The Emperor Is Naked: Why There is no More Time for Conventional Solutions to Get Out of the Debt Crisis, Part 1

By Daniel Stelter, Ralf Berger, Veit Etzold & Dirk Schilder

In Hans Christian Andersen's short tale "The Emperor's New Clothes" nobody dares tell the emperor that he is naked. Today's developed economies are also naked and, like at the Emperor's court, we are refusing to accept a simple reality: debt levels have become too high and the problem cannot be solved with even more debt.

Since the Second World War, debt levels in the developed economies have risen consistently, with a notable increase since 1980. According to a study by the Bank for International Settlements (BIS), the combined debt of governments, private households, and non-financial companies in the 18 core countries of the OECD rose from 160 percent of GDP in 1980 to 321 percent in 2010. In real terms, after inflation is taken into account, governments have more than four times, private households more than six times, and non-financial corporations more than three times the debt they had in 1980.[1]

There is, of course, nothing wrong with taking on debt, as long as that debt is invested to create additional economic growth. In recent decades, however, the vast majority of debt has not been used to increase future income but to consume, to speculate in stocks and real estate, and to pay the interest on previous debt. One indication of this trend: during the 1960s, each additional dollar of new credit in the U.S. led to 59 cents in new GDP; by the first decade of the new century, that same dollar of credit was producing just 18 cents in new GDP.

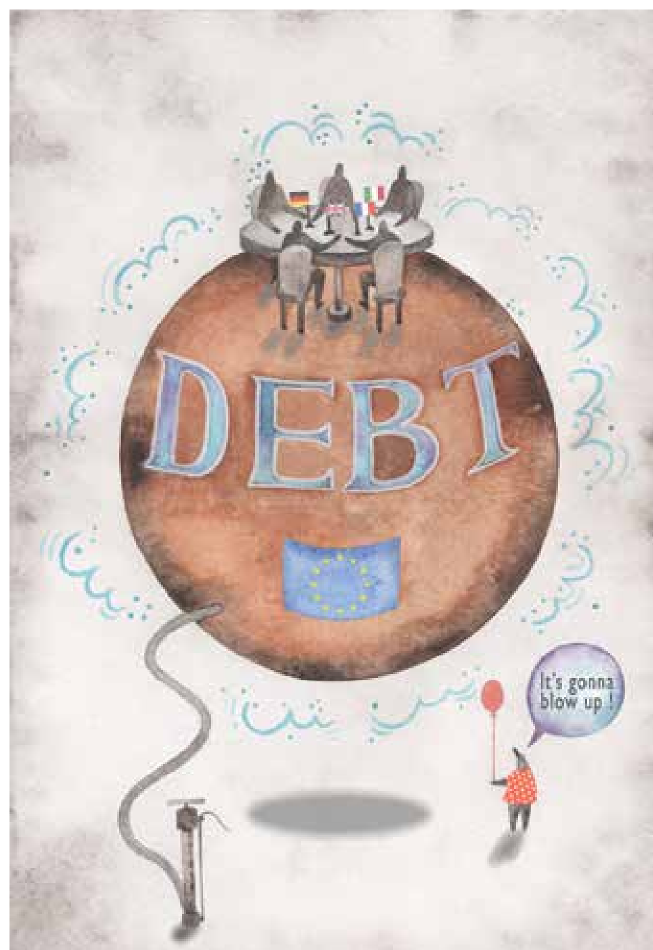
Economists Carmen Reinhart and Kenneth Rogoff have demonstrated that as soon as government debt crosses the threshold of roughly 90 percent of GDP, it begins to have a negative impact on an economy's growth rates.[2] In addition, a study of the BIS has shown that the impact is similar for non-financial corporate debt and household debt. In most developed economies this threshold has been passed in at least one of the three sectors. (See Exhibit 1.)

