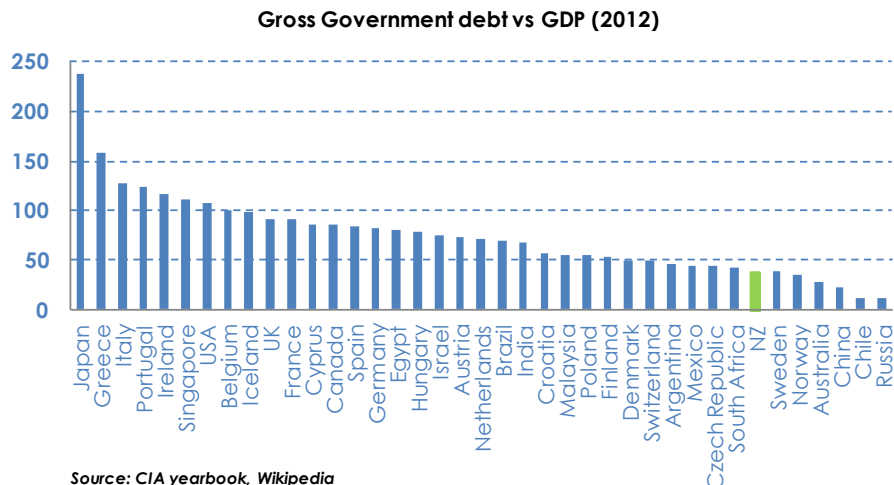


## Understanding debt

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Debt levels, particularly sovereign debt levels are topical. They are topical because in many countries debt levels are high and growing, and higher than they have been historically. For some, they are uncomfortably high. Is this a problem?



It is easy to argue that there is a problem. How will the interest be paid? How will the debt be paid back? Will the lenders keep lending? What if interest rates rise? What if there is a sudden shock?

Each of these questions represents a potential risk that may or may not become a real issue. This will depend on what happens in the world and what was and is being done with the money borrowed. Was it used for lifestyle consumption, or was it invested to generate greater income? If borrowed-money is used productively, high, but not extreme, debt levels may be an advantage and not be an issue. Borrowed money used productivity has a positive return. Borrowed money used for consumption generates no return.

Debt occurs because we spend more than we earn and borrow the shortfall. High debt levels occur when we spend more than we earn for a long period of time. As money borrowed incurs interest until it is paid back, rising debt levels increases the expenditure demands on our future revenue. This will cause further fiscal stress, unless the debt has been used productively i.e. generates returns greater than the interest cost.

When money is borrowed to meet a shortfall in income over expenditure, debt levels can quickly rise and, because of the compounding effect if the interest is not paid, get out of control. This has happened at a country level (see previous graph) for many developed countries. Such countries have not made a conscious effort to reduce their expenditure and borrow less. It has been easier to borrow more and increase the risks further for the future.

### *The legal stuff*

*This is not an investment statement for the purpose of the Securities Act 1978. An investment statement is available from SuperLife free of charge. Before making a decision to invest, you should consider whether you need to seek financial advice. If you wish to have personalised financial advice, you should talk to an appropriately experienced Authorised Financial Adviser.*

But high debt levels are a problem for the borrower and the lender. It must be remembered that one person's debt is another person's asset and one person's expenditure is another person's income. Changes to debt levels and expenditure therefore, effect both the borrower and the lender and the future supply/demand for goods and services. Often, the lender needs to lend so the borrower can buy the lender's goods. In some cases, a country lends to maintain the demand for its exports and therefore create local employment. However, it can only do this for a limited time.

### Borrowing is a promise

We often forget that when we borrow, we are promising to give up some of our future resources (labour, investment income, property, etc) to increase our current position. If the borrowings increase our current resources, we will be probably in a better position to sacrifice some of them to pay back the debt. If the borrowings increase our lifestyle, then the only solution is to ultimately give up our future lifestyle, at some point, and this is always hard, particularly when we see others enjoying life.

### Ultimate options

When debt does get out of control, borrowers have three main choices:

- they can cut their expenditure and pay back the debt. The trendy term for the cuts is "austerity";
- they can default and never pay back the debt;
- income can rise and rise materially, so that the debt level becomes insignificant relative to income. This often is caused by inflation so the value of the debt is inflated away.

Governments have two other options. They can try to increase their income by raising taxes, or they can simply print money and use the new notes to pay back the current debt or the interest on the debt.

