Portfolio 2011

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Foreword
HE MARKETS IN 2010, to paraphrase the oft-quoted opening lines of *A Tale of Two Cities*, went through the worst of times and the best of times. U.S. housing prices failed to find a bottom, the unemployment gloom refused to lift and the eurozone veered seriously off course. Corporate balance sheets, meanwhile, never looked better, profits approached all-time highs and the emerging markets—the world’s other five billion—asserted their claim as the Next New Thing.

Two years after the crash, even the most hidebound old-school investors would concede that the normal they once knew had disappeared, as likely as not, forever. Yet notwithstanding the pronouncements of Wall Street’s oracles, no new normal had come along to take its place.

Through all the uncertainty, our investment professionals served our clients with relentless intelligence, complete dedication, an objectivity free of conflicts and, to judge from results, no small distinction. We take pride in presenting this compendium of their views. In the essays that follow, the leaders of our investment teams recount how they navigated last year’s volatility and describe the opportunities they see ahead. They offer insights on equity’s prospects, where they find pockets of value in the fixed income markets and how to separate emerging market structural growth from emerging market hype. They analyze the prospects and diversification potential in real assets, private equity and hedge funds.

But investment success is as much a function of cogent investment thinking as perceptive investment views. *Portfolio 2011* does not lack for provocative ideas in this respect. We’ve devoted considerable firm resources to the study of approaches we think will protect and enhance client portfolios through any future capital market environment. We’re researching new ways of disaggregating hedge fund allocations so that they contribute optimally to long-run returns. We’re wrestling with the critical fiduciary issues confronting defined contribution plan sponsors. We’re developing an asset allocation approach fitted to the realities of a new, more volatile investment universe.

We invite you now to read through these essays and hope the ideas you find there might furnish food for thought and a basis for our dialogue together in the year ahead. As always, we thank you for your trust and wish you all good fortune.

George C.W. Gatch
CEO, Investment Management Americas
It took a strong sense of common purpose and a coordinated global response to revive the global economy two years ago. But after 2009’s well-orchestrated airlift by governments and central banks, 2010 was the year of financial sector re-regulation, fiscal austerity in some countries, further stimulus in others, crisis aftershocks in Europe, political partisanship in the U.S., deflation fear in the West, inflation fear in the East and global exchange rate tensions. Markets were certainly volatile, but the year nonetheless ended with equity returns that exceeded the expectations of most.

We expect that 2011 will be another moderate “up year” for markets. But with last year’s problems of over-leverage and policy discord still very much with us, and new problems—including perhaps greater concern about higher inflation and interest rates in the West as well as the East—likely to surface, volatility should also remain a major feature of the market environment this year.

As it was for much of 2010, investors’ stomachs for risk will most likely hinge on what happens in the three major economic blocs: the U.S., China (and other emerging markets) and Western Europe. Leo Tolstoy famously wrote in Anna Karenina that “every
unhappy family is unhappy in its own way,” and similarly, each of these economies faces its own particular set of challenges. But while we can expect the authorities in each to do what they deem to be in their interest, less certain is how much success they will enjoy and what impact their individual actions will have on the rest of the world. The key questions for 2011 are these:

- What will it take to quicken and sustain the pace of economic recovery in the U.S.?
- Will inflation derail China and the other emerging economies?
- Can the eurozone avoid a deeper crisis?

The year may well provide answers to all three. It may provide answers to none. But almost certainly, the way in which policymakers in each region attempt to tackle their respective problems will be a major determinant of how markets perform.

The U.S.: On the Road to Recovery

Now officially 18 months old, the U.S. economic expansion remains well below par. After such a precipitous contraction, output ought to be growing at 7% to 8% but is so far only managing around 3%. The rebound in industrial activity has been similarly disappointing (Exhibit 1).

But given the nature of the downturn, this comes as no major surprise. The household sector remains saddled with an extremely high debt burden, and with asset values still well below their pre-crisis peaks, strained balance sheets continue to depress confidence and spending. An unwillingness to increase borrowing means that the tools that are usually used to revive the economy—principally, lower interest rates—have therefore not been as effective as in the past. Shattered consumer confidence is likely to be rebuilt only slowly, and until it is, investor concerns can be expected to continue to revolve around the most visible legacies of the crisis—the relatively slow-going improvement in the labor market and the deterioration in fiscal budgets at the federal, state and local levels.

Employment growth did finally begin to turn positive last year, with a total of 1.3 million jobs added in the private sector. But more than 200,000 government jobs were lost. And at 9.4% for the month of December, the unemployment rate has barely changed from what it was a year ago, while wage growth remains painfully slow. Other aspects of the labor market have, however, turned more encouraging. The average private-sector workweek, for example, has lengthened (regaining over half of its decline in the recession), in contrast with private employment, which has recouped only 15% of its losses (Exhibit 2, on the following page). But ongoing (if relatively subdued) consumer demand growth suggests that companies may soon need to step up hiring. Numerous labor market indicators, including a declining trend in claims for unemployment insurance and a rise in advertised job openings, suggest that 2011 should bring the long-awaited acceleration in job growth.

Companies certainly have the means. The non-farm corporate sector currently sits on a roughly $1.6 trillion trove of liquid

After 18 months of the recovery, the pace of growth remains disappointing

**EXHIBIT 1A: U.S. INDUSTRIAL PRODUCTION**

**EXHIBIT 1B: U.S. REAL GDP**

assets and enjoys wide profit margins and a historically low cost of borrowing. S&P 500 profit growth probably topped 30% in 2010 and is expected to register another double-digit year in 2011. Moreover, companies have already begun to reinvest in capital equipment and, in our view, it should only be a matter of time before a stronger rebound in employment follows (Exhibit 3).

And on top of the slow healing underway in the economy, additional help is coming from the Federal Reserve, which is in the process of buying an additional $600 billion of Treasury securities under its policy of quantitative easing. Rather than encouraging credit growth—which has typically been the objective of Fed easing in past business cycles—a more effective channel through which “QE2” might work is by raising asset prices, improving business sector and consumer confidence and, hence, encouraging more business and consumer spending. Judging by the solid gains for U.S. equities since Fed Chairman Bernanke first broached QE2 at his Jackson Hole speech in late August, the Fed already seems to be enjoying some success in this effort.

Meanwhile on the fiscal side, President Obama’s agreement with the Republican leadership on taxes and extended unemployment benefits late last year is likely to add a further fillip to this year’s growth. But at least as important for markets will be whether bipartisanship will prevail as it did when Republican victories in the 1994 mid-term elections led President Clinton to work more closely with then Speaker of the House Newt Gingrich. In that regard, the late-year agreement, as well as the unexpectedly high degree of support on the Obama administration’s deficit commission for some of the proposals that have been put forward so far, have been encouraging.

But with both the Federal Reserve and the Federal government working to support the recovery, rising bond yields could potentially upset the party due to a combination of more Treasury issuance, higher inflation expectations and the anticipation of stronger growth. We do expect to see yields rise this year, but it is more likely to be a moderate increase than an aggressive one. In the past, material and sustained yield increases have typically been driven by expectations for (and actual) Fed tightening. And even though a stronger economy may prevent the Fed from scaling up its bond purchases, there is scant chance that it will signal imminent rate hikes. Thus, any rise in Treasury yields should be
relatively easily supported by concurrent strength in the underlying economy itself. Nonetheless, should accelerating commodity prices cause headline inflation to begin to rise meaningfully, the talk of “exit strategies” that was widespread in the early part of last year could well resurface. This represents the biggest risk to our otherwise relatively optimistic assessment of the U.S. outlook for 2011.

Emerging Markets: Inflation Under Control, Not Growth Undermined

The emerging economies have come out of the crisis in far better condition than their developed world counterparts. With low private sector and government debt levels in most countries, and economies that are not as dependent on financial asset wealth, the bigger emerging market economies have more than regained the output lost during the recession— in contrast with the major developed economies (Exhibit 4). But less abundant spare capacity and interest rates that have still only partially normalized from their crisis lows mean that inflation remains the big fear in the emerging world, and bubbling price pressures should only intensify in 2011. But will they be sufficient to derail the economic expansions taking place in emerging countries or undermine the performance of their markets?

Probably not. Some countries, such as Brazil and India, saw material core inflation increases in 2010, but after a series of rate hikes, inflation there has eased again. And in spite of 2010’s episodic hand-wringing over inflation in China, much of the increase in the headline number was the direct result of speculation and hoarding in agricultural commodity markets and weather-related crop disruptions. Outside commodities, inflation in the emerging economies remains very low (Exhibit 5). Accordingly, we expect policy to stay focused on the problem areas, with ongoing crackdowns on food hoarding, increased supply from states reserves and greater transaction fees for speculators. Direct measures should also be the preferred means of dealing with house price appreciation, which has picked up again in China after decelerating in the middle of the year. We do not minimize the risk of broader policy tightening, but, at the same time, we do not expect it to have a material impact on activity.
As they were throughout 2010, policy interest rates will most likely continue to only be nudged higher in emerging Asia (from what are still very low levels), and the new Chinese bank loan quota for 2011 is expected to represent only a mild slowdown in loan growth from last year’s 19%. This may crimp economic activity at the margin and help to further restrain inflation pressure, but, is not expected to be sharp enough to slow the economy significantly. Indeed some plans, such as those to construct an additional 10 million units of public housing this year (a measure designed to cool overall property price appreciation), may actually contribute to growth.

Emerging market equity investors will, no doubt, continue to fret over the ongoing policy adjustments. China, Brazil and India—which saw some of the most monetary tightening in 2010—were also equity market performance laggards within the emerging world last year. And with over-weights so widespread and valuations now less attractive in EM (Exhibit 6), the material outperformance of 2010 could moderate. Yet, through the howling, we think that still accommodative (if tightening) monetary policy, sturdy economic fundamentals and strong global investor demand should mean that EM equity performance remains solid relative to the developed world.

And for as long as conditions in the West remain fragile, the People’s Bank of China should continue to resist a strengthening of the renminbi (the government has already stated its intention to keep the currency stable in 2011), while policymakers elsewhere in emerging Asia will likely be unwilling to let their own currencies appreciate too far against that of their regional engine. Any more monetary stimulus in the U.S. should therefore be matched by more currency intervention across Asia, spelling more liquidity globally and most likely more support for commodity prices.

A broad-based inflation problem in the emerging world might ultimately force an upward adjustment for EM currencies, but with economic slack still high and core inflation low, local conditions are unlikely to put EM monetary authorities under much urgency to allow it. Authorities elsewhere, however, might. With the unemployment rate in the U.S. to fall only gradually, China will likely remain a source of agitation for the new Congress, which may come closer to labeling it a “currency manipulator” in its semi-annual declaration. Exchange rate tensions between East and West should therefore persist in 2011, with commodity markets likely to remain the big winners.

The Eurozone: A Treacherous Path to Stability

Over a full year after it surfaced, the debt crisis in the eurozone periphery remains far from resolved. The year 2010 was one of patchwork solutions by the European authorities: Greece received a €110 billion loan from the EU and IMF; the €750 billion European Financial Stability Facility (EFSF) was set up (and ultimately tapped in November by Ireland); a series of European bank stress tests were widely seen as too lenient and lacking in credibility; and the European Central Bank purchased sovereign bonds and provided unlimited banking sector liquidity. But with the debt markets never quite convinced, sovereign credit spreads widened in defiance of all the support measures that were introduced (Exhibit 7, on the following page). Should investors remain fearful, 2011 could well be the year in which they demand an even bolder response than anything that has yet been offered.
Moreover, the task may become increasingly difficult as the core of the eurozone prospers while the periphery continues to suffer. Close to 65 years after Roosevelt, Churchill and Stalin began to reorganize Europe into Western and Eastern blocs at the Yalta conference, international leaders are being forced to redress a growing North-South divide. German growth, for example, is booming, averaging 3.4% (faster even than in the U.S.) since the economy bottomed in 2009, and the unemployment rate is near a post-unification low. Meanwhile, Southern Europe remains in the doldrums, with Spain plagued by 20% unemployment and the most meager of recoveries (Exhibit 8, on the following page). The European Central Bank should therefore find it increasingly difficult to calibrate policy for the eurozone as a whole.

Through their words and actions so far, the authorities in Europe have demonstrated that they will not put the eurosystem at risk of disintegration, even if they are only willing to act under market duress. But the speed with which the crisis is progressing (there has already been talk of having to beef up the EFSF) suggests little room for heel-dragging this year. And unless the EU is willing to contemplate the unthinkable—a near-term sovereign default that destabilizes the entire European banking system or indeed a secession that puts the European project itself in jeopardy—it remains to be seen how far markets will allow officials to “kick the can down the road.” European policymakers (both at the EU and national levels) have much to do to regain the confidence of markets, but time is clearly not on their side. If default or secession are to remain out of bounds, then some form of fiscal union (i.e., more equity for the stricken countries as opposed to more debt) may be the only viable solution—either through direct transfers or the introduction of a pan-eurozone bond. This would itself, of course, throw up a myriad of new uncertainties and market confidence would undoubtedly be hampered in the process. But as long as authorities continue to demonstrate that they are willing to safeguard the system, and do it convincingly enough, we do not expect a collapse. And should European banks be able to recapitalize sufficiently—perhaps in the wake of another round of stress tests as is currently being discussed—debt restructuring may become more realistic. As ancient Roman army commander Pliny the Elder once said, “in these matters the only certainty is that nothing
is certain,” but we suspect that the eurozone crisis—even if it deepens periodically in 2011—should not end in disaster.

2011: More Sound and Fury Than Winter of Discontent

The story of 2010 was one of post-crisis global divergences, both within and between economic regions. These are very much still with us as we enter the New Year. Whether the effects of policy actions prove to be benign or destabilizing will be crucial. We are inclined to take a cautiously optimistic view of the risks and, thus, expect another year of moderate returns for risk assets. Equities should be supported by decent, if slower, profit growth and undemanding valuations. Credit market returns should continue to be yield-driven, with spreads remaining stable while sidelined central banks ensure that government bond yields stay relatively subdued, even if improving growth prospects in the U.S. allow them to drift higher. The dollar may weaken marginally but, with other countries themselves resistant to currency strength, nominal exchange rate movements are unlikely to be spectacular. But commodities should remain the big winner in a world of not only easy central bank policy and persistent uncertainty, but also ongoing growth. This is especially likely for industrial and precious metals, which benefit from both strong emerging market and “store of value” demand.

Just like last year, this one looks poised to provide a number of economic and political twists and turns—perhaps most frequently from the eurozone—and markets promise to be volatile. But when the tale of 2011 is told, the biggest surprise may be the overall resilience of the market in the face of yet another year of tough challenges.
Matters of Confidence

by David Kelly, Chief Market Strategist for J.P. Morgan Funds

At the end of each year, strategists and economists are generally required to provide forecasts for the year ahead. This is always a difficult exercise, especially given the ever-changing currents of the economy and the tendency for markets to price in available information. This being the case, many in the forecasting business long for a hint—one piece of information that could give them unique insight into how the upcoming year might unfold. For my part, if granted one hint for 2011, I would want to know how confident Americans would feel about the economic outlook.

Confidence\(^1\) would, of course, be high on any list of important factors shaping the investment environment. However, it is arguably more important than ever today, precisely because confidence is currently so low. This gloom is slowing the rebound in the economy, distorting the allocation of investor resources and depressing the price of stocks. However, examining the determinants of confidence suggests that it may

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\(^1\) In this article, confidence is measured by the University of Michigan’s Index of Consumer Sentiment. This index is derived from the answers to five specific questions on consumer attitudes. Consumers are asked if their own finances have improved over the past year, whether they expect them to improve over the next year, whether they expect good times for the national economy over the next year or over the next five years and whether now is a good time to buy big-ticket items. In each case, the negative answers are subtracted from the positive answers and the difference is added to 100 to come up with an index. The average of these five indices, with a small adjustment, becomes the Index of Consumer Sentiment.
Confidence and the Economy

As a starting point, it is worth noting just how depressed Americans are today. Over the past 20 years, the University of Michigan’s Index of Consumer Sentiment has averaged a level of 88. However, in December 2010, a year and a half into the economic recovery, the index was at a level of 74.5, implying that Americans were more pessimistic than they have been 82% of the time in the last 20 years (Exhibit 1).

