Special Report 2012/08a

Coping with life after debt *(part 1)*

If there is a single word that appears most frequently in discussions of the economic problems now afflicting the Western world, that word is undoubtedly "debt." In the first part of this series, we will show that debt, which has risen sharply in most advanced countries, is not necessarily a bad thing if it is at sustainable levels. In part 2, we look at the recent balance sheet adjustment process to get a sense of when it will be over and how painful the transitional phase will be.

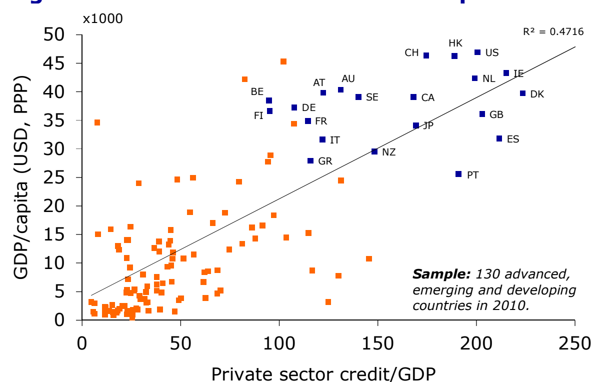
In Debt We Trust

In English dictionaries, one finds that the word "debt" is synonymous to words such as "sin" and "trespass". In German and Dutch, the word "debt" is called "schuld", which is synonymous to the word "guilt". Despite the negative connotations with the word "debt", we must stress that the ability to borrow is a precondition for economic development. Economic literature has shown that credit is one of the building blocks of modern society. Without the availability of credit, countries that are poor tend to stay poor. Figure 1 illustrates that private sector credit/GDP and GDP/capita have a relatively strong positive relationship.

So why is debt useful for a country? The most important reason is that credit enables all sectors of the economy to invest, hence boosting potential GDP. Of course, investment can also be financed with equity. But not all investors are willing to bear all the risks related to investment. And it will generally be hard to find equity investors for households and government. Without debt, countries that have low incomes cannot raise their living standards as they will not have the means to invest.

Another important role of finance is that it improves the efficiency of capital allocation across its various possible uses in the economy. Financial institutions serve as intermediaries by connecting lenders, who have excess savings, to borrowers who are in need of credit to invest in profitable projects. Lack of such intermediation results in inefficient allocation of resources and, by extension, lower welfare.

Figure 1: Debt and economic development



Source: World Bank, EIU, Rabobank

Lastly, for households, businesses and the government, being able to borrow allows them to smooth their consumption and investment in the face of a variable income[1]. A related benefit of this is that it may serve as a stabiliser for the macro economy.

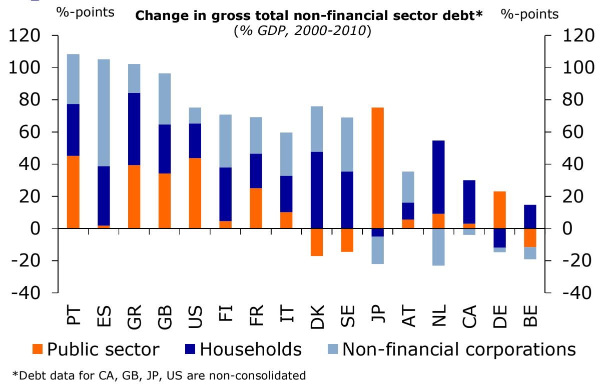
How much has debt risen recently?...

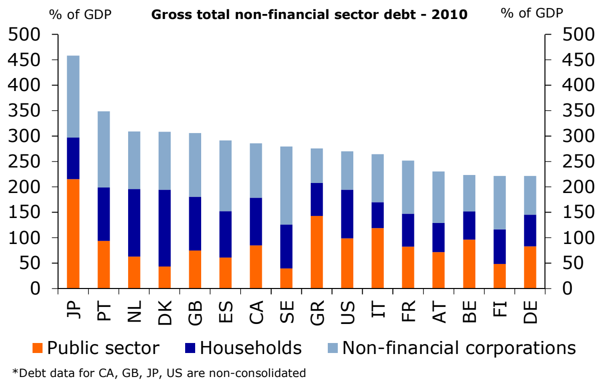
Indebtedness has become particularly acceptable in the industrialised world. Figure 2 (top panel) shows the change in the non-financial sector debt of advanced economies between 2000 and 2010. Two facts stand out: first, total non-financial debt as a share of GDP, as well as its sectoral components, have been rising steadily for much of the past decade. Starting at a relatively high 225% of GDP in 2000, total non-financial debt reached 284% of GDP in 2010 (i.e. rose by an average of 6%-points of GDP per year). Of this increase, governments

[1] An extra advantage of public debt is that it can help smooth consumption across generations. To the extent that future generations will be richer than the current ones, a transfer from future to current generations through rising public debt can raise society's intertemporal welfare.

and corporates account for 17%-points each while households account for the remaining 25%-points. Although countries share a similar upward trend in total non-financial sector debt, there are marked differences in debt levels (figure 2, bottom panel). On average, corporate debt in the advanced economies accounts for 39% of the total non-financial debt. The public and household sector each account for roughly 31% of non-financial debt.

