THE BOSTON CONSULTING GROUP

COLLATERAL DAMAGE

Reasons to Be Cheerful

How Companies Can Rise Above Faustian Economics

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AFTER FIVE YEARS OF riding the post-financial-crisis economic roller coaster, we do have some reasons to be cheerful. The specter of another Great Depression fizzled out (relatively speaking) into the Great Recession, which was followed by a somewhat fast—albeit muted—recovery. Politicians and central bankers deserve credit for pulling the right levers and acting with significant force—even if they never really unleashed the big bazooka. And they avoided too much fighting with each other. The world displayed a degree of global cooperation unmatched in times of such unprecedented upheaval. Asia weathered the crisis with aplomb, much of Africa and South America surged ahead, and the Middle East benefited from high energy prices. Only the West and Japan struggled—and even then, Germany prospered and the U.S. grew faster than the naysayers expected (though much slower than recent history). The Western economy may perhaps be out of the emergency room—but it faces several years in rehabilitation. Recovery from the abrupt end to the debt-fueled boom of the past 30 years will take time.

This seemingly perpetual economic uncertainty makes it hard for managers to run their businesses. As we have observed before, it is tempting to sit and wait. And as we have also observed, history teaches us that the future belongs to those companies that come off the fence, grasp the initiative, and take advantage of less confident, frozen competitors. Even in far worse economic times than today, managers learned that the future is not something that happens to the best companies; they have to make the future.

The Patient Is out of the Emergency Room…

The International Monetary Fund (IMF) may have just downgraded its growth forecasts for 2013, but the prospects for the world economy have improved since the dark days of the financial crisis:

- GDP in most developed countries shrank after the outbreak of the financial crisis. By 2011, most had recovered the output lost since 2008—including the U.S., the U.K., and the countries of the euro zone except Greece, Portugal, Ireland, and Spain. In Germany and the U.S., the GDP reached a new all-time high.

- The emerging markets showed remarkable resilience and continued to grow. Leading the way was China—which grew by almost 10 percent annually from 2007 through 2011—in spite of the turbulence in the Western world. India and Brazil maintained their momentum. India's real GDP grew, on average, by 8 percent annually, and Brazil's grew by 4 percent. The Middle East and Africa grew by 4 to 5 percent annually during the crisis.[1]

- The U.S. real-estate market, which triggered the global crisis, shows signs of stabilization. The S&P/Case-Shiller Home Price Indices—the leading U.S. real-estate indicator—now point to the beginnings of a recovery in demand and prices. Since consumption accounts for 70 percent of U.S. GDP, this recovery is an important foundation for improved consumer confidence and consumer spending.

- The latest jobs data from the U.S. show that unemployment is decreasing. In 2010, U.S. unemployment was at almost 10 percent; now it is at 7.8 percent. Although there is debate about how real this recovery has been, with some commentators arguing that the figures obscure increases both in part-time workers and permanent withdrawals from the labor force, there is no doubt that jobs have been created over the last 24 months. Meanwhile, in the U.K., where the economy has flatlined for some time, almost 250,000 jobs were created between May and July—the highest quarterly increase in two years. And in Germany, unemployment has fallen below precrisis levels, declining from 9.0 to 7.1 percent from 2007 through 2011.

- In Europe, countries such as Spain and Ireland have started to lower their unit labor costs, improving their international competitiveness. Current accounts are improving off the back of growing exports and reduced imports. In the U.S., we can see early signs of a renaissance in manufacturing as unit labor costs improve compared with countries such as China and as the U.S. enjoys a windfall from cheaper energy prices. (See *Made in America, Again: Why Manufacturing Will Return to the U.S.,* BCG Focus, August 2011 and *U.S. Manufacturing Nears The Tipping Point: Which Industries, Why, and How Much?* BCG Focus, March 2012.)

- The private sector has deleveraged, especially in the U.S., where household debt is down from 97 percent of GDP in 2008 to 83 percent at the beginning of 2012. In Spain, the level of household debt decreased from 91 percent in 2008 to 88 percent by the end of 2011. And even in Germany there has been a small reduction—from 62 percent in 2008 to 60 percent in 2011.

- In contrast to the fears of many observers—including us—politicians have, for the most part, resisted taking protectionist measures to boost their countries' own economies. Although protectionism is an issue, it has not grown significantly in the aftermath of the crisis. A key area of concern remains the impact of monetary policies on exchange rates, leading some governments to complain of a currency war.[2]

- Although the problems of the euro zone are far from resolved, the latest decisions made by both European governments and the European Central Bank (ECB) increase the probability of the currency union surviving. Politicians will look to pursue more integration and further fiscal transfers while continuing to seek a joint approach to the debt overhang. (See *Fixing the Euro Zone,* BCG Focus, March 2012.)

- The capital markets have improved. The S&P 500, the DAX, and the FTSE 100 Index are now trading between 65 and 115 percent above their crisis lows of March 2009. And with the situation in Europe appearing to be a little more stable, the markets of the periphery have also improved since the end of July; blue-chip indices in Spain and Italy have risen between 30 and 42 percent in that period.

- Companies have increased profitability. Corporations in the U.S. have posted record profits: in the four quarters between the second quarter of 2011 and the first quarter of 2012, the S&P 500 companies reported the highest four-quarter operating earnings since 1981. Profit levels are now slightly above 2007 levels.

- Investors still believe that the U.K., the U.S., Japan, and some euro zone countries can manage their debt problems, which has allowed these nations to finance themselves at record-low interest rates—in spite of elevated debt levels. The increased bond spreads in Europe's periphery are the result of the negative debt dynamic caused by deep recessions combined with the lack of monetary flexibility inherent in a common currency.