Exhibit 1.
Debt above 90% of GDP leads to lower growth rates

GOV	106	233	105	109	87	123	88	109	109	114
NFC	78	81	77	82	63	77	133	63	191	132
HH	89	76	101	67	60	51	88	69	119	102
Total	273	391	283	259	210	251	309	241	419	348

0–70% debt/GDP 71–100% debt/GDP >100% debt/GDP

1. GOV = public debt (gross liabilities) 2. NFC = Non financial corporations (total liabilities less shares and other equity) 3. HH = household debt (gross liabilities)
Note: Debt data as of 2011
Source: BIS, Eurostat, national central banks, Thomson Reuters Datastream, BCG analysis

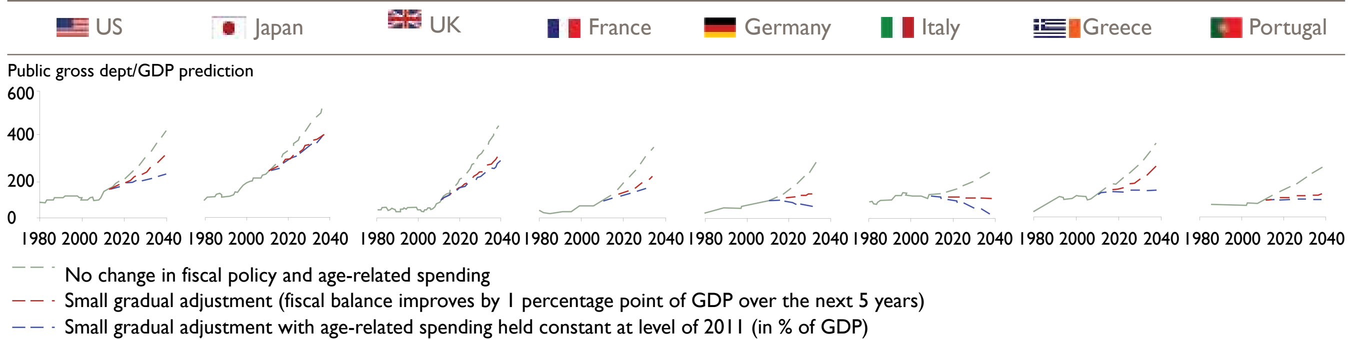


However, as bad as the excessive debt burden is, it is only part of the problem. The developed world's debt problem is greatly exacerbated by the hidden liabilities of governments and companies, especially when it comes to age – or health-care-related spending. According to another BIS study, even in a benign scenario in which current deficits were reduced to precrisis levels and age-related spending was frozen at current levels of GDP, public debt would continue growing at a significant rate.[3] Only Germany and Italy would be able to stabilize their debt levels in such a scenario. (See Exhibit 2 on next page) Nor are states and local governments immune. In the U.S., for example, one estimate puts the unfunded liabilities for city and state employees in the neighborhood of $3 trillion to $4 trillion.[4]

It is fair to compare the policy of the western world of the last decades with a Ponzi scheme. All sectors of the

Exhibit 2.

Drastic measures are necessary to check the rapid growth of current and future liabilities



"Source: "The Future of Public Debt: Prospects and Implications," BIS Working Paper No. 300, March 2010.

economy have taken on significant debt and unsustainable promises. Even nearly five years after the financial crisis, we are still very much beginning to unwind these massive sums. So far, only Italy and the U.S. have started to deleverage. (See Exhibit 3.) In the case of the U.S, this deleveraging of the private sector is mainly the result of defaults, not of actually paying back loans.[5] Other highly indebted economies such the UK, Spain, and France are still piling up additional debt.

