Top Investment Questions for 2012

UK | January 2012

2011 was a year unusually packed with market surprises.

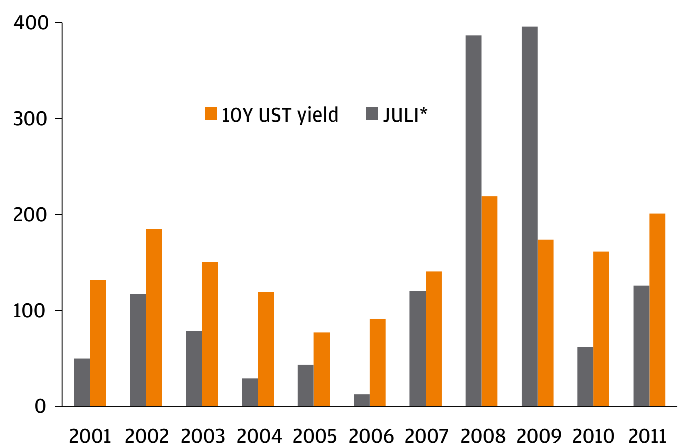
Cultural revolutions, earthquakes and tsunamis, ratings downgrades of major economies and extraordinary political events dominated macro sentiment and the investment landscape. Volatility across asset classes was subsequently at the highest levels since the 2008-2009 financial crisis. The normally quietly trending U.S. 10-year Treasury yield seeing a dramatic 12-month trading range of more than 200 basis points. Meanwhile, the S&P 500 moved more than 2% intraday in nearly every other day during the second half of 2011. Such volatility has only been surpassed three times since 2000. (**Exhibit 1**).

As 2012 begins, there seem to be more questions than answers. In this publication—as well as in research pieces throughout the year ahead—we will try to address those most frequently raised by investors.

IN BRIEF

- With so many developed-market countries slowing, where should I source growth for my portfolio?
- A corollary to slow growth appears to be low government bond yields. What's the best way to get more yield?
- What will 2012 bring for Europe? Do we need to think about an end to the Euro?
- Pension plans are facing extreme challenges in meeting liabilities—is there a right way to deal with funding gaps?
- With developed-market government ratings in question, how should I think about fixed income allocations and investment guidelines?

Exhibit 1: Equity volatility



Source: Bloomberg; data as of December 19, 2011
*J.P. Morgan US Liquid Index (JULI)

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J.P.Morgan Asset Management

1. With so many developed-market countries slowing, where should I source growth for my portfolio? How do I get my 8% return? Is it possible?

Extraordinary fiscal stimulus as a response to the 2008-2009 crisis added to already large debt burdens across the developed world, leaving many countries in a precarious state **(Exhibit 2)**. If developed-market (DM) policymakers did not act quickly and credibly to bring debt burdens back down, they would likely face ratings downgrades (some, like the U.S, already did get downgraded in 2011). But acting quickly and credibly to improve fiscal balances would mean a continued restraint on growth.

In 2012 and beyond, we believe fiscal austerity will continue, limiting growth in DM economies. Indeed, as of mid-November the British Chamber of Commerce forecast U.K. GDP growth in 2012 at just under 1%, while consensus forecasts saw U.S. GDP growth in 2012 at just above 2%, versus average annual U.S. growth of around 2.8% going back to 1970. Looking more globally, our Investment Bank expects global GDP growth in 2012 of only 2%, a full percentage point below the 1992-2011 annualized average. There were only two years during that period when growth was lower: 2008 and 2009.

If economies, not just in the U.S. and the UK, but across Europe (where we expect a mild recession in 2012) and Japan remain challenged, where can investors go to find a strong macro-growth backdrop for portfolios? We would think about "sourcing growth" a few different ways: looking at investments not just based on national or regional GDP, but also sectors and investment strategies.

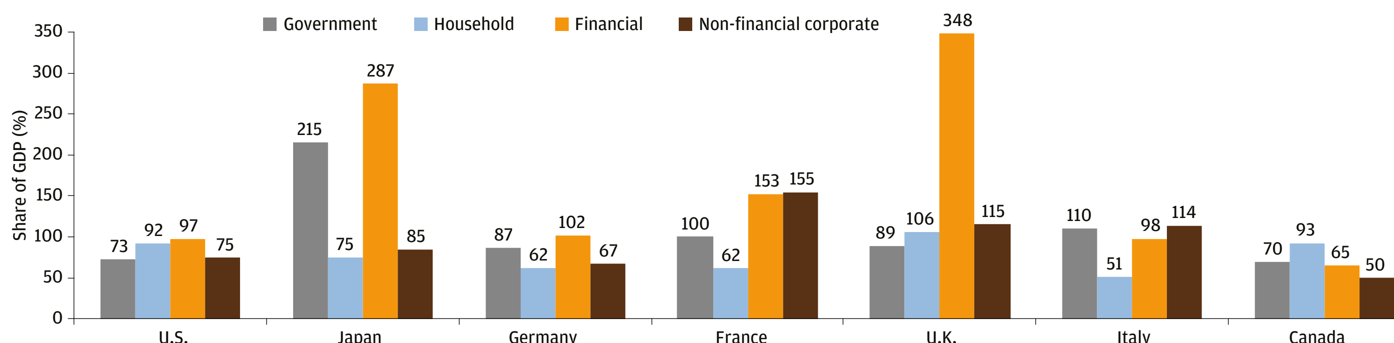
Emerging markets (EM) saw much better growth in 2011 than their DM counterparts (around 5.2% versus the U.S.'s 1.7%, by our estimates). That said, growth within countries did not translate into equity appreciation: EM equities badly underperformed the S&P 500 in 2011. Is even strong EM economic growth not enough to support broader portfolio returns?

EM should return to trend-like growth in the second half of 2012

In our view, three main factors accounted for EM's poor showing over the past year. First, what tends to matter for earnings increases, and by extension equity values, is economic growth not in absolute terms, but relative to an underlying trend or potential rate. On this front, EM stumbled in 2011, with growth running below potential to a greater extent than in DMs, especially in the second half of the year. Second, EM economies experienced considerable monetary tightening from early 2010 onward, leaning against multiple expansion. The aggregate EM policy interest rate rose 150 basis points between February 2010 and July 2011, compared with no such move in the U.S. Third, reflecting the growth story, the momentum of EM earnings revisions turned sharply negative in the second half of 2011, as optimism about U.S. earnings was generally maintained.

These forces should shift, at least to some extent, in 2012. EM growth will likely reaccelerate from a trough of around 4.1% in the fourth quarter of 2011 to a trend-like clip in the second half of 2012. The differential between EM and DM growth, which narrowed to an unusually low three percentage points in the second half of 2011, should return to a more typical 4.5 to 5.0 percentage points in the year ahead. One of the causes of this pickup is a monetary easing cycle already underway in EM, with the aggregate policy interest rate having dropped 20 basis points from its latest cycle high (and with non-interest-rate loosening taking place in China).

Exhibit 2: G7 debt by sector



Source: Morgan Stanley, J.P. Morgan. Data as of 2010.

With inflation having peaked in most major EM economies, this process should continue. Meanwhile, analysts have already revised down 2012 EM earnings expectations significantly during the past several months. At 11%, their current forecast for earnings growth this year leaves at least some room for upside surprises.

