

CAMBRIDGE ASSOCIATES LLC

ASSET ALLOCATION IN THE CURRENT ENVIRONMENT

Now What?!

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This is the eighth in what has evolved into a series of occasional papers on the evolution of the secular bear market in equities and our thoughts on how investors can best cope with the prevailing uncertainties. These papers are grouped together in the research section of our website under the name "Asset Allocation in the Current Environment." We also provide updates to our views on asset allocation on a quarterly basis in our report *Market Update: Expanded Quarterly Edition*.

As always, we welcome your feedback.

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Asset Allocation in the Current Environment: Now What?!

Midway upon the journey of our life
I found myself within a forest dark,
For the straightforward pathway had been lost.
Dante Alighieri, The Divine Comedy: Inferno, Canto I

Much like Dante, investors today find themselves unsure of the path ahead. After surviving what was likely the most extreme market meltdown of their lifetimes, investors are rightfully apprehensive following the recent surge in asset markets, especially given the uncertainty of the economic outlook. While we do not presume to be the ever-wise Virgil on this journey with investors through the unknown, below we present an update of our views on the market environment, as well as our current investment advice. As prelude, we view the global economy as entering the purgatory/limbo between a cyclical rebound and sustained economic growth, stuck between lingering deflationary forces (ice) and the potential return of inflation (fire). While we may have come through the worst of the outright economic contraction (with the markets correct to rally from their lows), the path ahead remains treacherous, and investors need to stay focused on the most basic of long-term goals: real wealth preservation and how to earn what you spend.

The Bigger the Fall, the Bigger the Bounce?

Economic and market developments have been fast and furious over the past few months. Sentiment seems to have rapidly shifted from fears of another Great Depression to growing optimism that the global recession has ended. The global economy is indeed showing signs of stabilization, as aggressive monetary and fiscal policies by governments across the globe have helped break the paralysis that set in following the collapse of Lehman Brothers, when credit markets froze and businesses and consumers were scared stiff. Rightly or wrongly, actions taken by policymakers to prevent a systemic collapse of the banking system have lifted a major cloud of uncertainty (for now), while liquidity injections have kept short-term credit markets functioning, preventing a self-reinforcing deflationary spiral similar to that of 1930–33 from occurring. Consequently, the pace of economic contraction has certainly slowed, while a range of economic statistics are rebounding from extremely low levels, reflecting just how drastic the freefall in the global economy was last autumn and early this year (Exhibit 1).

But what is really going on? Is the "Great Recession" truly over? The answer is "not quite." While GDP figures may turn positive over the coming quarters, we would characterize the current environment as a rebound in economic "activity" rather than a return to "growth."

Specifically, it seems we are in the midst of a classic inventory correction. Exhibit 2 shows how the collapse in demand last year resulted in a global inventory glut. This overhang has been reduced by a

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¹ Those of a strong libertarian bent may believe we truly are venturing into "Hell," given such large-scale government and monetary intervention in the economy.

dramatic fall in industrial production, as the corporate sector has aggressively retrenched. The upshot is that production and inventory have been brought back in line, and given that consumers have been on hold since late last year, there is now a level of pent-up demand and need for "restocking" on the part of businesses. Production was cut so close to the bone that currently it does not require much marginal demand to provoke a rise in output. For instance, Morgan Stanley estimates that resumed automobile production alone could possibly boost U.S. third quarter GDP growth by up to 2.0 to 4.0 *percentage points*, spurred on by the "cash for clunkers" stimulus incentive.

Globally, China has been a *big* source of marginal demand. China has aggressively fought a collapse in exports by unleashing a flood of financial stimulus upon its domestic economy. Bank loan growth is running above 30% year-over-year, leading to a surge in "fixed asset investment" (mainly infrastructure and real estate, but increasingly finding its way into the stock market), which has helped offset the drag from exports (Exhibits 3 and 4). For now, this is having a clear impact on the rest of Asia, as rebounding Asian industrial production mirrors a sharp rise in exports to China (Exhibit 5), while Chinese stock piling of raw materials has benefited commodity exporting countries (notably Australia).

The Chinese stimulus is working precisely because China's banking system is not (yet) weighed down by bad assets. And given the command-economy nature of the system, banks will lend regardless of the underlying merits. The key here is that China, unlike the United States, can still create credit. However, the current situation in China is unsustainable; such free lending will clearly find its way into unproductive uses, only adding to the excess capacity that exists in China. Chinese officials are already issuing warnings to banks about excessive lending and of a potential asset bubble forming.

Meanwhile, the key headwind remains deleveraging, most acutely in the United States, but also in the United Kingdom and across parts of Europe. The U.S. private sector (both households and corporations) has rapidly shifted to become a net saver after years of being a persistent borrower (Exhibit 6). Meanwhile, the rise in private savings has been offset by a postwar record rise in government borrowing. Absent this stimulus, the U.S. economy would be suffering an even worse contraction.

Although China is getting a big bang for its stimulus buck, the same cannot be said for the developed world. Despite recent upward revisions, consensus GDP forecasts for 2010 see only 2.1% growth in the United States and anemic 0.4% growth in the Eurozone (Exhibit 7). And such growth is likely insufficient to greatly improve employment conditions. Exhibit 8 shows that G7 unemployment is still forecast to rise and remain high over 2009 and 2010. This raises the questions of how robust Chinese growth can remain absent a strong recovery in the West, and how long the Chinese authorities will allow their current stimulus to run.

The key takeaway for investors is that much of the improvement in economic growth set to occur over the coming months is likely transitory, driven by inventory restocking and stimulus, and not the seeds of a vigorous, self-sustaining recovery.

Historically, lower interest rates have stimulated economic recovery by encouraging the corporate sector to lever up and the household sector to spend down savings, the most glaring example of which took

place over the past cycle. With this mechanism short-circuited, households in many developed economies are likely going to stay in retrenchment mode, especially absent a marked improvement in employment conditions and incomes. Better-than-expected earnings announcements in the United States highlight this trend. Corporate profits are beating expectations due to improving bottom lines (cost cutting), not top-line growth (revenue). Without top-line revenue growth, corporations will be hesitant to increase capital expenditure or employment.

This is not to suggest that an economic relapse is imminent, but rather that investors should not be whipsawed by what will likely be a torrent of upside economic surprises over the coming months given how sharp and deep the preceding decline was. While we are likely past the phase of outright economic contraction, the underlying growth picture remains fragile, and the strength of the near-term bounce should not be extrapolated. Said differently, we may now be experiencing the V-shaped half of what will likely be a W-shaped recovery.

Fire or Ice?

The other key macro issue gripping investors is the deflation/inflation debate. Our view since the onset of the credit crisis in 2007 has been that global policymakers view deflation as the greater of economic evils for a leveraged economy, and will do whatever it takes to avoid a deflationary collapse. And so they have. Given signs of economic stabilization, the deflation fears of late last year have given way to inflation angst, aided by a sharp rise in commodity prices. Yet, while we view inflation as the long-term risk to asset markets, deflationary pressures still loom.

Despite a surge in the U.S. money supply, credit is contracting just as fast, because the velocity of money and the money multiplier have collapsed² (Exhibit 9). In other words, debt deflation is currently overwhelming monetary reflation. Monetary expansion is only inflationary if it takes the form of credit extended to the private sector and is spent on goods and services (translated into final demand). But unlike China, the U.S. financial system (as well as those in the United Kingdom and Europe) remains hobbled as lenders are reluctant to extend credit, while households and business are reluctant to take on additional debt. However, these variables need to be watched closely; any sign that credit growth is ramping up in the United States and Europe implies the battle over deflation is being won, upping the inflation risk.

However, even with resumed credit growth, broad-based inflation remains unlikely so long as there continues to be a large amount of slack in the global economy. Expressed another way, at its most basic level, inflation occurs when aggregate economic demand exceeds aggregate supply. The runaway inflation of the 1970s and 1980s resulted from a series of supply shocks, whereby structural rigidities in less-open economies became self-reinforcing. The U.S. economy had been growing briskly over the 1960s and was already showing signs of overheating before the 1972 oil shock; inflation was running over 6% in 1969.

² So far, the vast majority of money "printed" by the U.S. Federal Reserve remains trapped in the banking system in the form of excess reserves.

Policymakers used loose monetary and fiscal policy to stimulate demand in the aftermath of the oil shock—triggered recession of 1972, greatly exacerbating an already burgeoning inflation problem (boosting demand amid falling supply). Not until the Volker-induced recessions of the early 1980s did aggregate demand go well below supply, thereby taming the beast.

This explanation is highly stylized and simplified, but it highlights a key difference between the current environment and that of the 1970s and 1980s. Today, the situation is largely reversed; the bursting of the credit bubble has triggered a global "demand shock," which is only being offset by government stimulus, while in many sectors of the global economy there remains excess supply, highlighted by very low capacity utilization rates in many industries (the commodity sector is an important exception).

Exhibit 10 shows one such measure of slack for major developed economies, the so-called "output gap" or percentage divergence between current and potential GDP, while Exhibit 11 shows the relationship between various measures of slack and U.S. inflation. A widening output gap is closely correlated with, and tends to lead, the *rate of change of inflation*. Combined with rising unemployment, this implies that neither business nor labor holds much pricing power. Global slack argues that downward pressure on inflation (but not necessarily deflation) will continue until economic growth revives enough to tighten labor markets.

Some may question that logic given the high rates of both inflation and unemployment during the stagflation of the 1970s. However, Exhibit 11 shows that during the 1970s, rising inflation clearly *preceded* the rise in unemployment, while falling inflation led to falling unemployment. In other words, rising inflation caused the unemployment rate to rise, not vice versa. This atypical relationship has to do with the close link between unit labor costs, productivity, and inflation (Exhibit 12). Collapsing productivity and sharply rising unit labor costs were also key factors in the inflation of the 1970s (partly related to the use of cost-of-living adjustments in labor contracts and other price controls), forcing companies to curtail employment.

This analysis is not to dismiss inflation as a potential risk; economic slack can disappear quickly, especially if potential GDP growth is overstated or shrinks due to a permanent reduction in capital stock, labor productivity, and/or labor force growth. Rather, measures of slack are key indicators to watch for timing the potential return of inflation.

At this point, a sharp rise in inflation does not seem to be a problem for the rest of this year or even 2010. However, we dare not venture a guess beyond that horizon. The "low inflation" view is already reflected in most economic forecasts and inflation swap pricing (Exhibits 13 and 14). After mild deflation in 2009, G7 inflation is expected to stay below 2% per year through 2013, while inflation swaps in the United States see inflation remaining below 4% even out to 2019.

What is clearly not priced in is a return to outright deflation, implying that the potential for another deflationary scare remains. Lost in all of the excitement over green shoots is the fact that an estimated \$1,000

³ Although the level of inflation remained high during the 1970s and early 1980s, despite even larger output gaps, the rate of change of inflation (the second derivative) fell sharply; from 1973 to 1975 and 1980 to 1983, the delta of annual inflation fell by 6 percentage points.

billion of bad asset write-downs remain on global bank balance sheets, and that the corporate default cycle has not yet fully run its course.⁴ In the current environment, even rising commodity prices could prove deflationary. Absent margin expansion or employment gains, income spent on energy and food is simply diverted from discretionary sources, adding to downward demand pressures.

The Exit Strategy

There is always heightened uncertainty at economic/cyclical turning points; however, today, more so than normal, actions of central banks and governments going forward are a major factor clouding the current growth outlook. Massive liquidity is being pumped into the system to fight debt deflation. Such liquidity can be high powered if the financial system heals and private sector "animal spirits" recover (as China illustrates) or it can be impotent, caught in a liquidity trap, as Japan's experience shows. If a stronger-than-expected recovery over 2010 forces policymakers to withdraw stimulus, could that trigger another growth relapse? Such was the case in Japan throughout the 1990s and in the United States in late 1930s, when Fed tightening and Roosevelt tax hikes triggered the 1937–38 recession. Or will policymakers, aware of such historical comparisons, err on the side of caution and let the stimulus run for too long? And even if policymakers try to overstimulate, will the global bond market let them? A sharp rise in long-term interest rates could easily derail any tentative recovery traction.

The fact is neither we nor anyone else knows with certainty what path growth will take over the intermediate term. But we have a strong feeling that if the upcoming economic bounce does prove more lasting, that the next key market event will revolve around the "exit strategy," or lack thereof, to remove stimulus from the system.

Where Could We Be Wrong?

Could the global economy be embarking on a sustained economic recovery? Or, even if the underlying dynamics seem poor, could policymakers engender another multiyear recovery in asset markets along the lines of what was seen over 2003–07? Indeed, many of the same concerns being voiced today were aired back in 2002–03 (overextended U.S. consumer, risk posed by rising sovereign yields, US\$ crash, etc.). What could we be missing?

Indeed, there are growing arguments that growth may continue to surprise on the upside globally, leading to a stabilization in labor markets, and a moderation of deleveraging pressures, especially for the U.S. economy should housing prices bottom in the near term.

⁴ According to Bloomberg, as of second quarter 2009, global banks have posted asset write-downs totaling some \$1,548 billion since 2007, compared to April 2009 IMF estimates of \$2,816 billion for global total write-downs for mature market banks. Specifically, while residential mortgage and high-yield bond defaults are well under way, losses in the commercial real estate and other credit markets are just beginning to emerge.

One of the most well-argued advocates of a potential sustainable recovery on the horizon is Tim Bond, head of global asset allocation at Barclays Capital. Mr. Bond's thesis is based on the fact that heading into this cycle, the majority of nonfinancial corporations in the United States and developed world had relatively healthy corporate balance sheets, an observation with which we would concur. With corporate cash flow exceeding capital expenditure by a wide margin, a capital expenditure—led recovery, perhaps focused on capacity-constrained areas of natural resources, may counterbalance a lackluster household sector. In his own words:

Given the structural problems ... in the supply, production and distribution areas of the energy and natural resources markets, the absurd—but remarkably widespread—idea that there are no viable global investment opportunities cuts no ice. In fact, the combined effort to accommodate China and India's natural resource demands, while simultaneously shifting to clean energy sources is likely to promote one of the longest and largest investment spending booms in history. The underlying point here is that even under very conservative assumptions, the corporate sector can contribute a sizable investment boost to growth without actually borrowing any more money.⁵

The reality of the current environment is that while policymakers can pump liquidity into the system, they have little control over where it flows.⁶ In thinking about ways out of the current predicament, a renewed investment/consumption boom centered in Asia that buys the United States and Europe time to heal, while somehow managing a controlled decline in the U.S. dollar, seems as good a guess as any. Clearly, the prospect of an asset bubble in China is quickly becoming a reality, while the commodity space and "cleantech" are ripe for a future mania. A reflationary boom centered in Asia may likely be the end result of current easy global monetary policy.⁷

But can the emerging world compensate for a stagnant United States? In some ways, yes it can, and already has. We may be at a historic turning point. The emerging world already accounts for a larger share of global nominal GDP than does the United States, and is expected to continue to grow in relative size, while analysis by Morgan Stanley estimates that beginning in 2007, household consumption in the BRIC countries (Brazil, Russia, India, and China) has accounted for a larger share of incremental global demand than U.S. households (Exhibit 15).

