A Post-Crisis, Global Perspective on Investing in Real Assets

By John Brynjolfsson, CFA

Prologue

As economists and scientists, we are fortunate indeed to have witnessed a rare economic experience—the classical rules of economics breaking down before our eyes. As citizens, investors, and wage earners the experience was not the least bit pleasant, even if it was intellectually interesting.

One experiment that U.S. Treasury Secretary Henry Paulson conducted was to see if he could manage the markets as if they were a confidence game. It was late 2008, as the decade-long, mania-induced bubble imploded, when he tried explaining to Congress that with sufficient ammunition, merely bluffing the markets would mean he could avoid firing a single shot. Markets demanded to know, however, just what kind of ammunition was in his loaded bazooka. Even after Paulson pulled the trigger, asset prices continued to fall, capital ratios of major banks continued to erode, and counterparties continued to question the solvency of even systemically important institutions.

As finances melted down, one could have made the case that the “real economy” should have continued forward, with real people continuing unfazed. Couldn’t those really producing goods or really serving needs of the public simply keep doing the same things they always did? Or if they had to change, couldn’t they merely adjust their bearings and the economy to a different trajectory at the margin?

The monetary and financial side of the equation was in chaos. Market confidence was broken and participants questioned the future. They questioned the value of assets—suspected that revaluations to the downside would make institutions insolvent and feared any overshooting would make all institutions insolvent. Be it a symptom, a cause, or a consequence, the monetary foundation—low and stable consumer price inflation—was crumbling. We had a “real” problem in the monetary sense of “real.”

How is it that the monetary “real” transformed into the more tangible “real”? The markets and economy toppled. Lower prices, rather than inducing increased demand, exacerbated fear and extinguished demand. The invisible hand, which suggests lower prices increase demand, had proved too ephemeral just as we needed it most.

Money market funds experienced runs, money-center banks stopped transacting with one another, and the plumbing of the financial system seized. Panic spread to London instantly as tensions between the New York and London branches of Lehman Holdings flared. Confusion regarding the solvency of credit default swap (CDS) counterparties and a huge backlog in unbooked and unconfirmed derivatives trades added to mass confusion. Shipping and industrial production collapsed globally as banks withdrew credit lines from marine merchants worldwide.

Problems spread from the United States and contagion overtook Europe, Asia, and the emerging markets. U.S. consumer price levels fell by an average of 1 percent a month during October, November, and December 2008. With such deeply negative inflation rates, even the lowest interest rates in modern history would leave the real interest rate on cash balances implicitly clocking a stratospheric 12 percent.

Most frightening of all was that these extremely high real rates on cash balances acted like a magnet, sucking reserves onto the central bank balance sheet and crowding out even the very thought of commercial lending, as well as collapsing the money multiplier. Modern monetary theory provided little practical illumination on how to prime the pump of the lending channel in such circumstances. There seemed to be no way for policymakers to interrupt the self-feeding deflationary spiral.

Post Crisis

On a comparative basis, our current ills seem tame and they are. Three years later, North America is out of the darkest part of the woods.

Nevertheless, before I continue to describe quantitative easing (QE), its rela tion of asset prices, and its arrest of the deflationary slide in consumer prices, let me clarify something. Despite my credentials as a manager of inflation-linked bonds and a “real asset” hedge fund that could profit from globally synchronized debasement of monetary instruments, I consider myself a card-carrying monetary hawk.

For me monetary hawkishness is an easy choice because it is a policy objective that serves all classes of society, not just the fairest but the best in both the long and the short terms. I recognize that just as inflation is arbitrary, unfair, and inherently a dishonest fraud upon those that relied on a stable price level when they negotiated long-term contracts such as loans or wage agreements, deflation can be equally unfair, though perhaps on a different set of people.

My hawkishness, or desire for policy that leads to a low and stable rate of
inflation, is therefore fundamental in nature, going to the core of fiduciary duty of central bankers, and the core of the calculation problem inherent in any complex economy. In fact it is my revulsion for monetary debasement, and certainly not any affinity for inflation, that leads me to my intense focus on inflation-linked bonds, commodities, and real assets more generally.

In the words of Donald Brash, who served as governor of the Reserve Bank of New Zealand from 1988 until 2002, “There is nothing fair, just, or even honest in a monetary system which steals people’s savings, or rewards those lucky enough to go heavily into debt at the right time.”