- Central banks have avoided deflation—and inflation—in spite of their active intervention and unconventional policies. Consumer prices are generally stable, with a year-on-year increase of 2.6 percent in the euro zone and only 1.7 percent in the U.S.[3]

…But the Recovery Still Has a Long Way to Go

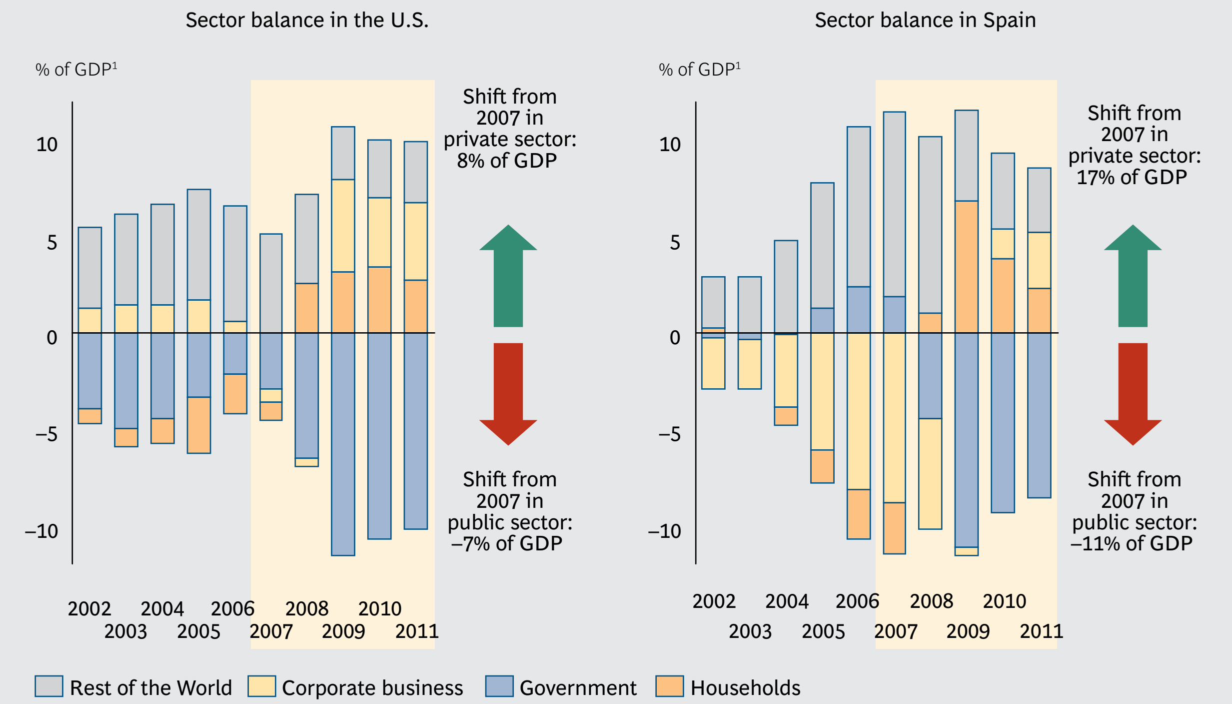
The West's escape from another Great Depression has come at a price. Central banks intervened in an unprecedented way. Since 2007, central bank balance sheets have inflated by 161 percent (ECB), 216 percent (Federal Reserve), and 350 percent (Bank of England) as they lowered interest rates to close to zero and bought financial assets. At the same time, governments stepped in and compensated for the drop in private-sector demand. Exhibit 1 shows the magnitude of the shift in U.S. and Spanish private-sector demand since the crisis started in 2007.

It was the expansion of government spending and deficits that allowed the world to avoid a deep depression. And only sustained public-sector intervention can prevent a return to recession if the private sector needs to repair its balance sheet by reducing debt, as Japan's recent history demonstrates.[4] The problem is that Western governments are running out of ammunition. Since 2007, public debt in Europe and the U.S. has grown by about \$2.5 trillion and \$5 trillion (22 percent and 47 percent of GDP) respectively. This puts it past the 90 percent threshold beyond which economists see debt as a drag on growth. (See *What Next? Where Next? What to Expect and How to Prepare,* BCG Focus, January 2012.)

In short, being out of the emergency room does not mean that the world economy is back on track:

- The U.S. and Western European economies are tracking below trend line growth. The OECD data show that the output gap (the difference between GDP

EXHIBIT 1 | It's a Balance Sheet Recession



Sources: Federal Reserve; U.S. Department of Commerce; Eurostat; BCG analysis.
[1]Calculated as savings minus investment.

at the long-term growth rate and the actual growth rate) is about 1 percent for Germany, 3.6 percent for the U.S., and up to 5 percent for Italy. There are worrying signs that parts of Europe have fallen back into recession, and there is an increasing risk of slowdown in the U.S.—the Institute for Supply Management's August 2012 Purchasing Managers' Index and Manufacturing Survey on New Orders, for instance, reached their lowest levels since mid-2009.

- Unemployment in the U.S. and in Europe (except Germany) remains high. The OECD reports unemployment rates of between 7.8 percent in the U.S. and an incredible 25 percent in Spain. This is combined with the deteriorating financial situation of the middle class—the backbone of consumption. According to the U.S. census, median U.S. household income has fallen to a level last seen in 1993. The manufacturing recovery is only possible with lower wages.