As discussed in our February report, the key challenge going forward is the necessary rebalancing of the global economy away from debt-fueled excess consumption in the West, toward more balanced domestic demand–driven growth in the emerging world.⁸ While this process seems already underway, our concern is that the ride will not be smooth or come quickly, and requires a de-linking of emerging markets currencies from the U.S. dollar, a process full of risk in and of itself.

⁵ Tim Bond, "Global Speculations: Dispensable Debt," Barclays Capital, July 21, 2009.

⁶ Again, Japan's experience is illustrative; faced with zero interest rates, Japanese households have simply sent their savings overseas in search of yield (the yen-carry trade) instead of levering up.

⁷ A view first expressed in our April 2008 Asset Allocation in the Current Environment report *The Eye of the Storm*.

⁸ Please see our February 2009 Asset Allocation in the Current Environment report *Hard Choices for Hard Times*.



Secular Considerations

Lastly, while we do not have high conviction that new lows for U.S. equities are around the corner, we do still believe that the secular bear market in U.S. equities that began in 2000 is alive and well. The current rally in equities may have more oomph left in it, but absent the liquidity-driven investment boom alluded to above (in which U.S. equities may still underperform other markets much like the 2003–07 rally), we find it unlikely that U.S. equities are embarking on sustained multiyear advance. Instead, U.S. equities likely face two scenarios: (1) a repeat of the 1970s, whereby after rallying from the 1974 lows, equities moved sideways in nominal terms but declined steadily in real terms until 1982, or (2) a repeat of the 1930s, whereby despite several rallies, U.S. equities were no higher in 1949 than in 1942, and before that 1935.

While we are constantly challenging our assumptions, we still feel that U.S. equities have not yet reached secular lows and that we are again at an important interlude. All secular market lows have occurred during major disruptions in prevailing price stability; in other words, rock-bottom valuations have occurred amid extreme inflation or extreme deflation, with the former more deadly to equities than the latter (Exhibit 34). Indeed, only at the tail ends of the historical inflation distributions do average price-earnings (P/E) ratios fall to 10 or below. Low and steady inflation or even mild deflation is consistent with P/E ratios at current levels. If the Federal Reserve is successful in avoiding deep deflation and stabilizing growth without a sharp increase in inflation, P/E ratios of between 16 and 20 are justified historically. But if price stability is not maintained, today's multiples have more to fall.

Long-term investment cycles provide the context for this view. These are driven by prevailing economic conditions and one can discern a pattern in them of deflationary busts (brought about by too much debt and bad investment) leading to reflationary booms (as policymakers fight the bust with stimulus), which in turn leads to an inflationary bust, which sets the stage for an eventual disinflationary boom (as inflation and interest rates fall, and endogenous growth returns).

Although authorities are trying to engender a reflationary boom (and they might do so in Asia/emerging markets), the United States almost seems destined to end up in an inflationary bust. Yet from there, purged excesses, forced structural reforms, and falling interest rates and inflation may create a disinflationary boom. However, we will likely have to go through a fiscal crisis in the United States, and a major shakeout in the U.S. dollar before that occurs. (Please see the Appendix for more detailed thoughts.)

In other words, like Dante, U.S. equities may still have to go through the depths of Hell¹⁰ before a new secular bull market is ready to emerge.

⁹ For a detailed discussion, see our April 2008 Asset Allocation in the Current Environment report *The Eye of the Storm*. ¹⁰ Both fire and ice! For those not familiar with Dante's Inferno, the level of Hell depicted in the ninth canto is indeed frozen over, as it represents the furthest point from divine light.



Summary of Our Outlook for the Current Environment

- Growth is stabilizing on the back of massive fiscal and monetary stimulus and inventory restocking, which is not the basis of sustainable economic growth. The odds of relapse are high.
- Inflation is still not a near-term concern as deflationary forces will trump. How central banks and policymakers rein in the stimulus and remove liquidity will largely determine what happens next.
- The market rally was justified, but is now overdone. Expect a sizable pullback at some point, but not necessarily new lows. Excess liquidity raises the potential that any pullback may be short-lived.
- Emerging markets equities are vulnerable, especially should China pull back, but the long-term story is intact.
- Investors, however, should not be too dogmatic. The stimulus could run longer, and have a larger impact on growth than we expect; the investment/asset boom could offset poor fundamentals.
- However, the long-term risks to markets remain a fiscal crisis in the United States, rising interest rates, and a falling U.S. dollar—symptoms of an inflationary bust.

Outlook for Major Asset Classes/Investment Strategies

In light of these macro views, what is our outlook for the major asset classes?

As highlighted above, we view the initial rally in risk assets from the March lows as justified by investors' relief that financial "Armageddon" was not, in fact, imminent. Interbank lending spreads have narrowed back down to pre-Lehman levels, though they still remain elevated compared to pre-2007 levels, as liquidity has returned to the financial system (Exhibit 16). Credit spreads across most debt markets have also narrowed and remain a key indicator to watch in the current environment.

Credit

This "return to liquidity" was most prevalent in credits, as spreads have tightened sharply. Indeed, credit has in many respects outperformed equities, as credit began rallying in December and did not tumble in February or March, validating our call late last year to overweight credit as an equity substitute (Exhibits 17 and 18).

Spreads continue to be elevated compared to historical averages, but the rally in credit may have gotten ahead of itself. The "easy" money has been made, while some sectors may have overdiscounted the prospects for recovery. It is not yet clear whether the relative valuation of stocks and credits has fully tipped

in favor of equities, especially given the recent surge in stock prices. If equities continue their rally, credit will underperform in the near term. However, the conditions that would cause another blow-out in credit spreads would also hit equities hard, implying credit could still outperform on a relative basis.

We are concerned about the sanguinity of some market participants in recent months and would emphasize the importance of manager selection in credits. Many managers believe default rates for high-yield bonds are approaching their peaks. Over the trailing 12 months to June, 11% of high-yield bond issuers have defaulted, while Moody's baseline estimate projects defaults will peak at a 13% level in November 2009. Industry analyst Chris Garman, editor of *Leverage World*, forecasts a peak default rate of 12% to 15% in the fourth quarter as well.

Yet the lowest-quality credits have been the strongest performers, with yields on debt rated CCC now back to historical averages, despite the above-average risk of the current environment. Aggressive managers with large exposure to CCC bonds are likely to suffer in any pullback (or as defaults escalate, even if spreads remain at current levels, unless they succeed at avoiding defaulters).

Overall, we continue to advise that investors move into distressed credit opportunities (high yield, bank loans, etc.) and stay the course with tactical allocations to investment-grade corporate bonds as they still offer some relative value to equities. Consistent with our advice in recent months, we believe investors should phase in allocations over time, slowing down the pace of new commitments when spreads narrow significantly (as they have done recently) and using potential periods of spread widening to increase the pace of commitments. Another pullback in prices is expected, but nothing along the lines of what was seen last December, when liquidity disappeared from the markets precisely when overleveraged sellers were forced to dump assets.

Equities

For now, equities are *roaring* back to life. Exhibit 19 shows how strongly equity markets have risen from their March lows to the end of July, with the MSCI All Country World Index retracing most of its losses suffered since October. The surge from the March lows was a classic rally from oversold conditions, the potential for which we laid out in our February 2009 report *Hard Choices for Hard Times* and the basis behind our call late last year to rebalance equity allocations back *up* to target.

Given a near 50% bounce from the lows, the call on the equity market is currently much harder to make. The general undervaluation present late last year has vanished, making equities less attractive; however, normalized valuations metrics (which adjust for earnings cyclicality) have not yet risen to a level that would suggest gross overvaluation (Exhibits 20–22). And in the short term, technical factors often trump valuation. Indeed, after churning over May and June, global equities seem to have had a "technical breakout" in July and early August, rising sharply on both expanding breadth and volume, with many technical indicators signaling a positive change in market trend. However, such pronouncements are always highly subjective.

There still remains widespread skepticism about the health of the advance since March, which could be interpreted in two ways. One interpretation is that given the lack of conviction, it will not take much to startle investors. Markets would then be poised to fall if economic data do not continue to exceed rising expectations of a cyclical recovery, or if some other negative development increases investor uncertainty.

Another interpretation is that markets may still have more to rise. Many investors have not participated in the recent run, so a stream of positive economic data could mean a "melt-up" in prices as investors pour in. Exhibit 23 shows the relationship between "excess money supply" and the S&P 500. Given the amount of liquidity pumped into the system, the potential for a continued overshoot is possible. The so-called "cash mountain" of money market funds, earning near 0% interest, still looms in the distance (Exhibit 24).

We cannot fully dismiss this second scenario, but we lean toward the first interpretation. Indeed, the situation today is reminiscent of that in summer 2002, when global equities rallied after the declines of 2000 and 2001 amid hopes that the U.S. recession was over, given the aggressive rate cuts of the Federal Reserve. Although it was later declared that the U.S. recession did indeed end in late 2001, equity markets broke to new lows in October 2002. Most markets again hit new lows in March 2003 (the United States being the exception), as corporate profits continued to fall and uncertainty over the economic outlook lingered, despite the fact that the worst of the contraction was over (Exhibits 25 and 26).

However, we do not have strong conviction that new lows in global equities will be reached in the near term (absent some major negative catalyst), due to the extreme nature of the recent meltdown, while any tentative shake-out could be short-lived given the money on the sidelines. But the harder equities run over the short term, the more vulnerable markets will be to any signs of disappointment.

Just as our advice in the fourth quarter and earlier this year was to rebalance equity portfolios back *up* to target given the sharp market declines, today our advice is to rebalance equities back *down* to target if the recent gains have pushed allocations higher. The current market environment remains extremely challenging given the countervailing forces of massive debt deflation and equally massive monetary and fiscal stimulus. The interplay of these two forces has the potential to whipsaw the markets for some time. Disciplined investors buy the market when it falls sharply and rebalance after it soars. Such discipline is particularly important today.

Emerging Markets

Rebalancing is especially important for emerging markets equities. We argued in late 2008 that investors should overweight emerging markets equities tactically as these markets offered the most attractive valuations and are highly geared to the global economic cycle, meaning they could lead any possible advance. And clearly they have.

The rally in emerging markets equities has been explosive—up some 78% in US\$ terms from the March lows alone, even more for those brave enough to purchase amid October's panic selling. Exhibit 27

shows that emerging markets equities were more oversold late last year than during the Asian crisis of 1997–98. By May, the rally in these markets had reached a 3 standard deviation overbought level (based on rolling three-month returns), fully reversing the 3 standard deviation oversold condition present late last year. Emerging markets equities have also fully reversed their relative underperformance versus developed equities, peaking through the relative highs set in 2007 (Exhibit 28).

Emerging markets equities have swung the most from clearly undervalued to now fully valued, if not on the frothy side. Assets have poured in, with inflows of \$39.7 billion year-to-date at the end of July, on pace to top the record \$54 billion inflows for all of 2007; cumulative inflows since 1995 are also nearing their 2007 peak (Exhibit 29). While we remain strategically bullish on emerging markets equities, we are becoming uncomfortable with a heavy tactical overweight. Again, the parallel to 2001 and 2003 is compelling. Emerging markets equities were hit hard over 2000 and 2001, and while they fell sharply in sympathy with developed markets over 2002 and 2003, they did not break to new lows. That may very well occur again this cycle.

Nevertheless, given the massive run-up, investors that find themselves overweight emerging markets equities should rebalance back to target. These remain high beta markets that will be hard hit if growth does falter, or China chooses to rein in its stimulus. Should they take another tumble, investors should increase their equity exposure accordingly, since this asset class has the best long-term prospects and fundamentals.

Sovereign Bonds

The rally in sovereign bonds, meanwhile, has come to an end. The return to risk taking, coupled with supply and inflation concerns, has sent sovereign yields sharply higher (Exhibit 30). We were very concerned about the low level of yields last year. At that time, we argued that investors should seek to diversify the traditional "deflation hedge" of long-term sovereign bonds toward cash, short-duration bonds, and possibly inflation-linked bonds to offset the asymmetric risk/return profile of long-term bonds at such low yields, while still providing portfolio protection against a deep deflation.¹¹

Today, U.S. Treasuries are coming off a 3 standard deviation run relative to equities (based on the cumulative return spread between Treasuries and U.S. equities relative to its long-term average) similar to what took place during the Depression (Exhibit 31). History would indicate that following such an occurrence, a strong period of relative equity outperformance is in store. However, the historical mean-reversion between stocks and bonds presented in exhibit 31 has clear implications for the inflation/deflation debate.

Specifically, if inflation is the long-term risk, why should investors hold deflation hedges? This exhibit argues that stock/bond performance is clearly mean-reverting, showing that even in the inflationary 1970s there were sharp periods of Treasury outperformance relative to equities. Furthermore, as argued in this report, it is still not clear that deflation is in fact dead, or when inflation will emerge.

¹¹ Please see our March 2009 Market Commentary *The Trouble With Treasuries*.

In other words, if clients moved the majority of their deflation hedging allocation to cash and short-duration bonds, now may be a good time to "rebalance" the diversified deflation hedge in favor of long-term bonds, especially if yields continue to rise, putting the risk/return profile back in favor of long-duration exposure. However, while the recent back-up in long-term Treasury yields has reduced the urgency of moving away from the long end of the curve, it does not fully negate the need to consider holding a diversified deflation hedge in the current environment. Holding some mix of long-duration and shorter-duration bonds (and possibly inflation-linked bonds) still seems prudent, although consideration needs to be given to the implicit risk/return trade-off. The key takeaway is that while investors still need the deflation protection/diversification provided by long-term sovereign bonds, both being aware of and managing potential interest rate risk are still important.