Depressing sentiments: 18 months into a recovery confidence measures haven’t risen much off record lows

EXHIBIT 1: UNIVERSITY OF MICHIGAN INDEX OF CONSUMER SENTIMENT

Source: University of Michigan, FactSet, J.P. Morgan Asset Management.

So how is this lack of confidence affecting the economy? Two key areas that are telling when it comes to consumer confidence are auto and home sales, making this a good place to start.

The current slump in new vehicle sales is extraordinarily deep from a historical perspective. Over the past 20 years, U.S. auto dealers sold an average of 15.0 million new vehicles per year. However, after averaging just 10.4 million units in 2009, sales only rebounded to 11.5 million units in 2010 (Exhibit 2). Because of this, the average length of new car ownership, which was under 55 months at the start of 2008, had ballooned to almost 64 months by the second quarter of 2010.

Some of this could be the direct impact of joblessness, slow income growth and tight bank lending practices. However, statistical analysis also shows an independent effect of confidence.

In a similar vein, a lack of confidence appears to be contributing to very weak home sales. In the first 11 months of 2010, combined new and existing homes sold at an annualized pace of 5.2 million units, well below the 5.8 million units sold on average over the last 20 years. (As in the case of vehicle sales, a comparison to a 20-year average understates the current weakness in sales because of population growth during the past 20 years.) Moreover, while excessive inventories can be blamed for the historically low level of homebuilding, it shouldn’t be negatively affecting home buying (Exhibit 3, on the following page).

While losses of stock market wealth, heightened joblessness and tight bank credit have undoubtedly hurt the housing market, these forces have to be set against the home price declines already seen and the historically low mortgage rates that have made this the most “affordable” housing market on record. As in the case of autos, statistical analysis

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2 While statistical analysis does show an independent impact of confidence, it should be noted that it is statistically very difficult to separate the impact of confidence itself from many of the variables which drive it, such as income, net worth and employment.

3 In October, the average price of a new home sold in the United States was just over $248,000, while the average interest rate on a 30-year fixed rate mortgage was only 4.23%. With 20% down, this implied a monthly mortgage payment of just $975, or roughly 10.9% of average household personal income. This is far below the 16.7% average for this ratio since 1996, and the lowest since at least 1971, when the current 30-year mortgage statistics begin.
While higher confidence has the potential to boost economic activity in 2011, it also can have a direct, and positive, impact on the stock market.

The first important impact is how it affects flows of investor cash. Between January 2008 and October 2010, investors piled over $670 billion into bond funds, while withdrawing over $270 billion from equity mutual funds. This clearly has been a drag on stock market performance overall. Statistical analysis suggests that consumer sentiment strongly impacts flows into equity mutual funds, with a sustained one point increase in the index being associated with roughly $8.5 billion in additional flows into equity mutual funds over the course of a year.

A second issue has to do with price/earnings (P/E) ratios. While the improving economy fostered a rebound in earnings in 2010, P/E ratios have generally drifted down, continuing a trend that started a decade ago. While other factors, such as interest rates and tax laws, should impact P/E ratios, there appears to be a strong positive correlation between forward P/E ratios and confidence (Exhibit 5, on the following page). Put simply, if investors believe that prospects for the economy are bright, they are more willing to invest in stocks.

8 Based on data from the Investment Company Institute. Data are as of December 31, 2010.
9 Measured as the price of the S&P 500 Index divided by the next four quarters of expected earnings.
Given the many ways in which confidence impacts the economic and investment environment, what are the prospects for an improvement in confidence in 2011? To assess this, we estimated an equation explaining quarterly changes in consumer sentiment since 1996. Not surprisingly, sentiment is positively correlated with changes in net worth and payroll employment and negatively correlated with increases in the unemployment rate and oil prices.

Over the next year, it appears that a moderate economic recovery should lead to modest gains in payrolls, a very slow decline in the unemployment rate and some further recovery in net worth. Oil prices may well drift upward, reflecting an improving global economy. If this transpires, then the index of consumer sentiment could rise from an average level of 68.3 in the third quarter of 2010 to 73.8 in the fourth quarter of 2011. While this would still leave America in a gloomy mood relative to history, the improvement in sentiment should help boost both economic growth and stock market performance. Our base case view of the economy in 2011 includes:

- Profits continuing to rise quickly with S&P 500 operating earnings exceeding their previous all-time high in the fourth quarter,
- Inflation remaining low but avoiding outright deflation,
- An accommodative Federal Reserve postponing any rate increase until the end of the year at the earliest, and
- A significant outperformance of stocks relative to bonds.

It should be noted, however, that from both a statistical and real-world perspective, it is difficult to separate the effects of confidence on the economy and markets from the effects that an improvement in either of these areas might have on confidence. A gradual increase in confidence could well feed on itself, unfreezing depressed auto and housing markets, promoting healthy risk-taking in American business and boosting household wealth. At the center of such a virtuous cycle would be confidence itself. Just as fear helped trigger a global financial crisis in 2008 and has helped depress the economy and markets ever since, the biggest upside risk to any economic forecast for 2011 is that optimism could return more quickly than expected—a welcome development for the economy and the market.
The Seven-Year Workout


It’s going to take at least seven years to work off enough consumer and government debt to close the output gap that opened in the recent recession and get the economy growing consistently at trend again, in our view. In the meantime, we believe Fed officials and their counterparts overseas will keep a lid on rates until economic growth is stimulated sufficiently to reduce private sector debt to a more manageable level. In this article, we make the case that the resulting stable rate environment should bring comfort to bond investors in 2011. This is not the year to worry about your bond portfolio—unless you’re looking for better than 8% returns. In that case, we argue, high yield and emerging market debt could provide opportunities.

The End of Sovereign Rule

Credit markets posted a second straight year of solid returns in 2010, notwithstanding occasional outbreaks of volatility. The year started out strong, but a period of weakness beginning in May put a significant strain on liquidity for most of the balance of the year. Credit and equity markets managed to rally in the final two months, but developments in Europe underscored the added risk sovereigns have taken on by effectively moving their banking sectors’ problem loans onto their balance sheets. The failure of concerted intervention by the EU, the ECB and
the IMF to resolve the debt crisis in Greece and stop the contagion in its tracks illustrates the magnitude of the challenge, and it remains to be seen whether European sovereigns and banks can manage another year of peripheral stress with an unproven temporary liquidity facility.

In any event, investors can no longer assume that any but the most solvent sovereigns will be able to roll over their obligations going forward. Even so and despite a general eroding of confidence in sovereign debt, countries that are focused on reducing fiscal deficits should reward investors. Much of that opportunity is likely to come out of the emerging markets, where we are finding very strong borrowers in the corporate as well as the government bond space.

### Bond Positive

With developed-world consumers fully extended and governments bringing so much private debt onto their books, the financial crisis has eroded credit’s ability to fulfill its traditional role as economic stimulant after a downturn. In this environment, it will be tough to count on anything but a modest uptick in economic activity. Our economists’ forecast for 2011 looks for only a gradual acceleration in U.S. growth and hiring, sustained low core inflation and a Fed that continues on the course of lower interest rates for longer. Politically, the recent tax compromise brightens recovery prospects somewhat for 2011, with our forecast of 3.1% GDP growth topping a projected 2.8% gain in 2010.

A muted recovery with inflationary pressures largely at bay should extend the credit market’s bull run well into 2011. Our forecast doesn’t anticipate central bank tightening this year. We expect U.S. government bonds to remain between 2.25% and 3.50% in the ten-year sector, a positive backdrop for bonds that implies other interest rates will likely increase only marginally.

Of all the fixed income sectors, corporate bonds remain our favorite, thanks to strong fundamentals and the potential for further spread compression. Default rates among corporate borrowers are at multi-year lows as companies focus on maintaining strong balance sheets. There is no evidence they are doing the things that normally erode balance sheet strength like buying back shares, raising dividends or making acquisitions.

### Steady Eddies

In an alternate scenario of a double-dip recession, rates could go a lot lower and bond prices rise, which is why we would continue to recommend Treasuries as the ultimate safe haven against this still-possible scenario. In Japan, ten-year government bond yields fell to 0.40% in the wake of quantitative easing, a zero short-term interest-rate policy and bank bailouts (Exhibit 1). While that is not likely to be the case in the U.S., it does show that low interest rates can, in fact, go lower still.

#### Touching bottom? Interest rates have tumbled, but as Japan’s 1990s experience shows, they could fall further


![Graph showing interest rates for G3 countries and Japan 10-year bond yields](image)

Source: Bloomberg.

1 Blended at J.P. Morgan World Government Bond Index weights.

Mortgages also remain attractive as a source of stable returns. We expect a modest tightening relative to interest rate swaps and U.S. Treasuries in 2011, but also recognize that mortgages will face considerable headwinds not only from falling home prices but from rising supply as well, namely about $195 billion of agency fixed-rate MBS. Liquidated agency and non-agency loans should also find their way back into the market, backing new securities, and runoff from the Fed portfolio could exceed the magnitude of “organic” supply.
The Fed will be especially careful how it manages its mortgage holdings as any abrupt reduction could be interpreted as a shift toward tighter monetary policy. More likely, it will allow prepayments to reduce its holdings, which will create limited impact to the market. With money managers likely serving as the primary source of demand in 2011, it may prove difficult for mortgages to tighten to fundamentally rich levels.

Still, current coupons for mortgages are about 4%, not bad for an asset with an effective government guarantee. People who have the economic ability to refinance—they have equity in their home and can get into a rate that makes more sense for them—simply can’t do it because the banks won’t lend. And due to home price depreciation in a wide swath of major markets, many others are servicing mortgages with LTVs of 100% and higher, creating a huge drag on refinancing activity. With prepayments likely to remain stable as a result, mortgage debt is attractive. As long as homeowners who are not able to refinance for whatever reason continue to make their monthly payments as is happening now, prepayments will be largely unchanged, creating an odd stability in agency mortgage debt.

High Return Candidates

While many institutional investors and plan sponsors are still targeting 8% returns, it will be difficult to reach that mark without taking some additional credit risk. For the coming year, emerging market and high yield debt appear poised to fill that role. Even in peripheral Europe, where plenty of sovereign debt likely will be restructured in the coming years, there should be many corporate issuers with strong franchises or global reach fully able to service their debt.

Inflows into EM fixed income were a dominant story in 2010 and will remain a key driver in 2011. We forecast 2011 EM fixed income inflows in the range of $70 billion to $75 billion (Exhibit 2). With so much money pouring into Latin America and Asia, the credit quality of local borrowers figures to improve. We expect the EM corporate default rate, for instance, to fall to 0.8% this year.
Room for improvement: High yield spreads have only fallen to long-term average, even though the default rate hovers near an all-time low

EXHIBIT 3: HIGH YIELD SPREAD DEFAULT RATE

Source: J.P. Morgan.

**Solid Returns for Shaky Times**

With lukewarm global economic growth expected to persist into the foreseeable future, the risks for inflation very much lie to the downside. The private sector’s de-leveraging has made government pump priming necessary to keep economies from slipping back into recession. But even governments have to retrench at some point, and the prospect of tax increases and spending cuts after conditions improve should act as a brake on growth. Fiscal policies have helped stabilize developed markets, but they’re not going to be the drivers going forward. That will fall to emerging markets, which should deliver just enough demand to sustain a tentative recovery in the U.S. and Europe. All in all, the environment favors fixed income assets. De-leveraging by definition means that borrowers are focused on paying back what they owe, and that’s what we all want.
A challenging outlook in the developed markets, alongside positive prospects in the emerging markets, seems likely to provide a constructive backdrop for emerging market debt. The Federal Reserve’s determination to keep rates low for an “extended period” and the quantitative easing program in effect until June suggest that 2010’s backup in yields was more an anomaly than a trend. Yearend data from the U.S., indicating stubbornly high unemployment and unprecedentedly low inflation, further support our view.

The reallocation of capital away from developed bond markets into emerging market debt also reflects investors’ search for countries with strong fiscal discipline, attractive yields and diversification of their interest rate and currency exposure. The current fiscal dynamics in the U.S., Europe and Japan look increasingly unsustainable. In light of the fiscal crisis that has been spreading throughout the eurozone, investors will likely focus more intently on countries’ fiscal policies as a discriminating factor between various bond markets. This focus reflects the progress EM debt has made over the past decade as the emerging nations have significantly cut back their borrowing and reduced their reliance on foreign lenders to fund it. While most emerging nations have debt to GDP ratios ranging between 45%
and 55%, for rich nations this statistic is typically between 65% and 90%. Exhibit 1 illustrates the diverging fiscal dynamics between the developed markets and emerging nations.

**Pressure Cooker**

The surging capital inflow into emerging economies is putting upward pressures on emerging currencies. A number of countries have resisted these pressures by accumulating reserves through foreign exchange interventions. This strategy has raised inflation worries—growing FX reserves make it harder for central banks to contain credit creation in their domestic economies. This transmission mechanism is forcing many central banks in emerging nations either to let their currencies appreciate or prevent investment from flowing in by enforcing stricter control of the capital account. While capital control measures can appear appealing on a short-term basis, we believe that many countries understand the medium-term risks in such policies. As a result, we expect emerging market currencies to be allowed to appreciate further in 2011.

We believe that this trend will be particularly strong in Asia due to the region’s traditional U.S. dollar link. In contrast to the Asian crisis of the 1990s, monetary authorities in the region have allowed their currencies to recover swiftly from distressed valuations after the recent credit crisis. While that adds a hurdle for exports in a challenging global environment, the primary objective of preventing excessive credit creation prevailed.

Furthermore, the fact that Chinese authorities have allowed the renminbi to appreciate again should facilitate a broader appreciation of Asian currencies. The government’s announcement last June 19 that it would allow the renminbi to start fluctuating again reinforces the case for other regional currencies to appreciate. The 2005 to 2008 experience, when China first allowed its currency to appreciate gradually relative to the U.S. dollar, is instructive. Exhibit 2 shows that the correlation between the renminbi and other major emerging Asian currencies was significantly positive, with regional currencies appreciating markedly, given their greater flexibility versus...
the renminbi. It is also noteworthy that over the last five years Asian currencies have depreciated significantly relative to the renminbi. The Korean won has fallen by 26% relative to the currency, the Indian rupee by over 20% and the Indonesian rupiah by close to 11%. That leaves significant appreciation potential for the broader basket of Asian currencies in an environment where the renminbi may well resume its upward tendency.

Factors to Watch and Risks to Our View

Inflation risks will likely be an ongoing theme within both developed and emerging markets. Partially as a result of quantitative easing from developed markets, we expect commodity prices to rise further in 2011, which should push food and energy prices higher. The price hikes should benefit net exporters of commodities, such as Venezuela and the Middle East. On the other hand, many emerging countries are further along in their recoveries, output gaps are closing and increases in their food and energy costs could push their core inflation higher as well. At the same time, countries with large output gaps, such as South Africa and Colombia, should not have to increase interest rates or normalize monetary policy to the same degree as those, like Indonesia or Brazil, operating closer to capacity.

Inflation aside, another risk that we will be monitoring closely is the fiscal situation in the eurozone and its impact on the mood across global markets. While the vast majority of emerging market countries do not have the fiscal deficit issues of their developed market peers, risk aversion in the face of more unwelcome news from peripheral Europe may pose risks to weaker balance sheets and parts of eastern Europe. This fiscal vulnerability could pose a risk, but may also present an opportunity throughout 2011 from which investments in countries with strong balance sheet positions could benefit. Since emerging Europe fiscal positions have been improving, despite the eurozone’s difficulties, a rotational strategy could gain from exploiting unwarranted upward yield movements.