So it is with a twinge of duplicity that I report the success of the U.S. Federal Reserve Bank’s reflationary maneuvering of 2009. That spring the Fed got the monetary system out of the deflationary woods (at least temporarily) by announcing a huge expansion of the Fed’s balance sheet. That implicit credible threat toward making bank reserves worthless within hours led to a rush into hard assets, high-yield bonds, and even equities. Starting moments after the announcement, and continuing for six months, the monetary action was effective. The jury remains out on its longer-term economic impact, and the longer-term structural implications remain unclear.

In any case, Fed Chairman Ben Bernanke made an unprecedented show of monetary liquidity on that March 23, 2009. He and the Fed announced that within weeks their trading desk at the New York Fed would be implementing what later would be enumerated QE 1. This would involve simultaneously creating more than $1 trillion in excess reserves (sometimes called “high power money” because of its multiplicative effect), and draining from the markets more than $1 trillion worth of long-term Treasury, agency, and mortgage assets.

In essence the Fed had decided to “do whatever it takes”: in this case, daring savers to hoard cash (as the Fed minted it), and daring them to outcompete the Fed in bidding up the price (and down the yields) on near-riskless bonds. If investors chose to stay in low-yielding, riskless fixed-income securities, they ultimately would languish. Instead, the Fed implicitly suggested that banks should invest in loans, real estate, and bank capital. They should re-liquefy the plumbing system, and ratify higher market prices for risky assets. In particular the Fed’s purchases were designed to lower toward zero the yield not just on cash balances but on longer-term Treasuries, agencies, and mortgages as well. Key, I believe, in their decision was that they changed deflation expectations by credibly changing the forward valuation of U.S. dollars in the domestic market. (That is, the consumer price index (CPI) can be thought of as the exchange rate between a “currency” literally made up of a basket of consumer goods and services and U.S. dollars, and like all currencies has at least implicitly a forward market.)

It worked.

That is the good news. The bad news is that, by and large, few of the problems that originally fomented the crisis were addressed by these monetary actions. The broader fiscal and regulatory actions that President Bush, President Obama, and Congress undertook did little to address the perverse incentives that created the crisis.

Like the doctor or nurse attending to an addict in the emergency room after a serious car accident, Congress, the President, regulators, and the monetary authority spared the lectures, reprimands, and austerity. They decided the patient could not withstand the stress of sudden withdrawal. Perhaps they were right.

Rather, unconditional guarantees, generous ratings, and accounting practices that provoked the bubble (and therefore indirectly all the pain created by the collapse of the bubble) were expanded as we hit bottom. This was done in an attempt to arrest the cascading collapse. These accommodative tactics continue.

So where does that leave us now?

Enabling New Bubbles and the Addictive Properties of Public and Private Debt in Europe and Asia

Though almost all key markets bottomed in 2009, some still languish (labor, housing, banking), and this has left policy makers appropriately fearful of a resumed downturn. Meanwhile, the accumulated fiscal toll associated with stimulus and relief around the globe has created increased concerns in a new area. No longer are investors concerned about subprime, alt-a, or conforming mortgages, or with agency debt. Now increasing tension revolves around sovereign debt and the debt of banking institutions exposed to sovereign debt.

Europe

This new tension, though conceptually global, focuses primarily on the eurozone. In particular, countries within the eurozone ceded floating exchange rates that defuse credit risk and seem to cushion economic volatility for sovereigns that have their own currency. The European Monetary Union (EMU), however, dictates (via both treaties and practical necessity) that the European Central Bank (ECB) manage the single currency optimally for the whole eurozone. However, languages, international borders, separate fiscal authorities, and cultural barriers within the eurozone reduce the ability for any disequilibrium among eurozone regions to be addressed quickly or at all. The intention expressed in the Maastricht Treaty to limit such imbalances (to 3-percent deficits per annum and 60-percent debt/gross domestic product ratios) frayed.

Whether the Maastricht Treaty was well conceived we will never know. Shortly after the currency-union aspects of the treaty were implemented, first Germany, then France, ceded to short-term pressures internally and
ran budget deficits in excess of treaty limits. France and Germany were prominent among the leadership of the EU-governing structures, so they avoided the imposition of meaningful or harsh penalties. The precedent was set. It would only be time before many other nations followed suit in sizes and durations that ultimately proved unsustainable.