And for those squarely in the deflation camp that think bonds will outperform equities over the coming years, the same stock/bond mean reversion occurs in Japan. Despite a 20-year cumulative outperformance of bonds over equities, there have been several periods when equities have beaten bonds by a margin of 50 *percentage points* or more (Exhibit 32). Making a huge bet to dump equities in favor of bonds, or vice versa, may not be prudent. Instead, careful rebalancing between stocks and bonds is key.

Commodities/Natural Resources

While we continue to believe inflation is the longer-term risk to investors, the rise in commodity and natural resources equity prices has made it more expensive to hedge against this eventuality (Exhibit 33).

For commodities, the question is whether current prices are in line with supply/demand fundamentals. We would argue that supply fundamentals remain long-term bullish, but the demand side is uncertain in the near-term. Regarding demand, it is unclear how much of the recent bounce reflects a true recovery. Chinese stockpiling of many industrial commodities has been cited as a key source of recent demand, as Chinese producers took advantage of depressed prices to build stores. Speculative inflows into commodity futures, used as bets against future inflation and/or a falling U.S. dollar, have also played a part in the recent rise. A slowdown in Chinese buying may force a near-term shakeout on the demand side, absent a more vigorous recovery in the global economy.

Although the recent run-up gives us a sense of concern, from a long-term standpoint it is worth noting that the collapse in prices over 2008 caused many companies to put off or shelve projects (planned when prices were much higher) to bring new supply on line. Given that such projects cannot just be switched on, but rather require months or even years of planning and construction, investors should *not* assume a rise in prices would lead to a commensurate jump in supply, at least not in the short term.

The bottom line is that hard asset prices have recovered significantly over the past few months and valuations have become less compelling. The picture is similar for natural resources equities, where valuations are reasonable, but clearly not the compelling levels of earlier this year. Further, we are concerned about significant price risk in the short term given the tremulous state of the global economy and (with regard to natural resources equities) falling earnings. Thus, our advice to investors looking to build or add to

positions in this area is to take a "go-slow" approach by averaging in and being prepared to take advantage of any serious drawdown in prices.

On balance, we feel investors need to build diversified inflation hedging/real asset portfolios. Today we view natural resources equities as relatively more attractive than commodity futures—based index investments due to potential drag on the latter's performance from low collateral yields and the sharp contango (or negative roll yield) seen for most commodities. Active commodity managers may add value managing roll yield to some degree, but it is challenging to do so in the current environment, as contango extends well into the term structure for many commodities.

Hedge Funds

Selective investments in hedge funds continue to be attractive. The competitive landscape for hedge funds has shifted radically since last year as the supply of capital combing the marketable alternative strategy opportunity sets has been significantly reduced. According to Hedge Fund Research, Inc., almost 1,200 hedge funds (roughly 12% of managers) have closed their doors since mid-2008. Further, funds have delevered and principal trading activity at major banks has declined dramatically. These developments have improved the opportunity for strong returns, but challenges clearly remain. Capital redemptions, while abating, continue to be a concern for many managers, although we have begun to see a resumption of inflows for the first time since last September. Legislative risk also has lessened somewhat, with the primary concern today related to public disclosure of short positions. Finally, organizational risks, particularly for firms below their high-water marks, remain elevated and we expect industry consolidation to continue. For the survivors, the rewards should be strong, as pricing inefficiencies continue even as many markets have rallied well off market lows. Careful selection of skilled managers that invest in economically viable strategies of appropriate scale and use modest leverage should result in reasonable returns net of fees on a risk-adjusted basis. Further, careful hedging of equities in long/short strategies continues to provide valuable protection in an environment in which significant downside risk remains.

Private Equity

Manager selection continues to be of paramount importance in all types of private equity investing.

As leverage has become difficult to access and transaction volumes have generally stalled, a growing number of firms have migrated to noncore strategies and sectors. Some buyout managers, for example, have been buying discounted debt securities and then leveraging them, a strategy that has often resulted in sharp losses and, in many cases, forced sales. Other trends include a focus on smaller transactions, a shift to growth equity deals, structured equity investments including private investments in public entities, an increase in deep-value investments, and opportunistic special situations. With a negative carry on most leveraged investments, the return of debt covenants, an excess of uncalled capital commitments particularly to mega buyout funds, and limited exit opportunities, investors must be particularly diligent in understanding how managers plan to generate returns that compensate for the fees and illiquidity associated with private equity investments. If the premium demanded for illiquidity in the past has been 300 basis points (bps) to 500 bps,

investors should demand a higher premium today and understand the path managers plan to take to realize such returns. This is particularly critical for managers entering new areas. Do they have the experience and resources necessary to be successful?

Furthermore, we continue to monitor managers to evaluate the degree to which investment return objectives may be shifting, particularly among the largest buyout funds. The investor base for non-marketable investments has expanded to include very large investors desiring to put huge sums of capital to work. At the same time, a shift in the economics of large buyout firms means that the majority of general partner income may now come from management fees instead of carried interest. Consequently, the potential for managers to lower their return objectives is growing. Investors should continue to be selective in new investments, both when considering adding managers and re-upping with current portfolio managers' new funds, even if that means reducing allocations.

The credit dislocations that have disrupted the financial engineering model that had been so profitable to buyout managers earlier this decade have also created opportunities for managers with access to capital and specialized skills, particularly those that are not distracted by ailing legacy portfolios. Strategies that may be more likely to be successful in the current environment include:

- Middle-market managers with strong operating and financing expertise and demonstrable skill at executing classic buyouts. They may be slow to invest, but could turn out to be the most successful in the forthcoming vintage years.
- *Growth equity managers*. These managers consistently pursue what are typically minority investments in growing companies that require little to no leverage, which seems to be a resilient strategy for the current environment.
- Within distressed investment strategies, opportunities that seek control through fulcrum securities and select special-situation lock-up funds that acquire and turn around failed companies. The market is no longer cheap, but opportunities remain for skilled managers, and as noted above, we expect distressed credits may pull back some recent gains, providing more attractive opportunities down the road. Some of the best opportunities may be found outside the United States.
- Select Asian, emerging markets, and European private equity. Our relatively positive secular outlook for Asia and emerging markets also applies to investments through non-marketable alternative strategies. Within Western Europe, distressed opportunities may offer attractive returns given that the supply of distressed fulcrum securities is expected to be large, while the number of high-quality managers is limited, creating a broad opportunity set for appropriately skilled managers in this strategy.

Venture capital investors also face challenges, most notably the large number of portfolio companies that remain in U.S. venture portfolios to either limp along for years, die on the vine, or race to exits when the initial public offering (IPO) market reopens to venture-backed firms. For now the pace of exits remains slow; the IPO market is very depressed and merger & acquisition activity and values have declined considerably.

There have been some glimmers of hope in the IPO market in second quarter 2009, but no sustained momentum yet.

Still, the credit crisis has provided some opportunities. For example, fund raising is contracting, as is the number of firms actively operating in the industry, and average pre-money valuations are dropping. We expect to see a decline in the industry's capital overhang in 2009 and 2010 as firms struggle to raise new capital. Our concern about overhang is tempered by the fact that portfolio companies need to be supported for longer periods of time. Thus, having dry powder is critical to protect ownership positions in portfolio companies and make new investments. Outside the United States there does not appear to be an overhang and opportunities may be more attractive, provided they are accessed through top-quality managers.

Investors in non-marketable investments should be patient and selective, and negotiate hard on terms. They should be prepared to walk away if expected returns, risk-adjusted and net of fees, are not compelling relative to those of public markets and/or if there is not a strong alignment of interests between limited and general partners. Selective secondary opportunities also provide a way for investors to access attractive funds at a discount, increasing the likelihood of meeting the high hurdle investors should set for locking up capital today.

Real Estate

Real estate markets remain under pressure. Commercial real estate prices have fallen significantly (nearly 35% since October 2007, as measured by the Moody's/REAL Commercial Property Price Indices)¹³ as markets price in refinancing risk and a decline in net operating income (NOI). Commercial real estate fundamentals have only begun to deteriorate, as tenant demand lags the broader economy. This will continue to be a challenge for commercial property owners for the near term as fundamentals continue to deteriorate, resulting in lower NOI. Private equity real estate managers report a continued gap between bid and ask prices due to uncertainty of valuations, and transaction activity remains at a standstill. As of yet, the residential sector remains the largest victim of the credit crisis, followed by highly leveraged buyers in all sectors.

However, talented real estate managers remain, but distractions related to legacy portfolios will continue to pose a challenge. As is always the case, investors should be highly selective. Real estate is a diverse sector and overall performance will depend not just on economic factors, but will also be tied to property types, regional fundamentals, and the success of the strategies employed by managers. Distressed investing opportunities have emerged out of the credit disruption, and well-capitalized investors that have good relationships with lenders should be well positioned to buy assets cheaply. Distressed opportunities are limited for now, as many owners have been able to hang on to properties, but investors should get ready for investments that will ultimately develop by identifying appropriately skilled and experienced managers.

¹² Please see our February 2009 report Restoring Balance to GP/LP Relationships.

¹³ The index measures the change in actual transaction prices for commercial real estate assets based on the repeat sales of same assets at different points in time.



Summary of Investment Advice

Our asset allocation advice, which has not changed much since our February paper, *Hard Choices* for Hard Times, is presented every quarter in our Market Update publication. The primary difference in our views between then and now is that valuations disparities across asset classes have narrowed and assets that had been very inexpensive have generally rallied, making most asset classes and investment strategies we track roughly fairly valued. (See Exhibits 35 and 36 for our valuation matrix as of December 2008 and August 2009.)

We summarize our advice below:

- Review strategic policy allocations. Given the heightened economic uncertainty and the losses incurred in most portfolios, investors should review the fundamental investment principles that shaped their investment plan given their current assets, liquidity constraints, and spending needs, and adjust allocations as appropriate. These principles include evaluating appropriate time horizons, setting a return objective that is consistent with meeting financial objectives, hedging against macroeconomic risks of prolonged economic contraction and unexpected inflation, and re-evaluating appropriate risk tolerance. However, investors should not change allocations on the basis of regret and fear, but rather should only do so after a careful study of current conditions, constraints, and trade-offs.
- Check liquidity. Make sure adequate liquidity is available to meet capital calls, fund spending, and meet any other anticipated cash needs. Understanding the sources of portfolio liquidity and the demands on that liquidity are the first steps to assessing the degree to which potential liquidity needs can be met by portfolio assets. Investors should carefully monitor their allocations to liquid, high-quality assets, the size of their non-marketable program's unfunded commitments, and the relative flexibility in their spending requirements. Keeping these elements in balance is essential, and increasing the level of cash on hand, and/or securing a line of credit, can help mitigate the unexpected in today's uncertain times.
- Rebalance. Rebalancing continues to be an important risk management tool for navigating volatile environments. Rebalancing policies provide a disciplined way to buy low and sell high, which can be difficult to do, as it requires selling stars and loading up on slackers. Since rebalancing can trigger regret if the assets sold continue to appreciate while those bought underperform, investors must commit to a disciplined regime. Rebalancing can also be challenging when portfolios contain relatively illiquid assets that cannot be easily acquired or sold. In the current environment, rebalancing requires close oversight, as markets can move sharply, rapidly changing rebalancing needs. To the degree possible, investors should aggressively sell back to targets on market rallies (taking associated transaction costs under consideration), as bear markets can quickly retrace any gains. To the extent investors are focused more on preservation for the short term, we would advocate defensive rebalancing to the bottom end of equity ranges. For those that wish to be more

aggressive, we would advocate rebalancing back to targets, perhaps after waiting until they hit the upper bound of ranges.

- Hedge tail risk. Investors should maintain protection against the potential ravages of deflation and unexpected inflation. Diversifying the deflation hedge may be appropriate, particularly if yields decline again. Commodities and natural resources equities are attractive from a secular perspective, and investors should accumulate on weakness. We prefer natural resources equities to commodities today given low cash returns and negative roll yields.
- Play both defense and offense. Continue to overweight quality, but build distressed positions on
 weakness. Over time, quality assets will be drawn down to fund distressed and other low-quality
 investments.
- Continue to take advantage of valuation opportunities as they arise. While the significant valuation disparities created last fall have narrowed amid the current rally, further opportunities will likely develop. In particular, look for opportunities to accumulate assets that are attractive from a strategic perspective, when valuations improve. We particularly like Asian and emerging markets assets, commodities, and natural resources.
- Be very selective in alternative assets. Manager selection is critical in navigating difficult environments, particularly as the financial sector is stressed and operational risks in many alternative areas are heightened. Opportunities exist for appropriately skilled managers, but investors should be diligent in evaluating the degree to which managers can be expected to add value net of fees and on a risk-adjusted basis and should demand an appropriately steep premium for locking up their capital.
- Look for opportunities to "upgrade" managers as many that were closed for years are now open to new investors. Secondary investments may also provide an opportunity to gain access to desired managers at a discount, particularly in non-marketable alternatives.



Appendix

SECULAR ECONOMIC INVESTMENT REGIMES

While financial markets are largely driven by the business cycle over the intermediate term (three to five years), longer-term investment cycles tend to be driven by the fundamental character of the economic conditions from which they emerge.

A certain pattern emerges whereby a deflationary bust leads to reflationary boom, which in turn leads to an inflationary bust, which sets the stage for an eventual disinflationary boom. Below we describe the stylized characteristics of each of these broad-based regimes.

Deflationary Bust

The genesis of the deflationary bust is an overaccumulation of debt in the private sector based on an overestimation of fundamental economic demand. As economic growth wanes, falling demand leads to a self-reinforcing cycle of private sector retrenchment driven by the need to pay down debt and reduce excess capacity in the economy, leading to a demand shock. This generally results in (or can be triggered by) a financial solvency crisis, as falling profits and wages can no longer service debt burdens, while banks restrict credit and call in loans. Falling aggregate prices exacerbate the scenario, as the real burden of debt rises. A key characteristic is a period where private sector credit is contracting and monetary policy is ineffective. Nominal economic growth is very weak.