Within EM, the BRIC countries—Brazil, Russia, India and China—stand out as a group worth watching this year. The BRICs have underperformed overall EM equities consistently for the past two years. In 2012, however, China, Brazil, and perhaps India, could begin reversing that trend. These three economies were overheating at the start of 2010, and their central banks responded with the most aggressive monetary tightening efforts in the EM universe. By mid-2011, growth in all three had decelerated sharply, with Brazil posting near-zero growth in the third quarter. China and Brazil are now leading the EM easing cycle, and growth in each economy should begin reaccelerating by spring. India may lag the other two, with its tightening cycle having ended only recently and with inflation not yet having rolled over. Improvement in the growth-and-inflation mix should become evident there during the second half of 2012.

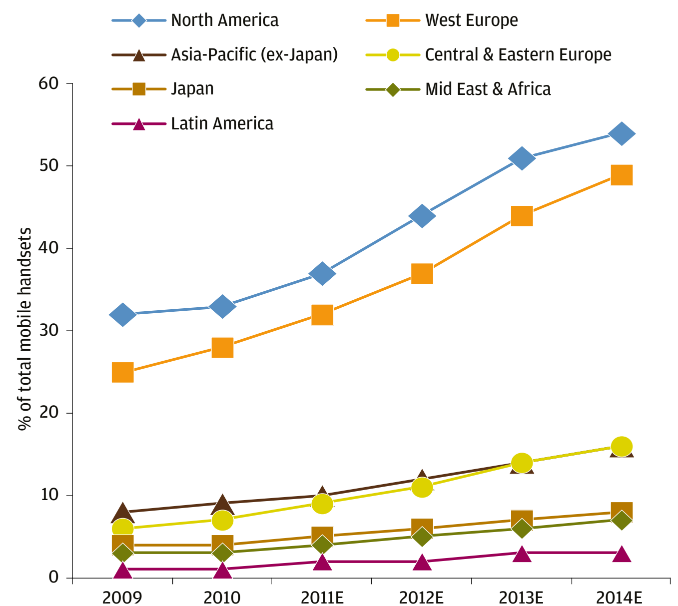
EM equity valuations look reasonable

EM equities' underperformance in 2011 left the sector with an overall price-to-earnings ratio (P/E) that looks reasonable compared with that of the S&P 500: around 9.3 versus 12.2 (as of the end of November). Given broadly similar earnings growth expectations, EM may benefit from multiple expansion this year as local interest rates gradually fall and as local currency strength proves a more modest headwind for exporters. Still, overall EM growth will remain tightly linked with that of developed economies. For that reason, we emphasize domestically focused sectors in China and elsewhere in EM Asia—a group of economies now benefiting from a source of growth, Chinese demand, that is somewhat independent in the short run of DM trends. Commodity-related sectors and markets, including Brazil, also merit attention this year.

Along these same lines, we would also look for EM-driven growth via developed market equities that have outsized exposures to fundamentally strong emerging markets. Such strategies can help with performance relative to a DM equity benchmark. In addition, investors benefit from what are usually liquid and transparent companies with well understood accounting guidelines (guidelines that are sometimes lacking in EM).

Emerging markets, directly and indirectly, are not investors' only growth refuge, however. We would also think about growth via innovation - companies introducing products or services that support revenues even if underlying consumer demand is soft. We see a number of sectors, in a few different countries, creating such growth now and likely in the years to come. Technology is leading the way. Consider smart phones sales have risen to more than 160 million units in 2010 from zero in 2007 and, by some estimates, could test 900 million units by 2015. The growth of this technology so far has been concentrated in North America and Western Europe, suggesting ample room in the rest of the world for adoption and related company revenues **(Exhibit 3)**.

Exhibit 3: Smartphone Penetration by region, 2009–2014



Source: J.P. Morgan, Cisco Systems, Cisco Visual Networking Index (VNI): Global Mobile Data Traffic Forecast Update, 2009-2014 with Informa Telecoms & Media, In-Stat and Gartner.

We believe these firms—be they tech, healthcare or other—are best accessed through large-cap growth equity strategies, as they represent relatively more of that pool of stocks versus value strategies. Indeed, as of the end of September, technology represented 26.3% of the Russell 1000 Growth Index, while it only represented 7.5% of the Russell 1000 Value Index. Conversely, financials played a much larger role in value compared with growth.

Adding alternatives for growth and to reduce volatility

A third avenue through which investors may source growth—trying to reach that 8% annual return—and at the same time reduce an overall portfolio's volatility—is alternatives. It is no surprise that a large and growing number of our investors are revisiting their alternatives allocations, given the volatility of publically traded equities last year, with the VIX index testing 48 for the first time since 2008-2009.

The space we are discussing is vast—from private equity, real estate and infrastructure, to commodities and a variety of hedge fund strategies. To keep it simple, let's consider two possible portfolios **(Exhibit 4)**. Portfolio 1 is 35% fixed income and 65% equities. Portfolio 2 holds that same fixed-income allocation, but reduces equities to 40% and adds a 25% allocation to alternatives. For this exercise, we used an equally weighted basket of private equity, real estate, global infrastructure, diversified hedge funds and commodities.

Exhibit 4: Adding Alternatives for better portfolio characteristics

ASSET CLASSES	Expected compound return assumption	Portfolio 1	Portfolio 2
UK Cash	2.25%	2.0%	2.0%
UK Gilts	2.00%	13.0%	10.0%
World Government Bonds (hedged)	2.75%	5.0%	5.0%
Emerging Market Debt	6.25%	0.0%	5.0%
European Corporate Bonds	4.50%	10.0%	13.0%
TOTAL FIXED INCOME		**30.0%**	**35.0%**
UK Large Cap Equity	8.25%	30.0%	5.0%
World ex-UK Equity	8.50%	35.0%	25.0%
Emerging Markets Equity	10.25%	0.0%	10.0%
TOTAL EQUITY		**65.0%**	**40.0%**
Direct Real Estate	6.50%	5.0%	5.0%
Private Equity	9.00%	0.0%	5.0%
Fund of Hedge Funds	6.50%	0.0%	5.0%
Infrastructure	8.00%	0.0%	5.0%
Commodities	6.75%	0.0%	5.0%
TOTAL ALTERNATIVES		**5.0%**	**25.0%**
TOTAL ALLOCATION		**100.0%**	**100.0%**
Expected arithmetic return		7.49%	7.65%
Expected compound return		6.67%	6.68%
Volatility		10.28%	9.53%
Sharpe ratio		0.43	0.46

Source: D. Shairp, A. Werley, M. Feser, E. Efeyini, G. Koo, A. Sheikh, J. Warner (December 2011). Long-term capital market return assumptions, 2012 estimates and the thinking behind the numbers, J.P. Morgan Asset Management

Using our long-term capital market assumptions (D. Shairp, Dec. 1, 2011), both portfolios are expected to achieve returns just around 7.5%. However, the second portfolio has meaningfully lower volatility (9.53% versus 10.28).

Investors know that there is no such thing as a free lunch: lower volatility in this simple exercise comes at a price—less liquidity. But for investors who have the ability to sacrifice some liquidity in a portfolio, and given what seems likely to be a volatile world in the year ahead (or longer), the ability to source growth with somewhat lower volatility merits consideration. In addition, we would note that a number of the most attractive alternatives strategies today, in our opinion, tie in one way or another to innovation and/or emerging markets—key sources of growth.