- China seems to be slowing down, too. Second-quarter 2012 year-on-year GDP growth was 7.6 percent, the lowest in three years. Its current economic model has been partly undermined by slower global growth, the effect of a rapid credit increase since 2008, and increased pressure on wages.[5] In contrast to 2009, observers do not expect the Chinese government to launch a stimulus program. Such an effort would risk further misalignment in the structure of the Chinese economy. China needs to increase consumption rather than invest in further infrastructure and production capacity. We expect China's growth to remain slow compared with its historically very high levels; indeed, the country's Twelfth 5-Year Plan calls for slower growth. We should not expect China to be some turbocharged driving force for global economic growth.

- Ultra-low interest rates in the West are enabling noncompetitive companies to stay in business. This may help the employment statistics in the short term. It distorts the competition, however, and discourages some otherwise healthy companies from investing.

- Austerity programs imposed by the European Union (EU) are increasing the risk of social unrest in Europe's periphery.[6] In Spain, the economic travails are fueling separatist movements in Catalonia and the Basque region.[7]

- Western banking systems are still fragile. Europe's banking system is too big relative to its economy, and deleveraging there has only begun. Basel III and other new regulations will increase the pressure for European banks to shrink their balance sheets. This will reduce the credit available for the real economy. Given that the nonfinancial sector needs to deleverage as well, future deleveraging remains an obstacle to any return to growth in Europe.

- The U.S. banking sector is smaller relative to U.S. GDP than Europe's, but many smaller U.S. banks have yet to deal with the significant fallout of the financial crisis; by the end of August, the Federal Deposit Insurance Corporation expects 50 to 60 bank failures in 2012—fewer than the number of failures from 2009 through 2011 (when there were between 92 and 157 bank failures) but more than 2007 and 2008 combined (when there were 3 and 25 bank failures respectively).[8]

While the economic stabilization is encouraging, the recovery is progressing only slowly. As the president and CEO of the Federal Reserve Bank of Dallas, Richard Fisher, has said: "Nobody…really knows what is holding back the economy. Nobody really knows what will work to get the economy back on course."[9]

No Pain-Free Solution

Five years into the crisis, Western leaders know that this time it is indeed different. This is not simply a normal—albeit larger—recession. It is the end of a 30-year debt supercycle during which governments and the private sector used debt to soften downturns and boost growth. Across many developed economies, governments, private households, and corporations now have to reduce debt. The result is less demand and lower economic growth—amplifying the need for debtors to get their houses in order. It is not simply a liquidity issue in the West; it is also a solvency issue.

In past reports, we outlined options for coping with the debt overhang:

- *Save and pay back.* What might work for individual debtors works far less well at the macroeconomic level. In Europe's periphery, this practice has led to high unemployment, a deep recession, and the sort of rising levels of debt and GDP first described by economist Irving Fisher in his "debt-deflation theory." (See *Preparing for a Tough Year Ahead: The Outlook, the Crisis in Perspective, and Lessons from the Early Movers,* BCG White Paper, December 2008.)

- *Grow faster.* This would be the ideal solution. Unfortunately, high debt levels and adverse demographics in most parts of the Western world prevent this. Moreover, we see little progress toward rebalancing global trade flows. The deficit countries—with the notable exception of Spain—are not yet competitive enough to run surpluses, while the surplus countries remain unwilling to run deficits. So debtor nations struggle to earn the money necessary to service their debts.

- *Restructure excess debt.* The outstanding debt is beyond the means of some debtors to service. Forcing them to repay will only increase defaults. Some form of debt restructuring could shorten the adjustment process and limit the economic pain. As we discussed in an earlier report, such an approach would work, though with severe consequences for the bond holders. Politicians are highly unlikely to implement such a program. (See *Back to Mesopotamia? The Looming Threat of Debt Restructuring,* BCG Focus, September 2011.)

- *Generate inflation or pursue financial repression (push nominal interest rates below nominal economic growth rates).* In *Stop Kicking the Can Down the Road: The Price of Not Addressing the Root Causes of the Crisis* (BCG Focus, August 2011), we observed that such approaches appeal to politicians and central banks. But generating significant inflation in a deflationary environment is difficult. And it comes with the associated risk of a sudden inflationary spike—should the public lose faith in money. (See *Why Companies Should Prepare for Inflation,* BCG White Paper, November 2010.)

Will Central Banks Fix the Problem?