While the Great Depression of the 1930s is the preeminent example, deflationary busts were common in the pre-war period, as a monetary system tied to the gold standard (or fixed exchange rates), makes the domestic price level the primary source of macroeconomic adjustment. This is the classic bust of the boom-bust period of capitalism in the 1800s and early 1900s; sharp painful contractions that "purge" the system, followed by roaring booms as economic growth eventually returns.

The 1997–98 Asian Crisis was also an example of a deflationary bust. Large external debts and fixed exchange rates set the stage for a financial crisis as failed attempts to maintain such exchange rates led to a forced deleveraging of foreign debt by households and corporations, crushing economic growth and ushering in a period of deflation.

In a deflationary bust, equities, commodities, and lower-quality corporate credits suffer, while government and extremely high-quality nominal bonds outperform (assuming the sovereign remains solvent). Gold can also do well in such an environment.



Reflationary Boom

A reflationary boom is driven by positive demand shock aided by monetary and fiscal stimulus and generally follows the aftermath of a deflationary bust. Reflationary booms occur amid active monetary expansion by the authorities coupled with other exogenous impacts to economic growth (war, fiscal spending) rather than the endogenous driver of the disinflationary boom (falling interest rates due to structural reform/innovation).

All assets (stocks, bonds, real estate, commodities, etc.) do well amid a reflationary boom, as economic growth begins to revive from depressed conditions and excess liquidity created by loose monetary policy finds its way into asset prices.

Prime examples are the U.S. and global economies from 2002 to 2007. Previous reflationary booms could be the 1934–37 period (as the United States and other economies also abandoned the gold standard and the New Deal drove the economy). Mini-reflationary booms have occurred in the postwar period as monetary policy became less confined by the gold standard. Roughly, any period where the authorities successfully stimulate demand by lower interest rates via monetary expansion could be considered a reflationary boom.

Such booms can either end in inflation, due to excess demand created by loose monetary policy, or deflation, as excess credit growth leads to excess capacity and debt.

Inflationary Bust

An inflationary bust is generally caused by an adverse supply shock combined with excessive monetary growth. Historically, these followed periods of war, where war production and monetary growth to pay for war coincided with reductions in aggregate supply (either through less access to raw materials or a shift in productive capacity and the labor force to war production). High inflation is also self-reinforcing in that prices begin to rise not based on changes in supply and demand, but simply in expectation of further price increases. Excessive government spending and structural economic inefficiencies are characteristics of inflationary busts, as are weakening currencies, since currency depreciation increase the cost of imports and interest rates must rise to attract capital to fund current account deficits.

An inflationary bust occurs amid a sharp rise in inflation and nominal interest rates, which cripples economic activity, leading to deleveraging and defaults. The high cost of servicing interest payments curtails the demand for credit, while high and rising inflation reduces profit margins and real wages, leaving real economic growth muted. Financial assets suffer due to the high cost of capital. Fixed rate nominal bonds are the worst-performing assets, followed by equities (and especially companies that cannot effectively increase their profit margins). Real assets, such as commodities, gold, and investments in physical property tend to outperform, although real estate could suffer from high borrowing costs. Cash also tends to outperform, as short-term interest rates rise alongside inflation (although may not still produce real returns).

The United States experienced an inflationary bust both following the two world wars and during the 1970s and early 1980s. Latin America went through an inflationary bust in the 1990s.

Hyperinflation is the most extreme example of an inflationary bust. Hyperinflation occurs when economic actors lose faith in a domestic currency as a store of value due to extreme monetary growth. Thus prices quoted in domestic currency terms rise exponentially, leading to a destruction in financial asset values in real or "hard currency" terms. Stocks actually do well in local currency terms in a hyperinflationary environment, as they actually replace the currency as a store of value (this occurred both in Germany in 1920s and recently, Zimbabwe). However, denominated in any other currency, stocks become worthless. Real estate, commodities, and physical assets soar in value, as they become mediums of exchange.

Such busts end when economic growth is effectively slowed to bring aggregate supply back in line with aggregate demand, often through a severe recession and contraction in monetary growth. Positive supply shocks and structural reforms also aid the process.

Disinflationary Boom

A disinflationary boom is driven by positive supply side shocks and generally occurs following the aftermath of an inflationary bust. As inflation and interest rates decline and stabilize, economic growth resumes as the cost of capital falls and real wages rise.

The classic boom is one driven by some sort of technological advance and rising productivity. The natural state of capitalism should induce falling prices over time, as firms strive to make products more efficiently. This was especially the case under a gold standard. Thus, in the past, most booms occurred amid a gently falling price level, which saw real living standards increase (as the purchasing power of wages rose). Falling prices and interest rates are a symptom of increasing supply of capital and competition, not lack of demand. Wages could still rise, but aggregate prices may remain steady due to improvements in productivity. This is positive deflation, as opposed to malign deflation.

Examples include the United States in the roaring 1920s and in the 1980s, and the global economy during the 1990s with the tech boom and opening of China and emerging markets (positive supply shocks). Financial assets in general do well, but especially stocks and bonds. Commodities are mixed, while gold performs poorly.

Low inflation and interest rates eventually sow the seeds of the boom's destruction as either growth begins to outpace supply (inflation) or leads to excess credit growth and debt accumulation and excess capacity (deflation).



Muddle Through?

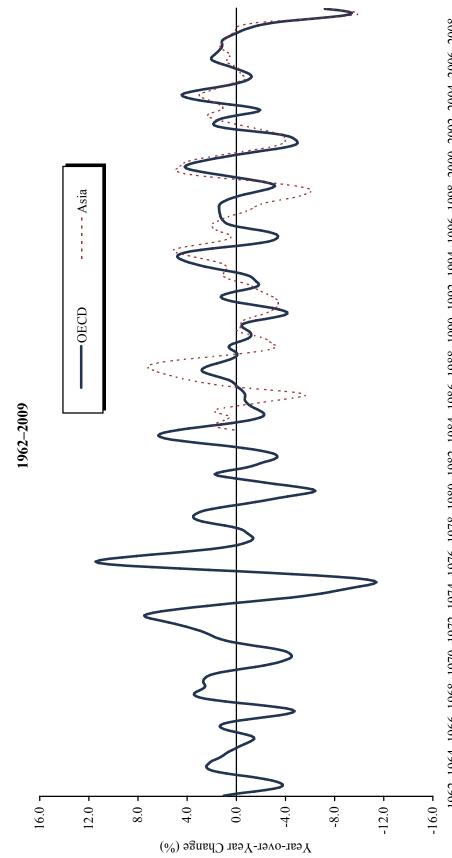
However, these scenarios are not always mutually exclusive, and history offers hybrid examples.

Japan is a clear case. Riding a disinflation boom that culminated in a massive asset bubble that popped in 1989, the Japanese economy underwent a deflationary bust for much of the 1990s and early 2000s. However, Japan's bust was less painful than that in the United States in the early 1930s or even Asia in 1997–98. Instead, Japan's bust was prolonged as attempts to engineer a reflationary boom may have prevented the necessary purging of the economy and clearing of excess capacity. Very muted economic growth was achieved from 1989 to 2003, which itself was interspersed with economic relapses.

Yet despite eventually aggressive monetary policy, and even the positive demand shock (for Japan) of the opening of China, the economy remains mired in a sort of mild deflation/inflation, that is neither really bust nor boom.

This is somewhat similar to the state of the U.S. economy in the period 1933–42, while the war-time economy of the 1940s was anomalous. It really was not until the 1950s that the U.S. economy recovered to survive on its own endogenous growth.





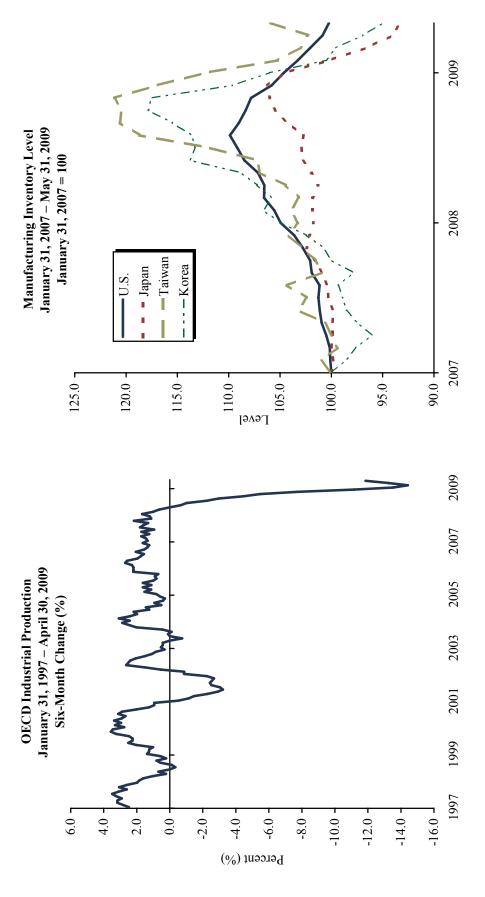
1962 1964 1966 1968 1970 1972 1974 1976 1978 1980 1982 1984 1986 1988 1990 1992 1994 1996 1998 2000 2002 2004 2006 2008

Sources: OECD and Thomson Datastream.

composite covers 29 economies, including the United States, United Kingdom, Eurozone, Japan, and other members of the OECD. The Asia leading indicators Notes: The OECD composite of leading indicators covers a wide range of economic indicators designed to signal turning points in the economic cycle. OECD data cover China, India, Indonesia, Japan, and Korea and start in 1984. Data for 2009 are as of May 31.

Exhibit 2

INDUSTRIAL PRODUCTION AND MANUFACTURING INVENTORIES



Sources: Factset Research Systems, J.P. Morgan, and Thomson Datastream.

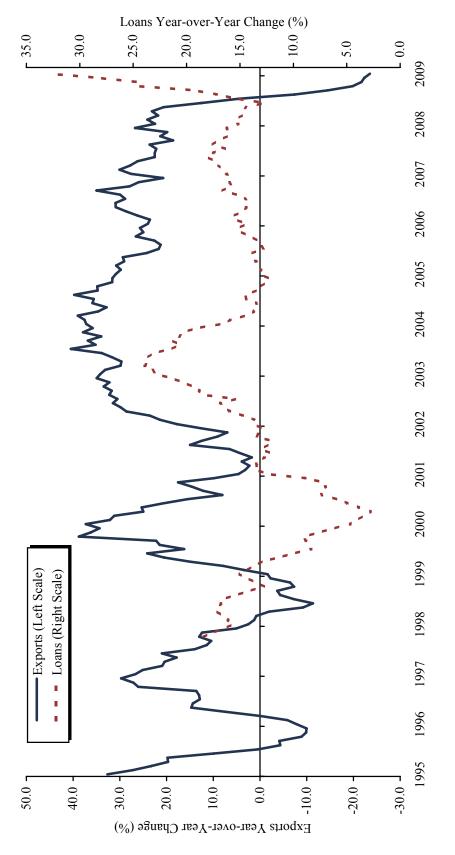
Notes: Industrial production data represents the industrial production of all of the OECD member countries. Manufacturing inventory levels for each country are rebased to 100 on January 31, 2007.

C|A

CHINA LOAN GROWTH VERSUS EXPORT GROWTH

Exhibit 3

June 30, 1995 – June 30, 2009



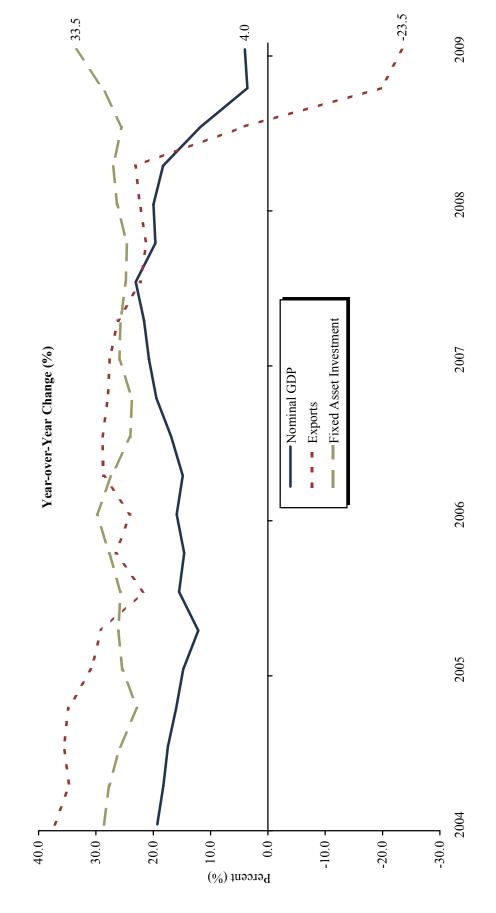
Sources: Factset Research Systems, Morgan Stanley Research, People's Bank of China, and Thomson Datastream.