Indeed, as economist Herbert Stein said, “If something cannot go on forever, it will stop.”

Meanwhile, the previous decades-long European general balance between the lower-wage, less-productive south/ periphery of Europe and the higher-wage, more-productive north was disturbed by the Economic and Monetary Union (EMU) effectively commencing in 1999. In particular, the implicit guarantees of the periphery debt by the common currency and EU structures allowed the periphery to simultaneously increase spending, decrease taxes, and buoy private incomes by a cumulative 50 percent over the first 10 years of the EMU. Some of this wage gain was the offspring of welcome euro-related productivity enhancements, enabled by the more-efficient common currency structure. But much of it was simply the direct transfer to periphery populations of euros borrowed by periphery banks, periphery governments, and periphery populations. They borrowed from those populations that earned and saved euros in the core countries of the European Union. Eventually, starting in about January 2010, the chicks came home to roost. Capital market vigilantes, concerned about the periphery’s ability to repay those loans, and the implicit nature of the EU guarantees seem to be the only regulatory actors of note in the system.

There is much blame to go around. At the most superficial level, it is easy to suggest that those that borrowed are to blame if they cannot repay debts.

On the other hand, the lenders are not without fault, and it would be an error to believe lenders were naïve victims. In addition to initial violations of the Maastricht criteria by EU member nations as august as Germany and France as early as 2003, it is difficult to imagine that EU officials—and finance ministers from all significant member nations, core and otherwise—were not aware of the accounting liberties afforded the Greeks upon their entry into the EMU. Ultimately, it was a goal of original members to make the club relatively inclusive, to expand it, and to do so by underwriting at a minimum some contingent risk, at what now turns out to be an explicit cost.

It seems a similar calculus between aggressive borrowers and complicit lenders occurs during every crisis. In effect the world is witnessing the greatest game of chicken ever conducted, with the populace of the periphery largely calling the shots. In particular, you will always have the periphery populace, which can and does continuously cry: “Why should we cede sovereignty and endure austerity when we have the God-given right at any time to exercise our remaining sovereignty? Make us a deal, or else!” Meanwhile, it seems that largely the wealthy core countries, and the powerful and influential bankers and politicians across the eurozone, see things differently. Perhaps based on a good understanding of a history of war, protectionism, and inefficiency, they see unification, its maintenance, expansion, and strengthening, as something worthy and perhaps worth paying for.

The official institutions each have their roles. The ECB and International Monetary Fund (IMF) conceptually are not protagonists in this face-off. However, their role cannot be underestimated. In each case, due to both statute and custom, they have preferred lender status, which gives them each a special role in restructuring the debt of troubled borrowers. Also, as steward of the euro, the ECB has a special role and the ability to judiciously use its discretion to target inflation. In effect, it can at the margin trade off slightly higher liquidity and more inflation for slightly lower credit risk and ironically more fidelity to its mandate, which implicitly precludes taking any credit risk.

Recently, it is my sense that despite its continual and vehement claims of fidelity to exclusively its price stability mandate, the ECB will take great measures publically and behind the scenes to expand liquidity (including repos- sessing debt of periphery and core issuers onto its balance sheet) and to limit its credit losses for as long as possible. “All for one, one for all,” as the Three Musketeers said.

Globe beyond Europe
Volatility therefore remains widespread globally, and new demons from time to time raise their heads and threaten. In some ways the European crisis is far more frightening than the 2008 meltdown.

Individuals with financial difficulties may rely on family for help or the institutions they borrow from may take a hit. When institutions have trouble, they may draw on stakeholders’ capital. Stockholders, bondholders, officers, perhaps even employees, customers, and the local economy may take a hit. In 2008, when such events became systemic and affected the national and global macro-economy, governments intervened and shared in the risk by purchasing shares in shaky financial institutions. Despite general success, governments may take a hit with some remaining losses.

But the European crisis is different. When governments and their central banks get in trouble, there is no lender of last resort. Smaller countries such as Greece theoretically can be bailed out by their larger neighbors, but if larger countries such as Spain, Italy, or even France have funding troubles, there is no parental figure they can turn to. Even institutions such as the IMF or the G20 wilt before the challenge because
they ultimately are little more than the collective voice of their sponsoring sovereigns.

Social pressures are high and rising. Popular unrest characterizes the globe, and not just in the Middle East where the Arab spring is still in full force. In the United States, Asia, and Europe, pressures build as post-crisis fallout exaggerates income distribution and increases joblessness. Time erodes the populace’s patience. (Globally increased trade may increase income disparity within wealthy nations as unskilled laborers there are undercut by laborers from developing nations. Nevertheless, the global Gini coefficient, which measures the variability of incomes around the world [0 means incomes are perfectly equitable and 100 means they are absolutely inequitable] has been falling under globalization. In particular, it seems globalization is lifting hundreds of millions of the poorest laborers in China, India, Vietnam, and broad swaths of emerging markets at the cost of stagnating or falling real wages for laborers in richer countries.)

Meanwhile, some markets have recovered forcefully. Equity, high yield, emerging market equity, emerging market debt, and emerging market currencies have had mostly double-digit returns for a string of years. The liquidity that monetary authorities created, and some of the direct stimulus that fiscal authorities created, has not gravitated to the troubled sectors. Rather, this stimulus has flowed toward the most promising domestic and global sectors.

Because of this bifurcation, with labor and real estate markets in distress as emerging and commodity markets are buoyed, questions regarding the future remain larger than ever.

In 2009 the comptroller of the currency, the primary regulator at the time for commercial banks in the United States, dramatically relaxed commercial mortgage underwriting standards. On the residential side, mortgage modifications, forbearance, backlogs, and clogged courts leave millions of homes in a shadow housing inventory, not for sale but not really owned, a homeowners’ purgatory.

Are these distressed markets in equilibrium or do these clogged pipes suggest that the equilibrium clearing price really is much lower?

It is in this context that investors confront global opportunities in real assets. We do so by briefly touching upon the supply, demand, and price determination for real assets, in sequence. We start with commodities but also discuss emerging market equities, debt, and currencies.

**Commodities**

Commodities have implicit long-term natures and are intricately linked with population, technology, productivity, and wealth. As the population theorist, economist, and demographer Thomas Malthus said, “The power of population is indefinitely greater than the power in the earth to produce subsistence for man.”

Perhaps more to the point, consider the words of Sheik Ahmed Zaki Yamani, who was Saudi Arabia’s minister of oil and mineral resources from 1962 until 1986: “The Stone Age didn’t end for lack of stone, and the oil age will end long before the world runs out of oil.”

For hundreds of years, starting with Malthus, forecasters have extrapolated trends and come to dead ends. Of course, at least so far, such extrapolations have failed to adequately consider changes that occur naturally, are imposed by the pressures of shifting costs, and are ventured upon due to incentives to innovate. So, from economics we know with some degree of confidence that:

1. Commodity supply is not a static figure. Rather it is a schedule of quantities and prices, or a “supply curve.” The slope of that curve is commonly known as elasticity. So, for example, a steep supply curve means much higher prices are needed to induce even a modest increase in supply, and not surprisingly this would be described as a relatively “inelastic” supply.

2. The short-term supply curve is much more inelastic than the long-term supply curve. So a flatter, or more elastic, long-term supply curve means that a modest increase in prices (if sustained for a long time, and known to persist going forward for a long time) will induce a large increase in supply.

In the short-term, commodity supply is a function of exogenous shocks such as variations due to weather, regional conflicts, labor problems, unplanned maintenance, fortuitous discoveries, and the like. Over longer terms, increased exploration and production within either existing fields or new ones could somewhat increase supply, while a cessation or even reduction in such investments would quickly deplete and decrease production. Within some oil and gas wells, for example, depletion without incremental capital investment would result in 40-percent less production per year, while capital investment can forestall that depletion for years.

The biggest change in commodity supplies over longer horizons seems to be in alternative production. In the case of electricity, this might mean wind, solar, or even a resurrection of currently out-of-favor nuclear. In the petroleum sector it means shale gas and shale oil, oil from tar sands, and oil from the far offshore continental shelf or harsh arctic environments.

All these are extreme efforts to add to the supply and/or offset depletion in traditional sources, and they are highly price sensitive. If low prices were to persist, presumably due to relatively low secular growth in demand, conventional sources of energy (such as oil from Saudi Arabia) could be extracted at low cost and thereby meet low demand. At higher levels of demand, more and
more expensive technologies need to be applied to extract energy. Of course in a market system most of the surplus, and therefore volatility in surplus, created by fluctuating demand accrues to the low-cost producers (see figure 1).