Each option has an immediate impact and also longer term consequences to both the borrower and the lender.

### An example

One way to understand the long-term dynamics of debt is to look at a simple example. Assume ABC has income of \$100 and expenditure of \$105. ABC spends \$5 more than it earns and does so for several years. To meet the shortfall it borrows. In the first year, it borrows the \$5.

In the second year, ABC will need to pay interest on the \$5 debt. If we assume that interest rates are 7.5%, then ABC needs to pay \$0.38 interest. Therefore, assuming ABC wants to maintain its expenditure (standard of living) at \$105 in year two, in addition to borrowing a

further \$5 to fund its \$105 expenditure, it must also borrow \$0.38 to fund the interest on the debt. Year 3 becomes \$5 plus \$0.78 interest. This can go on for years.

Year	1	2	3	4	5	6	7	8	9	10	20
Expenditure	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
Interest bill	0.00	0.38	0.78	1.21	1.68	2.18	2.72	3.30	3.92	4.59	14.76
Total expenditure	105.00	105.38	105.78	106.21	106.68	107.18	107.72	108.30	108.92	109.59	119.76
Income	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Short-fall	5.00	5.38	5.78	6.21	6.68	7.18	7.72	8.30	8.92	9.59	19.76
Total debt	5.00	10.38	16.15	22.36	29.04	36.22	43.94	52.23	61.15	70.74	216.52
Debt to income	5.0%	10.4%	16.2%	22.4%	29.0%	36.2%	43.9%	52.2%	61.1%	70.7%	216.5%

At what point of time will the debt become a problem for ABC?

After 10 years, ABC's debt is \$70.74 (i.e. 71% of its income) and the interest bill for year 11 will be \$5.31. 10 years is a relatively short period of time.

After 20 years, ABC's debt is \$216.52 (i.e. 217% of its income) and the interest bill for year 21 is \$16.24. If the interest bill is \$16.24 then the total new borrowings in year 21 are \$21.24 if ABC is still looking to maintain its \$105 lifestyle.

### When do lenders say no?

As long as other people are willing to lend ABC money, ABC can continue in this way. However, each year ABC's debt goes up and it needs to borrow more and more, just to fund the increasing interest bill. When do the investors say "We are not going to lend any more money to ABC?" Also, when do they say "We want our current money back?"

### When does ABC say no?

When does ABC stop borrowing and look to pay back the debt? To do this it will need to cut back its expenditure in other areas. Does it do this before the lenders force it to, because they will not lend anymore money, or does it do it afterwards? There are always more choices to act before you are forced to. Of course, ABC may be hoping that this never happens, or inflation takes off and its income rises, so the debt level becomes less as a multiple of its income and potentially more manageable.

If we assume that rising debt is allowed to happen unquestioned for 10 years and at that point ABC decides not to borrow anymore money, ABC needs to cut its expenditure from \$105 to \$94.69 – a 10% reduction. This is because it needs to meet the \$5.31 interest bill for the 11<sup>th</sup> year on the current debt and allow for the ongoing \$5 shortfall. Also, cutting ABC's expenditure to \$94.65 means the debt does not continue to grow. It makes no allowance for reducing the debt. This would require further cuts in expenditure.

If ABC does not act until after 20 years, it needs to cut its expenditure by \$21.24 (i.e. from \$105 to \$83.76) – a 20% reduction – just to stop the growth in debt. How many governments can cut their expenditure by 20% and stay elected? Also, cuts at this level often required cuts to core welfare payments.

### But life is not simple

Of course, nothing is as simple as the example. In reality, inflation will be present and the borrowings may have been invested wisely. ABC probably expects its income to rise each year and therefore the debt as a percentage of income to reduce and for the interest bill to reduce in real terms relative to income. But, if inflation rises, so may interest rates and therefore the accumulated debt and interest bill may rise as well. Also, in such a scenario, expenditure will go up by inflation so in real terms, the overall numbers may not be that different.

The real issue is the reason for the debt. The example assumes that the \$5 borrowed is spent on consumer goods for maintaining lifestyle. The better alternative is to invest and build up productive assets. This increases the future income of ABC and gives it options to sell the assets. If debt is used productively, debt is not a bad thing and more debt may give the borrower an economic advantage. After all, many individuals do this when they borrow to buy their home.