



C A M B R I D G E A S S O C I A T E S L L C

ASSET ALLOCATION IN THE CURRENT ENVIRONMENT

THE EYE OF THE STORM

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This is the sixth 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 *Market Update: Expanded Quarterly Edition*.

As always, we welcome your feedback.

C O N T E N T S

Abstract.....	1
Summary	4
Tables	
A Global Equity Performance.....	19
B S&P 500 Recessionary Bear Markets	20
C Two-Stage Bear Market.....	21
D Real Annual Earnings per Share Growth of S&P 500 and MSCI World ex U.S.....	22
E Return on Equity of S&P 500 and MSCI World ex U.S.....	23
F Real Earnings of S&P 500 and MSCI World ex U.S.....	24
G Real Earnings per Share Percent Above/Below Normalized Ten-Year Average Level	25
H TED Spreads	26
I Credit Loss Estimates: Goldman Sachs, IMF and Morgan Stanley	27
J U.S. Economic Indicators	28
K Case-Shiller Real House Price Level	29
L Real GDP Growth (2004–09)	30
M Real GDP Growth (1970–2013)	31
N Credit Market Debt as a Percentage of Nominal GDP	32
O The Diminishing Impact of Credit on the U.S. Economy	33
P Global Inflation.....	34
Q Cumulative Wealth During Various Bear Markets for the S&P 500, Nasdaq and Nikkei Indices.....	35
R S&P 500 Real Price Level	36
S Periods of Below-Average Returns Follow Periods of Above-Average Valuations	37
T Bear Markets.....	38
U What If Valuations Regressed Solely Through Price?.....	39
V How Much Would the S&P 500 Appreciate Under the Following Earnings Growth and P/E Assumptions?	40

ABSTRACT

1. While the Federal Reserve has acted aggressively to restore confidence in the financial system, the hurricane of deleveraging is far from over. In our view, the current calm in the markets is the eye of the storm. A second wave of market turmoil is on the horizon as further weakness in the United States impacts economies around the world—a scenario that is still not fully priced into equity markets. We cannot know whether the back end of the storm will be as fierce as the front end, so investors need to take advantage of any temporary respite to assess damages and to confirm that portfolios are prepared for renewed violence. In this paper we assess the validity of the continuing positive expectations priced into the U.S. equity market, evaluate the primary forces at work that influence our view, and review our asset allocation advice as we continue to navigate through a secular bear market in U.S. equities.
2. With fears of a systemic collapse abated, attention will now return to underlying equity fundamentals. While stock markets may continue to rally over the coming months, we expect equities to come under renewed pressure as optimistic earnings expectations are lowered amid a weakening U.S. and global economy. The consensus expects global earnings to surge in the second half of the year as the U.S. economy regains traction and strength in the emerging world benefits global companies. History has shown that the consensus is always wrong as the cycle turns. As expectations catch up with reality, equity markets trend down. Given that global real earnings growth and return on equity are just off their peaks and always return to trend (if not fall through) during a recession, the potential for negative earnings surprises is large.
3. U.S. economic growth may be below trend for some time, even if the approaching recession is relatively shallow, as consumers and the financial sector delever. Credit conditions remain strained and we expect defaults to mount as we progress through the credit crisis, which is at best halfway over. Indeed, despite over 300 basis points of Fed rate cuts, private sector interest rates are still higher than they were last summer. Even if private sector interest rates come down, monetary policy may not have an immediate effect as households have no capacity for additional credit and very little accumulated savings to spend, at least until the U.S. housing market revives. Moreover, given the high cost of debt capital in an environment of sagging demand, the corporate sector is unlikely to aggressively lever up at this time.
4. Hopes ride high that the emerging world, especially China, will support the global economy. While the emerging world is export driven, not every export flows to the developed consumer, nor will demand for Chinese/Asian goods disappear overnight; rather, demand will slow. Most emerging markets economies (emerging Europe is a glaring exception) have their financial and fiscal houses in order and no longer rely on foreign capital flows. However, it remains to be seen whether domestic demand in emerging economies will be robust enough to offset a global slowdown.
5. The threat of a deflationary bust is a serious risk, but policymakers have shown they will do everything in their power to re-liquefy and reflate the economy. Therefore, risks are skewed toward higher inflation in the future. Should fiscal and monetary stimuli aggravate cyclical inflation pressures, government bond yields may rise sharply, as both real rates and inflation premia rise, damaging financial assets in the

process. Furthermore, if the global economy avoids a credit crunch–related slowdown today, we would expect a traditional interest rate–induced global recession sometime in the near future, as policymakers in both the developed and emerging worlds are forced to fight inflation. This risk cannot be dismissed, as continuing robust growth in the emerging world means it is facing its own inflation and capacity constraints.

6. The broader picture is that we are entering the final leg of a secular bear market in U.S. equities that began in March 2000. This does not imply a cataclysmic sell-off is imminent, rather, equities may continue to grind sideways and derate amid lackluster growth and above-average inflation. Eight years into the current secular bear U.S. equities continue to work off the excesses of the late 1990s tech mania and the overvaluation of the U.S. dollar. We would expect to reach bottom when these excesses (overconsumption, reliance on foreign savings, an overvalued US\$) have been worked out (or their resolution discounted) and the market trades at depressed valuations, which history tells us is a real normalized price-earnings (P/E) ratio between 6 times and 14 times. While we cannot predict at what level P/E ratios will stabilize in the coming years, we do not feel confident that a sustained re-rating of P/E multiples is in the cards; therefore, investors should prepare for a tough slog ahead.
7. Although our outlook is far from cheery, we do not envision the end of the world, and believe the global economy may emerge from a much-needed slowdown on a more balanced keel. Nonetheless, the process may be painful, especially for financial markets in the near term, and particularly if deflation or inflation fears do come to fruition. To weather the back end of the potential storm, we advise the following:
 - Batten down the hatches. Use the relative calm to reassess the level of risk in the portfolio. Check for unintended bets and ensure proper diversification.
 - Make sure you have both deflation protection (both Treasuries and non-US\$ sovereigns), and adequate inflation hedges. Although both are expensive, taking some price risk may be necessary. Build positions in commodities and other inflation-sensitive assets gradually on weakness.
 - Stay defensive. Our advice remains to overweight quality across the portfolio, which involves tilting toward mega-cap and large-cap growth companies (especially in the United States), and away from value, small-caps, and strategies that rely on leverage to generate returns. Today, some deep-value opportunities exist, particularly among the most distressed sectors of the credit market (e.g., mortgages, structured products), but the vast majority of distressed and low-quality opportunities have yet to arrive and we anticipate that they will gradually unfold over the next year or two. Further, there has been some irrational selling in the credit markets, and perhaps some skilled managers can find attractive deals, especially in the high-grade corporate, high-quality agency mortgage and municipal space. However, we continue to be leery of credit overall, especially high yield.
 - Rebalance wisely and keep some dry powder to move slowly into distressed and other “deep-value” strategies. Rebalance to mitigate expected portfolio volatility, to maintain the benefits of diversification, and to take advantage of any temporary rallies to either move toward desired defensive allocations, or pull back exposures to fund other opportunities. Consider holding modest amounts of cash in excess of what is normally required for liquidity purposes; retain cash from

inflows or from rebalancing to fund future opportunities across the value spectrum (e.g., distressed investments, deep value equities). In contrast to 1999–2000, when there were significant pockets of undervalued assets outside the technology bubble (e.g., small-cap and value equities, hard assets), today virtually every asset class appears fully or overvalued, making cash a reasonable parking space to hold assets until value opportunities appear.

- Underweight U.S. equities, recognizing an opportune time to build allocations to non-U.S. (and especially emerging markets) equities may present itself in the near future. Buying Japan at today's prices may pay off handsomely, if you have the patience.

The Eye of the Storm

Events in the financial markets have largely unfolded along the lines of a script we outlined back in August and December 2007, in which the implosion of esoteric quarters of structured finance signaled the end of an era of easy credit (for the foreseeable future) and a turning of the credit, profit, and economic cycles.¹ While Phase I of the credit crunch was largely confined to panic selling among leveraged speculators, we have clearly entered Phase II of the cycle, whereby tightening conditions in the financial economy weigh on the “real” economy, and are slowly drifting toward Phase III, when defaults emerge across the credit spectrum amid recession-like conditions in the U.S. economy. Indeed, turmoil in the credit markets and forced deleveraging among holders of dubious collateral seemed to have taken the global financial system to the brink in mid-March, as the specter of widespread counterparty defaults brought down a major Wall Street investment bank. While we expected the failure of a large financial institution at some point, we did not expect it to occur so soon or so abruptly.

However, we are now at an important crossroads. The unprecedented and aggressive actions of the Federal Reserve in response to Bear Stearns’ insolvency have done much to restore confidence in the financial system. Some commentators now argue that the worst is over, that equity markets have begun a “bottoming phase,” and that markets will soon push higher as credit conditions improve. Despite a collective sigh of relief following the Fed’s decision to provide liquidity directly to investment banks and broker-dealers via the discount window (effectively taking bad debts onto its balance sheet), we hesitate to sound the all-clear. Markets may very well rally over the coming weeks or months, but the hurricane of deleveraging is far from over. The current sense of calm, in our view, is the eye of the storm. A second wave of market turmoil is on the horizon as further weakness in the United States impacts economies around the world—a scenario that is still not fully priced into equity markets.

We cannot know whether the back end of the storm will be as fierce as the front end, so investors need to take advantage of any temporary respite to assess damages and to confirm that portfolios are prepared for renewed violence. In this paper we assess the validity of the continuing positive expectations priced into the U.S. equity market, evaluate the primary forces at work that influence our view, and review our asset allocation advice as we continue to navigate through a secular bear market in U.S. equities.

Near-Term Outlook: Choppy Seas Ahead for Equities

Since the Bear Stearns rescue, global equities are up sharply (11% as of late April), led by financials (up 17%); government bond yields are off their lows; and there are some signs of credit markets functioning again as spreads have narrowed for all manner of debt. So far so good, right?

¹ Please see our August 2007 and December 2007 Market Commentaries *The Jig is Up: The End of Easy Credit* and *Outlook 2008: A Year of Living Dangerously*.

It is true that the failure of a major financial institution/player can mark an important turning point in the markets, helping to clear the air as to who was left holding the bag from the previous market malfeasance and often serving as the catalyst for policymakers to begin aggressively easing monetary policy. However, we are reluctant to take the current market rally at face value for the following reasons.

First, such a relief rally was to be expected, especially given the negative sentiment and oversold conditions (not to mention large short exposure) in the markets preceding Bear's demise. Indeed, a familiar pattern has been in place since last July: markets decline in the midst of disappointing economic, credit, and earnings news; then rally sharply by the end of each month in response to (or in anticipation of) intervention by policymakers (both central bankers and governments); only to decline again as deteriorating macro conditions reassert themselves. Having avoided a perceived near-collapse of the global financial system, investors' attention should now drift back toward underlying equity fundamentals, especially earnings growth.

Second, equity prices discount only a brief slowdown. The consensus view remains that global earnings will surge in the second half of the year as the U.S. economy regains traction and strength in the emerging world benefits global companies. For example, at the end of April the consensus expectation for S&P 500 earnings is for negative year-over-year earnings growth in the first (-14%) and second (-4%) quarters to give way to 16% and 65% year-over-year earnings growth in the third and fourth quarters, respectively, resulting in an 11% rise in S&P earnings for 2008 as a whole. European earnings are expected to rise 5% this year; Japanese earnings 7%; and Asian earnings (including emerging Asia and excluding Japan), 11%. Emerging markets as a whole are expected to post 17% earnings growth in 2008, compared to 8% for developed markets.

Although investors have reined in their expectations since the beginning of the year, there remains substantial room for disappointment should the expected rebound in earnings fall short. History has shown that the consensus is always wrong as the cycle turns; indeed, I/B/E/S 12-month forward S&P 500 earnings have never forecast negative year-over-year earnings growth heading into a recession even though earnings always turn down. For example, analysts lowered earnings expectations throughout the course of 1990 and 2001, with the market following the revisions downward, especially over 2001. The market action thus far is following the 2000–03 path closely (Table B).

Another interesting parallel between the 2000–03 bear market and today, as pointed out by Morgan Stanley's Gerard Minack, is that the first leg of that decline was borne by the tech sector alone, while the broader market held its head above water for roughly 15 months until May 2001, when the U.S. recession began in earnest and the rest of the market collapsed some 40%. So far, much of the current bear market has been confined to the financial sector, as have the losses in earnings (Table C). If markets follow the 2000–03 path, we should expect this weakness in financials to spread at some point across all sectors.

Tables D and E highlight that real earnings growth and return on equity are rolling over globally. Table F shows that real earnings always return to trend (if not fall through) during a recession, and this holds true in both the United States and elsewhere. For most markets, earnings continue to be well above trend

(either long-term or relative to the past ten years), indicating the potential for large earnings surprises (Table G). It is true that equity markets typically move ahead of the economy and earnings, so earnings need not trough before equities can recover. Nonetheless, it seems premature to “call the bottom” in the markets before the earnings downturn has begun in earnest and while the U.S. recession/global slowdown is still in its early days. At this juncture, the risks of being too early may outweigh the costs of being a little late.

Market Optimism May Be Premature

Although the global economic community has largely capitulated to the idea of a U.S. recession in 2008, and has correspondingly downgraded GDP forecasts across the board, the current consensus (even espoused by the Fed) is that the U.S. economy will suffer only a mild contraction over the first and second quarters, before reaccelerating in the second half of the year to what Chairman Bernanke has described as “at or a little above” trend growth in early 2009. The argument for such a V-shaped recovery is predicated on strong export growth stimulated by the weaker US\$, renewed domestic consumption triggered by tax rebates, and greater stability in the housing market as a result of lower interest rates and a host of legislative actions on foreclosures and mortgage defaults.

Although certainly plausible, we feel the risks for this outlook are skewed to the downside. There is a good chance that global economic growth might contract more deeply and recover more shallowly than currently expected. Our caution is based on the following observations:

We are at best only halfway through the credit crunch. Credit conditions remain strained (Table H). Continued stress in the interbank funding market shows that banks still do not trust one another and are hoarding cash as further credit losses loom (Table I). While estimates vary as to the ultimate size of credit-related write-downs facing the financial sector, we are at best only halfway through the process. Goldman Sachs, the International Monetary Fund (IMF), and Morgan Stanley have put the total cumulative losses on credit instruments around US\$1,000 billion. Goldman has taken the analysis a step further, however, adjusting its aggregate loss estimates for loan-loss provisions already in place and for the after-tax benefit such write-downs generate, putting the bottom-line losses facing the “leveraged sector” at US\$298 billion. This may sound like a vast improvement, but as of late March, only \$120 billion had been written off, offset by roughly \$100 billion of fresh capital raised since third quarter 2007.

However, these are direct losses on assets held by the financial sector and do not capture the effect on the wider economy. Because financial intermediation affects the economy via credit multiplication, a reduction in the capital bases of highly levered financial institutions results in a much larger contraction of aggregate credit in the economy. For example, Goldman Sachs has calculated that a US\$300 billion reduction in leveraged credit would result in a US\$3,000 billion reduction in total U.S. credit supply and a 2 percentage point drag on U.S. real GDP growth over the next year (a host of other assumptions holding steady). While such econometric projections are extremely sensitive to the assumptions involved, these predictions illustrate the point that the impact to the economy from the credit crunch is more powerful than those who claim the write-downs will be easily offset by capital infusions. Such an argument entirely misses

the point we stressed in December: the majority of new funds coming into the system are going to pay off old debts and replace impaired capital, not to generate new credit and therefore stimulate new growth in the economy.

The Fed may find it is pushing on a string. Indeed, despite over 300 basis points (bps) of Fed rate cuts, private sector interest rates (mortgages, corporate debt, bank loans) remain higher than they were last summer. If the credit machine remains temporarily out-of-service, then monetary policy may not have the desired effect of encouraging consumption by households and businesses, as it does during a “typical” economic cycle.² Even if private sector interest rates come down, monetary policy may not immediately gain traction as households have no capacity for additional credit and very little accumulated savings to spend, at least until the U.S. housing market revives. Moreover, given the high cost of debt capital in an environment of sagging demand, the corporate sector is unlikely to aggressively lever up at this time.

Consumption may remain lackluster. The headwinds and pressures facing the U.S. consumer are well known. U.S. household consumption is unlikely to reaccelerate to the pace of the past few years when Americans were spending beyond their means, though it may not plummet off a cliff as some have suggested. Consumption will likely remain weak so long as unemployment is rising and house prices are falling.³ As Table J shows, unemployment is always a lagging indicator, implying that even if the economy troughs this summer, unemployment will continue to rise into the autumn, with or without tax handouts. While the corporate sector is not under as much pressure this cycle, and therefore may not be forced to slash the workforce as much as in the past, creeping unemployment does not bode well for wages and consumption.

