GLOBAL ECONOMICS FOCUS

Can governments shoulder a higher debt burden?

- The coronavirus will leave in its wake a sharp rise in public sector debt. Low interest rates suggest that many governments will be able to live with this, rather than having to resort to austerity, default or inflating the debt away. But they would still be wise to reassure financial markets that they will return debt to a sustainable path. And there are some countries where the debt dynamics are less favourable. They will have to reduce debt in one of the other potentially more painful ways.

- Before the coronavirus, support was growing for the idea that many governments could cope with higher levels of debt. This reflects the fact that in most developed markets, as well as many emerging markets, nominal interest rates are below the rate of nominal GDP growth. This means that, as long as the government is not running big primary budget deficits, the debt to GDP ratio erodes gradually over time. This would suggest that the virus-related rise in government debt need not be a problem for some countries.

- However, things are not quite this simple. For a start, in some countries, interest rates are not below GDP growth. Italy and Greece are notable among DMs, Brazil and South Africa among EMs. And even for the majority of countries that do seem to have leeway to raise debt, there are a couple of complications.

- First, interest rates might not stay this low relative to GDP growth. Equilibrium risk-free interest rates might rise. Or financial markets might get nervous, leading to a rise in risk premia which prompts their concerns about debt sustainability to become self-fulfilling.

- And second, some governments might find it hard not to run significant primary budget deficits. After all, a legacy of the coronavirus could be a permanent rise in health spending and an expanded role for the state more generally. Moreover, many countries already face rising spending related to the ageing population.

- None of this means that the extra debt has to be a problem. Indeed, financial markets have been forgiving in recent years even of countries where debt is not projected to be on a sustainable path, including the US. However, markets will be more tolerant of higher debt in some countries (namely those that can print their own currency and stand behind their bond markets) than in others. In any case, it would be sensible for governments to have a clear strategy to make sure that the extra debt doesn't become a problem.

- As far as the risk of a rise in interest rates goes, in the near term that might mean issuing as much long-term debt as possible to mitigate roll-over risk. Further ahead, it is likely to mean being prepared to engage in financial repression (i.e. policies to force market interest rates artificially lower). Indeed, that was partly how the US and UK brought down their debt ratios after the Second World War – although bear in mind that financial repression is not costless if it leads to a misallocation of resources.

- Governments will also have to set out plans to keep primary budgets under control. With health spending likely to rise, they might have to convince markets that, if necessary, they have the stomach for higher taxes or restraint in other areas of spending.

- To sum up, for some countries, a combination of economic growth, low interest rates and the passage of time should be enough to erode debt burdens gradually. But some other countries, including Italy and Brazil, face tougher choices, which we shall be discussing more in future work.

Vicky Redwood, Senior Economic Adviser, +44 (0)20 7808 4989, victoria.redwood@capitaleconomics.com
Can governments shoulder a higher debt burden?

Huge costs are being racked up dealing with the coronavirus. To be clear, these costs are worth incurring. But they will nonetheless have long-lasting effects on economies. Some of the costs are borne by firms and households, and some by the banks (when firms and households default). But governments are shouldering a big part of the costs and their debt is going to rise significantly as a result.

We have explained before how there are four main potential ways to deal with this debt (although not all options are available to all countries). These are austerity, default, inflation and simply living with the extra debt. Relative to the others, the last of these options does not sound so bad. Moreover, given the low level of interest rates, it could potentially be a viable option for quite a lot of countries.

Indeed, before the coronavirus struck, there was growing support for the idea that, with interest rates so low, government debt in many countries could rise much further while still being sustainable in the long run. In this Focus, then, we look at the scope for countries just to tolerate the coronavirus-related rise in debt.

Public sector debt dynamics

When we talk about the sustainability of government debt, we basically mean – is it on an indefinite upward trajectory or not? And crucial to these so-called debt dynamics are two elements. The first is the cost of servicing the debt already built up. The second is any additional borrowing (excluding debt servicing costs) i.e. the size of the primary budget.

