonds during that generation's retirement years, the money it saves is simply used to write off relevant government debt, and that is clearly an imposition on, or a cost born by the last generation.

Of course the cost of relevant investments does not have to be loaded entirely onto the last generation: it can be spread across each generation between the initial investment and the disappearance of the last bonds. But it is still an idea on a hiding to nothing because governments make roughly the same amount of public investment every year, thus the whole attempt to "spread the cost across several generations" is a bureaucratic waste of time.

Moreover those of working age already engage in a fair amount of "bond purchasing from oldies" in that that is how many pension schemes work. That is, a funded pension scheme works by having those of working age purchase assets, including bonds, which in their retirement are then sold (so as to fund relevant retirement years), and some of those assets will be sold to people of working age at that time. So the fact that "purchasing bonds from oldies" takes place anyway is a second reason for thinking that any attempt to accurately apportion the cost of public sector investment over several generations is a waste of time.

#### **4.4 Borrowing for public investments smooths out taxation?**

The final argument for having borrowing fund public investments considered here is the idea that borrowing can smooth out tax payments: public investments sometimes involve very large sums which are spent in a relatively short period of time, and that spending would arguably lead to large rises and falls in tax if those investments were funded via tax.

The flaw in that argument is that for any large or medium size country, the total amount spent on public investments does not vary much from year to year, thus there is little smoothing to be done. Moreover, it is not even desirable to have such spending vary much from year to year. Reason is that big gyrations in the amount spent on for example road construction lead to increase costs: in years when there is little of that sort of spending, those with skills in road construction migrate to other industries, thus they are hard to find come the next boom in road construction. Plus relevant capital equipment tends to be left lying idle during years when there is little of that sort of spending.

#### **4.5 Borrow more when interest rates rise?**

Another anomaly in the idea that borrowing should fund public investment is this. When the advocates of the latter idea have got their act together and proved that some percentage of public investment should be funded via borrowing, presumably that percentage will vary inversely with interest rate changes. That is, normal procedure adopted by households and businesses is to borrow less when interest rates rise. But under current arrangements, the reverse obtains with state borrowing!

For example when an interest rate rise is deemed appropriate, central banks bring about that rise by selling government debt: i.e. the state as a whole borrows more!

#### **4.6 Public investment summarized.**

To summarize so far, at least four weaknesses in the idea that borrowing should fund public investments have been set out: 1, the education anomaly in the golden rule, 2, the idea that investment justifies borrowing was shown to be invalid, 3, the future generations idea was shown to be invalid, and 4, the tax smoothing idea was shown to be invalid. Thus the idea that government borrowing is justified if it funds public investments is clearly very questionable.

If that is the case, then it is beginning to look like government should borrow nothing, as suggested by Friedman, Forster and Mosler. And that in turn equals a permanent zero interest rate policy.

However, let's be generous towards advocates of government borrowing, and concede that some borrowing to fund public investments is justified, for some reason or other. If that is the case, certainly the advocates of public investment borrowing need to explain exactly why such borrowing is justified and what the optimum amount of such borrowing is.

But let's assume advocates of public investment borrowing sort all that out and prove that some particular amount of borrowing to fund public investment, perhaps as a percentage of GDP, is justified each year. Central banks cannot then use relevant bonds to adjust interest rates because that involves departing from the latter percentage, and funding public investments via tax or base money creation which is the method advocated in this paper and by Milton

Friedman and others! That is, if government borrows money to fund investments, but the central bank, which is essentially part of the state apparatus, then creates new money and buys back some of the relevant bonds, then in effect it is freshly created money that has funded relevant investments. That is a self-contradiction.

Incidentally, a similar point applies to having the central bank create money and buy private sector bonds, a device actually used to a limited extent as part of QE and which could be used to adjust interest rates. That is, if it is decided that a particular industry is best left in private sector hands, but bonds issued by that industry are then bought by the central bank, that amounts to a self-contradiction: it rather contradicts the latter point that various industries are best left in private hands.

## **5. Borrowing with a view to stimulus.**

Another argument for government borrowing is the fact that having government borrow money and spend it, and/or cut taxes is stimulatory. While “borrow and spend” is doubtless stimulatory, it is not obvious what the merits of the “borrow” part of that process are: the fact of borrowing in isolation is clearly deflationary or “anti-stimulatory”. That is, the simple fact of borrowing money and then doing nothing with the money concerned is deflationary.