Global growth may lag. For all the talk of decoupling, the moment may have already passed. As Table L illustrates, while the U.S. economy began to slow substantially over 2006–07 due to the contraction in housing, the major developed and emerging economies actually accelerated over that period. However, a noticeable slowdown in global growth can now be seen, as again, the lagged macroeconomic impact of tighter credit and an even sharper slowdown in U.S. growth are just now being felt, and will continue to impact global growth with a lag over the intermediate term. The U.K. economy is facing the same dynamic as the United States with an unwinding housing boom and stretched consumer, as are parts of Europe (e.g., Spain, Ireland). Even Germany and Japan, which relied on their export sectors and not their consumers, are weakening amid stronger currencies and slowing demand. Indeed, the IMF recently lowered its forecast for

² To simplify, in the typical cycle the business sector is the source of excess in the economy. The central bank, fearing overheating and inflation, raises interest rates to deter investment by companies (increasing the cost of capital) and to defer consumption by individuals (inducing saving). As demand begins to fall, businesses cut back on production to work off any inventory overhang and cut jobs to maintain profitability, forcing consumers to retrench as well. Once there is sufficient slack in the economy, the central bank lowers interest rates to encourage both consumers and businesses to release pent-up demand and spend, either by saving less or leveraging up their balance sheets (spend in excess of income). Clearly, current financial strains and deleveraging do not conform at all to this “typical” pattern.

³ On that point, housing cycles are long, usually lasting around a decade or more. For example, according to Goldman Sachs, U.S. house prices (based on the Case-Shiller measure) last peaked in 1989 and declined in real terms until 1997, surpassing their inflation-adjusted 1989 highs only in 2001 (Table K). Based on this precedent, U.S. house prices may not fully recover until as late as 2015, since the housing bubble effectively burst in 2005. Therefore, even if the housing market were to stabilize later this year, a swift recovery in house prices is not necessarily in the cards.

the global economy, taking a much dourer outlook than the consensus on the basis of its view that any recovery in U.S. growth will be shallow and the rest of the developed world will slow sharply in 2009 (Table M).

Yet the emerging world, especially China,⁴ remains the wild card. Is the momentum of the developing economies now sufficiently self-sustaining, as some argue, to immunize them from U.S. (and European) weakness? At this juncture, only time will tell. While the emerging world is export driven, not every export flows to the developed consumer, nor will demand for Chinese/Asian goods disappear overnight; rather, demand will slow. Most emerging markets economies (emerging Europe is a glaring exception) have their financial and fiscal houses in order and no longer rely on foreign capital flows. However, it remains to be seen whether domestic demand will be robust enough to offset a global slowdown. Already we have seen a mild slowdown in China, with real GDP slowing from 11.9% year-over-year in fourth quarter 2007 to 10.6% in first quarter 2008, with net trade a drag on growth for the first time since 2005, driven by the slowest export growth since 2002.

The credit and profit cycles are still turning. The economic outlook is important, but for investors what really matters is the outlook for profit growth, and they should keep in mind that the profit and economic cycle are not perfectly aligned.⁵ Corporate profits often lag any upturn in the economy because the business sector continues to retrench in the early days of the recovery. For example, although the 2001 recession was itself unusually mild⁶ (as monetary policy found traction via the housing market), that did not stop defaults from rising, companies from going under, and corporate profits from plummeting. We expect a rerun of this scenario, even if the contraction in GDP proves relatively brief.

Deflationary forces are significant. What continues to scare the Fed, and why it continues to push the monetary envelope, is the threat of a deflationary bust brought about by an implosion in the credit markets and U.S. economy. And the deflationary risks are real. Table N shows credit market debt as a percentage of U.S. GDP back to 1922. As can be seen, the deleveraging process that began in the 1930s lasted over 20 years until the early 1950s, a prolonged period of below-trend U.S. growth. While credit grew faster than GDP during the high-growth late 1950s and early 1960s, it has exploded since the early 1980s, suffering only a brief stall during the last credit crack-up in the early 1990s. How long the current deleveraging will last and what depth it will reach are uncertain, but to the extent businesses anticipate weakening demand and consumers focus on repairing overextended balance sheets, neither sector is likely to rise to the bait of cheaper credit.

Moreover, in recent years the amount of debt needed to generate each unit of incremental GDP growth has steadily increased. As Table O shows, we are nearing a tipping point, where additional debt adds so little to economic growth that a retrenchment becomes inevitable. This does not imply the economy must

⁴ China is the linchpin; as goes China, so go emerging Asia and Latin America, which sell the inputs the Chinese economy needs, followed by Germany and Japan, which export the capital goods and equipment that help build emerging markets economies.

⁵ Please see our January 2008 Market Commentary *As the Cycles Turn*.

⁶ The NBER-defined recession over March 2001 to November 2001 is the mildest on record. Real GDP did not turn negative on a year-over-year basis, but rather slowed from 1.9% in first quarter 2001 to 0.2% in fourth quarter 2001.

contract; but rather that the economy must shift to a lower structural growth rate, as growth must be generated organically (i.e., via savings and investment) rather than fueled by borrowing and consumption. However, should this retrenchment prove to be severe, resulting in widespread financial defaults and an implosion of the credit markets, the deflationary impact on the global economy and asset prices would be drastic.

We are not, however, heralding the onset of another Great Depression. Rather, we expect policymakers will do whatever is in their power (even overstepping their legal authority) to keep the financial system functioning to avoid a deflationary bust, perhaps sacrificing “price stability” in the process (not to mention fiat currencies). Should their efforts prove successful, a sustained rise in global inflation is perhaps then the larger secular risk facing investors in the years ahead.

In fact, although we expect the continuing credit crunch will drag the U.S. economy into recession, it is entirely plausible that aggressive monetary easing and fiscal stimulus may prevent the U.S. economy from slipping into anything more than a modest slowdown. If so, global growth may indeed reaccelerate in late 2008/early 2009. Yet such an outcome is not universally bullish for investors, as perhaps what the global economy needs now is a period of slower growth, given the real demand pressures on energy, food, and industrial commodities. Should fiscal and monetary stimuli aggravate cyclical inflation pressures, government bond yields may rise sharply, as both real rates and inflation premia rise, damaging financial assets in the process. From an equity standpoint, profit margins remain near record highs, implying that unless companies can pass on higher costs to customers (clearly inflation in the making), continued global growth may begin to eat into profits. Furthermore, if the global economy avoids a credit crunch–related slowdown today, we would expect a traditional interest rate–induced global recession sometime in the near future, as policymakers in both the *developed and emerging world* are forced to fight inflation (Table P). This risk cannot be dismissed, as growth in the emerging world remains robust, and facing its own inflation/capacity constraints. Currency appreciation may help contain the inflation pressures in developing nations, thus reducing the need for immediate policy tightening. However, should countries be reluctant to allow their currencies to rise out of fear of losing export competitiveness, such a short-sighted policy response could prove to be the straw that breaks the camel’s back.

Long-Term Outlook: Secular Bear Market Continues

How do the events unfolding today fit into a broader framework? They suggest that we may be embarking on the last leg of the secular bear market in U.S. equities that began in March 2000.⁷

But what, exactly, does this mean? While the term “secular bear” conjures images of a market crash, a secular bear market is not a massive one-time collapse in equity prices. Rather, it is the process by which an asset class moves from massive, boom-driven overvaluation to painful, bust-induced undervaluation.

⁷ We specifically refer to a secular bear market in U.S. equities, rather than all developed markets equities. While developed markets in general, and technology/telecommunication shares specifically, were grossly overvalued in the late 1990s, the overvaluation and economic imbalances were concentrated in United States.

Furthermore, a secular bear market is not a steady downward march, but is composed of a series of sell-offs and counter-rallies (often extended). Table Q highlights the typical pattern, in which a severe market decline from massively overvalued levels is followed by a sharp, often multi-year recovery that fails to recapture the previous highs in real terms, before embarking on a grinding series of sell-offs and rallies that result in the market trading on depressed valuations (but not necessarily a “new low” in price-level terms) from the ashes of which a new secular bull market will be born. Most importantly, this process takes time; on average, equity markets have taken from nine to 14 years to move from extremely overvalued to substantially undervalued. For example, while the immediate declines following the 1929 peak in the United States and 1989 peak in Japan were spectacular, they were only the beginning of the secular bears that dragged on until 1942 and 2003, respectively. Similarly, the nasty 1973–74 sell-off is seared in some investors’ minds, yet the secular bear market took place over 1968–82, during which the S&P 500 did not undergo any real price appreciation (Table R). Therefore, a secular bear is best defined as an extended period of below-average real returns brought about by persistent valuation derating, rather than as a technical peak-to-trough decline.

In this sense, U.S. equities continue to work off the excesses of the late 1990s tech mania and the overvaluation of the U.S. dollar. The 2000–03 bear market was a classic sell-off following extreme overvaluation, which could have turned into a deflationary bust if the Fed had not stepped in to aggressively reflate the economy and sow the seeds of the U.S. housing bubble. While global equities rallied from their March 2003 lows, the next four-and-a-half years saw U.S. equities continuously derate and vastly underperform global markets, even more so if viewed in non-US\$ terms. The past ten years (1998–2007) have seen an average annual real return of only 3.1%, half the average ten-year real return of 6.7% since 1900, and the current ten-year period includes the final two years of the tech bubble! Already, the current decade (January 2000 – March 2008) has seen the worst U.S. stock market performance since the 1930s and 1970s, at an average annual return of -2.5%, a secular bear market indeed. As Table S vividly illustrates, periods of above-average valuations are followed by periods of below-average returns—and valuations at the end of 1999 were nearly 4 standard deviations above average.

So when will it all be over? Is the end nigh? Based purely on past cycles, the end of the secular bear could occur any time between 2009 and 2014. We would expect to reach bottom when the excesses in the U.S. economy (overconsumption, reliance on foreign savings, an overvalued US\$) have been worked out (or their resolution discounted) and the market trades at depressed valuations, which history tells us is a real normalized P/E ratio between 6 times and 14 times (Table T). How we come to this point (and over what time frame) is open-ended. Based on normalized valuation measures reverting close to 1 standard deviation below the mean (roughly a P/E of 10), we gauge that the market has at least another 30% to 50% to fall before it trades at depressed valuations (Table U). However, that need not be the result of a massive wipe-out (although the potential is there), nor does the market necessarily need to “retest” its 2002–03 lows. Rather, the market could slowly move sideways, rising in nominal terms, but not in real terms or at a pace less than the nominal earnings growth.

Every secular trough in equity markets has been accompanied either by above-average inflation or by pronounced deflation.⁸ This is because such a material shift in the price level unhinges investors' faith in current equity valuations. Sharp deflation shatters investor confidence about companies' ability to generate earnings going forward; sustained inflation marks down valuations due to the uncertainty of real earnings growth, higher interest rates, and increased volatility. Also, it could be argued that rising inflation precedes deflation, as only by engineering a sharp recession can policymakers put the inflation genie back in the bottle, and therefore future earnings should be sharply discounted. The record persistence of high valuations since 2003 could be ascribed to the fact that the United States has avoided both deflation and inflation, as the disinflationary force emanating from Asia has kept goods prices in check and bond yields low. However, as noted above, that tide may be turning.

From here U.S. equities could very well enjoy another cyclical rally engendered by the Fed's aggressive attempt to reflate the economy. However, we have two concerns:

- (1) We know that the risks facing the economy and markets are above average, yet equities have barely made even a typical recession-related bear market adjustment (i.e., a 20% to 30% decline), leaving them quite vulnerable to a sudden collapse in confidence or sentiment.
- (2) We still face secular headwinds, with the potential for much larger losses. However, this may take place over the coming years (especially if inflation is let out of the bottle), and will likely include additional volatile sell-offs and rallies as equities grind sideways and derate.

Therefore, investors need to be prepared for the potential of both a nasty shake-out and weak markets moving forward. The current ten-year average annual cumulative return is the lowest since the 1974–83 period (2.2%), yet the current levels of valuations, earnings, dividends, interest rates, and inflation are markedly different from that great equity market bottom. By June 1982, the market traded at a normalized P/E of 6.7, with real earnings well below trend, and sported a dividend yield of 6.2%, with inflation and interest rates poised to fall from double-digit levels. Given today's still elevated levels of valuations, earnings that are barely off their peak levels, and low dividend yields (not to mention the specter of rising future inflation and interest rates), we cannot help but conclude that equity returns are likely to prove disappointing over the intermediate term.

Table V walks through some scenarios for five-year S&P 500 nominal price appreciation based on changes in earnings growth and P/E multiples. If S&P 500 nominal earnings growth matches its average post-1960 five-year growth rate and P/E multiples remain unchanged, prices would rise by an average 5.3% over the period, still well below the average five-year return of 9.8% since 1900. Yet, if we assume zero earnings growth on average over the next five years (which happened over 1998–2003) and trailing P/E multiples fall only slightly from April's 22 times to 17.5 times (the post-1960 average P/E), price appreciation over the next five years would be -4.4% annually, thereby leaving investors solely dependent

⁸ Inflation was the scourge of U.S. equities over 1915–21 and 1968–82, and 1994–2003 in Latin America. Deflation was prevalent in the secular bottoms from 1929–42 in the United States, 1989–2003 in Japan, and 1997–2003 in emerging Asia.

upon dividends for return. However, both of these assumptions appear rather mild. Should earnings contract an average of 2% over the next five years (still mild compared to the 10% five-year average contraction seen by the middle of 2002) and real normalized P/E ratios fall from their April level of 23.5 to their post-1936 average of 17.5, S&P 500 price appreciation would average -7.7% over the next five years.

To achieve anything close to the average annual nominal five-year return since 1900 of 9.8%, one would have to assume a combination of both above-average earnings growth and significant P/E multiple expansion. Currently, I/B/E/S consensus long-term earnings expectations call for five-year earnings growth of 12.6%. While not unheard of, such growth is highly unusual (occurring in only nine of the 80 rolling five-year periods since 1926), and only occurs following earnings cycle troughs (i.e., 1933–37, 1992–96, and 2002–06). At present earnings are just beginning their descent, making it unlikely that such high analyst consensus expectations will be met in the near term. While we cannot predict at what level P/E ratios will stabilize in the coming years, we do not feel confident that a sustained rerating of P/E multiples is in the cards; therefore, investors should prepare for a tough slog ahead.

Could it Be Different This Time?

We base the secular bear framework on what our reading of history tells us to expect, but every once in a while there truly is a paradigm shift that vitiates historical comparisons. Is today such a turning point? Is the rise of China and the disinflationary impact of information technology and globalization so powerful that the past is no longer a valid guide? While we doubt it, we cannot deny the possibility.

The bullish case from here is that global growth and the rise of the emerging world have created a secular shift in global demand. The global economy is undeniably more open than in the past. The rise of a new middle class, with plenty of pent-up demand, will be a powerful force. The global economy now has a second engine to rely on, should the noble U.S. consumer finally take a breather. And given the still large masses of un- and underemployed persons in the emerging world, this dynamic has much longer to run.

We believe in the emerging markets story, but we think we may be a cycle too soon. Most of the emerging world still pursues an external demand growth model (although admittedly much of the external trade is done with other emerging countries) and in a globalized world economies are more integrated, not less. And none of the above negates the fact that economies are cyclical, as are profits and equity returns. No, we still think that the world has not fully decoupled from the United States, and certainly not the financial markets, as the past few months have clearly shown. A good recession may be just what emerging economies need to pursue more domestic demand-oriented policies, instead of throwing their reserves (and sovereign wealth funds) into U.S. assets that earn them negligible returns. In fact, rising inflation may force the emerging world to finally detach from the US\$, thereby enriching all its citizens, and perhaps making *the developed world dependent on emerging demand*. Then, maybe the world will change. But we judge we are not quite there yet.

Yet assuming the end is not nigh (we will skirt a global deflationary bust), and the Fed is not quick to raise rates given a shaky U.S. outlook, such aggressive reflation will flow somewhere. So where will the next speculative bubble form? Given that money flows to where it is treated best we would nominate clean technology (alternative energy), commodities, emerging markets equities, and infrastructure, as these assets offer the most promising growth prospects and are ripe for mania (if not already experiencing it!). Frontier markets receive an honorable mention in this category as well.

In such an environment, we would still expect U.S. equities to underperform, unless the United States becomes the center of cleantech development, fueling a domestic infrastructure boom (not to mention helping provide jobs for a struggling economy). In that situation the United States could find itself with another domestic bubble, especially if government money is thrown toward alternative energy and infrastructure. However, this suggestion is purely hypothetical and unlikely to happen in the next six to 12 months.

And as we wait for a reversion to the mean in equity markets, it is possible that the historical “mean” to which equity valuations revert has been shifted higher. Could the “global savings glut” continue to flow into the United States, not only via sovereign wealth funds, but from the emerging middle class whose trapped savings will one day be freed and looking for diversification? We will have to wait and see. One day the secular bear market will end, and a beaten up U.S. stock market, combined with a cheap dollar, could be an enticing bid indeed.