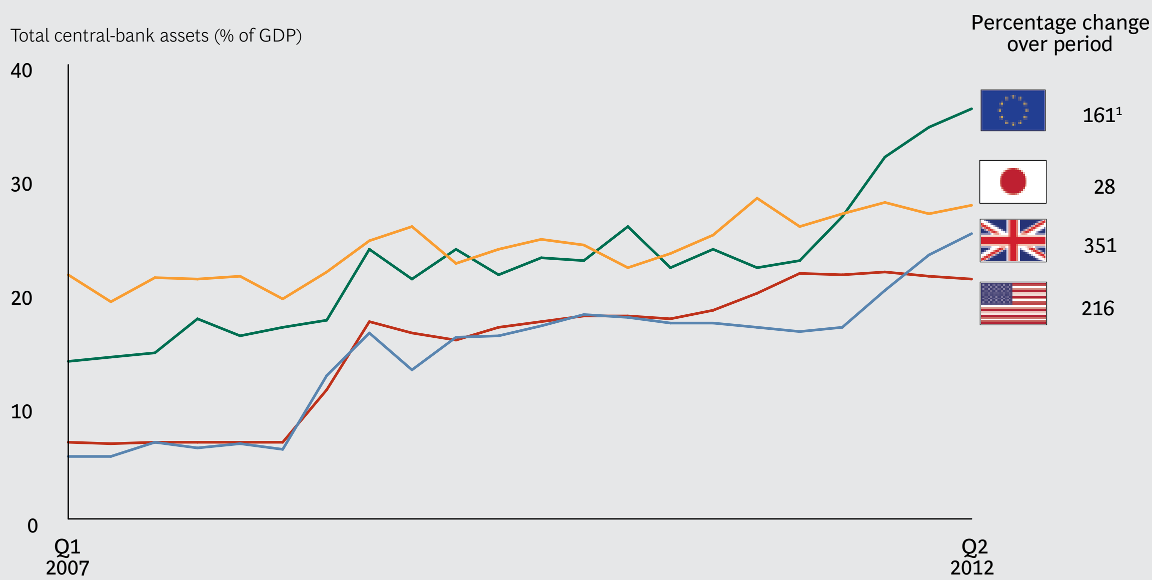
Someone needs to take over the excess debt if creditors are to maximize payback (and minimize losses) and debtors are to offload as much debt as possible. This is what the central banks are doing—the Bank of England, the Federal Reserve, increasingly the Bank of Japan, and, following the policy shift by its president Mario Draghi, the ECB. But such intervention does not change the reality that creditors, savers, and taxpayers are likely to lose money—through significant inflation, outright bankruptcy, or increased taxation—because an impaired asset remains impaired regardless of the balance sheet on which it sits.

The two largest central banks in the world saw their balance sheets grow dramatically during the crisis. Their assets have been deteriorating in quality and lengthening significantly in maturity. Five years into the financial crisis, the U.S. and most European governments rely on funding from their own central banks. In 2011, the Fed has printed enough money to purchase roughly 60 percent of the Treasury notes issued over the same period.[10] During the first months of so-called Operation Twist in late 2011 (see below), the Fed acquired about 90 percent of the gross new bond supply of U.S. Treasuries with a maturity of 20 years to 30 years.[11] The Fed now owns 27 percent of all U.S. Treasuries. If it keeps buying at the current rate, it will own 60 percent of outstanding debt by the end of 2015.[12] Without these massive central-bank purchases, the U.S. government would have to pay significantly higher interest rates for long-dated bonds. Goldman Sachs estimates that 40 bp to 50 bp has been shaved off five-year bonds.[13]

In Europe, Target2 complicates the situation. Target2 is the mechanism by which the euro zone central banks provide each other with short-term financing. Unimportant before 2007, it has become a vehicle for the Deutsche Bundesbank's financing of the periphery's financial systems—reflecting the euro zone trade imbalances and some capital flight from the periphery. About €300 billion was withdrawn from bank accounts in Spain, Portugal, Italy, and Greece from August 2011 through July 2012. Over the same period, the seven nations of the euro zone core (including Germany and France) showed a corresponding net increase. In July 2012 alone, the capital outflow from Spanish bank accounts amounted to 5 percent of total deposits. In practice, Spain has already been bailed out by the ECB: the funding of the country's banks by main refinancing operations (MRO) and longer-term refinancing operations (LTRO) reached €400 billion in July.[14] If the euro survives and the quality of collateral improves, the ECB will be right to call the open €700 billion Target2 receivables of the Bundesbank "non-issue." If there is a debt restructuring or even a breakup of the euro zone, then this would become a problem for the German taxpayer.

Compared with their GDP, Europe, the U.S., and Japan have significantly grown their central-bank balance sheets. New measures by the ECB and the Fed will lead to even faster expansion. A deeper look at the development of these balance sheets reveals the issues. (See Exhibit 2.)

Exhibit 2 | Balance Sheets at Central Banks Have Expanded Significantly Since the Crisis Began



Sources: National central banks; Thomson Reuters Datastream; BCG analysis.
[1]Data consolidated for the Eurosystem.

- On September 6, 2012, the ECB announced that it would buy unlimited quantities of European periphery government bonds in order "to preserve the singleness of our monetary policy and to ensure the proper transmission of our policy stance to the real economy throughout the area."[15] This amounts to direct funding of governments, something prohibited by law. The ECB says that the measure is only directed at restoring confidence in the euro zone and reducing risk premiums associated with the fear of a potential breakup (such as being paid back in a post-breakup currency). ECB support is conditional on the receiving country asking for official EU support and accepting the remedial measures (mostly austerity) defined by the EU. Spain and Italy are trying to avoid asking for official support but may well need to do so in the near future. Once such support is forthcoming, the Greek experience suggests that governments receiving support will seek to ameliorate the measures—banking on the ECB being unable to withdraw its support for fear of destabilizing the markets. So we expect the ECB to continue expanding its balance sheet—the only credible approach to ensure euro zone survival in the short and medium term.