2. A corollary to slow growth appears to be low government bond yields for the foreseeable future. What's the best way to get more yield?

Most developed-market (DM) yields have been declining for a few decades now—part of what many had hailed as the "Great Moderation." Investors can only look with fond remembrance today at the yields captured at the start of the 2000s; for instance: nearly 6.7% for a U.S. 10-year Treasury and 6.5% for the 30-year bond. Today, nearing the end of 2011, the U.S. 10-year yield is just over 2% while the 30-year is just over 3% (Bloomberg data). The story across Europe is largely the same, with 10-year German, Dutch, Norwegian and U.K. government bond yields all between 2.0 and 2.75% in mid-December, less than half the levels seen in January 2000.

While bond prices in these countries seem rich, and more likely than not will fall over the longer-term, for now it seems monetary policy will work hard to keep yields low. DM central bankers have to try to cushion the blow to growth from tightening fiscal policy. Low and in some cases, still falling, short-term policy interest rates will anchor yield curves, while other monetary measures in a number of countries (such as "Operation Twist" in the U.S.) will actively work to keep longer-term yields down as well. Indeed, we believe the U.S. 10-year yield will comfortably hold below 3.0%, at least for the coming year.

So what is an investor to do? The good news, in our view, is that there are a number of strategies, across asset classes, which can be used to source yield and income in a portfolio (**Exhibit 5**).

Exhibit 5: Return and risk characteristics of higher yielding asset classes

Asset class	Current yield (%)	2011 YTD return (%)	LT expected return (%)*	LT expected Sharpe ratio*	Other considerations
High Yield Debt	8.87	3.67	7.00	0.37	Default cycle, corporate balance sheets
High Dividend Equity	2.60	-3.59	7.75	0.37	Business cycle risk
Emerging Market Debt	6.60	8.00	6.75	0.47	Monetary policy, inflation risk
Leveraged Loans	6.93	1.07	6.00	0.33	Corporate balance sheets
Mezzanine Debt	13.10†	19.00†	7.50	0.44	Liquidity, default cycle, corporate balance sheets

Source: J.P. Morgan Asset Management. High Yield Debt based on Barclays High Yield Index. High Dividend Equity based on Russell 1000 Value Index. Emerging Market Debt based on JPMorgan GBI EM Global Diversified. Leveraged Loans based on S&P/LSTA Leveraged Loan Index. Total return (in local currency terms) and current yield as of December 15, 2011.

* Based on J.P. Morgan's 2012 Long-term Capital Market Return Assumptions.

† Based on yield to maturity and realized IRR for Highbridge Mezzanine Fund I.

Stronger fundamentals in emerging markets

An easy place to begin is emerging markets. Compared with an average policy interest rate of 71 basis points in DM, EM policy rates stood at 5.86% (JPMSI data, as of Dec. 1, 2011). Historically, investors demanded higher yield premiums on emerging market debt to compensate for what were seen as greater macro and political risks as well as worse liquidity. But today, such compensation seems increasingly out of line with the fundamentals. Specifically, the average EM country today has a budget deficit and debt (both as a percentage of GDP) roughly half of what an average DM country has. Emerging Asia stands out: China's budget deficit may grow, but is set to remain at just above 2% of GDP this year. Excluding India and China, the region's average budget deficit is likely to be a mere 0.5% of GDP in 2012 (JPMSI forecasts). Stronger growth, better fiscal balances and importantly, credible policymaking has helped translate into 35 EM upgrades in 2011 (through the end of November) versus 32 downgrades and no upgrades for DM sovereigns over the same period. This convergence trend seems likely to continue in the year ahead, with sovereign upgrades led by emerging Asia.

Attractive fundamentals, coupled with supportive technicals (including issuance lower than coupon and maturity payments), suggest investors are likely to commit more to this asset class in the year(s) ahead. Indeed, our Investment Bank forecasts around USD 40 billion in net new inflows to dedicated EM fixed-income funds in 2012, down from the USD 80.3 billion recorded in 2010, but in line with flows seen in 2007 and 2009.

What's the catch? Liquidity in EM debt instruments still lags that of DM counterparts—although more modestly than a decade ago. As a result, these assets can be volatile. In addition, investors have to be selective about countries and regions. We expect, for instance, that emerging Europe will continue to suffer relatively more from the ongoing challenges faced by the Euro area in 2012. Yield does, at times, still reflect a needed risk premium. Overall, though, we see EM debt as a compelling place to source yield in the year ahead.

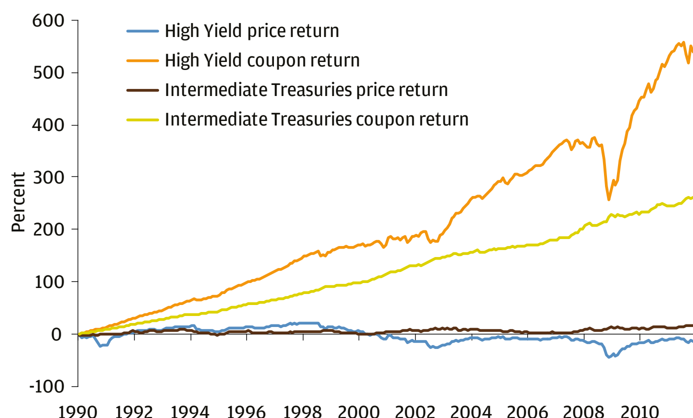
U.S. corporate debt is supported by fundamental and technical factors

Another source of yield in 2012 is U.S. corporate debt. Like EM debt, we see this as a combination of fundamental and technical supports. On the fundamentals, one has to start with U.S. companies which, on average, got "lean and mean" as a result of the 2008-2009 crisis. Policies were adopted to streamline operations and reduce leverage. The result has been the largest cash balances as a percent of total assets recorded since the 1950s, and subsequent ratings upgrades outpacing downgrades (for the last two years).

Technically, refinancing over the last year has resulted in maturities that are well distributed over the coming years – there is little in terms of a "wall of maturities" to worry about. Meanwhile, markets are pricing in what we believe are overly pessimistic default and recovery rates. As of early December, an implied default rate of 7% with a recovery rate around 30% was reflected (backed out via current spreads over Treasuries). While we believe defaults could rise from current levels under 2%, we would not expect a move close to the implied levels without a much more serious DM recession and/or exogenous shock.

Importantly, given that the year ahead is likely to prove volatile for all markets, high-yield has seen the bulk of its total return come from income, not just recently but over the last several years (the same can be said, by the way, for U.S. Treasuries, **Exhibit 6**). This composition of return has occurred both in stronger but also weaker macro environments. For example, 1998-2002, was an extremely challenging time both for growth broadly as well as for U.S. corporations specifically. The U.S. high yield market saw negative price action but still positive total returns in three of the five years as well as cumulatively over the five-year period.

Exhibit 6: coupon income has become the main source of income



Source: Barclays Capital. Period from January 1, 1990 to November 30, 2011.