Note: The year-over-year percent change for exports is calculated using a three-month moving average

Exhibit 4

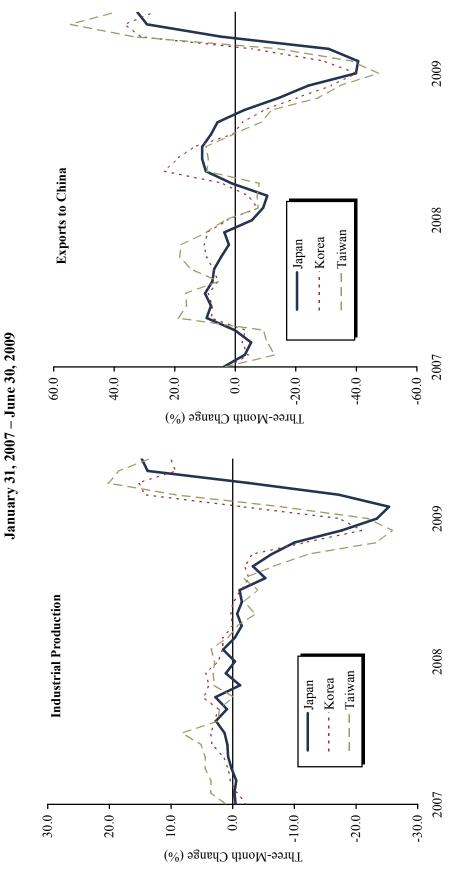
CHINESE ECONOMIC GROWTH

First Quarter 2004 - Second Quarter 2009



C | A

ASIA INDUSTRIAL PRODUCTION AND EXPORTS TO CHINA



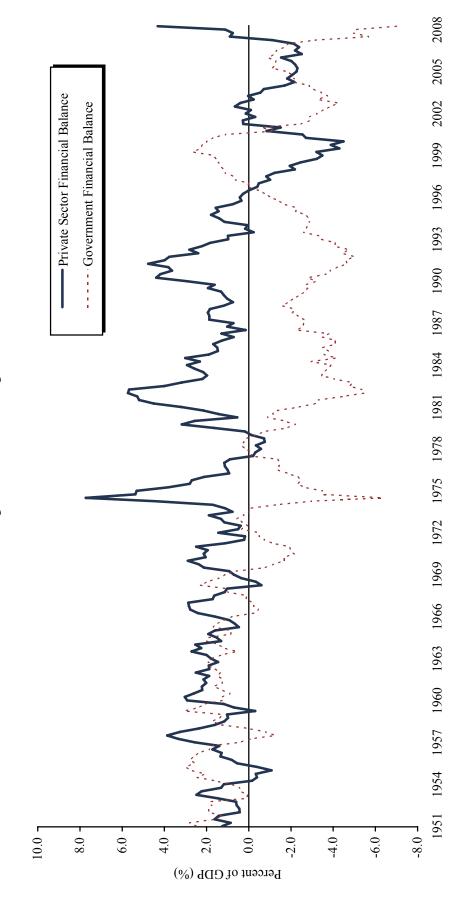
Sources: J.P. Morgan and Thomson Datastream.

Note: Quarter-over-quarter change in exports to China is based on rolling three-month total of exports for each country.

Exhibit 6

PRIVATE SECTOR BALANCE

Fourth Quarter 1951 - First Quarter 2009



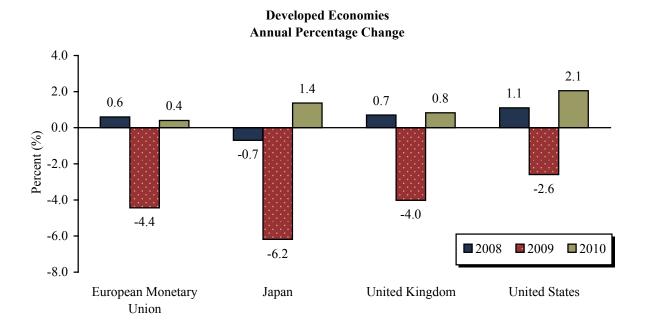
Sources: Goldman, Sachs & Co. and Thomson Datastream.

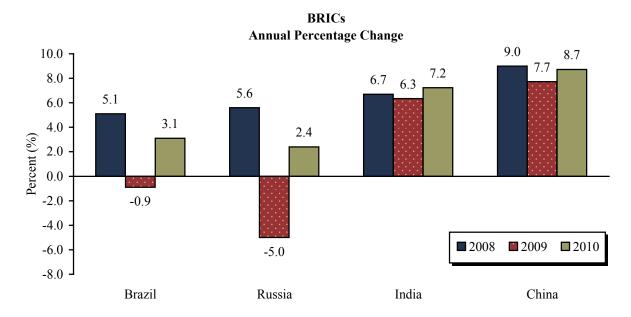
Notes: Financial balance is net savings as a percentage of GDP. Net savings for the private sector is gross private savings minus gross private domestic investment.

Exhibit 7

CONSENSUS REAL GDP FORECASTS

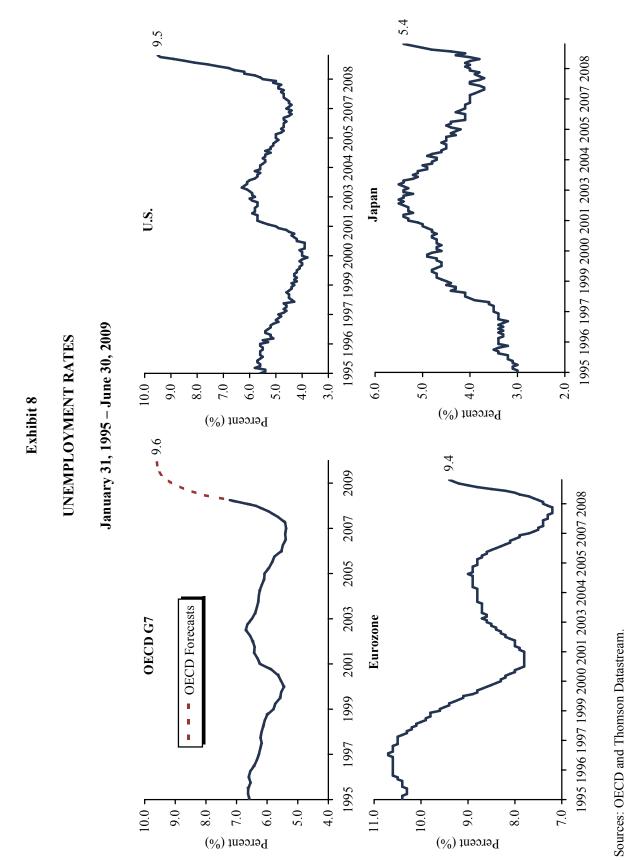
2008-10





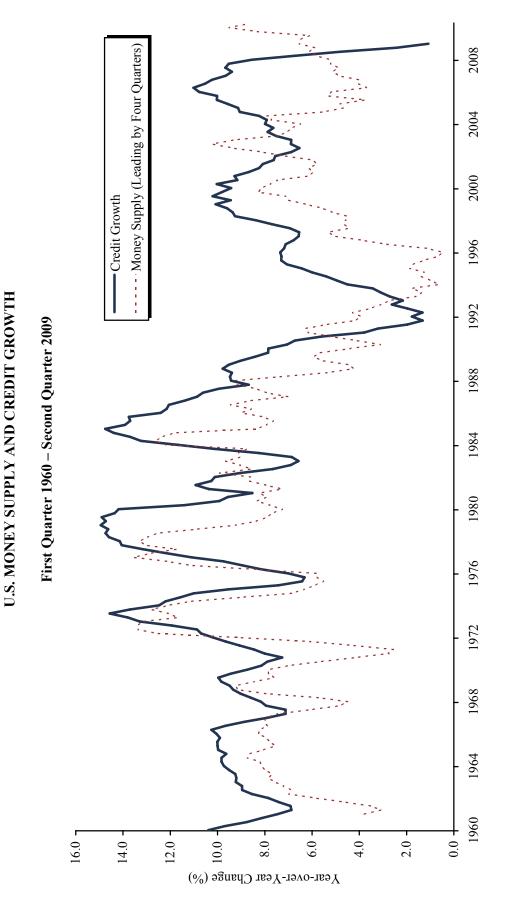
Sources: Consensus Economics and Thomson Datastream.

Note: Country forecast data are as of July 2009.



Notes: Data for United States, Eurozone, and Japan are monthly, and are from national sources. OECD G7 data are quarterly. Data for OECD G7 for 2009 and 2010 are forecasts and are shown as dotted line.

Exhibit 9



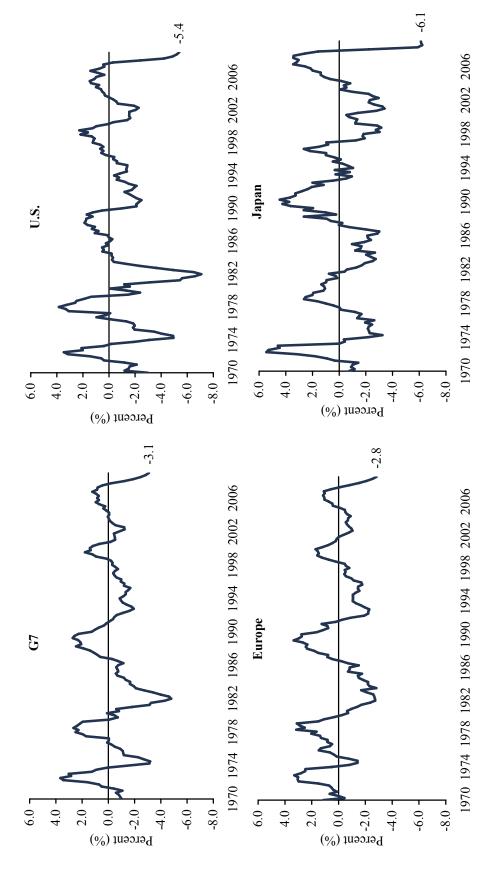
Sources: Morgan Stanley Research and Thomson Datastream.

Notes: Money supply represents M2 money supply and is graphed leading by four quarters. Credit represents the nonfinancial private sector (households and businesses), with data as of first quarter 2009.

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Exhibit 10
OUTPUT GAPS

Fourth Quarter 1970 – Fourth Quarter 2009*

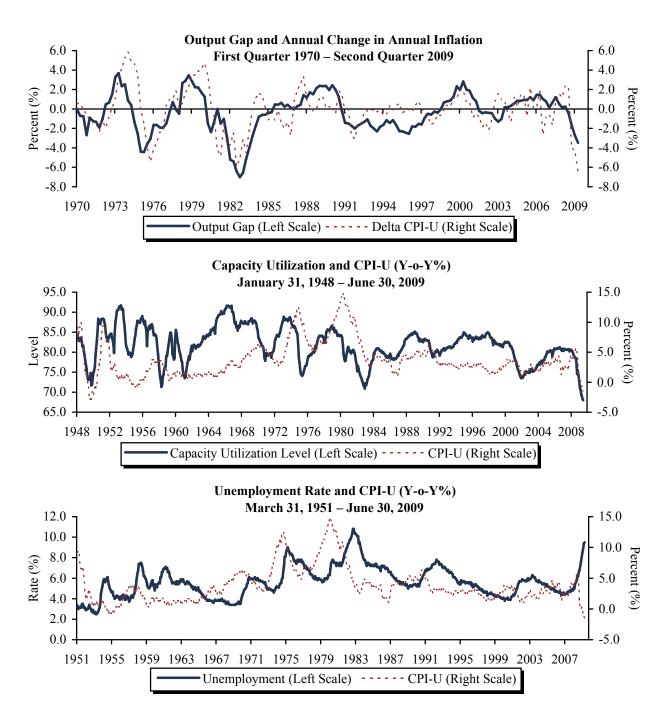


Sources: OECD and Thomson Datastream.

Notes: Output gap is the percentage difference between real GDP and potential real GDP. GDP and potential GDP estimates are provided by OECD. * Data for 2009 are estimates provided by OECD.



Exhibit 11
U.S. ECONOMIC SLACK AND INFLATION

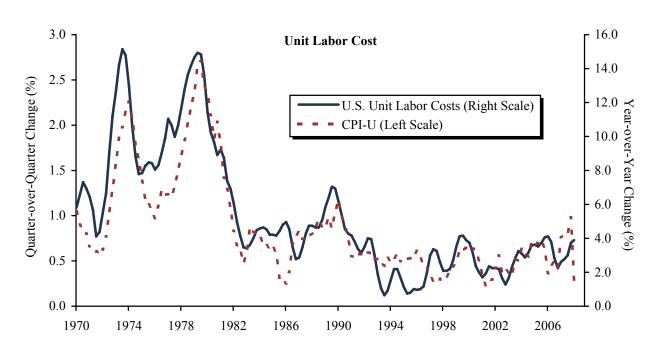


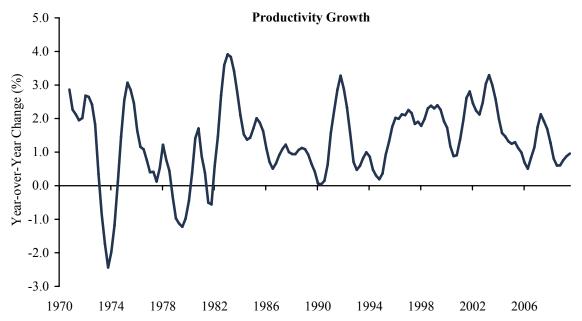
Sources: Federal Reserve, Thomson Datastream, and U.S. Department of Labor - Bureau of Labor Statistics.

Notes: Output gap is the percentage difference between real GDP and potential real GDP. The delta CPI-U is the 12-month percentage point difference in annual inflation. Data for the output gap graph are quarterly; other series are monthly.

Exhibit 12 U.S. UNIT LABOR COST AND PRODUCTIVITY GROWTH

Fourth Quarter 1970 - Fourth Quarter 2008



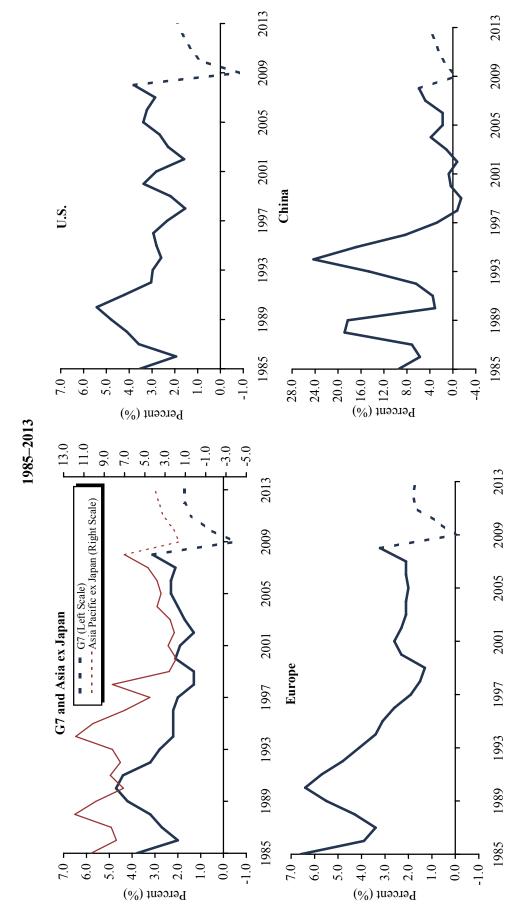


Sources: OECD and Thomson Datastream.

Notes: Unit labor cost and productivity growth data are provided by OECD, with data as of fourth quarter 2008. Productivity growth is shown as a rolling four-quarter average.