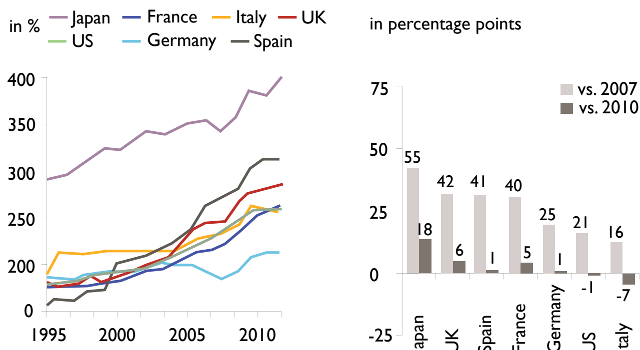
How can we solve the debt crisis? The amount of debt is extraordinary. Can these amounts ever be paid back in an orderly manner? The most convenient way would be simply to grow out of the problem. Assuming that we do not continue to add to the current absolute amount of debt, with real growth rates of 3-4 percent, we could be out of the woods soon. Of course, such an approach would also require additional saving to avoid piling up additional debt.

But there are other, less conventional measures we could take: generating inflation or even restructuring the debt. These two options would mean significant losses for all of us, as bank account owners and holders of financial assets

Exhibit 3.

Who is deleveraging?

Only Italy and the US have started deleveraging recently



1. Total debt includes government, nonfinancial-corporation and household debt.
Source: Thomson Reuters Datastream, BCG analysis

that would lose value. In the case of inflation, this loss in value would be slow, in the case of a debt restructuring, very sudden. We believe that it is, unfortunately, too late for the conventional solutions. In the pages that follow, we explain why. In a subsequent article, we will consider the more unconventional solutions and explain why they are necessary.

Option 1: Grow out of the problem

The debt burden can be decreased by holding the total amount of debt constant and increasing the GDP as the denominator of the fraction. However, this is not a valid option, as the developed world's traditional model of economic growth appears to be broken. This is partly a consequence of the debt problem itself as high levels of debt negatively affect economic growth. But the broken growth model is also due to long-term demographic trends and other changes.

> GDP growth can come from two sources, an increase in the workforce or an increase in the productivity of the workforce.

GDP growth can come from two sources, an increase in the workforce or an increase in the productivity of the workforce. Both will be difficult to achieve in the magnitude which would be necessary to quickly improve debt ratios.

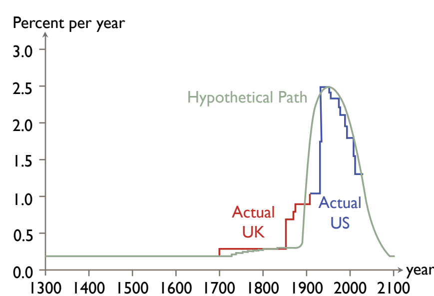
Declining Workforce. Workforce development will not support future economic growth in most developed economies. According to projections by the United Nations, the working age population between ages 15 and 64 in Western Europe will shrink by about 13 percent (15.8 million people) between 2012 and 2050. In Japan, it will drop by 30 percent (23.8 million people). The U.S. working age population will grow slightly at 0.4 percent per year, but that is slower than the annual growth rate of 1.1 percent during the past 20 years.[6] This trend is not limited to just the developed world. China and Russia will also see their workforces shrink by

2020. Meanwhile the workforce in India, the rest of Asia, Latin America, and Africa will grow at least until 2040 and perhaps even beyond. (See Exhibit 4.) The fewer people in the workforce, the less GDP generated and, therefore, the less income available to pay down existing debts.

Slower Productivity Growth. Just as important as the number of available people in an economy's workforce is the productivity of that workforce. Consistent increases in productivity have made possible the economic transformation of the developed world in the past 200 years and the transformation in emerging markets today. There are signs, however, that the rate of improvement in productivity is in decline. In a provocative paper, the renowned growth researcher Robert Gordon of Northwestern University makes a compelling case that growth in GDP per capita has been slowing since the mid-20th century.[7] He argues, "the rapid progress made over the last 250 years could well turn out to be a unique episode in human history." (See Exhibit 5.)

Exhibit 5.

Growth in GDP/capita behind us?



