
and popular legitimacy of a nation's political institutions. The latter is critical, not only because it affects a government's ability to institute reform measures needed to improve the ability to pay creditors, but also its willingness to do so, especially when a substantial amount of debt is held by foreign creditors.

Economic Situation Analysis: The Gordian Knot and Its Implications for Asset Class Returns

Let's start our update with what we wrote back in December, 2010:

“Our assessment of global economic conditions, and their implication for asset class returns and portfolio allocation, is that the world faces four challenges, whose implications are interrelated and non-linear. The first challenge is the fragile nature of the global financial system, in which a very large amount of debt of highly uncertain quality rests on a very thin capital base. Another aspect of this issue is the precarious position of many parties that are struggling to repay and/or rollover that debt, including households, some corporations (e.g., commercial property developers), financial institutions and various levels of government, up to and including some sovereign nations. A final aspect of this issue is the fact that in some countries, leverage has continued to increase in recent years (e.g., China), giving rise to new asset bubbles that will one day burst (e.g., Chinese property). In addition, strong money supply growth in the United States has not only helped to fund a substantial expansion of U.S. government debt (while keeping interest rates on that debt artificially low), but also led to strong capital flows into many emerging markets, where they have inflated both consumer and asset prices.

The second challenge facing the global economy is inadequate and imbalanced aggregate demand. In many countries, private sector balances (i.e., the difference between savings and investment) have swung from strongly negative to strongly positive since the global financial crisis exploded in 2008, as investment has been cut back and strenuous efforts have been made to save more in order to reduce outstanding debt. The resulting reduction in private sector demand has usually been

balanced by a sharp expansion of government deficits and attempted expansion of the money supply, in order to avoid an even deeper economic contraction and more severe rise in unemployment. However, many countries are now either approaching or have reached the limit of this approach, with growing concerns about the sustainability of sovereign debt levels forcing consideration of policy alternatives. On top of this, in a world that has become globally interconnected to a degree not seen since the early 1900s, the benefits of these government stimulus programs have spread beyond domestic borders. This has benefited those nations that have been most reliant on exports for economic and employment growth, such as China, Germany, and Japan. In theory this has bought time for these nations to take steps to expand domestic demand (which in turn would allow nations running substantial current account deficits, such as the U.S. and U.K., to reduce them, and replace government deficits with rising exports as a source of GDP growth). Indeed, this is one of the fundamental assumptions that underlie the “muddling through” scenario, which describes a slow, but steady recovery from the Great Recession. In practice, however, we are seeing once again the truth of the old adage that “no plan survives its first contact with reality.” It is proving very difficult (for political, social and economic reasons) to increase domestic demand (and in particular, private consumption spending) in current account surplus countries, while in current account deficit countries a rising number of people are questioning the logic of a policy which seems to burden them and their children with debt in order to create jobs in China and other surplus countries, while unemployment remains stubbornly high at home.

The third challenge facing the world economy is how to avoid having more developed economies slip into an extended period of deflation, similar to Japan’s experience since the bursting of its property and equity bubble in 1989.

The final challenge facing the global economy is how to maintain the legitimacy of various political institutions, both international (e.g. multilateral trading rules) and domestic in the face of economic and social stresses not seen since in most countries since the 1930s.

In essence, the “muddling through” scenario assumes that all these challenges will somehow be met, and that the main price we will pay is a prolonged period of slower economic growth (the truly rosy scenario assumes that rising domestic demand in emerging markets will cause them to become the new motor of the world economy, which in turn will return global growth to its previously high levels). The downside view assumes that we will fail to meet one or more of these challenges, and, given their complex and most likely non-linear interrelationships, the result will be a downside scenario whose severity will take many people by surprise.”

In point of fact, the words we wrote in December only summarized concerns we had been writing about since 2008. In turn, these concerns grew out of our experience in the 1980s in Latin America with what we had hoped would be the biggest debt crisis we would ever see. Indeed, as the following quotes from an article in the 25 Jan 2001 edition of *The Economist* (“Debt Trap!”) reminds us, concerns about these issues have been building, at least in some parts, for quite some time: “Japan’s decade of feeble growth can be blamed on policy errors more than on the bursting of the bubble itself...Japan’s policymakers failed to encourage enough monetary expansion, or to purge the country’s banking system [of its bad loans]...All that said, there are enough eerie similarities between American today [in the aftermath of the tech stock crash] and Japan in 1989-90 to be worrying. The biggest is excessive debt. Too much debt was always at the heart of Japan’s weakness. So it is alarming that America’s boom has also been fueled by massive borrowing...[and] has left lenders exposed to some nasty risks...By borrowing against paper gains in share values, households have been able to shop until they dropped, not bothering to save...Optimists retort that private sector balance sheets look healthy, because the increase in debt has been more than matched by increased asset values. However, balance sheets also looked remarkably healthy in Japan in the late 1980s – until asset prices tumbled...Japan, in short, is not unique. America is but one more example of an age-old phenomenon, in which rapid increases in asset prices encourage a credit binge and overinvestment that prove unsustainable once asset prices fall. It is no coincidence that the deepest and most protracted recessions in recent decades have taken hold in countries that

experienced booms in property or share prices and a large build-up of debt, such as Britain and Sweden in the early 1990s.”

So here we are again, almost a year after we wrote about the four critical challenges confronting the world economy. The good news is that our concerns have become much more mainstream. The bad news is that those challenges haven’t changed. The even worse news is that the accumulated evidence seems to indicate we are doing a very poor job of meeting them. Let’s look at this evidence in more detail:

Challenge One: How to Reduce Excessive Leverage?

- Yale’s John Geanakoplos has written a number of excellent papers about the impact of leverage on the economy, which most macroeconomic models neglect to take into account (see, for example, “The Leverage Cycle”, and “Leverage Causes Fat Tails and Clustered Volatility”, with Stefan Thurner and J. Doyne Farmer). Moreover, having run fixed income research long ago at Kidder, Peabody, Geanakoplos, more so than most academics, has a very good feeling for how the real world works, so we usually find his writing very worthwhile. In another paper, “Solving the Present Crisis, and Managing the Leverage Cycle”, Geanakoplos succinctly summarized our current predicament: “The present crisis is the bottom of the leverage cycle. Understanding that tells us what to do, in what order, and with what sense of urgency. Public authorities have acted aggressively, but because their actions were not rooted in (or explained with reference to) a solid understanding of the causes of our present distress, we have started in the wrong place and paid insufficient attention and devoted insufficient resources to matters – most notably, the still growing tidal wave of foreclosures and the sudden deleveraging of the financial system – that should have been first on the agenda...The steps we must take at the end of the current cycle emerge from an understanding of what makes a leverage cycle swing up, sometimes to dizzying extremes, and then come crashing down, often with devastating consequences. All leverage cycles end with (1)

bad news that creates uncertainty and disagreement; (2) sharply increasing collateral rates; and (3) losses and bankruptcies among the leveraged optimists. These three factors reinforce and feed back on each other...The crisis stage of the leverage cycle always seems to unfold in the same way. First there is bad news. That news causes asset prices to fall based on worse fundamentals. Those price declines create losses for the most optimistic buyers, precisely because they are typically the most leveraged. They are forced to sell off more assets to meet their margin restrictions, even when the margin restrictions [i.e., collateral as a percentage of market value] stay the same. Those forced sales cause asset prices to fall further, which makes leveraged buyers lose more. Some of them go bankrupt. And then typically things shift: the loss spiral seems to stabilize – a moment of calm in the hurricane’s eye. But that calm typically gives way when the bad news is the scary kind that does not clarify but obscures the situation and produces widespread uncertainty and disagreement about what will happen next. Suddenly, lenders increase the margins and thus deliver the fatal blow. At that point, even modestly leveraged buyers are forced to sell. Prices plummet. The assets eventually make their way into hands that will take them only at rock-bottom prices...In the aftermath of the crisis, we always see depressed asset prices, reduced economic activity, and a collection of agents that are not yet bankrupt but hovering near insolvency. How long the aftermath persists depend on how deep the crisis was, and how effective government intervention is. Once the crisis has started, the [general] solution is to reverse the three symptoms of the crisis: contain the bad news, intervene to bring down collateral margins, and carefully inject ‘optimistic’ equity back into the system...To be successful, any government plan must respect all three remedial [actions] and their order.”

- Geanakoplos goes on to argue that, by failing to deal more effectively with the excess leverage in the housing sector, the U.S. government has failed to effectively complete the first step in dealing with a leverage crisis: containing

the bad news. And now this accusation which can also be leveled at the European Union, and its handling of crisis encompassing the sovereign debt of Greece, Portugal, Ireland (and potentially Spain and Italy), and the European banks that hold substantial amounts of it on their balance sheets (see the excellent paper by Buchheit and Gulati, two experienced sovereign workout players, titled, “Greek Debt: The End Game Scenarios”).