A Rising Tide

Emerging market debt has developed into a mature asset class since the recent financial crisis, as emerging market nations demonstrated their ability to maintain fiscal responsibility while promoting both economic growth and price stability (Exhibit 3). We expect emerging market countries to drive global growth throughout 2011. Credit ratings for all three sub-sectors—local currency debt, corporate debt and external debt—are today, on average, investment grade and we anticipate further upgrades in 2011. Combined with ongoing strong growth, an improving fiscal balance and a spread over developed market bonds, emerging market debt presents an

Rising tide, falling spreads: Average EM debt rating has closed in on investment grade

EXHIBIT 3: EMD HISTORICAL PERFORMANCE

Source: Bloomberg, Standard and Poor’s, 2010.
appealing investment proposition. In this environment, we expect global rebalancing to continue to drive capital flows toward emerging markets.

The leading risks to our 2011 outlook stem from the developed world, not the emerging nations themselves. The U.S. economy, while improving, remains dangerously close to deflationary territory and still struggles to create jobs. Peripheral European debt continues to unsettle the markets and will continue to do so periodically throughout 2011, especially during the first half of the year.

Rising inflationary pressures in emerging markets are also a focus going into 2011. We note, however, that policy normalization to curb inflation concerns has been well underway for many emerging countries. We would consequently view an inflationary scare as providing an attractive entry point for long-term investors looking to increase their allocation to the asset class.
OVER THE LAST FEW YEARS, triple-A-rated mortgage-backed securities have undergone extensive downgrades. Many have fallen below investment grade and appear likely to take principal writedowns. The credit deterioration has precluded many money managers and regulated institutions from investing in these assets and/or forced them to sell, either to comply with investment policies or to obtain better risk-based capital treatment. To help address this problem, Wall Street firms have created and marketed Re-REMICs—Re-securitizations of Real Estate Mortgage Investment Conduits. We believe that this solution could well afford investors an opportunity to rebuild non-agency mortgage positions—and for investors qualified to participate in 144A private placements, it could offer a new and valuable source of investment grade securities. Not coincidentally, it could also provide a way out for the frozen mortgage market.

What is a Re-REMIC?
A Re-REMIC is simply a trust that has been created to own one or more existing mortgage-backed residential or commercial securities. Prior to the recent mortgage credit crisis, Re-REMICs were primarily created to meet investors’ specific
cashflow needs. To that end, a dealer might have purchased an existing triple-A-rated, non-agency RMBS security, placed it into a trust, and then issued two or more new securities from the trust, creating, for example, floaters and inverse floaters from an underlying fixed rate security. These new securities, when combined, still carried the same cashflow and rating as the underlying security.

Beginning in early 2009, dealers began creating Re-REMICs to address the market’s escalating concerns about residential mortgage-backed security credits. In the simplest structures, the dealer would buy an existing security that had been downgraded to non-investment grade, or was likely to be re-rated, and place the security in a trust. The trust would then issue two new securities that were sequential in terms of principal repayments:

- The senior security, ideally rated triple-A or at least rated investment grade, would receive all principal payments from the underlying security.
- The senior security would not take any loss until the mezzanine security was written off.
- The mezzanine security in the Re-REMIC was subordinated to the senior security and would bear the first loss position for any realized losses.
- The mezzanine security would not receive any principal until the senior security was fully paid off.

Newly issued Re-REMICs are typically exempt from SEC registration under rule 144A and are often rated by only one NRSRO, or nationally recognized statistical rating organization. These factors can limit liquidity on Re-REMIC securities compared to SEC-registered public securities. Nevertheless, in our opinion, Re-REMIC securities look fundamentally attractive and offer high quality investment opportunities with favorable yields and risk/return profiles. Additionally, Re-REMICs are fully modeled by such leading analytics providers as Intex, Trepp, Bloomberg and Loan Performance, with all documents and collateral details on both the underlying public security and Re-REMIC security readily available. Likewise, all major dealers actively trade and make markets in Re-REMIC securities.

Exhibit 1 shows a typical structure of the underlying deal, as well as the Re-REMIC trust.

**Re-REMICs vs. CDOs**

Although both Re-REMIC and CDO structures package securities into a trust which issues new securities that are initially rated investment grade, there are a number of significant differences between the two structures. First, asset-backed CDOs, especially subprime asset-backed CDOs issued between 2004 and 2007, contained many underlying securities—sometimes up to 100. They often included heavy allocations to mezzanine and subordinated subprime securities, originally rated BBB- to AA, and/or securities issued from other CDOs. Since the underlying subprime asset-backed securities and CDOs were created as complex, highly leveraged, credit-intensive investments, small changes in base credit and prepayment assumptions led to amplified performance deterioration and ratings downgrades as the housing market corrected.

Second, one of the primary theories behind the CDO structure was that if the asset classes and sectors represented in the CDO were relatively uncorrelated, the CDO manager could reduce the risk inherent in each security by packaging them together into a CDO and issuing new credit- and cashflow-tranched securities. The ratings on many of the resulting CDO tranches were subsequently higher than the ratings on the underlying securities. In reality, many asset-backed CDOs issued during the 2004 to 2007 period held only strongly correlated, poorly performing subprime securities with insufficient credit protection. Once the housing market crashed, nearly all of the
mezzanine and subordinated subprime ABS securities suffered similar degrees of loss. This caused the write-off of a significant portion of the assets in the CDO structures.

Third, many of the mezzanine and subordinated RMBS and ABS that were placed in CDOs contained collateral performance triggers designed to protect the senior holders of the underlying trust. Once delinquency and loss rates skyrocketed, the triggers failed, immediately locking out the mezzanine and subordinated securities from receiving any principal. This meant little, if any, principal cashflow went into the CDO structure to pay bondholders.

Re-REMIC Rejuvenation

In contrast, most of the Re-REMICs that have been created over the past 18 months placed a senior bond that was originally triple-A-rated into the Re-REMIC. Many of the underlying securities placed into these Re-REMICs are currently paying principal as well as interest in any case, and their principal priority status is not subject to collateral performance tests or triggers. In addition, a Re-REMIC is a static collateral trust and does not change over time.

Most of the old CDOs, on the other hand, allowed the CDO manager to actively manage the CDO’s securities during the first three to five years after issuance. This meant that the CDO manager, who earned a management fee and held at least a portion of the equity or first loss security in the CDO, could alter the composition of the trust’s collateral, subject to certain specified conditions, either by reinvesting the underlying security cashflows or replacing existing higher quality, lower yielding securities in the CDO with newly originated higher yielding securities.

A new Re-REMIC typically boosts the credit protection on a mortgage-backed security that may have been written down but has not been written off. The underlying security still retains positive cashflows, despite having fallen below investment grade. Tested across a broad range of prepayment and credit scenarios, although it might still be subject to writedowns, it would return the majority of its principal, plus interest. The additional triple-A-rated credit protection reduces the leverage in the underlying security substantially enough to restore a portion of its cashflows to investment grade, effectively eliminating their writedown exposure.

Buying on the Analytical Dip

In December, Standard & Poor’s placed over 1,000 Re-REMIC securities on review for downgrade. S&P conceded that it had incorrectly analyzed the interest payment allocations across the structures. Some trusts, instead of making interest payments according to the seniority of the tranches, allocate these payments on a pro-rata basis. Furthermore, the rating agencies may not have considered the impact of loan modification scenarios on cashflow.

The announcement underscored the need for individual security analysis. Indeed, our internal analysis has found that the flow of funds is not consistent across issues, though many are, in fact, structured with interest payments made strictly according to the seniority of the tranches, not pro rata. Our scenario testing also found that some senior Re-REMIC securities could sustain principal losses, even using our base case assumptions. With the strength of our analytic process, however, we continue to be buyers of Re-REMICs, and we believe that any softness in the market created by S&P’s announcement may provide an additional opportunity for well-informed investors.

A Structure for Knowledgeable Investors

Aside from this “information premium,” robust Re-REMICs could also gain a scarcity benefit in the coming year. Regulations proposed by the SEC would make Re-REMICs more difficult to create, reducing or eliminating the supply of new issue securities. We expect the proposal to be reworked before it is finalized, but in any case, we don’t expect it to affect already issued bonds. The potential scarcity of Re-REMIC structures that results may enhance the opportunity in existing securities.

Re-REMICs are structurally different from CDOs and have provided a viable means to re-enter the structured securities market. In our view, many of today’s senior Re-REMIC securities offer credit protection sufficient to shield investors from
rising defaults and further declines in home prices. As with any structured security, investors need to remain disciplined and perform thorough credit and structural reviews on each Re-REMIC, including analysis of the underlying flow of funds combined with scenario stress testing. Ultimately, however, investors with the skill, experience and discipline to value non-agency mortgage credit and structured securities effectively should find attractive value and total return opportunities in Re-REMICS.

EXPANDING HIGH QUALITY NON-MBS SUPPLY

Real Estate Mortgage Investment Conduits (REMICs) are bonds created from pools of mortgages. Re-REMICS are securities created from the underlying cash flows of existing REMIC bonds. Dealers create Re-REMICS by taking an existing security and placing it in a trust. The trust then issues two new bonds backed by the cash flows of the original security—one bond being senior to the other. The senior bond in the Re-REMIC structure receives the credit support that is left on the original bond, plus additional credit support in the form of the new subordinate bond issued by the Re-REMIC trust to provide protection from losses on the collateral.

For example, a dealer may take an Alt-A vintage 2006 security with $1,000,000 face value, place it in a trust and issue a $500,000 senior bond and a $500,000 subordinate bond. The senior bond receives additional credit support from the subordinate bond.

Depending on the level of risk of the original security’s underlying collateral, the additional credit support on the new senior Re-REMIC bond will typically range from 5% to 90%, enhancing its protection from future downgrades.
Volatility and Uncertainty Yield Investment Opportunities

by Priscilla C. Hancock, Municipal Strategist

For the better part of the last four years, fixed income investors have enjoyed a favorable investment environment. Generally falling interest rates meant investments regularly increased in value. Furthermore, the stock market meltdown of 2008 caused lingering concerns about equities. As a result, investors turned to the relative safety of fixed income in record numbers. As a measure of this demand, the AMG database reported that a net of $780 billion has poured into fixed income mutual funds since 2006 (vs. a net outflow from domestic equity funds of $315 billion). Of the inflows, 15% went into tax-advantaged funds.

In the tax-exempt market, the increased demand was met with decreased supply, particularly of longer term maturities. The Build America Bonds (BABs) program effectively replaced a significant portion of tax-exempt issuance with taxable debt. Last year, BABs constituted more than 27% of all new municipal issuance, leaving tax-exempt new issuance at its lowest levels since 2000. Some market participants estimated that the BABs program removed enough tax-exempt supply from the market that rates were as much as 50 basis points lower than they would have been otherwise.
Outlook for 2011—Supply and Demand

The year ahead promises to pose a whole new set of challenges and opportunities. Interest rates in general have begun to rise, as there are increasing signs of economic stability and even health. Rising interest rates mean falling prices, and the value of fixed income portfolios will be impacted. Furthermore, economic recovery is beneficial for stock market investors, so many market participants are calling for a rebalancing of portfolios back to the equity markets. Falling prices and renewed equity interest could result in a reversal of the investment trends of the last few years. For the first four weeks of the year, AMG reported that tax-exempt fixed income funds experienced $13 billion of negative flows, while equity funds experienced net inflows of $19.3 billion.

In the municipal market, decreased demand may be met by increased supply. The BABs program has expired, with little sign of Congressional interest in reauthorization. The result could be a 35% increase in tax-exempt issuance. Several municipal issuers anticipated this looming imbalance and accelerated their funding into 2010. As a result, the increased supply is not expected to start hitting the market until later in the first quarter. Long-term supply may also be impacted by a remarketing of existing variable rate debt. Much of that debt is currently backed by bank letters of credit due to expire in 2011. With banks seeking to improve their balance sheets, the renewal of these LOCs is not guaranteed, and some issuers may be forced to remarket their securities as longer term bonds.

Municipal Credit in Perspective

The municipal market is coming under further pressure from headline grabbing stories about credit risk. As state and local governments grapple with reduced revenues and ever-rising pension and welfare costs, the focus on credit will continue for at least the next few years. While there are certainly pressures on municipal issuers, we do not expect to see wholesale defaults.

It’s important to understand that there is a fundamental difference between fiscal stress and debt stress. With few exceptions, municipalities are facing fiscal stress. Federal government transfers and short-term fixes have propped up budgets for the last couple of years. These cannot continue. Unfunded pensions and other benefits, although long-term, not short-term, problems also add to this fiscal stress. In almost all cases, however, these stresses should not impact outstanding municipal bonds. Municipal issuers are reliant upon their ability to access the bond markets, not just for long-term financing, but also to bridge routine gaps between expenditures and receipts. They would not willingly default or restructure debt for fear of jeopardizing this funding source.

Unlike corporations, states cannot “go out of business.” They have legal, organizational and public service reasons to exist, and their customers (residents) cannot easily take their business elsewhere. For both state and local issuers, debt service payments enjoy many legal and practical protections that make them among the last items to be hit in a fiscal crisis. Many revenue bond issues carry even greater protections. And debt service represents only a small portion of most government budgets. In California, for instance, debt service (including projections for authorized but not yet issued bonds) represents just 7.7% of state revenues in FY2011. To put this in perspective, most homeowners would be happy if just 8% of their after-tax income went to pay their mortgage.

Outlook for 2011—Municipal Credit

Municipalities are responding to current problems. They are laying off public workers and cutting services. In some cases, they are raising taxes. And they are negotiating to control future pension and health care costs. We expect to see increasingly realistic discussions with public labor unions going forward.

A review of what has defaulted to date provides insight into exactly where the fiscal crisis does result in a debt crisis. Estimates of default are wide-ranging and are dependent on the definition of default. Many market participants consider a failure to fully fund the debt service reserve fund, a draw on the reserve fund or a payout by a credit enhancer (bond insurance or LOC) to be events of default. While these are clearly events of distress, the bondholders have not been impaired. Furthermore, the majority of defaults—both actual and those meeting the broader test—have been unrated credits. These investments were risky from the start. Defaults were also concentrated in
non-essential service, often project-specific, revenue bond sectors—some would call them bonds that should have never been issued.

According to Bank of America/Merrill Lynch, more than 40% of 2010 defaults by volume were special assessment bonds—what the industry calls “dirt bonds.” These are bonds issued to provide the infrastructure (roads, water and sewer lines) for new housing developments. Debt service payments were to come from fees paid by homeowners. But if you fly over Florida or California, you can see that the properties were never built. They are just empty lots: dirt. In Florida alone, more than 50% of all community development districts have defaulted. Defaults also occurred in health care, primarily nursing homes, life care and single-site hospitals; in housing, primarily Section 8 projects; in the tribal gaming sector; and in the industrial development sector, bonds backed by a corporate guarantor. These issues were almost exclusively lower quality investments.

While we expect to see an increased number of defaults in 2011, we see these defaults occurring in the same lower quality sectors as before. We may also see scattered smaller local government defaults, as these borrowers may not have the flexibility to weather a downturn in revenues. In general, however, we do not expect to see widespread defaults and we do not expect these defaults to cripple the bond market.

**Finding Opportunity Amid the Chaos**

Well-balanced portfolios will continue to include fixed income investments. For those investors who can benefit from tax-exemption, the question is not whether to be in or out of the municipal market, but how best to position their municipal holdings to navigate the volatility. During the market turmoil of 2008, we stressed that investors needed to know what they owned. The same is true today.

For the most part, unrated non-essential service issues should have never found their way into the portfolios of risk-averse investors. Yet the low rate environment of the last two years may have caused some investors to take risks that will not hold up in the coming months. While investments in lower quality securities reaped short-term benefits as rates fell, those same investments will experience the biggest losses as rates rise and credit spreads widen. The same is true of longer duration bonds. In 2011, quality and defensive yield curve positioning will matter more than ever. Investors should take the time to carefully review their investment strategies and portfolio allocations.

