

The Decade Ahead

The great deleveraging



Our views on how to prosper in a slow-growth,
low-return and high-volatility world

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Letter from Mike Ryan and Tony Roth

Dear readers,

The old story of famine following feast has been well known throughout history; we find it also describes the world we live in today. For more than a decade, a host of players in the real economy – households, financial institutions, government – reaped the benefits from debt-fueled growth. Consumers continued to spend even as incomes stagnated, banks enjoyed a surge in profits by leveraging up balance sheets and governments expanded benefits and services at an explosive pace.

Now comes the hard part. Each of these sectors faces the prospects of having to wind down debt, rebuild capital and right-size services amid both aging populations and diminished growth prospects across much of the developed world. While these balance sheet adjustments won't all happen at once – nor will they progress in precisely the same manner – they will pose significant challenges for elected officials, policy-makers, investors and citizens of the world through much of this decade.

In the pages that follow, we offer our perspective on how this deleveraging process is likely to play out over the balance of the decade and the impact it will have upon investment portfolios. While it will be a challenging and potentially even disrupt-

ive time, there are steps that investors can take to not only weather the current turbulent times but also prosper through them. Together with our colleagues in the Portfolio Advisory Group, we've identified eight investment and portfolio strategies designed to better position investors for the great deleveraging.



Mike Ryan, CFA
Chief Investment Strategist



Tony Roth
Head of Wealth Management Strategies

Summary & Highlights

The Great Deleveraging

The deleveraging cycle unfolding in the developed world is unique to this decade because it simultaneously cuts across three major sectors of the economy:

- **Households** – Although household balance sheets have improved since 2008, consumer indebtedness is still high relative to disposable income.
- **Financial sector** – After years of abundant credit and off-balance sheet financing, banks face formidable credit restrictions. Deleveraging – already being pursued in the US – is in its infancy in over-leveraged Europe as well.
- **Government** – Deleveraging may prove to have the most unsettling effect in the public sector as officials pursue austerity measures in the wake of sovereign debt scares.

Baseline Scenario: We expect deleveraging to unfold in a gradual manner, buffered by re-leveraging in the nonfinancial corporate world and emerging markets. Because of the compressed return environment in our base case, a strategy of diversification is more important than ever.

Implications

- **Growth is slower and more volatile** – Economic growth will be slow and volatile with pronounced business cycle fluctuations. Given these conditions, the Fed might tolerate higher inflation as a tool in easing debt burdens.
- **Banks continue to delever** – Banks are unlikely to boost economic growth through increased lending activity and will instead inhibit economic activity by restricting credit availability.
- **Global ties expose geopolitical risk** – Deleveraging is likely to foster geopolitical tension because it exposes global trade imbalances, pressuring policymakers to resort to unconventional policy measures and showcases the steady shift of power between emerging and developed economies.
- **Market returns are more compressed** – Equity investors should not expect more than “normalized” returns until the deleveraging process concludes. Meanwhile, government bonds appear riskier given the low level of rates, higher sovereign credit risk and greater price sensitivity.

Recommendations

- **Revisit your financial goals** – Investors should begin by considering the attainability of their goals.
- **Build a “portfolio for all seasons”** – Building a financial plan that can weather frequent tail risks requires trade-offs, exercising greater investment discipline, and using hedging systematically.
- **Seek more active risk** – A well-constructed portfolio utilizes active management for broad asset class exposure and passive, index-based implementation for narrow segments of the market.
- **Employ alternative beta** – Exposure to nontraditional return factors such as volatility, illiquidity, and momentum can add value in a deleveraging market environment.
- **Harness volatility** – Using timing effectively, investment managers can capitalize on volatility of volatility, a trend that has exhibited anomalous behavior in recent years.
- **Invest in growth** – Investors should look to “growth” stocks over “value” stocks. While emerging market equities offer the most attractive secular growth opportunities, within the US there are growth opportunities as well, albeit differentiated by sector and industry.
- **Generate income** – Use a combination of traditional income-investing strategies such as overweighting credit sensitive sectors of the bond market and non-traditional income investments such as stocks that deliver dividend growth.
- **Identify distressed opportunities** – Deleveraging creates opportunities within the alternative investment space like hedge funds specializing in distressed investing.

Section 1 The event

Mike Ryan, CFA, Chief Investment Strategist and Stephen Freedman, CFA, PhD, Strategist

The great deleveraging

In our inaugural *Decade Ahead* report, published almost a year ago, we outlined 12 critical themes that we see playing out over the course of the next decade which will have a profound impact upon the real economy, financial markets and choices of policymakers. But these themes will also influence – and be influenced by – a broader trend that started before this decade even began and may well continue even after the decade has ended – *the great deleveraging*. Periods of balance sheet deleveraging are not uncommon. They typically follow episodes of speculative excesses, asset bubbles and financial manias when debt burdens rise to unsustainably high levels on the mistaken belief that a new growth paradigm has emerged. Once the asset bubble bursts, however, a financial crisis typically ensues that ushers in a period of debt retrenchment marked by slower than normal growth, protracted market dislocations and significant strains on government resources.

What is different this time around is both the scope and the scale of the deleveraging that will

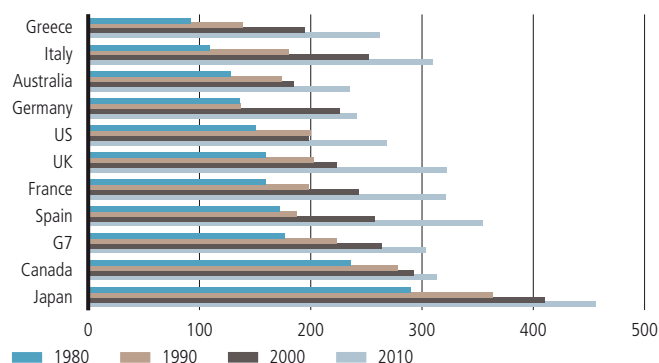
be required. While prior periods of balance sheet contraction were often limited to certain sectors of the economy or geographic locations, this one is occurring both broadly and globally. This means that deleveraging will need to occur on several fronts simultaneously and across most of the developed world. The period of adjustment will likely be an extended one, marked by periodic growth scares, choppy and volatile market conditions and dramatic changes in policy approaches along the way. This report offers our assessment of how the deleveraging process is likely to play out over the balance of the decade and the impact it will have on investment portfolios. While it will be a challenging and potentially even disruptive time, there are steps that investors can take to not only weather the current turbulent times but also prosper through them.

How did we get here?

As Fig. 1.1 illustrates, private and public sector debt burdens rose sharply across much of the developed world over the past three decades. In fact, the current cycle of debt expansion goes

Fig. 1.1: Sharp rise in developed country debt burdens

Sum of household, corporate and government debt as a share of GDP, in %

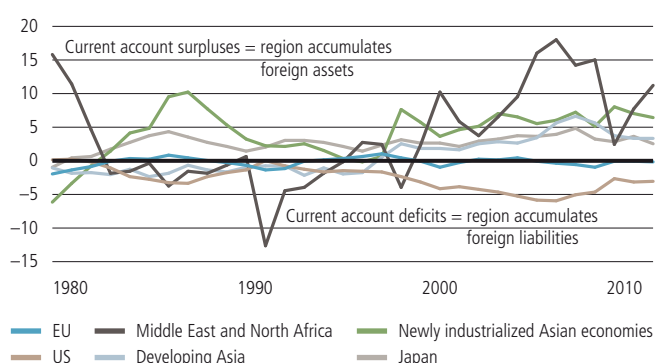


Note: Some figures categorized as 2010 data are from 2009.

Source: Cecchetti, Mohanty and Zampolli (2011)

Fig. 1.2: Reducing CA deficits is a form of deleveraging

Current account balance as a share of GDP, in %



Note: 2011 figures are IMF estimates.

Source: IMF, as of September 2011

back to the end of World War II. Anthony Boeckh, formerly of the Bank Credit Analyst group, coined the phrase “debt supercycle” to describe this phenomenon. Since the early 1980s, there have been several key drivers behind a massive leveraging of balance sheets.

- Financial sector liberalization resulted in a surge in financial innovation, providing credit access to segments of the economy that had not had access up to that point.
- Progress among central banks in fighting inflation, stronger cross-border trade relations and technological innovation created a growth-friendly environment.
- Inventory corrections became less common as the economy continued to migrate from manufacturing to services.

As a result, the perception emerged that solid growth was “here to stay” and that economic fluctuations had been permanently reduced. Terms like “new paradigm” and “great moderation” were routinely used to describe this period. Although no one truly believed that the ups and downs of the business cycle had been eliminated, there were some who thought it had at least been sufficiently tamed to justify a much more significant flow of credit.

But there was one other critical development that radically altered the economic landscape and ultimately contributed to extending the era of loose credit: the integration of China and India into the

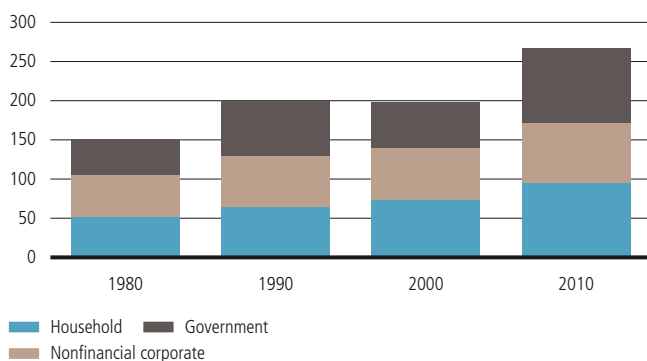
global economy and a recycling of excess savings from the emerging markets (see Fig. 1.2). While a surge in inexpensive goods imported from these countries helped drive down inflation pressures, Asian trade surpluses created a massive glut of savings that needed to be recycled into the global economy and which ultimately served to keep real interest rates abnormally low.

“What is unique today is not only the scope and scale of the problem, but also the limited options that policymakers currently have at their disposal due to structural and demographic constraints.”

Meanwhile, starting in the 1990s, central banks—led mainly by Alan Greenspan’s Federal Reserve—sought to aggressively counter phases of economic weakness through lower interest rates and an ample supply of liquidity, most notably after the bursting of the tech bubble. Focused more on inflation than asset bubbles, such as the one building in the US housing market, central banks misread the signs and responded by keeping policy accommodative for an extended period, thus helping to set the stage for the coming financial crisis, which in turn heralded the beginning of the great deleveraging.

Fig. 1.3: Rise in US household and government debt loads

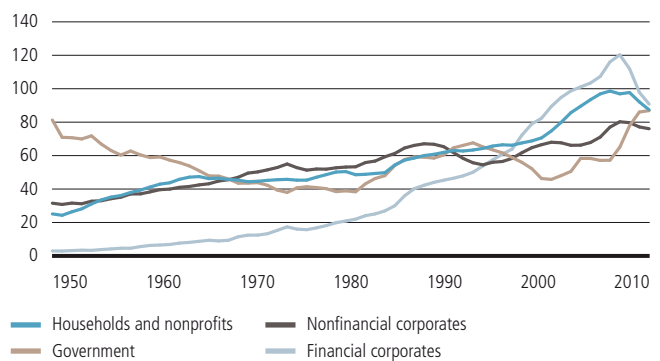
US household, nonfinancial corporate and government debt as a share of GDP, in %



Source: Cecchetti, Mohanty and Zampolli (2011)

Fig. 1.4: Deleveraging proceeds at varying pace across sectors

US liabilities by subsector as a share of GDP, in %



Note: Liabilities are represented by total credit market debt. Figures are annual and seasonally adjusted. Government is the total of federal, state, and local.
Source: Federal Reserve Board, Flow of Funds, as of 3Q 2011

Where is the leverage today?

As we've already noted, the deleveraging process will need to occur on several fronts: households, the financial sector, and government (see Figs. 1.3 and 1.4). Consumer indebtedness reached record levels relative to both gross domestic product (GDP) and disposable income by 2008. While some progress has been made in the immediate aftermath of the Great Recession, the fact is that household balance sheets are still in need of repair and further deleveraging is necessary in the years ahead.

Bank balance sheets also expanded at an explosive pace in the period leading up to the global financial crisis amid inadequate and overly segmented regulatory oversight, the aggressive use of off-balance sheet financing and an abundant supply of cheap credit. Despite early efforts by both the US and UK to recapitalize their own banks, the fact is that the global financial system in general is still in need of further deleveraging. There is simply too much industry-wide capacity that will need to shrink over the next decade. The imposition of new capital guidelines and greater regulatory scrutiny will force banks to raise new capital, shrink their loan books and shed assets. But no matter how it occurs, what we are likely to experience is a secular slowing of credit growth as banks delever.

In contrast to both households and the banks, nonfinancial corporate balance sheets are in relatively strong shape (see Fig. 1.5). Following the bursting of the tech bubble back in 2001,

nonfinancial corporations underwent a broad-based rebuilding of their own balance sheets. This included a streamlining of operations, shedding of non-core businesses and a buildup of cash balances. The nonfinancial corporate sector therefore actually has capacity to take on additional debt over the next several years. The ability to relevel may well prove critical as a means of offsetting the drag from both the consumer and financial sectors.

Perhaps the most critical phase of this deleveraging process involves the public sector. There has been a great deal of work done in recent years on the implications of the financial crisis and associated government debt burdens for longer-term growth prospects. The most influential of these studies is the work of economists Ken Rogoff and Carmen Reinhart. What they found is that when the ratio of government debt-to-GDP exceeds 90%, median real growth rates tend to be about 1% lower than normal. While there is no economic law dictating that economic growth must slow down beyond this threshold, there appears to be an empirical regularity that debt-financed growth becomes more difficult to sustain and funding crises become more common. Once a crisis has been set in motion, market forces impose deleveraging, and credit conditions turn from being a tailwind to a major headwind. With much of the developed world already at or above this crucial debt threshold, longer-term growth prospects may already be in jeopardy (see Fig. 1.6).

Fig. 1.5: Corporate balance sheets are healthy

US nonfinancial corporate debt-to-profits ratio

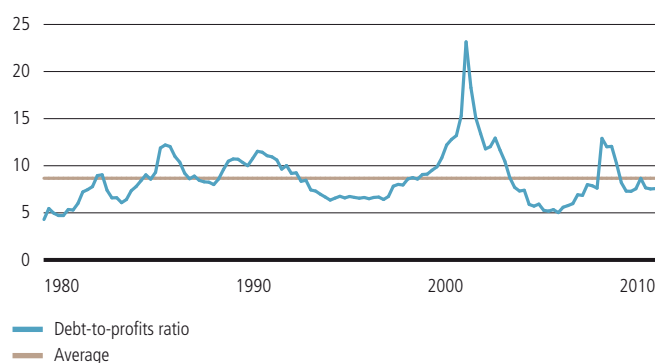
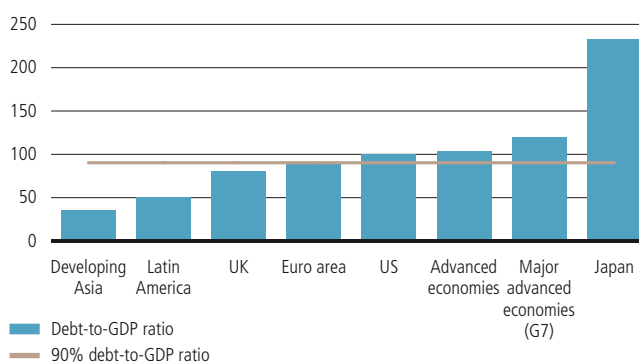


Fig. 1.6: Government debt loads above comfort level

Estimates of general government gross debt-to-GDP ratio in 2011, in %



How do we delever?