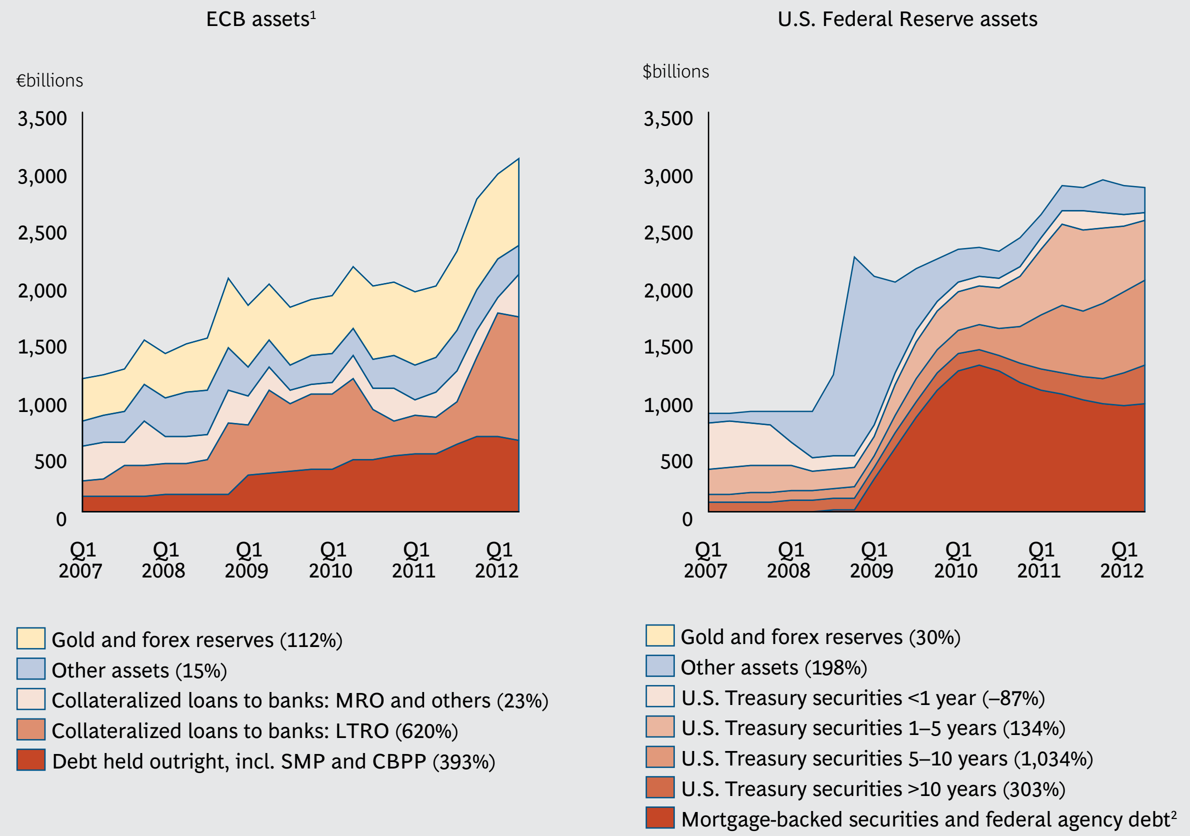
- The Fed surprised the markets on September 13 by announcing a program of unlimited asset purchases, mostly of mortgage-backed securities. It plans to inject up to $85 billion each month "to help the economy to grow quickly enough to generate new jobs and reduce the unemployment rate." This will continue as long as the "outlook for the labor market does not improve substantially."[16] The announcement was applauded by the markets, especially because of chairman Ben Bernanke's express goal of driving up stock and real estate prices.

The central banks, particularly in Europe, continue to buy securities and extend loans against ever more doubtful collateral. Exhibit 3 shows the composition of the Fed and ECB balance sheets over time.

The ECB's balance sheet has expanded from €1.2 trillion to more than €3.0 trillion in an attempt to address deteriorating bank and government funding—sucking up assets of doubtful quality in the process. It has acquired €200 billion in sovereign bonds in the periphery of Europe through its Securities Markets Program plus another €100 billion in residential mortgages and public-sector loans through its Covered Bonds Purchase Program. To address rapidly worsening bank-funding conditions, the ECB relaxed the conditions for its LTRO. It halved the required reserve ratios and widened the range of assets accepted as collateral while allowing longer maturities. LTROs thereby expanded by a factor of seven, reached one-third of the ECB's total assets, and became backed by (relatively) less lower-quality collateral.[17]

The Fed's balance sheet has grown even more dramatically. It was $900 billion at the beginning of the financial crisis, and it reached almost $3.0 trillion by mid-2012. When interest rates could not be reduced any further, the Fed launched quantitative easing (QE) and acquired mortgage-backed securities and U.S. Treasuries. While QE1 and QE2 were limited to $600 billion each, the recently announced QE3—also nicknamed "QE Infinity" or "QEternity"—has no maximum

EXHIBIT 3 | The Quality of Central Banks' Assets Is Deteriorating



Sources: European Central Bank; U.S. Federal Reserve; Thomson Reuters Datastream; BCG analysis.
Note: Percentage change between Q1 2007 and Q2 2011 in parentheses, the balance sheets of the ECB and the Fed are not directly comparable due to very different accounting methodologies. MRO is main refinancing operations; LTRO is longer-term refinancing operations; SMP is Securities Markets Program; and CBPP is Covered Bonds Purchase Program.
[1]Data consolidated for the Eurosystem.
[2]No percentage change cited because the assets were $0 in 2007.

limit in magnitude or duration. Through Operation Twist, the Fed has replaced short-dated Treasuries with long-dated Treasuries, thereby extending the average maturity.[18] In order to reduce its balance sheet again to a "normal" level, the Fed can no longer simply let bonds retire; it will have to find buyers. And these outright sales would face the problem of market expectations, since the market would most likely price in a fully normalized balance sheet—leading to markedly higher interest rates.[19]

A Drug with Significant Side Effects

According to Thomas Mayer, the former chief economist of Deutsche Bank, the implications of an ever-growing central-bank balance sheet are significant—and unclear.[20] The central banks have supplanted private credit in an effort to restore trust, thereby helping creditors avoid losses. Draghi's plan to rescue the euro is no different. By accepting doubtful collateral, the central banks now directly or indirectly own doubtful assets. Greek banks have no more assets acceptable to the

