



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

REFLECTIONS ON A DECADE

2010

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Executive Summary

- The sharp divergence between developed and emerging markets in economic growth in the first decade of the twenty-first century was reflected in very different average annual equity returns of -1.3% and 10.2%, respectively, in nominal local currency terms.¹ Overall, from an equity perspective, the decade can usefully be broken down into three periods, which featured: (1) sharply negative equity returns from the popping of the TMT bubble in March 2000 to early 2003; (2) a strong rally from first quarter 2003 to October 2007, which was supported by financial innovations and extensive leverage; and (3) the collapse of this cyclical bull rally in late 2007. As of the end of 2009, notwithstanding the massive rally that ensued after March 9 of that year, neither developed markets nor emerging markets equities had regained their October 2007 peaks.
- How should we interpret the decade from an economic and investment perspective? We clearly witnessed the birth of a truly global marketplace for goods and services, but the decade looks very different depending on whether one focuses on the experience of developed or emerging markets. It was a time when deregulation and crony capitalism were blamed for developed markets woes, but also a period when state-led economic and investment regimes were viewed as successful. We leave to future observers the challenging task of picking the dominant theme of the decade, and focus instead on lessons learned and observations relevant to investing in the years ahead.
- In sum, we continue to believe that investors need to focus on valuations, seek true diversification, assume only those risks that they *reasonably expect* to get paid to take, and pay close attention to manager selection. Risk management, about which we continue to refine our thinking, is essential, including both tail risk and the core risk of failing to maintain purchasing power of assets after spending. Perhaps even more than in the past, investors must constantly and rigorously question their assumptions concerning asset classes, portfolio strategy, and capital markets. Given the fragility of the global economy we continue to focus on quality, maintaining adequate protection against the risks of inflation or an extended period of economic contraction, and finding ways to be defensive and diversified. We continue to advise a strategic overweight to emerging markets, particularly in Asia. These markets remain ripe for investment given capital market liberalization, good public finances, and high economic growth prospects. On the private side, emerging markets may also offer better opportunities than their developed counterparts, given their less crowded capital markets and extensive need for capital. At the same time, we remain on the lookout for valuation-based investment opportunities.

Some Lessons Learned—or Relearned

- **The world can change quickly.** Investors received several good, if painful, tutorials in how quickly global markets can change. The extreme equity market bullishness of the late 1990s was quickly shown to be unfounded by early 2000 and conceptions about the stability

¹ Returns are based on the MSCI World Index and MSCI Emerging Markets Index.

of the global financial system and the strength of developed markets finances versus those of emerging markets were similarly undercut. Further, the decade began with high hopes for the European Union and the euro, but ended with fundamental challenges to both.

- **Valuations matter.** Valuations are essential to any investment decision—an inflated asset at the time of purchase is unlikely to produce a good long-term return. However, investors do not always—in fact, often do not—behave rationally. For this reason, it can take a long time for valuations to correct from highly overvalued or undervalued levels. It is therefore important to be aware of behavioral factors and avoid undue faith in new theories purporting to rationalize clearly extended valuations. Valuation discipline, which involves analyzing potential risks and opportunities, helps investors combat behavioral tendencies to believe “this time is different.”
- **Diversification worked.** Investors have often misunderstood diversification. Diversified portfolios will not always outperform less diversified portfolios but, by capturing a greater percentage of equity upside returns than of downside returns, they should experience lower volatility and therefore produce better long-term returns. Diversification is also not necessarily achieved simply by investing in asset classes with different names. In stressful environments, only investments that are relatively uncorrelated with equities because they have fundamentally different drivers of returns can dampen the downside. This presents a challenge since truly diversifying investments should be expected to decrease long-term expected returns and the likelihood that post-spending purchasing power will be maintained.