Let us assume for now that the primary budget is kept in balance – i.e. the government is neither adding to, nor reducing the debt. (We come back to this assumption later). Then the debt dynamics hinge on the debt servicing costs. If nominal interest rates on government debt are higher than the rate of nominal GDP growth, then debt servicing costs and the overall level of debt will keep rising as a share of GDP. That is unsustainable. Moreover, the higher the initial debt ratio, the bigger the primary budget surplus needs to be if a government wants to offset the rising interest costs and keep the debt ratio stable. But if interest rates are lower than GDP growth, then debt will rise at a slower rate than GDP and, over time, the debt to GDP ratio will shrink. That is sustainable. It’s basically as simple as that.

And Chart 1 shows that in many countries, nominal interest rates have in recent years been lower than nominal GDP growth. This is not just true of most developed economies, but also of many emerging markets. And looking at our forecasts for the next couple of years, the same picture holds; in fact, in many cases, we expect the gap between nominal GDP growth and bond yields to widen. (Note that in the near term, interest costs will be determined in part by what interest rates the government locked into when it issued debt in the past. But in Chart 1 we have shown the interest rate on new borrowing as an indicator of where the cost of government financing is headed in the future.)

### Chart 1: 10 Year Nominal Government Yields Minus Nominal GDP Growth (% Average 2010-2019)

In fact, the picture is even more reassuring than Chart 1 suggests. Because many holders of government debt pay tax to the government on the interest payments they receive, the interest cost of the debt is lower than the interest rate itself. And note that none of this is just a blip. Academics have put together historical datasets which show that risk-free rates have been typically lower on average than the

---

1 The following equation shows how debt as a share of GDP will evolve over time:

\[ D_t/Y_t = (1+r)D_{t-1}/(1+g)Y_{t-1} + b_t \]

where \( D_t \) is government debt at time \( t \), \( Y_t \) is GDP at time \( t \), \( r \) is the nominal interest rate, \( g \) is the nominal growth rate of GDP and \( b_t \) is the primary budget balance as a share of GDP at time \( t \).
growth rate over the past few decades (and centuries!). For more on this, see the EEA address by Olivier Blanchard, former IMF Chief Economist and the most prominent economist to argue that higher government debt is possible and even desirable.

**What has caused interest rates to fall below nominal GDP growth in this way?** One answer is that governments in both developed and emerging economies have frequently over the past few decades used so-called “financial repression” to keep interest rates low. This refers to policies to force market interest rates artificially lower, which can take various forms. (See Table 1.)

<table>
<thead>
<tr>
<th>Table 1: Examples of Financial Repression</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>By central banks</strong></td>
</tr>
<tr>
<td>Buying government bonds.</td>
</tr>
<tr>
<td>Capping yields on government bonds.</td>
</tr>
<tr>
<td>Setting policy rates below inflation.</td>
</tr>
<tr>
<td><strong>By governments</strong></td>
</tr>
<tr>
<td>imposing liquidity/capital requirements on investors.</td>
</tr>
<tr>
<td>Raising taxes on alternative assets to government bonds.</td>
</tr>
<tr>
<td>Regulating cross-border capital flows.</td>
</tr>
<tr>
<td>Directing investors to buy government bonds.</td>
</tr>
<tr>
<td>Banning investment in some alternative assets (e.g. gold).</td>
</tr>
<tr>
<td>Explicit caps on bond yields.</td>
</tr>
<tr>
<td>Caps on deposit interest.</td>
</tr>
<tr>
<td>Preferential tax treatment for government debt.</td>
</tr>
</tbody>
</table>

For example, tools of repression were deployed during the Second World War to pay for the conflict and some were continued afterwards. In the US, for instance, the Federal Reserve bought Treasuries to prevent yields from rising above a set level. The government also capped the interest rates banks could charge borrowers or pay depositors, and restricted bank lending. And capital controls prevented savers from seeking better returns abroad.

More recently, financial repression has tended to take the form of quantitative easing (QE) or more stringent requirements for banks to hold low-risk assets including government bonds. QE has brought the added benefit that the government is just paying the interest to itself on a portion of its debt. Indeed, some commentators have suggested that the central bank should print money to cancel the rise in debt permanently in a form of “helicopter drop”. (Under QE, the idea is that the central bank will at some point sell the government bonds back to the market.) But QE is already verging on semi-permanent. In any case, writing the debt off would be no magic long-term solution, in large part because of the potential inflationary consequences, if not in the near term, then eventually. (See here.) Indeed, it could ultimately be tantamount to inflating the debt away.

Another explanation for why interest rates have fallen relative to GDP growth in the past decade or two specifically is so-called secular stagnation. This refers to a rise in the amount of desired saving relative to desired investment, which has prompted interest rates to fall to balance the two. This in turn reflects various factors such as the impact on saving of ageing populations, shareholders’ desire for short-term returns and a dearth of investment opportunities.

**So debt burden could fall on its own**

Regardless of the reason, this all suggests that countries could see a jump in their debt levels yet keep their debt ratios on a downward trajectory, albeit from a higher starting point. The real value of the debt would be eroded over time by economic growth.

Admittedly, this could take a very long time. Chart 2 shows a stylised example, assuming an initial rise in the debt ratio from 100% to 120% and, going forward, a balanced primary budget and annual nominal GDP growth of 5%. Even assuming a sizeable gap between interest rates and GDP growth, it would take several years to reverse the initial rise in debt. Nonetheless, the point remains that it removes the need for higher taxes and/or lower government spending in the future to pay for the initial rise in debt. This would be especially appealing for any countries that endured painful years of austerity after the global financial crisis.

**Chart 2: Stylised Example of Government Debt as a % of GDP (Assuming Primary Budget is Balanced)**

Source: Capital Economics
Note that low interest rates remove another cost associated with high public sector debt, namely the “crowding out” of private sector investment. In an era of low interest rates and, by implication, a lower marginal product of capital, that private sector spending is less productive than otherwise.

This would all suggest that we need not worry much about the coronavirus-related rise in government debt. Note that we are not saying that debt can rise without limit. High government debt still has costs, arguably representing savings diverted into relatively non-productive uses. Indeed, it matters what the debt is used for. Borrowing to invest in infrastructure or R&D is clearly very different to borrowing to fund day-to-day spending.

But seeing the world through the coronavirus seems like a pretty good reason for governments to borrow. Moreover, as things stand, rises in debt to GDP ratios will be big, but not off the scale. Admittedly, it is unclear at this stage how far debt will rise, not least because most governments are still announcing new measures. It also depends how different types of contingent policies (such as loan guarantees) end up being classified by statisticians. And if we see a second wave of the virus, and another round of fiscal support, then debt will be pushed up even further.

But currently we are looking at rises of between 15 and 30 percentage points (pps) in developed markets and between 5 and 15 ppts in emerging economies. (See Chart 3 for our forecasts for individual major economies.) In its recent Fiscal Monitor, the IMF estimated that the average ratio of government debt to GDP would rise by 17pps in advanced economies (from 105.2% in 2019 to 122.4% in 2020) and by 9pps in emerging markets.

Bigger increases – and to higher levels – have been seen before, notably during the two world wars. We expect government debt to rise to around 100% in both the US and UK. After the Second World War, this ratio reached 113% and 259% respectively. (See Chart 4.)

Table 2 overleaf shows how governments brought down debt after these episodes, as well as after the Napoleonic wars in the 19th century. In both it took many decades for debt burdens to be reduced. The reduction was achieved in two main ways. The first was decent, if unspectacular, rates of real economic growth of about 2% to 3%. The second was fiscal restraint; in all periods, governments ran budget surpluses on average (achievable partly because of the strong growth performance). These were especially large in the 1800s in the UK.

The contribution of inflation was more variable. After the Napoleonic wars, it made no contribution; inflation was volatile but averaged close to zero. Inflation was more important after the Second World War, but more so at the start of the period when wartime price controls were lifted. Inflation between 1955 and 1970 averaged a fairly modest 3.6% in the UK and 2.3% in the US.

As we discussed earlier, financial repression played a role after the Second World War. This helped to keep the lid on the nominal effective interest rate on government debt. Unlike the period after the Napoleonic Wars, this nominal interest rate after the Second World War was lower than nominal GDP growth. It was also lower than the moderate rate of inflation, leading to negative real interest rates.
Meanwhile, the rises in debt ratios to around 100% that we expect this time in many countries would still be far lower than Japan’s debt ratio, which has not caused Japan any problems. (Measurement issues mean that Japan’s “true” government debt ratio probably lies somewhere between its net and gross levels of 150% and 230%. See here.) That said, the combination of conditions that have allowed Japan to carry this debt is largely unique to Japan. (We will come back to Japan later.)

Not all countries have this luxury

So low interest rates would appear to give countries the option of just living with higher debt. Unfortunately, things are not quite this simple. For a start, in some countries, interest rates have not been below GDP growth on average over the past ten years. (See Chart 5.) Italy, Portugal and Greece are the notable ones among developed economies (although note that Portugal’s circumstances have been improving and more recently, its government bond yields have been below GDP growth). Amongst the biggest emerging economies, Brazil stands out.

In some countries, especially EMs, the problem is that governments have insufficient credibility, meaning that risk premia are high. High interest rates in EMs also tend to reflect the fact that inflation has not been fully tamed (and expectations are not well anchored). And in some EMs, domestic saving rates are low, meaning that higher rates are needed to attract foreign savings.

Other countries (including those in the euro-zone) face the problem that they do not set their own interest rates or issue debt in their own national currencies. Moreover, these countries typically have weak GDP prospects, meaning that they will need to address their debt in other ways.

For some, this might involve financial repression to keep borrowing costs low. Indeed, we think that we may see a broader shift towards financial repression in many emerging markets, including Brazil and Mexico. (See here.) Note that China already uses it extensively given that nearly all of the major lenders are state-owned. But other countries might not be able to do this. For example, Italy does not have control over its own interest rates and although it could force Italian banks to hold more government bonds, they already hold a large share of the government bond market.

Indeed, some countries, including some of those in the euro-zone, will have to choose between austerity, default and inflation. Note that, even before the coronavirus, we expected Italy to eventually be forced into a debt restructuring or outright default. (See here.)
Potential complications
Meanwhile, even for the majority of countries that do seem to have leeway to raise debt, there are some complications.

First, interest rates might not remain this low relative to GDP growth. Note that it only takes relatively small changes in interest rates to change the debt dynamics substantially. Chart 6 returns to our stylised example from Chart 2. Again, the initial debt to GDP ratio is 100% and we assume primary budgets going forward are zero. As we showed before, if economic growth exceeds interest rates by 1pp, the debt ratio will shrink after two decades back to 100%. Yet if interest rates exceed economic growth by 1pp, the debt ratio will grow substantially further after two decades to 144%.

Chart 6: Stylised Example of Government Debt as a % of GDP (Assuming Primary Budget is Balanced)

Source: Capital Economics

What might prompt interest rates to rise? One possibility is that equilibrium risk-free interest rates increase. If this were due to factors that also pushed up GDP growth (for example, an improvement in the outlook for productivity growth), then the wedge between interest rates and GDP growth would still be the same. Indeed, the pick-up in trend nominal GDP growth might even be bigger than the rise in the equilibrium interest rate.

However, other factors might push up risk-free rates, while having little or no effect on GDP growth. One would be an easing of risk aversion, which reduced the demand for safe assets. Another would be if some of the so-called “secular stagnation” (the high level of desired saving relative to desired investment) of recent years were to ease. In that case, interest rates might rise to re-balance desired saving and desired investment. An abrupt unwinding of QE might be another cause.

Even if risk-free rates stay low, financial markets could get nervous, leading to a rise in risk premia which prompts their concerns about debt sustainability to become self-fulfilling. Indeed, there can be so-called “multiple equilibria”. If risk premia and interest rates stay low, then the debt may well be sustainable. But if markets get nervy and risk premia rise, then the very same level of debt becomes unsustainable. Governments’ credibility in the markets is crucial. Countries with a recent record of profligacy might be testing the limits of this credibility already.

It is also possible that nominal GDP growth slows – for example, if the current downturn results in a prolonged period of deflation. This is certainly a risk in Japan. Again, in some cases, this might just be accompanied by a drop in bond yields too. But this drop will be limited by the fact that official nominal interest rates are already close to their lower bound.

There are a couple of groups of countries where a rise in interest rates relative to GDP growth would be particularly dangerous. One is countries with a low average maturity of debt. There is actually little variation among countries (other than the UK’s relatively high average maturity). But for what it is worth, those with the lowest maturity include the US, Canada and Turkey. (See Chart 7.)

Chart 7: Average Maturity of Outstanding Government Debt (Years, 2019)

Source: OECD

Another is those with a high starting level of debt (again, most notably Japan). If a small bit of extra debt pushes up the interest rate on all debt (once it has rolled over), then the marginal cost of that additional debt is very high. Note that some of the factors that have allowed Japan to carry such a high debt burden may fade in the coming years; for example, as the population ages, people in
retirement will want to run down their savings, rather than add to their holdings of government bonds.

The second reason to be wary of assuming that the rise in government debt is not a problem is that, as we explained initially, this hinges on governments keeping their primary budget deficits low. This ensures that the overall deficit (rather than just debt servicing costs) increase at a slower rate than GDP. Countries where interest rates are lower than GDP growth will still in theory be able to run a bit of a primary deficit, whilst still ensuring that debt as a share of GDP is falling. But that will just lengthen the time it takes to reverse the initial rise in debt from years to decades. And we are only talking about a primary deficit of 1% or 2% of GDP in most cases.

But keeping primary deficits low could be a tough assumption in practice. Even at the best of time, most governments struggle to run balanced budgets (Germany being an obvious exception). Indeed, many governments were already running significant deficits going into this crisis. (See Chart 8.)

What’s more, the coronavirus will result in lasting pressure to increase significantly spending on public health services. Governments may also come under pressure to convert some of the supposedly temporary measures to see economies through the coronavirus crisis into more permanent measures. And if we are right in expecting it to take several years for GDP to get back onto its pre-crisis path, then deficits will continue to be pushed up in the meantime by the weakness of economic growth and the operation of so-called “automatic stabilisers”.

More generally, a legacy of the coronavirus could be an expanded role of the state. Moreover, many countries were already facing the prospect of rising spending related to the ageing population. Note that the coronavirus is unlikely to significantly alter the demographic structure of countries.

Governments must keep the bond markets onside
None of this means that the extra debt has to be a problem. After all, financial markets have been forgiving in recent years even of countries where debt is not projected to be a sustainable path (including the US.) Only a few years ago, it was widely believed that there was some threshold of debt that, once breached, would trigger a rise in interest rates that would slow economic growth. But recent experience has shown that things are certainly not as clear-cut as that. Note that few countries have managed to reverse any of the sharp rise in debt seen after the global financial crisis (Germany being a notable exception) and yet the sky has not fallen in.

However, clearly markets will be more forgiving of some countries (namely those that can print their own currency and stand behind their bond markets) than others. In any case, it would be sensible for governments to have a clear strategy to make sure that the extra debt doesn’t become a problem.

As far as the risk of a rise in interest rates goes, in the near term that might mean issuing as much long-term debt as possible. That might create some tension with any QE policy being undertaken by the central bank in order to lower long term yields. Indeed, the US Treasury deliberately stopped issuing long debt so that it didn’t undercut the Fed’s QE (helping to explain why the average maturity of debt is currently so low). But the central bank could just buy more government bonds than otherwise. And in any case, lowering yields is not the only aim of QE.

Further ahead, it is likely to mean governments being prepared to engage in financial repression. Rather than explicit caps on interest rates, financial repression now would be more likely to come under the guise of regulations that would create a captive domestic audience for government debt. This might include prudential regulatory requirements for financial institutions such as banks and pension funds to hold certain quantities of “safe” government bonds. There are already signs of this in EMs; for example, Colombia’s president has decreed that commercial banks have to buy public sector “solidarity bonds”. And Turkey’s central bank has...
imposed a minimum loan-deposit ratio for banks, with government debt included within those loans. Financial repression might also involve more QE, perhaps even permanent QE, possibly combined with yield curve control.