At the same time, the coming volatility should also offer pockets of opportunity to investors who are prepared. For tax-aware investors, the supply/demand imbalance could drive after-tax yields to attractive levels on both an absolute and relative basis. For taxable investors willing to buy and hold securities, the secondary BABs market may hold similarly attractive long-term yield opportunities. In any case, it will be critical to distinguish these situations from those arising from a deteriorating credit profile.

Municipal investors may also want to consider sequencing a portion of their portfolio into a strategy that offers incremental returns in the current environment. As an example, zero coupon inflation swaps can provide a level of protection in a rising rate environment. Layering in a strategy that blends tax-exempt investments with taxable ones could also prove beneficial in the coming year, as corporate high yield bonds should benefit from the improving economic environment. In summary, volatility and uncertainty almost always end in gains for those able and ready to take advantage of them.
GLOBAL LIQUIDITY

Trapped Cash: Local Market Challenges

by Robert Deutsch, Head of Global Liquidity

CORPORATE CASH BALANCES grew at an extraordinary pace during the recent financial crisis as companies aimed to protect their lifelines and reduce liquidity risk. At the end of 2010, with uncertainty still in the air, cash balances remained very high. Adding to the growing wall of cash were new regulatory changes requiring banks to hold more capital, and money market funds to boost one-week liquidity. Today, depending on whom you ask, anywhere from 25% to 40% of that cash is trapped overseas in a web of interlocking regulations that govern investments, lending, currency exchange and cash repatriation both locally and domestically.

Why is so Much Cash Accumulating Overseas?

More than 70% of U.S. manufacturers sell to foreign markets. The growth of the Asian market has been particularly striking—since 2000, corporate cash in Asia has more than doubled (Exhibit 1, on the following page). The heavy investment in overseas markets has led to cash surpluses for three principal reasons:
• **Operational imbalances**
Companies have injected large amounts of money into overseas local markets to fund their expansions there, but major expenses such as R&D are still borne by the home market.

• **Restrictions by local markets**
Some developing markets offer incentives to attract foreign direct investment, such as highly favorable tax treatment for profits. In order to reap the full benefits of direct investment, however, the same authorities may also impose tight restrictions on taking money out of the country.

• **Tax treatment by home markets**
A company’s home market authorities may tax monies repatriated from overseas. As a result, companies often prefer to delay repatriation or only repatriate cash at intervals, causing cash reserves to build up in the overseas market in the meantime.

Cashing in: U.S. corporate cash piles up in Asia as American business participates in the region’s rapid growth

**EXHIBIT 1: CORPORATE CASH IN ASIA FROM 2000 TO 2009**

Source: Bloomberg. As of November 26, 2010.

Countries in Asia include Australia, China, Hong Kong, India, Japan, South Korea, and Singapore; corporate cash defined as top 20 companies by cash balances across target countries at each year end.

Promising Developments from One Restricted Market

In 2010, the Chinese government, taking steps toward loosening regulations and internationalizing its currency, the renminbi (RMB), began to offer investors greater latitude in local liquidity management. In response to growing demand, China issued new rules in June that:

• Expanded the offshore trade settlement scheme to 20 provinces and cities in China, plus a number of foreign jurisdictions;
• Lifted restrictions on RMB settlement for all overseas countries;
• Allowed enterprises of all types to establish commercial RMB accounts in Hong Kong;
• Eliminated limits on buying and selling RMB in Hong Kong; and
• Lifted restrictions on inter-bank transfers of RMB in Hong Kong.

How Trapped Cash Can Trip up an Organization

The accumulation of cash balances overseas, particularly in those markets where restrictions on cash movement apply, presented a number of challenges to corporate cash management teams in 2010. The most significant, obviously, was the unavailability of their cash. Cash trapped in local markets cannot be included as part of a company’s global liquidity optimization strategy. Likewise, profits generated in these markets cannot be readily redeployed into normal corporate cash uses. It can be particularly frustrating when positive balances in these markets cannot be used to offset borrowings elsewhere.

Working with unfamiliar counterparties posed a second test. In some restricted markets, companies did not have access to their preferred global banking partners. This meant it was necessary to become familiar with the local banking organizations and to conduct the appropriate due diligence. Companies had to assess how using local banking entities would impact their tolerance for counterparty risk, particularly since they may have had to partner with a different bank in each local market. Maintaining visibility and control was also more difficult.

Because it is harder to link restricted markets into a global or even regional cash management and investment process, investing had to be conducted at the country level, creating monitoring and control issues for headquarter treasury teams.
In effect, corporations and other enterprises can now open offshore RMB accounts either to settle trade flows in RMB and/or convert foreign currencies freely into RMB. As a result, demand for the offshore RMB (designated “CNH”) grew quickly; CNH deposits jumped 66% in the second quarter of 2010 alone to total $22 billion (USD equivalent) (Exhibit 2).

In response to the growing demand, the CNH bond market, dubbed the “Dim Sum” bond market, doubled during the year. In July and August, Hopewell Highway Infrastructure and McDonald’s became the first Hong Kong and foreign corporation respectively to issue CNH bonds in Hong Kong. Caterpillar followed in November with another 15 issuers reportedly seeking approval to bring offshore proceeds into China.

At the end of November, a total of 43 CNH bonds for $11 billion (USD equivalent) were outstanding from 18 issuers. The leading issuers were the Ministry of Finance of the People’s Republic of China, China Development Bank and Export-Import Bank of China (China Exim), which announced on December 15, 2010, that it will issue one-year and five-year bonds of $1.9 and $1.8 billion (USD equivalent). So many larger issuers coming to market figure to provide investors with more options for their cash management. We expect the primary market, as well as other alternatives, such as CNH-denominated pooled funds, to continue developing rapidly.

Preventive Measures to Avoid Getting Trapped

While the loosening of restrictions in China is encouraging, the best approach for handling cash investments in local markets is to avoid getting trapped in the first place. By drawing up specific investment policies for local markets, companies can retain control in overseas markets and ensure that their investment standards are duly maintained.

A well-executed investment policy stipulates an organization’s agreed-upon approach to investing its cash. It helps to ensure investment consistency, whatever the market environment, and provides internal clarity so that all parties share a common and clear understanding of the organization’s objectives and how to achieve them.

Ideally, a company will have a global investment policy that applies across all markets. However, restricted markets may require their own considerations. A company may decide to specify parameters in the global investment policy or to draw up stand-alone investment policies for each individual overseas market. In some cases, separate policies for each different currency pool may be prudent. To determine the most appropriate investment strategy, treasury teams should assess how much cash is available for investment and how soon it will be required by the local business or whether it can be repatriated as, for example, dividends. The strategy will necessitate an accurate picture of cash flow in the market and require segmenting cash into operating, reserve and strategic buckets.

Trends for 2011

In 2011, corporate cash balances will likely remain high:

- We expect investor appetite to grow for domestic currency money market funds, or “cash equivalents,” and increased interest in tailored strategies (discretionary investment accounts) in strong local currency markets—like Singapore, Australia and Japan, as well as China—that go beyond cash equivalents.
- Watch for further development in local currency bond markets, particularly in China, both onshore in RMB and offshore in CNH.
Companies expanding into new territories will continue to encounter obstacles when investing cash locally. Organizations may have to consider what resources and personnel they have to invest locally and how central oversight of local markets will be achieved. But with research, planning and a carefully conceived investment policy, companies can ensure that their cash is invested effectively and appropriately in each market in which they operate and avoid getting trapped in restricted markets.
Shining Through the Macroeconomic Gloom

by Paul Quinsee, CIO, U.S. Large Cap Core and Value

Thanks to a strong second half recovery, 2010 was a rewarding year for those equity investors who kept the faith during the early summer months through the European sovereign debt crisis and a pause in the domestic recovery. The S&P 500 benchmark returned 15% and by late December had fully recouped all the losses that followed the bankruptcy of Lehman Brothers and the ensuing recession. The leading equity index is still 20% below the peak reached in March 2000, and trailing three-, five- and ten-year returns are far less than most investors would have expected. Still, 2010 marked another step in the recovery. U.S. equities outperformed international stocks as well as most bond indices in defiance of the conventional wisdom—equity mutual fund flows, a reliable proxy for conventional wisdom, only turned positive at the end of the year.

Fiscally Fit

Behind the numbers lies another very strong performance from the U.S. corporate sector which overcame the macroeconomic worries. For 2010, S&P 500 operating earnings will likely exceed $84, a gain of 38% and well above consensus predictions at the start of the year. A slowly improving economic backdrop at home and continued growth in the emerging world boosted revenues, and the typical American company, which
had managed costs aggressively through the downturn, is experiencing a very strong recovery in profits as demand recovers.

Within the market, the dominant themes were growing confidence in economic recovery after the mid-year setback and an increasing preference for the fastest growth companies, especially among technology stocks. By sector, the best results came from more cyclical groups, with consumer durables, industrials and materials all gaining more than 20%. Financials rallied late in the year but earnings expectations remained under pressure as investors grappled with the ongoing consequences of the credit crisis, including higher regulation and sluggish credit demand. The worst performance came from the health care group, a casualty of new regulations and a growing sense of concern over the outlook for government spending in the years ahead. Health care stocks returned less than 3% on average during the year.

**Slim Pickings for Stock Pickers**

By style, growth had the edge, with the Russell 1000 Growth Index beating the value equivalent by about one percentage point. With corporate margins approaching previous records, investors are beginning to pay up for those companies that they think can keep delivering higher profits as the cyclical recovery matures. Smaller stocks were once again major outperformers, while more volatile names did better in the second half and momentum increasingly played a role.

If 2010 was a good year for markets, it proved tougher for active managers in their quest to outperform the benchmarks. A rare combination of very high correlations between stocks, attributable to a preoccupation with macro events, especially in Europe, and a moderate level of volatility made it unusually difficult to beat the indices through stock selection (Exhibit 1). In the large cap core space, for example, the S&P 500 index outperformed 72% of actively managed funds after fees, according to Lipper. Those investors that place a high weight on valuation in their process found 2010 especially trying, while the disciples of momentum finally spotted investable trends developing in a few sectors late in the year, after one of the worst periods for momentum investing in a very long time during 2009. Those managers that include foreign stocks in domestic portfolios, an increasingly common approach in recent years, found that on average this detracted from returns for only the third time in the last decade.

**Room for Improvement**

We think that market returns will again be reasonable and at least up to the typical long-term expectations of 8% to 10% gains. Large growth will likely be an area of relative strength. The various New Year investment strategy reports and press reports we’ve read suggest that a very strong consensus has developed that 2011 will be a good year for stocks, while most economists have become significantly more optimistic about the macro outlook in recent weeks. Stock prices have risen by about 25% in the last six months, and many indicators of investor sentiment are starting to flash warning signals. All of this might suggest to the more skeptical investor that it is time to get cautious, but three factors keep us constructive about the outlook:

- The corporate sector is indeed in excellent shape. Profitability looks set to gain further in 2011, although the rate of improvement will surely slow down as margins approach previous peaks. Our analyst team’s long-term forecasts are stable, and near-term expectations are still trending higher.
The market still doesn’t look expensive, especially in relation to bonds, and the equity risk premium is well above the levels that have been typical of the last 25 years. Ten-year Treasury yields could rise to well over 4% before the risk premium drops even to average levels (Exhibit 2).

The talk among professional investors may be very bullish, but we’ve seen very little sign so far that clients have actually made a higher allocation to domestic equity. Domestic equity mutual fund flows, for example, remained negative until the very end of 2010, with a 54-month streak of bond funds outselling active equity funds only broken in November (Exhibit 3).

In all, there appears to be plenty of room for this new-found confidence in the outlook to translate into stronger retail flows into the stock market.

As the consensus becomes more optimistic, however, and prices become more demanding, we do have to pay increasing attention to the risks. The global backdrop is becoming more challenging. Unresolved European sovereign debt issues are obviously troubling. The lack of progress or political will to address the U.S. federal deficit runs the risk that sooner or later similar concerns will be reflected in our markets here. Meanwhile, inflation is becoming a reality in the emerging markets that have been such a source of strength to the global economy—and U.S. corporate profits—over the past few years. Any action the EMs take to correct that inflation is likely to cause uncertainty and volatility in the year ahead. At home, we think the housing market is stabilizing, but don’t see much improvement in sight, while unemployment will likely fall at a very slow rate. Even so, we do think that confidence is coming back in the consumer sector. Along with steadily rising corporate confidence, it should sustain the momentum of recovery in 2011.
Vogue for Growth

As the recovery from the credit crisis matures and corporate profits near previous peaks, we think equity investors will increasingly look for those companies with the best opportunities to grow revenues, rather than relying on yet more expansion in margins from mature businesses. These faster growing companies still trade at an unusually low premium to the rest of the market, despite good returns in the latter half of last year. So after years of languishing out of favor, the growth style could well be rewarding again this year. Meanwhile, the outlook for value investors is reasonable, with the spread between cheap and expensive stocks in our research rankings about average by the standards of the past two decades.

In this environment, we would expect that active managers will find it a little less difficult to beat the market in 2011. The combination of high correlations among stocks and low volatility that so limited the opportunities to add value last year is highly unusual and most unlikely to persist for long. We've already seen a drop in correlations in the past few weeks, but the outsized opportunities for adding value by buying stocks at enormous discounts to long-term fair values, opportunities that most often develop after major crises, aren’t evident right now. We see a reasonable, but not outstanding, year ahead for active management. Active managers as a group should do better than in 2010, although not as well as in the very best years such as 2009.
LAST YEAR’S established storyline continues to play out—one of a sluggish expansion in the developed world, which has followed a sluggish recovery from a very deep recession. As a result, this is a fragile recovery with the risk of relapse and, more importantly, even presuming the recovery continues, there is a lingering risk of deflation. Nonetheless, we believe the most likely outcome is for continued sluggish growth, supported by accommodative, if not extraordinary, monetary policy, including the most recent round of quantitative easing.

Decoupling 2.0
Most investors will remember the great decoupling debate of 2007. The hope was that, as the developed world slowed, emerging market growth would hold up. With benefit of hindsight we know that this confidence was misplaced: a hard landing in the developed world meant a sharp slowdown for the emerging world. However, we have seen a marked differential in growth between the G-7 and the emerging world.
The question today is, given the widespread expectations (including our own) for very slow developed world growth over the next few years, how much can emerging markets “delink” or decouple and sustain superior growth over the developed world?

Notably, consensus expectations, including those of the IMF, are that a gap in growth between the emerging and the developed world of 4 percentage points or more can be sustained in the next three to five years. We’re inclined to agree with this view; however, we wanted to investigate further—looking not only at the commercial links but also at some of the financial links between these two economic blocks—to see whether emerging markets can sustain such a large growth advantage.

1. Commercial Links

Exhibit 1 looks at global trade trends and highlights that over the last 20 years we’ve seen one of the most rapid periods of trade intensification—or tightening of commercial links—witnessed in history. Global trade has exploded since 1990, reaching more than 25% (Exhibit 1A) of global GDP and, within that surge, exports from emerging markets have led the way, rising to 30% of global exports (Exhibit 1B). This rapid deepening of trade would seem to suggest limits to the decoupling story.

However, if we dig a little deeper into emerging market exports, we see that trade links within emerging markets are deepening faster than anywhere else. The destination of exports is beginning to shift fairly rapidly away from developed economies and toward emerging market economies—in the past five years alone there has been a 10 percentage points increase in the share of exports going from emerging markets to emerging markets, relative to what was the case as recently as 2005. Of course this partly reflects faster demand growth in the emerging world than in the developed world, which has also benefited developed economy exports. But it primarily illustrates that economic links have tightened most rapidly between emerging markets.