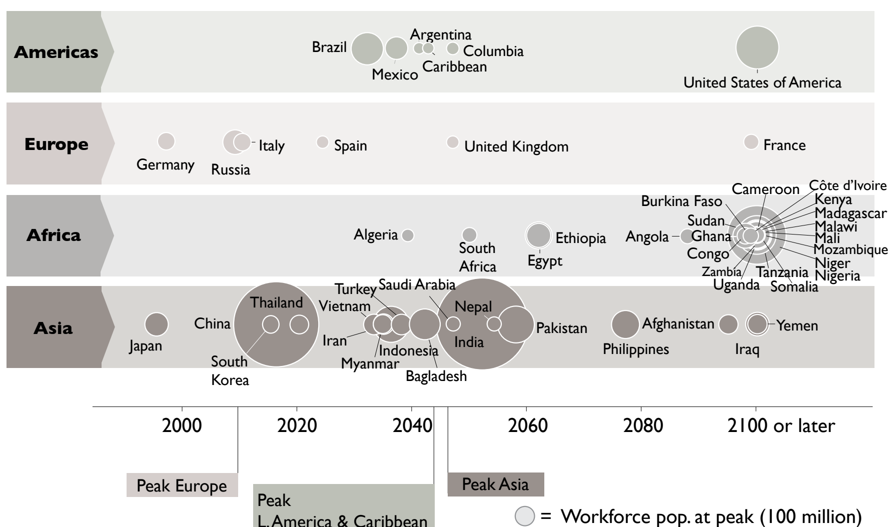
Source: Robert Gordon, "Is U.S. economic growth over? Faltering innovation confronts the six headwinds", NBER Working Paper, August 2012

Among the factors Gordon cites for this phenomenon, the most important is diminishing returns from innovation. In the 1920s, the Russian economist Nikolai Kondratiev identified a pattern of economic growth consisting of successive "long waves" of economic development, in which periods of rapid growth were interspersed by periods of slower growth and financial crisis

Exhibit 4.

Demographics pose a headwind for the West

Predicted workforce peak (year and size) of selected economies



Note: Working age defined as the group of people aged 15-64 years, countries selected with workforce volume above 30 million at peak.
Source: United Nations ("World Population Prospects: The 2010 Revision"); BCG analysis

before a new cycle of growth begins again.[8] Later, the Austrian economist Joseph Schumpeter showed how these long waves were associated with major advances in basic innovation—for example, the steam engine, electricity, and the automobile.

According to Gordon, the problem today is not merely that the incremental productivity impact of the most recent wave of innovation, associated with information technology and communication, has diminished in recent decades. Rather, he argues that the space for truly fundamental innovations that result in step-change improvements in living standards is getting smaller and smaller. As he puts it, the invention of running water and indoor toilets was orders-of-magnitude more important than the invention of the iPad, Twitter, and Facebook.

Alongside a slower growth in productivity, there are five additional factors which pose an additional drag on future productivity growth:[9]

- **Oversized Public Sectors.** The government's share in the economy, measured by government spending as a share of GDP, has a negative impact on economic growth as well. A recent study found that an increase in government size of 10 percentage points is associated with a lower growth rate of between 0.5 percent and 1 percent.[10] In most European countries, government spending is currently about 40 percent of GDP or more, with some countries such as France and Denmark reaching nearly 60 percent.[11] Even the U.S. has a share of 40 percent. By contrast, developing economies have a share of government ranging between 20 and 40 percent.
- **Deteriorating Education Systems.** The deteriorating quality of education in most advanced countries also undermines future growth potential. Today, China produces more scientists every year than the United States — approximately 310,000 in 2010 compared to 255,000 — and about ten times the number of engineers (2.2 million).[12] And the quantity of educated people is just one side of the coin. Asian countries regularly surpass developed nations in educational results. In 2009, when Chinese students (from Shanghai) were included for the first time in the OECD's tri-annual PISA tests, they immediately ranked first.[13]