Year-over-Year Change (%)



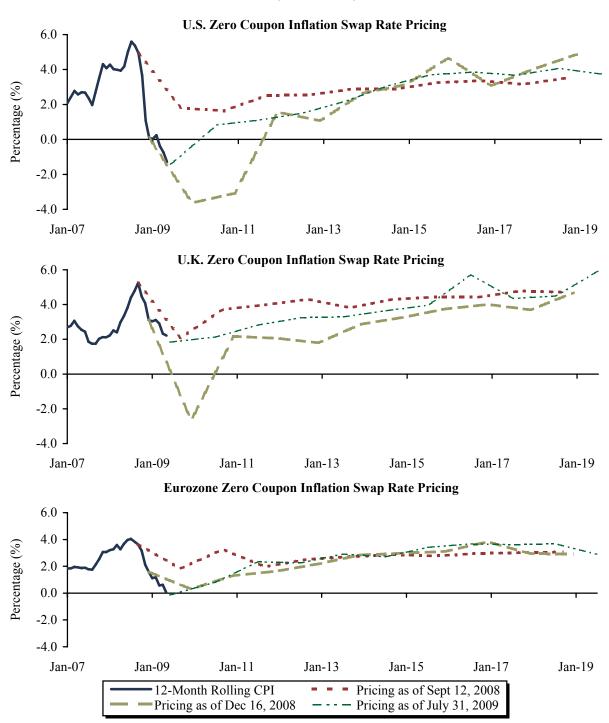
Sources: Economist Intelligence Unit and Thomson Datastream.

Notes: All data are annual. Data from 2009 through 2013 are forecasts provided by the Economist Intelligence Unit and are shown as dotted lines.



ROLLING 12-MONTH CONSUMER PRICE INFLATION AND MARKET INFLATION EXPECTATIONS

January 2007 - July 2019



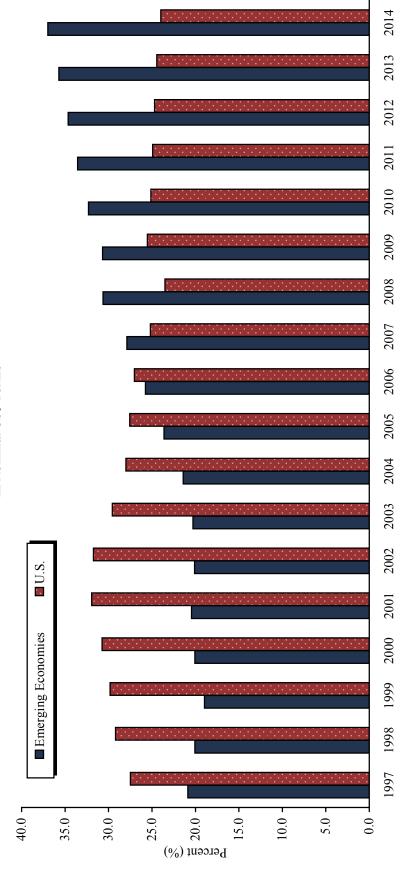
Source: Bloomberg L.P.

Notes: Graphs represent monthly data. Monthly inflation expectations data are computed from zero coupon inflation swap rates, with linear interpolation to monthly figures.



1997-2014

In Nominal US\$ Terms

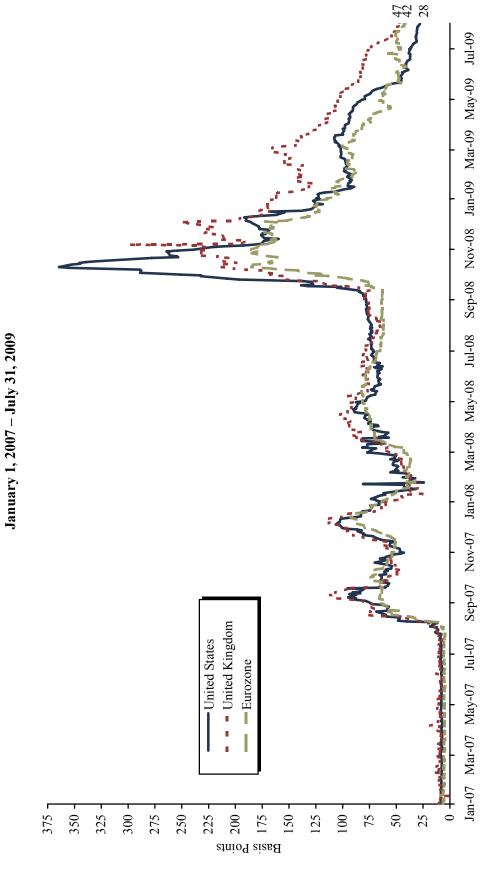


Sources: International Monetary Fund and Morgan Stanley Research.

Note: Data for 2009 through 2014 are based on International Monetary Fund forecasts.

SPREAD OF LIBOR TO OVERNIGHT INDEX SWAPS



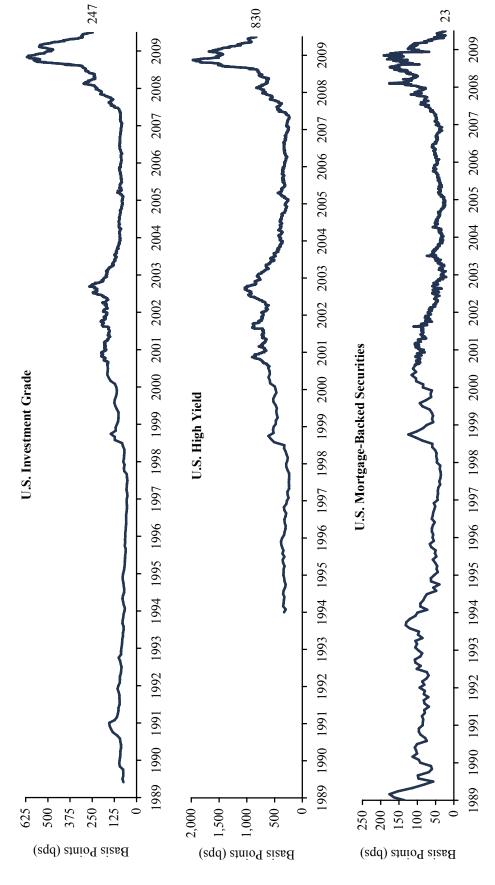


Sources: Bloomberg L.P. and Thomson Datastream. 918m

Exhibit 17

OAS ON CORPORATES, HIGH VIELD AND MORTGAGES





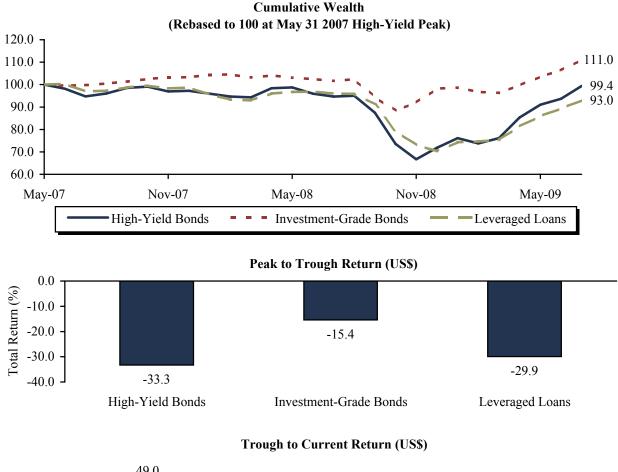
Sources: Barclays Capital and Ned Davis Research, Inc.

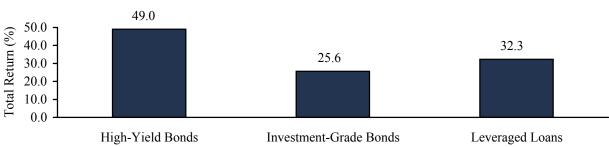
Notes: Data for investment-grade and high-yield bonds start in June 1989 and January 1994, respectively. Daily data begin on September 1, 2000, for each index. Prior data are monthly. 917m



U.S. CREDIT PERFORMANCE

As of July 31, 2009

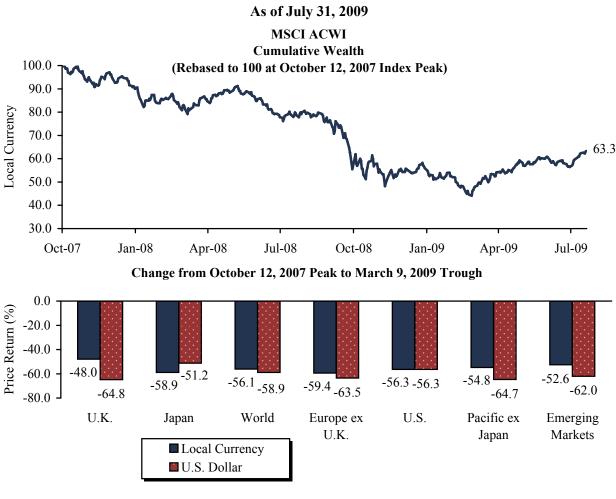




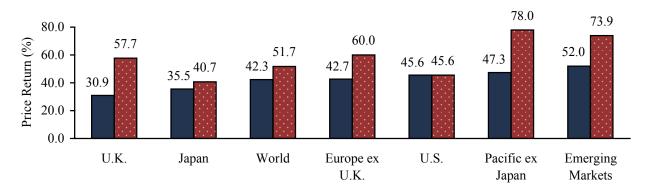
Sources: Barclays Capital and Credit Suisse.

Notes: Graphs represent monthly data. High-Yield Bonds are represented by the Barclays Capital High Yield Composite Index. The index reached its month-end peak in May 2007 and found its month-end bottom in November 2008. Investment-Grade Bonds are represented by the Barclays Capital Corporate Investment Grade Bond Index. The index reached its month-end peak in February 2008 and found its month-end bottom in October 2008. Leveraged Loans are represented by the Credit Suisse Leveraged Loan Index. The index reached its month-end peak in June 2007 and found its month-end bottom in December 2008.

Exhibit 19
GLOBAL EQUITY PERFORMANCE



Change from March 9, 2009 Trough to Current

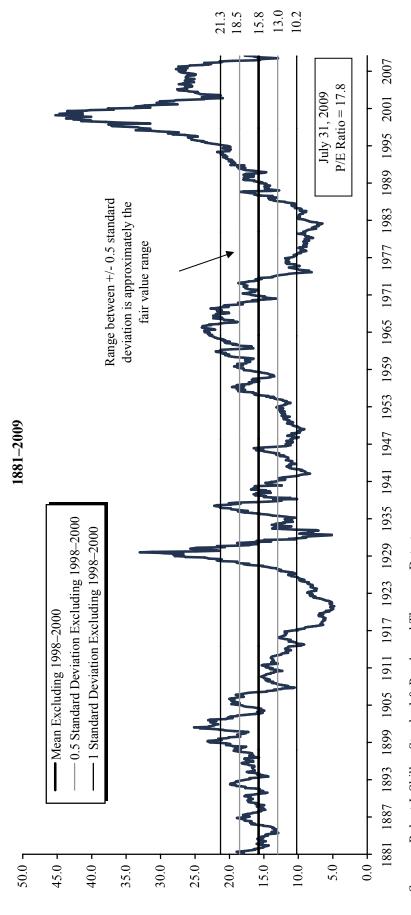


Sources: MSCI Inc. and Thomson Datastream. MSCI data provided "as is" without any express or implied warranties.

Note: October 12, 2007, and March 9, 2009, are used as they are the peak and subsequent trough dates of the MSCI $_{900m}$

Exhibit 20

S&P 500 NORMALIZED REAL PRICE-EARNINGS RATIOS

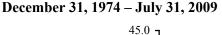


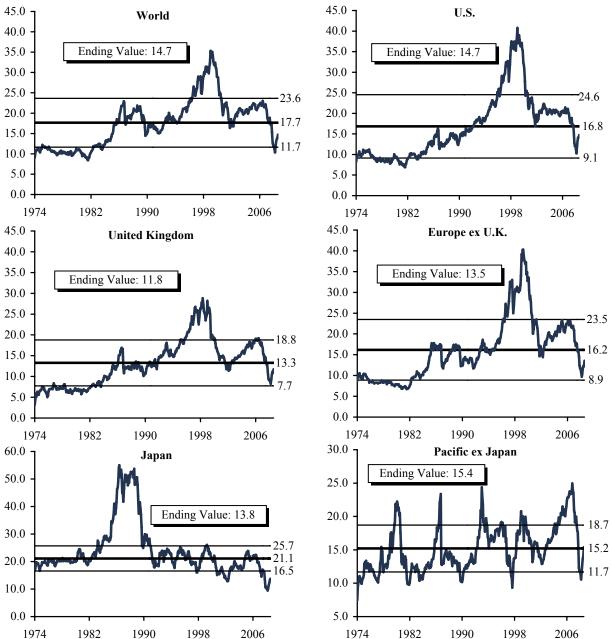
Sources: Robert J. Shiller, Standard & Poor's, and Thomson Datastream.

deviation around the mean to capture fair value. For more information, please see our forthcoming report U.S. Historical Capital Market Valuations. Graph is based on monthly data. Normalized real P/E ratios (Shiller P/E ratio) for the S&P 500 are calculated by dividing the current index value by the rolling ten-year average of Notes: The calculation of the mean and standard deviation of real normalized price-earnings (P/E) ratios excludes the 1998–2000 period to minimize the distortion caused by the final years of the technology bubble on long-term valuation norms. Even after excluding this period, standard deviations remain somewhat elevated, inflation-adjusted earnings. Monthly earnings are interpolated from actual quarterly reported EPS. Real earnings are deflated in terms of June 30, 2009, dollars. with our traditional fair value parameters of 1 standard deviation around the mean containing 68.3% of the P/E observations. Therefore, we use 0.5 standard Historical data before 1936 provided by Professor Robert Shiller.