2. Financial Links

Financial links also point to the increasing importance of emerging markets. Half of global foreign direct investment (FDI) now flows into emerging markets, while emerging markets are now the source of almost a fifth of FDI flows. This is evident in some of the headlines in recent years: India’s Tata Motors buying up Jaguar and Range Rover, for example.

In essence, financial flows are beginning to mimic global trade patterns—emerging markets becoming significant in their own right, not only as recipients but also as generators of FDI flows. So viewed through the lens of either commercial or financial links, it is increasingly evident that there are strong sup-
Supportive factors for the growth outperformance expected for the emerging world relative to the sluggish developed world.

Lastly, it is notable that after a decade of widening global imbalances between surplus emerging market and deficit G-7 blocs, the developments above are finally beginning to steer current account positions back toward historically more normal levels. We are now three to four years into the corrective process. This is good news, insofar as these imbalances represented a primary focus for worry among global policymakers and investors, acting as a source of financial market volatility.

**QE2 Presents Challenges for Emerging Market Policymakers**

Amid sluggish developed world growth, the second round of quantitative easing in the U.S. (known as “QE2”) is exerting downward pressure on the U.S. dollar, forcing choices on emerging market central banks that could result in a variety of outcomes.

Exhibit 2 is a stylized grid that can be used to determine the potential effect of QE2 on emerging market economies. The vertical axis ranks countries on the basis of the flexibility of their exchange rate policy. A fixed rate regime or a managed float regime appears on the bottom half of the chart, whereas a floating exchange rate regime appears in the top half of the chart. The horizontal axis represents where an economy is within the business cycle. Countries that fall on the left of the chart are operating below full capacity and as a result have little in the way of price inflation pressures. Those on the right-hand side of the chart are more advanced in their local cycle and as a result face potential price inflation pressures.

For countries with a floating exchange rate regime and operating above potential (i.e., the upper right quadrant), the ideal policy solution in response to the downward pressure on the U.S. dollar from QE2 would be to allow some currency appreciation. This would not only help to slow the economy and contain inflation pressures, it would also provide some immediate inflation containment via pass-through effects.

**How Will Individual Countries Fare?**

It is relatively simple to determine the FX flexibility of various emerging market economies. To assess the potential impact of QE2, we therefore need to make a judgement of where economies are in their respective cycles.
In the developed world, this is a far easier exercise—the OECD comprehensively estimates output gaps using relatively harmonized data. In the absence of such formalized estimates for EM, we have taken an alternative approach by comparing realized GDP growth over the past five years with our best estimates at the time of potential economic growth (as judged by the growth in labor, the growth in capital and productivity growth).

This comparison shows which economies have been chronically outgrowing their potential and as a result are running positive (or potentially inflationary) output gaps and which countries have been operating below potential and as a result still have disinflationary slack. The good news, as Exhibit 3 shows, is that most emerging market economies still seem to be operating with some slack.

However, there are some notable markets that appear to have sustainably outrun potential and face inflation risks. China has been significantly outpacing the 8% to 8.5% growth rate we viewed (and still view) as trend growth; India has slightly overshot the 6%+ rate we saw as trend, while Indonesia has also begun to outperform our long-term trend figures. However, Brazil has grown at trend rate, and most other significant markets have lagged trend and thus should retain disinflationary slack. Therefore price inflation looks to be a selective rather than a systemic risk within EM.

The checklist below summarizes the likely implications of QE pressures for the more significant emerging markets. The risk of economic overheating and price inflation is most severe in China, probably explaining why some of the loudest protests of the Fed’s QE policy is coming from the Chinese policymakers. India and Indonesia are also places where the overheating and price inflation risk is prevalent; for both of these more flexible FX regimes, the question is how much additional FX appreciation policymakers will tolerate.

Conversely, Brazil and particularly Russia and Turkey are better positioned to avoid near-term inflation risks as they all fell at or below their respective trend growth levels. These are the markets that could see currency appreciation if QE2 puts further downward pressure on the dollar or, more likely, are candidates for local currency asset inflation as a result of QE2.

Best guess: QE2 will likely have varying impacts on leading EM

<table>
<thead>
<tr>
<th></th>
<th>Brazil</th>
<th>Russia</th>
<th>India</th>
<th>China</th>
<th>Indonesia</th>
<th>Turkey</th>
</tr>
</thead>
<tbody>
<tr>
<td>FX appreciation</td>
<td>?</td>
<td>√</td>
<td>?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital controls inflow taxes</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economic overheating/price inflation</td>
<td></td>
<td></td>
<td>√</td>
<td>√</td>
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<tr>
<td>Asset inflation</td>
<td>√</td>
<td>√</td>
<td></td>
<td></td>
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</tbody>
</table>

Source: J.P. Morgan Asset Management.
Still Constructive on the Asset Class

While inflows have been strong enough to prompt some to wonder whether the “EM story” is already priced in, we believe emerging markets still offer plenty of potential. The most impressive reforms in the asset class over the past decade were not necessarily the macro reforms we are all familiar with—lower inflation, better budget positions, etc.—but rather the improvement in corporate capital discipline and the resulting improvement in operating efficiency, reduced financial leverage and returns on equity (ROEs). As this is allowing profits to “participate” in more rapid EM economic growth, it is motivating a secular rise in the share of global profits that are accruing to emerging markets companies. In our view, this rise best explains why investors the world over are reassessing their strategic allocations to EM equity with an eye to raising targets.

In view of ongoing inflows, we carried out a simulation of the effects of rotating 1% of assets across developed world portfolios into emerging market equities, to show the potential impact on flows into emerging markets. Importantly, just this small shift would produce a larger flow than any annual flow we’ve ever seen. This allays our concerns that the inflows seen to date are reflective of “hot money” chasing returns; rather it suggests that the flows so far may simply be the front end of a strategic reallocation that has much further to go. Hence, it’s premature to be intimidated by the inflows in the asset class.

Similarly, it is premature to be concerned by valuations, which still look to us to be definitively fair, if not slightly cheap. Our rule of thumb on price-to-book ratios stands: At 1.5x or below, history has shown that it is time to buy, while levels of 2.5x or 3x mean it is time to be cautious. We are currently right in the middle of that band at 2x. The forward price-to-earnings ratio is back to around 12x to 12.5x as of the end of November, near the five-year average, but below the very long-term average and below our fair value long-term estimate of 14.5x.

In summary, if we assume convergence of valuations to fair value and earnings growth in line with improved corporate capital discipline, and even if we allow for a retracement of commodity-oriented exporter currencies back toward fair value, our trend return estimates remain in the low double digits in U.S. dollar terms. Therefore, we remain constructive on emerging market equities.

Actionable Ideas: Pay Attention to Unloved Korea and Stick with Brazil and Turkey

On a sector basis, both our top-down and bottom-up measures suggest we are in the mid-cycle period, or expansion phase, of the global economic cycle. At this stage, signals for sector rotation tend to be more modest and differentiation among sector returns tend to be narrower than in the early cycle or late cycle/recession periods. As a result, our sector views on a cyclical basis are relatively muted. On a secular basis, we retain a leaning against materials, where we’ve seen what appear to be the beginnings of a deterioration in capital discipline (whereas the rest of the asset class appears to be holding up well on that front).

On a country basis, our tactical instinct is always to look at the value/momentum overlap. According to our value/momentum screens (Exhibit 5), Indonesia and India, which we have already highlighted as facing some inflation risk, are also beginning to look expensive. This is truer for India than Indonesia, and is compounded by the fact that India has also seen some compression in ROEs.

Tactical appeal: Our screens show both Turkish and Korean stocks undervalued and poised to benefit from positive momentum

EXHIBIT 5: COUNTRY VALUE AND MOMENTUM

Source: J.P. Morgan estimates. Data as of November 2, 2010. Note: Countries ranked on last 12 months price movement on the y-axis and a composite of valuation metrics on the x-axis. Units are percentile ranks which go from 0 to 1.
On the positive side, and notwithstanding recent tensions on the peninsula, Korea looks very cheap and should benefit from the end of the global growth scare. Recent PMI numbers suggest that the global industrial cycle, after some slowing over the last few months, has found bottom. If the global growth scare is now over and investors are again accepting sluggish but continued growth, Korea looks attractive. The Korean won also looks cheap, and its position as a consensus underweight means it has upside potential as investor hostility begins to wane.

Brazil, meanwhile, still looks cheap, although it is not yet screening particularly strongly on momentum. We maintain our tactical overweight, believing that the rotation among investors from neutral back to overweight still has further to run. We are continuing to monitor political developments to gauge the degree of the shift from “pragmatic” left to “ideological” left under the incoming Dilma administration to determine whether the attraction of Brazil is tactical or strategic.

Finally, we maintain our longstanding overweight in Turkey, which has consistently screened well for both value and momentum. We need to note, however, that Turkey has had a strong period of outperformance, meaning that while valuations remain attractive, discounts to EM have begun to narrow. We don’t see near-term inflation risks in Turkey, according to our output gap measure above, but the market is a consensus overweight, all of which highlights that we are nearer the end of the outperformance cycle than the beginning.

**Conclusion**

While developed economies are still mired in a sluggish expansion, emerging growth remains structurally strong. We believe that this strength can largely be sustained given the deepening financial and commercial links within emerging markets.

As such, the key focus for investors now is the impact of quantitative easing on emerging markets. In some cases, it means currency appreciation, in some cases it means asset price inflation and in some cases it presents local price inflation risks. This varies by country. The important point is that price inflation risk within EM looks to be a selective problem (in China, India and Indonesia, for example) rather than a systemic one.

We remain comfortable with current valuations for emerging market equities as a whole. We are also comfortable with the inflows the asset class has seen, especially in light of what we see as well-judged interest among global investors in increasing strategic allocations to the asset class. At the country level, we believe investors should pay attention to the unloved Korean market and maintain, for now, overweights in Turkey and Brazil.

**STRATEGIC RISK IN EMERGING MARKETS**

The emerging markets’ phenomenal rise since 2000 begs an important question: Why are the emerging nations of a century ago still emerging today? There are two fundamental reasons: political upheaval and inflation. The economic consequences of the former are clear. The impact of the latter is less obvious but more pernicious. The example of Brazil offers as vivid an illustration of the tragedy of inflation as the examples of China and Russia do of the tragedies of war and revolution.

Over the last 100 years Brazil GDP has grown at an annual real rate of 4.9%, far in excess of the U.S., which expanded at 3.5%. Yet Brazil, which never endured the upheavals of revolution or war, fell behind due to inflation. From 1958 to 1968 and again from 1975 to 1994, Brazil suffered high and hyper inflation. Inflation that chronic and of that magnitude increases inequality, impoverishing the majority of the population. It debases the currency. It is the reason why for most of the last 100 years emerging market currencies have been so undervalued against G-7 currencies.

While emerging market opportunities have expanded dramatically, the strategic risks have changed little in their nature, even if one, political risk, has changed in its impact. The danger of the violent expropriation of assets may have diminished, but like inflation, political risk today, through pervasive corruption and a disregard of the rule of law, may gradually but insidiously erode their value.
The private equity industry has been on a roller coaster ride in the decade since the technology bubble burst in 2000. The venture capital industry, which enjoyed record fundraising in 2000, had investors wondering whether the venture model was broken only a few years later. Venture deals struggled with a lack of liquidity from their portfolio companies, complicated in part by higher hurdles to taking companies public. Private equity’s remaining sectors bounced back between 2002 and the first half of 2007 with the help of robust financing markets, record low credit spreads and increased exit activity. These events triggered generally higher purchase price and debt multiples in the buyout sector and a trend toward larger funds and bigger deals.

By contrast, the second half of 2007 up to the first half of 2009 was unprecedentedly difficult for private equity, battered by the perfect storm of the credit crunch, minimal exit activity and severe recession. Slowly, we began to see a change in late 2009 and into 2010 as financing opened up, general partners kept a laser focus on managing their existing portfolio companies and M&A and IPO activity started to come to life. We entered 2010 hopeful and ended the year on a guardedly optimistic note. Based on the trends we will discuss, we believe that the private equity industry will continue on its turn for the
better. There is no need to shut your eyes for this part of the ride—open them wide, loosen your grip on the handlebars and see where it takes you.

**Buyouts: Step Right Up**

Corporate finance investors should expect marked increases in both capital calls and distributions in the buyout market during the year ahead. Private equity firms have had a laser focus on operational efficiency and margin management at their portfolio companies in recent years. Mirroring similar public sector trends, their companies came into 2010 poised for profit improvement with a return of top-line growth. Equally important, the credit markets allowed for extensions in financing and deleveraging. On the distribution front, improving cashflows should present GPs, who have held many portfolio companies longer than is typical, with broader opportunities for profitable sales in 2011. In 2010, by contrast, a fair amount of activity occurred in deals between financial sponsors. Through mid-December, the number of sponsor-to-sponsor transactions totaled 121, almost triple 2009’s total of 43, according to the private equity database PitchBook.

Even as many private equity-backed companies may be looking for exits in 2011, companies, which might have otherwise engaged in PE transactions but for the recession, could be looking now to do deals. These include corporate spin-outs and family-owned businesses, among others. Many deal opportunities appeared as owners positioned in advance of the yearend tax repeals. While December’s tax reduction extension lessened the urgency of some transactions, it has not changed the fact that many businesses are planning to effect corporate actions in the near to medium term.

The good news for those selling companies is that there exists a capital overhang, especially among the larger private equity firms facing time limits on deploying the funds they’ve raised. In fact, the current funds of the largest 25 sponsors have on average $6.7 billion available to spend and less than three years remaining in their investment periods (Exhibit 1). Limited partners are hesitant to grant extensions for investment periods without some economic concession, which puts increased pressure on these firms to put the money to work.

Exhibit 1: 25 Largest Private Equity Sponsors’ Remaining Investment Periods

<table>
<thead>
<tr>
<th>Private equity sponsors</th>
<th>Remaining investment period (years)</th>
<th>Average Fund Size (mm): $10,686</th>
<th>Average Remaining Dry Powder (mm): $6,700</th>
</tr>
</thead>
</table>

Source: J.P. Morgan.

1 Partnership life assumed to be ten years and investment period to be five years.

 Buyers, sellers and owners of companies were all helped by a more favorable financing environment in 2010. The debt markets became steadily less volatile through the year. As a result, buyers of companies had meaningful options to finance their purchases at relatively lower costs of capital, general partners recapitalized companies, providing dividends to their limited partners, and many companies were able to extend the duration of existing paper or cure covenant breaches.

Entering 2011, all the ingredients are in place for a robust market for both buyouts and corporate restructurings: a large number of companies desirous of a sale, ready buyers with capital on hand and financing available on reasonable terms and pricing. The worry perhaps is that time and capital pressures will cause the buyers to drive up purchase price multiples and/or rush through due diligence. As always, discipline of sourcing, underwriting and management will be the drivers of the best investment results.

**Growth Oriented Investments: Enter the Fun House**

Unlike the buyout sector, there exists no overhang of capital in the venture sector. Fewer dollars have been raised, which has resulted in fewer companies being formed and relatively less competition for those businesses. High quality venture
capitalists with available funds have opportunities to invest with less product, technology or market risk at significantly lower valuations.

Prospects for VC exits are also looking up. Because of the constrained exit environment over the past ten years, many current venture investors have seen their original early stage deals morph into growth oriented investments. More recently, we have begun to note an upward trend in the number of IPOs priced and filed, a trend which we expect to continue. Additionally, exits via strategic sale have become the principal exit route as large IT and healthcare corporations utilize acquisitions to expand their product lines and implement growth strategies (Exhibit 2). As a result, an increasing number of well-developed venture and growth equity-backed companies have been exited at attractive multiples of invested capital (Exhibit 3).