The alternative is to have the state simply print base money and spend it. “Print and spend” does not have any “anti-stimulatory” element.

A possible argument for “borrow and spend” is that it is easier to reverse than “print and spend”: it is easy for the central bank to sell some of the bonds in its possession so as to raise interest rates.

However that argument is debatable and for the following two reasons.

i) The fact of having implemented some “print and spend” does not stop central banks raising interest rates: that is, absent government bonds, there is nothing in principle to stop a central bank offering to borrow at above the going rate with a view to raising interest rates. Where the latter strategy is not allowed under existing legislation, there is no good reason for not changing that legislation.

ii) The latter novel way of raising interest rates might seem to clash with one of the basic claims of this paper, namely that interest rate adjustments should be abolished or at least should be used more sparingly. In fact the latter “borrowing by the central bank” method of raising interest rates is simply a concession to political realities: i.e. it is not a good technical argument or a good argument so far as economic theory goes.

To expand on that, there are no strictly technical or economic arguments against reversing a bout of “print and spend” with tax increases or public spending cuts (the choice between which would depend on the ideological preference of the party in power).

However, the unfortunate reality is that there can be POLITICAL problems stemming from tax increases or public spending cuts. Thus (to repeat), the above mentioned apparent clash is not a clash so far as strictly technical or economic matters go: it is simply a concession that might need to be made to political realities. That is, the latter concession does not weaken the basic argument put in this paper, namely that ideally and in order to maximise GDP, there should be no government (or central bank) borrowing, except perhaps for public investment purposes.

In particular, the above mentioned tax increases or public spending cuts, if implemented properly, would not need to have any effect on real living standards or on numbers employed or on the amount of public spending in real terms. To illustrate, if it was thought that aggregate demand was excessive and needed to be cut by X%, and private and public spending were cut by that amount, the sole effect would be to keep inflation under control rather than cut real private and public spending.

## **6. Irresponsible borrowing by politicians.**

A further argument for government borrowing is that politicians should have the right to borrow if they see fit. In fact politicians are sometimes grossly irresponsible in that connection. Indeed, one of the worst cases of that irresponsibility is taking place at the time of writing in the US.

That is, over the last few years Republicans have complained incessantly about the alleged excessive deficit and debt. But those complaints were largely or wholly unjustified given that a larger than normal deficit was needed to escape the recession. As for the motive for those complaints, the motive was simply to cast doubt on the economic competence of Democrats.

Worse still, now that Republicans are in power and given that the recession is, at the time of writing, all but over, there is clearly no need for a large deficit, or even a need for any deficit at all. But Republicans have let the deficit go through the roof!

Moreover, this is not the first time Republicans have complained about the deficit when not in power, only to implement record size

deficits as soon as they get into power. It is difficult to imagine how Republicans could be more irresponsible and dishonest if they tried.

The conclusion is that giving politicians the power to borrow is equivalent to putting a fox in charge of a hen house. As Hume (1742) put it, the freedom to borrow, if granted to politicians “...will almost infallibly be abused”.

In fact, given the lack of any good arguments for government borrowing, it is legitimate to ask exactly why such borrowing takes place, and Hume arguably got the answer right there as well. As he said in the sentence before the latter quote, “It is very tempting to a minister to employ such an expedient, as enables him to make a great figure during his administration, without overburdening the people with taxes, or exciting any immediate clamours against himself.”

## **7. Why boost just borrowing in a recession?**

Another argument for government debt and the interest rate adjustments that debt facilitates is that come a recession, it is desirable to increase lending and borrowing rather than increase one of the other elements of aggregate demand, like consumer spending or exports. In fact there is no obviously good reason for that.

Certainly when central banks cut interest rates, they do not do so on the basis of detailed research showing the decline in demand is due to an entirely irrational fall in demand for loans, rather than a fall in say consumer spending. (Note that if a fall in demand is attributable to rational rather than irrational reasons for less lending, then there is no reason to boost lending via interest rate cuts rather than boost consumer spending and/or public spending.)

Moreover the basic purpose of the economy is to produce what the consumer wants (both the items the consumer chooses to buy out of disposable income and the items which consumers vote at election time to have supplied to them via public spending). Thus given a fall in demand, the obvious and simplest solution is to boost consumer and public spending.