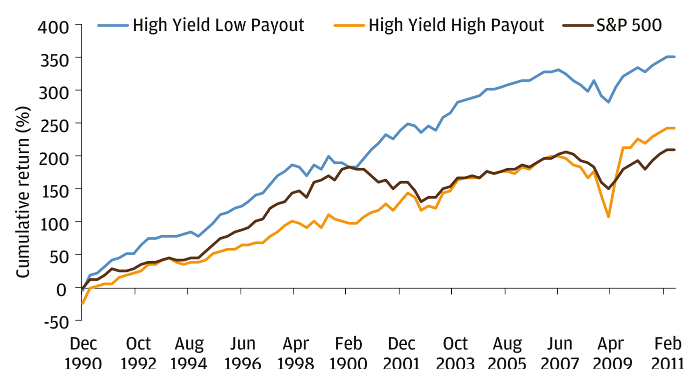
Like EM debt, U.S. corporate debt can experience significant short-term volatility which needs to be considered in portfolio construction. In addition, and again like EM, not all bonds are the same. We would prefer to stick to relatively higher quality credits ('B's), even if it means leaving a few more basis points of yield on the table, or actively managed strategies that can pinpoint opportunities along the credit curve.

Equities: Another source of yield

Another way to capture strong corporate fundamentals as well as yield, is via equities. It is truly an exceptional environment that we find ourselves in when dividend yields outshine government bond yields. Indeed, the third quarter of 2011 was only the third such period since 1958 when the S&P 500 dividend yield was higher than the 10-year U.S. Treasury yield. Corporate balance sheets suggest these yields (now just over 2%) are not only likely to be maintained, but also have room to grow further.

As with emerging-market and high-yield debt, however, we would not consider this sub-asset class too broadly. Instead, we would focus on companies that not only have attractive dividends, but also have sufficient additional cash to grow that dividend further and/or address other issues faced by the firm. In other words, low payout ratios. A study by Credit Suisse, looking over a 20-year period, reinforces this approach. In **Exhibit 7**, firms in the S&P 500 were divided into three groups, with the dividend payout ratio calculated as the ratio of the trailing 12-month dividend over trailing 12-month earnings (before extraordinary items). The best performance over time (using monthly rebalancing) came via equities with both high dividends but also low payout ratios—suggesting the firms in question were managing cash cautiously. Such a strategy would not insulate an investor from the ups and downs of risk appetite and related equity beta. However, the greater dividend cushion could at least help dampen volatility within a broader equity allocation and would generally provide relatively greater liquidity than that offered by high-yield or emerging-market debt.

Exhibit 7: Stocks with consistent dividend growth have outperformed the S&P 500



Source: Credit Suisse quantitative equity research, calculated using equal weighted performance. As of March 2011.

Leveraged loans and alternatives offer yield and diversification

Just as high-dividend equities seem a safe "place to wait" for a more sustained equity-market uptrend, we see leveraged loans (also known as bank loans) also as a safe "place to wait" for an eventual turn higher in short-term interest rates and/or inflation.

As noted earlier, we do not see much scope - at least over the coming year - for government bond yields to rise. Growth remains fairly lackluster (or in the case of Europe, marginally negative into 2012) and inflation is benign. However, we, and a significant portion of our clients, see both rates and inflation as risks to guard against in portfolios. Leveraged loans, made to businesses with generally below investment-grade credit ratings, have floating-rate coupons that reset every three months or so. Higher short-term interest rates, whether on the back of rising inflation fears or something else, are reflected in the value of these instruments.

In addition, leveraged loans are noteworthy both for their yield and their place in the capital stack. Leveraged loans are typically senior instruments, secured by the debtor's assets, and rank first in priority of payment in the capital structure, ahead of unsecured debt. As a result of their senior secured status, such loans have historically had higher recovery rates and lower volatility relative to corporate high-yield bonds. Meanwhile, these loans generally provide LIBOR "floors." (The income generated by leveraged loans has long been based on a spread over LIBOR, or the London Interbank Offered Rate, a standard measure of what banks charge one another to

borrow.) Given the still-low levels of LIBOR today, new loans often have LIBOR floors that pay the investor the spread plus the higher of the "floor" or LIBOR. Currently, loans are trading at a spread of LIBOR plus roughly 700 basis points, a level that tends to occur only near the bottom of a deep recession, such as 2001-2002 or 2008.

Like high-yield debt, an unexpected market selloff could result in greater defaults on leveraged loans. But also like high-yield debt, we see estimated default rates today as already high (implied rates of over 12% for the coming few years). In 2009, leveraged loan default rates spiked to 11% but then quickly declined. Since then, most firms have strengthened their balance sheets so are better armed to deal with whatever comes next.

A final thought on the search for yield—alternatives. As with the search for growth, alternatives offer a wide array of vehicles which can provide yield or income, generally with less volatility than public markets but of course with less liquidity. A few "yieldy" alternatives we would highlight here include mezzanine financing and real assets.

Mezzanine, sitting between senior debt and equity in a company's capital structure, is timely now in part for its lack of competition. Middle-market and large-cap companies in particular are increasingly turning to mezzanine financing as bank lending recovers only sluggishly from the recession, as the high-yield bond market concentrates on refinancing, and as disclosure requirements discourage some mid-size companies from issuing traded debt. With many alternative financing sources prevalent in the last decade having dried up, and with very easy monetary policy pulling down both short- and long-term rates, spreads on less-liquid assets have widened. Recent mezzanine deals have yielded more than 400 basis points (on a yield-to-maturity basis) over publicly traded sub-investment-grade bonds, putting them in double-digit territory. Alongside high cash coupons (around 12% historically, and a bit more at the moment), mezzanine holders can benefit from PIK, or payment-in-kind, coupons. Moreover, mezzanine deals often come with an equity component, typically warrants. Mezzanine has no developed secondary market, however. Liquidity and transparency are limited; we believe investors are best served considering this type of "yield" in a private-equity allocation.

Similarly, we think real assets are generally investments to hold for several years. Within real assets, one could consider a number of investments ranging from real estate, infrastructure and shipping, to natural resources and commodities. Different specific investments will behave distinctively in portfolios depending on the macro climate. However, all offer (in our view) a degree of pickup in yield over government bonds as well as diversification, with varying levels of risk for different investor risk appetites (Exhibit 8).

3. Europe turned out to be the dominant market driver in 2011. What will 2012 bring? Do we need to think about an end to the euro and how do I position for such risks?

We expect that developments in the Euro area will weigh on markets during much of 2012, just as they occupied investor attention over the past year. In our base-case scenario, Euro area policymakers will work to contain the crisis without fully resolving their problems, with a "just-enough" approach in three areas. First, the Euro area as a whole will take further steps toward integration, though without constructing a true fiscal union in the near term. Second, major peripheral governments—Italy and Spain most importantly—will broadly stick to their fiscal adjustment plans while introducing at least some reforms designed to promote medium-term growth. Third, the European Central Bank (ECB) will serve more aggressively as a liquidity backstop. We also envision a greater role for the International Monetary Fund (IMF) as a provider of conditional lending to large parts of the periphery, with the European Financial Stability Fund (EFSF) and/or the European Stability Mechanism (ESM) also involved in some undetermined way.