We have similar dynamics in which short-term inelasticity is contrasted with long-term elasticity on the demand side. In the short term, commuters, refiners, and most other consumers of commodities have little or no ability to adjust except slightly at the margin. They are inelastic. If gas prices doubled or even quadrupled overnight, few would cancel their driving for the day and tell their bosses that it wasn’t worth arriving at work as promised.

However, given time, consumers can adjust demand. Over the course of a decade, a family may purchase fuel-efficient vehicles. At the margin, families may migrate to be closer to employers or mass transit. So, longer-term demand does respond elastically to the longer-term prices. Obviously, this example extends to other larger and smaller adjustments.

Global population trends—specifically, the integration of rural populations into urban industrialized economies and demographic changes associated with rapidly increasing incomes—are resulting in an increasing trend in consumption of almost all commodities. Conversely gradual shifts in productivity, sensitivity to carbon dioxide production, and otherwise smarter uses of commodities, particularly in wealthy nations, is resulting in long-term flat or downward trends in commodity consumption. Net-net, however, this combination adds up to a huge add, particularly in the coming years.

The only bottleneck limiting the rate at which massive rural populations—numbering in the billions globally—enter the industrialized economy is access to industrial commodities.

Given this framework of supply and demand, price determination for commodities is therefore conceptually very easy to pin down but practically speaking next to impossible to determine. Conceptually, we need to introduce inventories and investment into our equation in terms of long-term supply, long-term demand, short-term supply, and short-term demand. A differential equation identifies how much inventory will be drawn down this month (in effect reducing this month’s demand though adding to future demand). The difficulty of estimating the quantities that determine a price path then combines with uncertainty about external and endogenous shocks to the system to make all but the most macro of forecasts more than a challenge.

Emerging Markets

The emerging markets in this context are suppliers; suppliers of equities, bonds, and currencies to institutional investors. The central question for investors today is this: “Are emerging markets able to de-link from the sluggishness of the developed world and generate returns?” We suggest that the answer is: “Yes.”

Once again our economic framework is useful for evaluating such assets and returns. Our first focus is the supply of emerging market investment assets or, put another way, the demand by emerging markets for investment capital, needed to fully utilize their access to cheap, and often skilled, labor and access to abundant, low-cost, raw materials.

Our first inclination might be to say that this supply and demand is huge. Emerging market nations generally have abundant land and abundant labor—either unskilled labor or well-educated, focused, often experienced and success-driven skilled labor.

Production functions are optimized when the supply of land, labor, and capital are roughly in balance. Emerging markets, however, generally have less than optimal traditional capital. These nations’ wealth funds, high savings rates, and income generated by commodity production often result in ample pools of national reserves or sovereign wealth fund assets, but infrastructure, machine equipment, factory tools, and investment in residential real estate are far below levels of developed nations. The intangible institutional, regulatory, legal, and societal capital generally lags as well. Any political instability is a draw on any intangible and tangible capital as well.

All this suggests that emerging market countries have a strong demand for capital and should be able to offer investors higher returns, less risk, and more security than economies that don’t have access to abundant natural resources, land, and unskilled and skilled labor.

The World is Flat

This state of affairs has been the case for a long time. One could argue it took the developed nations of Western Europe,
North America, and the rest of the world a good 5,000 years to accumulate the tangible and intangible capital necessary to super-productively employ labor and natural resources.

But things are changing, rapidly. Just since the industrial revolution, about 240 years ago, about 1.2 billion people have been integrated into the industrial/post-industrial world. I would expect that in the next 24 years—one-tenth of the time—another 3.6 billion people will join the industrialized world.

Put another way, industrialization of emerging market countries is occurring at 30 times the rate it occurred for Western Europe and North America. Once leading nations cut a path through the jungle, it’s easy and inevitable for the huge populations that make up four-fifths of the globe to follow quickly. Indeed given the globalization of education and commerce, they may overtake the path rather than merely follow it.