• **Systematic Underinvestment in the Asset Base.** The public and private sector in the developed world have underinvested in capital stock in the past years. This will have a negative impact as well, because capital investment is a key determinant for future productivity and income generation. A recent Goldman Sachs report argues that Europe has witnessed a decade of underinvestment, starting from before the financial crisis and intensifying since.[14] The average asset age increased to 10.3 years in 2011 from 7.4 years a decade before, representing an investment backlog of some €800 billion. The same trend holds true for U.S. companies. Non-financial corporate businesses in the U.S. show significantly higher savings levels compared to their investments in almost every year since 2000; there is also a clear downward trend in net domestic fixed investments relative to GDP.[15]

Many observers argue that we have entered a period of structurally higher raw material prices notwithstanding constant and high volatility in the economic cycle.

• **The End of Cheap Resources.** For more than a century, the availability of cheap natural resources has been an enabler of productivity improvement. Many observers argue that we have entered a period of structurally higher raw material prices notwithstanding constant and high volatility in the economic cycle.[16] The speed of economic development in the emerging markets and the sheer number of people aspiring to a developed-world lifestyle supports this view. Efforts to reduce energy consumption and CO_2 emissions to preserve the environment will lead to higher costs as well.[17]

• **Intensified International Competition and Rising Inequality**. Globalization has brought the promise of economic prosperity to billions of people around the world. But it has also contributed to tougher international competition and the creation of new inequalities of wealth and income in the developed world. The growth in the global labor force continues to put pressure on labor costs in developed economies. At the same time, globalization is also leading to increasing inequalities in income and wealth within countries, as some groups (for example, investors) benefit more from increased globalization than others (for example, manufacturing workers). Income statistics highlight this development: between 1979 and 2007, the average U.S. household income grew by 62 percent. Over the same period, the income of the top 1 percent of the income distribution grew by an extraordinary 275 percent; the income of the rest of the top 20 percent grew by a slightly above-average 65 percent; and the income of the remaining U.S. households grew by less than 40 percent. The incomes of the lowest quintile grew by only 18 percent.[18] It is obvious that if the majority of households are excluded from economic growth there will be implications on overall productivity development.

As much as the world hopes for this solution, growing out of the problem will unfortunately not work. The tailwind that the western world enjoyed from innovation, a growing workforce, cheap resources, and ever more debt has turned into a headwind.

What steps developed economies must take in order to reverse the trend we discuss in the box "Ten steps developed economies must take."

BOX: Ten steps developed economies must take

There are ten steps which the developed world needs to take in order to reverse the trend.[19] Some are in the nature of sacrifices required of various stakeholders. Others are in the nature of new social investments, both public and private, that will be necessary to return to a sustainable growth path. Although there are tensions and tradeoffs among these steps, they are all necessary to put the developed economies on a more positive economic footing.

1. **Deal with the debt overhang — immediately.** The first step, of course, will be to address the debt problem. The critical starting point is accepting the fact that many of these debts will never be repaid and embracing debt restructuring and defaults. Current policies, designed to avoid that outcome, only postpone the ultimate resolution of the crisis and will end up resulting in even bigger losses further down the road. Better to move quickly and act now, despite the likelihood of considerable near-term pain.

2. **Reduce unfunded liabilities**. There is no way for politicians to avoid this painful step: to address openly and directly the trillions in unfunded liabilities weighing down budgets and balance sheets across the developed world. It will require a combination of several measures to bring these unfunded liabilities under control, e.g. by increasing retirement ages, reduction of social insurance, and better management healthcare systems in developed countries.

3. **Increase the efficiency of government**. Parallel to reductions in government spending on social welfare benefits, another key way to reduce government's share of GDP and increase economic growth is to make government itself more efficient. A smaller government sector does not necessarily mean a weaker government. By defining the right "rules of the road" for society and business, the government can set the tone and the priorities for the development of a society in a more effective as well as more efficient way. A smaller government sector will free up the public-sector workforce for more effective use.

