GV Invest
Short Studies Series

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Self-Payable Fiscal Policy

Can fiscal policy be truly free during a prolonged economic stagnation?

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Felipe R. Dexheimer[1]

1. Current Environment

After the 2008/09 shock the global economy developed countries have been growing at rates much below their previous trends, with GDP growth constantly revised downward and inflation rates below target. There is still no consensus on the best manner of dealing with the situation.

Many fear that the prolonged stagnation casts a growth shadow on the future, and that is not only a new fad. According to Cross (1987)*[1]*:

> *A higher employment level leads to more people receiving on-the-job training and learning by doing; and habits conducive to employment, such as being able to get to work on time, are instilled in more people. Thus higher unemployment is likely to produce a less- skilled labour force containing more people with habits which are not conducive to work. This effect on the supply side of the labour market will be reinforced by any tendency of employers to see those who have long or frequent spells of unemployment on their curricula vitae as being unsuitable for employment. The pattern of wages and of job vacancies is not likely to adjust overnight to accommodate such changes in the characteristics of the labour force, and so the natural rate of unemployment will rise.*

With this is mind many advocate fiscal stimulus as a way to propel economies back to growth, trying to avoid the negative effects of a prolonged crisis to society. Fiscal Policy is not, however, a magical solution. Used on normal times it would simply force the Central Bank to raise rates or create inflation.

2. Self-Financing Fiscal Policy

Delong and Summers (2012)*[2]* outline a scenario where fiscal stimulus would not only be positive for the economy, but also self-financing, and provide us

with a model for estimating the limits of this situation. Its main characteristics are similar to the ones we see in the aftermath of the crisis:

- nominal short term interest rates close to the zero lower bound.
- lack of short term supply side restrictions
- central bank unwilling or unable to increase monetary stimuli
- long term interest rates below the social discount rate
- occurrence of "hysteresis": loss of potential GDP due to prolonged economic downturn

In this context, a fiscal expansion ΔG would increase GDP today, Yn, by:

$$\Delta Y_n = \mu \Delta G \qquad (1)$$

where μ is the Keynesian Multiplier.

That would increase sovereign debt by:

$$\Delta D = (1 - \mu\tau)\Delta G \qquad (2)$$

where τ is the marginal net tax rate.

The extra fiscal cost required to maintain Debt/GDP stable would be:

$$(r - g)\Delta D = (r - g)(1 - \mu\tau)\Delta G \qquad (3)$$

where *r* is the government's borrowing rate and *g* is the trend growth rate.

Future GDP Growth (ΔY_f) is affected by hysteresis (η):

$$\Delta Y_f = \eta \Delta Y_n = \eta \mu \Delta G \qquad (4)$$

so there is a fiscal dividend from combating hysteresis:

$$\tau \Delta Y_f = \tau \eta \mu \Delta G \qquad (5)$$

Hence fiscal expansion is self-financing if:

$$(r - g)(1 - \mu\tau) - \eta\mu\tau \leq 0 \qquad (6)$$

what leads to the conclusion that for fiscal policy to be self-financing *r* must respect the in-equation:

$$r \leq g + \frac{\eta\mu\tau}{(1 - \mu\tau)} \qquad (7)$$

With these equations, the authors test the parameters and are able to conclude that even with modest values of η and μ fiscal policy can be self-financing. According to them:

> *For μ of 1.0 and η of 0.1, the second term on the right-hand side of expression 7 is about 5 percent per year. In this case, if the spread between r and g is less than about 5 percentage points, fiscal expansion today improves rather than degrades the long-term budget balance of the government. That*

> *implies a real Treasury borrowing rate of about 7.5 percent per year or less.*

In the current global environment, that would point to no other decision other than fiscal stimulus, given the nominal rates of long dated Treasury bond of various governments, as per table below, compiled with data from Bloomberg:

Table 1: Bond Rates, Sep 9th - Selected countries

Country	10-year rate (%)	30-year rate (%)
Canada	1.15	1.77
Germany	0.01	2.50
Switzerland	-0.48	0.03
U.S.A	1.67	2.39

3. Is It Truly Free?

The main critique to this chain of thought comes from those who think the current environment is transitory, and the consequences of that. Rogoff (2016)*[3]* points to this:

> *(...)Those who argue that even a very mediocre project is worth doing when interest rates are low have a much tougher case to make. It is highly superficial and dangerous to argue that debt is basically free. (...) Government borrowing might become very expensive in precisely the states of nature where the private sector has problems. (...) One has to worry whether higher government debt will perpetuate the political economy policies that are helping the government finance debt but making it more difficult for small business and the middle class to obtain credit.*

The critique is important. In the end, if the government increases its levels of debt new risks are added to the equation, and original problems might make things worse in the long term due to the new levels. At the same time, is there nothing to be done?

4. Payback Time

Table 1 shows that governments could borrow money now at exceptionally low rates for 10 or 30 year terms, but the worries of those who say those rates could be higher (or fresh economic distortions created) when that debt has to be rolled over cannot be ignored.

But what if governments paid the new debt it is due? What if they committed to future fiscal consolidation to bring debt levels back to the current level? Would it bring benefits to a theoretical economy stuck at a liquidity trap?

A simulation is therefore proposed, based on the model of Delong and Summers (2012), where a hypothetical country, growing at sub-par growth and with inflation below its central bank's target, borrows at current very low nominal rates to provide fiscal stimulus to its economy, be it to spend or to lower tax rates, repaying the extra debt before it matures. Imagine a country *C* in the following conditions:

Table 2: Economic Environment at Country *C*

Macro Variable	Value
Central Bank Rate	0.0%
Central Bank's Target Inflation	2.0%
Expected Medium Term Inflation	1.0%
10 Year Government Bond	1.0%
Expected Medium Term Growth Rate	1.0%
Potential Long Term Growth Rate	2.0%
Marginal Tax Rate	33.0%

Can country *C* improve its situation by performing a fiscal expansion if the Keynesian Multiplier μ is *1*?

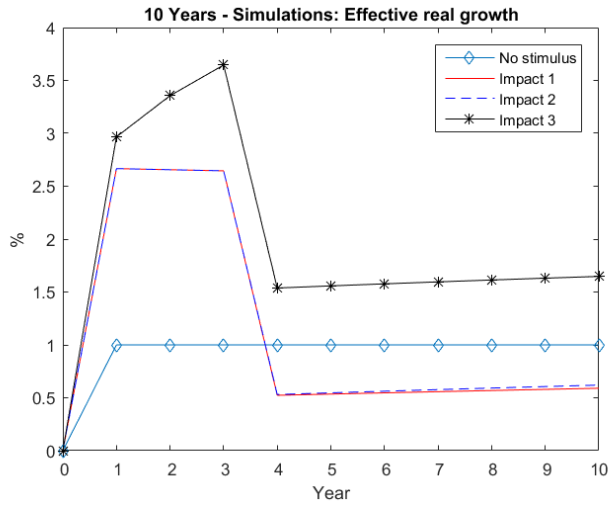
The stimulus considered will be *5%* of GDP, implemented in *3* even distributed parts on the first years of the simulation. Interest on the stock of debt from previous years will always be paid in full, reducing current year growth. The same Keynesian Multiple of *1* will be applied to fiscal stimulus and consolidation. Repayment will occur every year after the stimulus, also evenly distributed. For simplification, we will assume *C* has no other debt and, aside the new issued one, runs on a zero fiscal deficit.

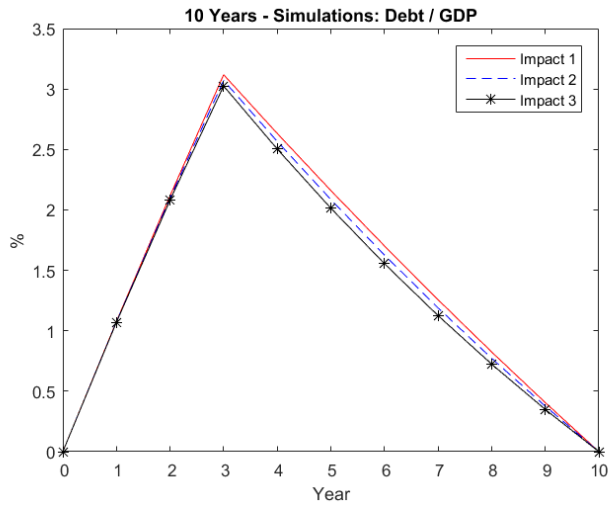
The simulations will be on a 10-year period, and assuming three different impacts:

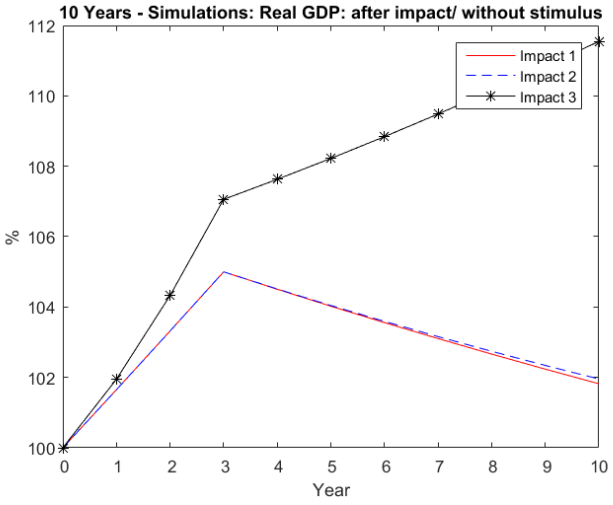
1. there is no impact on inflation or growth (*C* stays on the liquidity trap)
2. inflation converges to the Central Bank's target incrementally during the stimulus period, but there is no effect on the growth rate
3. both inflation and growth converge to the target and potential growth rate

5. Simulation Results

The charts below show interesting simulation results. First, if the stimulus fails to unleash the full growth potential, growth will be below the current level of *1.0%* during the adjustment period.







It is also possible to see that results improve marginally if it is possible to return the inflation rate to the Central Bank's target. The difference will increase if the debt repayment is done over a more prolonged period, 20 or 30 years, for instance. There is an important side effect: if the country has other outstanding debt, the higher inflation rate will alleviate its burden.

Of course the results of the Impact *3* are the ones every police maker dreams of. It might not be possible to reach this outcome, but coming short of the full release of the output growth potential, between results 2 and 3, is probably a very good end result.

But more importantly, in every scenario country *C* seems to be better off after 10 years, with a higher real GDP and sovereign debt returned to the previous level.

6. Policy Implications

One has to wonder, though, if making such a commitment to both fiscal expansion and an afterwards consolidation is politically feasible. Ten years is a long time for decision makers, elected representatives, private entrepreneurs and common citizens, for whom the tradeoff might not be clear ex-ante.

The newly minted Temer Government in Brazil is currently attempting, through a law which is under study by Congress, to make a twenty year fiscal commitment, reversible after 10 years, not to raise spending beyond the current one, adjusted for inflation. Success on this endeavour, making a society commit itself to a fiscal compromise many of its citizens won't live to see fully implemented, might open doors to great long term solutions for policy makers around the world.

[1] Felipe R. Dexheimer é Pesquisador Visitante do Centro de Estudos em Processos de Investimento – FGV/EESP

References

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[3] Rogoff, Kenneth. **Debt Supercycle, Not Secular Stagnation**. Progress and Confusion - The State of Macroeconomic Policy, 2016, pages 19 to 28. ISBN 9780262034623