In conclusion, we expect the following:

- Market turmoil will continue in the months ahead, as investors pull back their expectations amid signs of a slowing U.S. and global economy.
- Defaults will emerge as the United States drifts into Phase III of the credit cycle, despite the actions of the Federal Reserve.
- Growth will be below trend for some time, even if the U.S. recession is relatively shallow.
- Risks are skewed toward higher inflation in the future, although in the short term deflation is the concern.
- Secular risks to U.S. equities remain, especially in a world of slower U.S. growth, higher inflation, and robust emerging markets. The secular bear is alive and well.

Asset Allocation: So What To Do?

Although our outlook is far from cheery, we do not envision the end of the world, and believe the global economy may emerge from a much-needed slowdown on a more balanced keel. Nonetheless, the process may be painful, especially for financial markets in the near term, and especially if deflation or inflation fears do come to fruition. Unlike in late 1999 when there were clear pockets of undervaluation to provide shelter from the impending storm, today there are few safe harbors. Yet we do not suggest investors sell everything and go hide under a rock (or in cash, canned foods, and Krugerrands); as one pundit recently

remarked, “don’t bet on Armageddon; it’s only gonna happen once, and then how are you going to get paid?” Rather we advise the following:

Batten down the hatches. If you haven’t already done so (and we have been stressing this since March 2007⁹), reassess the level of risk in the portfolio, looking especially for unintended bets. Is your portfolio implemented in a way that provides the intended level of diversification to help navigate through a potentially difficult environment, or are there many bets in different asset allocation buckets all subject to leverage and low-quality credit risk, for example, that would suffer as the credit crisis progresses? If you have a fixed income allocation intended as a hedge against deflation, is it invested in high-quality bonds, particularly intermediate- to long-duration sovereign, or does it include credit, counterparty, or call risk? Regardless of current prices, yields, or valuations, fixed income securities with such characteristics should not be considered part of a deflation hedge just because they are bonds.

Stay defensive. Now is not the time to be overly aggressive, but keep in mind that at some point in the indeterminate future another large shake-out in the markets may occur, which may offer opportunities to take a more positive stance on equities and credit. Our advice remains to overweight “quality” across equity and bond portfolios, which in this environment means to tilt toward mega-cap and large-cap steady-growth companies and away from small-cap and value stocks and strategies that inherently rely on a high degree of leverage to generate returns. As we progress through the credit cycle, a wide range of deep-value opportunities will emerge. Investors should rotate capital from high-quality, defensive investments to low-quality value investments of all sorts, but this should be done gradually and only when the downside is truly limited. Today, some deep-value opportunities exist, particularly among the most distressed sectors of the credit market (e.g., mortgages, structured products), but the vast majority of distressed and low-quality opportunities have yet to arrive and we anticipate that they will gradually unfold over the next year or two. Further, there has been some irrational selling in the credit markets, and perhaps some skilled managers can find attractive deals, especially in the high-grade corporate, high-quality agency mortgage and municipal space. However, we do not yet find credit attractive overall, especially in the high-yield segment, because we expect further stress to emerge as defaults rise. Although the credit markets are pricing sharply rising defaults, the opportunity for high-yield bonds will ripen later in the cycle.

Rebalance wisely. We expect elevated market volatility to continue for some time. Take advantage of any temporary rallies to either move toward desired defensive allocations, or pull back exposures to fund other opportunities. Rebalancing has the advantage of mitigating volatility and providing a disciplined buy-low, sell-high approach. In trending markets or in markets in which one asset class always dominates, rebalancing can result in lower returns. However, the primary objective of rebalancing is to reduce risk by reinforcing diversification and preventing momentum-driven, volatile markets from occupying too much of the portfolio.

Make sure you have the proper portfolio hedges. Given the continued uncertainty surrounding the macro outlook, investors need to make sure they have some protection against fat-tail events.

⁹ Please see our March 2007 Market Commentary *It’s Getting Late—Risks Are Rising*.

Deflation hedges: Most developed markets sovereign bonds are overvalued and U.S. Treasuries are very overvalued. To the extent that investors are holding Treasuries as a hedge against deflation, we recommend they maintain target allocations even at current levels because intermediate- to long-duration Treasury bonds should provide protection against a prolonged economic contraction—a prospect we cannot rule out. However, there remains the risk that such a “disaster hedge” could fail should non-U.S. holders abandon US\$-assets en masse, or even aggressively scale down their future purchases. In such an environment, non-U.S. sovereign bonds would be expected to benefit from a re-allocation away from U.S. Treasuries. Therefore, it might be sensible for US\$-based investors to incorporate a sort of “reinsurance” in the form of exposure to unhedged sovereign bonds. In short, while U.S. Treasuries offer little, if any, value today from a long-term perspective, that does not in the least imply that bond yields cannot decline, as the risks of deflation are real, especially should the U.S. economy continue to weaken.

Inflation hedges: Given our view that secular risks are skewed toward a period of above-average inflation, make sure diversified inflation hedges are in place. We have long advocated holding a diversified portfolio of hard assets (both liquid and illiquid) and inflation-linked bonds to maintain an appropriate allocation to assets that should appreciate in an environment in which unexpected inflation depresses most asset values. The allocation should be adequate to support spending needs, minimizing the likelihood of having to spend down assets that have fallen in value. However, at the moment the vast majority of hard assets are expensive or vulnerable to a pull back. For example, commodities seem very vulnerable to a larger than anticipated slowdown in global growth, even as the underlying dynamics of supply constraints and structural demand from the emerging world have not changed and should support commodity prices in the long run, as should monetary policy and inflation fears.

While a more opportune time to buy real assets may present itself over the coming months should deflationary fears spread, taking some price risk in the inflation-hedging space may be reasonable at this point, particularly for investors with a low allocation to such assets. We would advise to build positions gradually on weakness, rather than rushing in headlong at any cost. In assessing the degree to which you hold inflation-hedging assets, look across the portfolio in all asset classes. For example, natural resource equities (energy and materials sectors), which tend to appreciate in an inflationary environment, now account for roughly 20% of global developed markets equities and one-third of emerging markets equities based on the MSCI equity indices.

Keep a modest amount of dry powder. Consider holding modest amounts of cash in excess of what is normally required for liquidity purposes. We would not advocate raising cash by selling assets, but rather retaining cash from inflows or from rebalancing to fund future opportunities across the value spectrum (e.g., distressed investments, deep value equities). In contrast to 1999–2000, when there were significant pockets of undervalued assets outside the technology bubble (e.g., small-cap and value equities, hard assets), today virtually every asset class appears fully or overvalued, making cash a reasonable parking space to hold assets until value opportunities appear.

Underweight U.S. equities. We continue to advise a strategic underweight toward U.S. equities, as we feel the secular risks are skewed to the downside, especially *vis-à-vis* Asian markets in the long run.¹⁰ However, the U.S. market arguably is home to some of the highest-quality, dynamic companies in the world (partly explaining the relative resilience of U.S. equities since last year), providing lots of opportunity to overweight quality equities (particularly mega-cap growth) within U.S. equity allocations. The underperformance of non-U.S. equities since last summer has narrowed relative valuations sharply, although we still view most markets as slightly overvalued.¹¹ Another shake-out in global equities in the months ahead may present the chance to build strategic overweights at improved prices, especially should Asian equities fall sharply.

Overweight Japanese equities but patience required. There is value in Japanese shares, but no clear catalyst to release it. Anything could spark a rally from current lows—a clear shift in the political winds back toward reform may, however, be key. Indeed, a recession may just be the necessary force to forge a reform consensus. Meanwhile, Japanese equities have clearly priced in a global slowdown and recession-like conditions at home. Although the recent rally may well falter if global conditions deteriorate, we do not think current valuations are justified since they discount a corporate collapse similar to that of 2001–03, which we consider unlikely.

Be cautious in implementing strategic overweights to emerging markets equities. Back in November and December 2007 we warned that should the U.S. economy begin to enter recession, a shake-out in emerging markets on the order of 20% to 30% was quite feasible.¹² By late March, emerging markets equities had retested their January lows, and were 20% off their October 2007 highs. Emerging Asia was hit even harder, down 28% at one point. Emerging markets equities have since rallied strongly, raising the question of whether we have already seen the full decline for this cycle. However, we remain cautious toward emerging markets equities given the still lofty levels of normalized valuations they command and our belief that emerging markets shares may come under renewed pressure in the months ahead as we expect earnings and growth expectations to be downgraded, especially should commodity prices begin to roll over. However, we would advise to slowly build positions in emerging markets equities on further weakness (especially through managers with a defensive, value tilt), if investors are substantially underweight, as emerging markets equities may prove explosive should global growth fears dissipate.

Expect currency volatility. We wrote at length on the US\$ back in October 2007.¹³ Our thinking has not changed. The next leg of US\$ weakness will be against emerging markets currencies. However, the US\$ will remain under pressure against developed markets currencies so long as the Fed continues to slash interest rates while other central banks hold steady. A rally, however, especially versus European and

¹⁰ See our 2006 report *Cutting Strategic Allocations to U.S. Equity* and our November 2005 Market Commentary *Increasing Strategic Equity Allocations to Asia*.

¹¹ Please see *Notes on Current Valuations* for our view on a range of asset classes and strategies; available on our website at www.cambridgeassociates.com.

¹² Please see our November 2007 Market Commentary *Emerging Markets: What To Do, What To Do....*

¹³ Please see our October 2007 Market Commentary *Does the “Buck” Stop Here?*

commodity currencies, cannot be ruled out, especially once growth fears spread and other central banks begin cutting rates. At a minimum, a period of heightened currency volatility is in store, which will introduce added volatility to unhedged global portfolios, something global investors need to consider.

Consider long/short hedge funds. We are becoming increasingly optimistic about the prospects for long/short equity hedge fund investing. A growing number of managers have moved from using index shorts and option overlays to security-specific shorts. Furthermore, the slowdown in merger and acquisition activity has reduced the hazards of shorting poorly run companies only to see them appreciate in value as buyout firms snap them up. The significant divergence between high-quality and low-quality asset performance, high volatility, and general dispersion across economic sectors and securities should provide ample opportunities for skilled managers to add alpha on the long and short side of the portfolio. However, the current environment is not without its challenges, as managers have experienced several recent instances when technical factors have led to sharp and unexpected market moves. For example, as evidenced early this year, aggressive central bank actions can lead to rallies in financial stocks and other interest rate-sensitive securities in which many managers had short positions. Further, the risk of going long high-quality assets remains, should additional rounds of margin calls force managers to sell their most liquid assets, which tend to be the highest-quality issues.

Go slow in implementing distressed strategies. Given the hazardous nature of this stage of the credit cycle, we continue to counsel caution in funding managers today. Managers that are not sufficiently experienced and knowledgeable could easily fall into the value trap of believing that \$0.75 on the dollar is good value, only to see their investments sink lower. For example, managers that bought first-lien hung bridge loans at \$0.96–\$0.97 have watched prices on these loans sink to \$0.90–\$0.91, while some dealer banks have reportedly marketed massive loan portfolios at even lower prices and most managers now believe prices will bottom at levels closer to the mid-\$0.80s. Similarly, the recent peak high-yield credit spread over ten-year Treasuries of more than 850 bps was above the average historical spread, but did not represent good value compared to past credit cycles, when spreads widened to over 1,000 bps at their peak.

When sizing distressed allocations, investors should consider their desired exposure to low-quality value assets in the aggregate, as this type of exposure cuts across many asset classes, including small-cap deep-value public equities, traditional buyout funds, high-yield managers, and dedicated distressed managers, as well as multi-strategy managers and open-mandate managers that will increasingly rotate capital into the sector over the remainder of the cycle. Performance across managers is likely to be highly diverse, perhaps even more so than in the past, given the magnitude of the credit excesses, the huge demand for investment, and the wider range of distressed strategies that currently exist.

With regard to timing the pace of investment into these strategies, it is impossible to know in advance how long it will take to progress through the credit cycle, so investors should be particularly selective today with capital that would be put to work immediately. Managers with a high degree of expertise in valuing mortgages, leveraged loans, high-yield bonds, and/or structured credits will be best at separating the wheat from the chaff in the current environment and will benefit as opportunities broaden out considerably as the credit cycle advances. We would also recommend investing with lock-up managers likely

to draw down capital judiciously as real opportunities develop and with multi-strategy and open-mandate managers able to rotate into opportunities as they arise. Finally, we expect deep-value equities (both marketable and non-marketable) to perform very well as economic growth rebounds and the credit markets recover. While buyout firms may be struggling to deploy their capital effectively right now, those focused on improving operating efficiencies should be able to find a ripe hunting ground when we enter the third phase of the credit cycle.

Be selective with U.S. buyouts. Manager selection continues to be of paramount importance in buyout investing. Buyout managers currently face more challenging times (e.g., limited access to credit, a higher cost of capital, renewal of loan covenants), yet the flow of capital into buyout funds is remarkably robust. This has kept purchase prices high, as there is increased competition for a more limited set of investment opportunities. The flow of capital has also served to encourage some managers to stray from their long-standing strategies, allocating as much as 10% to 15% of their portfolios to non-control positions in hung bridge debt investments. Others are pursuing strategies that incur timing risk, such as purchasing companies with 100% equity with the expectation that they will be able to optimize the capital structure under better financing terms in the future. These trends suggest that investors should be particularly diligent in understanding how managers plan to navigate through the current environment. If managers are entering new areas, do they have the experience and resources to be successful?

Furthermore, we continue to monitor managers to evaluate the degree to which investment objectives may be shifting, particularly among the largest buyout funds. As the investor base for non-marketable investments continues to expand to include very large investors wanting to put huge sums of capital to work at the same time that the economics of large buyout firms is shifting such that the majority of general partner income may now come from management fees instead of carried interest, the potential for managers to lower their return objectives is growing. Investors should continue to be selective in new investments, even if that means reducing allocations. Middle-market managers with strong operating and financing expertise and demonstrable skill at executing classic buyouts may be slow to invest, but could turn out to be the most successful in the forthcoming vintage years.

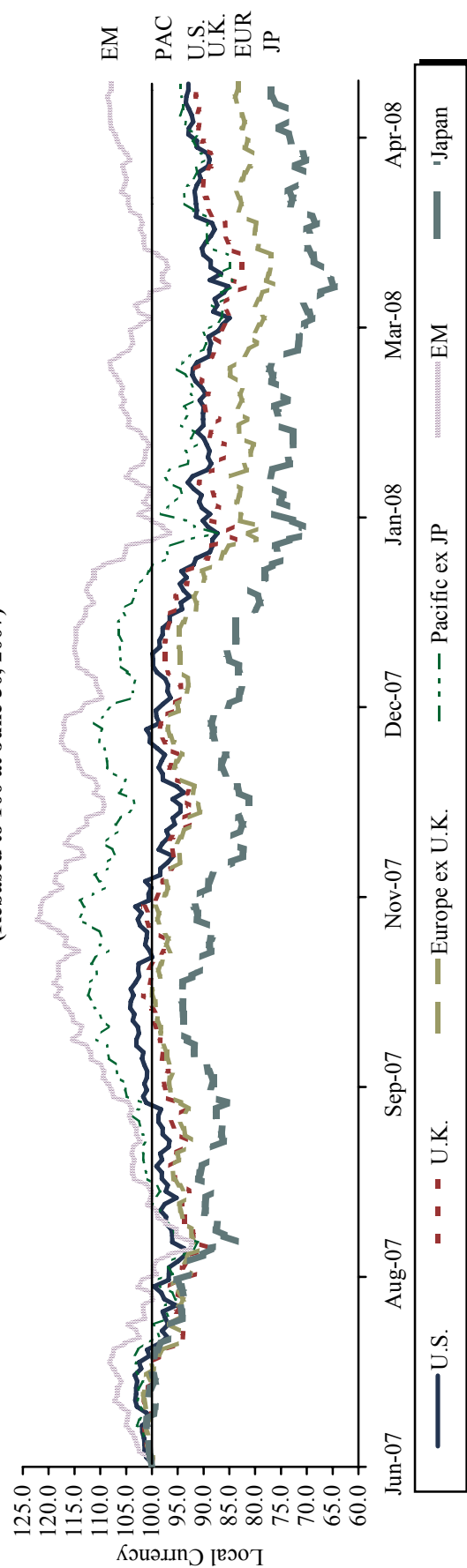
Conclusion

In sum, investors should stay defensive for now, making sure the ship can weather the storm, but should be prepared to continue to move slowly into attractive deep-value opportunities should market conditions deteriorate as we anticipate. The global macroeconomic outlook is unusually clouded at this juncture, suggesting that financial markets will continue to be caught between the Scylla and Charybdis of deflation and inflation, with policymakers forced, like Odysseus, to choose between the lesser of two evils.