Beyond the IPO and M&A markets, shareholders have been able to get liquidity by trading in shares of private companies. The secondary market has allowed those employees or investors to cash out while allowing other investors to come in, in hopes of acquiring a position in a promising start-up. Secondary trades have surged in widely recognized companies such as Facebook, Groupon, LinkedIn and Zynga, suggesting strong investor interest in technology start-ups. What is alarming about these secondary sales is that investors buying private company stock have little or no insight into those start-ups’ financial performance. The lack of crucial information has not restrained valuations—the value of transactions in private company shares has more than doubled in 2010 to $4.9 billion, from $2.4 billion in 2009, according to NYPPEX, the secondary private equity specialists. The unprecedented level of activity in the secondary market and the encouraging pickup in IPO activity, all on top of attractive valuations, bode well for forward-looking venture returns.

Emerging Markets PE: No Longer a Sideshow

Economic growth in the emerging markets is being driven by the BRIC economies. The Chinese venture and growth equity sector represents a particularly attractive investment opportunity due not only to the growth prospects of the underlying companies but also to the lack of available credit for private

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Strategic exits: In recent years, strategic buyers, particularly in IT, have provided the majority of exit funding

EXHIBIT 2: M&A DATA OF VENTURE-BACKED COMPANIES

<table>
<thead>
<tr>
<th>Year</th>
<th>M&amp;A exit value</th>
<th>M&amp;A as a % of exits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980-1989</td>
<td>40</td>
<td>100</td>
</tr>
<tr>
<td>1990-1999</td>
<td>65</td>
<td>85</td>
</tr>
<tr>
<td>2000-2008</td>
<td>110</td>
<td>80</td>
</tr>
</tbody>
</table>

Source: Industry Ventures: “The Venture Capital Rebound.”

Strategic exits: In recent years, strategic buyers, particularly in IT, have provided the majority of exit funding

EXHIBIT 2: M&A DATA OF VENTURE-BACKED COMPANIES

Big get bigger: Loaded with cash, large IT firms pulled off some of 2010’s major deals

EXHIBIT 3A: SELECT IT FIRMS, CASH ON BALANCE SHEET

<table>
<thead>
<tr>
<th>Company</th>
<th>$bn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cisco</td>
<td>40</td>
</tr>
<tr>
<td>Microsoft</td>
<td>37</td>
</tr>
<tr>
<td>Google</td>
<td>30</td>
</tr>
<tr>
<td>Apple</td>
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</tr>
<tr>
<td>Oracle</td>
<td>18</td>
</tr>
<tr>
<td>Intel</td>
<td>18</td>
</tr>
<tr>
<td>HP</td>
<td>15</td>
</tr>
<tr>
<td>IBM</td>
<td>12</td>
</tr>
<tr>
<td>Dell</td>
<td>12</td>
</tr>
<tr>
<td>EMC</td>
<td>7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>213</strong></td>
</tr>
</tbody>
</table>

EXHIBIT 3B: MAJOR IT DEALS OF 2010 (date announced)

- **Intel to acquire McAfee for $7.7bn**
  Augments Intel’s mobile wireless strategy, helping to ensure customer and consumer security. (August 19, 2010)

- **HP to acquire 3PAR for $2.4bn**
  Strengthens HP’s unparalleled storage, server and networking portfolio. (September 2, 2010)

- **HP to acquire Arcsight for $1.5bn**
  Expands HP’s software and security portfolio and accelerates growth. (September 13, 2010)

- **IBM to acquire Netezza for $1.7bn**
  Expands business analytics capabilities through workload optimized systems. (September 20, 2010)

Source: Foundation Capital.
companies from local sources. As China’s commercial bank lending is heavily focused on government-led initiatives, privately owned enterprises have turned to the private markets for capital. In a buyer’s market, private equity funds are able to invest in high growth companies at single-digit entry multiples. In return, the funds can provide these companies with the capital and expertise needed to develop their businesses and fully capitalize on the economy’s expansion. As an example, Exhibit 4 illustrates the strong revenue and profit growth we are seeing within the consumer sector in China.

We believe that Asia generally and China in particular present a compelling opportunity set across the full PE spectrum with great potential for investing in high growth companies, exploiting low valuations and gaining attractive investment returns. The Chinese market offers a burgeoning pool of experienced and highly educated entrepreneurs with promising business models. The investor-friendly climate, plus a rapidly maturing public equity market that has provided an attractive exit alternative via IPOs in recent years—China had 400 of them in 2010 versus the U.S., which had 150—leads us to conclude that PE investments in China give global institutional investors an attractive gateway to access the Asia growth story.

The other BRICs, Brazil and Russia, also merit attention. These rapidly growing emerging markets hold the potential for superior returns. The two nations demand a high risk tolerance, however, as their reliance on commodity exports makes them vulnerable to the boom and bust cycles that can characterize global commodity prices. The largest and most populous country in Latin America, Brazil is projected by Goldman Sachs to grow 9.2% in 2010 and 8.6% in 2011, powered by its abundant natural resources and vast labor pool. The outlook for Russia is buoyant as well, with GDP growth forecast at 4.5% in 2010 and 5.5% in 2011. Its economy is dominated by globally significant commodity producers—in 2009 Russia became the world’s largest exporter of both oil and natural gas. And, though it is less competitive in heavy industries, it is still the third largest exporter of steel and aluminum.

Secondary Market: New Ways to Get Off the Merry-go-round

From our vantage point, the secondary market has seen the most significant investment opportunity shift in the private equity sector over the past year. Looking back, the confluence of events in the midst of the recession gave rise to what was arguably the most attractive secondary investment opportunity since Congress mandated the liquidation of portfolios during the S&L crisis two decades ago. From yearend 2008 through mid-2009, some of the most renowned private equity investors—many of them endowments and foundations faced with significant liquidity constraints—were sellers of high quality private equity portfolios.

Some $8 billion worth of private equity assets were traded on the secondary market in 2009, according to Triago private equity consultants. In our experience as a buyer, largely funded (70%+) partnerships, managed by stable and experienced general partners, were available for purchase at discounts of...
40% to 60% of trough valuations. These discounts were appropriate at the time, given the real risks of a prolonged and dire recession, and reflected the relatively lean demand for these assets from traditional secondary investors who stayed largely on the sidelines.

With much of the fear gone, 2010 saw the return of many of the traditional secondary purchasers. The increased competition gave an auction aspect to the market. Sellers attracted fully valued bids on private equity assets that had risen as much as 30% in value since the downturn.

At the same time, the nature of the sellers changed. A leading driver of secondary supply today is the shifting regulatory environment. In 2010, with total volume approaching $25 billion by Triago’s estimate, many of the largest secondary transactions were sold off the balance sheets of global banks, such as Bank of America, Citibank, Lloyds Bank and RBS.

More recently, sophisticated private equity investors have entered the secondary market looking to free up capital from existing investments to re-deploy in what they view as more attractive opportunities in the near term. So we anticipate that the supply of secondary interests available for sale will continue to increase during 2011 and beyond. Even so, the market, with the revival of private equity generally, is much more competitive.

**Same Old Roller Coaster or Brand New Ride?**

Private equity fundamentals trended up through 2010, which has been reflected in increased valuations and investment activity. It turns out we were right to be hopeful at the start of 2010, and we feel confident as we move into 2011. General partners come into the year with leaner companies, positioned for growing profit margins as recovery continues to gain traction. Venture capital, after a long stretch out of favor, seems poised to enter a sweet spot where attractive valuations meet rising demand across a variety of markets. The financing markets seem to have stabilized as the increased availability of debt has allowed GPs to extend maturities of their existing companies, deleverage and finance acquisitions. Private equity firms have raced toward emerging markets, attracted by their superior growth rates, and the exit markets are reviving. Although not without challenges, the prospects bode well for a good ride in private equity in 2011.
The Most Frequent Refrain we hear from investors today is, “We are de-risking our portfolio.” In the world of real estate, this shift means investors are seeking lower leveraged “core” assets in open-end funds and generally avoiding leverage, development, value-added or distressed assets in closed-end opportunity funds. Not surprisingly, then, we are seeing substantial new capital flows into “core” funds and expect additional allocations into these strategies, based on known asset allocation changes and through direct conversations with clients and consultants. As a result of these flows, the values of core assets have risen with more improvement expected in the year ahead. While we tend to think of core real estate as a long-term investment, not a timing play, it remains an attractive tactical opportunity to build out a strategic core allocation.

The allocations to “core” real estate in 2010 and 2011 are also partially in response to the abysmal returns of 2005-2007 vintage year real estate opportunity funds. Those funds were large and leveraged and made huge bets on continued improvement in the U.S. economy in the belief that debt would remain cheap and available for any type of real estate asset. When the crisis hit, the very best “core” assets dropped by over 30% and highly leveraged equity positions in marginal or
economically sensitive assets simply got wiped out. The extent of the damage has not yet been fully accounted for. Some of the largest pension funds had 50 to 100 managers and took great comfort in the diversification provided by their many different opportunity funds, only to realize that the funds all had the same highly leveraged pro-cyclical exposures and therefore the same bad outcome.

**Lessons Learned**

Consequently, investors today are more concerned about risk management. They want steady income returns with less volatility. They want assets that are aligned with their long-term objectives. They are more focused on income return and less focused on absolute return. They seek more diversification. They learned the painful lesson of too much leverage in the last two years, and they want less going forward.

Investors who exploited the depressed real estate valuations in 2010 by adding “core” exposure should be well rewarded. If the fundamentals and valuations continue to improve, as we expect they will, double-digit returns are likely in 2011 as well. Core’s current income yield and the price per square foot still look compelling relative to other income-generating investments available today. The superior liquidity characteristics of core real estate and the open-end vehicles in which they reside also are a plus over closed-end funds.

**Why Add Risk Now?**

We also believe that the rapid improvement in core fundamentals and pricing are the leading indicators that investors should begin to move out along the risk spectrum by buying imperfect or challenged assets and employing thoughtful strategies that position those assets to benefit from the improving environment (Exhibit 1). Large profits and high returns will be made by forward-looking investors who anticipate tomorrow’s market rather than acting on today’s. The years 2011, 2012 and 2013 are shaping up to be good vintage years for adding risk to the portfolio, whether it’s called core plus, value added or opportunistic. As many closed-end funds with higher return targets have investment periods of upwards of three years, investors should be considering the space today. Here’s why:

- **The macro-economic recovery is widespread**, as reflected in retail sales, consumer confidence and an improving equity market.
- **The real estate capital markets are open.** REIT price performance has been strong. Insurance company and bank lending is rebounding, spreads are tightening and even the CMBS market has reopened, with more prudent lending standards. While improving, however, debt availability is still constrained for non-core assets, so the opportunity set should be large for those with ready capital.
- **Interest rates are low.** Borrowing prudent amounts of cheap money to buy cheap assets is a “winning strategy.” Borrowing imprudent amounts of money to buy expensive assets is a “losing (everything) strategy.”
- **Fundamentals are getting better every day** with falling vacancies, signs of real rental growth and still very little new supply in all sectors but multifamily.
- **The mistakes of the past will create the profits of the future.** There are hundreds of billions in commercial real estate assets that have broken capital structures.

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**Leading indicator: The 2010 uptick in prime property pricing may mean 2011’s best values will be found farther out on the risk curve**

**Exhibit 1: Change Since October 2007, Moody’s Commercial Property Price Index**

Source: Geltner & Associates, Moody’s, RCA, J.P. Morgan.

The banks, special servicers and/or operators lack the skills, willingness or capital to fix these problems. As a result, these “unnatural” or distressed owners will have to sell out to investors who have all three. To date, distressed sales have been limited. But the clock is ticking, the delinquency pool is growing and the asset-level problems are worsening. Pretty soon the bank or servicer “workout people” will be tapped on the shoulder and told by their managers to “get rid of this stuff.” You want to be well known to those “workout people” when that order comes down from above.

**Swimming in Opportunity**

The window for opportunistic investing is open. It’s been over 18 years since we have seen a drop in values of the present magnitude and such pervasive financial distress in the real estate sector. Opportunistic investing is arguably lower risk today with investors employing less debt, purchasing at a lower basis and underwriting ample time for economic recovery. Buying discounted notes, doing short-sale purchases, submitting foreclosure bids and/or providing rescue capital to distressed operators or funds will be highly profitable activities over the next three years.

For those wading back into the core real estate pool in vintage years 2010 or 2011, it will be an enjoyable experience. However, as we move through 2011, that end of the pool will get increasingly crowded. We think now is the time to swim past the ropes and take a few laps in the deep end of the pool. That’s where lenders and owners and operators got in over their heads in 2005-2007. Today, given dramatically lower prices, improving fundamentals, low financing rates and plenty of would-be sellers, it’s not nearly as deep as you think.
THE ECONOMIC CRISIS OF 2008 tested hedge fund managers, funds of funds and advisors, but since then industry asset levels have rebounded to their pre-crisis levels (Exhibit 1, on the following page). We anticipate that asset growth will accelerate in 2011. In light of higher barriers to entry, a significant portion of the asset flows have gone to larger hedge funds, and we expect this trend to continue. Perhaps most important, many fund managers have responded to the demands of institutional investors and have adjusted their investment and operating procedures to make them more transparent. In addition, stepped-up oversight by auditors and regulators likely will draw additional institutional investors to the sector.

With broader markets more fully valued than they were at the end of 2008, investors increasingly are turning to hedge funds as an attractive, less constrained investment solution to generate returns with less volatility than traditional markets. Further, as their composition becomes more institutional in nature, hedge fund investors are looking at hedge funds in a different light. They are no longer considering hedge funds an “asset class.” Rather they are more appropriately analyzing and disaggregating the funds on a risk factor basis to fit them within their overall allocation framework.
Hedging Today’s Uncertainties

Even though investors concurred that a number of asset classes were historically cheap at the beginning of 2009, trepidation prevailed with regard to the viability of the entire financial system as well as for prospects of economic growth. The financial system has since rebounded and is operating far more efficiently, and asset classes are no longer historically cheap. Credit spreads have retreated from record levels back to their historical averages or lower—unfortunately just as many underfunded institutional investors have been trying to match liabilities through increasing the duration of their assets and reaching for yield.

Yet despite this progress, the possibility of macro shocks, such as a sovereign default in Europe or a return to a recession are significant, and outbreaks of volatility, such as the May 2010 “flash crash,” still remain. In meeting obligations to their constituents in a post-crisis era, then, institutional investors face the challenge of generating substantial returns in a healing but still high-risk environment. Those who choose to access risk solely via traditional allocations are becoming increasingly constrained.

Hedge Funds Are Not an Asset Class

Responding to this challenge, many investors are reconsidering whether simply carving out a small “slice” of their asset allocation for “alternatives” makes sense. Rather, they are evaluating hedge funds within traditional allocation categories, such as equity or fixed income, based on the funds’ component risk factors. While we are certainly not advocating the use of hedge funds as a replacement for all—or even a majority of—traditional allocations, the fact that hedge funds can deliver less beta is compelling. By incorporating hedge funds directly within an equity or fixed income allocation, and not simply grouping them into a small “alternatives” allocation, investors can effectively avoid placing a heavy “bet” on the market’s direction. This allows investors to participate more fully in equities or fixed income, through active beta allocations, in which case the amount allocated is based on an investor’s perception of whether the market is properly valued.
The approach also allows investors to benefit from exposure to alpha allocations—in the case of hedge funds, returns are driven less by beta and instead more by a litany of factors including market or stock inefficiencies, trade structures, investment talent, technology, relative values, shorting, volatility, correlation and shareholder activism. As this trend takes hold, our view is that there will be a shift from a “Constrained Asset Allocation Model” to a “Risk Factor Based Asset Allocation Model.” Exhibit 2, on the previous page, illustrates how these models may differ as they relate to an institutional investor’s equity and fixed income allocations.

**Risk Factor Based Bottom Line**

By adopting a risk factor based allocation model, investors can expand their sources of alpha while diversifying their holdings. The likely result will mitigate some downside exposure while keeping the door open to the upside. Exhibit 3 shows the performance of the S&P 500 and the HFR Equity Hedge Composite. The Equity Hedge Composite, which tracks results of equity long/short hedge fund managers, performed much better when the S&P 500 fell, and still captured significant appreciation during positive periods. So over the long term not only did a hedge fund allocation reduce volatility, it also enhanced compound returns—since, after all, short-term preservation of capital often is more important than short-term return on capital, given its impact on long-term compounding.