While we know where we need to delever, the more pressing question is how we do it. If we think of restoring debt sustainability as some sort of stabilization and then reduction in the debt-to-income ratio, it becomes clear that there are really only four “channels” by which economy-wide debt burdens can be addressed:

- **Growth** – Enable real income to accelerate at a faster pace than the growth in real debt obligations
- **Austerity** – Implement some combination of increased savings and reduced expenditures that leads to actual reductions in the overall level of indebtedness
- **Default** – Opt for selective or wholesale reductions in liabilities through repudiation, rescheduling or forgiveness of debts
- **Inflation** – Benefit from an environment where nominal income is rising faster than nominal debt due to rising inflation

Although the first is both the preferred and least painful path toward solving debt problems, it is unfortunately the least likely in the current environment, barring an unexpected surge in productivity. So in the absence of a “game-changing” technological innovation that alters the growth dynamics, it will most likely be some combination of the last three that will be required to repair balance sheets in the developed world.

What's different this time around?

While the world has been faced with excessive debt burdens in the past, what is unique today is not only the scope and scale of the problem, but also the limited options that policymakers currently have at their disposal due to structural and demographic constraints. This suggests that the deleveraging process may be more challenging than prior periods and could potentially entail a more disruptive phase for the real economy and financial markets. Consider how the current deleveraging cycle is likely to differ from prior episodes:

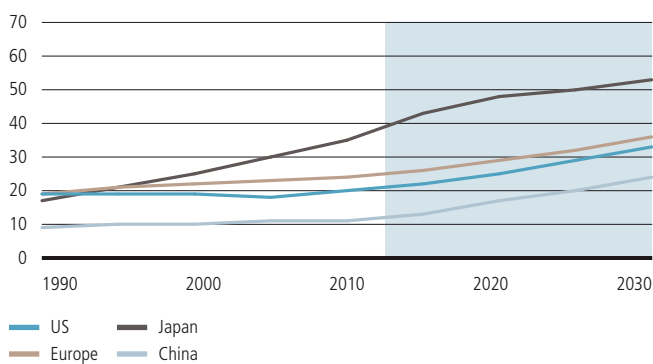
- **Multi-sector deleveraging** – Currently, the public sector, the financial sector, and to some extent private households, are all facing deleveraging pressures. This creates a challenge

since not all sectors can reduce debt at the same time. This is a version of the “paradox of thrift” popularized by John Maynard Keynes, which states that if everyone tries to save more at the same time, it results in lower national income and possibly no increase in aggregate saving. Therefore, deleveraging cannot be too abrupt and simultaneous across sectors and geographies, but rather must be sequential and gradual. The less levered sectors (nonfinancial corporations) and regions (many emerging markets) will in effect have to play their part by leveraging up to allow others to deleverage.

- **Broad geographic region** – What also distinguishes this cycle from prior periods is the fact that deleveraging must occur across so much of the developed world. The build-up of debt in the US, UK, Western Europe and Japan means that most members of the Group of Seven countries (representing about half of global GDP) will be engaged in the process of balance sheet repair at the same time. While Reinhart and Rogoff reviewed a lengthy historical period in their study of financial crisis and sovereign defaults, there does not appear to be a similar episode when so many of the world’s leading economies were simultaneously deleveraging.
- **Challenging demographics** – Keep in mind that the needed deleveraging of public balance sheets must take place against a backdrop of aging populations. The old-age dependency

Fig. 1.7: Aging populations will pose challenges

Old-age dependency ratio for selected countries and regions



Note: The old-age dependency ratio is the ratio of the population aged 65 years or over to the population aged 15–64. Dependency ratios are medium variant. Shaded region indicates UN estimates.

Source: UN Department of Economic and Social Affairs, as of January 2012

ratio in the US, Europe and Japan will continue to rise over the next decade, posing serious challenges to public sector finances (see Fig. 1.7). In the absence of structural reforms, public pension expenses and the costs associated with the expansion of the social welfare state will continue to rise amid sluggish growth prospects and a continued decline in the portion of the working age population.

- **Added complexity** – Two sources of complexity add to the difficulty of orchestrating a successful balance sheet deleveraging. First, the eurozone crisis has revealed deep flaws in the currency union’s institutional setup, not to mention the differing levels of competitiveness among member states (see Fig. 1.8). Given the multitude of countries and institutions involved, decision making is extremely tedious and ill-suited to address rapidly escalating problems. Therefore, while the eurozone does not have a greater debt burden than the US, markets have forced the region into an early and painful delevering process. Second, the complexity and opacity of modern financial markets means that economic and financial market setbacks are likely to continue materializing along the deleveraging path. Phases where key international issuers lose market confidence and experience a funding crisis will most likely be an ongoing feature.

How does this all play out?

Considering the characteristics of the current delevering process, there appears to be a broad range of ways this could play out over the next decade. We focus our attention, however, on the scenario we view as most likely, as well as three alternative outcomes that would reflect the most probable deviation from our baseline view (see Fig. 1.9).

- **Baseline – gradual and steady:** Since not all countries and sectors of the economy can delever at the same time without triggering deep economic pain, the process must be a gradual and thoughtful one. Our baseline assumes that over an extended period of time, a balanced combination of the four aforementioned channels (growth, austerity, default and inflation) will be part of the adjustment path. Fiscal austerity will become more prevalent but

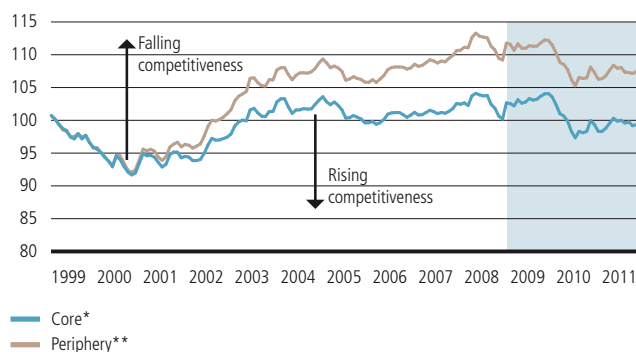
will be applied gradually. Likewise, while we could see some selective defaults of financial institutions and smaller sovereign issuers, efforts will be made to prevent the sort of contagion effects that would allow the crisis to spread. Policymakers will look to offset fiscal tightening with a more accommodative monetary policy stance and low policy rates for longer, running the risk of generating higher inflation down the road. We expect that, while subdued initially, inflation will pick up at a later point and reach

// **The less levered sectors and regions will in effect have to play their part by leveraging up to allow others to deleverage.** //

levels above those experienced during the last two decades. We expect that growth will remain below the historical average for a protracted period but will, on balance, contribute its share to reducing the debt burden.

Keep in mind that for deleveraging to work, some sectors and parts of the world will have to relevel to offset debt reduction efforts in the public, financial and consumer sectors. We expect gradual releveling within the nonfinancial corporate sector. Moreover, emerging market economies that have been net savers

Fig. 1.8: Diverging competitiveness between core and periphery
ECB’s harmonized competitive indicators based on consumer prices



Notes: *Core consists of Germany, Belgium, France, Luxembourg, Netherlands, Austria and Finland. **Periphery consists of Greece, Portugal, Italy, Spain and Ireland.

Shaded area marks economic downturn.
Source: ECB, UBS WMR, as of October 2011

through large current account surpluses will have to focus more on domestic demand rather than exports as sources of growth.

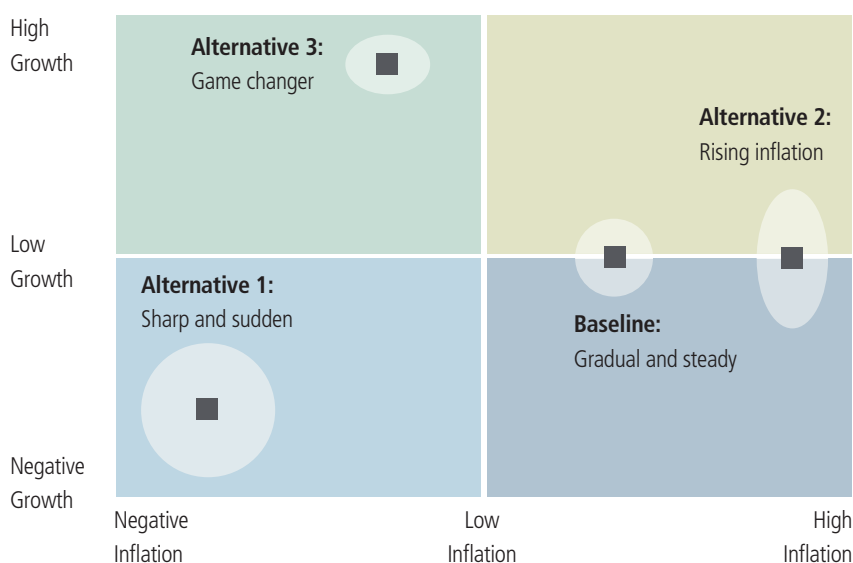
- **Alternative 1 – sharp and sudden:** There is a risk that the deleveraging process is accelerated rather than gradual amid more severe austerity measures. This would lead to recessionary outcomes coupled with financial funding crises in the developed world. The most recent agreement reached by elected officials across the eurozone suggests that austerity will be accelerated as a condition for tighter fiscal integration. This increasingly pro-cyclical stance could severely undermine growth and even lead to more rapid bank deleveraging. Were this to coincide with a series of disorderly defaults and even abandonment of the euro, it could well trigger another severe economic contraction and set the deleveraging process back even further. Growth would be subject to a steep deceleration, deflation pressures could become acute and financial markets would experience another crisis rivaling the 2008-09 credit crisis.
- **Alternative 2 – rising inflation:** Thus far, the rapid expansion in central bank balance sheets

in the US and UK have not triggered any sustained increases in inflation. However, with the European Central Bank (ECB) now beginning to cut rates and looking for ways to support vulnerable eurozone debt markets, the door is open for a broadening of policy measures there as well. Were all the major central banks to simultaneously engage in more accommodative policy in an effort to ease the deflationary pressures from balance sheet deleveraging, the seeds might well be planted for the next great inflation cycle – and possibly even episodes of hyperinflation.

- **Alternative 3 – game changer:** Amid all the challenges created by the great deleveraging, it is important to note that our economic system has repeatedly, over the centuries, managed to discover unexpected sources of growth-inducing productivity gains through innovation. Although such outcomes are inherently hard to predict, it should be clear that a new wave of technological progress could make the deleveraging process much more manageable. Information technology, nanotechnology, healthcare and energy are but a few areas, in which spurts of innovation could lead to game-changing outcomes.

Fig. 1.9: How does this all play out?

Baseline and alternative scenarios



Source: UBS WMR

Section 2 Implications

We expect slower and perhaps more volatile economic activity in deleveraging countries, particularly as financial institutions raise capital and governments implement austerity measures. Given the enormity of the debt burden, we think central banks will prefer higher inflation. Deleveraging increases the potential for geopolitical conflict and policy mistakes, which can mean the difference between a shallow expansion and an outright recession. Therefore, equities are unlikely to offer more than “normalized” returns, while government bonds have become a riskier asset class.

Implication 1 Growth is slower and more volatile

Thomas Berner, CFA, Economist; Brian Rose, PhD, Strategist – Wealth Management Research

Slower and less stable growth

The process of deleveraging is likely to produce slower and less stable economic growth than in the three decades leading up to the Great Recession. More frequent growth scares will delay monetary policy normalization, and inflation will eventually rise above its recent 2%-3% range.

We expect the process of deleveraging described in Section 1 to produce a protracted phase of slower and less stable growth than in prior decades post-World War II. Attempts by governments and private sectors to rein in their debt burdens will curtail growth in the best case, or could precipitate recessions if conducted too abruptly or executed poorly. With longer-term growth prospects also constrained by aging trends in developed nations, average growth rates may be uncomfortably close to “stall speed,” leaving economies vulnerable to dipping into recession after even minor shocks.

Return of boom/bust cycles?

The recent recession was the worst on record since the 1930s. However, as shown in Fig. 2.1, recessions of this magnitude were common prior to World War II. While there are various reasons

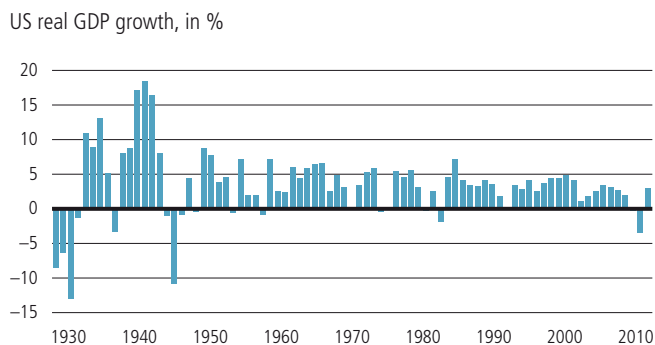
behind the smoother economic cycles in recent decades, the ability of both private and public sectors to borrow is certainly one of them. Access to credit, which was strengthened in the postwar period, has enabled a decoupling of expenditures from income and contributed to smoother spending patterns. Governments, in particular, have been able to expand their budget deficits during economic downturns, actively increasing spending even with shrinking tax revenues. Moreover, “automatic stabilizers” such as unemployment benefits and income tax cuts help households maintain spending, thus preventing demand from spiraling further downward.

But constrained public finances now will increasingly prevent governments from exhibiting this stabilizing type of countercyclical behavior. It is therefore a distinct possibility that business cycle fluctuations will increase again during the “great deleveraging” leading to more frequent “booms and busts.”

Paradox of thrift poses downside risks especially in Europe

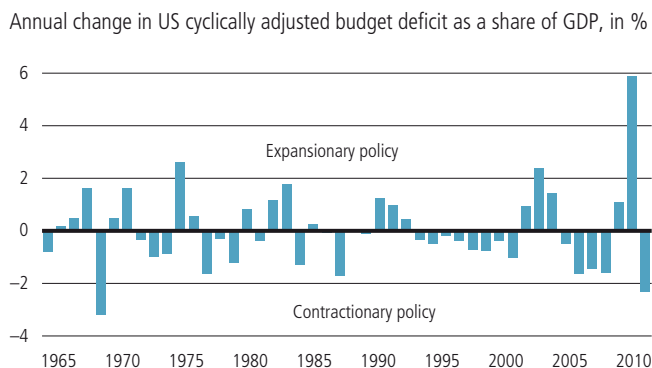
The paradox of thrift — described in Section 1, illustrates how simultaneous attempts by large

Fig. 2.1: Economic fluctuations diminished since World War II



Source: Bureau of Economic Analysis, as of 3Q 2011

Fig. 2.2: US fiscal policy now acts as a drag on growth



Source: Federal Reserve Board, White House Office of Management & Budget, UBS WMR, as of 3Q11

parts of the economy to save more can lead to an economic slump — creates serious risks in the current environment. The eurozone is the most at risk, with government austerity programs already under way and banks embarking upon deleveraging of their own. In the US, the risks are less elevated. Both consumers and banks have already significantly delevered their balance sheets. Moreover, the federal government, while facing daunting longer-term debt sustainability challenges, has much more leeway to delay the beginning of austerity, and then to spread its deficit reduction over a longer time period.