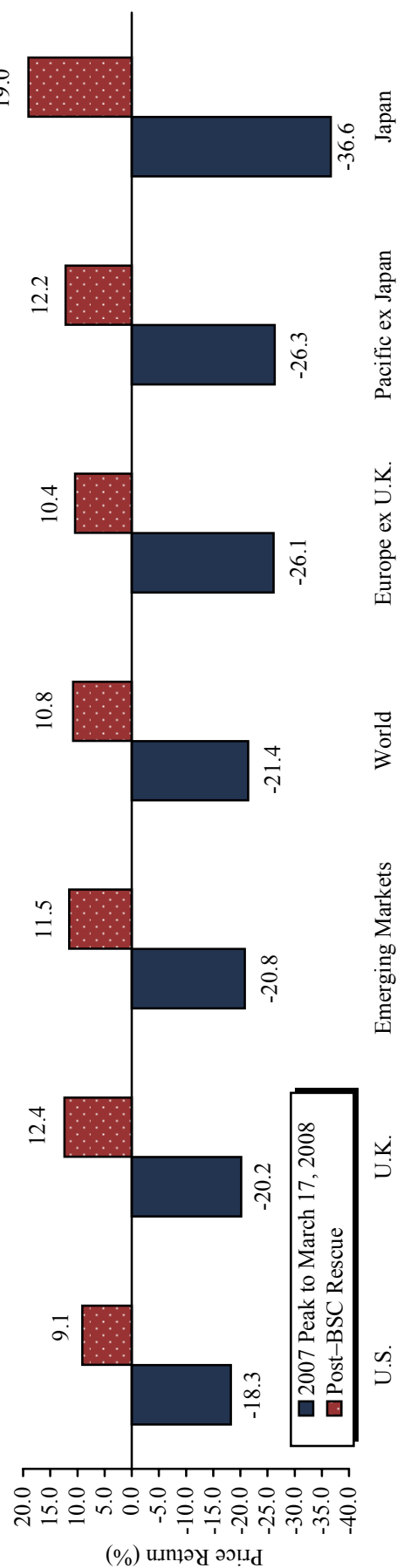
Table A

GLOBAL EQUITY PERFORMANCE

June 30, 2007 – April 30, 2008

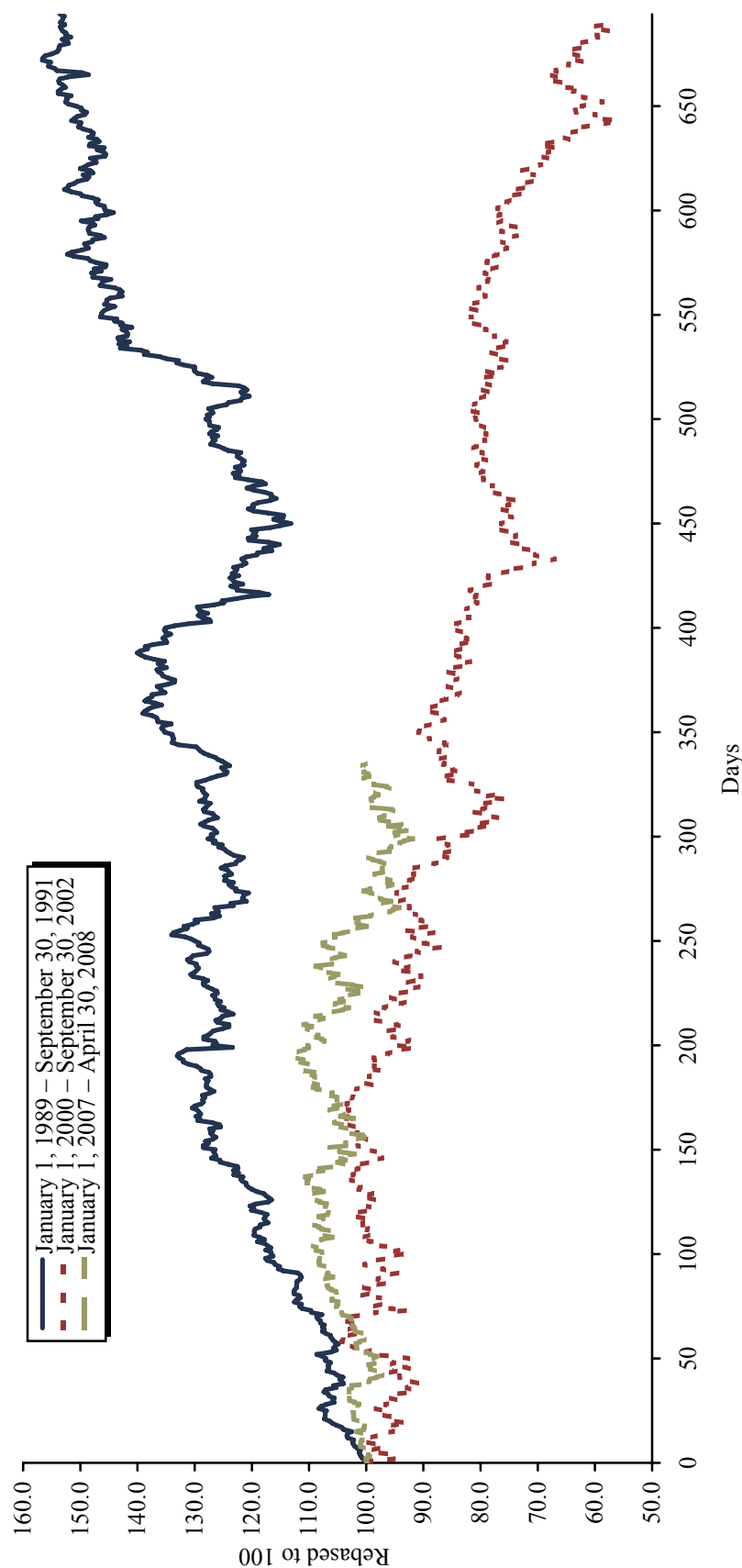
Cumulative Wealth
(Rebased to 100 at June 30, 2007)

Pre- and Post-Bear Stearns Rescue



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

Table B
S&P 500 RECESSIONARY BEAR MARKETS



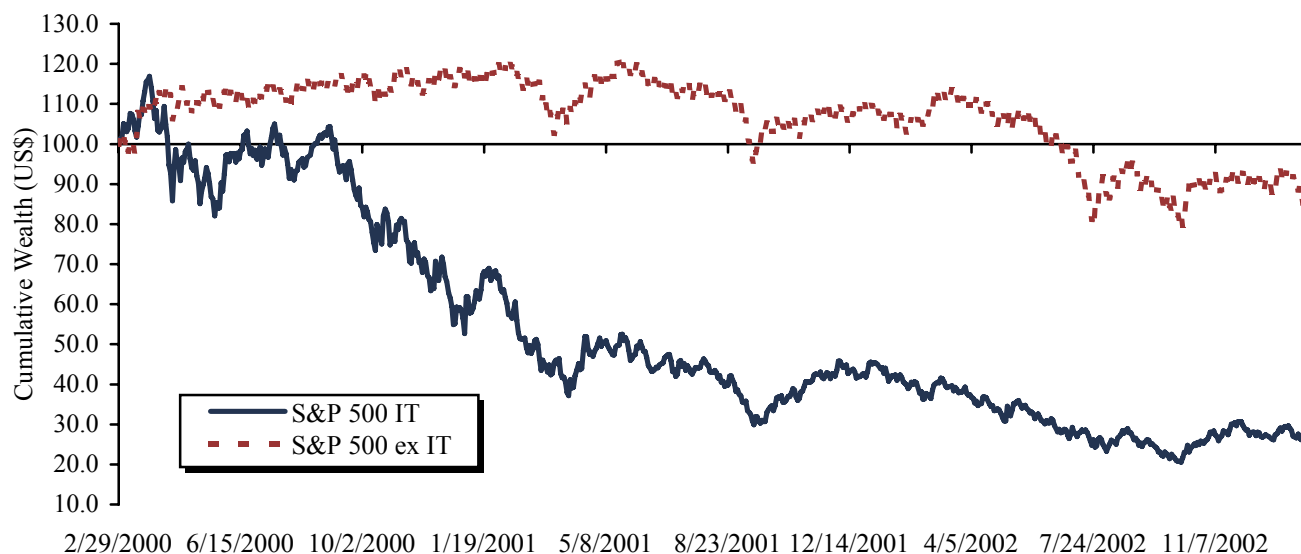
Sources: Goldman Sachs Research, Standard & Poor's, and Thomson Datastream.

Notes: Cumulative wealth based on S&P 500 total return. Cumulative wealth data for period January 1, 1989 through September 30, 1991, rebased to 100 at December 31, 1988; for period January 1, 2000 through September 30, 2002, rebased to 100 at December 31, 1999; and for period January 1, 2007 through April 30, 2008, rebased to 100 at December 31, 2006.

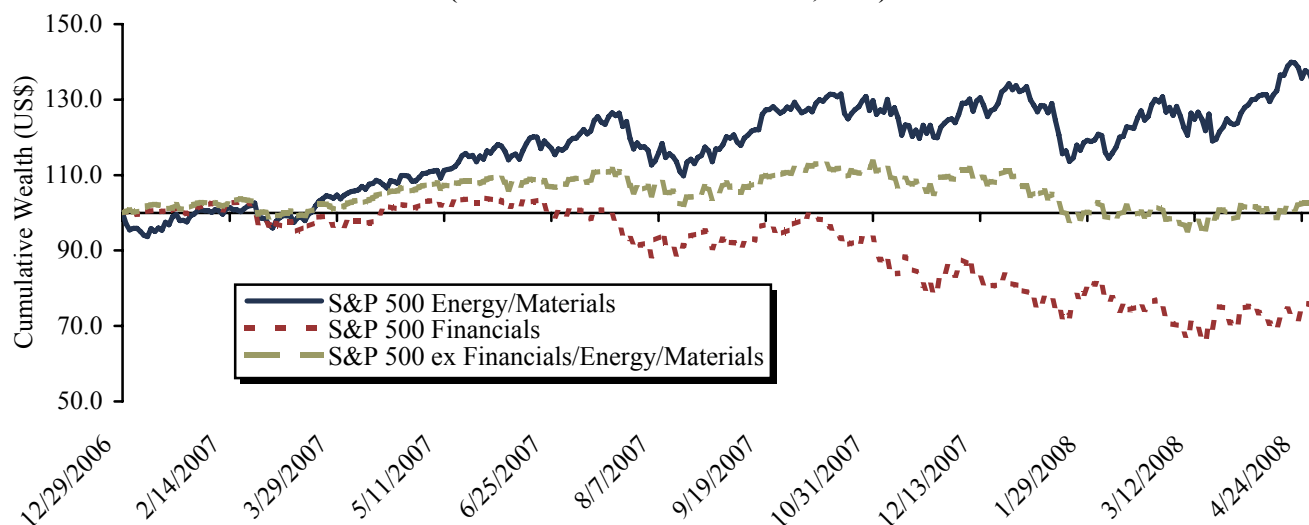
Table C

TWO-STAGE BEAR MARKET

S&P 500 IT and S&P 500 Excluding IT
March 1, 2000 – January 31, 2003
(Rebased to 100 at February 29, 2000)



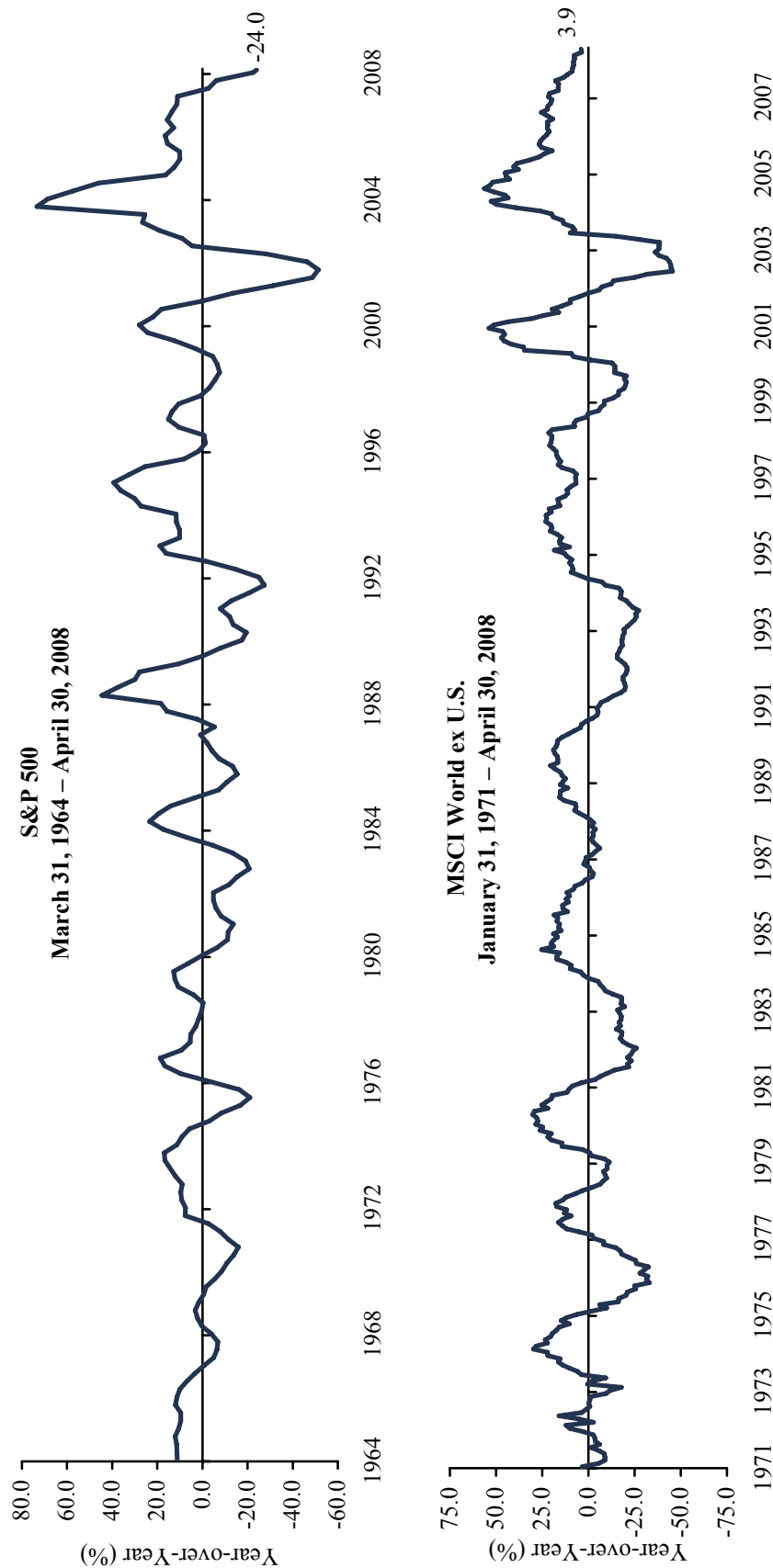
S&P 500 Energy/Materials, S&P 500 Financials, S&P 500 ex Financials/Energy/Materials
January 3, 2007 – April 30, 2008
(Rebased to 100 at December 31, 2006)



Sources: FactSet Research Systems, Morgan Stanley Research, and Thomson Datastream.

Table D

REAL ANNUAL EARNINGS PER SHARE GROWTH OF S&P 500 AND MSCI WORLD EX U.S.