MSCI DEVELOPED MARKETS ROE-ADJUSTED P/E RATIOS





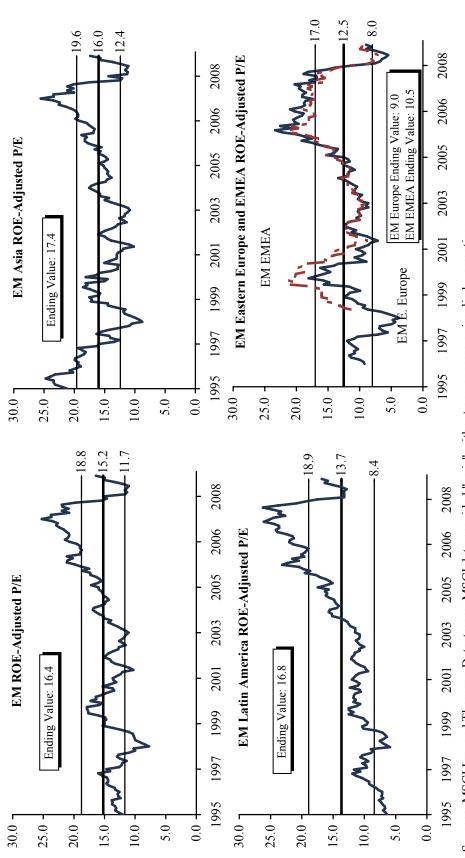
Sources: MSCI Inc. and Thomson Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: The return on equity (ROE)—adjusted price-earnings (P/E) ratio multiplies the current trailing P/E multiple by the ratio of current ROE to historical ROE for each market. The ROE-adjusted P/E ratios for Japan assume a long-term average ROE of 9.5%, which is the average level of ROE over the 1974–91 period. To minimize the impact of the late 1980s bubble period on valuations, we have excluded the years 1987–90 from our historical average and standard deviation calculations for Japan. Valuation history for the Pacific ex Japan Index is recreated for the pre–December 1984 period by taking the market-cap-weighted average of country level valuation data for Australia, Hong Kong, and Singapore. Starting in December 1984 the official MSCI value is used.

Exhibit 22

MSCI EMERGING MARKETS REGIONAL PRICE-EARNINGS VALUATIONS

November 30, 1995 – July 31, 2009



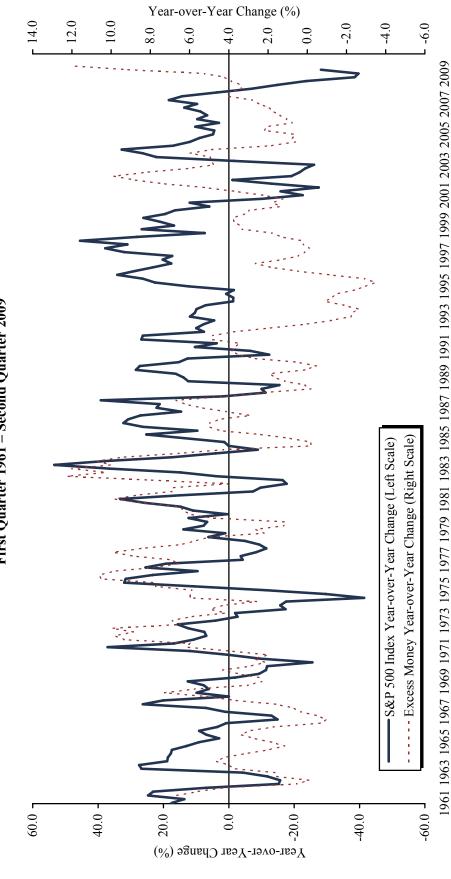
Sources: MSCI Inc. and Thomson Datastream. MSCI data provided "as is" without any express or implied warranties.

current trailing P/E ratio multiplied by the ratio of the current level of ROE to the long-term historical average ROE, except for EM Asia, which uses 12.0 as its Notes: Return on equity (ROE) is calculated by dividing the index's price-to-book ratio by its price-earnings (P/E) ratio. The ROE-adjusted P/E ratio is the assumed historical average ROE. Mean and standard deviation values on EM Eastern Europe/EM EMEA graph refer to EM Eastern Europe. Data for EM Eastern Europe and EM EMEA begin on October 31, 1996, and December 31, 1998, respectively.

Exhibit 23

EXCESS MONEY SUPPLY AND THE S&P 500





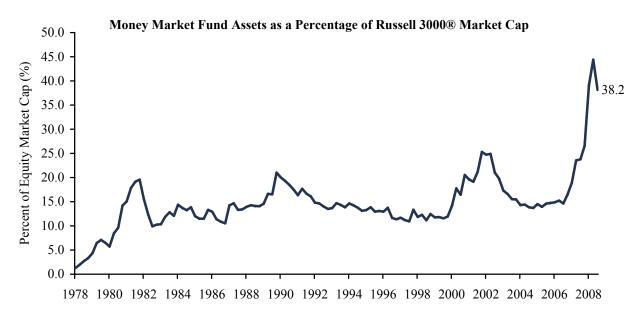
Sources: Global Financial Data, Inc., Morgan Stanley Research, and Thomson Datastream.

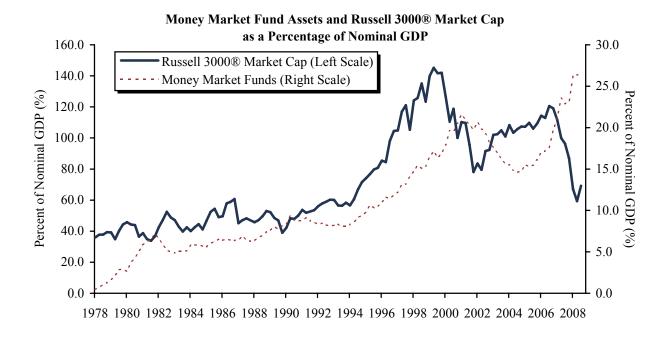
Notes: Excess money is the M2 money supply growth minus nominal GDP growth. Excess money data are shown leading by six months. Money supply data are as of first quarter 2009.

Exhibit 24

MONEY MARKET FUND ASSETS RELATIVE TO EQUITY MARKET CAP

Fourth Quarter 1978 – Second Quarter 2009



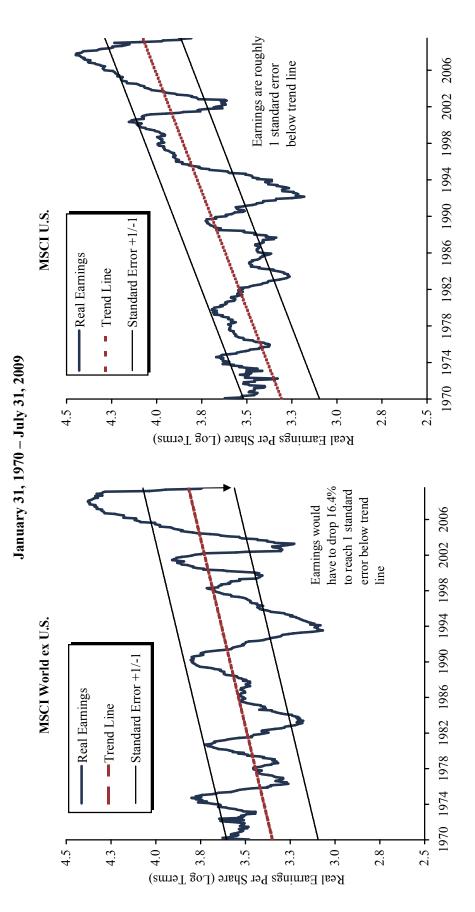


Sources: Frank Russell Company, Morgan Stanley Research, and Thomson Datastream.

Notes: Money market fund data are from the Fed flow of funds report for total money market fund assets. Money market fund data have been held constant for second quarter 2009.

Exhibit 25

MSCI WORLD EX U.S. AND MSCI U.S. REAL EARNINGS

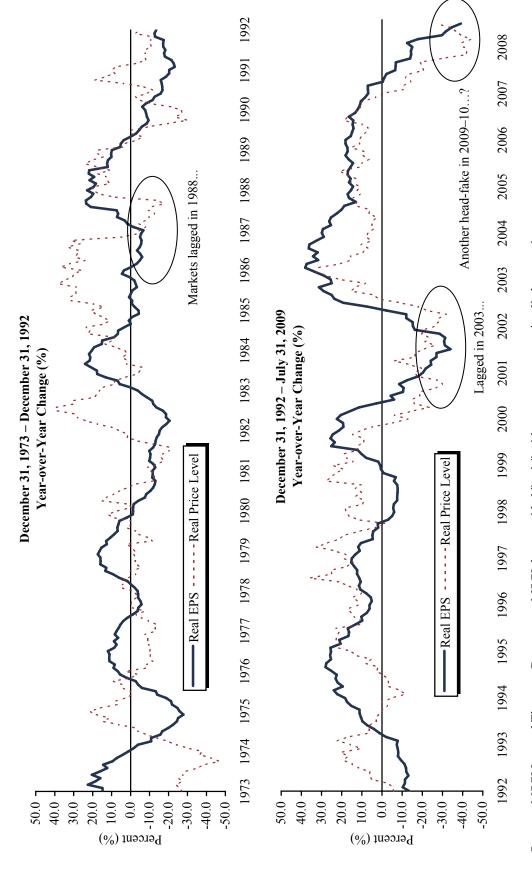


Sources: MSCI Inc. and Thomson Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: MSCI World ex U.S. earnings per share deflated by G7-CPI, based on May 31, 2009, level. MSCI U.S. earnings per share deflated by CPI-U, based on June 30, 2009, level. Trend-line earnings based on simple linear regression. 1621m

Exhibit 26

MSCI WORLD REAL PRICE LEVEL AND REAL EARNINGS PER SHARE

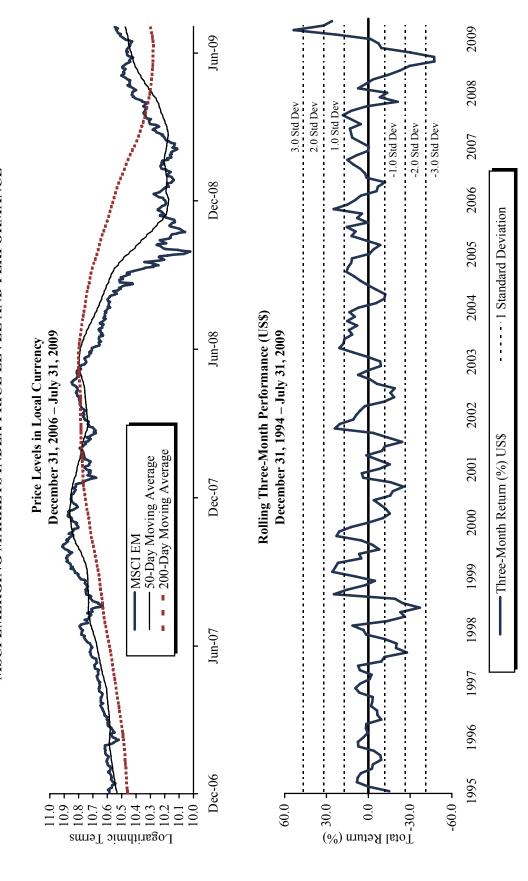


Sources: MSCI Inc. and Thomson Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: Earnings deflated by CPI-G7. CPI-G7 data as of May 31, 2009.

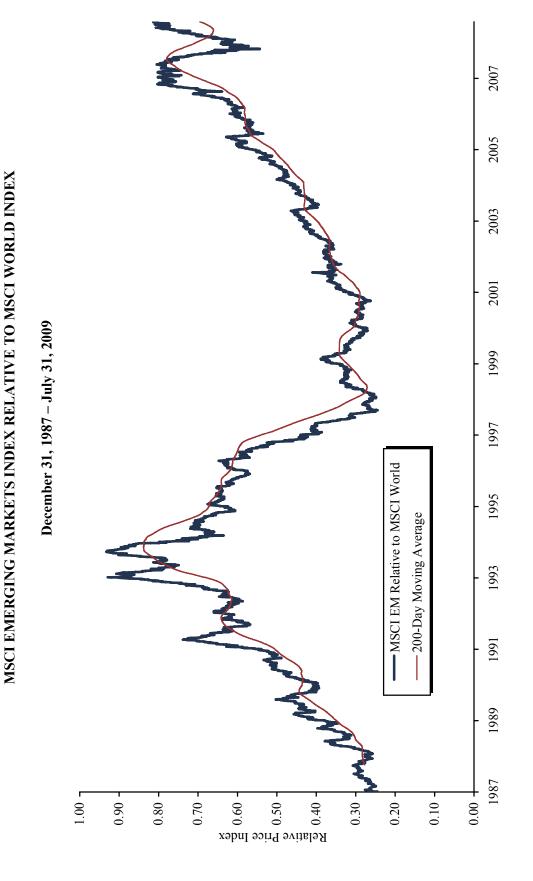
Exhibit 27

MSCI EMERGING MARKETS INDEX PRICE LEVEL AND PERFORMANCE



Sources: MSCI Inc. and Thomson Datastream. MSCI data provided "as is" without any express or implied warranties.

Exhibit 28

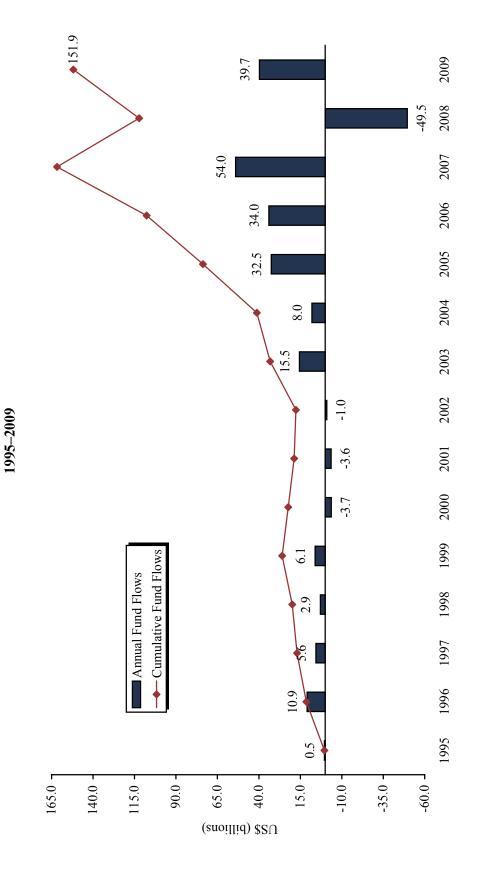


Sources: MSCI Inc. and Thomson Datastream. MSCI data provided "as is" without any express or implied warranties.