- **Understanding and managing risk is essential.** It is a mistake to try to copy blindly the allocations of peers or highly visible institutions that may operate under a very different set of conditions. An investor’s policy portfolio must be aligned with its own particular liquidity needs, spending requirements, and tolerance for risk. Decisions resulting from a crisis can affect the very essence of an institution, making it vital that tail risk be considered in portfolio construction and that risk management include the program budgeting function and well-developed contingency plans to address changes in spending needs and available resources triggered by volatile markets.
- **The implications for return expectations of another ten years of performance data are mixed.** While a decade’s worth of data is unlikely *by itself* to change significantly our view of the long-term risk/return profiles of asset classes for which we have a long data series, we give more weight to such data when considering newer asset classes. For example, venture capital and emerging markets equity returns were both much lower in the 2000s than during the prior decade. One can argue that expected returns for these asset classes should be revised downward based on the ten additional years of return data, particularly as these asset classes continue to develop and mature.

Applying the Lessons of the Decade

- **Monitor the environment for change and opportunity.** While tactical shifts can be appropriate, they can also be extremely hazardous (particularly for investors with high return objectives). Such shifts should be based on opportunities with enough return potential to compensate for the risk taken,

and should be done within the context of the long-term strategic policy portfolio. Before making tactical bets, investors should carefully consider how they are likely to add value as well as the perceived exit strategy. Investors must also consider the potentially disastrous implications to the portfolio of an incorrect, oversized tactical move.

- **Use valuations to guide portfolio positioning, rebalancing, and risk management.** Close attention to valuations is an important tool in portfolio rebalancing and managing risk and, more broadly, is essential to long-term success. Nonetheless, investors should diversify and keep valuation-based bets sized at tolerable levels. When assets become so cheap or so expensive that maintenance of target capital allocations may be insufficient, however, investors should seek ways to align the price risk of such assets more with desired long-term risk exposures. We anticipate that more opportunities to take advantage of mispriced assets will develop as company earnings and country economic outlooks continue to diverge and correlations, at some point, lessen.
- **Understand the benefits and limits of diversification.** During periods of stress or when common sources underpin price appreciation, the benefits of portfolio diversification may be limited. Investors should take a hard look at how their portfolios might perform under high stress scenarios (including an extended period during which the current secular bear market continues), the degree to which they have adequate flexibility to weather such a scenario, and the costs they are willing to bear to mitigate the impact of such possibilities. We believe that high-quality sovereign bonds and hard assets continue to play an important role in such diversification, but at current

yields, most Western sovereign bonds offer little potential for appreciation during periods of deflation or times of stress. In addition, derivatives strategies aimed at tail risk protection and long volatility strategies (implemented directly or through managers) are worth considering and we are dedicating significant resources to evaluate both their appropriate uses and how to manage the associated risks.

- **Measure, monitor, and manage an array of risk factors.** Going forward, rebalancing, managing liquidity, and analyzing exposures will be important risk management tools. However, risk management involves trade-offs. Investors with aggressive long-term return targets (e.g., the real 4% to 5% target incorporated in many investment policy statements) must be prepared to invest in equity-dominated portfolios and understand that even well-implemented diversification has its limits. Investors must also accept a “cost” in the form of the relatively high downside risk that equities carry while also implementing contingency plans for likely short-term hits to the portfolio.
- **Government regulation is a big wild card.** Fundamental company analysis may not be enough in the next decade. With the U.S. and other developed markets governments running companies, supporting financial institutions much more explicitly, and more actively attempting to bolster consumer demand, and with further changes in financial regulation ahead, reading the tea leaves of government seems increasingly important. Globally, the rise of emerging markets and more state-centered economies presents a challenge to the way international capital markets have functioned over the last few decades. ■

Reflections on a Decade

Even as we focus on the investment challenges of the new decade, it is useful to consider the past ten years. Understanding the “2000s” should help us reach more reasoned conclusions regarding what the future may bring from an investment perspective. At the same time, such analysis reminds us of time-honored investment lessons, including the fact that the past has its clear limits when it comes to making predictions about the future.