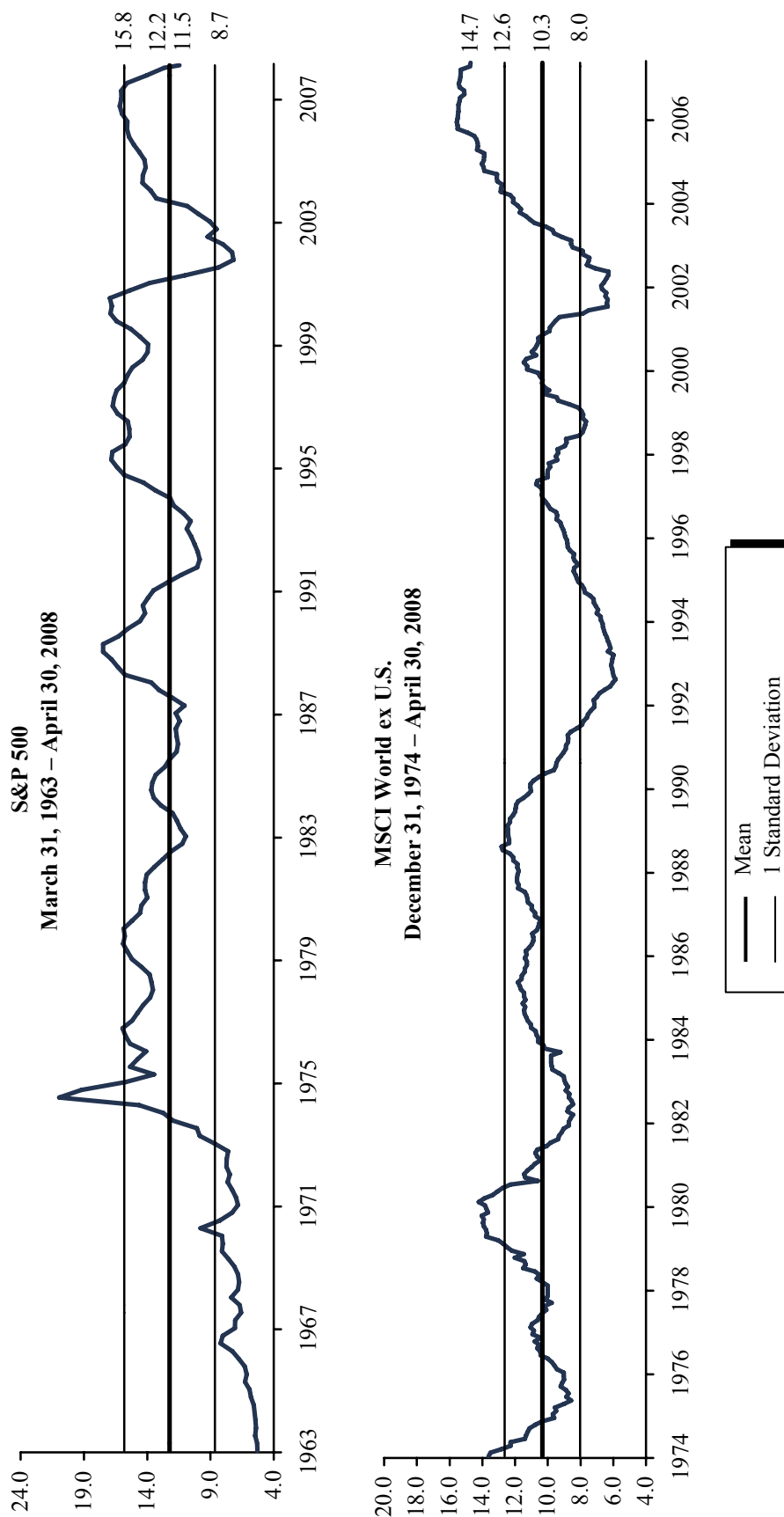


Sources: MSCI Inc., Standard & Poor's, and Thomson Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: S&P 500 earnings per share (EPS) deflated by CPI-U, based on March 31, 2008 level. MSCI World ex U.S. EPS deflated by G7-CPI, based on February 29, 2008 level.

Table E

RETURN ON EQUITY OF S&P 500 AND MSCI WORLD EX U.S.

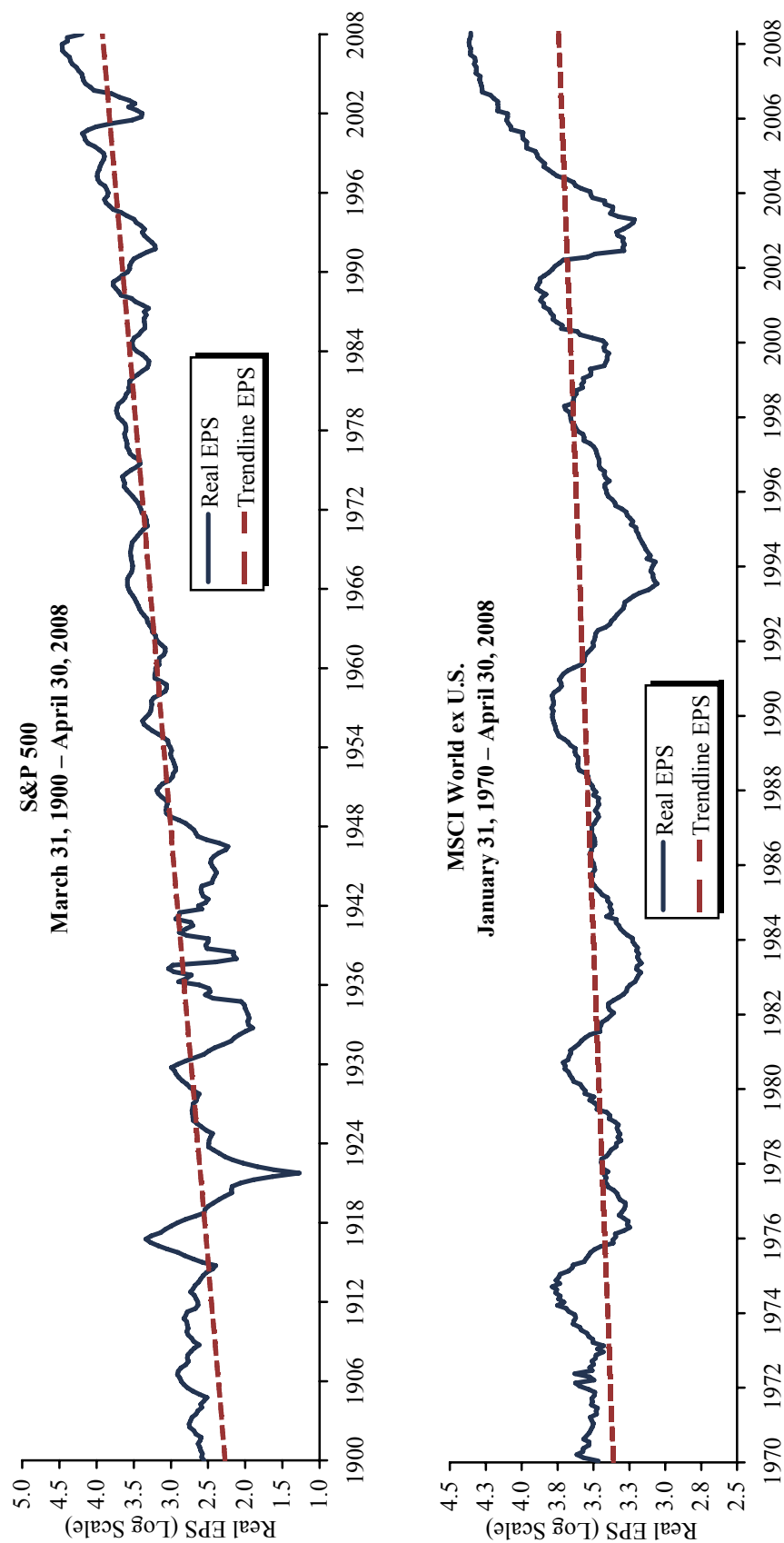


Sources: MSCI Inc., Ned Davis Research, Inc., Standard & Poor's, and Thomson Datastream. MSCI data provided "as is" without any express or implied warranties.

Note: Return on equity is calculated by dividing the index's price-to-book ratio by its price-earnings ratio.

Table F

REAL EARNINGS OF S&P 500 AND MSCI WORLD EX U.S.

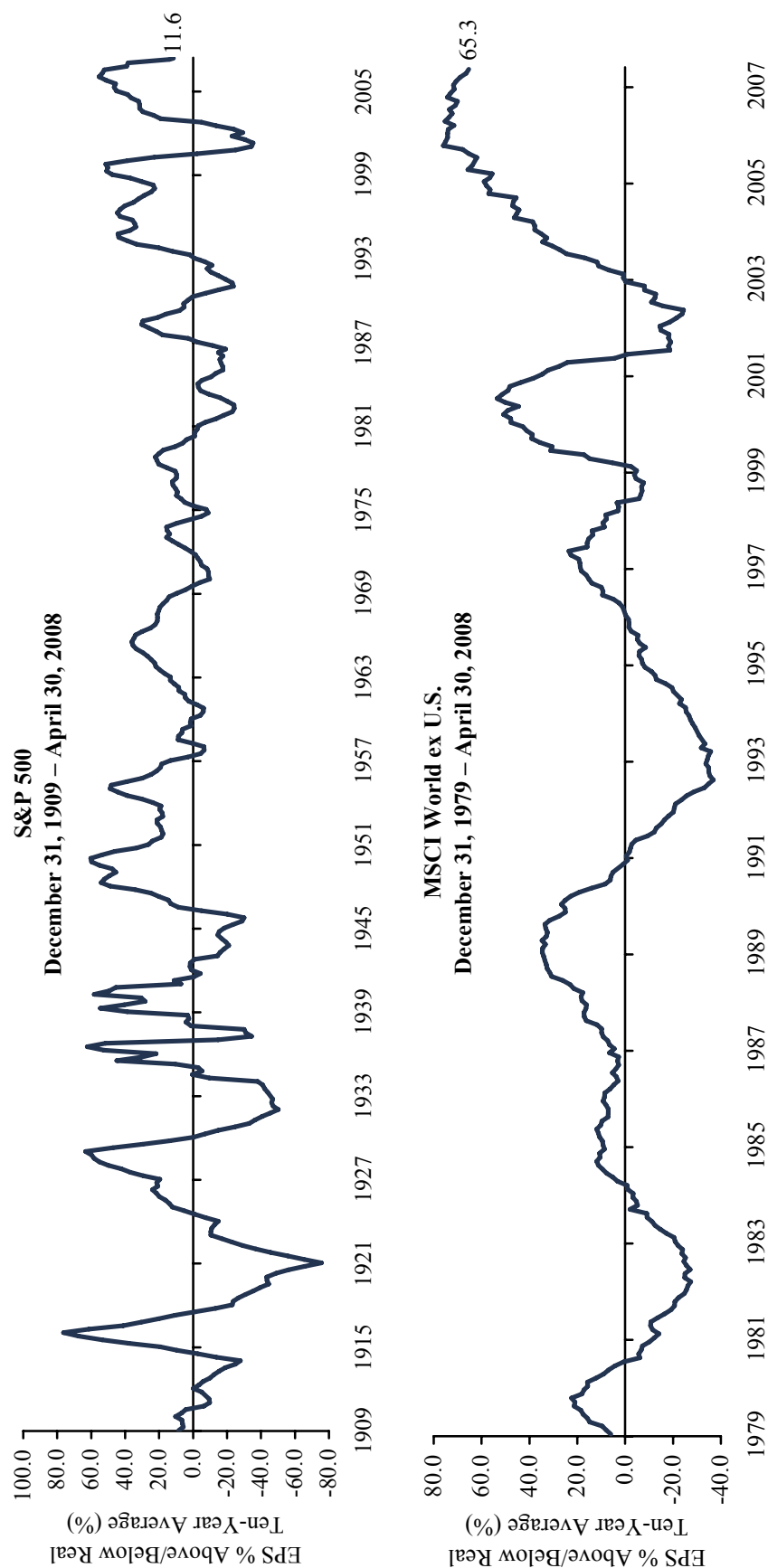


Sources: MSCI Inc., Standard & Poor's, and Thomson Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: S&P 500 earnings per share (EPS) deflated by CPI-U, based on March 31, 2008 level. MSCI World ex U.S. EPS deflated by G7-CPI, based on February 29, 2008 level. Trendline earnings based upon simple linear regression.

Table G

REAL EARNINGS PER SHARE PERCENT ABOVE/BELOW NORMALIZED TEN-YEAR AVERAGE LEVEL



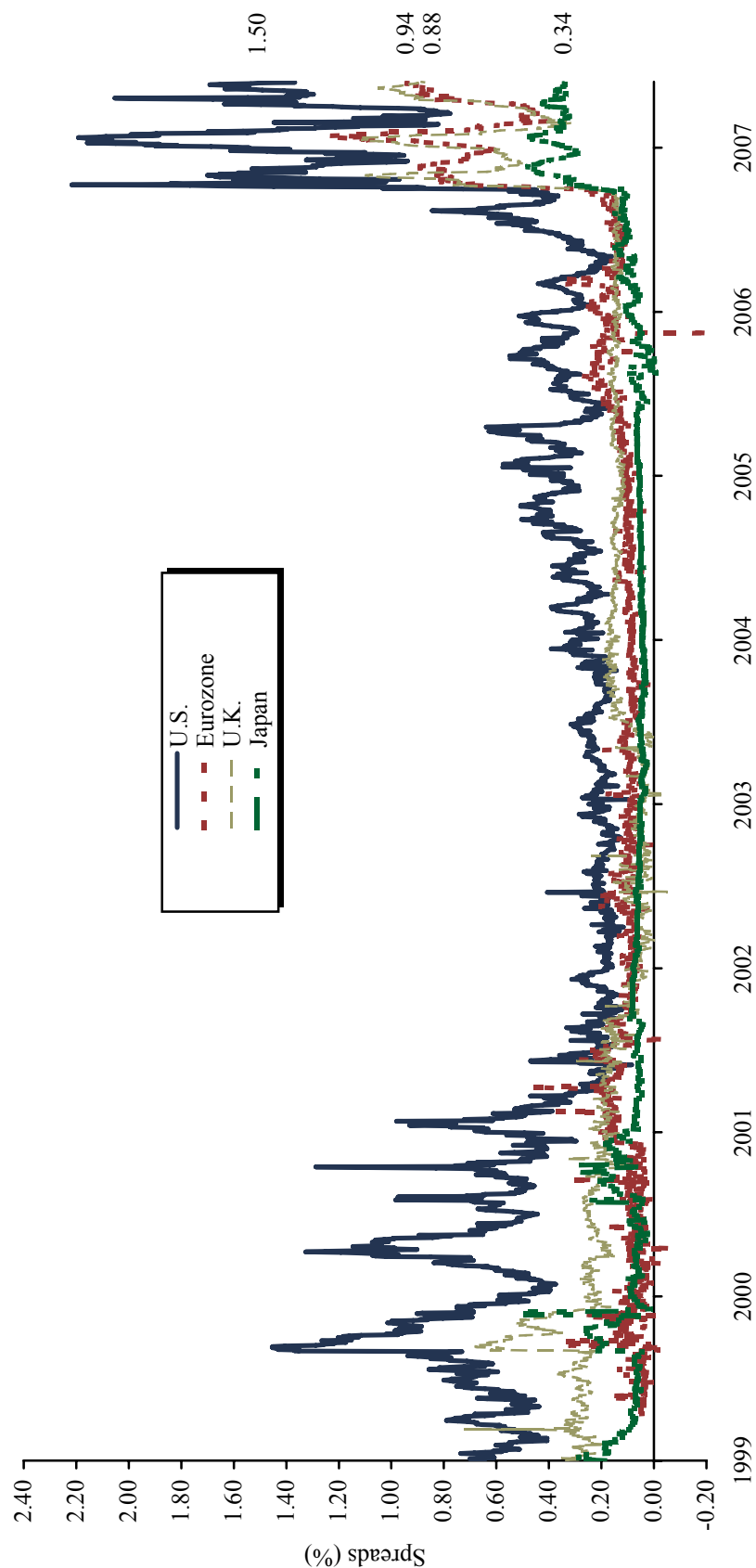
Sources: MSCI Inc., Standard & Poor's, and Thomson Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: S&P 500 earnings per share (EPS) deflated by CPI-U, based on March 31, 2008 level. MSCI World ex U.S. EPS deflated by G7-CPI, based on February 29, 2008 level.

Table H

TED SPREADS

January 4, 1999 – April 30, 2008



Sources: FactSet Research Systems and Thomson Datastream.

Note: TED spreads are calculated by subtracting the three-month LIBOR and three-month Treasury bill in local currency for each region.

Table I

CREDIT LOSS ESTIMATES: GOLDMAN SACHS, IMF AND MORGAN STANLEY

(US\$ Billions)

IMF Estimates of Credit-Related Losses			Morgan Stanley Estimates of Credit-Related Losses		
	<u>Total Outstanding</u>	<u>Estimated Losses</u>		<u>Estimated Losses</u>	<u>% of Total Loss</u>
Prime Mortgages	3,800	40	U.S. Commercial Banks	250	18
Commercial Real Estate	2,400	30	U.S. Hedge Funds	233	17
Alt-A	600	30	U.S. GSEs	112	8
Subprime	300	45	U.S. Investment Banks	<u>75</u>	<u>5</u>
Corporate Loans	3,700	50	Total U.S. Levered Sector	\$671	49%
Consumer Loans	1,400	20			
Leveraged Loans	170	10			
Prime MBS	3,800	0	Insurance Companies	319	23
ABS	1,100	210	Foreign Banks	167	12
CMBS	940	210	Finance Companies	95	7
Consumer ABS	650	0	Foreign Hedge Funds	58	4
ABS CDOs	400	240	Mutual and Pension Funds	<u>57</u>	<u>4</u>
High-Grade Corporate Debt	3,000	0	Total Other	\$697	51%
High-Yield Corporate Debt	600	30			
CLOs	<u>350</u>	<u>30</u>			
Total IMF Estimates	\$23, 210	\$945	Total Morgan Stanley Estimates	\$ 1,368	100%

Goldman Sachs Estimates of U.S. Credit-Related Losses				
	<u>Total Estimated Losses</u>	<u>Less Loan Loss Provisions</u>	<u>Net U.S. Levered Sector Exposure</u>	<u>After-Tax Deduction Exposure U.S. Levered Sector</u>
Residential Mortgages	500	434	194	156
Commercial Real Estate	183	130	48	54
Nonfinancial Corporate Bonds	172	172	139	22
Credit Cards	145	38	0	25
Commercial and Industrial Loans	79	53	0	34
Auto Loans	<u>78</u>	<u>13</u>	<u>0</u>	<u>8</u>
Total Goldman Sachs Estimates	\$1,156	\$839	\$381	\$298

Sources: Goldman Sachs Research, IMF Global Financial Stability Report, April 2008, and Morgan Stanley Research.