As for developing countries, while they will not be able to completely decouple from slower growth in the developed world, their relatively strong balance sheets and rising productivity should allow them to continue growing at a reasonable pace. It is therefore likely that the “growth gap” between the developed and developing nations that became so pronounced following the crisis will persist through the balance of this decade as emerging market demand growth tempers the drag from deleveraging across the G7.

Economic uncertainty with potential longer-term costs

Deleveraging and austerity will not only depress demand over the next few years but may also impose longer-term economic costs. If economic cycles become more volatile, then private sector investment behavior will likely be affected. Banks could elect to apply stricter lending standards and demand greater risk premiums to buffer against economic uncertainty. With economic conditions more difficult to predict, businesses might require higher potential profits before they are willing to invest. Finally, in countries with hyper-polarized political landscapes, such as the US, the process of dealing with fiscal austerity could be fraught with difficulties. Phases of gridlock may alternate with phases of unstable political decision making, during which decisions of one administration are reversed by the next. This type of uncertainty is likely to hinder investment as well. Overall, all these channels risk leading to lower rates of capital accumulation and lower long-term growth rates.

Subdued near-term inflation despite looser monetary policy

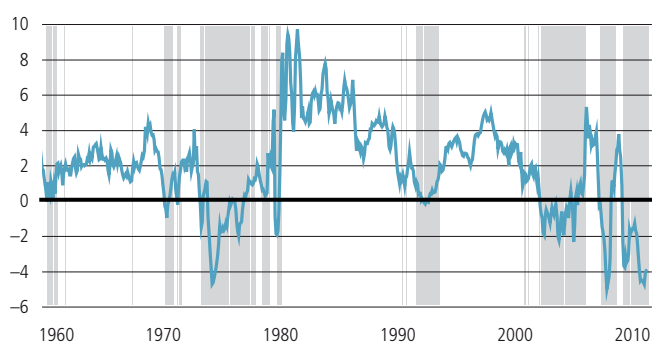
While the government’s hands are largely tied on the fiscal policy front, very loose monetary policy is one remaining tool to help offset the negative effects of deleveraging (see Figs. 2.2 and 2.3). Inflation can be helpful in reducing debt burdens since asset prices and income will tend to rise at least in nominal terms, while the amount of debt remains unchanged.

We believe some central banks, notably the Federal Reserve and the Bank of England, will contribute to deleveraging by ultimately tolerating somewhat higher inflation rates in the years ahead. By contrast, the European Central Bank is likely to stick with its single mandate of keeping inflation low – at least for now – thus making it more difficult for the eurozone to overcome its sovereign debt crisis.

We believe that inflation is unlikely to become a major concern in the developed economies in the near term because of excess capacity and high unemployment rates. However, once economic conditions improve sufficiently, the liquidity created by the central banks is likely to generate inflation beyond the 2%-3% range experienced in recent decades.

Fig. 2.3: Loose monetary policy driving negative real rates

Real federal funds effective rate, in %



Notes: Effective fed funds rate deflated by monthly consumer price index year-over-year change
Shaded areas indicate periods of easy money (i.e. real rates below 1%)
Source: Federal Reserve Board, UBS WMR, as of November 2011

Implication 2 Banks continue to delever

Michael Dion, CFA, Strategist; Dean Ungar, CFA, Strategist; Jeremy Zirin, CFA, Strategist – Wealth Management Research

Financial crisis and dramatic regulatory response

At the onset of the financial crisis, US banks were over-leveraged and under-reserved. With over a decade of stable asset quality, rising real estate values and high demand for housing, banks eagerly supplied credit to developers, homebuyers and real estate investors. As a result, system-wide leverage increased dramatically. As shown in Fig. 2.4 and 2.5, the tangible common equity ratio and loan loss reserve ratio at large-cap banks decreased dramatically during the bubble years (the lower the tangible common equity ratio, the higher the leverage). While banks did not appear overly levered or undercapitalized by the standards that existed at the time, at least six major financial institutions had failed by September 2008 amid the collapse in residential real estate.

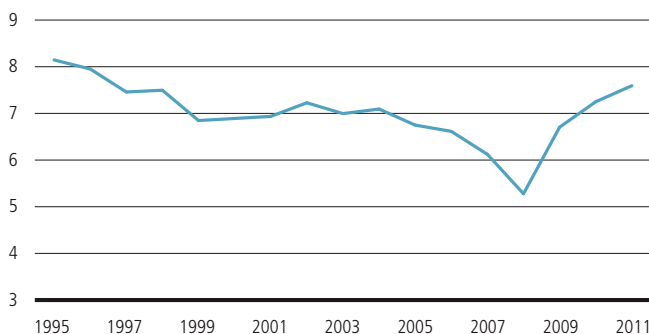
In the aftermath, US regulators took a number of immediate steps to restore confidence in the financial sector and shore up capital. First and foremost was the Troubled Asset Relief Program (TARP), which injected capital in the form of preferred stock directly into the banks. Policymakers moved aggressively to stabilize banks in the short run by guaranteeing bank debt issuance, increasing deposit insurance and expanding lending at

the discount window. US regulators were also keenly interested in raising capital, and, in the spring of 2009, administered a bank stress test to determine how much if any additional funds were needed for the large banks. The results of the stress tests restored confidence in the banks' solvency, which enabled the banks to once again issue common equity and build high-quality capital, even as they repaid TARP proceeds. Tier 1 common equity at large cap-banks has grown 89% since year end 2008, while risk-weighted assets declined 2%.

But regulators also sought long-term measures to restrain risk and leverage, including the new Basel III capital and liquidity standards on a global level and the Dodd-Frank Wall Street Reform and Consumer Protection Act at the US level. Under Basel III, banks will have to hold more and higher-quality capital. Basel III also establishes, for the first time, liquidity requirements, which will force banks to hold more liquid assets. Dodd-Frank adds new restrictions on trading activities, derivatives transactions and total leverage, among many other provisions. So prompted by both greater regulatory oversight and market forces, the US financial system has already undergone a rapid and forced deleveraging that included a shrinking of

Fig. 2.4: US banks were undercapitalized in the bubble years

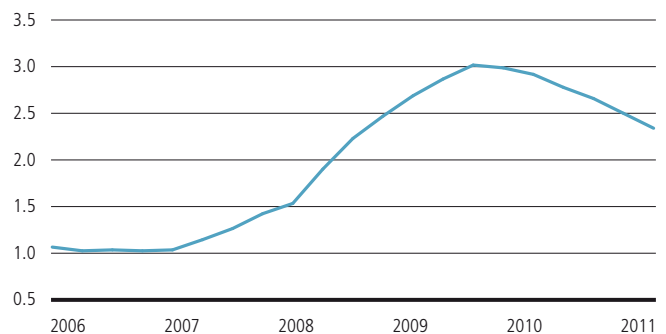
Tangible common equity ratio



Source: Bloomberg, UBS WMR, as of 3Q 2011

Fig. 2.5: Reserve levels are up from 2006

Loan loss reserve to total loans, in %



Source: Bloomberg, UBS WMR, as of 3Q 2011



assets, increases in capital and restraints on business activities. While the need for additional balance sheet adjustments is more limited now than in recent years, banks in the US will continue to operate in a constrained environment with lower levels of leverage and greater capital cushions.

Regional differences in capital adequacy: Europe versus US

In contrast to the US, however, the European banking system still appears overleveraged with significant exposure to sovereign debt in stressed eurozone countries. We estimate that the gross and net sovereign exposure of the European banks to the troubled eurozone countries, excluding Greece, to be approximately EUR 600bn and 515bn, respectively, versus core Tier 1 capital

of EUR 428bn. Recently, the European Banking Authority (EBA) issued a formal recommendation for European banks to reach a 9% core Tier 1 capital ratio by 30 June 2012. The EBA has calculated that European banks would need to raise EUR 115bn in capital to meet this higher target. This figure seems rather optimistic compared to other analyst estimates, which are significantly higher. We believe most European banks do not intend to issue equity under these stressed conditions. Instead, most will likely achieve their capital requirements through a combination of assets sales and retained earnings. Excluding the Greek banks, we estimate that European banks would have to sell assets worth more than EUR 850bn, or 16% of risk-weighted assets, in order to achieve their capital targets without raising any

equity. Factoring in a relatively optimistic view of bank earnings, the amount of asset sales would still be approximately EUR 600bn under the EBA estimates. However, both of these estimates of projected European bank asset sales could prove overly optimistic if bank earnings were to decline on a sustained basis. Given this significant deleveraging need, banks are unlikely to give much of a boost to economic growth through increased lending activity and may even turn procyclical and inhibit economic activity by restricting credit availability.

Global interconnectedness threatens financial stability

As we have already noted, US banks have largely delevered and also have minimal net credit exposure to eurozone sovereign debt. Despite this, US banks are sensitive to the twists and turns in the eurozone sovereign debt saga. The financial crisis revealed just how strong the relationships and correlations have become among global financial firms – something that was not immediately apparent from company disclosures. Therefore, the failure of a significant European bank would likely cause widespread liquidity and funding problems. The continued fragility of the financial system is one reason why US banks and US regulators remain cautious about the deployment of capital.

Industry transformation?

Most US banks have largely completed *required* deleveraging, but eurozone risks and tepid US economic growth limit the opportunities for banks to grow their balance sheets. Therefore, deleveraging is likely to continue in the financial sector amid regulatory limits on capital distribution, concern about the impact of Basel III and Dodd-Frank, and an industry-driven emphasis to maintain and build high capital.

Banks, in our view, are therefore likely to remain somewhat underleveraged for the next several years. In conjunction with a less risky balance sheet, banks are likely to achieve lower growth and profitability than in the past, as well as lower returns on equity. Overall, we believe that while credit availability will be more limited than it was during the bubble years, banks have the wherewithal to support sustainable growth.

Despite the increased regulation, we do not believe that banks will become “financial utilities.” Rather, they will continue to differentiate themselves on service, advice, business and product mix, efficiency and innovation. The best will generate sufficient growth and profitability to generate solid returns on equity and still be able to return excess capital to shareholders, while operating in a less levered and safer manner than before the financial crisis.

Implication 3 Global ties expose geopolitical risk

Kurt Reiman, Head Thematic Research – Wealth Management Research

Running to stand still

When countries face structural impediments to growth, as they do now, policy and geopolitical dynamics impact economic and financial market outlooks more severely. Unlike during normal business cycle fluctuations, pent-up demand does not materialize during deleveraging episodes to generate economic growth. Instead, countries grow slowly or in an uneven pattern, and a geopolitical shock or policy mistake can mean the difference between a shallow expansion and outright recession. Moreover, populist calls for governments to “do something” to alleviate economic distress and hardship grow louder when the economy is anemic over an extended period, increasing the likelihood that policymakers take on a more active role.

The law of unintended consequences

Unfortunately, there is no magic pill that will solve the deleveraging mess the developed world now faces. Fixing one problem often leads to others.

- Austerity measures, while aimed at arresting the deterioration in public balance sheet health, involve pain and sacrifice in the form of higher taxes or reduced spending. If reform is too slow, governments will face the wrath of rating agencies and bond market “vigilantes.”
- Quantitative easing, while seeking to lower bond yields and spur borrowing, could stoke inflation through higher commodity prices. Extended low interest rates also pressure pension funds and the livelihood of people living on a fixed income.
- Currency intervention (or benign neglect), while trying to benefit the tradables sector of an economy, can prompt other nations to implement capital controls, countervailing protectionist actions or currency debasement measures.

Of a more general concern is that, even though the intention of each of these policies may be

to promote economic growth, they may instead prompt domestic social unrest as a consequence of structural unemployment, higher food and energy costs, lower incomes, higher taxes and reduced spending on social programs. Such turmoil invites more frequent leadership changes and an appeal to domestic populism, as well as the associated instability that both entail.

“When the world economy is sputtering and countries and regions are operating at different speeds, the weak are likely to become resentful of the comparatively strong. This is the geopolitics of deleveraging.”

The geopolitics of deleveraging

Frustration can also spill over into the international arena. Expansions mask geopolitical risk; stagnation amplifies it. When the world economy is sputtering and countries and regions are operating at different speeds, the weak are likely to become resentful of the comparatively strong. This is the geopolitics of deleveraging. While many factors can lead to geopolitical conflict, three sources of stress become more important during deleveraging periods:

- The improvising of policymakers
- Deeply entrenched differences in national competitiveness
- Shifts in the relative strength of the great power brokers

Making things up as they go along

The global interconnectedness of trade, finance and capital flows means that policy actions can have a measurable effect on economic conditions overseas. Having exhausted the traditional tools to revive the economy during the 2008-09 global

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financial crisis, policymakers are now improvising in their quest to rev up the economy and fix structural problems. Look at the Federal Reserve's "Operation Twist" and the ECB's bank lending scheme for proof of just how far central bankers are venturing off the beaten path. Although the linkages between unconventional policy actions and what happens overseas are unclear, these actions can be used as a scapegoat for problems elsewhere:

- The Fed's balance sheet expansion is one of many factors that likely contributed to higher food prices in recent years – especially in emerging markets.
- Eurozone dithering is hurting the economies of nonmember states, such as Switzerland, and Eastern Europe
- New architecture to restrict deficits and debt in Europe has essentially created a two-speed EU, with the UK rejecting deeper political ties to the Continent in favor of protecting its financial services industry.

Delicate imbalances

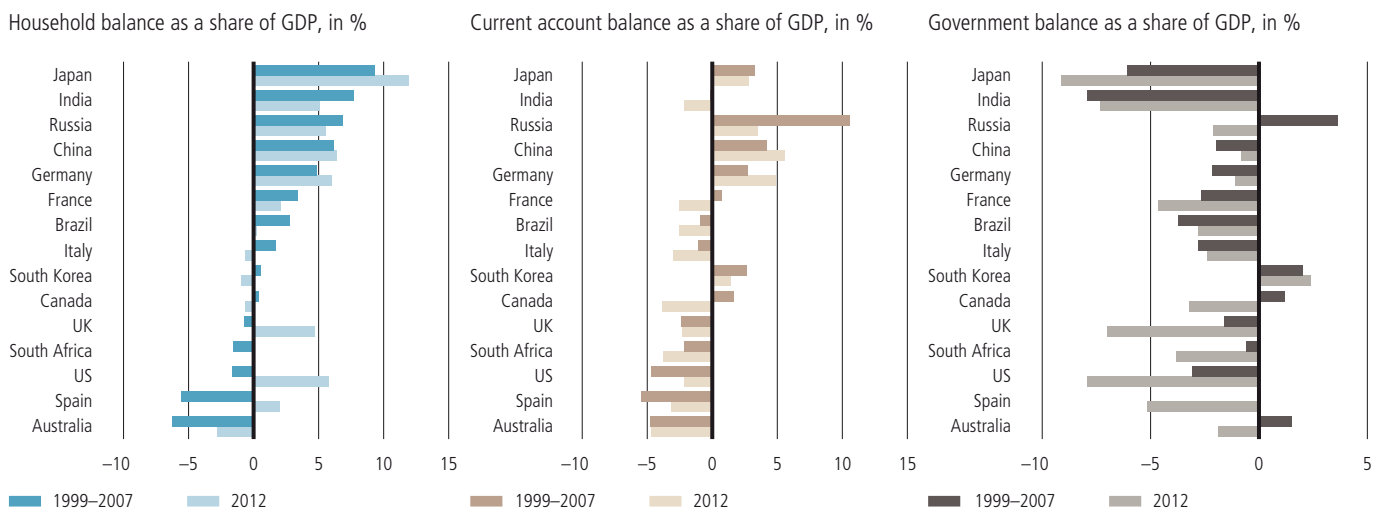
Differences in international competitiveness are back in the limelight as a result of deleveraging. Efforts to restrain spiraling indebtedness are intricately linked to global imbalances in trade and

capital flows. Typically, when a country runs a large current account deficit, it also finances sizable household and government deficits (see Fig. 2.6). It should therefore come as no surprise that heavily indebted countries, such as Greece, Portugal and the US, also carry large current account deficits. Meanwhile, countries like Germany, China and the Netherlands not only have comparatively better debt figures and carry large trade surpluses, but they also finance the debt issuance of profligate nations.