Financial repression is not costless, though, as it can undermine the functioning of the financial system. This might be especially important for EMs, where a misallocation of resources and lower productivity growth could hold back catch-up growth. It also has distributional consequences, punishing savers.

Financial repression has proved most successful in the past when combined with moderate inflation. Governments may again be tempted to engineer higher inflation, although we explained after the financial crisis the dangers of this strategy. (See here.) We will have more to say about using inflation to erode debt burdens in a separate piece of work.

The other key element of a government strategy to retain credibility in the financial markets would be to set out a path for the overall budget deficit, that showed that debt was forecast to start falling again as a share of GDP. This is especially the case for those countries, including the US, where long-term projections prior to the coronavirus showed the debt-GDP ratio rising indefinitely.

In most cases, this will probably involve another set of fiscal rules, perhaps including one about debt interest costs. For example, the UK government is considering adding a new debt interest rule that it proposed in its manifesto last year “to reassess plans in the event of a pronounced rise in interest rates taking interest costs above 6% of government revenue” to ensure that national debt remains on course to fall as a share of national income.

Meanwhile, if governments do decide to increase health spending in the wake of the coronavirus, they will need to spell out how they intend to pay for this without borrowing significantly more. In other words, they must show that they have the stomach for higher taxes or cuts in other types of spending. In the immediate wake of the coronavirus, they may find it easier to do the former, by raising taxes on the rich, given that the burden of the crisis (both monetary and non-monetary) has fallen disproportionately on lower-income households.

Finally, it is crucial to maintain central bank independence through all of this. This especially applies if we get to the point of direct monetary financing of government spending by central banks. If markets think that central banks will print money at the whim of governments, then bond yields might jump up, possibly putting debt on an unsustainable path. Admittedly, the QE undertaken in recent years has looked a lot like debt monetisation and yet bond yields have still fallen. However, one reason why this has occurred is likely to have been that markets have retained faith in central banks’ independence and inflation-fighting commitment.

Conclusions

To sum up, for some countries, a combination of economic growth, low interest rates and the passage of time should be enough to erode debt burdens gradually. But not all countries are in this boat. (We shall be discussing in future work the difficult choices they will have to make.) And even those that are might still need to take steps to preserve their credibility in the financial markets.

Moreover, within this group, some countries have more secure debt dynamics than others. We tend to be most sanguine about countries that can print their own currency not least because they have more tools to keep interest rates low, including forms of financial repression. Despite this, we will be carefully watching Japan, given its high debt level, as well as the US, given its turn towards profligacy in recent years. And Brazil and South Africa both had worrying debt dynamics going into this crisis. (See our country-specific services for more.)

Finally, does all this mean that there is now no room for the infrastructure boost that many were hoping for before the coronavirus struck? Not necessarily. It is hard to judge the ceiling for sustainable debt. But it is probably higher than even the level that will soon be reached. That is certainly the case with countries which started with low levels of public debt, such as Germany or Canada. Nonetheless, it would be a brave government to test the markets by adding even more debt. Where infrastructure is boosted in the near term, we would expect it to be restricted to areas related to the recovery from the virus, such as more hospitals or medical R&D. Alongside this, governments could put the emphasis on boosting privately-funded infrastructure.
Disclaimer: While every effort has been made to ensure that the data quoted and used for the research behind this document is reliable, there is no guarantee that it is correct, and Capital Economics Limited and its subsidiaries can accept no liability whatsoever in respect of any errors or omissions. This document is a piece of economic research and is not intended to constitute investment advice, nor to solicit dealing in securities or investments.

Distribution: Subscribers are free to make copies of our publications for their own use, and for the use of members of the subscribing team at their business location. No other form of copying or distribution of our publications is permitted without our explicit permission. This includes but is not limited to internal distribution to non-subscribing employees or teams.