ECB as collateral, while the collateral quality of Spanish banks has been gradually deteriorating.[21]

Having bailed out the creditors, the central banks now have to find ways of helping the debtors without incurring losses themselves. The obvious approach is to lower the cost of money—which is why the central banks have reduced interest rates and pursued quantitative easing. Just as in Japan after the bubble burst in the early 1990s, central banks today are lowering the financing costs for debtors in order to avoid crystallizing any losses. In Japan, this strategy created "zombie banks"—one of the reasons that Japan became trapped in a prolonged period of economic stagnation. The Bank for International Settlements says that the Western world is repeating the mistakes of the Japanese government,[22] only this time the central banks run the risk of becoming zombies themselves. Thomas Mayer points out that "it remains unclear how we can move from the central bank money regime towards a more sustainable regime based on traditional money and hedge credit relations. So far there has been no example of a successful exit from zero interest cum non-standard monetary policy regimes."[23]

With a significant debt overhang and a number of Western economies facing insolvency, any additional central-bank intervention merely offers creditors an opportunity to dump assets. In theory, they could lower the interest rate for all these loans to zero while extending them to perpetuity. No one would ever go bankrupt. Indeed, there was a proposal that went beyond the "evergreening" of outstanding debt, arguing that the central banks should simply "retire the debt" (that is, write off the asset and forgive the debtor—which, in the case of quantitative easing, means the government).[24] This proposal is seductive. Given the relationship between governments and central banks, the government is essentially only paying interest to itself anyway. For this idea to work, supporters argue that it requires a balanced budget in order to secure public and market trust. Otherwise it would be seen as direct central-bank funding of government debt, which in 1920s Germany led to hyperinflation.

Could this work? Many see the risk of inflation as negligible since printing the money to buy the assets in the first place has not yet led to inflation. Moreover, if done over time rather than in a single step, the central bank could still reduce the monetary base by selling assets, thereby preventing any inflation. For the multinational ECB, such an approach implies a redistribution of wealth among countries, notably from the north to the south, posing an additional hurdle not faced by the Fed or the Bank of England.

So is this the secret formula for implementing a debt restructuring without hurting anybody? Is this "Back to Mesopotamia" in the twenty-first century? Goethe's *Faust* turns out to be eerily prophetic. (See the sidebar "Inflation in Goethe's *Faust Part Two.*")

Exhibit 3 illustrates the magnitude of the problem with the structure of central bank balance sheets, both in terms of quantum and quality. Additionally, not only is government debt too high but so are debt levels in most sectors of the economy. Addressing the sovereign debt issue only resolves part of the problem—unless the

INFLATION IN GOETHE'S *FAUST PART TWO*

In the play's famous first part, Faust makes a deal with the devil (Mephistopheles) to exchange his soul for unlimited knowledge and worldly pleasures. In the tragedy's second part, Faust seeks redemption by expanding his horizon and seeking to shape society as an entrepreneur and statesman. Goethe incorporated his personal experiences, developed during ten years as chief adviser to the Duke of Saxe-Weimar-Eisenach, where he led the Ministry of Finance. The Duchy was heavily indebted. Goethe's primary concern resonates today: how to reduce the state deficit while stimulating the economy.[1]

In the first act of part two, Mephistopheles, working as jester to the court of the bankrupt Holy Roman Empire, makes this discovery:[2]

"Where in this world does not some lack appear? / Here this, there that, but money's lacking here."

He persuades the emperor to replace gold with paper money in order to encourage spending and economic recovery. The court is initially excited by the stimulatory effects of printing money. Mephistopheles praises its advantages:

"Nor gold nor pearls are half as handy as such paper. / Then a man knows what he has. / There is no need of higgling or exchanging; / In love and wine one can at will be ranging."

Initially, the Holy Roman Empire is able to repay all its debt, and the economy flourishes. But when inflation kicks in, paper money loses its value, and the empire descends into chaos. As this unfolds, only the Fool does not use his new (and temporary) wealth for private amusement:

FOOL. Five thousand crowns are mine? How unexpected!

MEPHISTOPHELES. Two-legged wineskin, are you resurrected?

FOOL. That happens oft but like this never yet.

MEPHISTOPHELES. You are so glad you're breaking out in sweat.

FOOL. Is that the same as cash? Look, are you sure?

MEPHISTOPHELES. What throat and belly want it will procure.

FOOL. And cattle can I buy and house and land?

MEPHISTOPHELES. Of course! Just bid and they will be at hand.

FOOL: Castle with wood, chase, fish-brook?

MEPHISTOPHELES. On my word! I'd like to see you as a stern Milord!

FOOL. Tonight a landed owner I shall sit!

Exit.

MEPHISTOPHELES, *solus*. Who still will have a doubt of our fool's wit?