From an economic and investment perspective, what should we make of the decade just ended? We clearly witnessed the birth of a truly global marketplace for goods and services (and capital), perhaps best symbolized by China’s entry into the World Trade Organization (WTO). But was it the decade of economic sclerosis, excessive debt levels, and securitization run amok (the story of developed markets, at least from today’s vantage point)? Or was it the decade of economic dynamism, accumulation of substantial foreign reserves, and the dawn of a new global economic order (the tale of emerging markets)? The decade might be most notable for anemic equity returns in developed markets, but emerging markets equities and certain other assets and investment strategies had a good run. Did we witness the failure of deregulation, or was the breakdown in developed markets due to crony capitalism? Or did we observe the emergence of a state-led economic and investment regime that was more successful at navigating the shoals of the global economy than the private sector–led model that appeared so ascendant as fireworks lit up the sky on the eve of the millennium?

Before we get started in earnest, let us quickly dispose of the obvious question: “Why a decade?” Admittedly, there is no magic inherent

in a decade, but at the same time, few would quibble with the way particular decades have been characterized, such as the “Roaring Twenties” or the “Swinging Sixties.”¹ While defining a decade may be more artificial and less precise from a historical perspective than defining longer eras such as the Renaissance or the Pax Britannica,² many (if not most) people find it a useful way to understand periods from a cultural, economic, or other perspective. For investors, a decade carries the additional benefit of normally covering at least one earnings and one market cycle and possibly an economic cycle as well.³

We leave to future observers the challenging task of picking the dominant theme of this first decade of the twenty-first century. Our focus is on lessons learned and observations relevant to investing in the years ahead. But before we get there, we will provide a brief overview of the economy and the performance of various asset classes in the 2000s. Readers familiar with these topics may wish to go straight to the discussion of lessons learned, which begins on page 7.

Divergence in Economic Growth

Developed and emerging markets economies diverged sharply in the 2000s. Notwithstanding an extended period of low interest rates and low

¹ Obviously, such characterizations are from a particular perspective: the 1920s were not the Roaring Twenties for a Europe seared by and attempting to recover from World War I, and the 1960s were certainly not swinging for Chinese living in the repressed (and fearful) environment of the Cultural Revolution.

² Of course, analysis of such periods faces the problems associated with the lack of clear start or end dates.

³ The three are generally not congruent. For more on this (with respect to the United States), please see our January 2008 Market Commentary *As the Cycles Turn*.

inflation, the 1.8% rate of average real GDP growth in developed markets lagged that of the 1980s (3.1%) and 1990s (2.7%) even before 2009, when the world GDP fell for the first time in 60 years (Exhibit 1). Real GDP averaged just 1.7% in the European Union and the United Kingdom, and 1.9% in the United States,⁴ compared with historical averages of 2.8%, 2.2%, and 3.5%, respectively.⁵

Growth (such as it was) was driven by easy credit, high leverage, and overextended consumers. High risk appetite was reflected in low lending spreads for much of the 2000s. Corporations assumed higher risk by moving to cheaper short-term funding, while money market funds and their investors (not always knowingly) took on more risk by investing short-term cash in riskier vehicles in the search for a few more basis points of yield. The magnitude of the costs for the financial system and the economy as a whole did not become evident until late in the decade.

Whereas developed markets collectively boasted a (small) combined budget surplus in 2000, each major economy ran an enormous deficit by 2009. The projected government deficit among developed markets for 2010 is 6.8% of national income. The International Monetary Fund (IMF) estimates accumulated government debt will be 96% of national income in 2010, compared with about 67% in 2000. Debt levels are projected to rise

⁴ In the United States, GDP growth has been in secular decline even as leverage has increased significantly. Please see our February 2009 Asset Allocation in the Current Environment report *Hard Choices for Hard Times*.

⁵ For Europe, these numbers are based on an unweighted average of annual GDP growth from 1900 to 2004 for Belgium, France, Germany, Ireland, Italy, the Netherlands, and Spain. The economies of these countries were not equal in size over the course of the century, of course, but their relative sizes varied, particularly during wartime, making a weighted average problematic; the limited range of growth outcomes also decreases the import of the decision to use an unweighted average. U.S. and U.K. data each begin in 1900.

significantly as developed markets confront aging populations (declining in the case of Japan) and unfunded liabilities.