In contrast, the demand for investment capital in the developed world is waning. First, the value seems to be fully priced, or worse overpriced, based on lax accounting standards and gimmicks in corporate reporting and government accounting at the local, state, and national levels. Recent returns and scandals suggest as much. Second, costs are high; the level of entitlement (psychologically, legallyistically, and politically) is high. Third, demographics speak to flattish long-term population trends (excluding immigration) and a near-term (over the next 20 years) shrinking work force as educated and skilled baby boomers age.

**Monetary Policy**

Consider an imaginary world in which money isn’t ever exchanged but is merely a unit of accounting for barter that occurs. Wages are a function of the consumption basket (i.e., consumer prices), investment products, and foreign currencies that an hour of work can buy. In the real world, beyond barter, long-term loans need to be fixed in some currency so borrower and lender can fairly negotiate interest rates. Wages and other items transacted over and over rely on the stability of money because beyond the expense of constantly editing and printing new menu prices, there is a psychological connection attached to the fixed prices at which such transactions typically occur.

This has a profound impact on commodities, emerging market assets, and real assets. Therefore as much as supply and demand discussed in detail above determine the current price of commodities, investing in real assets involves expectations of, or exposure to, the future price of commodities. Those future prices at which commodities transact are impacted not just by supply and demand of commodities but by monetary consideration; that is, the future supply and demand for money.

Put another way, on all fronts in the long term, and to a large extent in the intermediate term, inflation is a key driver of returns to investing in commodities.

**Destination Earth 2020—Three Scenarios**

An important part of risk management is scenario analysis. Risk management, however, is about much more than a software package, statistical technique, or new set of investment restrictions (see figure 2).

De-levering, generalized economic slowdown (the new normal), low-cost labor and high productivity in emerging markets, fear that inflation will be dampened, and deflation are some of the risks getting attention lately. I think such risks are temporary and short-lived.

If these risks are temporary and short-lived, then real assets would tend to fall in price because of overcapacity on the supply side and lack of demand on the consumption side, and because of the monetary effects. Assets that would do well would be long-term zero-coupon Treasuries, particularly those from a creditworthy issuer with robust contracts enforcement or an issuer that was highly over-collateralized.

A more likely scenario would be one of muddling through with weak real growth (1–2-percentage points in developed countries, 3–4-percent globally). But the scenario that we feel demands attention is one with modestly rising inflation.

Real assets would do well in this scenario but most other asset classes would languish. Traditional cash and short-term bonds would suffer from anemic or negative real yields. Intermediate- and long-term bonds would suffer from mark-to-market losses that erode all yield and more, and the ultimate repayment of principal and reinvested interest likely would be in dollars that bought less than initially invested. Equities, while conceptually real assets, would have earnings that were depressed by margins as rising raw material prices outpaced finished-goods inflation; and price-to-earnings ratios likely would plummet.

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The Alpha Beta of Implementation
I have spent the bulk of my career in an era that I thought was normal, but I can now see was anything but.

Post Breton Woods and post Reg-Q led to floating exchange rates, and floating interest rates characterized the financial markets. Paul Volcker broke the back of inflation, and Alan Greenspan adeptly and opportunistically managed a gradual disinflation spanning 20 years. Markets were fueled by falling yields, falling spreads, falling volatility, increasing liquidity, increasing leverage, and increasing complacency. Valuations, and therefore returns, soared.

Things changed and we realized that the great moderation was a mirage: that managing, obscuring, or regulating volatility out of existence was a fiction—a temporary one at that.

Buy-and-hold is dead. Security selection and relative value trading is overrated. Instead, fundamentals will be critical to success. Top-down fundamentals will determine where the global macro-economy is going and will determine which regions and sectors are going to prosper. Bottom-up fundamentals are important, too. Managers must have local intelligence, sector know-how, security modeling, and risk management systems in place.

It’s a wonderful world. As an analyst, I wouldn’t trade it for the Disneyland lifestyle of the 1950s or the heady days of the 2000s. Our duty to clients and beneficiaries is as high as ever, and our efforts to preserve purchasing power are more important than ever, too.

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Endnote
1 To ensure fiscal discipline, the Maastricht Treaty restricts the amount of public debt that countries in the European Union can assume to 60 percent of their gross domestic product. Yet Germany has violated this limit every year since 2003. http://www.forbes.com/sites/forbesleadershipforum/2012/02/15/five-big-myths-about-the-european-debt-crisis/.