NOTES

1. Hans Christoph Binswanger, "Geld und Magie—Eine ökonomische Deutung des Faust," 4th edition, 2009.

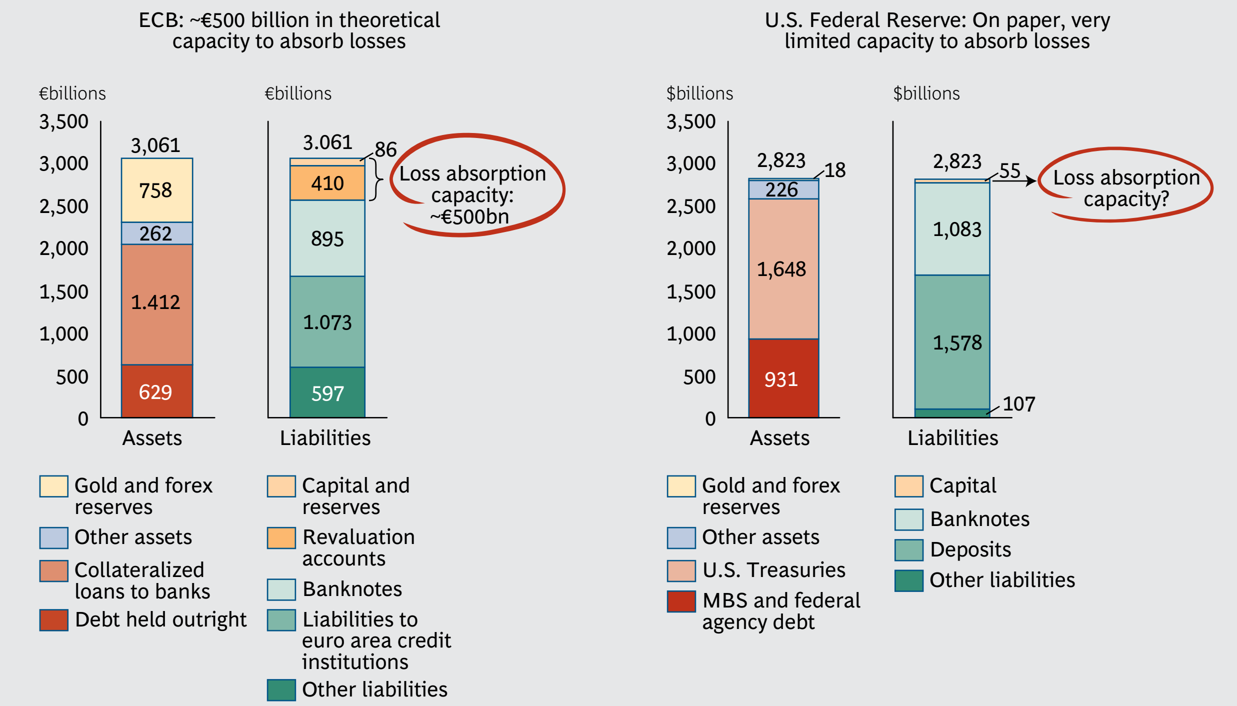
2. Excerpts are taken from the English translation of ***Faust: The Second Part of the Tragedy,*** by George Madison Priest, available at http://www.einam.com/faust/.

governments shoulder substantial private-sector debt as well, which requires selling it to their central banks.

Are the central banks' balance sheets prepared for such massive debt forgiveness? Exhibit 4 shows the ECB and Fed balance sheets. The ECB carries capital that is able to absorb debt retirements of about €500 billion. If larger losses were to occur, the ECB will either have to carry forward negative capital or the national central banks (and ultimately the highly indebted governments) will have to inject fresh capital.

On paper, the Fed has a rather limited loss-absorption capacity. But a change of accounting standards in 2011 created an almost infinite loss-absorption capacity by introducing the new liability position: interest on Federal Reserve notes due to the U.S. Treasury. Losses (such as those from selling bonds below their original purchasing price) will not show up on the Fed's balance sheet as a reduction in capital but as capital participation from the U.S. Treasury. The Fed usually sends most of its profits to the Treasury on a weekly basis, but it will simply postpone remittances if the new line item becomes negative.[25] In other words, the Fed can simply set off any potential loss against future gains from seigniorage (the profits earned from the issuance of base money). The present value of future seigniorage by far exceeds the conventional loss-absorption capacity of central banks; indeed, it would increase by an estimated $1.8 trillion! Similarly, the ECB would have an enormous additional loss-absorp-

EXHIBIT 4 | Measuring the Central Banks' Theoretical Capacity to Absorb Losses



Sources: European Central Bank; U.S. Federal Reserve; BCG analysis.
Note: As of September 2012, consolidated balance sheet for the Eurosystem and the Fed are not directly comparabe due to very different accounting methodologies. MBS = mortgage-backed securities.

tion capacity outside of today's balance sheet. Citi economists estimate the present value of future seigniorage for the euro system to be at least €2.0 trillion.[26]

As bond purchasing programs are ongoing, there is no end in sight yet. At the same time, the likelihood of defaults on central banks' balance sheets becomes greater. Although their loss-absorption capacity seems almost infinite, it does not appear credible that this scenario would lead to a pain-free resolution:

- *Monetary Overhang.* The expansion of the monetary base and balance sheet of the central banks has not yet led to inflation. The obvious reason for this is the deflationary impact of debt deleveraging in the West, which has led the velocity of money to drop to all-time lows. Any debt restructuring involving forgiveness by the central bank could drive the velocity of money back to the long-term average. As Charles I. Plosser, chairman and CEO of the Federal Reserve Bank of Philadelphia, pointed out, this would lead to significant inflation unless the central bank reduces its balance sheet by selling assets to the market.[27] The magnitude of the required adjustment would be huge: the Federal Reserve would have to reduce its balance sheet and, therefore, the monetary base by $1.8 trillion to sterilize inflationary pressure. Failure to do so would drive up the price level in the U.S. by almost 300 percent.[28] After the debt restructuring, the remaining Fed assets would be about $1.2 trillion. There would only be no risk of inflation from such debt forgiveness by the central bank if the velocity of money were to remain historically low.

- *Trust.* In a fiat monetary system (where money is not backed by a real asset such as gold), public trust in the value of money is particularly important. As Ludwig von Mises described nearly 100 years ago, holders of money need to believe that the money will be valuable tomorrow before being willing to accept it today.[29] Or as Jens Weidman, president of the Deutsche Bundesbank recently put it: "If a central bank can potentially create unlimited money from nothing, how can it ensure that money is sufficiently scarce to retain its value?"[30] Should this trust erode, an ensuing flight into real assets could precipitate significant inflation.

The health of the economy and the monetary system seems to rest on zombie central banks. The long-term effects of the various measures to date are still unclear, and the ensuing cleanup will remain a significant future challenge. In a recent speech, Plosser observed: "We are unlikely to see much benefit to growth or to employment from further asset purchases. Conveying the idea that such action will have a substantive impact on labor markets and the speed of the recovery risks the Fed's credibility."[31]

The Side Effects of Cheap Money

The endgame of central bank intervention may be unclear, but the implications of this ultra-loose monetary policy are significant:[32]

- *Less Incentive for Fiscal Discipline.* Central banks have bought time for governments; for now, at least, the huge deficits appear less problematic.

- *Asset Price Inflation.* Western stock markets are currently trading above long-term valuation multiples. Low interest rates in developed economies are likely to cause spillover effects in emerging markets because low borrowing costs in the world's major currencies encourage investors to borrow dollars or euros to invest in countries with higher interest rates, potentially leading to asset bubbles.

- *Creation of "Zombie" Companies and Banks.* Very low interest rates hinder the process of creative destruction. As in 1990s Japan, zero interest rates allow companies with poor profitability to survive, while zombie banks can evergreen potentially nonperforming loans.

- *Promotion of Social Discontent.* Ultra-easy monetary policy hurts savers and promotes social discontent. Prudent savers suffer negative real-cash returns, while leveraged speculators benefit from easy money. In the U.S. or in Southern Europe, the working population faces high unemployment and depressed house prices. There is growing dissatisfaction with the distribution of the economic spoils.[33]

Western economies face a period of economic turbulence, with possible bubbles and financial upheaval, anemic or no growth, high unemployment, and increased tensions. Outstanding debt will continue to grow relative to GDP. The best hope is higher inflation, which can be hard to contain once it starts; it could precipitate a flight into real assets and a spike in inflation. Creditors lose under all scenarios.

So what should companies be doing in the face of such uncertainty?

Even in the Worst of Times

Companies must face the fact that they will have to deal for many more years with the fallout of the debt bubble of the Western world. This requires them to adapt to the new realities:

- A multispeed world economy with continued growth in the emerging markets, lower growth in the U.S., and a stalled economy in much of the euro zone

- Higher volatility

- More frequent recessions

- Continued government intervention

- More intense competition as companies fight to secure opportunities in higher-growth countries and sectors

History shows that companies can prosper—even in bad times. We have written often about the lessons from the Great Depression of the 1930s, the inflationary recessions of the 1970s, Japan's lost decade, and even the most recent crisis. Not only can companies deal successfully with such challenges but the pecking order of entire industries can get turned upside-down during times of upheaval. The winners are those that attempt the following:

- *Take a position.* Successful companies take a position and prepare accordingly. Ditherers use uncertainty as an excuse for doing nothing. With the question of deflation or inflation still open, making choices might seem impossible. But it isn't. Most operational decisions would be unaffected by either scenario. Differences in prospective financial structure are best resolved by taking a conservative financial approach.

- *Relentlessly focus on cost.* Obvious as this point is, our experience shows that companies are still not transforming themselves to achieve new breakeven points. Most have taken out the obvious fat and some even cut into what we would see as muscle. But only a few companies have taken a fresh look at how to reshape their operations to adjust to today's world of new technology and shifting labor-cost advantages.

- *Make pricing a core function.* Too often, pricing is derived either from internal costs or as a response to outside factors driven by competition and relative market position. In a prolonged period of either low inflation (even deflation) or higher inflation, pricing is a core capability—not only to protect the business but to gain share.

- *Aggressively pursue growth options beyond Western markets.* There are significant growth opportunities in emerging markets, even if competitive intensity is increasing. Participating in this growth will provide important opportunities for companies given that achieving growth in the West will require gaining share. Companies need to ask themselves: how ready are they *really* to globalize?

- *Prepare for the event risks.* We have avoided another Great Depression. But significant tail risks remain. We could still see a relapse into a deep recession, which governments would be unable to cushion with further spending. And the final verdict on the long-term implications of monetary policy remains to be seen. High inflation would have a disastrous impact on company margins and merits appropriate preparation. (See W*hy Companies Should Prepare for Inflation,* BCG White Paper, November 2010.)

- *Use your cash.* Many Western corporations are enjoying record-high profit margins, with profits as a percentage of GDP in several countries at or close to all-time highs. Most companies use these profits to increase payouts or to deleverage. Going forward, politicians seeking to implement austerity programs will look at these impressive margins. These margins could come under pressure as austerity depresses business or governments introduce higher taxation. Moreover, managers expecting higher inflation should consider a more productive deployment of their cash reserves and free cash flow. Higher investment would support economic growth while reducing the risk of further taxation.

- *Bet on innovation.* Innovation is decisive in times like these. In all past major crises, innovative companies gained significant share. History shows that innovation has to play a pivotal role in getting the Western world back on a self-sustained growth trajectory.

Not all companies will thrive—but for those willing to accept the new realities and act accordingly, the opportunities are huge. These are interesting times. These are not times to sit and wait. Winners are those who act!

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