As discussed in Section 1, when growth is weak and financing these deficits becomes problematic, debtor nations must either undergo painful and long-term reforms, inflate their way out if they can, or default. Rather predictably, since foreign nations had a hand in financing these debts, they feel the effects of these actions and believe they should have a say in the outcomes:

- Pressure from core European countries on Italy and Greece to remain tough on austerity programs resulted in technocratic governments being installed in Rome and Athens. The core countries lent the money and have thus sought to exert their influence upon other states.
- China, the largest foreign lender to the US, has been a vocal critic of the Fed's balance sheet expansion, given the potential negative impact

Fig. 2.6: Global financial balances in an age of deleveraging



Source: IMF, World Economic Outlook Database, September 2011

this could have on the value of their holdings of US Treasuries if inflation were to escalate.

- Despite its small size, a Greek debt default could have far-reaching consequences for global economic growth and stability, hence the frenzied negotiations among international lenders and their unorthodox measures to ring fence the contagion.

The steadily emerging and newly submerging

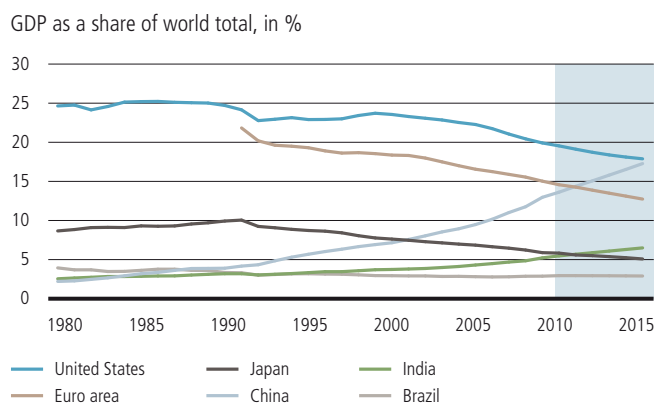
One final geopolitical consideration in a deleveraging world is the shift taking place in the global balance of power between the world's steadily emerging and newly submerging economies (see Fig. 2.7). Although global economic activity is poised to slow next year, much of the developed world could be teetering on the brink of recession while emerging markets still achieve a moderate expansion. Not only are emerging markets taking on a larger share of the global economy, they are also gaining influence in economic and military matters. Traditionally seen as the recipient of bailout funds, emerging market nations are now seen as a potential lender to help solve the European debt crisis. And although the current budget woes hitting the US are unlikely the principal cause of the decision to end the war in Iraq, deleveraging implies less military spending and perhaps even a payback from the years of overextending since 2001. Most US allies are similarly constrained.

More than ever

The deleveraging process is likely to foster greater geopolitical strains because it exposes large global trade imbalances, creates pressure for policymakers to resort to unconventional policy measures and showcases the steady shift of economic power between the world's emerging and submerging economies. Of particular interest, of course, is the risk of fragmentation within Europe and the potential for heightened trade tensions between the US and China. Meanwhile, more traditional forms of geopolitical risk are on display in many different theaters throughout the world. In the Middle East, for example, uprisings have toppled totalitarian regimes, Iran pursues "the bomb," and the US has unceremoniously withdrawn from Iraq. Geopolitical risk is also evident across the Pacific, where the US and China trade protectionist barbs and jockey for naval superiority.

So unlike during the last two decades of the twentieth century when financial markets benefited from the removal of inflation, the spread of globalization and technology, the privatization of national industries and the end of the Cold War, there are no big, positive macroeconomic trends that will conceal the risks on the geopolitical front. As a result, diversification across regions, sectors and asset classes, as well as allocations to safe-haven assets, matters more than ever.

Fig. 2.7: EM gaining ground on developed countries



Note: Gross domestic product based on purchasing-power-parity (PPP) share of world total
Shaded region indicates IMF estimates.

Source: IMF, World Economic Outlook Database, September 2011

Implication 4 Market returns are more compressed

Jeremy Zirin, CFA, Strategist; Anne Briglia, CFA, Strategist; David Lefkowitz, CFA, Strategist – Wealth Management Research

Bonds: a riskier asset class

One may think that a deleveraging phase with low growth, possibly deflationary pressures and easy monetary policy would be supportive for bonds. However, we believe that the benefits of deleveraging for bonds have already been reaped. With generationally low yields, bonds have been transformed into a less attractive and in many ways riskier asset class.

The Federal Reserve's aggressive monetary policy response to the Great Recession pushed Treasury yields to their lowest levels since the 1950s (see Fig. 2.8). Low coupons mean that bonds offer much less interest income than at any time in recent memory. Given weak growth expectations and a still wide output gap, the Fed has signaled that it may keep policy rates near zero well into 2013, suggesting savers will be stuck with low rates for longer. Thus, the great deleveraging penalizes bond investors, since they need to save more to generate the same amount of income (see Table. 2.9).

Low bond coupons have an additional undesirable effect. They have led to an increase in duration, i.e., the sensitivity of a bond's price to changes in interest rates. For example, the duration on the BoAML Treasury Index which was 4.80 in 2007 currently stands at 5.85 today. Although investors will still receive the face amount on their bonds at maturity absent a default, changes in market yields will cause a bond's price to fluctuate more sharply prior to maturity than in the past.

As discussed in the first chapter of this section, we expect that deleveraging will delay the normalization of monetary policy. Ultimately, however, a pick-up in inflation and a rise in yields appear likely. Given low absolute yields, there is less room for interest rates to fall and more room for bond yields to rise over the next several years. This means that the risks for bond prices are skewed to the downside. For buy-and-hold investors with a 5- to

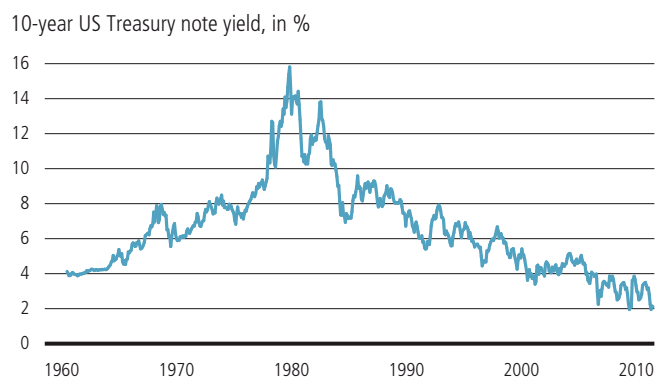
10-year time horizon, the delayed rise in yields actually makes expected total returns worse, since they will reap low yields for longer but could still be adversely affected by rising yields at some point.

Finally, fiscal challenges may still come to haunt the US bond market. While some of the increase in deficits has been cyclical, the more significant

“With generationally low yields, bonds have been transformed into a less attractive and in many ways riskier asset class.”

debt sustainability issues the US faces are structural, driven largely by entitlement spending. Because of partisan gridlock, Congress has made little progress in addressing these long-term fiscal imbalances. The sovereign debt crisis in Europe demonstrates that government bonds can trade with a significant credit premium as fiscal challenges grow. Although investors have yet to demand such a premium to hold US Treasuries, we anticipate this could change by the middle of the decade if Congress fails to act in a timely and thoughtful manner.

Fig. 2.8: Treasury yields are at historically low levels



Source: Federal Reserve Board, Bloomberg, as of 3 January 2012

Lower growth, higher volatility: a tough mix for equities

In order to assess what slower and more volatile economic growth means for equities, we need to keep in mind that stock prices are ultimately determined by two variables: earnings and the price investors are willing to pay for those earnings, i.e., the price-to-earnings (P/E) multiple. Financial theory tells us that P/E multiples are a function of several variables, including the growth rate for dividends and earnings and the risk associated with that future earnings stream. Both lower growth and higher volatility increase an investor's required rate of return and therefore negatively impact P/E multiples.

Empirical evidence supports this theory. Fig. 2.10 shows the inverse relationship between GDP volatility and P/E ratios. Valuation multiples are highest during periods of muted economic volatility. In this light, the high multiples and associated above-average returns for stocks during the late 1990s were at least partially explained by steady and reasonably strong economic growth. According to the National Bureau of Economic Research, the 10-year expansion was the longest uninterrupted stretch in recorded US economic history.

Conversely, turbulent economic times tend to depress valuations. It is, therefore, not surprising that P/E ratios were at generational lows in 1982 – after a 12-year period in which the US economy was in recession four times, totaling one-third of

the entire duration. We have also found that, over the last 30 years, P/E multiples have been closely correlated with earnings growth.

In addition, it is instructive to examine how equity valuations have been affected in the aftermath of other financial crises. Fig. 2.11 shows equity market valuations for the five-year periods before and after the onset of significant financial crises in other countries over the last 25 years. It is clear that valuations remain below pre-crisis levels for an extended period. The current US experience is trending fairly closely to these historical examples.

Given our expectation for lower growth and elevated volatility, we believe that a fair P/E multiple to apply to trend S&P 500 earnings is 13.0x, which is roughly 10% below the average P/E multiple since 1960 of 14.7x. We think investors waiting for the market P/E to revert to historical averages will be consistently disappointed until the deleveraging process has come to a conclusion and stops adversely impacting growth and volatility. Therefore, equity investors can expect no better than “normalized” returns amid an environment of elevated risk premiums.

The outlook for asset classes under different scenarios

In section 1, we outlined our baseline scenario and three potential alternative outcomes. Fig. 2.12 represents our broad view of how the major asset classes will likely perform in each of the four scenarios. We assume there will be sectors and



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regions within these asset classes that will diverge from the median, both positive and negative. The impact of the various scenarios on asset classes is shown strictly in terms of absolute return, as opposed to performance relative to history or relative to other asset classes. Importantly, we take the view of a US-based investor, and therefore we give greater consideration to US markets when assigning our return expectations. Our valuation starting point is the current level for each asset class broadly and our assessment spans a multiyear horizon. Given its illiquid nature, we apply a longer time horizon to private equity than publicly listed equities when measuring the scenario impact. Two important observations stand out from Fig. 2.12:

- First, the return expectations in the baseline scenario are all muted, likely as a consequence of the assumption that deleveraging will unfold at a measured pace. However, this is also a result of the fact that the valuation of most asset

classes is not at extreme levels, limiting to some extent the potential expected gains and losses from this starting point.

- Second, the alternative scenarios yield some extreme performance outcomes that vary quite widely across asset classes and within each scenario. This implies that the benefits of diversification will likely hold throughout the deleveraging process, even though there may be instances when correlations rise among risk assets.

Given the compressed return expectations in our baseline scenario and the possibility of more extreme outcomes, we see strong benefits during this period of deleveraging of combining diverse asset classes in portfolios.

Table 2.9: The decline in bond yields penalizes savers

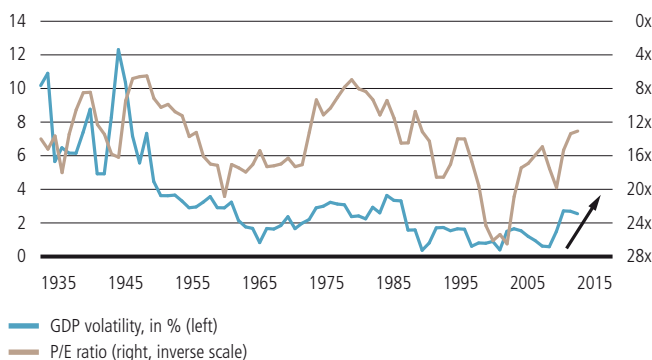
Income comparison between 3% and 5% coupon bonds

	Principal, in USD	Coupon %	Annual interest income, in USD	Percent change in income		Principal, in USD	Coupon %	Annual interest income, in USD	Percent change in principal
	1,000,000	5.0	50,000			1,000,000	5.0	50,000	
	1,000,000	3.0	30,000			1,666,666	3.0	50,000	
Difference	0	2.0	-20,000	-40%		666,666	2.0	0	66%

Source: UBS WMR, as of 3 January 2012

Fig. 2.10: Economic volatility dampens equity market valuations

Trailing 5-year standard deviation of US GDP growth and S&P 500 P/E ratio

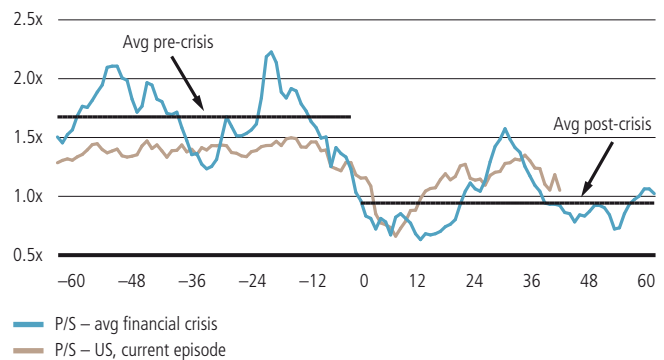


Note: P/E ratio = annual average S&P 500 index price / current year earnings (GAAP earnings through 1979, operating earnings thereafter)

Source: FactSet, UBS Investment Research, UBS WMR, as of January 2012

Fig. 2.11: Equity valuations remain depressed after financial crises

Price / sales ratio – average financial crisis and current US episode



Note: Average includes (crisis year): Sweden (1991), Finland (1991), Japan (1992), South Korea (1997), Hong Kong (1997), Philippines (1997), Indonesia (1997), Thailand (1997) and Malaysia (1997), Colombia (1998), Argentina (2001).