By contrast, emerging and developing economies,⁶ many of which were still recovering from the 1997–98 economic crisis as the 2000s began, prospered over the first decade of the twenty-first century. Oil usage statistics highlight the contrast with developed markets: whereas consumption by OECD members declined 5.1% over the decade, consumption by non-OECD states *rose* 35.1%. The GDP of markets not classified as “developed” grew 6.0% annually in real terms over the decade, a much better pace than in the 1980s (3.5%) and 1990s (3.3%) (Exhibit 2).

China, which led the way with annual real growth of 9.8%, only slightly lower than the rate experienced by Japan and South Korea during the 1960s and 1970s, respectively,⁷ was far from the only emerging markets story during the 2000s. For example, growth was also strong in the next three most populous emerging markets: India (7.0%), Indonesia (5.1%), and Brazil (3.2%). Together with China, these countries account for more than 40% of the world’s population.

Emerging markets benefitted from the near-60% increase in global trade⁸ and, in many cases, from high commodities demand. They increased exports dramatically, attracted foreign direct investment, and built up massive foreign reserves. As shown late in the decade, such reserves provided some protection against a pullback by foreign investors or another economic crisis. At the close of 2009, public debt levels were much less worrisome in

⁶ The IMF classifies economies as either “developed” or “emerging and developing” and does not have a separate classification for “emerging markets.”

⁷ China’s real GDP has, however, grown at this rate for the last *thirty* years.

⁸ This refers to merchandise traded on a seasonally adjusted basis and is in US\$ terms; it occurred despite a 19% drop between April 2008 and May 2009.

emerging than in developed markets (Exhibit 3) and prospects appeared bright, notwithstanding significant political and social issues.

Returns From 2000 Through 2009

While the relationship between investment returns and economic growth is complex and poorly understood,⁹ the fortunes of developed and emerging markets equities in the 2000s were certainly analogous to those of developed and emerging markets economies. For the decade, the MSCI World Index had a nominal average annual compound return (AACR) of -1.3% (Exhibit 4). In real local currency terms, returns were considerably worse, as the S&P 500 returned -3.4% annually; the Topix, -4.8%; the MSCI Europe ex U.K. Index, -3.3%; and the FTSE® All-Share, -0.3%.¹⁰ For the S&P 500, it was the fourth-worst ten-year period ever (using annual real data), going back to 1900. Emerging markets equities, however, followed a different trajectory, returning an annualized 10.2% (in nominal local currency terms) (Exhibit 4).¹¹

Developed markets sovereign bonds provided investors some relief, returning 4.0% annually in real terms, only 100 basis points (bps) less than in

the prior decade.¹² Global inflation-linked bonds and US\$-denominated emerging markets sovereign bonds were even better bets, delivering annual returns of 5.4% and 7.8%, respectively, in real terms.¹³

Certain other asset classes were well in the black for the decade as a whole, although the meltdown in 2008 muted returns across the board. Commodities, hedge funds, U.S. buyouts, and investment-grade and high-yield bonds all returned between 5% and 9% annually in nominal terms (Exhibit 5).¹⁴ Venture capital, however, had a *negative* end-to-end nominal return (-1.1%), while private investments in real estate and natural resources (oil & gas partnerships and timber) outperformed substantially, with an end-to-end nominal IRR of 17.7% (nearly double the 9.2% IRR in the 1990s).

From an investment perspective, the decade can usefully be broken down into three periods (Exhibit 6). The first, ushered in by the popping of the TMT bubble in March 2000 and exacerbated by the recession in developed markets and the September 11 attacks, lasted until early 2003. This period also marked the start of a secular bear market for developed markets equities.¹⁵ As is typically the case at the start of such markets, equity returns, particularly in developed markets, were sharply negative, while fixed income instruments, especially sovereign bonds,

⁹ For example, despite much faster economic growth in emerging markets in the 2000s, investment returns in local currency terms were far less than those in the 1990s. