

19-2 Public Debt: Fiscal and Welfare Costs in a Time of Low Interest Rates

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February 2019

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In early January, I had the honor of giving the presidential address to the American Economic Association (AEA). I took advantage of the bully pulpit to discuss the costs and benefits of public debt. As I was hoping, the address triggered many useful discussions—and also many objections. The purpose of this Policy Brief is to present the argument in simpler terms than in the original paper,¹ discuss the objections, and consider practical fiscal policy implications.

High public debt is widely perceived as economically, and even morally, destructive. Leaving aside the nearly religious arguments about debt and sin, two economic reasons are typically given. The first is fiscal costs: High debt implies high distortionary taxes in the future. The second is welfare costs: Debt crowds out capital in the portfolios of savers, decreasing capital accumulation and thus decreasing future output and consumption.

In the current environment of low interest rates, I wondered how large these costs were and decided to explore that in my address. I reached two main conclusions.

1. The paper is forthcoming as PIIE Working Paper 19-4 and will be available at <https://piie.com/publications/working-papers/public-debt-and-low-interest-rates>.

First, there may be no fiscal costs.

Not only are today's interest rates low, they are lower than growth rates. For example, 10-year forecasts of US nominal growth rates exceed those of nominal interest rates on US government bonds by about 1 percent. The difference is even larger in other major advanced economies: 2.3 percent for the United Kingdom, 2 percent for the eurozone, and 1.3 percent for Japan. If this inequality holds in the future, then debt has no fiscal cost. Put another way, higher debt does not need to lead to higher taxes. The government can just roll over the debt, issuing new debt to pay for the interest, and debt will increase at the rate of interest. But output will increase at the growth rate and, if the growth rate exceeds the interest rate, the debt-to-GDP ratio will decline over time without the need to ever raise taxes.

Second, the welfare costs are probably small.

The fact that such a debt rollover may be feasible does not imply that it is desirable. Higher debt does crowd out capital accumulation, decreasing future potential output. The issue is what it does to future consumption. This is an old question in macroeconomics, explored by, among others, Paul Samuelson and Peter Diamond. The standard answer is that whether consumption goes up or down depends on whether the economy is “dynamically efficient.” This condition depends in turn on the relation of the interest rate to the growth rate. If the interest rate is lower than the growth rate, then the economy is dynamically inefficient, and while capital accumulation and output go down, consumption actually goes up. The question in the real world, however, is what “interest rate” one should use for this comparison. Should it be the average rate of return to capital, which is clearly higher than the growth rate? Or, because people are risk averse, should it be the risk-adjusted rate of return to capital, which is simply the safe rate and is lower than the growth rate?

This is where my AEA address gets technical, and I shall not attempt to explain here the details of the reasoning. But the conclusion turns out to be simple: Typically, both rates matter. On the one hand, an average rate of return to capital above the growth rate implies, on its own, a welfare cost of debt. On the other hand, a safe rate below the growth rate implies, on its own, a welfare benefit of debt. In the current environment where this double configuration is the relevant

one, I conclude that the welfare effect of public debt is probably negative, but not large.

This leads me to the conclusion that, while public debt is probably bad, it is not catastrophic. It can be used but it should be used right.

A number of objections have been raised to dispute this conclusion.

One is that the current disparity between the safe interest rate and the growth rate will not last, that it is a freak occurrence, perhaps a legacy of the financial crisis. The skeptics argue that the interest rate will sooner or later—and perhaps sooner than later—exceed the growth rate, leading to positive fiscal and larger welfare costs. This forecast may turn out to be correct, but it is unlikely, for several reasons.

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First, the inequality is not a freak occurrence. Historically, and perhaps surprisingly, it is in fact more the rule than the exception. In the United States, for example, the one-year T-bill rate has been lower on average than the growth rate for the last 150 years. And over the last 50 years, the inequality has held in every decade except the 1980s, when the Volcker disinflation led to very high interest rates and low growth rates. The same holds for the more sophisticated construction of the interest cost of privately held debt, developed in my AEA paper. Several papers² show that the inequality also holds for most advanced countries over long periods of time; for example, a paper by Paolo Mauro and colleagues looking at 55 countries since 1800 comes to the same conclusion.³

Second, the secular stagnation hypothesis, which argues that neutral rates of interest will remain very low, seems to strengthen by the year. Long nominal bond rates are substantially lower than forecast a few years back. Explorations of the factors behind these low rates, whether they focus on saving and investment or on the demand for safe assets, suggest that many of these factors are not likely to disappear.

Third, even if rates were to increase in the future, the US government can partly lock in the current low rates by issuing long maturity–indexed bonds. US rates on 10-year and 30-year inflation-indexed bonds remain close to 1 percent. Based on historical evidence, the probability that average growth over the next 10 or 30 years will be less than

1 percent is very small (for example, despite the financial crisis, average growth since the beginning of 2008 has been equal to 1.6 percent).

Another challenge to the arguments in my paper is that, even if unlikely, there is a risk that a debt rollover will fail, and governments should not take that risk. Yes, there is a risk, but governments take similar risks all the time. For example, in choosing regulatory ratios for banks, they do not reduce the probability of failure to zero, just to a small number. The same is true here.

More importantly, failure in this case is far from catastrophic. It means that if and when the inequality reverses, the government will have to increase taxes to maintain a constant debt-to-GDP ratio. Unless something extraordinary happens, the difference between the interest rate and the growth rate is likely to remain small enough to be manageable. And the longer the inequality remains favorable, the lower the debt-to-GDP ratio to be serviced when the inequality changes sign.

Still another objection to my paper is that the United States has already extremely high levels of debt, explicit and implicit (through the social security system and Medicare). This is correct. US gross debt is roughly equal to 100 percent of GDP, and implicit debt roughly doubles this number. But this is looking at the wrong numbers: The debt-to-GDP ratio is the ratio of a stock to a flow, and as such of no particular significance without information about the interest on debt. A better concept is the ratio of real debt service to GDP, which is not particularly high (it is now, for example, half its 1995 level).

Even leaving aside the previous remark, the fact that a particular number, say 100 percent, is salient, may make it scary but does not make it economically relevant. The 60 percent Maastricht number and the 90 percent Reinhart-Rogoff number⁴ have been breached by various countries, and the safe rate has remained low. Japan, with its gross debt of 240 percent of GDP and a net debt of 155 percent of GDP, still has a 10-year nominal interest rate of 0.1 percent.

More importantly, the logic of my argument is that, to assess the costs of debt, the right variable to look at is not debt but the safe rate compared with the growth rate. If the inequality holds, the fiscal costs of debt are zero and the welfare costs of debt are small.

And for those who argue that the government should ideally be debt-free, the following remarks by Lawrence Summers and Lukasz Rachel in a forthcoming Brookings

2. See references cited in my original paper forthcoming as PIIE Working Paper 19-4.

3. Paolo Mauro, Rafael Romeu, Ariel Binder, and Asad Zaman, 2015, "A modern history of fiscal prudence and profligacy," *Journal of Monetary Economics* 76: 55–70.

4. Carmen M. Reinhart and Kenneth S. Rogoff, 2010 (revised 2011), *Growth in a Time of Debt*, NBER Working Paper No. 15639, Cambridge, MA: National Bureau of Economic Research, www.nber.org/papers/w15639.

paper⁵ seem particularly relevant: Suppose that the US government today was actually debt-free. What would be the equilibrium safe rate? Most likely, it would be large and negative. We would be experiencing an acute case of secular stagnation; the Federal Reserve would surely be facing the zero lower bound, and there would be intense pressure to sustain demand through deficits...

I do not want to push the point too far, however: Think of stress testing the balance sheet of the government. If the inequality were to reverse, then the level of debt would become relevant. The larger the debt, the larger the required primary surplus to cover interest payments.

All these points are well and good. But what if investors and rating agencies require spreads based on debt levels?

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This is an important objection. The first answer is that, if the arguments I have developed are correct, it is important to “educate” rating agencies and investors (I shall do my best...).

If the fiscal costs of debt are small, countries should not be penalized for high levels of debt per se. To use Robert Shiller’s terminology, it is important to change the narrative and to explain why public debt is not as dangerous as many believe. There may be good reasons to worry about debt default; but they have more to do with strategic debt default, and thus the nature and intentions of the government, than with a particular level of debt.

There are, however, limits to how successful education can be, and even if successful it is not enough to eliminate the problem. Even with educated and fully rational investors, there can be multiple equilibria: a good equilibrium where investors believe that debt is safe and the interest rate is low and a bad equilibrium where investors believe that debt is risky and the spread they require on debt increases interest payments to the point that debt becomes effectively risky, leading the worries of investors to become self-fulfilling. The argument may sound exotic for the United States today but will resonate with many emerging-market countries.

The practical question is what implications this has for debt levels. Multiple equilibria can arise for a large range of debt levels, so that a limited decrease in debt—say, from

100 to 90 percent of GDP, a decrease that requires a strong and sustained fiscal consolidation—does not eliminate the bad equilibrium. Given the current levels of debt, getting debt down to the level where the bad equilibrium would disappear is simply out of reach. There is no magic solution, but better ways to reduce the risk of a shift to a bad equilibrium include longer maturity debt or contingent increases in primary surpluses when interest rates increase. In short, multiple equilibria are a serious issue, but reductions of debt levels are not a solution.

So, do all these arguments add up to a license to issue infinite amounts of debt?

The answer is an emphatic no, for two reasons.

The first is that higher debt is likely to lead to higher rates, thus turning the inequality around. Theory is unambiguous on this point: Debt crowds out capital, thus increasing its marginal product. This in turn leads to an increase in all rates, including the safe rate. The empirical evidence is weaker: Long-run effects of higher debt on safe rates are hard to detect, probably because movements in debt are slow and there are many other factors affecting rates that may dominate their movements. Witness the coincidence of the large increase in debt and the large decrease in long real rates in the United States in the last 10 years.

The second is that debt has a welfare cost, even if it is small. It should be used only for good reasons, that is, when the benefits of using debt finance exceed the welfare costs of debt. This takes me to the last two points on how my conclusions may translate into fiscal policy in practice. (There is much more work to be done; this is a preliminary pass.)

When is debt finance justified?

Leaving aside standard tax smoothing arguments, which do not seem essential at this juncture, I can think of two relevant cases today.

In one case, private demand is weak, output is below potential, and monetary policy is sharply limited by the zero lower bound, pointing to two reasons to use fiscal policy. The first is that this is an environment in which multipliers are larger than usual, so that a given increase in output requires a smaller increase in debt. The second is that this is also an environment in which the neutral safe rate is likely to be very low, well below the potential growth rate, and thus an environment where the welfare cost of debt may be small or even negative (i.e., higher debt may increase welfare). If it turns out that, as seems to be the case in Japan, domestic demand appears structurally low, and the shadow neutral rate remains consistently close to zero or negative, then permanent primary deficits, and thus the accumulation of debt, might be needed to sustain output and may have no fiscal or welfare cost.

5. Lawrence Summers and Lukasz Rachel, “Public Boost and Private Drag: Government Policy and the Equilibrium Real Interest Rate in Advanced Economies,” forthcoming in *Brookings Papers on Economic Activity*.

The other case is the financing of public infrastructure projects, whose risk-adjusted social rate of return exceeds the safe rate at which the government can issue debt. One of the main ways in which countries unfortunately have implemented fiscal austerity has been through a decrease in public investment. This is unlikely to increase welfare.

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To be clear, the Obama deficits, which corresponded to the first case, were surely justified. (I shall not join the discussion of whether more should have been done.) The Trump deficits obviously are not. One can be in favor of corporate tax reform without endorsing debt finance.

Should debt be decreased today?

I would argue that a necessary condition is that the decrease in debt should be considered only if the adverse short-run effects on demand and activity can be offset by monetary policy. Absent such a condition, the welfare cost of the fiscal contraction is likely to exceed the reduction in the welfare cost of debt. (To get a sense of the tradeoff, think of a 2 percent fiscal consolidation as decreasing

output by at least 2 percent and decreasing the debt ratio by less than 2 percent, because of the induced loss of revenues from lower output. With growth less than 2 percent to start, the fiscal consolidation kills growth and reduces the debt-to-GDP ratio from, say, 100 to 99 percent. You do not need a sophisticated model to see that this is not worth it.)

Given the small welfare costs of debt, I believe that, while primary deficits had to be reduced after the initial phase of the financial crisis, fiscal austerity in Europe from 2010 on was excessive. In some countries such as Greece, the reluctance of foreign investors to hold debt at any price did not leave much choice. But in others, where the spreads remained low, the adjustment should have been slower.

If fiscal consolidation can indeed proceed without affecting output in the short run, should it? The answer may be yes: *Ceteris paribus*, a decrease in debt will lead to higher capital and output, and thus an increase in the welfare of future generations. But this may not be the best way to improve their lot. For example, spending on measures to mitigate global warming may well have a social rate of return higher than the safe rate, and thus justify the use of debt finance.

So let me repeat: Public debt is bad, it is not catastrophic. It can be used but it should be used right.

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