As Exhibit 4 shows, long/short equity managers have not only delivered incremental returns to traditional equities, they have tended to produce outsized incremental returns in negative equity markets, thus protecting a broader equity portfolio. The bottom line represents the HFR Equity Hedge Index’s cumulative outperformance of the S&P 500 on a monthly basis since 1995, while the top line represents the same outperformance, but only counting months when the S&P 500 was negative. The example, while simplistic, underscores that a blended return profile may be much more beneficial to institutional investors struggling to rebalance their plans to asset allocation targets and budgeting for capital and funding requirements.

**HFRI Equity Hedge Index substantially outperformed the S&P 500 during the market’s worst months...**

**EXHIBIT 3A: WORST MONTHS OF S&P 500 RETURNS, OCTOBER 1995-SEPTEMBER 2010**

![Graph showing worst months of S&P 500 returns](image)

*Source: Bloomberg, Hedge Fund Research. Financial information is through September 31, 2010.*

**...moderating losses while still participating in gains**

**EXHIBIT 3B: AVERAGE HEDGE FUND EQUITY RETURNS DURING S&P 500 “UP” AND “DOWN” MONTHS, OCTOBER 1995-SEPTEMBER 2010**

![Graph showing average hedge fund equity returns](image)

*Source: Bloomberg, Hedge Fund Research and S&P.*

**Hedge edge: Hedge funds have generated superior equity returns over time**

**EXHIBIT 4: CUMULATIVE EXCESS RETURNS, HFRI EQUITY HEDGE INDEX VS. S&P 500**

![Graph showing cumulative excess returns](image)

*Source: Hedge Fund Research and S&P.*
The outsized incremental returns that the long/short equity strategy has delivered in volatile markets can protect a broader equity allocation. Exhibit 5 shows the extent to which the cumulative hedge against negative environments overcame the excess return given up in positive environments and added up to a superior overall result.

Of course, implementing a risk factor based allocation involves obvious operational challenges, including regulatory requirements and committee member biases. From a pure investment perspective, however, liquidity is the largest impediment. Hedge funds simply are not as liquid as traditional long only allocations, and to participate in this strategy investors will need to sacrifice some level of liquidity.

Yet the value of this approach is readily apparent. Not only have hedge funds proven resilient through the ups and downs of a lengthy market cycle, but the best and brightest investment talent has gravitated to this less-constrained segment of asset management—and will continue to do so in our view. And perhaps figuring as importantly as any other element in hedge funds’ revival, the industry itself has taken important steps to seal the cracks that the crisis revealed in its foundation.

**Smaller ride: HFRI Equity Hedge Index returns have outgained the S&P 500 with substantially less volatility**

<table>
<thead>
<tr>
<th></th>
<th>Return (%)</th>
<th>Volatility (%)</th>
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<tr>
<td>S&amp;P 500</td>
<td>6.45</td>
<td>16.31</td>
</tr>
<tr>
<td>HFRI Equity Hedge Index</td>
<td>10.71</td>
<td>9.73</td>
</tr>
<tr>
<td>HFRI Outperformance</td>
<td>4.26</td>
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</tbody>
</table>

Source: J.P. Morgan Alternative Asset Management, Inc.
Note: For illustrative purposes only.
The desire to hedge investment—taps the low-probability risks that could have a severe impact on portfolio performance—is a rational response to the sometimes irrational, unpredictable events that take place in the market.

Most investors had never experienced the market chaos that ensued in the aftermath of the 2008-2009 economic upheaval: correlations across asset classes trended toward “1,” bids for many asset-backed and investment-grade securities all but disappeared and investors seeking to withdraw assets from real estate and hedge funds faced redemption queues and “gates.” Even historically consistent, time-tested strategies and approaches to temper volatility and downside exposure—holding bonds, value investing, portfolio diversification—failed to provide the degree of protection investors had come to expect. Additionally, the compounding effect of limited access to credit and overly leveraged investors resulted in liquidity drying up across an array of markets, all of which created an environment where investors simply had no place to hide.

Yet, there have been other recent incidents that have caused negative tail events, particularly those that occur at the far-left of a return distribution and result in outsized losses. Having experienced the 2008-2009 crisis, the attacks of 9/11, the tech bubble and the Asian currency crisis, investors today are...
actively seeking ways to manage their investment return distribution and, specifically, the left tails.

Investors concerned about tail risk can apply some practical rules of thumb when considering the sizing of allocations and the prudent use of leverage. In the case of large, liquid allocations such as developed market equities, a simple step is to size the allocation to properly reflect your sensitivity to drawdown risk in a year like 2008. In other words, if you cannot take the “pain,” hold less equity. In the case of less liquid investments (including alternatives), sizing the allocation properly and avoiding excessive leverage is critical. These allocations must not be thought of as a “piggy bank” or source of funds during periods of market stress. Given the time horizon for these investments, you want to avoid being a distressed seller. For instance, direct real estate funds or credit-oriented hedge funds that employed modest amounts of leverage certainly took their lumps over the last few years, but generally came through the cycle with positions intact because they were never in the position of being forced sellers.

However, many investors are looking beyond these simple steps and are considering the following for inclusion within their investment programs:

- Option strategies, including addressing their long-term costs, and
- Strategies that introduce asymmetric return patterns.

**Options: An Imperfect Solution**

In addition to appropriate management of risk in portfolios, the most explicit and predictable method of hedging against tail risk has been the purchase of put options—effectively an insurance contract against any dramatic event. Given the amount of traditional “long” investments, there is always a strong, natural demand for out of the money puts. Today there are even more investors, spooked by the events of 2008-2009, who have flocked to options as a way to hedge the tail. This has created high demand for puts, resulting in a steady increase in price. In addition, the low interest rate environment has exacerbated the situation by rendering the absolute value of put options very expensive. At the end of 2010, for example, one-year put options on the S&P 500 that were 15% out of the money cost approximately 4%, a premium implying a breakeven market decline of over 19%—far beyond what many rational investors would pay. Faced with these high costs, investors are often presented a choice of either (a) selling other options to mitigate the cost of buying the desired option or (b) implementing a hedge in a related market at a lower quoted cost.

One way to disguise the high cost of buying options is to short other options on the same underlying instrument—selling calls and/or puts to reduce the upfront premiums. While making the upfront cost appear to be cheaper, this strategy changes the potential return pattern by narrowing the range of return outcomes. In the case of shorting calls, investors tend to underestimate the “regret factor” of leaving too much upside on the table if the market rallies through the call’s strike price. In the case of put spreads, selling lower strike price puts to minimize the outlay for the higher strike price might appear attractive when viewing the payoff at the expiration of the option hedge. But, if the market sells off sharply in the interim and volatility increases, the value of the protection may be a lot lower than was expected at the outset. The net effect in either scenario is that there are drawbacks in trying to disguise the cost of the put by selling options.

Cross hedging (hedging a position by taking an offsetting position in a different security with similar price movements) is another strategy some investors rely on to mitigate the cost of hedging with pricey options. But changing the basis of the underlying hedge results in a hedge that is not a sure thing. Take, for example, an investor in sovereign credits in southern Europe, some of which have proven risky in recent months, seeking to hedge those investments with credit default swaps on U.S. corporate high yield debt. That strategy appears sound and easy; it looks like a less expensive way to hedge against a related market. However, this strategy is flawed and wouldn’t have worked in this case, since strong fundamentals prevented the spreads on U.S. corporate debt from widening, even as spreads on the sovereign credits blew out.

In sum, there is no free lunch. If the hedge costs materially less than the quoted cost of the put option, make sure you understand the tradeoffs.
Other Ways to Manage Tails—
The Endowment Model

To mitigate tail risk further and introduce more asymmetry, it is useful to look back a decade or two and explore the reasoning behind what drove many large endowments to scale back on beta-one strategies (those with 100% exposure to market volatility) and shift to investing in hedge funds. These investors understood that a large exposure to domestic equities introduced a level of drawdown that was too large to tolerate and that diversification within traditional equity would provide only partial relief.

As a result, the endowments looked to reduce their dependence on beta and move toward more active management that introduced some level of asymmetric returns. For example, those interested in equity-like returns with a less bumpy ride initially turned to event driven and long/short strategies. While there is a directional component to such strategies, event driven and long/short managers typically employ lower levels of leverage and are focused on capital preservation in adverse markets. Over time, top-quality managers created new ways to exploit inefficiencies and generate alpha. Thus, endowments recognized that the top-tier hedge fund managers offered the potential to preserve capital better in adverse markets while keeping pace or outperforming benchmarks in strong times.

Outlook

Among the myriad lessons of the 2008 and 2009 financial tumult is the acknowledgement of tail risk and the need to manage non-normal market returns. With the scenario still a vivid memory, investors have turned to basic asset allocation principles that are simple to implement yet can provide immediate benefits to portfolios. Proper sizing of risk, accurate analysis of liquidity and effective use of leverage combine to address a significant portion of left tail risk. In addition to adhering to these principles, the use of options strategies and the inclusion of investments that deliver asymmetric return patterns help to address volatility and manage the overall return distribution of the portfolio.

While none of these strategies is the silver bullet that addresses tail risks, taken together, they can help position a portfolio to deliver a different return distribution and a more palatable upside and downside potential.
It is a well-recognized empirical observation that different asset classes respond differently to different economic drivers. For example, fixed income assets tend to respond to anticipated movements in interest rates, among other factors. Bond prices fall when interest rates rise. Commodities respond to, and sometimes drive, inflation expectations. Commodity prices can rise fast when inflation expectations are rising, and they can fall quickly once inflation appears to have peaked.

It is also well-recognized that asset class behavior can vary significantly over shifting economic scenarios. For example, business cycles tend to impact cyclical and non-cyclical companies in markedly different ways, primarily due to sensitivities of consumers and producers to economic growth. Yet, while asset class performance certainly varies with changing conditions, traditional asset allocation approaches make no effort to adapt to such shifts. Instead, traditional approaches seek to develop static “all-season” portfolios that optimize efficiency across a range of economic scenarios.
In this piece, we define economic trends in their totality as a single complex system that changes over time to produce what we call economic “regimes.” And we investigate whether dynamic asset allocation can effectively respond to economic regimes at the portfolio level to provide better long-term results when compared to static benchmark-based approaches.\(^1\)

### Assessing the Potential Benefits of Regime-based Investing

Based on our analysis, we arrive at three key conclusions about regime-based investing:

1. **Economic regimes can be defined in terms of four factors, which tend to dominate financial market performance:** economic growth, inflationary expectations, monetary policy and economic slack. Developing insight on near-term changes in these four factors—rather than their absolute levels—can provide an effective framework for executing a regime-based asset allocation policy.

2. **No single portfolio is resilient to all economic regimes.** The concept of a static “all-season” portfolio is a myth. Asset class performance varies significantly across different regimes, be they economic, regulatory, political or otherwise. For example, portfolios resilient to deflationary environments will underperform during periods of high inflation, just as portfolios that hold up well in conditions of high inflation tend to lag at times of very low inflation or outright deflation. Different economic regimes call for different asset allocations.

3. **Regime-based asset allocation may have a significant impact on portfolio efficiency.** Ignoring shifting economic regimes can exact a heavy toll on portfolio performance, exposing it to drawdowns during periods of heightened turbulence and volatility. A good example of such a period is the Great Recession of 2008, where a static benchmark-based portfolio, allocated 15% to commodities, 15% to Treasury bonds, 15% to investment-grade credit, 40% to equities and 15% to U.S. dollar futures, would have lost approximately 17%. By way of comparison, a regime-oriented portfolio would have lost a relatively modest 7%.

The backtested results coincide with the broader findings of our research. Addressing changes in economic regimes through dynamic asset allocation may enhance performance throughout market cycles, especially in mitigating downside risk in extreme “tail event” scenarios. For a hypothetical portfolio, we find that a regime-based asset allocation approach might improve real returns from -3.9% (for the static strategy) to +7.0% in a severe recessionary scenario coupled with deflation. In a high inflation scenario, a regime-oriented portfolio could improve hypothetical real returns from -1.6% for the static portfolio to +5.8%.

### Challenges to a Regime-based Investment Approach

While we can be certain that assets and portfolios respond to economic regimes and can demonstrate that a regime-based framework may add value over time, there still remain two hurdles between theory and practice. First, we need to capture the complex nature of the interaction between economic drivers and assets. Second, we need to establish the level of economic foresight necessary to be successful.

- **Regime-based investing requires understanding the state-dependent relationship between financial markets and the broader economy and devising a method of modeling the nonlinear nature of such relationships.** Successful regime investing is predicated on modeling the relationships between asset returns and economic performance drivers. Our research shows that it is important to model relationships that are both state-dependent and nonlinear. Modeling such relationships is quite complex for both conceptual and practical reasons. For example, a simple scatter plot of S&P 500 returns and U.S. real GDP growth, may not at first reveal much of a relationship, at least not a clearly linear one (**Exhibit 1**, on the following page). But, advanced nonlinear statistical techniques can help in identifying and defining this relationship. While prospects for economic growth improve, equity prices tend to rally. Beyond a certain threshold, however, the relationship starts to break down.

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\(^1\) Details of our analysis, including assumptions made, will be found in a forthcoming whitepaper.
Of course, asset class performance can be driven by more than just growth rates and other macroeconomic fundamentals. Financial markets can reflect extreme optimism or pessimism—as expressed in their valuations—over long periods of time, rather than pure economic fundamentals. In such cases, regime-based frameworks may prove inadequate for the purposes of developing robust and resilient portfolios.

- Successfully developing and executing a regime-based asset allocation strategy does not require perfect forecasting skills. Yet even imperfect foresight is not necessarily easy to achieve.

Our framework indicates that good economic foresight, systematically implemented in a coherent regime-based asset allocation framework, can add value. We define good foresight as forecasting the direction of economic changes, rather than their exact magnitude. The former is much more important in determining the success of dynamic regime response. The worse the accuracy of the economic foresight, the lower the value added by the framework, as measured by the information coefficient\(^2\) (Exhibit 2).

But developing even imperfect economic foresight is no small accomplishment, given the confluence of factors impacting the economy. In fact, we can glean some appreciation for the skill necessary to add value using a regime-based approach by considering the information coefficient associated with imperfect foresight. If, as commonly assumed, an upper quartile equity manager is considered to have an information coefficient of 0.10, then our imperfect economic forecaster, with an information coefficient of 0.41, has four times the “skill” level of an upper quartile equity manager.

And even with perfect economic foresight—correctly forecasting not only the direction but the magnitude of economic changes—asset class response can be extremely difficult to capture. This is particularly true when the economy and financial markets experience new paradigms relative to history. In such circumstances, the relationship between economic factors and financial markets can change quickly, leading to underperformance of a regime-based approach developed on historical data compared to a static asset allocation.

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\(^2\) The information coefficient calculates the correlation between actual and forecasted returns, using our regime-based asset allocation framework. It is often considered to be a measure of “skill” associated with the manager or investment strategy.
Illustrating the Results of a Regime-based Investment Approach

Still, despite the complexity of the challenge, our work indicates that regime-based investing may add value to portfolios over time. We offer the following preview of how regime analysis may be implemented to improve portfolio results.

Step 1: Identify the relationship between economic factors and financial markets.

Developing a regime-based model begins by establishing the relationship of asset class performance to economic “regimes,” which by definition include multiple factors that may all be changing simultaneously. We note that asset classes show unique sensitivities to economic factors—every asset class does not respond to every factor. For example, in modeling expected commodity returns, the primary influence in our framework comes from real GDP growth and inflation, as the equation in Exhibit 3 shows. It supports a strong relationship between commodity returns and changes in U.S. real GDP growth, when GDP growth is extremely negative, but the relationship moderates beyond a threshold of -2.65%.