4. **Prepare for labor scarcity.** Countries need to start now to prepare for the coming era of labor scarcity. Doing so will require a series of initiatives to reduce the decline of the work force. To compensate for the demographic trend the workforce

Countries need to start now to prepare for the coming era of labor scarcity. Doing so will require a series of initiatives to reduce the decline of the work force.

participation of the elderly will need to be increased which requires more investment in training. In many developed countries there is significant potential by increasing the workforce participation of women, while the foundation of families also needs to be supported to address the problem of low birth rates.

5. **Develop smart immigration policy.** Even if developed countries take all these steps, they will still not be enough to reverse the demographic trend. Therefore, these countries also need to become far more open and attractive to immigrants. From a Europe-wide perspective, attracting immigration from outside of Europe has to be the goal as internal migration will not improve overall demographics but weaken the economically troubled member states instead.

6. **Invest in education.** Education has to play a significant role in improving the future growth potential of the developed economies. Quality education will be the decisive factor to protect and grow GDP per capita. It is also the foundation of social mobility and a precondition to fully utilize innovative capabilities and entrepreneurial talent of all individuals in society. For both reasons, it needs to be another key target of social investment. Besides the improvement of average education results it is also a must to better support top students to foster innovation and entrepreneurialism.

7. **Reinvest in the asset base.** For more than a decade, the developed economies have reduced investments in public infrastructure and productive assets. Given the importance of the quality of the capital stock for productivity and economic growth, it is time to reverse this trend. Public infrastructure is in desperate need for modernization in many developed countries. Governments should also encourage the private sector to step up investments, e.g. by providing tax incentives and implementing structural reforms.

8. **Increase raw-material efficiency.** The age of cheap resources may have come to an end. Developed countries have to increase their efforts to decouple economic development from resource consumption. Western societies need to pursue alternative energy technologies and promote "material-efficient" production and products.

9. **Cooperate on a global basis.** Competition among countries will become more intense in the years to come. All countries will try to increase their exports; all will try to attract the best immigrants; and all will try to secure scarce resources from water to oil to commodities. This increased competition will pay dividends in the form of new and innovative products. But even as they compete, the world's countries must also cooperate. The problems of the developed economies can only be addressed in a cooperative way on a global scale. Otherwise, the world risks descending into a vicious circle of beggar-thy-neighbor economic policies leading to much lower growth and slower improvement of living conditions worldwide.

All countries will try to increase their exports; all will try to attract the best immigrants; and all will try to secure scarce resources from water to oil to commodities.

10. **Launch the next Kondratiev wave.** Last but not least, the developed world needs to prove Robert Gordon wrong. By investing in a growing and highly productive workforce and by making it easier for engineers and technologists to innovate and entrepreneurs to start new businesses, the developed economies need to unleash a new Kondratiev wave of global economic development.

Option 2: Save and pay back

If growing out of the problem will not work, what about reducing debt by increasing savings? This ostensible solution is neither practical nor realistic. Saving and paying back — also known as austerity — is a recipe for a long, deep recession and social unrest. During the Great Depression of the last century, nominal debt of private households in the U.S. was reduced by more than one third between 1929 and 1933. Fifty years later, the corporate sector in Japan (which had caused a debt boom in the country during the 1980s) reduced its debt-to-GDP ratio by 30 percentage points. In both cases the deleveraging had significant negative consequences for the real economy. It caused the Great Depression of the 1930s and the first of the Lost Decades in Japan.

The years after 2007 have been a preview of what deleveraging could look like. Asset prices started to fall. The need to reduce debt levels led to distress sales which caused further price reductions. The economist Irving Fisher summarized this vicious circle in his *Debt-Deflation Theory of Great Depressions*.[20] Savings by the private sector lead to a reduction of consumption and investment activity, which translates into negative economic growth, rising unemployment, and lower income levels. This development makes it more difficult to repay debt and can lead to a long stagnation with shrinking prices (deflation).