- To be sure, the path governments have followed thus far is consistent with the description of eight centuries of financial crises, as described by Reinhart and Rogoff in their outstanding financial history book, *This Time is Different*, in which banking crises morph into sovereign debt crises as governments indulge in deficit spending as they try to contain the initial phase of leverage crises. More recently, Reinhart and Sbrancia have added further detail to how the resulting sovereign debt crises have played out in the past, in their new paper, “The Liquidation of Government Debt”. They note the frequent historical use of what they (like Michael Pettis) term “financial repression” – artificially holding down yields on government debt, forcing domestic banks and other intermediaries to buy it (e.g., by raising bank reserve requirements or imposing capital controls), while running a moderate level of inflation to slowly erode the real value of the debt. However, as Pettis has repeatedly noted in his excellent writing on the use of financial repression to finance China’s high investment spending, and to deal with the consequences of its last leverage crisis, this approach always comes with a price, which is usually a reduced level of personal consumption spending.
- In point of fact, around the world household leverage levels have not come down by much in the three years since the 2008 crisis; rather, they are still very high in historical terms. For example, the June 2011 issue of the OECD Economic Outlook contains the most recent (2009) comparable data on the ratio of household debt to disposable personal income across a range of countries, including the UK (171%), Australia (156%), Canada (148%), USA (127%), Japan (126%), France (107%), Germany (99%) and Italy (88%). As

the IMF noted in this year's Global Financial Stability Report, "the build-up of gross debt accumulated by the private sector in a number of advanced markets has in most cases been only partly reversed, if at all." This is the same conclusion reached in a series of reports on "Debt and Deleveraging" by McKinsey & Company, and in a disturbing new paper that was just presented at the Federal Reserve's Jackson Hole conference ("The Real Effects of Debt" by Cecchetti, Mohanty and Zampolli), which concludes that the current levels of private and public sector debt are more dangerous than was previously thought. As former NY Gubernatorial candidate Jimmy McMillan might put it, the problem is clear: "The leverage is too damn high."

- At best, we have seen some reduction in household sector debt and financial sector debt, but that has been more than offset by the rise in public sector debt. As a result, overall ratios of debt/GDP have rapidly been rising, not falling (see, for example, "Debt Burden in Advanced Countries Now a Global Threat" by Prasad and Ding of the Brookings Institution). In turn, rapidly increasing public sector debt raises concerns about the so-called "debt trap". The essence of this issue is that, when the real rate of interest on government debt is greater than the real growth rate of the economy, a country must run "primary" budget surplus (i.e., a surplus before interest and principal payments on outstanding debt) if the level of debt/GDP is to stay stable or decline. In the absence of such a surplus, debt will increase exponentially. This helps to make clear one of the reasons why the U.S. Federal Reserve and other central banks have been so aggressive in their monetary policy – to hold real interest rates on government debt at as low a level as possible to minimize the increase in debt/GDP caused by the substantial growth in government budget deficits.
- Elsewhere in the United States, researchers at two different Federal Reserve Banks recently published articles that summarized the current dilemma that lies at the heart of the household leverage crisis. In "The Seductive But Flawed Logic of Principal Reduction" the Federal Reserve Bank of Atlanta's Foote, Gerardi and Willen explain how lenders will not consent to writing down

mortgage principal (even in exchange for a share of future upside price appreciation) because they cannot resolve a fundamental information asymmetry: they cannot determine which borrowers could or would pay their current mortgages and which could or would not. However, as Mian and Sufi from the Federal Reserve Bank of San Francisco point out (in “Consumers and the Economy: Household Debt and the Weak U.S. Recovery”), “Overall U.S. county-by-county evidence strongly suggests that credit demand is weak because of an overleveraged household sector. This view is supported by survey evidence that the main worry of businesses is sales, not financing....If the main problems facing businesses relative to depressed consumer demand due to a household sector weighed down by debt, investment tax subsidies and lower interest rates may have only a limited effect on business investment and employment growth.” As this view has gained wider credence, we have also noted the appearance of an increasing number of articles and commentaries that call for a much more aggressive approach to debt reduction as the linchpin of a strategy to escape the “Great Recession”. See, for example, “Massive Default is The Best Way to Fix the Economy” by Brett Arends (*Marketwatch*, 12Sep11), and John Hussman’s excellent note, “An Imminent Downturn: Whom Will Our Leaders Defend?” (hussmanfunds.com, 5Sep11).

- The leverage problem is not limited to the United States. As previously noted, the interrelated problems of periphery countries’ sovereign debt and inadequate bank capital continue to serve as an acid or cancer on confidence in Europe, and holds the potential to trigger a severe banking crisis, which would further depress Eurozone and global aggregate demand
- In Japan, commentators continue to wonder how much longer governments there will be able to run budget deficits that are financed by bonds bought by an ageing domestic population. At some point, domestic capacity will run out, and a sovereign debt crisis will likely ensue.
- In Australia, Canada and the UK, mortgage debt is also at very high levels, though none of these countries has yet to experience a property market

leverage crisis as has already occurred in the United States. But that day may not be far off. In Australia, the supply of new residential units is catching up with demand, and commentators have noticed that first time buyers are increasingly priced out of the market (usually a good early warning sign). At the national level, Australia's prosperity, and ability to service its property debt, continues to be strongly dependent on its trade with China, and commodity prices in particular. Similar conditions can be found in Canada, where strong energy and commodity prices have supported the economy, and levels of household debt have grown, not fallen, since 2008.

- In the UK, inflation is rising, which is not good news for the large number of people who are highly leveraged with floating rate property loans. It shouldn't be a surprise that most housing price indexes have recently seen a fall (and having lived through the property collapse in the UK in the late 80s, I have seen first-hand how savage a fall in that market can be).
- However, along with the Eurozone sovereign debt/banking crisis, the potential leverage crisis building in China is the only other one globally that is potentially on a scale with the housing/banking leverage crisis in the U.S. China responded to the global slowdown that followed the 2008 crisis by substantially increasing loan growth (in both the formal and informal banking systems) in order to finance a very aggressive increase in investment spending. In the short-term, that strategy achieved its goal of maintaining acceptable levels of economic growth (with acceptable in this case being defined as a level that generated enough job growth to maintain a reasonable level of social peace, and thus the Chinese Communist Party in power). Yet it is impossible to expand lending and investment by these amounts without financing fundamentally uneconomic investments, that will eventually generate bad loans. For evidence that such a crisis is likely not far off, we point to the declining rate of increase in GDP growth per unit of additional credit growth (which itself is likely understated in official data because of the rapid growth of a lending outside traditional banking channels). Whether at the household, company, or

national level, when your outstanding debt is growing faster than your income, the seeds of an eventual leverage crisis are being sown. The real unknown, and a critical uncertainty going forward, is the scale of this potential bad loan/leverage problem in China, and the extent to which its resolution will inhibit China's transition from a nation dependent on exports and investment for GDP growth, to one that is much more driven by private consumption expenditures (and imports). For more on this, see the always incisive writing of Michael Pettis, and an excellent article by GMO's Edward Chancellor in the 10 July 2011 *Financial Times* ("China's Bad Debts a Cause for Concern").

- As we have long written, based on both theory and our experience in the 80s working out emerging market debt, there are five ways to deal with a leverage crisis. The first is austerity – an extended period of consuming less than you make, in order to pay down your debts. As we have seen in Greece, prolonged austerity is almost guaranteed not to work in nations where (a) a substantial amount of the debt is held by foreign creditors; (b) the institutions of government and civic society are weak; and (c) there is a high degree of inequality. That brings us to everyone's favorite alternative: grow your way out of debt. Unfortunately, history shows it is rarely possible to reduce leverage to an acceptable level through this means alone. Moreover, as we will see in the next section, this approach looks to be especially difficult in many areas in the years ahead. If neither austerity nor growth will do the trick, what about inflating away the real value of the debt? As Professor Raghuram Rajan notes in a recent *Financial Times* article ("Why We Cannot Inflate Our Way Out of Debt", 15 August 2011), this is unlikely to work in today's environment. For example, the average maturity of the U.S. government's outstanding debt is about four years, which would make inflating it away quite difficult (at least in the absence of financial repression). This brings us to the last way of resolving the problem of excessive leverage: some type of default – e.g., via foreclosure and the seizure and sale of collateral (as occurs in mortgage markets); restructuring and forgiveness (the classic bankruptcy court approach); the "Brady Bond"

exchange offer approach that was used in Latin America sovereign workouts thirty years ago, outright liquidation (as Borders is currently undertaking), or debt/equity swaps and other types of recapitalizations. Having been a workout professional for many years, I admit to a preference for these latter “default and restructuring” type solutions, which have the virtue of quickly resolving the problems at hand. As we saw in Japan in the early 1990s, there is a high cost associated with prolonging the uncertainty that leverage crises bring; a relatively quick and thorough default process is usually the fastest route to renewed growth. Unfortunately, governments around the world seem extremely reluctant to pursue this course, whether in the U.S. home mortgage market, peripheral Eurozone sovereign debt markets (such as Greece), or, as increasingly seems to be the case, commercial and property lending in China.

Challenge Two: How to Increase and Rebalance Aggregate Demand?