Source: Reinhart & Rogoff (2009), FactSet, UBS WMR

Fig. 2.12: Absolute return impact in various scenarios

	Baseline Gradual and steady deleveraging	Alternative 1 Sharp and sudden deleveraging	Alternative 2 Rising inflation	Alternative 3 Game changer
Government bonds	Moderately negative given low absolute yields and gradually rising inflation risks, despite still accommodative monetary policy.	Very positive as significant economic dislocations, further extraordinary monetary policy measures and rising deflationary risks prompt “safe haven” flows.	Very negative given low absolute yield levels, surging inflation risks and a reversal of accommodative monetary policy.	Negative amid significantly enhanced growth prospects, normalization of monetary policy and reduced threat of deflation.
Corporate bonds	Flat to moderately positive as sizable yield cushions and low default rates offset higher Treasury rates and modest credit spread widening.	Negative as a sharp widening of credit spreads and a surge in default rates dominate treasury yield declines and further extraordinary policy measures.	Moderately negative amid rising Treasury yields and tightening of monetary policy, despite attractive credit spreads and low default rates.	Moderately positive amid narrowing credit spreads and declining default rates.
Inflation-linked bonds*	Positive as modest inflation leads to positive nominal returns but near-zero real returns due to current valuations.	Flat as losses from inflation compensation reductions are offset by price increases due to declining interest rates	Moderately negative due to rising interest rates that more than off-set inflation compensation.	Negative as strong economic growth with modest inflation leads to rising interest rates.
Equities	Moderately positive as corporate earnings grind higher while P/E multiples remain depressed.	Very negative as stocks plunge, earnings collapse and P/E multiples fall further as deflation risks get priced in.	Moderately positive nominal returns as profit growth offsets P/E multiple contraction. Real returns are low, perhaps negative.	Very positive as strong earnings coupled with moderate inflation are the “sweet spot” for stocks – markets surge higher.
Listed real estate	Moderately positive as increasing cash flows offset somewhat higher capitalization rates.	Very negative as funding stresses surface and REITs fall along with other equities.	Moderately negative as dividend growth is unlikely to keep up with inflation resulting, in negative real returns.	Positive , delivering strong returns but likely lagging the broad equity market.
Commodities	Flat to moderately positive as low nominal global GDP growth leads to modest returns.	Very negative as sharply lower nominal GDP results in reduced demand and negative returns.	Flat as commodities provide inflation compensation but low growth presents headwind for returns.	Moderately positive as high economic growth drives commodity demand.
Hedge funds – equity	Moderately positive due to long bias with an equity beta that tracks equity markets.	Moderately negative as equity beta < 1 provides a hedge in falling markets.	Moderately positive as behavior is consistent with equities.	Moderately positive , with returns lower than equities as upside participation is generally less than equity markets.
Hedge funds – fixed income	Flat to moderately positive as less volatility is conducive to FI investing.	Moderately positive as active management and Long-Short credit shields downside risk.	Moderately negative as interest rate hedging mutes precipitous value decline.	Flat to moderately positive as long-biased credits perform better.
Private equity	Moderately positive , as a stable macro environment is conducive to secular growth.	Negative , but less than listed markets as lagged valuations trail public markets and illiquidity shields from forced selling.	Positive as nominal values rise, combined with a positive effect on debt repayment.	Positive , strong asset growth but more limited opportunity set.



Notes: Analysis takes both the fundamental outlook as well as valuation signals into consideration for each scenario. *For inflation-linked bonds, we assume they include a deflation floor on the principal amount, which at least partially kicks in as consumer prices fall.

Source: UBS WMR

Section 3 Recommendations

We start with the need for all investors to reassess the viability of their financial goals in the face of a low-growth environment. We focus on true growth opportunities within the equity markets amid constrained economic activity and identify more varied sources of income. We recommend new approaches to manage and structure portfolios as a result of the impending period of deleveraging, such as adapting portfolios to weather varied investment climates, dynamically repositioning assets, seeking alternate ways of gaining market exposure (alternative beta), utilizing volatility and reaping the benefits of distressed investing through the alternatives space.

Recommendation 1 Reset your financial goals

Tony Roth, Head WM Strategies; Andrea Fisher, Portfolio Strategist, Kaitlyn Fischer, Analyst – Portfolio Advisory Group

In the aftermath of the Great Recession, many investors remain traumatized and unwilling to accept the degree of losses experienced in their investment portfolios. It is estimated that at the deepest point of the financial crisis up to 45% of global wealth had been wiped out. While some investors have recovered a portion of that loss, most remain derailed on their path toward achieving their long-held investment goals. To help investors get back on track, we recommend systematically reassessing risk tolerance, resetting goals, raising savings rates and optimizing existing liability management.

Psychologically, investors reacted differently to the financial crisis. Some remain scared to invest and maintain significant cash holdings while others have been investing aggressively in an attempt to recoup their losses. The harsh reality is that many investment portfolios remain significantly below pre-crisis levels, which should not be a surprise considering the S&P 500 is still nearly 20% below levels reached in late 2007. What's more, our economic outlook for the next few years serves as a "one-two punch" to this dire situation. We expect balance sheet deleveraging to act as a headwind to economic growth for several more years. This stands in sharp contrast to the V-shaped recoveries historically experienced after market pullbacks of this magnitude. As Fig. 3.1 shows, sub-par economic growth generally translates to muted financial asset returns.

We believe investors should start by considering whether their investment goals are still attainable and what changes, if any, need be made in light of the investment environment. We find that since the financial crisis, most investors have not seriously assessed whether their investment goals remain realistic. For these individuals, we strongly recommend building a new financial plan that lays out realistic financial needs, wants and wishes and a path for achieving them. Even where clients must scale back their goals, without exception we

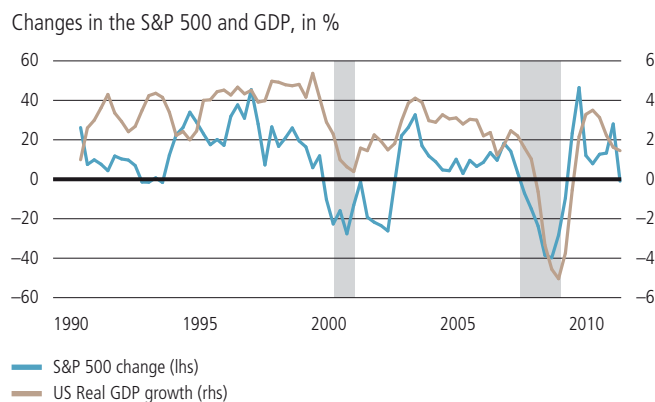
find this clarifying process to significantly enhance individual comfort and satisfaction.

The first step in a financial plan is to understand "true" risk tolerance. As described in our Portfolio for All Seasons section, investors should understand what level of loss varying portfolios might sustain in a tail event and set their portfolio risk

"We strongly recommend building a new financial plan that lays out realistic financial needs, wants and wishes and a path for achieving them."

based on the maximum loss they can live with, in addition to day-to-day volatility. Factors that should bear on this decision include assets necessary to fund short-term needs, time horizon or length of time until larger goals must be funded, and the individual investor's psychological ability to ride out a portfolio drawdown of a given level without pulling out of the market and giving up on the long-term plan. Importantly, once a target portfolio risk is established and a tail-risk strategy

Fig. 3.1: Muted equity returns during periods of slow growth



Note: Shaded regions indicate periods of US economic recession.

Source: FactSet, as of 3Q 2011

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is put in place, investors should find themselves well positioned to maximize current investment opportunities and thus the probability of long-term goal attainment.

Second, investors may be able to adjust their savings strategy rather than dial back their long-held goals or ratchet up investment risk to bring their needs and resources into alignment. One easy way to increase savings discipline can be through structured monthly salary withdrawals or other “mandatory” set asides. Even small and relatively painless adjustments can make a large difference over the long term. Similarly, systematic expense reviews and formal expense budgeting can be used to meaningfully alter the long-term trajectory of goal success. Another oft-used strategy may be to postpone retirement, affording a greater period for the wealth accumulation stage and correspondingly shortening the wealth draw-down stage.

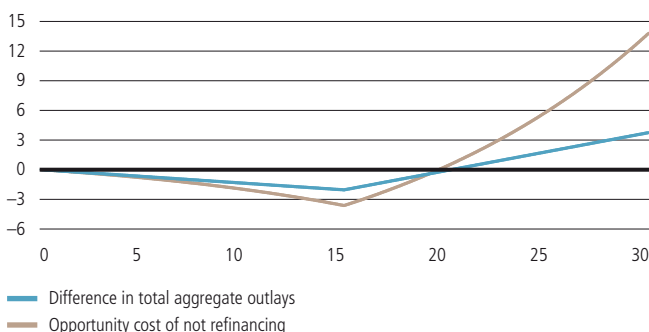
A third key planning step is optimizing liability management. Minimizing interest payments and leveraging inexpensive capital can dramatically improve the trajectory of an investor’s entire financial picture. Often investors do not aggressively or efficiently manage their liabilities. Given the historically low interest rate environment, investors can avail themselves of a number of powerful techniques to minimize the ongoing burden of servicing existing liabilities.

Without question, for most clients the mortgage refinance opportunity presents the clearest potential benefit afforded by the historically low rate environment. A surprising number of investors have not maximized this opportunity which can drastically improve financial results. As Figure 3.2 shows, by refinancing to a mortgage that provides a rate and/or maturity reduction, total cash outlays can be significantly reduced, leaving more resources available to meet investor goals. While there is a higher monthly out-of-pocket expense associated with the shorter maturity mortgage (shown as difference in total aggregate outlays), the opportunity to invest those freed-up assets in a well-diversified portfolio after the mortgage is paid down is more attractive than minimizing monthly outlays (shown as opportunity cost of not refinancing).

Another effective but underutilized method to liability management involves borrowing against an investment portfolio. Most simply, investors can utilize securities-based loans to access funds and pay off higher-cost debt without disrupting their portfolio strategy. Investors also can use this approach to invest in opportunities they judge to offer returns greater than the applicable rate, i.e., the cost of carry.

Fig. 3.2: Total cash outlays can be reduced through refinancing

Comparison between 15-year and 30-year mortgages over 30 years, in millions USD



Assumptions: \$600,000 mortgage, 30-year mortgage rate of 5%, 15-year mortgage rate of 3.75%, and 7% annual growth in a moderate investor’s portfolio
Source: Portfolio Advisory Group, as of January 2012

Recommendation 2 Build a “portfolio for all seasons”

Tony Roth, Head of WM Strategies; **Brian Nick**, CAIA, Senior Portfolio Strategist; **Andrea Fisher**, Portfolio Strategist
– Portfolio Advisory Group

The global financial crisis brought to light the need for building and maintaining portfolios that are able to thrive in a base case, or expected, economic scenario while also surviving worst-case scenarios, frequently called “tail risk” events. The choppiness of the ensuing recovery has only reinforced this message. Building a true portfolio for all seasons requires accepting trade-offs such as sacrificing some upside, exerting greater investment discipline and using outright or implied hedging on a more systematic basis.

Under the assumption that equity market returns are “normally” distributed in a neatly shaped symmetrical bell curve, tail events, which we define as three standard-deviation (13%) downward moves, should occur only 0.3% of the time. In the past five years, tail events occurred four times more often than normal (see Fig. 3.3). The fact that supposedly rare events have seemingly become commonplace strongly implies that our theoretical assumptions of “normal” return distributions are overly simplistic and fail to reflect the real world. Consequently, portfolios must be better prepared to withstand extreme market behavior when virtually all investments seem to fall in tandem, as happened in 2008. Unfortunately, as described in Sections 1 and 2, we don’t expect tail risks to recede anytime soon.

In fact, investors should adjust for an increased risk of tail events in three ways. First, they should assess their true risk tolerance (see our Reset your financial goals chapter for more) and make sure they really understand how much money they could lose in a tail event. Second, since many asset classes become more correlated during tail events, investors must adjust their asset allocation strategy accordingly. Third, investors should consider using outright portfolio hedges: options, structured solutions and annuities may provide varying degrees of downside protection.

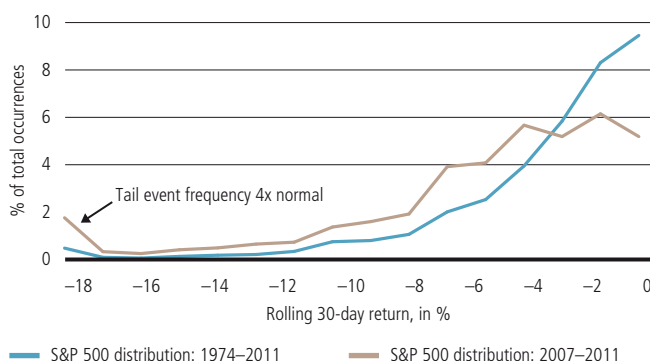
All of these changes involve concessions. Changing one’s risk tolerance means accepting either lower returns or greater potential losses. Broader diversification can involve making investments with low or even negative expected real returns. And hedging techniques can be costly even in tranquil markets. Nonetheless, we believe preparing for extreme downside events is well worth the costs.

Assess true risk tolerance

As discussed in the chapter, Reset your financial goals, before considering any tail risk mitigation strategies, investors should assess their true risk tolerance, in line with savings and objectives, to

Fig. 3.3: S&P 500 exhibiting much larger tail risk since 2007

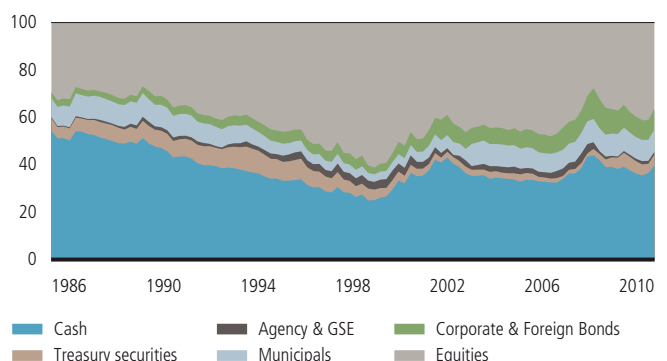
Distribution of 1-month S&P 500 losses



Source: Bloomberg, as of December 2011

Fig. 3.4: America needs to diversify

Federal Reserve data on household asset makeup, in %



Note: GSE = government-sponsored enterprise
Source: Federal Reserve, as of 3Q 2011

identify an acceptable level of losses. Any form of “insurance” comes at a cost, but risk-averse investors should be willing to pay a higher premium for downside protection.

Well-diversified portfolios

Many investors were not adequately diversified heading into the Great Recession. High-quality bonds and several alternative strategies provided positive returns throughout the crisis. Despite this lesson, we believe there is still too much focus on cash and equities (see Fig. 3.4) and not enough on portfolio diversifiers. While intra-market correlations rose in 2011, Figure 3.5 shows that diversified investors were rewarded. Specific alternative beta strategies (discussed in the Alternative beta chapter) and high-quality bonds can both provide significant diversification benefits.

It is important to note that we do not include gold in our recommendations. Although gold has done well during recent tail events in which real interest rates have fallen (see Fig. 3.6), a

deleveraging-related tail event (e.g., a eurozone break-up or deflation in the US) could result in the opposite: higher real interest rates and a flight to the US dollar. Based on its recent behav-

“Portfolios must be better prepared to withstand extreme market behavior when virtually all investments seem to fall in tandem, as happened in 2008.”

ior, gold might perform poorly in such a scenario. Accordingly, although gold has a role in hedging tail risks, it is unlikely to protect portfolios in all conceivable tail events.

Barbell portfolios

Investors can also consider tail risk strategies outside of conventional asset allocation. Barbell



portfolios may be an attractive approach for investors seeking better performance during times of market crisis while sacrificing little in more normal environments. Barbell strategies pair a moderate well-diversified portfolio with either very safe assets (to make the overall portfolio conservative) or leverage (to make it aggressive). The two-bucket approach allows investors to control the volatility of their portfolios while avoiding over-concentration in any one asset. It is important to note that while barbell portfolios tend to outperform in periods of crisis, they may underperform during periods of strong returns in any one asset class due to the exposure limits inherent in such a strategy.