Because saving and paying back reduces economic growth and leads to a recession, it tends to increase debt levels rather than reducing them. If at the same time governments try to balance their budgets, as is currently happening in parts of Europe, a deep recession — or even depression — follows. A reduction in government spending of 1 percent of GDP usually causes a GDP reduction

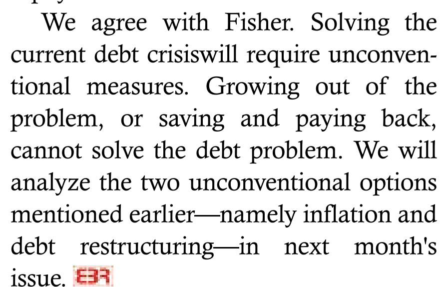
> **There were only two ways to overcome the Great Depression. The first is the long and painful path via insolvencies, high unemployment and social unrest. The other is faster.**

of less than 1 percent because it is compensated by lower interests rates or more exports due to a weaker currency. But in times of economic crisis this multiplier is larger than 1, according to recent findings by the IMF.[21] Especially in Europe where the Euro makes it impossible to react to economic shocks with a weaker exchange rate, the interest rates are set for all countries by the ECB and where the risk of the break-up of the Euro Zone and a default by some countries lead to higher and not lower interest rates.

The examples of Greece, Spain, Portugal, and Italy show that the efforts by governments to deal with their debt problems by budget cuts and tax increases lead to even lower growth. This also increases the risk of social unrest. A recent study shows that as soon as expenditure cuts exceed 3 percent of GDP, the frequency of protests increases significantly.[22] The demonstrations that occurred in some European countries in 2012 are therefore only the beginning. And the fact that a majority of Italians recently voted for anti-austerity and anti-European parties should not have come as a surprise.

Irving Fisher concluded that there were only two ways to overcome the Great Depression. The first is the long and painful path via insolvencies, high unemployment and social unrest. The other is faster: prices have to be artificially inflated which makes it easier to repay debt and reduce overall indebtness.

We agree with Fisher. Solving the current debt crisiswill require unconventional measures. Growing out of the problem, or saving and paying back, cannot solve the debt problem. We will analyze the two unconventional options mentioned earlier—namely inflation and debt restructuring—in next month's issue.



The article is based on their forthcoming book "Die Billionen Schuldenbombe" (The Trillion Debt Bomb – How the Crisis started and why it is not over yet), issued by Wiley Germany in April 2013

About the Authors

Daniel Stelter is a senior partner and managing director in the Berlin office of The Boston Consulting Group. You may contact him by e-mail at stelter.*daniel@bcg.com.*

Ralf Berger is a consultant in the firm's Berlin office. You may contact him by e-mail at *berger.ralf@bcg.com*.

Veit Etzold is a former consultant in BCG's Berlin office and works now as independent author and consultant. You may contact him by e-mail at *info@veit-etzold.de*

Dirk Schilder is a senior analyst in the firm's Munich office. You may contact him by e-mail at schilder.*dirk@bcg.com.*