Figure 2: Non-financial sector debt

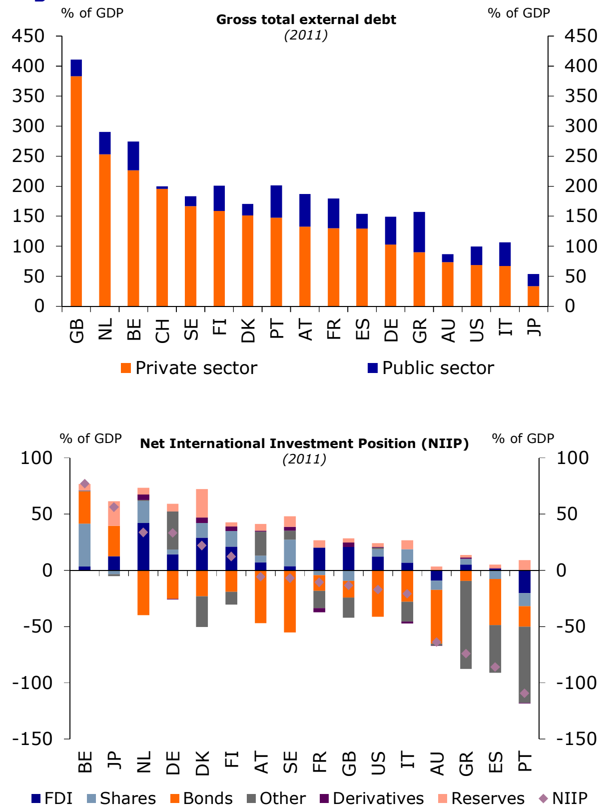




Source: Cecchetti et al. (2011), IMF, OECD, Rabobank

It is also important to note that the rise in debt is not only within countries. Claims between countries have increased substantially as well. This matters because countries that have a large share of their in debt in foreign hands (figure 3, top panel) are more exposed to a sudden shift in market sentiment since 'footloose' foreign investors, who suffer from asymmetric information problems, rush quicker for the exit when panicked in comparison to their domestic counterparts. Of course, this is only half the story. Some countries (e.g. Belgium, Japan and the Netherlands) also have large external asset positions (figure 3, bottom panel), which they can potentially liquidate to repay creditors in times of need. Two caveats are worth mentioning, however. First, not all assets are liquid enough to be disposed of within a short time span. Second, the external debt and external assets can be held by different actors in the economy. This means those that will have trouble rolling over their external debt may not be the ones owning external assets. So possessing the latter does not make a country entirely immune to a debt crisis. At best, it may cushion the blow.

Figure 3: External debt and external assets



Source: Joint External Debt Hub, IMF, Rabobank

...and why?

The relentless accumulation of debt in the recent past has coincided with some important institutional and financial market developments. First, from the late 1970s onwards, the global economy went through an era of financial deregulation, which increased opportunities to lend. The liberalisation of the financial industry, resulting in an intensification of financial innovation, further accelerated this pro-

cess. Second, the stable macroeconomic environment since the mid-1980s together with rising asset prices gave borrowers and lenders a sense of security that the future will always be brighter. This obviously pushed borrowers to borrow more, and lenders to lend more. Third, since the mid-1990s, the substantial decline in real interest rates made it easier to support ever higher levels of debt. Finally, tax policies may have played a role. For example, the preferential treatment of interest payments encouraged firms to issue debt instead of equity. Meanwhile, the rise in household debt is partly due to generous tax relief for mortgage interest payments in some countries (e.g. Austria, the US, the Netherlands, Ireland and the Southern European countries).

So the more debt, the merrier?

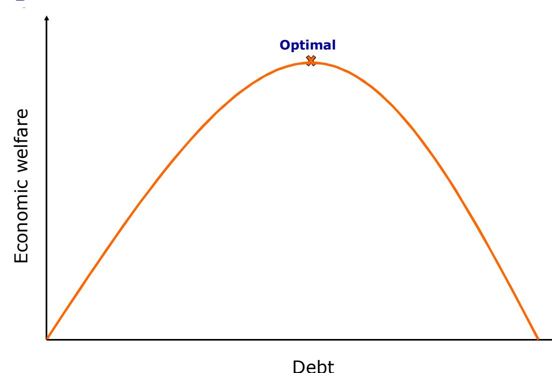
The analysis above may suggest that debt is some sort of magic potion that the more you use it, the better off you are. In a sense, some may argue that industrialised countries have increased their debt levels to improve welfare. The current crisis has shown, however, that there are significant risks arising from the (rapid) accumulation of debt. As debt levels increase, borrowers become more susceptible to adverse shocks (e.g. drop in income/asset prices or general increase in risk aversion). For a given shock, the higher the debt level, the higher is the probability of getting into financial trouble. Once lenders start questioning the creditworthiness of borrowers, debt is either rolled-over at a high price (i.e. interest rates shoot up) or not at all. In any case, the economy will find itself in a vicious loop whereby falling asset prices/incomes result in tighter credit conditions, which will, in turn, put extra downward pressure on asset prices/incomes. Thus, excessive debt can raise economic volatility, increase financial fragility and reduce income growth.