- We'll start our discussion of this issue with one of our favorite analytical tools: The Economic Balance Equation, which is based on a fundamental macroeconomic accounting identity: Over any period of time, the Private Sector Balance (GDP less Private Consumption less Private Investment) plus the Public Sector Balance (Government Spending less Taxes) by definition must equal the External (or Current Account) Balance (essentially, exports of goods and services less imports). There are a few key points to keep in mind about this equation. First, it measures flows – that is, economic activity that occurs over a given period of time, such as a calendar year. Second, while the equation must always balance, it does not directly tell us how changes in its components over time will affect the level of output – that is, GDP growth. For example, a sharp reduction in private consumption and investment spending in a recession would, all else being equal, cause GDP to fall, even as the private balance as a percentage of GDP changed from a deficit to a surplus (as happened in the US between 2007 and 2008). To offset this fall in GDP, the government might increase its spending and the size of its deficit, and also take

steps to increase exports and improve the current account balance, in order to reduce the size of the government deficit needed to offset the change on the private sector balance.

- Third, the counterpart to a surplus or deficit on any of the balances is the creation of financial claims – e.g., a deficit on the Public Sector Balance represents the issuance of government debt. Similarly, a surplus on the Private Sector Balance or Current Account Balance represents those sectors net purchase of claims issued by the Public Sector. Fourth, and perhaps most critically, this equation does NOT capture the size of the stock of claims that exist at any point in time. As we frequently wrote in the early to mid 2000s, we could see that, by consistently running deep deficits on the Private Sector and Current Account Balances, the United States was hastening the day when the counterparties holding those claims would say “enough!” In the case of claims on private sector issuers, we reached that point in 2008, with disastrous results. However, in the case of claims on the U.S. federal government we have yet to reach this day of reckoning, thanks to the continued indulgence of foreign central banks and other state entities, as well as private investors seeking a safe home for capital fleeing rising risk in other asset classes.
- The Economic Balance Equation, viewed as a time series, provides an excellent perspective on the dynamics of the world’s macroeconomy over the past five years. The following table is based on data from the IMF’s World Economic Outlook Database. All balances have been rescaled to a common basis – a percentage of global GDP. As you can see, the table tells a consistent global story of sharp change in private sector balances as a result of the 2008 crash, which governments attempted to offset with greater deficit spending (e.g., in the United States in 2Q 2011, transfer payments from government to households accounted for 18.1% of personal income, up from 12.7% in 2000).
- However, the less well-known, but equally important story is the evolution of current account balances. As you can see in the following table, in Asian

countries, in aggregate (including China, Japan, the Asian “Newly Industrialized Countries” of Hong Kong, South Korea, Singapore and Taiwan, and the “ASEAN-5 Countries” of Indonesia, Malaysia, Thailand, Philippines, and Vietnam), the current account balance has remained in rude health over the past five years. The counterparts of this were (a) the continued accumulation by these nations of financial claims on nations running current account deficits; (b) the shift in the composition of these claims from private sector to public sector borrowers, as the public balances went into greater deficit, while private balances went into surplus; and (c) the effective transfer of demand creation generated by these public sector deficits from the nations in which they were run to the economies of the Asian exporters. To some extent this latter effect reflected reduced production capacity for many goods outside of Asia, following 15 years of global supply chain integration in the search for further cost savings. However, it also reflected the “dollar peg” exchange rate policies followed by many Asian nations, which limited changes in exchange rates that would have normally occurred in response to changing macroeconomic conditions.

- Put differently, in the world before 2008, global aggregate demand was significantly driven by an unsustainable combination of debt financed private consumption in the United States (and to a lesser extent, other Anglosphere countries) and exports and investment spending in Asia. Since 2008, the deficit on the U.S. private sector balance has swung into surplus, and been replaced by debt-financed deficits in the public sector balance, with minimal change in Asian current account balances and investment spending. But as the economist Herbert Stein famously put it, “if something cannot go on forever, it will stop.” At some point, there will be a limit on other parties willingness to accumulate more financial claims on the U.S. government (and, indirectly, taxpayers), just as there was on their willingness to continue accumulating claims on the private sector (e.g., bonds backed by dodgy mortgages).
- Another current account story you can see in the following table is the strength of the current account balances of major energy exporters in the Middle East

and Russia. As previously noted, China in particular reacted to the 2008 crisis by sharply increasing credit growth and investment spending, which in turn raised a wide range of commodity prices, including energy. In addition to this cyclical effect, there were also structural factors at work, including increased consumption of various commodities triggered by higher levels of development in Asia (e.g., oil, wood, some type of food), and normal delays in the response of supply to an increase in commodity demand (as well as the rising marginal cost of producing additional supplies of some commodities). Again, however, from the point of view of global aggregate demand, this represented a further transfer of the benefits of increased government spending in current account deficit countries to producers in countries that continued to run current account surpluses.

	2007	2008	2009	2010	2011
Global GDP (Billion 2007 US Dollars)	\$ 55,702	\$ 56,590	\$ 55,404	\$ 57,590	\$ 59,614
-- Percent change in Real GDP	3.94	1.59	-2.10	3.95	3.52
Australia					
-- Share of Global GDP	1.19	1.19	1.21	1.19	1.18
-- Percent change in Real GDP	4.59	2.59	1.33	2.75	2.97
-- Private Sector Balance (pct Global GDP)	(0.09)	(0.05)	(0.00)	0.02	0.03
-- Public Sector Balance	0.02	(0.01)	(0.05)	(0.06)	(0.03)
-- Current Acct Balance	(0.07)	(0.05)	(0.05)	(0.03)	(0.00)
Canada					
-- Share of Global GDP	1.90	1.86	1.82	1.80	1.77
-- Percent change in Real GDP	2.20	0.52	-2.46	3.07	2.75
-- Private Sector Balance (pct Global GDP)	(0.01)	0.01	0.05	0.04	0.03
-- Public Sector Balance	0.03	0.00	(0.10)	(0.10)	(0.08)
-- Current Acct Balance	0.02	0.01	(0.05)	(0.06)	(0.05)
China					
-- Share of Global GDP	11.00	11.74	12.90	13.61	14.32
-- Percent change in Real GDP	14.20	9.60	9.20	10.30	9.59
-- Private Sector Balance (pct Global GDP)	1.07	1.18	1.17	1.06	1.04
-- Public Sector Balance	0.10	(0.05)	(0.40)	(0.35)	(0.23)
-- Current Acct Balance	1.17	1.13	0.77	0.71	0.82
ASEAN-5 Plus Asian NICs					
-- Share of Global GDP	7.19	7.21	7.29	7.47	7.52
-- Percent change in Real GDP	6.05	2.88	0.14	7.79	5.11
-- Private Sector Balance (pct Global GDP)	0.69	0.55	1.33	0.87	0.76
-- Public Sector Balance	0.20	0.01	(0.34)	(0.08)	(0.08)
-- Current Acct Balance	0.89	0.56	1.00	0.79	0.68
Eurozone					
-- Share of Global GDP	19.03	17.76	18.18	17.19	16.19
-- Percent change in Real GDP	2.86	0.45	-4.08	1.74	1.63
-- Private Sector Balance (pct Global GDP)	0.17	0.24	1.11	1.06	0.72
-- Public Sector Balance	(0.12)	(0.35)	(1.14)	(1.04)	(0.71)
-- Current Acct Balance	0.05	(0.11)	(0.03)	0.02	0.00
India					
-- Share of Global GDP	4.68	4.84	5.16	5.40	5.62
-- Percent change in Real GDP	9.88	6.18	6.76	10.37	8.24
-- Private Sector Balance (pct Global GDP)	0.15	0.28	0.34	0.31	0.25
-- Public Sector Balance	(0.19)	(0.38)	(0.48)	(0.48)	(0.45)
-- Current Acct Balance	(0.03)	(0.10)	(0.15)	(0.17)	(0.21)
Japan					
-- Share of Global GDP	6.45	6.20	5.92	5.82	5.67
-- Percent change in Real GDP	2.36	-1.17	-6.29	3.94	1.40
-- Private Sector Balance (pct Global GDP)	0.46	0.46	0.78	0.76	0.70
-- Public Sector Balance	(0.15)	(0.26)	(0.61)	(0.55)	(0.57)
-- Current Acct Balance	0.31	0.20	0.17	0.21	0.13
Middle East					
-- Share of Global GDP	4.76	4.86	4.99	4.97	5.01
-- Percent change in Real GDP	6.16	5.12	1.78	3.76	4.07
-- Private Sector Balance (pct Global GDP)	0.20	0.08	0.19	0.21	0.36
-- Public Sector Balance	0.49	0.64	(0.07)	0.11	0.29
-- Current Acct Balance	0.68	0.72	0.12	0.32	0.65

	2007	2008	2009	2010	2011
Switzerland					
-- Share of Global GDP	0.46	0.45	0.45	0.44	0.43
-- Percent change in Real GDP	3.65	1.90	-1.91	2.55	2.36
-- Private Sector Balance (pct Global GDP)	0.03	0.00	0.05	0.06	0.06
-- Public Sector Balance	0.01	0.01	0.00	0.00	0.00
-- Current Acct Balance	0.04	0.01	0.05	0.06	0.06
United Kingdom					
-- Share of Global GDP	3.25	3.16	3.03	2.94	2.88
-- Percent change in Real GDP	2.69	-0.07	-4.88	1.25	1.66
-- Private Sector Balance (pct Global GDP)	0.00	0.10	0.26	0.23	0.18
-- Public Sector Balance	(0.09)	(0.15)	(0.31)	(0.31)	(0.25)
-- Current Acct Balance	(0.08)	(0.05)	(0.05)	(0.07)	(0.07)
United States					
-- Share of Global GDP	21.08	20.52	20.14	19.74	19.38
-- Percent change in Real GDP					
-- Private Sector Balance (pct Global GDP)	(0.50)	0.37	2.01	1.46	1.46
-- Public Sector Balance	(0.58)	(1.33)	(2.55)	(2.09)	(2.09)
-- Current Acct Balance	(1.08)	(0.96)	(0.54)	(0.63)	(0.63)
Brazil					
-- Share of Global GDP	2.79	2.85	2.87	2.94	2.94
-- Percent change in Real GDP	6.09	5.16	-0.65	7.49	4.46
-- Private Sector Balance (pct Global GDP)	0.08	(0.01)	0.05	0.02	(0.01)
-- Public Sector Balance	(0.08)	(0.04)	(0.09)	(0.09)	(0.07)
-- Current Acct Balance	0.00	(0.05)	(0.04)	(0.07)	(0.08)
Russia					
-- Share of Global GDP	3.17	3.25	3.02	3.00	3.00
-- Percent change in Real GDP	8.54	5.23	-7.80	3.96	4.83
-- Private Sector Balance (pct Global GDP)	(0.03)	0.04	0.31	0.25	0.21
-- Public Sector Balance	0.21	0.16	(0.19)	(0.11)	(0.05)
-- Current Acct Balance	0.19	0.20	0.12	0.15	0.17

- By this point, the core problem facing the world economy should be increasingly clear: with leverage constraints already holding down private sector spending in many developed countries, with those same countries rapidly approaching leverage constraints on their public sector deficits, and with Asia still heavily dependent on exports, the world faces a growing demand shortage, and an increasingly intense fight over this shrinking pie.
- More ominously, this weakness in global aggregate demand has continued to persist even after many governments have delivered very large amounts of fiscal and monetary stimulus to the global economy, leaving them with fewer resources with which they can respond to another global downturn (e.g., as could be triggered by a worsening sovereign debt and banking crisis in Europe). This evidence strongly implies that there are strong structural factors at work in

the global economy that remain unaddressed and continue to produce strong headwinds.

- The most obvious structural factor is excess leverage, in the household and increasingly in the public sector, which we have already discussed. But there are others as well. Some of these were noted by Tyler Cowen in his summer e-book sensation, *The Great Stagnation*. His main thesis that the “low hanging fruit” that previously drove high levels of economic growth, including increasing levels of education and the impact of revolutionary technological innovations (e.g., electricity) had largely been picked, implying lower levels of real global GDP growth in future years. This trend would also be further reinforced by demographic changes in many developed countries, including slowing population growth and an ageing population. To be sure, Cowen’s view finds support in the writings and research findings of other authors. For example, he cites the writings of Stanford’s Charles I. Jones, who concludes that (a) “over the last 125 years, the average growth rate of per capita GDP in the U.S. economy has been a steady 1.8% per year, and that (b) faster growth in recent years has resulted rising educational attainment and research intensity – both of which are areas that exhibit declining marginal returns over time (“Sources of U.S. Economic Growth in a World of Ideas”, and also “The New Kaldor Facts: Ideas, Institutions, Population, and Human Capital” by Jones and Romer, which extends his thesis to include the impact of population growth and the quality of institutions on growth rates). More recently, Robert J. Gordon, perhaps the world’s leading expert on productivity growth, has published a new paper assessing the sources of productivity growth since 1891, and forecasting its likely course over the next twenty years (“Revisiting U.S. Productivity Growth Over the Past Century with a View of the Future”). He estimates that growth in real per capita U.S. GDP over this period will be below its long-term average, at 1.5% per year, due to declines in productivity growth, which have their roots in the factors cited by Jones.

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- Another set of structural headwinds exist in the labor market, where technological change and globalization have eliminated many jobs while facilitating the outsourcing of others to nations where they can be performed at a lower price. Perhaps the best analysis of this trend has been done by MIT's David Autor (see, for example, "Skills, Tasks, and Technologies: Implications for Employment and Earnings" with Daron Acemoglu, "The Polarization of Job Opportunities in the U.S. Labor Market", and "U.S. Labor Market Challenges over the Longer Term"). Autor begins by defining jobs in terms of tasks that require certain skills to perform. He then shows how technology have evolved to the point that it can perform certain tasks more cost-effectively than can a skilled human (note that he does not, unfortunately, discuss how algorithms have displaced human beings on trading desks and the floors of stock exchanges). Finally, he also shows how globalization and technology have combined to enable the outsourcing of more tasks to people located around the world. This has led to the by now familiar "two tier" job market that has driven worsening income inequality around the world: (1) a top tier of educated workers whose skills are complemented by new technology and who can now at much lower cost earn high incomes by serving a global market in which they are in high demand; and (2) a bottom tier of workers whose tasks cannot be outsourced globally nor replaced by technology, but also for whose productivity (and wage) growth has lagged far behind their globally competitive peers.
 - Another paper ("The Evolving Structure of the American Economy and the Employment Challenge") examines "trends in employment, value added, and value added per employee" in the United States from 1990 to 2008. The authors highlight how virtually all the growth in employment over this period was in the non-tradable side of the economy, particularly in construction (which has since severely declined), government and health care. The authors conclude that "the evolution of the U.S. economy supports the notion of there being a long-term structural challenge with respect to the quantity and quality of employment opportunities in the United States. A related set of challenges

concerns the income distribution; almost all the incremental employment growth has occurred in the nontradable sector, which has experience much slower growth in value added per employee...which goes a long way to explain the stagnation of wages across large segments of the workforce.”

- The obvious solution to this problem of insufficient global aggregate demand is to increase domestic demand, and particularly private consumption spending, in developing nations that have heretofore relied heavily for demand generation on exports and investment spending to support them. As Stephen Roach recently wrote in the 15 June 2011 Financial Times (“Zombie Consumers Lead U.S. Into Lost Decade”), “There are important implications for the global economy. A protracted shortfall in the world’s largest consumer economy [USA], as well as weakness in Japan and debt-ravaged Europe spells lasting pressure on external demand for export led economies. Barring a quick rebalancing towards internal demand, so-called growth miracles in the developing world could be in for a rude awakening.”
- The poster child for this change is, of course, China, with multiple analysts highlighting the potential benefits that would accrue to the world economy if China reduced exports and increased consumption (i.e., reduced the size of the private sector and current account surpluses, or moved them into deficits) spending, while the U.S. and Europe increased exports and domestic private investment (which would allow the reduction of deficits on the public sector balance). Unfortunately, and is often the case in life, this strategy is far easier to describe than it is to implement. To begin with, as Michael Pettis, Andy Xie and other analysts have pointed out, no major change is likely to happen in advance of the change in the Chinese leadership in 2012, unless it is forced upon the current leadership. Their great fear, which was undoubtedly intensified by the “Arab Spring” uprisings, has been that any attempt to shift from the current investment/export orientation to one focused on higher consumer spending would generate a politically destabilizing rise in unemployment (which could be the tipping point in a nation where a growing number of people are

already highly frustrated by corruption, environmental problems, and rising inequality). In addition, within the Chinese leadership, there is a close balance of power between those who favor continuation of the current system, and those who favor a shift to higher domestic consumption. Finally, if China experiences a sudden increase in bad debts, it will likely have to repeat the process of financial repression (forced transfers of income from consumers to banks and government) it used a decade ago to work out the consequences of a similar increase in non-performing loans. Such repression would leave households with fewer resources to increase their spending on consumption.

- Elsewhere in the developing world, potential increases in domestic consumption spending face a problem we have repeatedly raised over the past 15 years: the relative weakness of political, judicial, and financial institutions in these countries. In our experience, there is a vast difference between strong consumption spending that is based on a commodity export boom and rising imports of consumer goods, and one that is based on a self-sustaining increase in domestic investment and consumption. More specifically, the latter critically depends on producers' and investors' confidence in the fairness and long-term stability of the institutional environment (which over the centuries proved to be perhaps the Anglosphere's ultimate competitive advantage). In too many cases, we do not see strong evidence that such an environment is present today, which implies that, should the current commodity boom weaken, so too will domestic demand growth in many developing countries. For an excellent recent paper on this point, see "The Future of Economic Convergence" by Dani Rodrik (which was presented at the Federal Reserve's Jackson Hole Conference this summer).

Challenge Three: How to Avoid Debt Deflation?

- We currently face a unique situation, with evidence supporting the threat of both deflation and inflation.