This threshold effect can be explained in a number of ways—one of which is the growing influence of emerging markets on commodity prices. Our equation suggests contracting U.S. real GDP exercises greater influence on commodity returns below the -2.65% threshold. It implies that U.S. GDP would have to fall by more than 2.65% year-over-year, indicating a severe and possibly global recession, to detract significantly from commodity returns. At normal levels of growth or even mild recessions, the impact of U.S. growth on commodities diminishes. It hints at a possible decoupling effect, where demand from emerging markets supports commodity prices, as long as the global economy avoids a deep recession.

Our forthcoming whitepaper includes equations and explications of the relationships between each of our key asset classes and economic factors.

Step 2: Model the behavior of different asset classes in different economic regimes.

Once we have developed relationships between our economic factors and asset classes, we can model the regime-dependent returns of various asset classes. Exhibit 4 outlines six possible economic regimes and ranks asset classes for their relative performance potential, from best to worst, within those

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EXHIBIT 3: RELATIONSHIP BETWEEN COMMODITY RETURNS AND REAL GDP

<table>
<thead>
<tr>
<th>Commodity Return (%)</th>
<th>Change in Real GDP (%)</th>
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<td>25</td>
</tr>
<tr>
<td>7.8</td>
<td>30</td>
</tr>
<tr>
<td>9.7</td>
<td>35</td>
</tr>
</tbody>
</table>

Commodities return = -0.09 + 1.18 * max(0, Real GDP growth + 2.65%) - 4.76 * max(0, -2.65% - Real GDP growth) + 7.64 * max(0, Inflation rate + 1.12%)
R-Squared = 51.1%

Source: J.P. Morgan Asset Management. For illustrative purposes only.

EXHIBIT 4: RELATIVE ASSET CLASS PERFORMANCE UNDER ECONOMIC REGIMES

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Severe Recession</th>
<th>Double Dip</th>
<th>No Growth</th>
<th>Moderate Growth</th>
<th>Strong Recovery</th>
<th>Strong Recovery w/ Inflation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Best performer</td>
<td>Dollar</td>
<td>Dollar</td>
<td>Credit</td>
<td>Equity</td>
<td>Equity</td>
<td>Commodities</td>
</tr>
<tr>
<td>Above median performer</td>
<td>Treasury</td>
<td>Treasury</td>
<td>Treasury</td>
<td>Credit</td>
<td>Credit</td>
<td>Dollar</td>
</tr>
<tr>
<td>Median</td>
<td>Credit</td>
<td>Credit</td>
<td>Equity</td>
<td>Treasury</td>
<td>Commodities</td>
<td>Equity</td>
</tr>
<tr>
<td>Below median performer</td>
<td>Equity</td>
<td>Equity</td>
<td>Dollar</td>
<td>Commodities</td>
<td>Treasury</td>
<td>Treasury</td>
</tr>
<tr>
<td>Worst performer</td>
<td>Commodities</td>
<td>Commodities</td>
<td>Commodities</td>
<td>Dollar</td>
<td>Dollar</td>
<td>Credit</td>
</tr>
</tbody>
</table>

Source: J.P. Morgan Asset Management. For illustrative purposes only.
regimes. It is clear from this analysis that shifts in asset class leadership are so broad and varied that no static portfolio weighting could be optimal across all regimes. Strictly on an intuitive basis, dynamic regime-based asset allocation appears to be a logical response to shifting economic regimes.

Step 3: Assess the effect of different economic regimes at the total portfolio level and optimize portfolio allocations depending on economic insight and risk constraints.

The next step is to determine the impact of different economic regimes at the total portfolio level and optimize portfolio allocations depending on economic insight and an investor’s risk constraints. Our finding is that, for a hypothetical diversified portfolio, regime-based asset allocation has the potential to substantially increase portfolio efficiency. Exhibit 5 compares the implied returns of a static benchmark-based policy to those of a dynamic regime-based policy, under the regimes outlined in Exhibit 4 (on the previous page). In each case, our model dynamically adjusts asset allocation to target optimal efficiency under each regime. Purely measured by portfolio returns, the regime-based portfolio produces superior results, especially in the extreme economic scenarios where traditional static approaches show the least resilience.

A Critical Caveat

It is important to note in conclusion that we do not advocate abandoning benchmark-based investing. Institutional investors set their portfolios’ strategic benchmarks based on a desire to match liabilities or on other equally important strategic goals. Within these broad objectives, however, we argue that investors may be handicapping their portfolios by being regime agnostic—which is what a strategic benchmark is. Instead, we believe that investors would benefit from being “regime aware” and allowing themselves the freedom to adjust allocations around a strategic benchmark in response to shifts in the macroeconomic environment.

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**EXHIBIT 5A: IMPLIED PORTFOLIO PERFORMANCE UNDER DIFFERENT ECONOMIC REGIMES**

<table>
<thead>
<tr>
<th>Portfolio Return (%)</th>
<th>Static</th>
<th>Regime-based</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severe Recession</td>
<td>12</td>
<td>10</td>
</tr>
<tr>
<td>Double Dip</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td>No Growth</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>Moderate Growth</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Strong Recovery</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Strong Recovery w/ Inflation</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

---

**EXHIBIT 5B: ALLOCATIONS TO STRATEGIC PORTFOLIO AND EACH OF THE REGIME PORTFOLIOS**

<table>
<thead>
<tr>
<th>Asset Class</th>
<th>Strategic Allocation (%)</th>
<th>Severe Recession (%)</th>
<th>Double Dip (%)</th>
<th>No Growth (%)</th>
<th>Moderate Growth (%)</th>
<th>Strong Recovery (%)</th>
<th>Strong Recovery w/ Inflation (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commodities</td>
<td>15.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>8.2</td>
<td>15.0</td>
<td>27.2</td>
</tr>
<tr>
<td>Treasury</td>
<td>15.0</td>
<td>30.0</td>
<td>30.0</td>
<td>30.0</td>
<td>15.0</td>
<td>15.0</td>
<td>5.5</td>
</tr>
<tr>
<td>Credit</td>
<td>15.0</td>
<td>30.0</td>
<td>30.0</td>
<td>30.0</td>
<td>21.8</td>
<td>18.9</td>
<td>0.0</td>
</tr>
<tr>
<td>Equities</td>
<td>40.0</td>
<td>25.0</td>
<td>25.0</td>
<td>40.0</td>
<td>46.8</td>
<td>43.9</td>
<td>40.0</td>
</tr>
<tr>
<td>Dollar</td>
<td>15.0</td>
<td>30.0</td>
<td>30.0</td>
<td>0.0</td>
<td>8.2</td>
<td>7.1</td>
<td>27.2</td>
</tr>
</tbody>
</table>

3 Returns based on expected performance for each asset class under respective regimes.

Source: J.P. Morgan Asset Management. For illustrative purposes only.

Note: Asset classes are represented by the following indexes: Equities: S&P 500 Price Index; Credit: Barclays Capital Baa Credit Index; Treasuries: Barclays Capital All Treasury Index; Commodities: Commodity Research Bureau Future Price Index; Dollar: United States Dollar Index Futures.
AFTER A YEAR OF CRISIS IN 2008 and a year of rebound in 2009, many corporate 401(k) plan sponsors took advantage of 2010’s relatively normal markets to reevaluate the priorities of their Defined Contribution (DC) plans. In literally hundreds of conversations we held with plan sponsors during the course of the year, they asked two fundamental questions:

• How should we think about Qualified Default Investment Alternatives (QDIAs)?

• How can we strengthen our 401(k) plan to provide a more dependable retirement income?

These questions suggest what we think a central theme of 401(k) discussions will be in 2011: how to design an investment menu and choose funds that will create better outcomes for participants.

Far too often, plan sponsors think about menu design and fund selection in ways that don’t actually lead to better investment outcomes for participants. The availability of clear performance data and metrics has driven menu construction, resulting in menus with dozens of similar funds.¹ For instance,

¹ PSCA 53rd Annual Survey of Profit Sharing and 401(k) Plans.
the emphasis on having multiple U.S. equity funds to fit nine Morningstar style boxes—with possibly actively managed and index options in each of the boxes—means that many investment menus were cluttered with funds that reacted in substantially similar ways to the volatility of 2008 and provided no real diversification to participants.

**Retiring Surge**

Over and above rationalizing fund menus in 2011, many plan sponsors are giving considerable thought to the wave of baby boomers now entering their final working years. This cohort will shortly begin transitioning from accumulating retirement assets to decumulating, or spending those assets. And plan sponsors are increasingly concerned about a lack of appropriate investment vehicles suitable for this growing participant segment. Often viewed as a question of income generation within DC plans, this has been a prominent topic at industry conferences now for several years. We believe, however, that the dialogue has concentrated excessively on trying to find the perfect fund option to deliver income, essentially wedging a very broad and complex issue into a very narrow spot on current fund menus. We think plan sponsors and providers should be viewing income generation for decumulators in a much broader and more holistic way in conjunction with menu design and communications.

**A New Framework for Menu Design**

The issues of rationalizing fund menus and providing robust and readily understood decumulation alternatives both call for the same simple but profound shift of emphasis from investment inputs to investment outcomes. Simply stated, how would a given fund generate better investment returns appropriate to a participant’s life circumstances? Put another way, we think plan sponsors should select funds that seem most likely to satisfy broad lifestyle goals instead of putting together a menu of narrowly defined core choices, parallel index funds, a QDIA fund and a brokerage window. And instead of offering a menu that tacitly assumes all funds are created equally appropriate for accumulators and decumulators, we believe that sponsors should offer menus that accommodate the distinct needs of each population.

**Exhibit 1: A New Framework for Menu Design**

<table>
<thead>
<tr>
<th>Accumulation</th>
<th>Decumulation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BUILDING BLOCKS—CORE MENU</strong></td>
<td></td>
</tr>
<tr>
<td>• U.S. Large Cap</td>
<td>• Long Duration Funds</td>
</tr>
<tr>
<td>• U.S. Small Cap</td>
<td>• TIPS Funds</td>
</tr>
<tr>
<td>• International Equities</td>
<td>• Stable Value</td>
</tr>
<tr>
<td>• Global Equities</td>
<td>• Commodities</td>
</tr>
<tr>
<td>• Core Fixed Income</td>
<td>• Dividend–Oriented Funds</td>
</tr>
<tr>
<td>• Stable Value</td>
<td>• Deferred Annuities</td>
</tr>
<tr>
<td>• Global Equities</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SOLUTIONS—PLAN QDIA</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Target Date Funds</td>
<td>• Managed Accounts</td>
</tr>
<tr>
<td>• Managed Accounts</td>
<td>• Guaranteed Products</td>
</tr>
<tr>
<td>• Risk Based Funds</td>
<td>• Asset Allocation Funds</td>
</tr>
<tr>
<td>• Asset Allocation Funds</td>
<td>• Real Return</td>
</tr>
<tr>
<td></td>
<td>• Income</td>
</tr>
</tbody>
</table>

Source: J.P. Morgan Asset Management.

Exhibit 1 illustrates the concept. Rather than a list of core menu choices, it offers two types of fund options depicted here: those intended to be building blocks, used by participants to create their own portfolio; and those intended to be solutions, which are multi-asset funds designed to accomplish a specific investment objective.

These two categories of funds—building blocks and solutions—should be different for participants accumulating assets for retirement (in the first column) and participants (in the second column) who have already transitioned into retirement and face the challenge of maintaining their lifestyle while spending down their portfolios.

**Building Blocks—Accumulators**

We have suggested several types of funds that might be appropriate for the building block portion of the menu. Equities, to take one example, could be broken into three subcategories—U.S. Large Cap, U.S. Small Cap and International, or could be aggregated into a single Global fund. Similarly, while we have shown just a single Core Fixed Income fund, it might also be appropriate to include a single Core Plus fund. While they can work quite well as a complement to core investments (bundled in a broadly aggregated building block or a comprehensive solution), extended and alternative asset classes, such as
real estate and emerging markets, should not be standalone offerings. It may make a great deal of sense to have exposure to emerging markets, for instance, but we think that the average participant risks over-allocating to an asset, after a large run-up in returns, that characteristically exhibits extremely high volatility. It would be more prudent in our view to access these markets via a modest exposure in the context of a comprehensive global investment choice.

Building Blocks—Decumulators
The fact that approximately 80% of plan participants withdraw their assets within three years of retirement suggests that sponsors must address participant needs more directly. In particular, decumulating participants need income, so funds that focus on generating income, such as dividend-oriented equity funds, may well be a better fit than those that simply focus on total return. Inflation is also a primary decumulator concern, so funds such as TIPS and commodities may have a role, although we would caution that these investments can be volatile and should possibly be limited in scope to investors who utilize some form of advice within the plan. Finally, decumulators run the risk of outliving their money. In-plan annuities, purchased with some fraction of an account balance, might generate enough income to cover minimum living expenses.

Solutions—Accumulators
Current QDIA regulations provide appropriate solutions for investors who are still saving for retirement. The vast majority, nearly 70%, of plan sponsors have chosen a target date fund for their QDIA, and we believe that the best way for a sponsor to identify the most appropriate target date fund is to align the glide path of their target date fund with their views on the appropriate level of volatility for participants at the point of retirement.

Solutions—Decumulators
In contrast to the accumulation phase, where we believe that it is in fact possible to have a “one size fits most” approach as most mid-career participants exhibit very similar savings patterns prior to retirement, participants in their decumulation

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### EXHIBIT 2: INCOME SOLUTIONS FOR DEFINED CONTRIBUTION PLANS

<table>
<thead>
<tr>
<th>Insurance Portfolios</th>
<th>Managed Account Income Portfolios</th>
<th>Income Oriented Portfolios</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Benefits</strong></td>
<td><strong>Benefits</strong></td>
<td><strong>Benefits</strong></td>
</tr>
<tr>
<td>• Provide a minimum guaranteed income while allowing participants to participate in up markets</td>
<td>• Assets in the target date fund are transmitted starting at age 60 into a liability driven investment approach using fixed income-centric portfolios</td>
<td>• Look to maximize income while maintaining prospects for capital appreciation by investing in income producing securities (domestic and international debt and equity)</td>
</tr>
<tr>
<td>• Allow withdrawal of assets prior to a certain date at market value at any time</td>
<td>• Liquid and portable</td>
<td>• Provide an investment vehicle for an individual who wants to manage his or her own portfolio during retirement</td>
</tr>
<tr>
<td><strong>Challenges</strong></td>
<td><strong>Challenges</strong></td>
<td><strong>Challenges</strong></td>
</tr>
<tr>
<td>• Portability of insurance products</td>
<td>• Lack of an explicit guarantee</td>
<td>• Does not guarantee an income</td>
</tr>
<tr>
<td>• Fees</td>
<td>• Availability of asset classes to provide diversification</td>
<td>• Does not guarantee stable NAV</td>
</tr>
<tr>
<td>• Participant usage</td>
<td>• Does not guarantee stable NAV</td>
<td></td>
</tr>
<tr>
<td>• Does not guarantee stable NAV</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: J.P. Morgan Asset Management.

---


phase will require different solutions for very different needs, which will vary widely based on (1) the level of assets they have accumulated, (2) their own life expectancy, and (3) their concerns about inflation. Some participants may be willing to pay additional fees for a guaranteed minimum withdrawal benefit, while others will be comfortable with slight variations in benefits with significantly lower fees, while still others will gravitate toward solutions that attempt to provide significant sensitivity toward inflation (Exhibit 2).

Looking Forward

If 2010 was the year for recalibrating plan structures and objectives, we believe a profound philosophical shift will mark 2011—a shift away from inputs to outcomes. We believe the new emphasis will lead to a sensitive segmentation of a formerly undifferentiated participant population and in turn to a thoughtful redefinition of optimal outcomes and, with it, major evolution in menu design.
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