These actions will likely preserve at least partial market access for in the near term. A plausible road map toward some kind of fiscal union and an active ECB should also prevent catastrophic bank runs in peripheral countries (which could occur if depositors sensed a significant probability of currency devaluations). At the same time, core Euro area members do not appear ready to assume, in effect, the debts of the periphery by issuing blanket guarantees, and the ECB will avoid explicit, open-ended commitments such as fixing sovereign yields or pre-announcing a specific amount of bond purchases. Without a once-and-for-all resolution of the underlying problems facing the Euro area, markets will continue to test policymakers' commitment to the euro project, and a volatile, crisis-management atmosphere will likely prevail throughout the coming year.

Exhibit 8: risk-return characteristics of real assets

	Real Estate					Infrastructure/Maritime		
Strategy	Core Real Estate	Core-plus Real Estate	REITs	Value-add Real Estate	Opportunistic Real Estate	OECD Infrastructure	Infrastructure Debt	Maritime
Description	Investments in stabilized properties with high quality physical improvements; income focus	Investments in leveraged core direct RE and mezzanine loans; income focus	Publicly traded securities invested in core and core plus assets	Investments in properties with significant leasing, development or repositioning risk	Development; restructuring stressed capital structures; discounted note purchases; asset repositioning	Equity investments in regulated utilities, contracted power and transportation	Investments in long dated floating bank loans secured by essential infrastructure assets	Investments in bulkers, tankers and container ships
Target Total Returns**	7-8% net	8-10% net	9-11% net	8-13% net	15-20% net	10-12% net	USD Libor + 200-300 bps	18-20% net
Target Yields**	5-6% net	5-7% net	3-4% net	2-4% net	None or low	6-8% net	USD Libor + 200-300 bps	7-11% net
Typical Leverage (LTV)	25-30%	50-60%	40-50%	50-65%	60-75%	75-85%	N/A	50-60%
Target Holding Period***	5-10 years	5-7 years	N/A	3-5 years	2-5 years (or longer for large scale developments)	10+ years	25 years	3-5 years
	Lower Risk → Higher Risk					Lower Risk → Higher Risk		

* Assets are not included in total AUM calculation because the fund is still raising capital.

**The Target Return has been established by J.P. Morgan Investment Management Inc. "J.P. Morgan" based on its assumptions and calculations using data available to it and in light of current market conditions and available investment opportunities and is subject to the risks set forth herein and to be set forth more fully in the Memorandum. The target returns are for illustrative purposes only and are subject to significant limitations. An investor should not expect to achieve actual returns similar to the target returns shown above. Because of the inherent limitations of the target returns, potential investors should not rely on them when making a decision on whether or not to invest in the strategy. The target returns cannot account for the impact that economic, market, and other factors may have on the implementation of an actual investment program. Unlike actual performance, the target returns do not reflect actual trading, liquidity constraints, fees, expenses, and other factors that could impact the future returns of the strategy. The manager's ability to achieve the target returns is subject to risk factors over which the manager may have no or limited control. There can be no assurance that the Fund will achieve its investment objective, the Target Return or any other objectives. The return achieved may be more or less than the Target Return. The data supporting the Target Return is on file with J.P. Morgan and is available for inspection upon request.

*** Applies to the individual fund assets. Note: AUM is reflective of invested capital and is shown as of June 30, 2011 where available, otherwise March 31, 2011.

While policy support should preserve the Euro area in its current form, the region will likely remain in recession at least through mid-2012. GDP will likely drop by around 1.5% during this downturn, with the decline tempered by three factors: the relatively weak recovery from the Great Recession,which left economic activity at a still-low level (you can't fall far from the bottom stair); healthy corporate and household balance sheets in Germany, which did not experience a credit bubble in the 2000s; and increasingly expansionary monetary policy. Meanwhile, amid the near-term cyclical downturn, a longer-run process—Euro area banking system contraction—will continue playing out, weighing on growth via limited corporate lending. Asset shedding appears to have begun in earnest recently and regulators' drive to boost the sector's capitalization will encourage further de-levering.

We forecast the Euro area to survive in its basic current form. However, we cannot completely rule out a disorderly unraveling of the monetary union. We would focus on two main scenarios here. First, one or more of the "weak" members might leave. A government in the periphery could decide that it is incapable of delivering the fiscal adjustment demanded by core-country lenders, preferring instead to default and in the process leave the Euro zone, hoping that resulting currency weakness would cushion the inevitable subsequent downturn. A bank run, presumably motivated by devaluation fears, could also precipitate such a choice. Second, one or more of the "strong" members might decide to exit the Euro area, thereby relieving itself of the burden of supporting the periphery through lending, transfers or debt reduction.

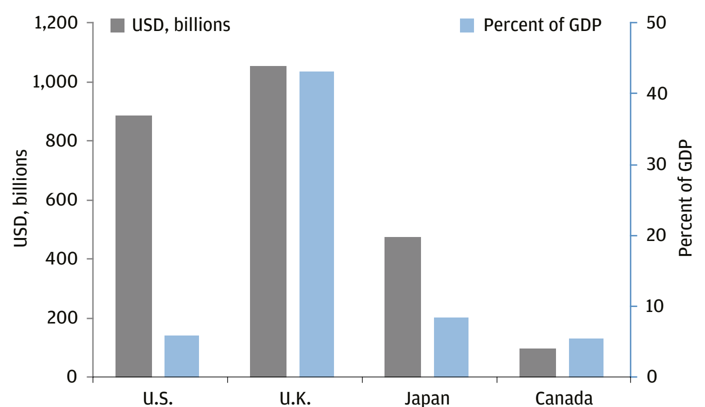
The unusual nature of the monetary union would greatly complicate an exit by either peripheral or core countries. The Euro area has not only fixed each country's exchange rate against the others but also has eliminated local currencies, in contrast with most currency pegs. Virtually all contracts in the Euro area are written in euros. What happens to cross-border claims (and even, for that matter, domestic ones) when a country introduces a new currency? Governments can re-denominate sovereign debt without much difficulty, but private obligations ranging from bank loans to accounts receivable would pose a significant problem. The Argentine devaluation of 2002 resulted in years of litigation, a situation very likely to be repeated with a euro area currency change. Virtual financial paralysis might ensue. Any large currency move creates winners and losers. One problem in the Euro area, though, would be determining, legally, who those winners and losers would be. This complication, the risk of an indefinite freezing of financial transactions, likely raises the costs of euro exit above the benefits to be had.

Even without these worst-case scenarios, the effects of the EMU crisis will reverberate around the global economy in 2012 through two main transmission channels. First, the recession in the Euro area is already resulting in weaker exports from the monetary union's main trade partners. Euro area imports had not been booming anyway—exports rose 3.6% on average in the four quarters to Q3 2011 based on national accounts data—but will very likely slow considerably further. The U.S. will not suffer greatly from this effect, with exports to the Euro area representing just 1.1% of U.S. GDP. Indeed, the improved tone of U.S. data recently points to resilience in the face of Euro area headwinds, consistent with history (Euro area growth has tended to follow the U.S., rather than vice versa).

Instead, economies in the Euro area's immediate neighborhood—the U.K., Denmark, Switzerland, Central Europe—and EM Asian manufacturing centers are absorbing a stronger blow. Business confidence surveys from the former group of countries have fallen significantly in recent months, while already sluggish EM Asian data has failed to reaccelerate as had been expected (though floods in Thailand are also weighing on that part of the world). Policy easing in Asia, already underway in some places, should provide partial offset. The more exposed "near neighbors," though, will be harder hit.