Note: Graph is based on price index levels in US\$ terms using daily data.

Exhibit 29

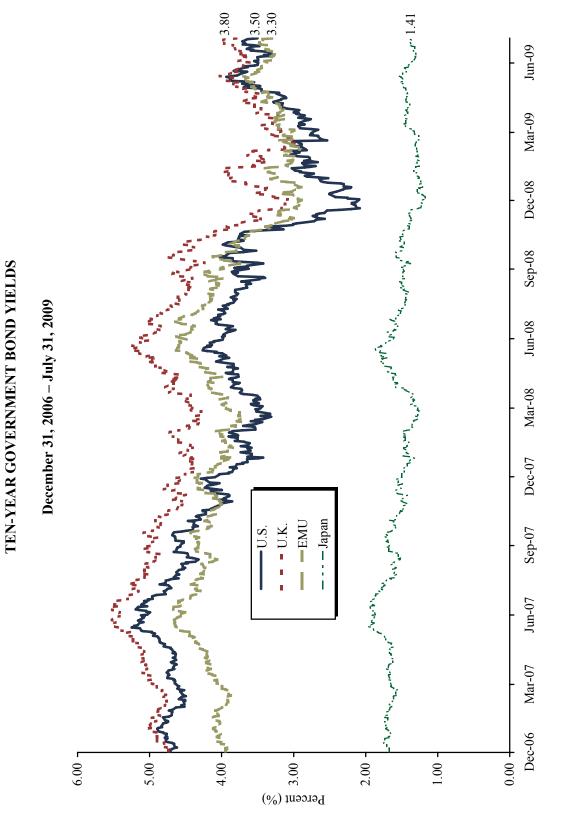
NET ANNUAL AND CUMULATIVE INFLOWS INTO EMERGING MARKET FUNDS



Sources: EPFR Global and Morgan Stanley Research.

Notes: Fund flows cover all dedicated emerging markets equity funds. Fund flow data are in US\$ billions. Data for 2009 are through July 29, 2009.



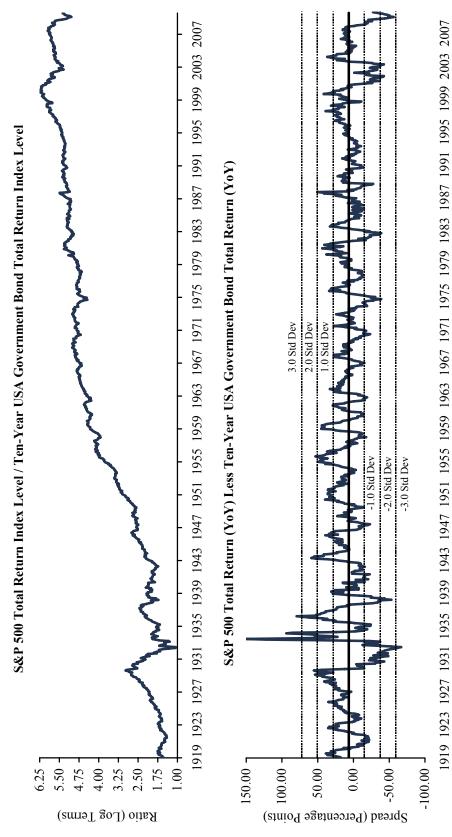


Source: Thomson Datastream.

Exhibit 31

U.S. STOCK TO BOND RELATIVE PERFORMANCE





Sources: Global Financial Data, Inc., Ned Davis Research, Inc., Standard & Poor's, Thomson Datastream, and U.S. Treasury.

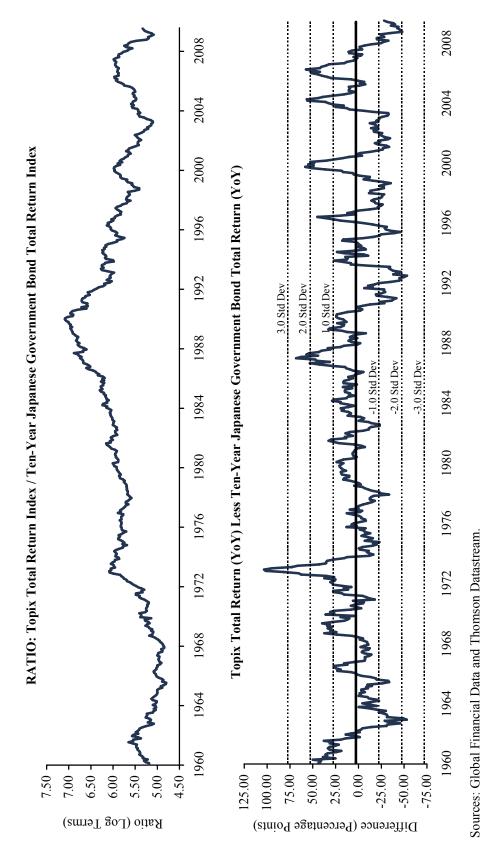
Note: Ratios of equity returns to long-term Treasury returns are in logarithmic terms.

C|A

JAPANESE STOCK TO BOND RELATIVE PERFORMANCE

Exhibit 32

January 31, 1960 - July 31, 2009

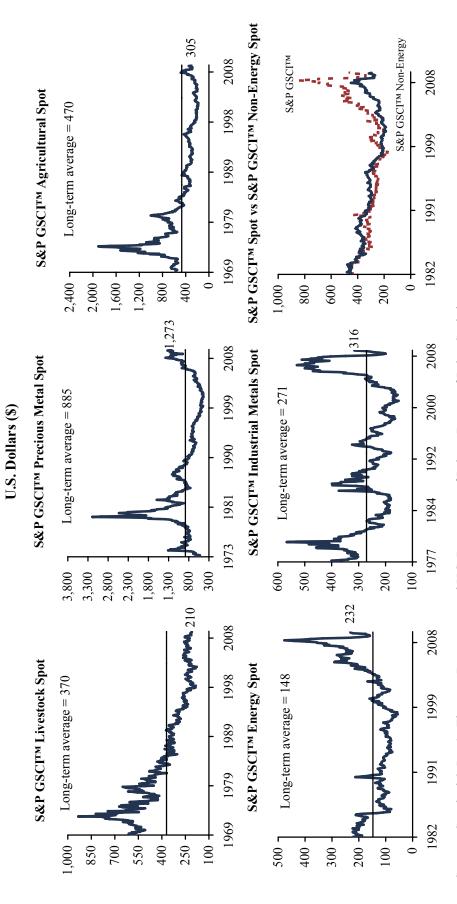


Note: Ratios of equity returns to long-term JGB returns are in logarithmic terms.

Exhibit 33

HISTORICAL REAL PRICES OF S&P GSCITM INDICES



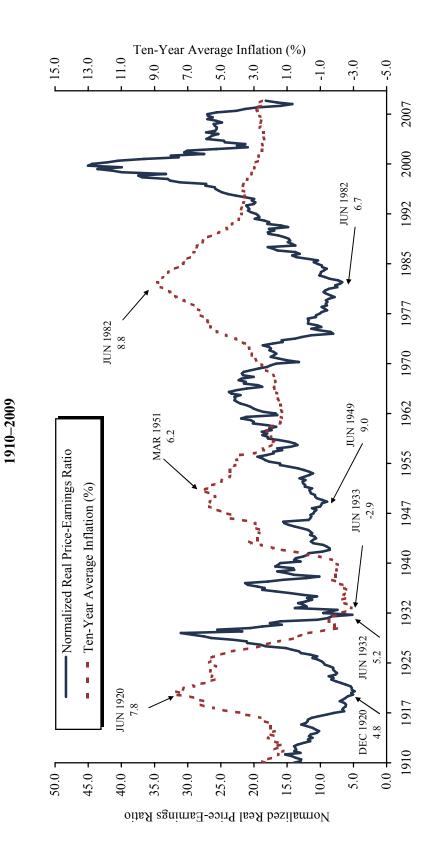


Sources: Standard & Poor's, Thomson Datastream, and U.S. Department of Labor - Bureau of Labor Statistics.

Note: Charts constructed using monthly price index levels adjusted to June 2009 dollars. 386q (mod)

C|A

S&P 500 NORMALIZED REAL PRICE-EARNINGS RATIOS AND TEN-YEAR AVERAGE INFLATION



Sources: Standard & Poor's and U.S. Department of Labor - Bureau of Labor Statistics.

2009, and are preliminary. Normalized real price-earnings ratios for the S&P 500 are calculated by dividing the current index value by the trailing Notes: Graph represents quarterly data with third quarter data as of July 31, 2009. CPI-U data are as of June 30, 2009. Earnings are as of June 30, ten-year average of real earnings.

Exhibit 35

CAMBRIDGE ASSOCIATES VALUATIONS SUMMARY*

December 9, 2008

Very Overvalued	Overvalued	Fairly Valued	<u>Undervalued</u>	Very Undervalued
U.S. Treasuries (<)	Europe ex U.K. Bonds	U.S. Equities	Emerging Markets	U.S. Corporate Bonds
	Japanese Government Bonds	S&P 500	Emerging Mkts Equities (Asia)	U.S. High-Yield Bonds
	U.S. Real Estate	U.S. Growth Equities	Emerging Mkts Equities (Europe)	Bank Debt (>)
	Real Estate (industrial)	U.S. Value Equities	Emerging Mkts Equities (Lat Amer)	
	Real Estate (office)	U.S. Small-Cap Equities	Emerging Mkts Equities (South Africa)	
	Real Estate (retail)	U.S. Mega-Cap Equities	Global ex U.S. Developed Equities	
	Real Estate (apartments)	U.S. High-Quality Equities	Global ex U.S. Small-Cap Equities	
	U.S. Venture Capital**	U.S. Inflation-Linked Bonds	U.K. Equities	
	U.S. Buyout Funds	U.K. Bonds	Europe ex U.K. Equities	
	European Buyout Funds	Emerging Mkts Debt†	European Equities	
		Commodities	Pacific ex Japan Equities	
		Real Estate (Public REITs)	Japanese Equities	
		U.S. Timberland	U.S. Bonds***	

from over- to undervalued, an asset class could be fairly valued yet still retain a negative outlook due to deteriorating fundamentals. Asset class and investment strategy valuations do Notes: Data on fundamental valuations do not provide forecasts of expected returns; they suggest the risk incurred by investors by indicating the vulnerability of a given asset class to disappointing economic developments. Therefore, valuations do not necessarily correspond to short-term or even intermediate-term returns. As asset classes tend to move not reflect currency valuations. Bold type represents the aggregate of asset classes for which we show valuation ratings for underlying strategies. (<) Indicates a recent move in the direction of more overvalued. (>) Indicates a recent move in the direction of more undervalued.

* For more detailed valuations information, read our monthly "Notes on Current Valuations" available on the Market Update page of www.cambridgeassociates.com and our report Monthly Resources: Capital Market Commentaries, Notes on Current Valuations and Investment Publications Highlights.

** All sectors of U.S. venture capital (i.e., early, expansion, and later stage) are overvalued.

*** Reflects a broad-based U.S. bonds allocation similar to the Barclays Capital U.S. Aggregate Bond Index. † Our valuation refers specifically to US\$-denominated emerging markets debt.

Convertible Arbitrage (>)

Capital Structure Arbitrage **European Venture Capital**

Asian Venture Capital

Asian Buyout Funds

Oil & Gas - Properties

Merger Arbitrage

Oil & Gas - Drilling

Oil & Gas

Mortgage Securities

U.S. Tax-Exempt Bonds

CAMBRIDGE ASSOCIATES CURRENT VALUATIONS SUMMARY*

Overvalued	August 7, 2009 Fairly Valued	Undervalued	Very Undervalued
Emerging Markets Debt† U.S. Treasuries	Global ex U.S. Developed Equities U.K. Equities	Global ex U.S. Small-Cap Equities Japanese Equities	
U.K. Sovereign Bonds	Europe ex U.K. Equities	EM Equities Europe, Middle East, & Africa	
EMU Sovereign Bonds	Pacific ex Japan Equities	U.S. High-Yield Bonds	
U.S. Venture Capital**	C.S. Equites S&P 500	Euro-Denominated Credits U.K. Sterling-Denominated Credits	
European Buyout Funds	U.S. Growth Equities	Capital Structure Arbitrage	
	U.S. Value Equities	Distressed Mortgage Securities	
	U.S. Small-Cap Equities	Bank Debt	
	U.S. Mega-Cap Equities		
	U.S. Filgn-Quality Equities Emorging Morbots Equition		
	Emerging ivial kets Equities EM Equities Asia		
	EM Equities Latin America		
	U.S. Bonds *** (<)		
	U.S. Inflation-Linked Bonds		
	U.S. Corporate Bonds (<)		
	U.S. Tax-Exempt Bonds		
	Commodities		
	Real Estate (Public REITs)		
	U.S. Real Estate		
	Real Estate (Industrial)		
	Real Estate (Office)		
	Real Estate (Retail)		
	Real Estate (Apartments)		
	U.S. Timberland		
	Oil & Gas		
	Oil & Gas - Drilling		
	Oil & Gas - Properties		
	Convertible Arbitrage		
	Merger Arbitrage		
	European Venture Capital		
	Asian Buyout Funds		
	Asian Venture Capital		
¢	San San		

disappointing economic developments. Therefore, valuations do not necessarily correspond to short-term or even intermediate-term returns. As asset classes tend to move from Notes: Data on fundamental valuations do not provide forecasts of expected returns; they suggest the risk incurred by investors by indicating the vulnerability of a given asset class to over- to undervalued, an asset class could be fairly valued yet still retain a negative outlook due to deteriorating fundamentals. Asset class and investment strategy valuations do not reflect currency valuations. Bold type represents the aggregate of asset classes for which we show valuation ratings for underlying strategies. (<) Indicates a recent move in the direction of more overvalued. (>) Indicates a recent move in the direction of more undervalued.

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^{**} All sectors of U.S. venture capital (i.e., early, expansion, and later stage) are overvalued.

^{***} Reflects a broad-based U.S. bonds allocation similar to the Barclays Capital Government/Credit Bond Index. † Our valuation refers specifically to US\$-denominated emerging markets debt.