- Deflation is traditionally (and certainly by central bankers) thought to be the more dangerous of the two, as policymakers have much more confidence in their ability to control inflation compared to deflation. However, as we have noted in the past, not all deflationary episodes are created equal. Sometimes falling prices simply result from dramatic increases in productivity – think of the price of a 2 terabyte storage drive today compared to five years ago. In this case, falling prices are actually a very positive indicator, as they enable people to either reduce the cost of a given level of satisfaction, or potentially increase their satisfaction for the same cost (e.g., think about how much computing capability \$2,000 can purchase today compared to five years ago, or, how much the economy benefited in terms of effective cost per Btu of energy from the shifts over time from wood to coal to oil and gas).
- On the other hand, as the economist Irving Fisher noted, deflation can be very damaging when it results from the collapse of an over-indebted economy, with large amounts of assets being offered at fire sale prices to repay creditors. We need look no further than the ongoing aftermath of the bursting of America's mortgage and housing bubbles to see what Fisher meant. Or, to cite another example, look at what happened in financial markets when the collapsing value of certain mortgage related securities forced institutional investors to meet increased collateral calls as the assets supporting their borrowing declined in value. It was not the lowest quality assets that were sold, as there were few if any buyers for them. Instead, it was the most liquid assets, including large equities and government bonds that were sold into falling markets in order to meet collateral calls. And even in these cases, uncertainty about the volume of collateral call driven sales caused buyers to pull back from these markets, reducing liquidity, worsening the imbalance in supply and demand, and causing prices to fall even more quickly. Via this mechanism, problems in mortgage markets quickly affected other asset classes and via worsening liquidity began to jeopardize the survival of many financial institutions. Under these circumstances, the logic of the Troubled Asset Relief Program and expanded

Federal Reserve operations in the bond market, to say nothing of recent actions by the European Central Bank becomes clear – they were aimed at heading off a rapidly worsening debt deflation (or “liquidation” as classical economists sometimes called it).

- The actions of China over the past decade (aided and abetted by complacent policymakers and regulators in the developed world) have generated both types of deflationary pressures in the world today. On the good side, the expansion of global supply chains to China over the past decade has certainly led to falling prices for a range of goods, that has enabled citizens of developed nations to enjoy rising standards of living (and politicians a good measure of social peace) even in the face of a decade of relatively stagnant real wages. On the bad side, however, the shift of a significant portion of the global manufacturing base to China was also due to the deliberate undervaluation of the Yuan versus developed country currencies.
- From the perspective of a business producing in the west, China's policy left them with three choices. First, find enough productivity improvements/cost reductions to allow the company to cut prices to remain competitive with imports from China while still generating acceptable shareholder returns. For a number of years, this is just what happened (anybody remember the “reengineering era”, back in the 1990s?). Second, a company could raise funds in Yuan, so that falling financing costs would allow for the necessary price reductions. Unfortunately, by limiting access to its capital market, China effectively closed off this option. Third, move production to China, or another low cost center in Asia. When China entered the World Trade Organization, and when the rapid falls in information technology costs made this option viable, many companies pursued this course of action, as incremental cost reductions in their domestic operations became harder and harder to achieve, while productivity improvements in China (as more companies moved there and knowledge diffused) continued to increase the competitiveness of Chinese exports. Of course, this option was not without its downside, as many companies who have

seen their intellectual property stolen, their margins eroded by a range of unforeseen costs (e.g., the high cost of corruption), and now their labor costs increasing due to a changing supply/demand balance for labor have learned the hard way. But as many managers who took these decisions will tell you, they really had little choice – especially when U.S. courts (and institutional investors) have made clear that for U.S. managers, delivering high shareholder returns is their primary goal.

- At the macro level, China's exchange rate policy has had two effects. First, it generated a very high current account surplus in China, the counterpart of which was China's accumulation of financial claims on the west, where interest rates were artificially low and a credit boom ensued, with loans outstanding sharply rising in relation to income (i.e., relative to the ability to repay them). Second, inside China, the undervaluation of the exchange rate led to excess investment in export capacity that would not be economically competitive but for the undervalued exchange rate. The counterpart to this has been an increase in loans whose repayment is tied to assets that, should the exchange rate rise, will undoubtedly fall in value. Moreover, this rise in investment also necessitated the repression of growth in domestic consumption spending. And all this happened before the Chinese government supercharged this credit and investment expansion process in the wake of the 2008 crisis. The net result has been a rolling series of debt deflation episodes, first in the U.S. housing market, now in the Eurozone's sovereign debt and banking system, and one day, inevitably, in China. In fact, the latter may already have begun. With inflation rising to levels that are perceived to raise the risk of social unrest, the Peoples Bank of China (the central bank) has begun to raise interest rates, which has led to increased reports of credit problems, particularly among small and medium privately owned enterprises which have had to rely more heavily on the unregulated non-bank credit market.
- As previously noted, the U.S. Federal Reserve has rapidly increased the monetary base in an attempt to limit the effects of debt deflation in the United

States. However, the deliberate reduction in bond yields along the maturity spectrum by the U.S. Federal Reserve also served other policy purposes. Lower interest rates would, it was hoped, promote renewed buyer interest in housing markets, while limiting the pressure on borrowers who held floating rate loans. At the same time, lowered interest rates would help to avoid a collapse in equity prices by reducing the rate at which future cash flows to shareholders were discounted by investors. Lower interest rates would also generate increased flow into higher risk/higher return assets like emerging markets bonds and equities. The resulting inflow of U.S. dollars into these assets would in turn force either exchange rate appreciation in these nations, or, if local governments increased the money supply in order to buy dollars and thereby maintain the local currency/USD exchange rate, then the result would be an increase in the local rate of inflation (assuming the sale of local currency was imperfectly sterilized via offsetting sales of local currency government bonds, out of a desire to avoid increasing local interest rates). In either case, the real effective exchange rate (i.e., the exchange rate adjusted for the difference in domestic inflation rates) would appreciate versus the dollar, which would make U.S. exports more competitive, and foreign exports less competitive, and thereby help to reduce the U.S. current account deficit (and thus the size of the public sector deficit needed to offset the shift of the private sector balance from deficit to surplus).

- The unique and confusing circumstances we face today – with aspects of health “productivity-based” deflation, unhealthy debt deflation, and inflation (whether due to rising commodity prices or increases in money supply growth in emerging markets) – are reflected in asset class returns. On the one hand, rising prices for government bonds (and falling yields) likely reflect a combination of central bank policy (to hold down yields), rising uncertainty (and therefore an increased desire to hold a higher proportion of a portfolio in the most liquid assets, as evidenced by the widening spread between yields on government and AAA corporate bonds), and increasing concern about deflation

(given rising doubts about prolonged austerity, growth, and inflation as means to address the excess leverage problem, and therefore a rising probability of rising defaults and collateral/asset liquidations).

- On the other hand, there is the prolonged increase in the price of gold, which logically reflects some combination of (a) rising fear of inflation; (b) increasing doubts about the creditworthiness of government bonds; and (c) purchases by momentum traders.
- On balance, given the relatively short weighted average maturity of most developed nations' government debt (in the US it is only around four years), not to mention the sensitivity of bond market investors, it strikes us that the fear of prolonged inflation hypothesis is likely overblown, at least in the absence of other policies (again, see "The Liquidation of Government Debt" by Reinhart and Sbrancia on the range of "financial repression" policies that would also be needed in order for an "inflate away the debt" approach to succeed). Instead, we believe that most of the rise in the gold price has been driven by investors who are attempting to hedge their increasing uncertainty about the creditworthiness and/or liquidity (and especially cross-border liquidity) of government bonds, and the actions of momentum traders. A further piece of evidence that supports this view is the slight difference in pricing that has appeared between those gold ETFs that can be physically redeemed (e.g., JBGOUA.SW) and those that cannot (e.g., GLD).
- In sum, we believe that the underlying forces of deflation at work in the world today – of both the healthy, productivity driven and unhealthy debt driven variety – are stronger than the inflationary forces. The latter are a function of (a) demand for certain commodities, which in turn depends on continued strong growth in developing markets that remain export focused and therefore at risk of a downturn in the U.S. and other developed markets, and (b) the consequences of the current monetary policies being pursued by different central banks in order to retain or increase their shares of weakening global aggregate demand.

Challenge Four: How to Maintain the Legitimacy of Political Institutions?

- In an excellent post on his website (www.moisesnaim.com), Moises Naim recently forecast that “the main cause of coming conflicts will not be clashes between civilizations, but the anger generated by unfulfilled expectations of a middle class, which is declining in rich countries and booming in poor countries...both feed social and political instability...Governments in the poorer countries are under enormous pressure to meet the booming demands of the new middle class, while those of the richer nations are struggling to contain the fall in living standards of the existing bourgeoisie...Frustrations due to the unsatisfied aspirations of the middle class in China and Brazil are just as politically explosive as the anger of the middle class over the new economic insecurity in [developed countries].”
- The root causes of this latter challenge lie in the substantial erosion in recent years of the sense of security – broadly defined – that developed country middle class families once enjoyed. Arguable, because of the structure of its political economy, this change has been felt most strongly in the United States, across a range of critical areas:
 - *Employment and Household Income*: The aforementioned structural changes in labor markets have sharply increased employment and income variability for many households, and in particular those with two earners in the labor force (see, for example, “Household Income Uncertainties Over Three Decades” by Feigenbaum and Li of the U.S. Federal Reserve, and High Wire by Peter Gosselin. And for many middle class households, this change has been made more difficult to bear by worsening inequality, and the more visible existence of an upper class whose source of wealth (often from financial services of various types) is viewed as questionable, and apparently growing distance from and lack of concern with the struggles of the middle class is a growing source of

frustration and anger (see, “Can the Middle Class Be Saved?” by Don Peck in the September 2011 edition of *The Atlantic*).