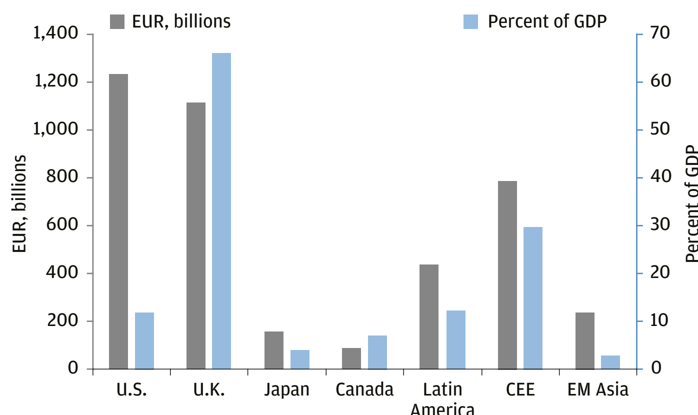
Second, and more importantly, the global economy will take a hit from the long-term contraction of Europe's banking sector—which is very large (relative to the size of the Euro area economy) and internationally active—as well as from foreign banks' probable losses on their exposures within Europe. **Exhibit 9** shows the DM banking system's assets within the Euro area, startlingly large in the case of the U.K., much smaller but not insignificant for others. Meanwhile, Euro area banks will very likely be running down, over time, their assets abroad, which amounted to EUR 5.8 trillion as of June 30, 2011. **Exhibit 10** details these claims, which in the case of Central and Eastern Europe represent 30% of those countries' GDP (generated in large part by euro area banks' ownership of significant chunks of the various Central and Eastern European financial systems). As Euro area banks seek to recapitalize and re-orient their business models away from the wholesale funding that supported their massive expansion (including cross-border activities), lending standards will tighten in those countries where these institutions have a significant presence.

Exhibit 9: Foreign bank claims on euro area



Source: Bloomberg; as of Q2, 2011.

Exhibit 10: Euro area bank foreign claims



Source: Bloomberg; as of Q2, 2011.

A disorderly breakup of the Euro area—not our base case—would almost certainly exacerbate this financial contagion (while also deepening the regional recession and adding to the trade hit). As Europe itself learned in 2008-2009, a financial shock in one country quickly propagates elsewhere, given the interconnectedness demonstrated above. A "Lehman-scale" event in the U.S. appears unlikely, given the range of tools since developed by the Fed to protect the interbank market, but a paralyzed European financial system would produce significant tightening in U.S. financial conditions as well, likely sufficient to push the U.S. temporarily into negative growth. At the same time, the resulting spike in risk aversion would create upward pressure on the U.S. dollar against a range of currencies, trimming the value of U.S. investments abroad and, over time, representing a drag on U.S. exports. Meanwhile, the average value of Euro area successor currencies would likely depreciate somewhat (though not necessarily dramatically, given that the euro already represents something of a mean value), with any currency representing the highly competitive German economy tending to appreciate.

4. Defined benefit pension plans are facing extreme challenges in meeting liabilities. Where do we go from here? Is there a right way to deal with funding gaps?

Pension funds across a number of developed countries are starting 2012 with important challenges. While the average funded status for the FTSE 100 firms rose slightly in the aftermath of the crisis from around 90% in mid-2009 to 92% in mid-2011, deficit funding more than tripled over this period. Further, the increase in accounting liabilities over the last three years has masked the effects of large cash contributions and strong returns on pension assets (**Exhibit 11**).

Exhibit 11: Pension Capital Strategies/J.P. Morgan Cazenove pension data – accounting disclosures

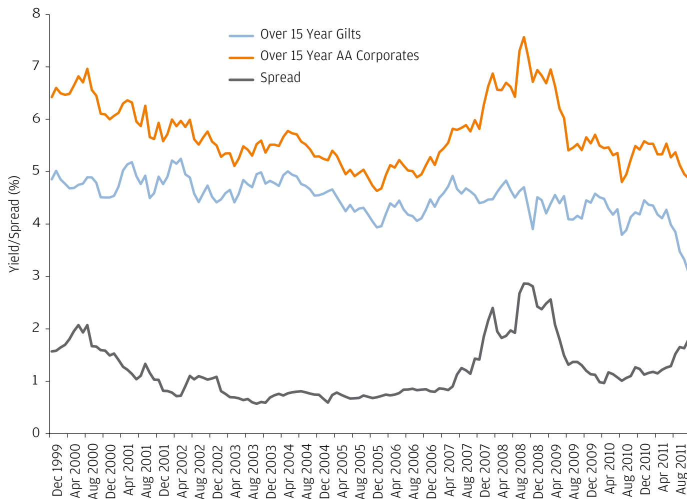
FTSE 100 firms*	Mid 2009	Mid 2010	Mid 2011
Assets (GBP bn)	335	356	378
Liabilities (GBP bn)	375	416	413
Surplus (Deficit)	(40)	(60)	(35)
Funded Status	89%	86%	92%
Deficit Funding (GBP bn)	3	10	10

* note, this figure is only for those firms which were part of the index throughout the period. Figures provided as at 20th December 2011. Source: Pension Capital Strategies, J.P. Morgan Cazenove

Since mid-2011, the situation has deteriorated significantly, with funding levels falling to around 85% by the end of the year. We have looked at three possible scenarios for yields and equities to gauge where pensions may find themselves a year from now, taking into account expected contributions, benefit payments, and service cost. Our baseline scenario[1] results in funded status for the average plan of 85% at the end of 2012, little changed from the current situation. This scenario assumes modest equity gains and low discount rates in 2012. With regards to equity, valuations provide important equity market support, although limited by sub-trend growth (across the G-5) and policy and political uncertainty. The two components of discount rates (Gilt yields and corporate spreads) are under downward pressure, especially given that sluggish growth and mild inflation trends could bias the Bank of England toward more easing in 2012. Corporate spreads are now above their long-term average (see **Exhibit 12**) and still have room to tighten further as the economy stabilizes.

[1] Funded status estimates for UK schemes calculated using the model described in 'A Month to Remember', P. Sweeting, J.P. Morgan Asset Management, September 2011.

Exhibit 12: Bond yields – three-year history



Source: Datastream, J.P. Morgan Asset Management calculations; long dated Sterling AA corporate bond yields are given by the yield on the iBoxx 15+ year Sterling corporate AA bond index, whilst the iBoxx 15+ year Gilt index is used for long-dated Gilt yields.

Meanwhile we see three main scenarios in which the funded status of a typical plan could improve significantly - say, to 100% - during 2012.

- Yields stay the same, and equity markets rally 30%;
- Equities generate an 8% return, and the corporate bond yields increase by 100bps; or
- A combination of an increase in corporate bond yields of 50bp and an equity gain of 18%.

These outcomes appear unlikely. As we believe that long Gilt yields are to stay low for some time, they would require either no relationship between credit spreads and equities, or a positive relationship whereby equities and credit spreads would increase together. However, this is not the way that equity markets and credit spreads typically move. In most environments, a narrowing of credit spreads is associated with rising equity markets, while rising credit spreads are associated with flat or negative equity return.[2]

How could things get worse? For funding levels to fall instead of rise by 15%, long corporate yields would need to compress by 150bps and for equity returns to be flat. Assuming again that Gilt yields held steady, it would mean that credit spreads would narrow by 150bps. As discussed earlier, credit spread compression has historically been an indicator of positive returns for equity markets, which this scenario does not account for.