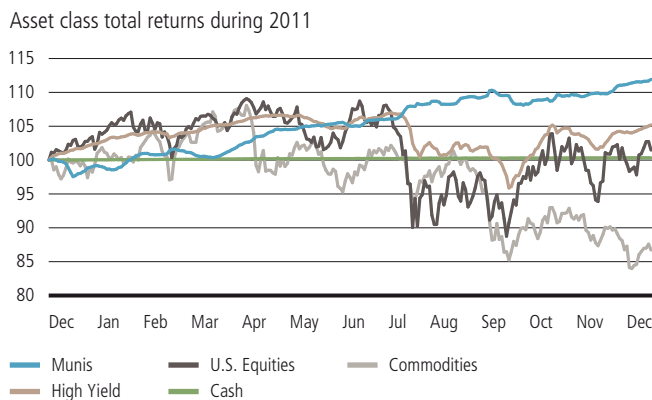
Limiting structures

Investors wishing to provide a firmer floor for their portfolios can utilize investment vehicles that may limit downside exposure, including structured solutions, annuities and certain options strategies. Structured solutions with protection features are designed to provide exposure to risky segments of the markets, such as emerging market equities, with a reduced downside risk at maturity either through a buffer or contingent protection.

Variable annuities may serve as a tail risk mitigation strategy for investors worried about the potential negative impact market volatility could have on a portfolio’s retirement income stream. Certain annuity structures generate guaranteed levels of income while still providing for

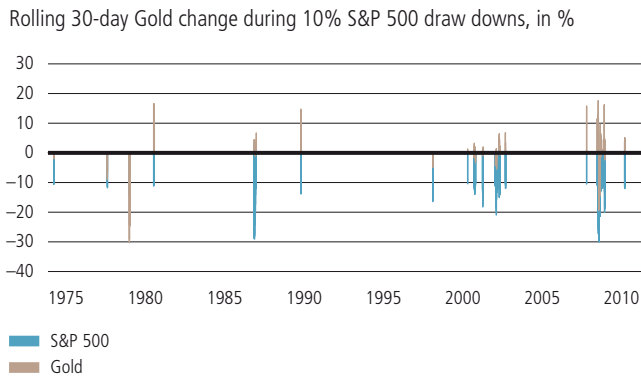
asset growth potential. For investors with highly appreciated concentrated positions, charitable remainder trusts (CRTs) may be another attractive option. The stock is transferred to a CRT and the investor receives both a charitable deduction and an annual income stream from the trust. Option strategies focused on creating a downside floor on asset values, such as collars and put spreads, may be appropriate as a tail risk hedge, and are discussed in greater detail in the chapter on volatility.

Fig. 3.5: Diversification paid off in 2011



Note: 1 January 2011 = 100
Source: Barclays Capital, Bloomberg, as of 28 December 2011

Fig. 3.6: Gold generally a hedge against equity tail events



Source: Bloomberg, as of December 2011

Recommendation 3 Employ more active risk

Michael Crook, CAIA, Head of Portfolio Advisory, Kaitlyn Fischer, Analyst – Portfolio Advisory Group

High correlations between and within asset classes appear to be both a standard feature of most financial crises and a structural artifact of this deleveraging cycle (see Fig. 3.7). Intra-market correlation increases when volatility rises or when the distribution of returns narrows. Both have occurred at various times since the 2008 crisis. In addition to reducing the benefit of diversification across asset classes, elevated correlations make it difficult for managers to generate sufficient excess returns, or alpha. In response, we prefer managers who exhibit a high level of tracking error (defined as the amount of deviation from a benchmark) and have relatively broad benchmarks.

Manager outperformance is essentially a function of skill and tracking error. Skill not only measures the quality of a manager's views in selecting securities, but also a manager's ability to add value through sector and geographical positioning as well as other benchmark deviations. Tracking error measures the size of those views in the portfolio. Accordingly, a skillful manager that only expresses his or her views modestly (i.e., low tracking error) will produce lower outperformance than a manager of the same skill level that takes meaningful deviations from the benchmark (i.e., high tracking error).

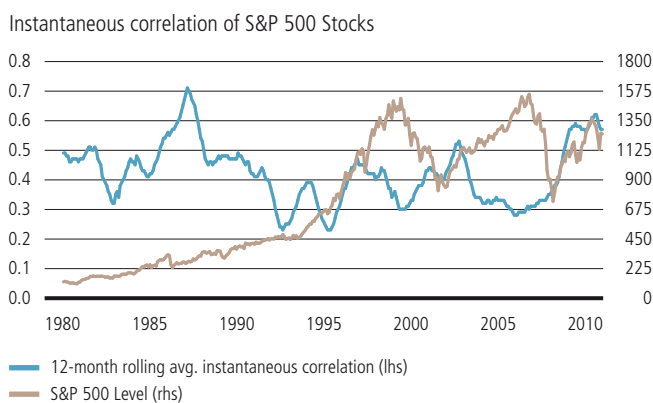
Generating meaningful tracking error can be difficult when correlations are high. For instance, Fig. 3.8 illustrates the realized tracking error for an all-cap manager that holds a consistent small-cap overweight at all times. Even through the positioning within the portfolio never changes, the track-

“We prefer managers who exhibit a high level of tracking error and relatively broad benchmarks.”

ing error, and therefore potential alpha, fluctuates through time. The current tracking error of such a portfolio is 32% lower than the 20-year average. This trend appears to be present in nearly all segments of the market, including among individual stocks, sectors and geographies – creating an environment that is difficult for even skilled managers that take only average levels of tracking error.

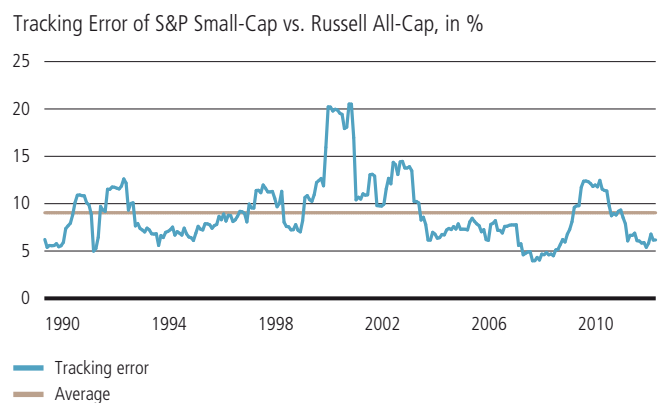
Accordingly, we believe that managers with broad mandates are more likely to achieve success in a deleveraging environment. A narrow mandate (e.g., small-cap value) can make it difficult for managers to express anything other

Fig. 3.7: High intra-market correlations in current environment



Source: FactSet, as of 30 November 2011

Fig. 3.8: Market cap less effective as a diversifier



Source: Bloomberg, as of 31 December 2011

than security selection views, but a broader mandate (e.g., all-cap equity) also enables additional discretion among security, sector and market capitalization views, as discussed above, allowing managers to express views of suitable size and conviction in the current environment. Manager data appear to confirm this assumption: The median tracking error for all-cap equity and large-cap core equity managers over the last

10 years was 7.2% and 3.7%, respectively. We believe a well-constructed portfolio in the current environment, therefore, utilizes high-tracking error active management for broad asset class exposure and passive, index-based implementation for narrow segments of the market and explicit tactical positioning.



Recommendation 4 Seek alternative beta

Michael Crook, CAIA, Head of Portfolio Advisory, Brian Nick, CAIA, Senior Portfolio Strategist – Portfolio Advisory Group

Investors commonly view their portfolios through the prism of market beta, the component of returns derived from the broader market (i.e., S&P 500), and alpha, which refers to the outperformance or underperformance from active management. We'd like to add one additional component to that analysis – alternative beta.

Alternative beta, typically accessed through alternative strategies, refers to nontraditional return factors that have historically exhibited positive returns and are not predicated on manager skill. Examples include volatility, illiquidity and momentum. Having exposure to some or all of these strategies may add value in a deleveraging market environment, during which we expect correlations among traditional markets to remain high.

As volatility is addressed in a separate section, we will focus here on momentum and illiquidity. Momentum strategies overweight assets that have performed well in recent periods relative to those that have performed poorly. Academic research indicates that the strategy's historical success is likely due to quirks in investor behavior such as investor herding and improper reaction to news. Whatever the cause, momentum has consistently

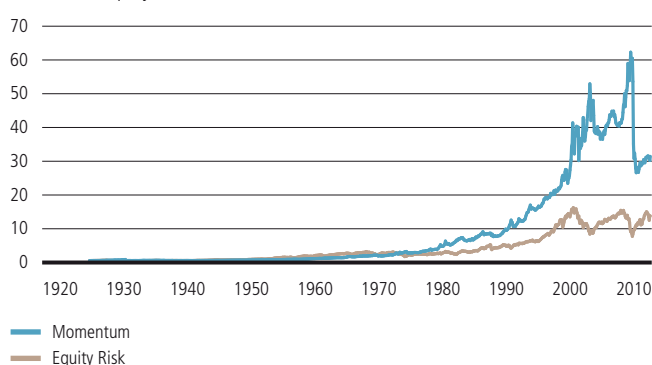
generated a positive return (8.3% annually since 1927) with equity-like volatility but a correlation of -0.3 to the S&P 500, making it a valuable and often underutilized source of both return and diversification.

To demonstrate how the strategy works, consider the behavior of momentum in Fig. 3.9. Many assets had been sharply trending coming into March 2009 before sharply breaking during the month. Momentum performed poorly during this period, as it tends to do when trends break or reverse. However, an equity momentum strategy that consistently buys the best-performing stocks and sells the worst performers rose 18% in 2008, while virtually every long-only equity index fell. Given the balance of risks and our current outlook, we expect the strategy to add value over the next several years.

Illiquidity is another source of alternative beta. Investors are compensated, on average, for accepting lower levels of liquidity in their portfolios. To take an example, Fig. 3.10 shows the estimated returns over time from selling the most recently issued US Treasury (UST) securities, which are also the most liquid, and buying the less liquid

Fig. 3.9: Momentum strategies diversify risk, enhance returns

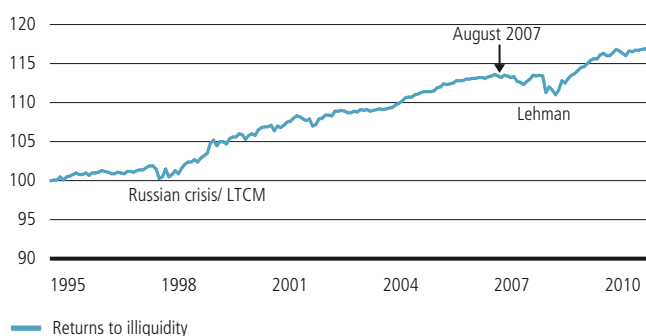
Returns to Equity Risk and Momentum, 1927–2011, in thousands



Source: Kenneth French Data Library, as of 30 November 2011

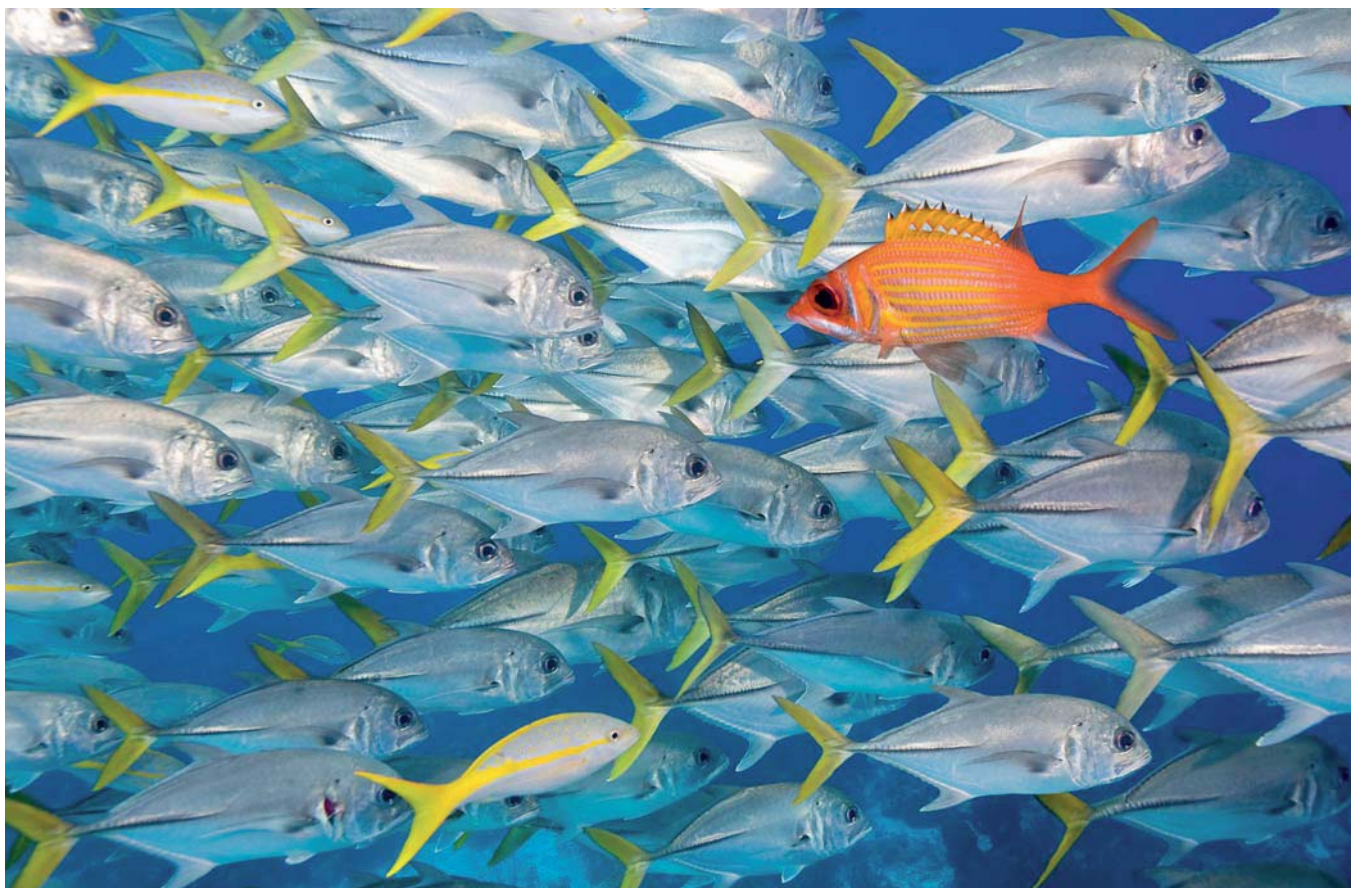
Fig. 3.10: Investors are compensated for portfolio illiquidity

Estimated returns from selling on-the-run UST securities and buying off-the-run UST securities



Note: Returns to illiquidity (1995 = 100)

Source: Barclays Capital, as of 31 December 2011



older issues. The returns are remarkably steady in most periods, correcting only during large market shocks in which liquid assets trade at high premiums. Academic research on illiquid assets like private equity and hedge funds backs up the results of our simple Treasury analysis.

Investors generally access alternative betas through a variety of hedge fund strategies (e.g., relative value, equity long-short and event driven), or, in the case of momentum, through managed futures funds. Many long-only equity managers also utilize alternative betas as part of their portfolio construction process – for example, momentum overlays – and liquid investment vehicles. These vehicles are designed to

offer explicit exposure to alternative betas and have become more common. Including one or more of these strategies in a portfolio may help provide much-needed diversification and return enhancement.