- *Education*: At a time when parents are acutely conscious of the importance of education to their children’s future economic success and security, there is great dissatisfaction with K-12 education (and with the teachers unions’ strident resistance to attempts to improve it), while the cost of higher education has increased for thirty years at a rate higher than inflation, putting university and graduate degrees increasingly out of reach for more and more families.
- *Retirement Income*: Retirements savings of all forms have been drained by unemployment, poor market performance, rising education costs, and the collapse of housing prices. Meanwhile, no progress has been made on putting Social Security on more solid financial footing.
- *Health Care*: The Obama Administration’s attempts to address the Gordian Knot of access to healthcare and its cost and quality ended in a morass of policy confusion (just ask the average American to explain what was enacted into law) and political bitterness. As a result, America remains a nation where you have secure access to government financed care if you are poor, aged, or work for the government, but not if you are middle class and working in the private sector.
- *Physical Security*: About the only bright spot over the past decade has been the success by intelligence, military, and police forces in preventing further domestic terror attacks after 9/11/2001. However, we continue to live with its threat, much as we did the threat of nuclear attack during the worst years of the Cold War. More recently, however, as frustrations with prolonged austerity have led to riots in Greece, and as London exploded into riots whose causes still leave most Americans perplexed, a new underlying source of worry about physical security has entered Americans’ consciousness (see, for example, “The U.K. Riots and the

Coming Global Class War” by Joel Kotkin; and “The Intifada of the Underclass” by Danny Kruger in the 9August2011 *Financial Times*).

- *Values*: A final source of middle class insecurity is creeping sense of social malaise, that results from the cumulative impact of many changes in American life. Consider some recent papers that capture various aspects of this issue: In “What’s Happening to Men”, Kay Hymowitz describes how, at the same time that women’s academic achievements continue to advance, men’s are going the other way, with disastrous consequences for their economic achievement and social relationships. As *The Economist* recently noted in its 25June2011 issue, “the traditional family is now the preserve of a minority...traditional marriage has evolved from a near-universal rite to a luxury for the educated and affluent...less marriage means less income and more poverty”, and worsening inequality (“For Richer for Smarter”). In “Broken Families, Broken Economy”, Mitch Pearlstein elaborates on the latter point, highlighting the very heavy social and economic cost of declining marriage rates and a rising percentage of children raised in single parent families. And in her 13August2011 *Wall Street Journal* column, “Apres le Deluge, What?” Peggy Noonan writes, “Where does this leave us? In a hard place, knowing in our guts a lot of troubled kids are coming up, and not knowing what to do about it.” Finally, in “No Money, No Honey, No Church”, Wilcox, Cherlin, Uecker and Messel detail the declining religious participation of the white working class (as do Putnam and Campbell in their recent book *American Grace*. The *Financial Times* presented a similar analysis of decline in Matthew Engle’s 29July2011 article on “British Institutions: The Church of England”).
- Ultimately, as Naim notes, the rising challenge to the legitimacy of many political institutions has been caused not by the declining security of the middle class, but rather by the abject, and too often cynical failure of today’s political leaders to effectively address and reverse the causes of that decline.

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- In their excellent paper “Constraints on Leadership in Washington”, the Brookings Institution’s Sarah Binder and Thomas Mann provide an excellent analysis of the multiple root causes of the current political paralysis. They divide them into electoral and institutional causes. In the first category, the authors include widening policy differences between the major parties on key issues, and, more importantly, a sharp increase in polarization and partisanship, driven by a range of forces, including (1) improvements in communications and marketing technology (e.g., microsegmenting and message targeting, as well as the growing body of research that finds that the internet, rather than expanding the range of opinions and news which people regularly access, has tended to narrow it down to sources that reflect their pre-existing views); (2) the cumulative effect of decades of interest group politics, which has led to gridlock on many issues (which is essentially the argument put forward in 1982 by Mancur Olson in his great book, The Rise and Decline of Nations); and (3) the increasing separation of Americans into like minded communities (for more on this, see the book, The Big Sort: Why The Clustering of Like Minded America is Tearing Us Apart by Cushing and Bishop, and before that, Bowling Alone by Robert Putnam). One effect of this change has been the elimination of many “centrist” legislators – both conservative Democrats and liberal Republicans are high on the endangered species list, with their moderate colleagues not far behind. It is therefore no surprise that the number of voters registering as Independent has skyrocketed in recent years. The authors note that “polarization seems to be making legislative brinkmanship a recurring practice – diminishing, we suspect, Congress’s legislative capacity and the country’s ability to govern itself responsibly.” In the category of institutional causes, the authors note how “the excesses of majority party rule in the House of Representatives [where extreme partisanship has effectively blocked compromise on a range of issues] are matched in reverse by excessive minority party rights in the Senate [where 60 vote supermajorities are now effectively required to avoid filibusters and pass legislation].”

- In our view, these trends have produced four dangerous results in the United States. The first is widespread ignorance and naïvete about the difficult economic tradeoffs the nation is facing, particularly when it comes to restoring economic growth and getting the nation's federal and state budget deficit under control. Too many Americans continue to demand higher government spending on their favored programs, and lower taxes. The second dangerous result is policy gridlock, on critical issues ranging from control of deficits to improving K-12 education to immigration to resolving unsustainable pension and post-retirement health care promises that have been made to too many public sector employees (see, for example, Michael Lind's excellent column in the 22 August 2011 *Financial Times* on "The Intellectual Collapse of Left and Right"). The third dangerous result is painfully evident in the results of Gallup and other pollster's reports of American's confidence in the nation's institutions – in most cases this confidence is at an all time low. The exception is the military, in which confidence is close to all time highs.
- Of course, the growing crisis of political legitimacy isn't limited just to the United States. The Arab Spring has provided new examples that support Naim's thesis of the danger posed by a frustrated middle class in emerging markets. And while the Chinese Communist Party has cracked down hard to reduce the risk of a "Jasmine Revolution" in that country, there is plenty of evidence that middle class frustrations are growing there too (see, for example, press reports about the widespread outpouring of frustration in the aftermath of the Chinese high speed rail crash, or about the growing frustration of the large number of Chinese university graduates who are now struggling to find jobs commensurate with their education). However, the most vivid crises of political legitimacy in the world today are probably taking place in Europe, where, on the one hand, the prospect of prolonged austerity has provoked repeated outbursts of political action (and in some cases, political violence) in Greece, while on the other hand, the institutions of the European Union seem ill equipped to stop the

growing sovereign default crisis that threatens to create a new financial crisis and split the Eurozone apart.

- Far more than was the case a year ago when we last wrote about it in depth, the crisis of political legitimacy is increasingly recognized today. For example, in his 3 August 2011 *Financial Times* column on “The Coming Crisis of Governments”, Robert Barro writes that “the global crises of financial and housing markets are now being superseded by new crises of governments...Without action, this new crisis of state competence could soon become just as damaging as its recent financial predecessor.” On 9 August 2011, George Friedman published similar thoughts on Stratfor.com. In “Global Economic Downturn: A Crisis of Political Economy”, he begins by noting that “for classical economists, it was impossible to understand politics without economics, or economics without politics...The current crisis is best understood as a crisis of political economy... enveloping the United States, Europe and China, that has different details but one overriding theme: the relationship between the political order and economic life...Think of a national system as a series of subsystems – political, economic, military and so on [each with their own elite]...There is a political crisis over the way the political elite managed the global financial crisis and its aftermath...It is this political crisis that is the most dangerous, because as the political elite weakens it loses the ability to manage and control the other elites...It is vital to understand that this is not an ideological challenge. Left-wingers opposing globalization and right-wingers opposing immigration are engaged in the same process – challenging the legitimacy of the elites. Nor is it simply a class issue. The challenge emanates from many areas...The real problem is that, while the challenge to the elites goes on, the profound differences in the challengers make an alternative political elite difficult to imagine...In the United States, this would lead to paralysis. In Europe, it would lead to a devolution to the nation state. In China it would lead to regional fragmentation and conflict.”

- On 16 August 2011, George Magnus also wrote about this crisis, in a research note for UBS (“The Convulsions of Political Economy”). As he notes, “during the last several months, we have seen a succession of ... challenges to the power, authority and legitimacy of the existing political and economic order in the Eurozone, U.S. and even, in embryonic form, in China. The recent skittishness in financial markets and increase in risk premiums reflect not only a rise in anxiety about the deteriorating health of the global economy, but the draining of confidence that political elites are up to the task of addressing it.”

Is There Any Good News?