References

1. Stephen G. Cecchetti, Madhusudan S. Mohanty, and Fabrizio Zampolli, "*The Real Effects of Debt*," BIS Working Paper No. 352, September 2011.
2. Carmen M. Reinhart and Kenneth S. Rogoff, "*Growth in a Time of Debt*," NBER Working Paper No. 15639, January 2010.
3. Stephen G. Cecchetti, M.S. Mohanty, and Fabrizio Zampolli, "*The Future of Public Debt: Prospects and Implications,*" Bank for International Settlements (BIS) Working Paper No. 300, March 2010, http://www.bis.org/publ/work300.pdf.
4. Robert Novy-Marx and Joshua D. Rauh, "Public Pension Promises: How Big Are They and What Are They Worth?" *The Journal of Finance*, July 2011, http://econ.as.nyu.edu/docs/IO/14310/Rauh_20100310.pdf.
5. See "U.S. Households Are Not "Deleveraging - They Are Simply Defaulting In Bulk," *Zero Hedge*, October 15, 2012, available at http://www.zerohedge.com/news/2012-10-15/us-households-are-not-deleveraing-they-are-simply-defaulting-bulk.
6. United Nations, "*World Population Prospects: The 2010 Revision*," 2011.
7. Robert Gordon, "Is U.S. Economic Growth Over? Faltering Innovation Confronts the Six Headwinds," *NBER Working Paper No. 18135*, August 2012. The paper is also discussed in Marc Faber, "No Rational Thought Will Have a Rational Effect on a Man Who Has No Rational Attitude," *The Monthly Market Commentary Report*, 1 November 2012, available at http://www.gloomboomdoom.com.
8. For a more detailed discussion of Kondratiev cycles see David Rhodes, Daniel Stelter, "Collateral Damage Part 5: Confronting the New Realities of a World in Crisis," *BCG Focus*, March 2009.
9. These factors are discussed in detail in: Daniel Stelter, Ralf Berger, Dirk Schilder, "Collateral Damage: Ending an Era of Ponzi Finance, Ten Steps Developed Economies Must Take," *BCG Focus*, January 2013.
10. Andreas Bergh and Magnus Henrekson, "Government Size and Growth: A Survey and Interpretation of the Evidence," *Journal of Economic Surveys*, April 2011.
11. Indermit S. Gill, Martin Raiser, et al., "Golden Growth: Restoring the Luster of the European Economic Model," *The World Bank*, January 2012.
12. See Eurostat (figures for the Europe and the U.S.) and National Bureau of Statistics of China.
13. OECD, "*PISA 2009 at a glance*," 2010.
14. Goldman Sachs Research, "S*pending the Way to Growth – Part 1: Capex*," March 2012.
15. See Daniel Stelter, Ralf Berger, Dirk Schilder, "Collateral Damage: Ending an Era of Ponzi Finance, Ten Steps Developed Economies Must Take," *BCG Focus*, January 2013, page 12.
16. See Jeremy Grantham, "Time To Wake Up: Days of Abundant Resources and Falling Prices Are Over Forever," *Jeremy's Quarterly Letters*, April 25, 2011 and Jeremy Grantham, "On the Road to Zero Growth," *GMO Quarterly Letters*, November 2012.
17. See DARA, "Climate Vulnerability Monitor: A Guide to the Cold Calculus of a Hot Planet," *Fundación DARA Internacional*, 2nd edition 2012. The report estimates the carbon-economy and climate-related net losses for 2010 at 1.6 percent of global GDP and forecasts an increase to 3.2 percent by 2030. See also National Oceanic and Atmospheric Administration (NOAA), "Explaining Extreme Events of 2011 from a Climate Perspective," *American Meteorological Society*, 2012.
18. Congressional Budget Office (CBO), "*Trends in the Share of Household Income Between 1979 and 2007*," October 2007.
19. We discuss these ten steps in more detail in: Daniel Stelter, Ralf Berger, Dirk Schilder, "Collateral Damage: Ending an Era of Ponzi Finance, Ten Steps Developed Economies Must Take," *BCG Focus*, January 2013.
20. Irving Fisher, "The Debt-Deflation Theory of Great Depressions," *Econometrica*, October 1933. A more detailed discussion of Irving Fisher's theory can be found in: David Rhodes, Daniel Stelter, "Collateral Damage: Preparing for a Tough Year Ahead: The Outlook, the Crisis in Perspective, and Lessons from the Early Movers," *BCG Focus*, December 2008.
21. International Monetary Fund, World Economic Outlook: "*Coping With High Debt and Sluggish Growth*", October 2012.
22. Jacopo Ponticelli and Hans-Joachim Voth, "*Austerity and Anarchy: Budget Cuts and Social Unrest in Europe, 1919–2009*," Centre for Economic Policy Research, August 2011.