Recommendation 5 Harness volatility

Brian Nick, CAIA, Senior Portfolio Strategist – Portfolio Advisory Group

We expect the next decade's combination of economic instability and policy risk to produce greater-than-average market volatility. However, while equity market volatility has spiked numerous times since 2007, it is the volatility of volatility that has exhibited truly anomalous behavior (see Fig. 3.11). Understanding this trend is crucial to using volatility effectively in portfolio construction.

There are two ways to incorporate volatility into an investment strategy. First, long volatility strategies, which benefit from rising volatility, can mitigate losses. Second, selling volatility to collect option premiums can enhance returns, particularly when volatility is elevated. The key to successful volatility management is timing: volatility may be a cost-effective hedge when it is relatively low and an efficient source of income when it is high. Volatility has moved in a wide range in recent years – in other words, the volatility of volatility has been high. As a result, timing has played a larger role than normal in determining the success or failure of volatility strategies. We believe there will be opportunities to employ both long and short volatility positions in portfolios in the next several years.

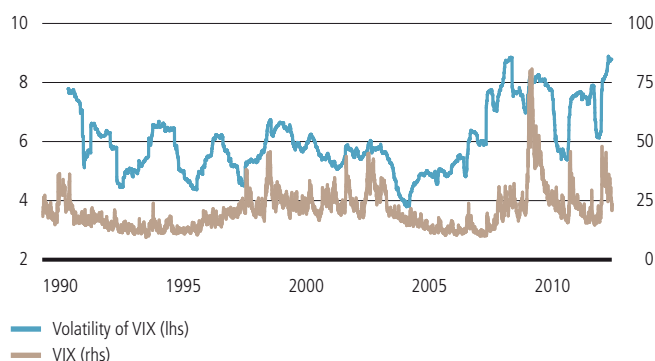
Investors should consider long volatility strategies to mitigate downside risk. Put options or other

limiting structures can place a hard cap on losses and offer the most direct hedge, but asset allocation plays a part as well (see more in our chapter Building a portfolio for all seasons). A downside to using volatility as a portfolio hedge is that it is often very expensive. Hedging strategies can be costly in normal markets, but they become prohibitively more expensive once a crisis sets in. If volatility remains volatile, fleeting periods of market tranquility may present attractive hedging opportunities.

On the other hand, investors can generate income by selling options, also known as being short volatility. This strategy, a form of alternative beta, has generated positive returns over time, but we caution against its overuse. Volatility possesses positive skew, meaning it is more likely to rise by a large amount than it is to fall by a large amount. Because short volatility positions are subject to tail risk, investors should carefully evaluate whether the premiums are high enough to justify the risk. Writing puts, for example, can lead to large losses when volatility spikes, as it has done with greater frequency of late. Fig. 3.12 shows the Chicago Board Options Exchange (CBOE) S&P 500 PutWrite Index, which recreates a systematic put-writing strategy on the S&P 500.

Fig. 3.11: Volatility of volatility abnormally high since 2007

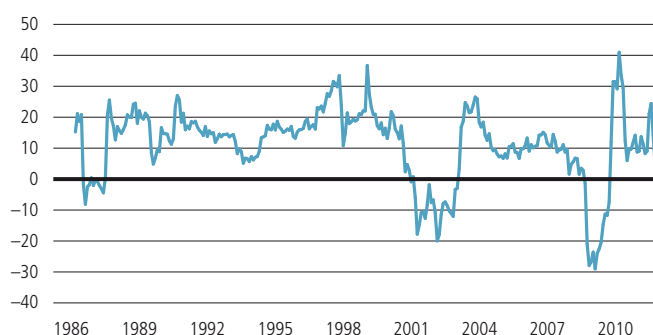
VIX Index vs. Rolling Volatility of VIX Index, in%



Source: Bloomberg, as of 29 December 2011

Fig. 3.12: Short volatility strategies hurt by tail risk events

1-year rolling CBOE Put-Write Index Returns, in %



Source: Bloomberg, as of 31 December 2011

Recommendation 6 Invest in growth

Stephen Freedman, PhD, CFA, Strategist; **Jeremy Zirin**, CFA, Strategist; **Jerry Brimeyer**, Analyst; **Nicole Decker**, Analyst; **Bob Faulkner**, Analyst; **Alex Brown**, Analyst; **Sally Dessloch**, Analyst – Wealth Management Research

In Section 2, we discuss how the great deleveraging will exert pressure on equity market valuations. In this environment, we expect that earnings growth will become a key return driver, and that companies with secular or stronger structural earnings growth potential and predictability will be rewarded.

What distinguishes secular versus cyclical growth? Secular growth is derived from enduring trends such as demographic or technological change, while cyclical growth is far more reliant on the near-term momentum of broad measures of current economic activity. Equities with stronger relative earnings growth rates are commonly classified as “growth stocks,” while slower-growing and higher-yielding equities are often referred to as “value stocks.”

Growth stocks have tended to outperform value stocks when economic and profit growth is slowing (see Fig. 3.13). This has been true as well since the beginning of the deleveraging cycle in 2007. We believe secular growers have benefited, in the context of scarce earnings growth, from their more resilient and less volatile earnings. In our view, ongoing deleveraging implies that growth stocks will continue to outperform value over the

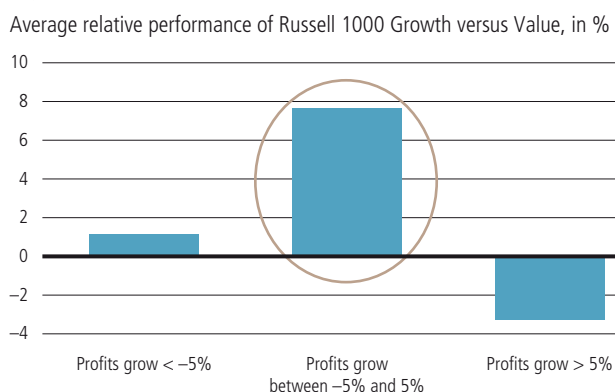
next several years because, while growth-oriented portions of the equity market could conceivably become expensive over time, they do not currently reflect a growth premium, i.e., they are cheaply valued (see Fig. 3.14).

“In this environment, we expect that earnings growth will become a key return driver, and that companies with secular or stronger structural earnings growth potential and predictability will be rewarded.”

Whither growth?

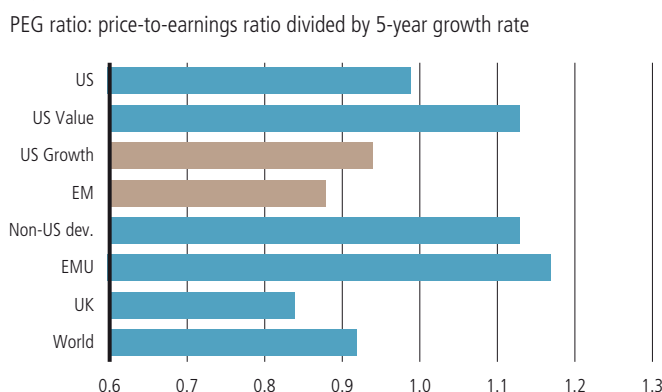
Within global equities, emerging markets (EM) appear to offer the most attractive secular growth opportunities. Unlike most developed economies, the largest EM economies, such as China, Brazil and India, are not burdened with excessive household or public debt. Moreover, long-run opportunities created by rising domestic consumption, needed infrastructure upgrades and favorable demographics should continue to support stronger earnings growth for both EM and developed market companies exposed to these trends.

Fig. 3.13: Growth outperforms when profits are “flattish”



Source: DataStream, UBS WMR, as of December 2011

Fig. 3.14: Growth premiums currently low



Source: DataStream, UBS WMR, as of January 2012

Within US equities, we identify what we believe are the most attractive secular growth opportunities by sector and industry. Technology should be the single most growth-centric sector, but segments within the consumer sectors (both staples and discretionary) and healthcare also stand out (see Fig. 3.15).

Technology: Moore's law defines growth opportunity. This sector has historically been a growth area because technology companies are driven by both Moore's Law and human creativity. Forty years ago, Intel co-founder Gordon Moore famously forecasted that the number of transistors in a given area of silicon would double every two years, allowing for faster processing speed and increased computing power. While history suggests that the most innovative companies of one generation will eventually be replaced by the next "new thing," industry-wide growth should remain robust as faster, cheaper and more powerful building blocks spark innovation and growth. In the context of slower economic growth and more frequent credit market "scars" caused by deleveraging, we believe that technology companies have two attractive characteristics. First, technology is often used as a tool by companies to combat sluggish revenue growth by enhancing productivity and cost savings. Second, tech companies have strong, fortress-like balance sheets reducing reliance on external capital to fund growth.

Consumer staples: EM and pricing power drive growth. Of the defensive sectors, in our view, consumer staples offers the best secular growth prospects due to its high exposure to EM, strong global brands and ongoing productivity programs which allow them to free up funds to invest in future growth. Within the sector, global household and personal care and beverage companies should have the highest earnings growth over a multi-year period.

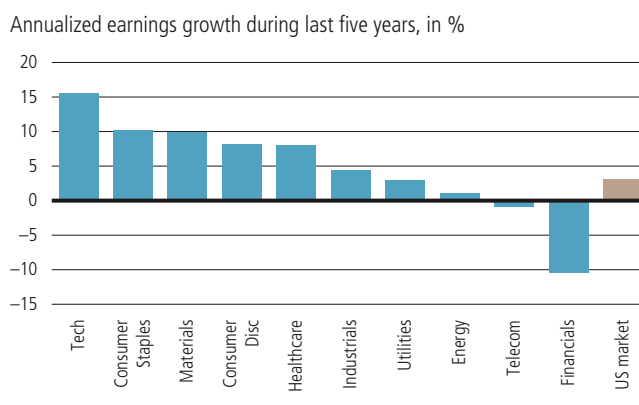
Consumer discretionary: e-commerce changes the rules. The rapidly growing share of online purchases as a percentage of total consumer spending is both creating new business models and allowing brick-and-mortar retailers to capitalize on e-commerce trends by partnering with technology companies. The enhanced application of

technology, global data mining and social media to create, identify, stratify and fulfill underserved and underpenetrated consumer needs should be a key driver of growth and may differentiate winners and losers within the sector.

Healthcare: pressure to reduce system costs still offers growth opportunities. Considering the high cost of healthcare and the austerity pressures of US and European governments, healthcare companies that develop meaningful healthcare innovations and help lower costs should benefit. Managed care organizations, particularly those with a concentration in Medicare recipients, generic drug manufacturers and drug distributors appear best positioned.

Quality growth at a reasonable price (Q-GARP): our growth stocks "filter." The WMR Q-GARP stock list, introduced in May 2007, appears particularly well suited for the current market environment, combining high earnings growth prospects with a quality, valuation and fundamental overlay. In constructing this stock list, we look for companies that are attractively rated by WMR industry analysts with the following characteristics: 1) quality—consistent profit margins and high profitability (return on equity); 2) growth—high expected earnings growth over the next three to five years; and 3) valuation—low valuation relative to peer group. In a slow-growth, high-volatility world, we believe that high-quality growth stocks are in the best position to navigate the expected difficult economic terrain.

Fig. 3.15: Technology and Consumer Staples top growth sectors



Source: DataStream, UBS WMR, as of January 2012

Recommendation 7 Generate income

Anne Briglia, CFA, Strategist, Stephen Freedman, PhD, CFA, Strategist, Jeremy Zirin, CFA, Strategist – Wealth Management Research

Investing in an “income-starved” environment

Generating income during a period of deleveraging is challenging because both central bank official rates and bond yields can remain low for a considerable period of time. This deprives traditional bond investors from key income streams. In this section, we highlight opportunities to generate income both within the traditional bond universe, but also within selected portions of the equity market. Indeed, we find that the relative yield advantage of dividend-paying stocks and other higher-yielding pass-through investments is increasingly attractive in the current “income-starved” environment.

Add credit risk, duration and leverage within traditional fixed income

Our main investment recommendations are to: 1) reduce cash holdings and take advantage of the steepness of the yield curve by holding intermediate bond maturities; 2) overweight the credit-sensitive bond sectors; and 3) look to closed-end funds and structured products which employ leverage to boost income:

- Near-zero yields on cash mean miniscule interest income for a fourth consecutive year for money market funds and short-term bonds. We therefore recommend diverting surplus funds out of cash and extending bond maturities modestly to take advantage of the yield difference between short- and longer-term securities. The relative steepness of the intermediate portion of the yield curve offers what we believe is an attractive trade-off between the near-zero yields on cash alternatives and the longer-term interest rate risk associated with long maturity bonds in a low coupon environment, as discussed in Section 2.
- A second way to boost income is through taking selective credit risk exposure. Adding corporate bonds is, in fact, our preferred way of increasing a bond portfolio’s yield. Corporate bonds offer

incremental income, are attractively valued on a relative basis and should benefit from strong balance sheets. For investors with a greater risk tolerance, we recommend the senior unsecured bonds of the large, systemically important US banks, as well as high yield bonds. The average coupon on high yield bonds is above 8%, which is roughly in line with the pre-crisis average.

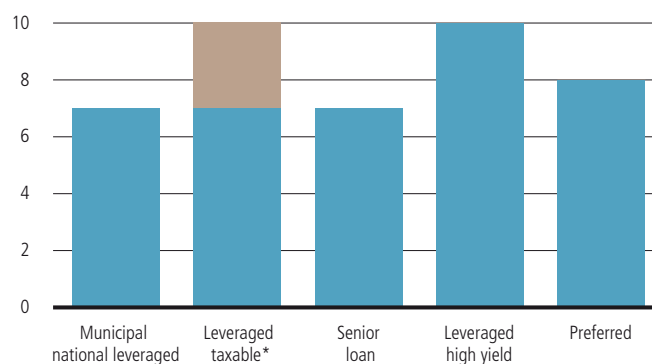
- In this environment, we also recommend closed-end funds, which employ leverage to augment income. Closed-end funds enhance earnings by borrowing at rates tied to the short end of the curve while investing in longer duration assets. As Fig. 3.16 indicates, the yield pickup over US Treasuries that these structures can provide is considerable. Keep in mind, however, that the additional yield achieved has a cost, as any losses incurred on the underlying assets are magnified through leverage.

Dividend growth preferred over pure dividend yield

In 2011, the US equity sectors with the highest absolute dividend yields, such as utilities and telecom, experienced the strongest valuation

Fig. 3.16: Leverage enhances closed-end fund returns

Average fund yields (funds covered by UBS WMR), in %



*Leveraged taxable funds range from 7–10%, depending on the asset class they invest in.
Source: Bloomberg, UBS WMR, as of 21 December 2011

Section 3

expansion (see Fig. 3.17). This occurred largely because the relative yield between high dividend-yielding stocks and US Treasuries surged, as 10-year yields fell from an early 2011 peak of 3.75% to under 2.0%. At the start of 2012, high-dividend strategies remain attractive for their defensive characteristics and strong relative yield versus bonds, in our view. However, valuations on other metrics, such as P/E ratios, are historically high and the benefits of further interest rate declines are unlikely. We therefore prefer focusing on stocks that deliver dividend growth over pure high-dividend yield strategies. The WMR Dividend Ruler Stock List – companies that deliver consistent dividend growth “as straight as a ruler” – fit this theme. This list has been produced by UBS WMR since 2003 and comprises stocks with attractive current fundamentals, higher dividend yields than the market index and at least a 10-year track record of delivering strong, consistent and uninterrupted dividend growth.