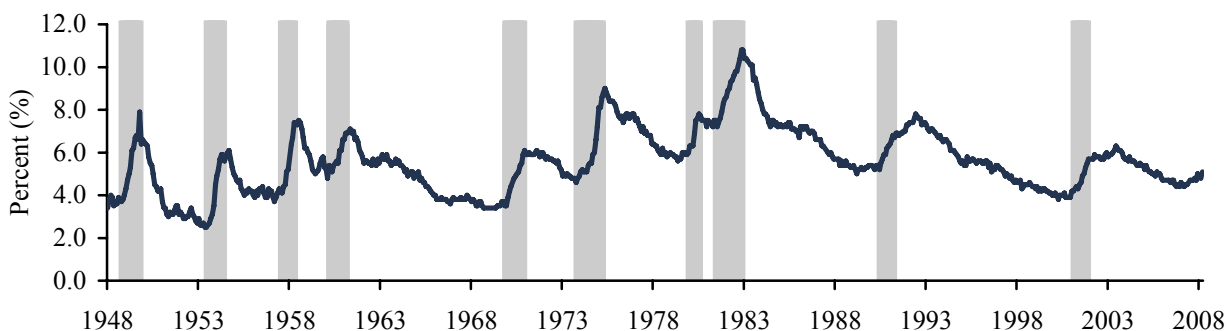
Notes: Levered sector includes U.S. investment banks, commercial banks, mortgage agencies, and hedge funds. Non-levered sector includes insurance companies, pension funds, and mutual funds. Morgan Stanley estimates from David Greenlaw, et al., *Leveraged Losses: Lessons from the Mortgage Market Meltdown*, February 29, 2008. Goldman Sachs estimates from Jan Hatzius, *More on Leveraged Losses*, March 7, 2008.

Table J

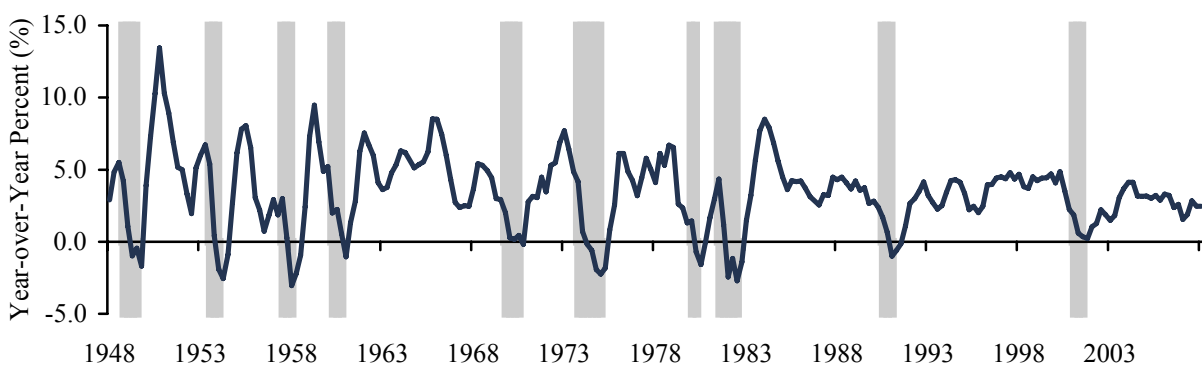
U.S. ECONOMIC INDICATORS

1948–2008

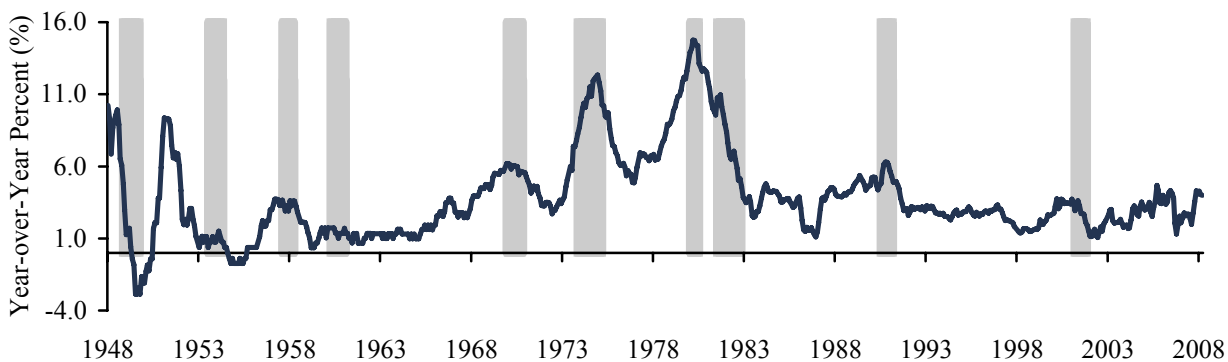
Unemployment Rate



Real GDP



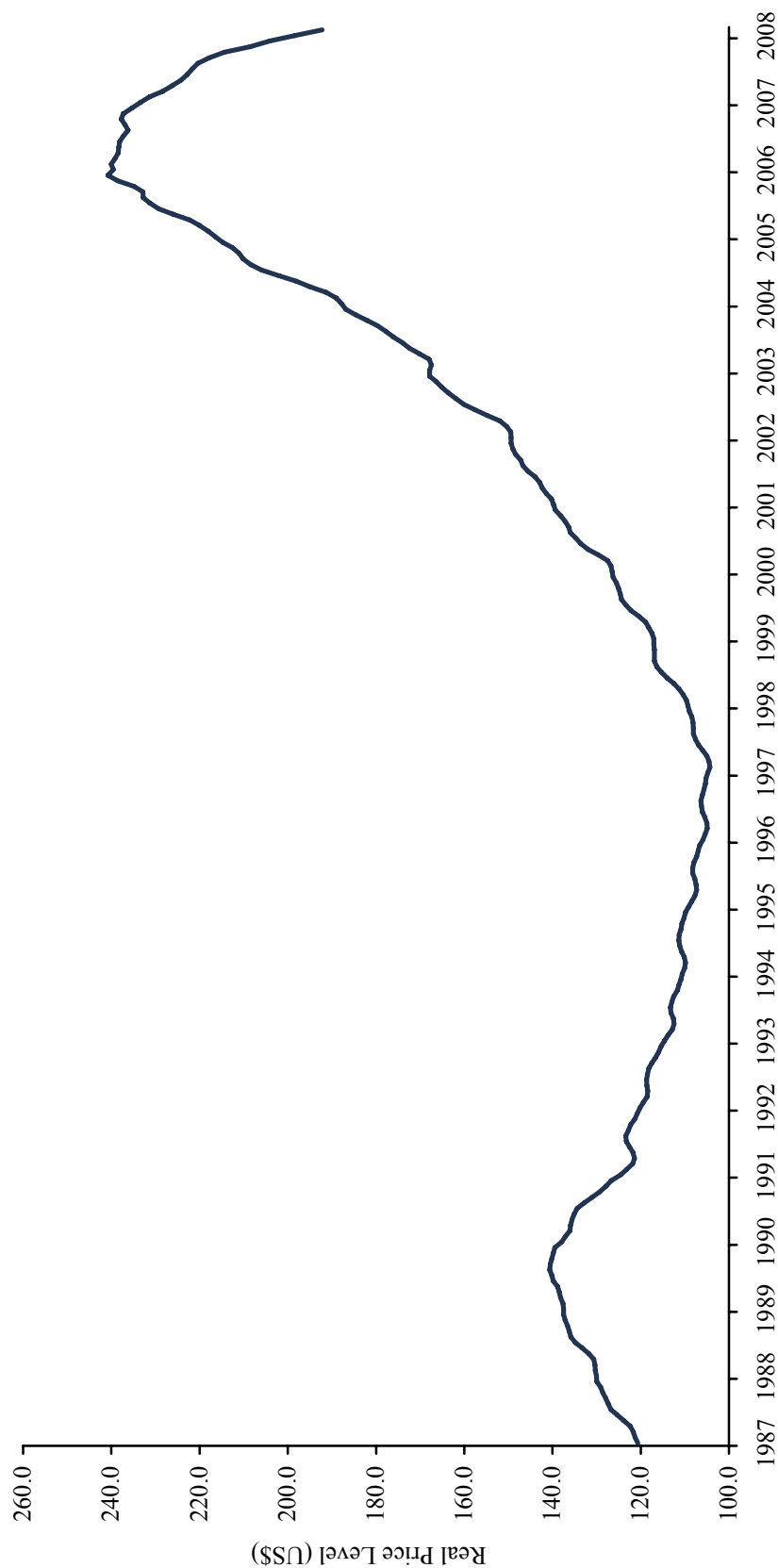
Consumer Price Index



Sources: Bureau of Economic Analysis, Ned Davis Research, Inc., Thomson Datastream, and U.S. Department of Labor - Bureau of Labor Statistics.

Notes: Real GDP and unemployment data are seasonally adjusted. Data for 2008 are as of March 31, 2008, except the real GDP data, which are as of December 31, 2007. Shaded areas indicate U.S. recessionary periods as defined by NBER.

Table K
CASE-SHILLER REAL HOUSE PRICE LEVEL
As of February 29, 2008



Source: Thomson Datastream.

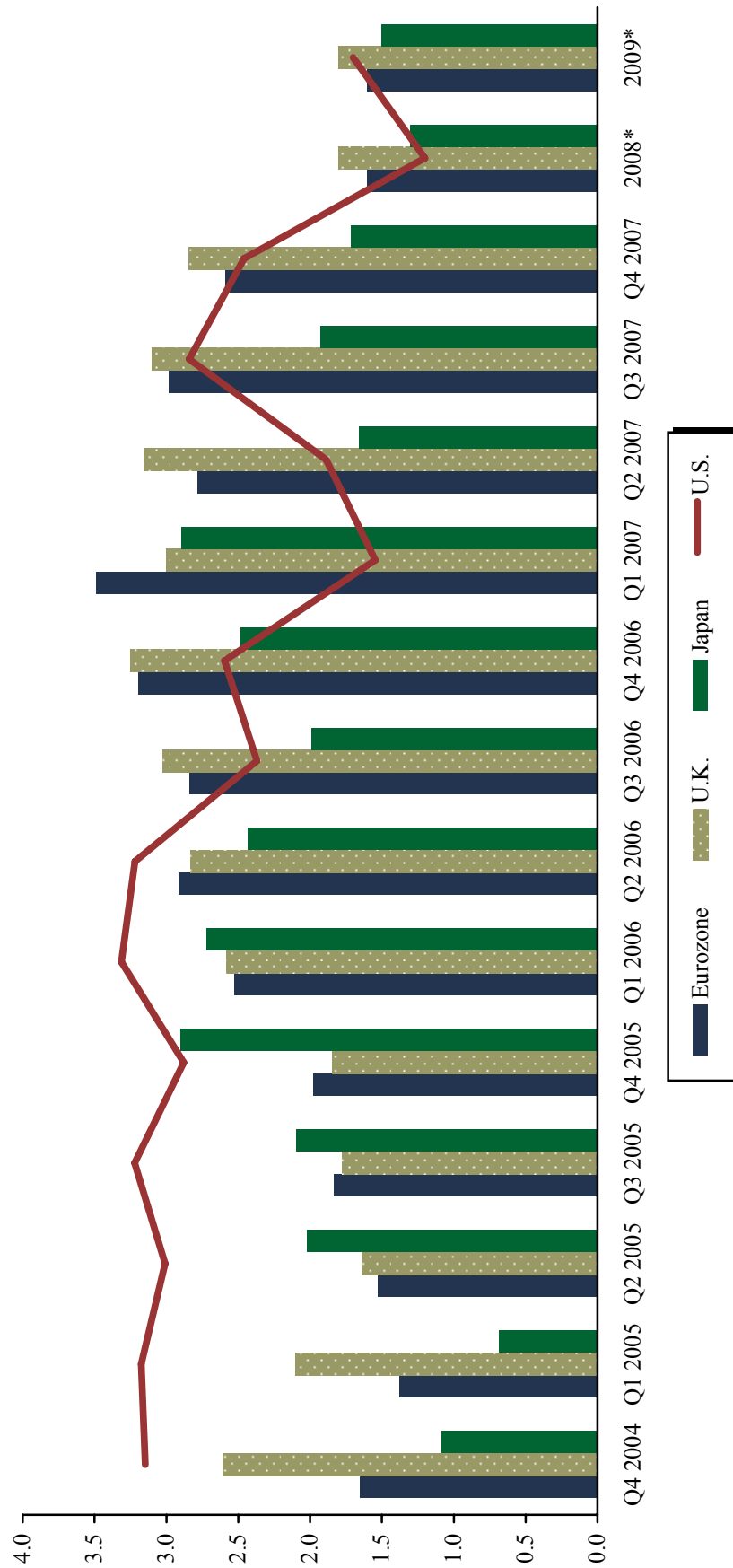
Notes: Chart based on monthly Case-Shiller 10-City Composite House price levels. Data are from January 31, 1987 to February 29, 2008. Price levels adjusted by CPI-U to March 31, 2008 dollars.

Table L

REAL GDP GROWTH

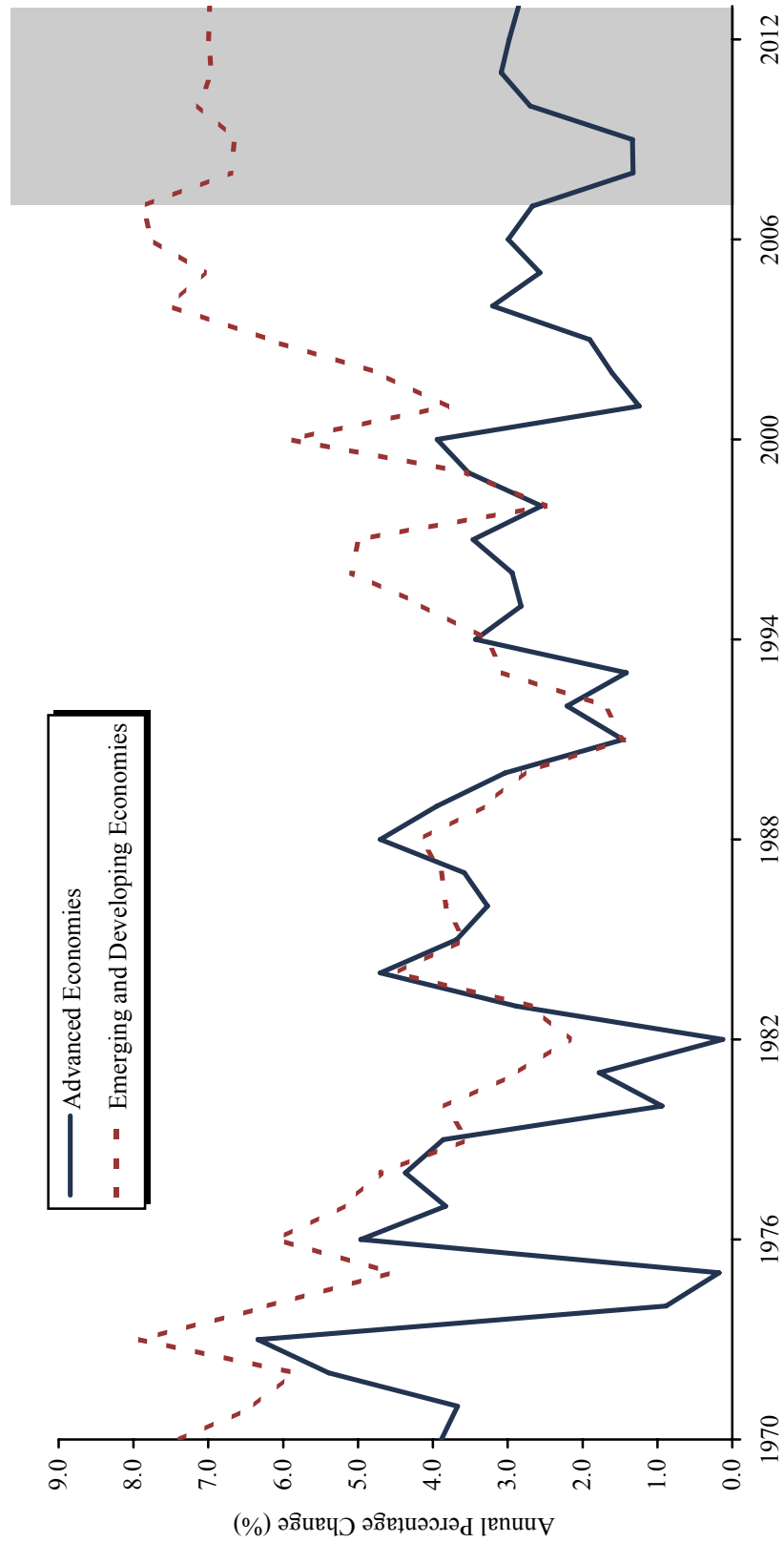
2004-09

(Trailing Four-Quarter Rate)

Sources: *The Economist* and Thomson Datastream.