What options do investors have? What's the best way to position a portfolio? We have seen corporate pension funds focused on three main themes during 2011. Given that funding has not improved during 2011, we believe three main concerns will likely remain dominant in 2012:

- Protection against worsening deficits
- What to do should the situation improve.
- Generating additional investment returns without increasing risk.

In 2011, only limited changes were made in response to these issues, in part as investorsbelieved that interest rates would eventually increase from historically low levels. Uncertainty about funding levels caused by market volatility also reduced pension plans' incentives to act. Given that the situation is not expected to improve in 2012, it is important that plans act to revise their strategic asset allocations.

Given the level of plans' funded status, our assumption that equities will eventually outperform long bonds in all markets warrants maintaining some strategic exposure to growth assets, rather than de-risking completely. However, pensions cannot ignore the here and now. Accounting Standards essentially require immediate recognition of deficits on the balance sheet of the plan sponsor.

With the necessity for a shorter-term outlook in mind, we recommend that pension funds consider strategies that:

- **Mitigate the volatility of their funded status.** Such solutions include closing partly the mismatch between assets and liabilities through an extension of asset duration.
  - By not closing the gap completely, pension funds keep upside if yields increase.
  - However, if yields stay the same, a significant portion of the assets should grow at the same pace as the liabilities.
  - If yields decrease further, this strategy still offers some protection.
- **Take advantage of market volatility.** Given the high volatility of funded status, consider a de-risking path which will allow the pension fund to crystallize rapidly and automatically any improvement in the deficit.

[2] Historical monthly data shows a -.55 correlation between credit spreads and equity markets over the last 10 years.

- **Preserve a significant allocation to growth assets as long as the deficit is large.** This will allow the pension fund to benefit from the higher expectations for growth assets over the longer term. However, this approach may need to be combined with the volatility mitigation strategy described above.
- **Diversify growth assets to manage risk.** This will help pension funds reduce the probability of extreme under-performance of their growth portfolio. Investments in hedge funds, infrastructure or real estate, among others, can create helpful offsets for the volatility of equity market returns.

5. With so many developed-market government ratings in question and biased lower, how should I think about fixed income allocations and investment guidelines?

Investors may come to remember 2011 as the year we lost the risk-free rate of interest. The debt-ceiling episode of the summer raised the possibility that the U.S. might not make a coupon payment, and Standard and Poor's (S&P) downgrade suggested that the ratings agency regarded this as more than a temporary hiccup. Several other very highly rated sovereigns were put on watch or downgraded. Given that AAA or AA sovereign ratings were regarded as unimpeachable only a few years ago, this comes as quite a shock.

What kind of rethinking of strategic asset allocation could the sovereign debt crisis prompt? Investment guidelines are often written in terms of credit ratings, a prominent example being a restriction on some central bank reserve portfolios to hold debt rated no lower than AA-. A restriction to high ratings effectively spells sovereign rather than corporate credit exposure, which, we will argue, can have the unintended consequence of increasing rather than decreasing risk. The main culprit is the practice of thinking about credit risk on an entity-by-entity basis, rather than in the context of a portfolio.

While it is hard to argue with the notion that a single AA rated obligor has less chance of default than a single BBB rated one, it does not follow from this that restricting investments to AA or better securities lowers portfolio risk. There are three related reasons for this. First, the number of highly rated entities is quite small, and so the opportunities for diversification of their credit risk are limited. Second, again because there are so few highly rated entities, the experience we have of these ratings is consistent with an extremely wide margin of error relative to their low expected default rates. This is to be contrasted with A and BBB rated corporates, whose expected default rates are much higher, but is measured much more precisely, because we have experience involving thousands of them. Third, the rating agencies' frameworks for sovereigns, which dominate the high-rating categories, are necessarily more subjective and less quantitative than the corporate framework.

Exhibit 13: Number of sovereign issuers rated by Moody's broken down by rating

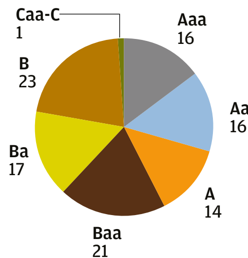


Exhibit 14: Market cap of sovereign issuers broken down by rating

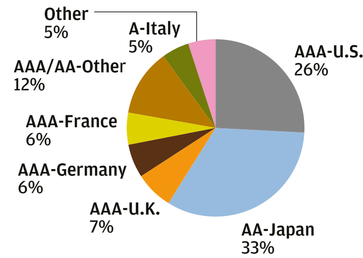


Exhibit 15: Number of corporate issuers rated by Moody's broken down by rating

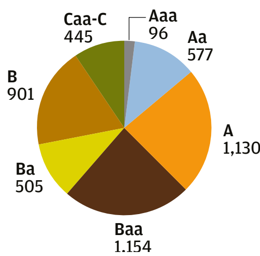
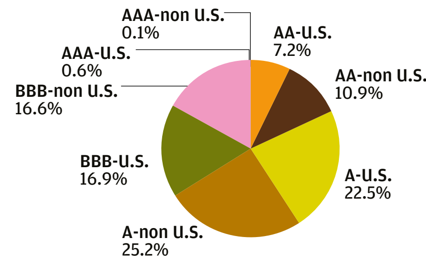


Exhibit 16: Market cap of global corporate issuers broken down by rating and US vs. non-U.S.



Source: Moody's, Barclays Capital as at December 2011.

Of course, all of this was true before 2011. But the events of 2011 opened the door to thinking about sovereign risk as a species of credit risk, and this raises the chance of an eventual tilt from sovereign risk to corporate credit risk. Our goal here is to lay out the logic that might inform such a move, on which we believe all investors should have a grip. While many do not have sovereign exposure to divest, they will surely be affected by even a small shift in this direction. For example, any defined-benefit pension plan that reports under U.S. or international accounting standards discounts their liabilities using a corporate yield as discussed in Questions 4, and so, if unhedged, would be on the losing end of an increased demand for corporate bonds.

Sovereigns number about 200, and less than two-thirds of them are rated by either Moody's or S&P's (108[3] and 126[4], respectively). Of these, around 30 are rated AA- or better (**Exhibit 13**). Only 22 of these are present in the Barclays Global Treasury Index (which can be viewed as the investable universe of sovereign debt); they comprise 90% of its USD 21 trillion market cap (**Exhibit 14**). Five high-rated countries (Japan, U.S., U.K., France and Germany) account for 77% of the index's total outstanding value.

In contrast, the number of global corporate issuers rated by Moody's and S&P was about 4,800 and 5,500, respectively, as of late 2010. Of these, about 1,100 each were rated A or BBB (**Exhibit 15**). Total investment-grade capitalization[5] stood at about USD 6 trillion, of which 81% was rated A or BBB (as of the end of 2011, **Exhibit 16**). U.S. corporate issues make up just under half the total, with a similar proportion rated A or BBB.