- The picture painted by our discussion of the four challenges/Gordian Knot facing the world political economy today is admittedly a grim one. Yet there are also causes for hope.
- Seen from the perspective of complex adaptive systems theory, Tyler Cowen’s conclusion (in *The Great Stagnation*) that the low hanging fruit of economic growth has been picked in the developed world is correct as far as it goes; however there is more to the story that he fails to mention. Think about economic progress as a process of searching for and climbing the highest peak on a rugged landscape. When starting in a valley, heading off in any direction will produce, with minimal effort, an increase in altitude. However, as you climb further up a peak, incremental progress gets harder with each increment in altitude. Moreover, as anyone who has climbed mountains can attest, it is often the case that you can reach a peak and only as you near the top obtain a sufficiently clear view to realize that there are others a bit further off that are higher than the one you are on. That is why complex adaptive systems theory describes the search for higher fitness functions (i.e., the higher peaks, or faster growth in GDP) as a combination of “hill climbing” (which Cowen accurately described) and “long jumps”, in which you sometimes need to head back down

off one peak (i.e., suffer some short term performance decline) in order to start climbing up one that is higher.

- Here is an excellent example of what we mean: Shortly after his election in 1992 (after a campaign that was famously summed up by James Carville's quote that "It's the economy, stupid"), Bill Clinton held a conference of experts in Little Rock to assess different ideas for moving the U.S. economy out of its prolonged slump. In the volumes of briefing books that were prepared for that meeting, the word "internet" appeared only once or twice. The point is this: economic history teaches us that "long jumps" that generate prolonged increases in growth rates occur with some regularity; however, it also teaches us that, as emergent phenomena, they are notoriously difficult to predict in advance.
- That said, another body of research (on surprise attack) teaches us that so-called "weak signals" are usually present that provide an indication of the substantial changes that are the horizon. Moreover, as Snowden, Klein, Chew and Teh show, these weak signals are usually perceived by some members of a group ("A Sensemaking Experiment: Techniques to Achieve Cognitive Precision"). However, in the authors' study, "no team took these early signs seriously. Usually, they weren't mentioned at all [by the people who noticed them]. If mentioned, they were dismissed...and the groups did not act on them." So another aspect of the good news story is that hints about long-jumps that lie ahead should already be present in our environment.
- We have two candidates for what these may be. Fundamental innovations in energy have historically been associated with step function changes in economic productivity – think of the changes that occurred as mankind shifted from widespread use of wood, to coal, and then to oil. There are plenty of signals today that we are on the verge of another such fundamental change. The cost of renewable energy sources of electricity has been falling at an accelerating rate, though grid control technologies (the so-called "Super Grid") still lag behind, and more breakthroughs are needed. More exciting, though

less well known, is the increasing amount of resources that are being spent to develop bacteria-based fuels (e.g., genetically reengineering bacteria to produce liquids that can be processed into replacements for today's petroleum based transport fuel). While commercialization still seems far away, the key fact is that, as with all fundamental innovations, while progress appears slow it is being made at an exponentially accelerating rate.

- Our second candidate for a long-jump change lies in the tremendous potential to realize productivity increases in two sectors that consume very substantial shares of GDP in developed countries, yet thus far have largely escaped the types of improvements that have become routine over the past 20 years in the private sector: government (and especially education) and health care. In the United States, depending on the statistics used, education and health care consume as much as 25% of GDP today. Achieving just a 20% improvement in cost effectiveness would free up 5% of GDP – an enormous amount of resources.
- Turning to the political challenges we face, many commentators, such as Walter Russell Mead, Michael Barone, and Michael Lind, have noted that we are approaching the end of what Mead terms the “Blue State Model” of progressive politics that grew out of the New Deal, and was predicated on growing welfare states and the activities of large bureaucratic organizations, be they corporations, unions, or government. As Lind points out, the partisan positions of both parties in the United States – or at least their most vocal and politically active wings – seem increasingly out of step with the challenges facing the nation. Most voters recognize that the solution to our problems lies not in mindlessly cutting taxes, nor in mindlessly expanding the activities of government. Rather, as both Australia and Canada have already shown, what many will enthusiastically support, and what sufficiently focused political leaders can achieve, is a substantial increase in the value for money delivered by the state – i.e., improvements in effectiveness, efficiency and adaptability.

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- The larger question is what will replace the “Blue State Model” and, just as important, a global aggregate demand model that for too long was based on increasingly leveraged U.S. consumers and Chinese producers, and more recently on increasingly leveraged Western governments. Lind’s view is that, at least in the developed countries of the west, and especially in the United States, voters are more interested in a government that strikes a better balance between providing the middle class with individual opportunity and collective security (in all its forms). Mead has used the analogy of the wrenching political transition in the United States at the end of the 19th century from a family-farm based culture that was focused on savings, investment and production to an industrial culture that was focused on consumption spending and distribution. In his view, going forward entrepreneurial small businesses could replace the family farm as the centerpiece of a new culture of savings, investment and production. And virtually every commentator hopes that increased domestic consumption and investment spending in developing countries, and especially China, will provide the new driver of global aggregate demand.
 - Finally, as we have noted in the past, the history of political economy provides many examples of a cycle of rising economic complexity, integration and globalization that outgrows the ability of existing political institutions to control its potential for excess, culminating in a sharp fall in economic activity and a fragmentation of the system into smaller units that can be better controlled by existing institutional structures. In complex adaptive system terms, this is called “patching”, which is intended to renew the growth of a sluggish system by breaking it down into smaller, more adaptive units.
 - It has long been our view that the current global system would inevitably reach this point, as happened at the turn of the 20th century, the last time the world economy was as integrated and political control as tenuous as it is today. Clearly, this process is underway in the Eurozone today, as that institutional arrangement moves towards either collapse or the expulsion of some countries from the single currency bloc. You can also see it globally in countries’ rising

use of different mechanisms (e.g., transaction taxes) intended to stem destabilizing international capital flows, and in the steps different nations have taken to limit uncontrolled cross-border labor migration. The key uncertainty in our mind is how long it will be before nations take the next logical step, and begin to more aggressively limit trade flows in order to increase domestic growth and employment. Our best estimate is that prolonged high unemployment in western nations (as will likely occur in the absence of greater domestic demand growth in China, and/or more widespread mortgage debt reduction in the United States), and growing populist resentment of the use of rising U.S. government deficits to preserve Chinese workers jobs will eventually bring about more widespread use of trade controls, and the evolution of the world economy into de-facto blocs.

Alternate Scenarios and the Relative Evidence Against Them

- The purpose of our scenarios is not to predict what will occur; rather, it is to help investors prepare for a range of possible future events. Moreover, in assessing the likelihood that a scenario will or is developing, we again reiterate one of our favorite sayings on this critical subject, Richards Heuer's caution that "the most likely hypothesis is the one with the least evidence against it, not the one with the most evidence for it."
- Unfortunately, it is not hard today to identify different causal paths that would lead to a renewed downturn and crisis, with higher controls on the cross-border movement of capital and goods. For example, the inevitable default on Greece's sovereign debt could be mismanaged by the Eurozone authorities, leading to worsening sovereign debt crises in Italy and Spain, the shrinking of the Eurozone, and another global financial system crisis. So too, China's inevitable financial system/bad loan crisis could trigger a prolonged period of low growth and possibly political crises there, as well as (thanks to rising nationalism in a nation with an excessively high male/female ratio) increasing conflict internationally, which in turn would disrupt global supply chains and lead

to a sharp a fall in commodity prices. In the United States, authorities could choose to continue the current policy of tolerating high levels of unemployment and running large government deficits while allowing an extended and painful liquidation process to play out in the housing sector, and quite possibly in area of state and municipal debt as well. We generally believe that prolonged stagnation would most likely dampen current inflationary forces, and lead to occasional bouts of low level deflation, as has occurred n Japan, in spite of that nation's attempts to reflate. On the other hand, the disruption in global supply chains that would accompany a restructuring of the global trading system into deface blocs trigger a renewed period of inflation. Most dangerously, we would expect that this scenario would also be characterized by rising political conflict around the world, and quite possibly a rise in authoritarian and populist tendencies.

- On the other hand, it is also easy to identify different reactions that might be triggered by a renewed downturn and crisis, which could limit its duration and eventually increase the growth rate of global aggregate demand. Possible actions in this category include the development of new political parties, candidates and coalitions to lead a renewed drive to increase the value for money delivered by the government, education, and health care sectors; restructuring of national retirement income security systems (e.g., along the lines of Australia's mandatory superannuation funds); more aggressive action to reduce household sector leverage (which could also involve temporary nationalization of some banks, following severe reductions in their capital); the restructuring of the global economy into a system of better managed trading blocs; progress in different energy related technologies that cumulates to a historical step function change in efficiency, the restructuring of the Eurozone and fundamental political change in China.
- Unfortunately, as we have already noted above, it is also easy to see how a renewed downturn and crisis could trigger a much more serious crisis of political legitimacy, which could worsen and extend the downturn, with

potentially unpredictable and dangerous possibilities reminiscent of 1930s. We therefore conclude that, although it is undoubtedly the most difficult of our four challenges to understand, it is the growing crisis of political legitimacy that is the critical uncertainty that will drive future developments should a renewed crisis and downturn occur.