As to investment, firms supplying “disposable income” items and public sector entities supplying “voted for” items are well able to decide for themselves whether the extra demand warrants extra investment.

## **8. Interest rate adjustments work quickly?**

A possible argument for government debt is that interest rate adjustments work more quickly and/or predictably than fiscal adjustments.

Clearly interest rates can be adjusted by central banks at the flick of a switch. But whether those adjustments actually result in mortgage rates and other rates out in the real world changing all that quickly is debatable. Even when mortgage rates do change, there is a further substantial delay before extra construction jobs appear. Dyson (2010 et al: 10) cites evidence as to the ineffectiveness of interest rate adjustments.

Although in some countries the pace at which fiscal adjustments take place is slow, for example in the US, in the UK the finance minister has the power to change some taxes instantaneously. A central bank could also have the right to implement such adjustments itself (e.g. an increase or cut in payroll taxes), given too much delay by politicians, although in a democracy, politicians should obviously



have the right at a later date to cancel those central bank implemented fiscal adjustments and replace them with different ones.

### **9. Government borrowing helps the rich lend to the poor?**

Given that the more a government borrows, the less the tax that taxpayers need pay, and given that everyone, including the poor are taxpayers, it follows that in effect, government borrowing helps the rich lend to the poor. And that might seem to be an argument for government borrowing.

The problem there is that government, as an intermediary between rich and poor, is a subsidised intermediary: governments have powers not possessed by normal commercial banks, or other intermediaries. Governments can imprison taxpayer and borrowers who do not pay their dues. Commercial banks cannot.

The normal view in economics is that subsidies do not make sense unless there is a good social case for them.

### **10. Market forces have a strong influence on interest rates.**

One good reason for state intervention in the market is to put right defects in the market. So if it can be shown that interest rates do not fall as far or fast in a recession as they would in a perfectly functioning free market, that would be a reason for artificially boosting that interest rate fall, come a recession.

Unfortunately it is not obvious what is to stop market forces working in that connection: there are millions of borrowers and lenders, and hundreds of banks and similar intermediating between borrowers

and lenders. That is the sort of scenario where market forces normally work reasonably well. It is not clear why it is necessary to artificially boost those market force induced interest rate adjustments. Indeed, there has quite clearly been a dramatic fall in interest rates world-wide over the last twenty five years or so brought about by market forces.

### **10.1 The Pigou effect.**

As regards the latter suggestion that there is little to stop interest rates changing in sympathy with market forces, and hence that interest rate changes by central banks are entirely artificial changes, it might seem that much the same applies to fiscal stimulus.

In fact there is a big obstruction in the way of fiscal stimulus (or at least what is classified as fiscal stimulus here, namely “print and spend”).

In a perfectly functioning free market, wages and prices would fall in a recession, which would increase the real value of money (and incidentally the real value of government debt). As Arthur Pigou explained, that increase in the real value of the private sector’s stock of liquid assets would induce the private sector to spend more. Unfortunately there is an obstruction in the way, namely Keynes’s “wages are sticky downwards” phenomenon.

The latter problem can of course be solved by forcing pay cuts on employees, but that just leads to strikes and civil unrest. Alternative is to increase the real value of the private sector’s stock of base money via “print and spend”.

Incidentally, having said that falling wages and prices increases the real value of money, there are few points here that can be a source of confusion, and as follows.

The important point as far as inducing the non-bank private sector to spend more goes, is the real value of the private sector's stock of "net liquid assets", for want of a better phrase. (It is the non-bank private sector which will (or won't) increase spending when its stock of liquid assets rises). For example, while base money is a net asset as viewed by the private sector, every dollar issued by commercial banks is offset by a dollar of debt owed by the non-bank private sector. (Incidentally the latter "important point" explains why advocates of Modern Monetary Theory thought up the concept "Private Sector Net Financial Assets" – sometimes shortened to PSNFA.)

Also, there is very little difference between base money and government debt, as explained by Wolf (2014). After a fall in wages and prices, the rise in the real value of government debt probably also induces the non-bank private sector to spend more.

To summarise, while there is little to prevent interest rates changing in sympathy with market forces, there is a major obstruction in the way of another of the free market's cures for a recession, that cure being to increase the real value of the private sector's stock of money. And if that conclusion is correct, it follows that there is correspondingly little reason to use artificial interest rate adjustments to influence demand and a correspondingly good reason to have the state create and spend new money come a recession, and/or cut taxes.