Seen this way, the contrast between sovereign and corporate credit risk is one between a few high quality issuers and numerous low-quality issuers. To a first approximation, the difference in average quality is accounted for by the difference in credit spreads. If each entity's chance of defaulting is independent of every other's, then there is evidently greater opportunity for diversification of default risk among corporates than among sovereigns. Of course, corporate credits are not independent in this way, as defaults systematically rise in a recession. However, this correlation appears to be small based on the available experience. For example, while one-year default rates of corporate rated Baa by Moody's have averaged 0.2% since 1983, the largest default rate recorded was about 1.1% (in 2002)[6].

[3] Source: "Sovereign Default and Recovery Rates, 1983-2010," Moody's Investors Service, May 2011.

[4] Source: "Sovereign Government Rating Methodology and Assumptions," Standard & Poor's, June 2011.

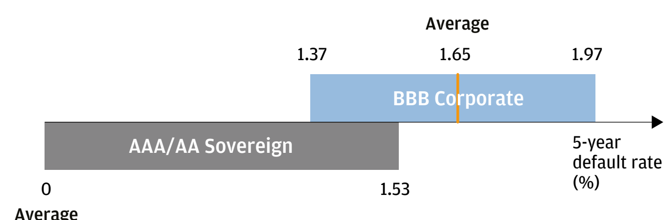
[5] Using the Barclays Global Corporate Index

[6] Source: "Corporate Default and Recovery Rates, 1920-2010," Moody's Investors Service, February 2011.

There is a second way in which the relative numbers of issuers makes sovereign credit risk less reliable than corporate. The default rates that we have observed are most sensibly viewed as estimates (the best we can get) of the underlying probability of default. As with every estimate, there is measurement error, and the greater the measurement error, the less confidence one has in the estimate. As one might expect, a key determinant of the measurement error is the number of independent observations used to construct the estimate. The consequences are best illustrated by a concrete example (**Exhibit 17**).

Over the 40 years since 1970, Moody's five-year default rate for Baa corporate issuers is 1.65%. Under the simplifying assumption that Baa corporate defaults occur independently, and that there are 1,000 issuers, each observed over eight five-year intervals, there is a 95% chance that the underlying probability of default (of any individual entity) lies between 1.37% and 1.93%. Over the same period,

Exhibit 17: 95% confidence intervals for historical default rates



Source: Moody's; data from 1970–2010; J.P. Morgan analysis. For illustrative purposes only.

sovereigns rated better than AA- have experienced no defaults. Assuming that there are 30 of them, the corresponding 95% confidence interval ranges from 0% defaults to 1.53%. In other words, while our best guess for the five-year default rate of high-rated sovereigns is zero, there is a 2.5% chance that it actually exceeds 1.53%, which is close to the average for Baas. So there is much less daylight between the experience of high-rated sovereigns and Baa corporates than their average defaults suggest. This is purely the result of the limited experience of sovereign ratings. Had there been 1,000 followed over the forty years, the upper limit would shrink from 1.53% to 0.05%

The sense that there is greater uncertainty surrounding sovereign credit risk than corporate is only strengthened by a review of the rating agencies' framework for evaluating the ability of each to repay their obligations. S&P bases its ratings of corporate bonds on a combination of two broad categories: business and financial risk.[7] Both are calibrated extensively using quantitative measures, examples of which are traditional financial ratios such as debt/EBITDA, and measures of liquidity. Business risk involves some qualitative factors such as the firm's growth prospects, but also many quantitative ones, such as a comparison of operating income with the firm's peer group. In general, the rating of U.S. corporate debt is facilitated by the SEC's reporting requirements for public companies, which impose a uniformity of quality and coverage on the data about them. The large number of entities reporting this information has the effect of creating a sort of controlled experiment—rating corporates becomes, in part, an exercise in benchmarking.

In contrast, sovereign debt ratings involve much more subjective elements. S&P bases its sovereign ratings on two broad categories—political and economic profile, and flexibility and performance.[8] Approximately half the contributing factors are qualitative or subjective, such as the "effectiveness and stability of the sovereign's policymaking," the government's "willingness and ability to raise taxes and reduce expenditure," and ability to address domestic economic stresses through control of the money supply. These subjective elements reflect the realities of sovereign ratings. Sovereigns' reporting is not bound by pain of prosecution, and their opportunities to run "off-balance-sheet" operations are far less circumscribed than corporates', with the result that the rating agencies have no other choice than to make judgments based on the disposition of the administration in power.

What's the bottom line? Investment guidelines that impose a floor on credit quality only will be effective if high credit quality is an adequate substitute for diversification and precision. We would argue that the current lineup of opportunities in corporate and sovereign markets put this proposition strongly in doubt. In a world of fragile sovereign ratings, with DM ratings in particular in decline, we believe investors should, and probably will, rephrase their investment guidelines in terms of portfolio risk rather than individual credit risk. Of course, this exercise will have to take account of corporate debt's lower liquidity and higher correlation with equity markets, as noted in Question 2. Even with investment guidelines unchanged, we believe the continuing questions surrounding sovereign ratings will likely tilt more investors toward relatively greater corporate debt exposure.

[7] Source: "Corporate Ratings Criteria," Standard & Poor's. http://www.regulationbodyofknowledge.org/documents/071.pdf
[8] Source: "Sovereign Government Rating Methodology and Assumptions," Standard & Poor's, June 2011.

KEY TAKEAWAYS

Having explored a number of the top investment questions for 2012, what conclusions can we draw? There are a few that immediately jump out, both macro and micro.

1. While global growth in the year ahead will face headwinds from fiscally tightening developed markets, a partial offset will come from emerging markets, where policymakers will be easing monetary and, in some cases, fiscal policy to support growth.
2. The broad trend for government yields in 2012 is lower, with the ECB catching up to its G-5 peers, and a bias for more quantitative easing from the Federal Reserve and Bank of England. This backdrop should support flows into other investment vehicles with relatively more attractive yields, across asset classes.
3. In a world where key developed-market sovereign ratings are being downgraded, investors should reconsider investment guidelines and ensure that fixed income investments still offer the diversification and safety that historically had been presumed. Along those lines, we would also consider increasing exposure to corporate debt, not just for yield but also given the greater pool of investments (diversification) and more stringent ratings frameworks to understand risk.
4. Our base case is that Europe continues to slowly wind its way toward greater fiscal integration, though with continued volatility and risks for markets, not just within Economic and Monetary Union (EMU) states but globally. An EMU breakup, while a very low-risk probability in our view, would have major, global consequences.
5. While we believe emerging-market performance (both bonds and equities) will be positive in 2012, we also believe investors can "source growth" for portfolios in developed markets via innovation—focusing on technology and health-care sectors, in particular.
6. The outlook for pensions' funding status in the U.K. is not much brighter in 2012 than it was in 2011. We recommend investors consider strategies to: (i) try to reduce the volatility of the funded status; (ii) use market volatility to their benefit, locking in any funding improvement; and (iii) diversify growth assets as a way to manage portfolio risk.
7. With volatility across publicly traded markets likely to remain high in 2012, we expect to see greater interest in alternatives, as investors become more willing to trade liquidity for better Sharpe ratios.

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Over the preceding decade, she served on the Investment Bank's currency research team, helping develop views and forecasts and client strategies. Her roles included senior global FX strategist for North America, based in New York, and head of emerging Asian FX research, based in Singapore. She also worked on the FX and precious metals research team in London.

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