- Finally, we must also acknowledge the “rosy scenario” which, though highly unlikely in our view, would have (1) China smoothly adjusting from its current mercantilist strategy of high export and investment spending (as well as “vendor financing” of its foreign customers) to one focused on increasing domestic consumption spending, and spending on imports as the Yuan appreciates against the U.S. dollar; (2) The U.S. agreeing on a medium term strategy to reform government entitlement and tax programs, and gradually bring down both the deficit and the debt/GDP ratio, while implementing creative short run strategies to reduce mortgage debt (e.g., debt for equity swaps of some type), increase employment, and accelerate business investment spending; and (3) The Eurozone arranging for the controlled default on and restructuring of sovereign debt burdens, limited exits from the Eurozone, and recapitalization of the banking system.
- On balance, we conclude that today there is more evidence against the rosy scenario than there is against the renewed downturn and crisis. We therefore conclude that the latter is the most likely outcome, given the evidence available today.

Implications for Asset Class Returns

- *Real Return Bonds:* With few exceptions (Australia being the most notable), yields on real return bonds are already extremely low, and would only rise if economic growth rises and investors’ uncertainty falls. Furthermore, as we have noted, we believe that the secular deflationary forces at work in the world today are only temporarily being masked by cyclical inflation being produced by extraordinary monetary policy measures. Unless the real return bond in

question contain a deflation hedge (as is the case with U.S. TIPS), they are not attractive in the current environment and seem most likely to produce negative returns. We acknowledge the argument that an extended downturn could also be accompanied by higher levels of central bank monetization of persistent government fiscal deficits. In response, we note that Japan has also seen persistent deficits and repeated attempts at reflation, which have not succeeded in producing higher inflation, and in fact have been accompanied by repeated episodes of low level deflation. However, we also acknowledge that movement to a global system of de-facto trading blocs could lead to higher inflation, to the extent it disrupts supply chains. In sum, real return bonds have provided excellent returns for many investors' portfolios in recent years that in most cases we do not expect will be repeated over the next five years. That said, we continue to believe that portfolios should still contain some allocation to this asset class, to hedge the inflation scenarios noted above.

- *Nominal Return Government Bonds*: With nominal yields at extremely low levels, nominal return government bonds will only produce attractive real returns in the case of persistent deflation. As noted above, we continue to believe that this remains a distinct possibility. In so far as investors perceive future inflation to be a greater risk than we do, this would argue for holding shorter maturities in this asset class, which also have the benefit of providing superior liquidity. While some would argue that this requires losing some yield, we would reply that the current situation is sufficiently dangerous that losing your capital is the more appropriate concern today.
- *Currencies*: In the new downturn and crisis scenario, we would expect the U.S. dollar to rise versus the Euro due to flight/safety seeking capital flows, based not only on turmoil in the Eurozone, but also on the more favorable demographic trends and structural conditions (e.g., innovation history) in the U.S. (see, for example, the conclusions reached by Eric Edelman in the Center for Strategic and Budgetary Assessments paper, "Understanding America's Contested Primacy"). We view the argument for Japan as a haven for safety-

seeking capital to be limited by the nation's adverse demographic trends, and seemingly inevitable government deficit financing/debt rollover crisis that will occur when the government's funding need exceeds the absorptive capacity of its domestic savers. As for the Swiss Franc, the authorities there have made it clear that there is a limit to the amount of appreciation they can tolerate. The future of the Australian dollar is uncertain. On the one hand, with its strong domestic policies (e.g., the government has gone much further towards addressing health care and post-retirement income security issues than most other countries), skill-based immigration laws, and natural resource endowments, it is very attractive. On the other hand, its exports are heavily focused on China. In comparison with the AUD, the Canadian dollar appears to be a somewhat better bet, with more diversified markets for its natural resources exports, and its integration with the U.S. economy (though it lags somewhat behind Australia in addressing health care cost containment and post-retirement income security issues). Finally, as it has stayed outside of the Eurozone, and with a relatively more flexible economy, and a still solid position at the heart of the global financial system, we would also expect the UK pound to perform relatively well versus the Euro and Yen, perhaps lag the AUD and CAD, and trade in a relatively tight range around the U.S. dollar, based on our view that the UK and US will be at the heart of the Anglosphere bloc we expect to develop in the years ahead.

- *Credit Bonds*: We would expect increasing controls on cross border flows of capital and goods to raise uncertainty about the pricing of most corporate debt, as retrenchment into a world of blocs will be a very difficult adjustment for many companies. Mid-sized companies with more limited international sales may end up delivering superior returns. That said, a world of renewed downturn and crisis will be an exciting one for holders of credit risk. It will undoubtedly be much more pleasant under the rosy scenario, which would see credit risk premiums fall and returns increase.

- *Commodities*: It seems to us that either a credit crisis and/or a shift to more domestic consumption focused growth is inevitable in China, and that most other developing countries lack the scale and institutional factors to replicated the last decade of investment led growth in China that has proven so favorable for commodity prices. It therefore seems that commodity returns are more likely to disappoint than excite over the next five years. Again, however, we can point to alternative scenarios and possible inflation threats that continue to warrant holding some commodities in a portfolio. For example, commodities should continue to perform well under the rosy scenario.
- *Gold*: In a renewed downturn and crisis characterized by rising political uncertainty, we would expect gold prices to continue to remain elevated, particularly in the case of increased turmoil in China and or a worsening political crisis in the United States (as, absent the return of the Deutschemark, gold is the most logical second-best alternative to short term U.S. Treasuries as a home for liquid “fear capital”). That said, in worsening conditions, we would also expect to see a widening spread between gold investments that either are or can be redeemed in physical form, and those (such as most ETFs) which are purely financial instruments. However, there is also a clear risk that, in either the rosy or “post-stagnation/turnaround” scenario, investors will move out of gold for greener pastures as their fears recede, and returns will once again, as they have in the past, turn sharply negative.
- *Timber*: We continue to be bullish on timber. Due to the independence of biological processes, well-structured timber investments should continue to offer investors a hedge that offsets both inflation and deflation risk while also having a minimal correlation with returns on other asset classes. In addition, timber should do particularly well under the rosy scenario, which would extend the currently high and rising demand for timber in developing countries, and China in particular, which has provided support for wood prices, despite the downturn in housing construction in the United States.

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- *Commercial Property*: So far this year, property has generally delivered a better performance than equity, though not as good as nominal government bonds. This is logical, given that current rental income on commercial property should, like the coupon on a bond, provide an advantage in a deflation scenario, while property's replacement cost, and hopefully value, should also rise in an inflation scenario (which would also reduce current real returns as the catch of rental rates is delayed by the timing of lease expirations, and potentially problems in fully renting a property). Moreover, in certain regions, notably Europe (and Switzerland in particular), property has historically been, and continues to be, a refuge in times of high uncertainty. Under the stagnation scenario, we would expect property to continue to do well, particularly due to increased demand for this asset class as the move toward blocs and capital controls restricts investors' ability to access other diversifying investments. On the other hand, property should also perform well under both the post-stagnation recovery and the rosy scenario. Hence there are multiple arguments for including it in a portfolio, as an asset class which should deliver returns somewhere between government bonds and equities.
 - *Equities*: While the case for equities under the "rosy scenario is clear, they will clearly suffer under the renewed crisis/downturn scenario. In addition, as is the case with bonds and commercial property, foreign equity investments could suffer additional pain if the world trading system is restructured into de-facto blocs, with increased controls on cross-border capital movements. Conversely, this could provide extra stimulus for some domestic equity markets depending upon the eventual configuration of the trading blocs.
 - *Volatility*: We expect that volatility will continue to be a historically high levels over the next five years, and that well-designed tail risk hedging investments, such as volatility (and also cash, as James Montier has famously noted), will continue to provide valuable benefits to overall portfolio returns.
 - *Uncorrelated Alpha Strategies*: While uncorrelated alpha products remain mathematically attractive to many portfolios, events since 2008 have certainly

put paid to the claims of many managers that they can deliver it when it is most needed. That said, the simple combination of four strategies that we include in our model portfolios – equity market neutral, global macro, currencies, and equity long/short has demonstrated its ability to deliver the modest levels of relatively uncorrelated returns that we anticipated. So we continue to believe that there is a valuable role for these products to play over the long-term in many portfolios.

Model Portfolios Update

Our model portfolios are constructed using a simulation optimization methodology. They assume that an investor understands the long-term compound real rate of return he or she needs to earn on his or her portfolio to achieve his or her long-term financial goals. We use SO to develop multi-period asset allocation solutions that are “robust”. They are intended to maximize the probability of achieving an investor’s compound annual return target under a wide range of possible future asset class return scenarios. More information about the SO methodology is available on our website. Using this approach, we produce model portfolios for six different compound annual real return targets: 7%, 6%, 5%, 4%, 3%, and 2%. We produce two sets of these portfolios: one assumes only investments in broad asset class index funds. These are our “all beta” portfolios. The second set of model portfolios includes uncorrelated alpha strategy funds as a possible investment. These assume that an investor is primarily investing in index funds, but is willing to allocate up to ten percent of his or her portfolio to equity market neutral investments.

We use two benchmarks to measure the performance of our model portfolios. The first is cash, which we define as the yield on a one year government security purchased on the last trading day of the previous year. For 2011, our USD cash benchmark is 0.27% (in nominal terms). The second benchmark we use is a portfolio equally allocated between the ten asset classes we use (it does not include uncorrelated alpha). This portfolio assumes that an investor believes it is not possible