## **11. Adjusting demand.**

Having hopefully shown that the arguments for government borrowing have few merits, it might seem that a problem then arises, namely how to adjust demand, given that currently demand is adjusted to a significant extent by adjusting interest rates, which itself requires or is much assisted by the existence of government bonds.

Moreover fiscal stimulus, at least in the form of government borrowing, spending and issuing bonds is also impossible. Thus the only remaining alternative way of imparting stimulus (as already intimated) is for the central bank to create new base money, with government spending that money (and/or cutting taxes).

Also, while it might seem the latter “print and spend” policy is new, it is actually nothing of the sort: several countries have engaged in “print and spend” in recent years.

That is, governments have borrowed heavily, spent the relevant money and given bonds to lenders, while at the same time QE has been implemented, which consists of the central bank creating new money and buying back those bonds. That all nets out to the state creating money and spending it and/or cutting taxes.

And going back even further in history, Keynes (1933, 5<sup>th</sup> paragraph) advocated “print and spend”.

## **12. Politicians’ and central banks’ responsibilities.**

Another apparent problem thrown up by a zero borrowing regime and the “print and spend” method of imparting stimulus that follows in its train is that the division of responsibilities as between central

bank and government would need re-thinking. In particular: who exactly decides how much to print and spend in any given year, and who decides what to spend the money on?

Clearly it is unacceptable for the central bank to decide how much to spend on education, defence, social security and so on: those are political decisions.

In fact the solution to the latter problem was devised a few years ago by Dyson and Jackson (2012: Chapter 7) and Dyson et al (2010: 10-12). As the latter work put it, “We recommend that an independent body, the Money Creation Committee should take decisions over how much money should be created, while the elected government of the day should make the decision over how that money will be spent.”

As Dyson explains in both of the latter works, it does not really matter where the latter body is based: it could be based at the central bank. The important point is that it is as free of political influence as possible. Indeed, in the case of the UK, the above “independent body” could perfectly well be the existing Bank of England Monetary Policy Committee.

The latter “Dyson” solution got support of a sort from Bernanke (2016). See Bernanke’s paragraph starting “A possible arrangement...”.

### **13. Central bank independence.**

Having said it is desirable to keep politicians away from the latter sort of committee, that point is actually debatable. The Bank of England was not granted independence till 1997: that is, it was at least nominally under the control of a politician, the UK finance

minister. But inflation was not a huge problem for most of the time between the end of WWII and 1997. There was of course the 1970s inflationary episode, but that is not generally attributed in the UK to the Bank of England's lack of independence. Also Jácome and Vázquez (2005) found little relationship between central bank independence and inflation in South America and the Caribbean.

However, the consensus seems to be that it is best for central banks to be independent, and on that assumption, Dyson's proposed split split of responsibilities is a neat way of implementing "print and spend".

The main purpose of those Dyson works is to advocate full reserve banking or "100% reserves" as Milton Friedman and others call it. As we do not have full reserve banking in place, references to Dyson might seem less relevant. In fact his split of responsibilities would work under the existing bank system just as well as under full reserve.

#### **14. Conclusion.**

Hopefully the basic argument put in this paper has been successfully made, that argument being as follows.

1. The arguments for government borrowing are badly flawed, thus ideally there should be no government borrowing. That in turn means that the existence of government borrowing artificially raises interest rates to above their free market level, which reduces GDP. Thus the GDP maximising rate of interest is zero, in the sense that ideally the state should issue enough base money to keep the economy working at capacity, but should not offer interest to holders of that money.

2. Feeble as the arguments for borrowing to fund public investments are, it is just possible that at some time in the future, advocates of that borrowing get their house in order and manage to demonstrate the optimum amount of such borrowing, perhaps expressed as a percentage of GDP. But having done that, central banks cannot then create fresh base money and buy up those bonds with a view to influencing interest rates because that involves in effect funding public investments with freshly created money, which is exactly the form of funding advocated in this paper!

3. An absence of government borrowing rules out fiscal stimulus in the form of extra public spending or tax cuts funded by government borrowing. It also rules out, or at least makes interest rate adjustments more difficult.

4. However, disposing or largely disposing of the latter two forms of stimulus is not a problem, since stimulus can be imparted by having the state create and spend more base money, and/or cut taxes.

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