We believe that investors should also consider two other types of listed equity investment vehicles that offer investors high dividend yields: real estate investment trusts (REITs) and master limited partnerships (MLPs), as shown in Fig. 3.18. Keep in mind, however, that unlike common stocks, cash distributions from both REITs and MLPs do not qualify for the current, low 15% tax rate on qualified dividend income (although MLP distributions do have other tax advantages).

- REITs: The broadest REIT index offers a dividend yield of approximately 3.7%, nearly twice the 10-year Treasury yield. REIT valuations are high both relative to their own history and to the S&P 500, but occupancy rates have improved sharply over the past three years and capitalization rates on commercial properties are at multi-year lows. WMR currently favors the multifamily group within the listed commercial real estate market.
- MLPs: US oil and gas production from shale resource development will figure prominently in meeting domestic energy demand. We project that onshore oil and gas production will continue to rise, increasing the need for infrastructure, such as processing plants and pipelines. Logistics companies, such as midstream MLPs, should be well-positioned to benefit from this trend, as volume growth should support revenue and cash flow gains. Within the midstream MLPs, we believe those with a disciplined financial strategy and a proven execution record are best positioned.

Fig. 3.17: Dividend growth more attractive than dividend yield

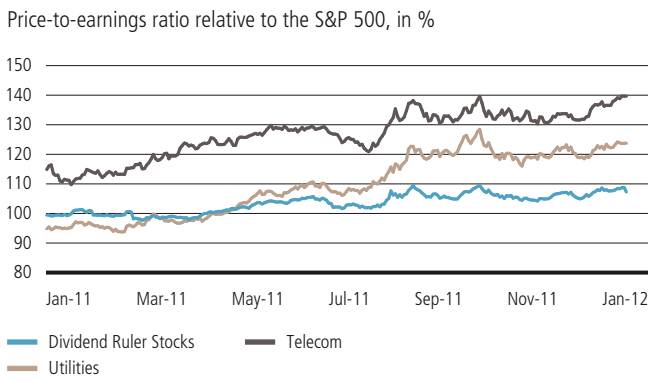
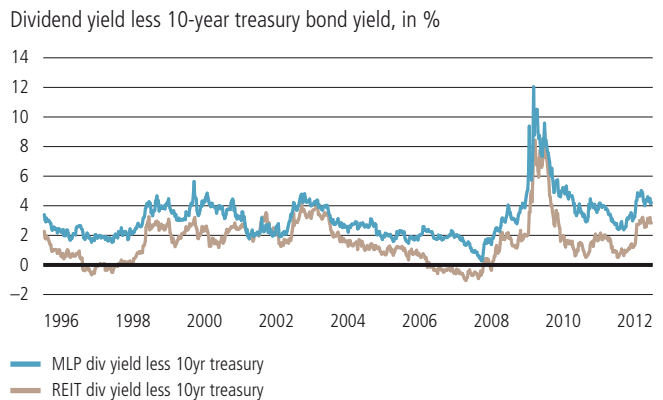


Fig. 3.18: Attractive relative yield spread for REITs and MLPs



Recommendation 8 Identify distressed opportunities

Sameer Jain – UBS Alternative Investments

Deleveraging creates opportunities in distressed investing

While deleveraging poses many challenges to investors, it may create certain opportunities within the alternative investment universe, most notably through private equity and hedge funds that specialize in distressed and opportunistic investing. These favorable circumstances arise through three main channels:

- Tight credit conditions deprive otherwise profitable projects and enterprises of needed capital.
- Banking sector deleveraging typically means that assets are for sale, often at a deep discount.
- The financial instability associated with the deleveraging process implies recurring market dislocations, which can temporarily leave sound assets trading at depressed values.

Therefore, opportunities exist for those willing and able to identify and capture them. Depending on the situation, this can be achieved either through short-term active trading (i.e., more liquid hedge fund structures) or through longer-term investing (i.e., in less liquid, longer-dated private equity structures). Currently, the opportunities within alternative investments fall into the following buckets:

- **Commercial real estate** – The economic downturn led to rising defaults, declining asset values and tight refinancing conditions in US commercial real estate. A combination of private capital and manager skill can create value by injecting capital and liquidity, or by providing restructuring, special servicing and asset management expertise.
- **Bank divestment programs** – The undercapitalized European banking system is the prime example where regulatory pressures (e.g., Basel III, European Union-wide stress tests and bank

recapitalization programs) are forcing banks to deleverage by raising new capital or selling assets. This allows private capital to purchase assets at a deep discount to fair value.

- **Sovereign credit** – While European sovereign credit spreads have widened significantly, markets have begun to differentiate across issuers.

“Opportunities exist for those willing and able to identify and capture them. Depending on the situation, this can be achieved either through short-term active trading or through longer-term investing.”

Hedge funds should be able to benefit from buying sovereign paper that is unlikely to default but has been unduly punished by the market, or is likely to default but is trading below expected recovery value.

- **Corporate credit** – Sovereign debt dislocations often spill over to corporate credit markets, creating debt refinancing difficulties for companies. Special situations investing will seek to capitalize on this opportunity by either taking control of companies at a significant discount or through capital structure arbitrage.

Sameer Jain is an employee of the UBS Alternative Investments team within UBS Wealth Management Solutions and is not a part of Wealth Management Research (WMMR). WMMR may have views that differ or are contrary to the views expressed herein.

Conclusion

Following an extended period of debt-fueled growth, a great deleveraging is now upon us. Balance sheet adjustments will need to occur on several fronts simultaneously and across most of the developed world. In the absence of some game-changing technological innovation that dramatically alters the growth dynamics, debt reduction will largely depend on some combination of greater austerity, higher inflation and selective defaults. This deleveraging process within both the public and private sectors is therefore likely to usher in a period marked by episodic growth scares, choppy and volatile market conditions, elevated geopolitical risks and dramatic changes in the public policy approaches.

It is clear that the investment environment will also be fundamentally altered by this deleveraging process. Lower and more volatile growth will alter the way we invest in equity markets, while generationally low yields and the specter of higher inflation down the road means we must also rethink the way we generate income from fixed income holdings. We need to actively seek out true growth opportunities within the equity markets given an environment of constrained economic activity. But we will also need to identify more varied sources of income that allow investors to not only attain a reasonable cash flow on their portfolios, but to grow those cash flows over time to replace lost income.

As important as it is to choose wisely within the stock and bond markets, we must also change the way we structure and manage portfolios as a result of the impending period of deleveraging. Resetting investment goals, adapting portfolios to weather varied investment climates, dynamically repositioning assets, seeking alternate ways of gaining market exposure (alternative beta), utilizing volatility and reaping the benefits of distressed investing through the alternatives space will all play a crucial role in preserving wealth and perhaps even prospering as we proceed to wind down debt on a grand scale.

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Investing in structured products involves significant risks. For a detailed discussion of the risks involved in investing in any particular structured product, you must read the relevant offering materials for that product. Structured products are unsecured obligations of a particular issuer with returns linked to the performance of an underlying asset. Depending on the terms of the product, investors could lose all or a substantial portion of their investment based on the performance of the underlying asset. Investors could also lose their entire investment if the issuer becomes insolvent. UBS Financial Services Inc. does not guarantee in any way the obligations or the financial condition of any issuer or the accuracy of any financial information provided by any issuer. Structured products are not traditional investments and investing in a structured product is not equivalent to investing directly in the underlying asset. Structured products may have limited or no liquidity, and investors should be prepared to hold their investment to maturity.

Non-Traditional Assets

Nontraditional assets include commodities and alternative investments. Alternative investments, in turn, include hedge funds, private equity, real estate, and managed futures. Interests of alternative investment funds are sold only to qualified investors, and only by means of offering documents that include information about the risks, performance and expenses of alternative investment funds, and which clients are urged to read carefully before subscribing and retain. An investment in an alternative investment fund is speculative and involves significant risks. Alternative investment funds are not mutual funds and are not subject to the same regulatory requirements as mutual funds. Alternative investment funds' performance may be volatile, and investors may lose all or a substantial amount of their investment in an alternative investment fund. Alternative investment funds may engage in leveraging and other speculative investment practices that may increase the risk of investment loss. Interests of alternative investment funds typically will be illiquid and subject to restrictions on transfer. Alternative investment funds may not be required to provide periodic pricing or valuation information to investors. Alternative investment fund investment programs generally involve complex tax strategies and there may be delays in distributing tax information to investors. Alternative investment funds are subject to high fees, including management fees and other fees and expenses, all of which will reduce profits. Alternative investment funds may fluctuate in value. An investment in an alternative investment fund is long-term, there is generally no secondary market for the interests of a fund, and none is expected to develop. Interests in alternative investment funds are not deposits or obligations of, or guaranteed or endorsed by, any bank or other insured depository institution, and are not federally insured by the Federal Deposit Insurance Corporation, the Federal Reserve Board, or any other governmental agency. Prospective investors should understand these risks and have the financial ability and willingness to accept them for an extended period of time before making an investment in an alternative investment fund and should consider an alternative investment fund as a supplement to an overall investment program.

In addition to the risks that apply to alternative investments generally, the following are additional risks related to an investment in these strategies:

- **Hedge Fund Risk:** There are risks specifically associated with investing in hedge funds, which may include risks associated with investing in short sales, options, small-cap stocks, "junk bonds," derivatives, distressed securities, non-US securities and illiquid investments.
- **Hedge Fund of Funds:** In addition to the risks associated with hedge funds generally, an investor should recognize that the overall performance of a fund of funds is dependent not only on the investment performance of the manager of the fund, but also on the performance of the underlying managers. The investor will bear the management

fees and expenses of both the fund of funds and the underlying hedge funds or accounts in which the fund of funds invests, which could be significant.

- **Managed Futures:** There are risks specifically associated with investing in managed futures programs. For example, not all managers focus on all strategies at all times, and managed futures strategies may have material directional elements.
- **Real Estate:** There are risks specifically associated with investing in real estate products and real estate investment trusts. They involve risks associated with debt, adverse changes in general economic or local market conditions, changes in governmental, tax, real estate and zoning laws or regulations, risks associated with capital calls and, for some real estate products, the risks associated with the ability to qualify for favorable treatment under the federal tax laws.
- **Private Equity:** There are risks specifically associated with investing in private equity. Capital calls can be made on short notice, and the failure to meet capital calls can result in significant adverse consequences including, but not limited to, a total loss of investment.
- **Foreign Exchange/Currency Risk:** Investors in securities of issuers located outside of the United States should be aware that even for securities denominated in US dollars, changes in the exchange rate between the US dollar and the issuer's "home" currency can have unexpected effects on the market value and liquidity of those securities. Those securities may also be affected by other risks (such as political, economic or regulatory changes) that may not be readily known to a US investor.
- **Options:** Options are not suitable for all investors. Please read the Options Clearing Corporation Publication titled "Characteristics and Risks of Standardized Options Trading" and consult your tax advisor prior to investing. The Publication can be obtained from your Financial Services Inc., Financial Advisor, or can be accessed under the Publications Section of the Option Clearing Corporation's website: www.theocc.com.

Description of Certain Alternative Investment Strategies

- **Equity Hedge:** Investment managers who maintain positions both long and short in primarily equity and equity-derivative securities. A wide variety of investment processes can be employed to arrive at an investment decision, including both quantitative and fundamental techniques; strategies can be broadly diversified or narrowly focused on specific sectors and can range broadly in terms of levels of net exposure, leverage employed, holding period, concentrations of market capitalizations and valuation ranges of typical portfolios. Equity hedge managers would typically maintain at least 50% and may, in some cases, be substantially entirely invested in equities, both long and short.
- **Event Driven:** Investment managers who maintain positions in companies currently or prospectively involved in corporate transactions of a wide variety including, but not limited to, mergers, restructurings, financial distress, tender offers, share-holder buybacks, debt exchanges, security issuance or other capital structure adjustments. Security types can range from most senior in the capital structure to most junior or subordinated, and frequently involve additional derivative securities. Event-driven exposure includes a combination of sensitivities to equity markets, credit markets and idiosyncratic, company-specific developments. Investment theses are typically predicated on fundamental characteristics (as opposed to quantitative), with the realization of the thesis predicated on a specific development exogenous to the existing capital structure.
- **Credit Arbitrage Strategies:** Employ an investment process designed to isolate attractive opportunities in corporate fixed income securities. These include both senior and subordinated claims as well as bank debt and other outstanding obligations, structuring positions with little or no broad credit market exposure. These may also contain a limited exposure to government, sovereign, equity, convertible or

other obligations, but the focus of the strategy is primarily on fixed corporate obligations and other securities held as component positions within these structures. Managers typically employ fundamental credit analysis to evaluate the likelihood of an improvement in the issuer's creditworthiness. In most cases, securities trade in liquid markets, and managers are only infrequently or indirectly involved with company management. Fixed income: corporate strategies differ from event driven; credit arbitrage in the former more typically involves more general market hedges, which may vary in the degree to which they limit fixed income market exposure, while the latter typically involves arbitrage positions with little or no net credit market exposure, but are predicated on specific, anticipated idiosyncratic developments.

- Macro: Investment managers who trade a broad range of strategies in which the investment process is predicated on movements in underlying economic variables and the impact these have on equity, fixed income, hard currency and commodity markets. Managers employ a variety of techniques, both discretionary and systematic analysis, combinations of top-down and bottom-up theses, quantitative and fundamental approaches and long- and short-term holding periods. Although some strategies employ relative value techniques, macro strategies are distinct from relative value strategies in that the primary investment thesis is predicated on predicted or future movements in the underlying instruments, rather than realization of a valuation discrepancy between securities. In a similar way, while both macro and equity hedge managers may hold equity securities, the overriding investment thesis is predicated on the impact movements in underlying macroeconomic variables may have on security prices, as opposed to equity hedge, in which the fundamental characteristics of the company are the most significant and integral to investment thesis.
- Distressed Restructuring Strategies: Employ an investment process focused on corporate fixed income instruments, primarily on corporate credit instruments of companies trading at significant discounts to their value at issuance, or obliged (par value) at maturity, as a result of either a formal bankruptcy proceeding or financial market perception of near-term proceedings. Managers are typically actively involved with the management of these companies, frequently involved on creditors' committees in negotiating the exchange of securities for alternative obligations, either swaps of debt, equity or hybrid securities. Managers employ fundamental credit processes focused on valuation and asset coverage of securities of distressed firms. In most cases, portfolio exposures are concentrated in instruments which are publicly traded, in some cases actively and in others under reduced liquidity but, in general, for which a reasonable public market exists. In contrast to special situations, distressed strategies primarily employ debt (greater than 60%) but also may maintain related equity exposure.
- Relative Value: Investment managers who maintain positions in which the investment thesis is predicated on realization of a valuation discrepancy in the relationship between multiple securities. Managers employ a variety of fundamental and quantitative techniques to establish investment theses, and security types range broadly across equity, fixed income, derivative or other security types. Fixed income strategies are typically quantitatively driven to measure the existing relationship between instruments and, in some cases, identify attractive positions in which the risk-adjusted spread between these instruments represents an attractive opportunity for the investment manager. Relative value position may be involved in corporate transactions also, but as opposed to event-driven exposures, the investment thesis is predicated on realization of a pricing discrepancy between related securities, as opposed to the outcome of the corporate transaction.

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