* GDP growth for 2008 and 2009 based on consensus forecasts.

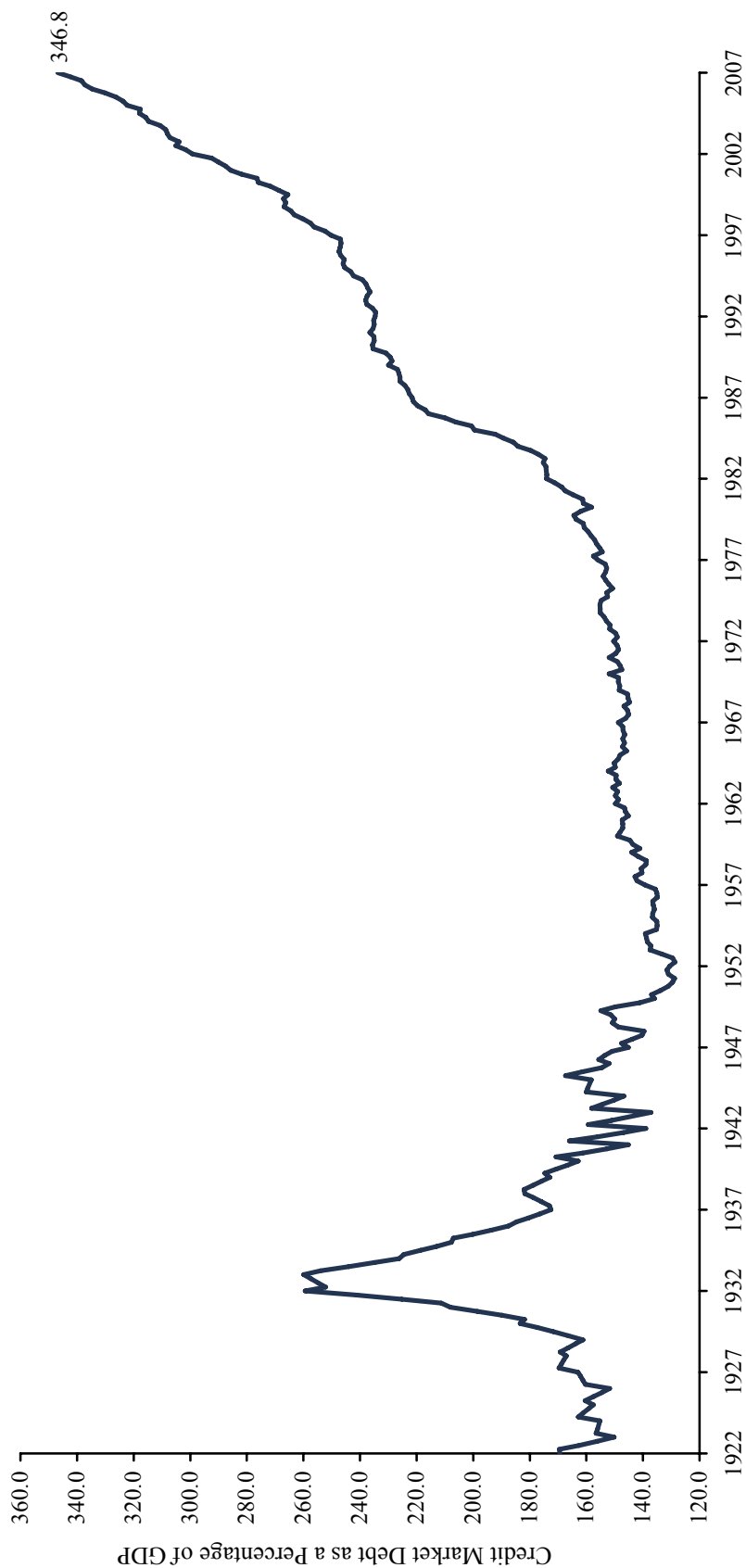
Table M
REAL GDP GROWTH
1970–2013



Source: International Monetary Fund, World Economic Outlook, April 2008.

Notes: Shaded areas indicate IMF staff projections.

Table N
CREDIT MARKET DEBT AS A PERCENTAGE OF NOMINAL GDP
December 31, 1922 – December 31, 2007

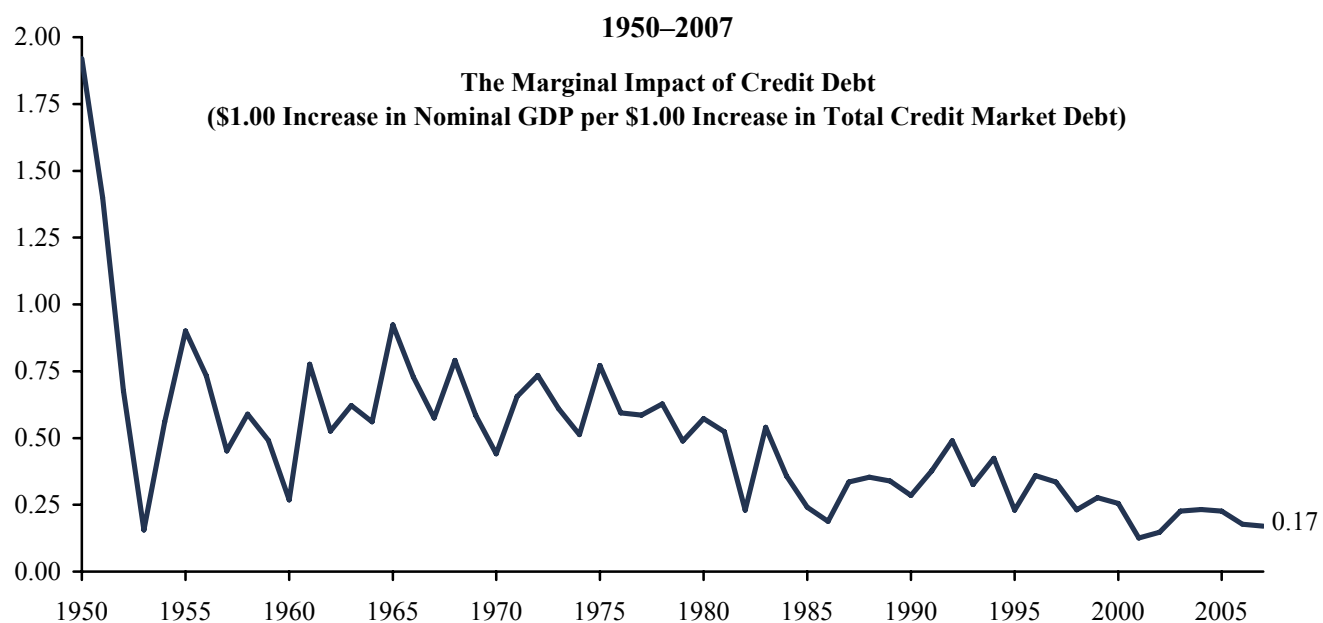


Source: Ned Davis Research, Inc.

Note: Graph represents quarterly data.

Table O

THE DIMINISHING IMPACT OF CREDIT ON THE U.S. ECONOMY



Date	Change in Credit Debt (\$ Billion)	Change in Nominal GDP (\$ Billion)	Marginal Impact of Credit Debt on Nominal GDP	Percent Change of Credit Debt to Nominal GDP Ratio (%)	AACR of Real GDP (%)
1950–59	338	248	0.73	-4.8	4.2
1960–69	752	492	0.65	3.0	4.3
1970–79	2,785	1,655	0.59	8.4	3.3
1980–89	8,563	2,924	0.34	43.0	3.1
1990–99	12,500	3,936	0.31	15.8	3.2
2000–07	23,469	4,554	0.19	30.3	2.4
2007	3,998	682	0.17	3.6	2.5
Stable Credit Growth					
1950–80	4,324	2,652	0.61	7.0	3.8
Exponential Credit Growth					
1981–2007	44,083	11,157	0.25	114.1	3.0

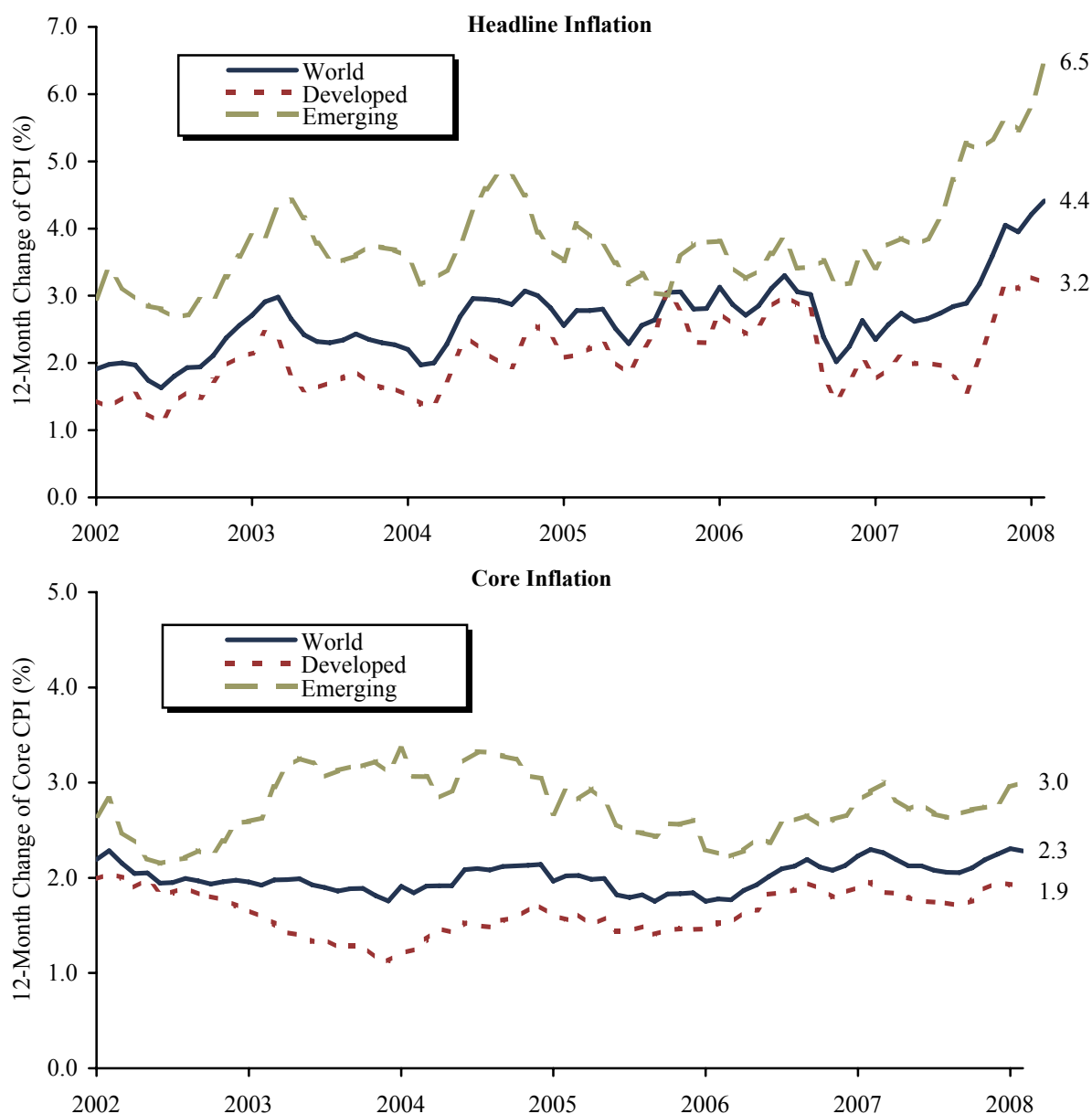
Sources: Global Financial Data, Inc. and Ned Davis Research, Inc.

Notes: The marginal impact of debt is measured as the year-over-year dollar change in U.S. nominal GDP divided by dollar change in total credit market debt. In 2007, for example, \$3,998 billion in new debt was accompanied by only a \$682 billion increase in nominal GDP, implying that every \$1 of additional debt resulted in \$0.17 of growth.

Table P

GLOBAL INFLATION

January 31, 2002 – February 29, 2008

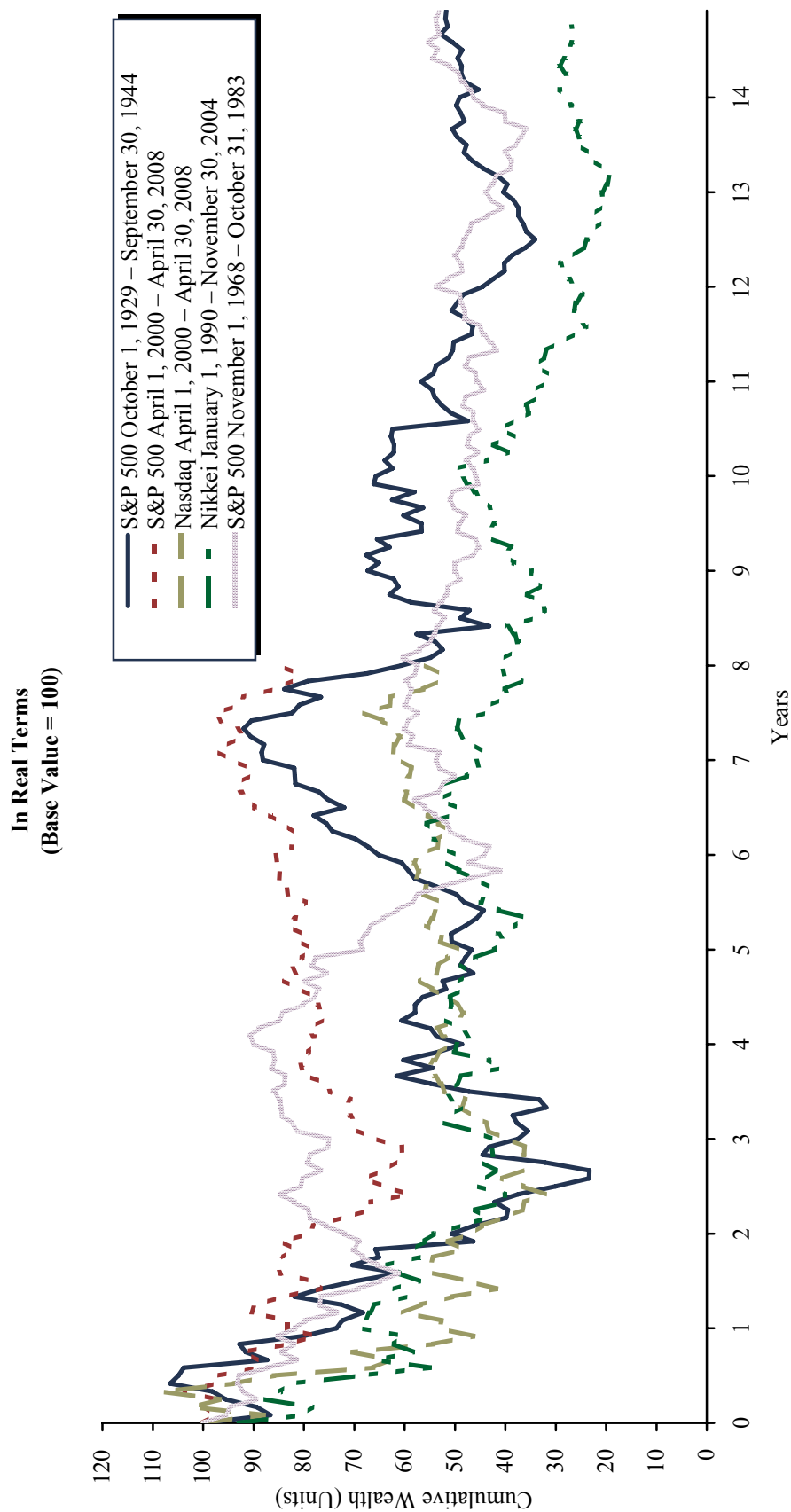


Source: International Monetary Fund, World Economic Outlook, April 2008.