This is why rapid increases in indebtedness (or credit booms), especially from an already high base level, has proven to be a reliable predictor of financial crises in the past. Out of 129 banking crises episodes that Laeven and Valencia (2012) consider during 1976-2009, 45 episodes (or about one in three) were preceded by a credit boom. Considering a much longer sample (1870-2009), Jorda et al. conclude that credit growth is the single best predictor of financial instability in the 14 advanced countries they studied. Across countries, many of the hardest-hit economies, such as Iceland, Ireland, Latvia and Spain had their own homegrown credit booms prior to the banking crisis in 2008. Credit booms had also preceded many of the largest banking crises of the past 30 years: Chile (1982), Denmark, Finland, Norway, and Sweden (1990/91), Mexico (1994), and Korea, Malaysia, Philippines, and Thailand (1997/98). Even going further back, we can argue that the Great Depression was also cast as a credit boom gone wrong.

The pursuit of optimal debt

The analysis shows that debt is a double edged sword. As Cecchetti et al. (2011) succinctly put it: when debt is "*used wisely and in moderation, it clearly improves welfare. But, when it is used imprudently and in excess, the result can be disaster*". In other words, there is an 'optimal' level of debt whereby economic welfare is maximised. Anywhere below or above this point, economic welfare is lower (figure 4).

Figure 4: The debt Laffer curve



Source: Rabobank

The challenge is determining the optimal point. A number of economists have tried to estimate

the threshold where debt starts to weigh on economic activity. Table 1 provides a summary of some frequently cited academic papers. Although scholars cannot fully agree on the precise 'tipping point', they all find that at a certain level debt starts to hurt growth.

Table 1: The impact of debt on growth

Studies	Sample	Type of debt (as % of GDP)	Estimated threshold
Arkand et al. (2012)	44 advanced & emerging countries, period: 1976-2005	Private credit	100%
Cecchetti and Kharroubi (2012)	50 advanced & emerging countries, period: 1980-2009	Private credit	100%
Cecchetti et al. (2011)	18 advanced countries period: 1980-2010	Household debt Corporate debt Public debt	85% 90% 85%
Checherita and Rother (2010)	12 advanced countries period: 1970-2010	Public debt	90-100%
Kumar and Woo (2010)	38 advanced & emerging countries, period: 1970-2007	Public debt	77-90%
Reinhart and Rogoff (2009)	44 advanced & emerging countries, period: 1790-2009	Public debt	90%
Reinhart et al. (2012)	Advanced countries period: 1970-2010	Gross external debt	90%

Table 2: Debt levels compared to threshold

	Private credit (2011)	Household debt (2010)	Corporate debt (2010)	Public debt (2011)	External debt (2011)
Austria	119	57	101	72	187
Belgium	93	55	72	99	274
Canada	168	94	107	85	69
Germany	105	62	76	82	149
Denmark	212	151	114	46	171
Spain	204	91	139	68	154
Finland	95	68	105	49	201
France	116	65	105	86	180
UK	188	106	125	82	411
Greece	117	65	68	161	157
Italy	122	51	94	120	107
Japan	105	82	161	230	53
Netherlands	197	133	114	66	290
Portugal	191	105	150	107	201
Sweden	136	86	154	37	184
US	187	96	76	103	100
Threshold*	100	85	90	90	90

Legend: Above threshold | Below threshold

All variables are expressed as a share of GDP.

* The thresholds are taken from the studies cited in table 1.

Comparing the current position of the advanced countries with these findings (table 2), we can see that there is a case to be made for deleveraging for almost all countries in our sample. To be sure, this does not entail that all countries must lower/raise their debt levels to match the estimated thresholds. These tipping points act as a benchmark whereby policymakers can assess whether they have entered the danger zone. Naturally, each country's optimal debt level will be depend on its institutional setup, the depth of its financial system, the strength of its supervision, and so forth.

Conclusion of part 1

Debt levels have surged in most advanced countries during the past years. Historical experience shows that debt is a necessary condition for advancing economic welfare. To be clear, this is not an invitation to increase debt without any limit. Time and again we have seen that too much debt raises economic volatility, increases financial fragility and reduces income growth. This implies that countries must strive to attain their 'optimal' debt level.

Since many advanced countries have excessive debt levels, there is a clear need for deleveraging. In fact, the balance sheet repair process is already taking place in many countries. In part 2, we will assess (i) how much deleveraging has been carried out until now, (ii) how much more is potentially needed and (iii) how economically painful the transition will be.

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Shahin Kamalodin (+31) 30 - 2131106
S.A.Kamalodin@rn.rabobank.nl

www.rabobank.com/economics

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