Notes: Developed economies include Australia, Canada, Denmark, the Euro Area, Japan, New Zealand, Norway, Sweden, United Kingdom, and United States. Emerging economies include Brazil, Bulgaria, Chile, China, Estonia, Hong Kong SAR, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Poland, Singapore, South Africa, Taiwan Province of China, and Thailand.

Table Q

CUMULATIVE WEALTH DURING VARIOUS BEAR MARKETS FOR THE S&P 500, NASDAQ AND NIKKEI INDICES



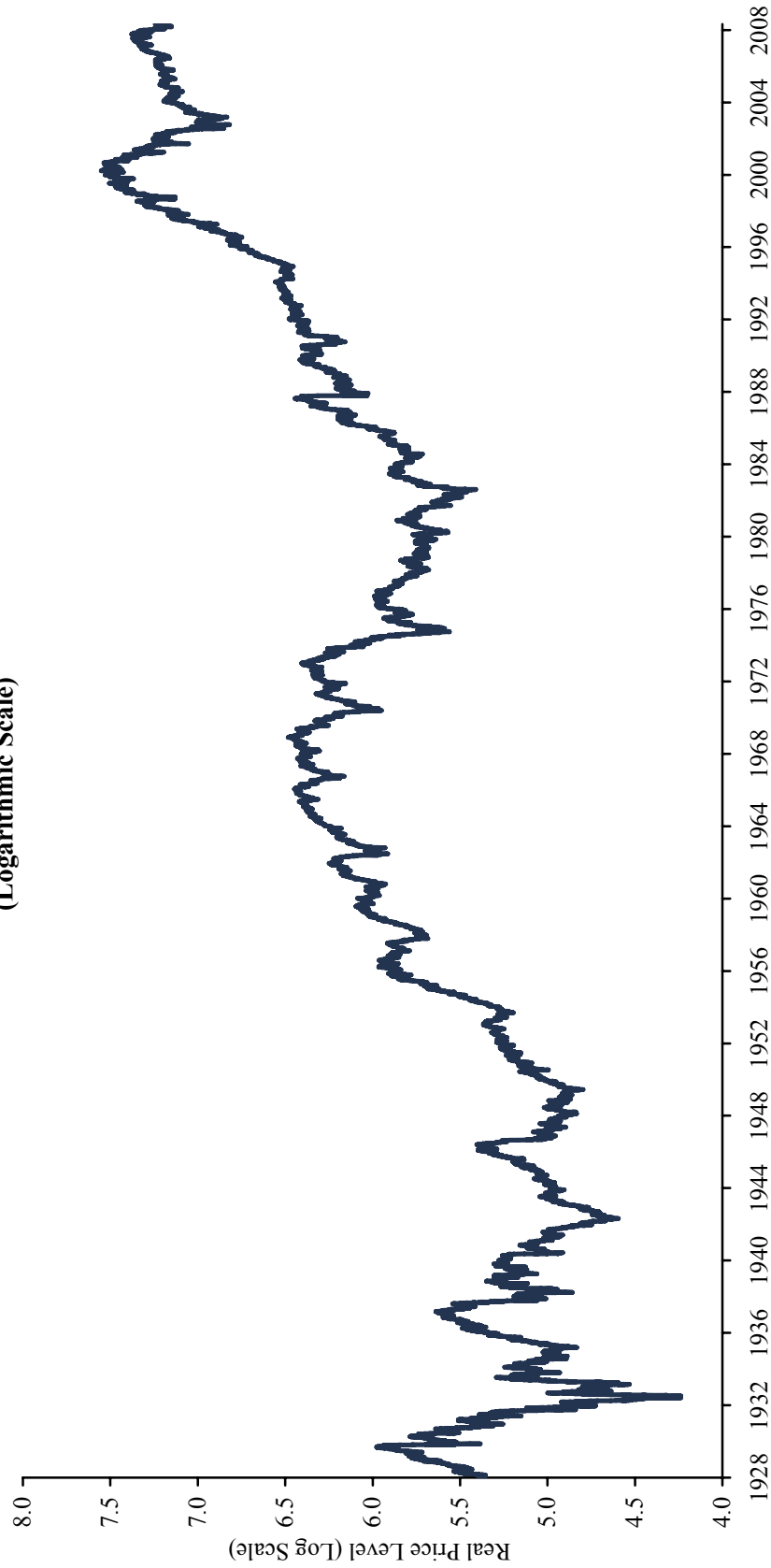
Sources: Global Financial Data, Inc., Standard & Poor's, and Thomson Datastream..

Notes: All units are in local currency unless otherwise noted. Cumulative wealth calculations use CPI-U data through March 31, 2008, with the exception of Nikkei, which uses the Japanese CPI.

Table R

S&P 500 REAL PRICE LEVEL

As of April 30, 2008
(Logarithmic Scale)



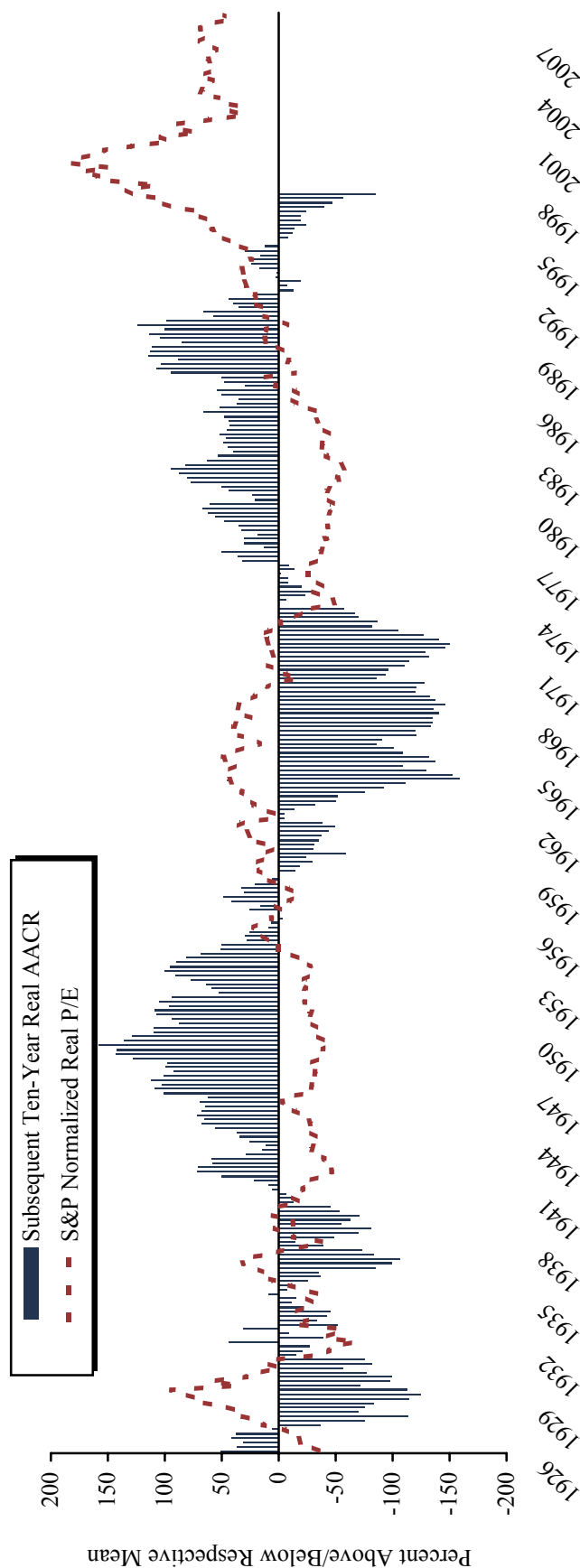
Sources: Global Financial Data, Inc. and Thomson Datastream.

Notes: Chart based on daily S&P price levels. Data begin January 1928. Price levels adjusted by CPI-U to March 31, 2008 dollars.

Table S

PERIODS OF BELOW-AVERAGE RETURNS FOLLOW PERIODS OF ABOVE-AVERAGE VALUATIONS

Rolling Ten-Year S&P 500 Real Returns
(Shown as a % of the Long-Term Average of 7.3%)
1926–2008



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

Notes: Graph shows percent above/below mean for returns and valuations. Line shows point-in-time normalized real price-earnings ratios. Bars are based on quarterly data, except for the most recent period, and show subsequent rolling ten-year real average annual compound returns as a percentage of the long-term average ten-year real return of 7.3% since 1926. For example, the first data point shows the real average annual compound return for the period 1926–35. Data for 2008 are based on monthly returns covering the May 1998 to April 2008 period.

Table T

BEAR MARKETS

1926–2008

Market Peak	Market Trough	Bear Market Duration (Mos)	Market Peak Level	Market Trough Level	Peak to Trough Return (%)	Trailing P/E			Shiller P/E		
						Peak	Trough	% Change	Peak	Trough	% Change
Sep-07-1929 *	Jun-01-1932	32.7	31.9	4.4	-86.2	19.7	10.9	-44.7	31.5	6.4	-79.7
Mar-06-1937	Mar-31-1938	12.8	18.7	8.5	-54.5	14.1	15.5	9.3	22.2	12.4	-44.4
Oct-25-1939	Apr-28-1942 †	30.0	13.2	7.5	-43.5	12.1	8.0	-34.0	16.8	8.5	-49.2
May-29-1946	Jun-13-1949	36.4	19.3	13.6	-29.6	22.8	5.9	-74.1	16.0	9.7	-39.5
Jan-05-1953	Sep-14-1953	8.3	26.7	22.7	-14.8	11.1	9.2	-17.3	12.9	11.7	-9.4
Aug-02-1956	Oct-22-1957	14.6	49.7	39.0	-21.6	14.3	12.2	-14.6	18.9	14.1	-25.0
Dec-12-1961	Jun-26-1962	6.4	72.6	52.3	-28.0	22.4	15.8	-29.4	21.9	16.8	-23.0
Feb-09-1966 *	Oct-07-1966	7.9	94.1	73.2	-22.2	17.4	13.9	-20.1	24.1	19.2	-20.4
Nov-29-1968	May-26-1970	17.8	108.4	69.3	-36.1	18.8	13.9	-26.3	22.2	14.0	-37.0
Jan-11-1973	Oct-03-1974	20.7	120.2	62.3	-48.2	18.4	7.0	-62.1	18.6	8.7	-53.4
Sep-21-1976	Mar-06-1978	17.4	107.8	86.9	-19.4	11.0	8.0	-27.7	11.8	9.0	-23.4
Nov-28-1980	Aug-12-1982 †	20.4	140.5	102.4	-27.1	9.5	7.9	-16.7	9.7	6.6	-31.2
Aug-25-1987	Dec-04-1987	3.3	336.8	223.9	-33.5	20.8	13.2	-36.7	18.3	13.6	-25.8
Jul-16-1990	Oct-11-1990	2.9	369.0	295.5	-19.9	16.4	14.1	-14.0	17.7	15.3	-13.8
Jul-17-1998	Aug-31-1998	1.5	1,186.8	957.3	-19.3	28.3	24.6	-13.3	38.3	35.4	-7.4
Mar-24-2000 *	Oct-09-2002	30.5	1,527.5	776.8	-49.1	29.4	26.9	-8.6	43.2	22.4	-48.3
Average		16.5			-34.6	17.9	12.9	-26.9	21.5	14.0	-33.2
Median		16.0			-28.8	17.9	12.7	-23.2	18.8	13.0	-28.5
Post-1950 Average		12.6			-28.3	18.1	13.9	-23.9	21.5	15.6	-26.5
Post-1950 Median		11.4			-24.6	17.9	13.5	-18.7	18.8	14.1	-24.2
Post-1950 ex 1998–2002 Avg		12.0			-27.1	16.0	11.5	-26.5	17.6	12.9	-26.2
Post-1950 ex 1998–2002 Median		11.4			-24.6	16.9	12.7	-23.2	18.5	13.8	-24.2

Sources: Global Financial Data Inc., Ned Davis Research, Inc., Robert J. Shiller, Standard & Poor's, and Thomson Datastream.

Notes: Bear market defined as an approximate 20% decline from peak to trough without a full reversal. The price-earnings (P/E) valuation data represent the market peak/trough price divided by beginning-of-month earnings for performance dated 1st through 15th and end-of-month earnings for performance dated 16th through 31st. The Shiller P/E is the real normalized P/E ratio based on the average of ten-year real reported earnings per share.

* Indicates the beginning of a secular bear market. † Indicates the end of a secular bear market.

Table U

WHAT IF VALUATIONS REGRESSED SOLELY THROUGH PRICE?

December 31, 1969 – April 30, 2008						
Index	Current Ratio	Beginning Date	Long-Term Average	Avg Minus 1 Std Dev	Potential Price Change to Return to:	
					Long-Term Average	Avg Minus 1 Std Dev
MSCI U.S.	Trailing P/E	12/31/1969	16.7	10.3	-4.6%	-41.1%
	ROE-Adj P/E	12/31/1974	16.9	9.1	-8.4%	-50.7%
MSCI U.K.	Trailing P/E	12/31/1969	13.4	8.8	17.2%	-22.8%
	ROE-Adj P/E	12/31/1974	13.5	7.9	-9.6%	-47.4%
MSCI Europe ex U.K.	Trailing P/E	12/31/1969	16.0	10.2	28.4%	-18.5%
	ROE-Adj P/E	12/31/1974	16.4	9.0	-8.2%	-49.9%
MSCI Japan	Trailing P/E	12/31/1969	27.3	16.3	69.7%	0.8%
	ROE-Adj P/E	12/31/1974	34.2	21.1	49.7%	-7.9%
MSCI Pacific ex Japan	Trailing P/E	12/31/1984	16.6	13.2	10.5%	-12.1%
	ROE-Adj P/E	12/31/1984	16.3	12.9	-18.8%	-35.4%
MSCI Emerging Markets	Trailing P/E	11/30/1995	16.4	12.3	3.6%	-22.7%
	ROE-Adj P/E	11/30/1995	15.8	12.1	-30.0%	-46.3%

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

Notes: The potential price change shows the price movement necessary to return current ratios to their historical averages and minus 1 standard deviation, holding the current level of earnings constant. For Japan, the earnings yield is used to calculate the historical averages for the trailing P/E (due to negative P/E ratios in the data set) and is then inverted to find the corresponding P/E ratios and price declines. The ROE-adjusted P/E ratio multiplies the current trailing P/E multiple by the ratio of current ROE to historical ROE.

Table V

HOW MUCH WOULD THE S&P 500 APPRECIATE UNDER THE FOLLOWING EARNINGS GROWTH AND P/E ASSUMPTIONS?

As of April 30, 2008

		Negative Growth -2.0%	Zero Growth 0.0%	AACG ¹ (1965–2007) 5.3%	Forward Estimate 12.6%
		<u>Five-Year Average Annual Compound Price Appreciation (%)</u>			
Current Normalized Real P/E Ratio	23.5	-2.0	0.0	5.3	12.6
Average (9/30/1936 – 4/30/2008)	17.5	-7.7	-5.8	-0.8	6.1
Average Plus 1 Standard Deviation	24.9	-0.9	1.2	6.5	13.9
Average Minus 1 Standard Deviation	10.0	-17.5	-15.8	-11.3	-5.2
Current Trailing 12-Month P/E	22.0	-2.0	0.0	5.3	12.6
Average (3/31/1960 – 4/30/2008)	17.5	-6.3	-4.4	0.7	7.7
Average Plus 1 Standard Deviation	24.5	0.1	2.2	7.6	15.1
Average Minus 1 Standard Deviation	10.6	-15.3	-13.5	-8.9	-2.6

Sample Interpretation:

This exhibit illustrates the expected average annual price change for the S&P 500 given a particular earnings growth assumption and price-earnings (P/E) ratio. For example, if earnings grew by 12.6% over the next five years (current long-term I/B/E/S consensus estimate), and the normalized real P/E ratio of 23.5 remains 23.5 at the end of the period, then the price of the S&P 500 would increase by 12.6% annually, over the next five years, as it would be influenced only by earnings growth. In this example, if the normalized real P/E ratio were to contract to its long-term average of 17.5, the annualized price return would shrink to 6.1%.

Sources: Calculated from data provided by AltaVista Independent Research, Inc., Puglisi & Co., Standard & Poor's, Standard & Poor's Compustat, U.S. Department of Labor - Bureau of Labor Statistics, and *The Wall Street Journal*.

Notes: Based on April 30, 2008, S&P 500 price of \$1,386, preliminary S&P 500 earnings per share of \$63 and CPI-U data as of March 31, 2008. The real P/E ratio using normalized earnings is the real price divided by the trailing ten-year average of real earnings. I/B/E/S forward earnings reflect consensus long-term estimates. Negative growth is the bottom 10th percentile of historical five-year compound real earnings growth plus assumed inflation of 3%. Likewise, the average earnings growth rate is the average of historical five-year compound real earnings growth plus 3% inflation.

¹ AACG represents the average annual compound growth rate.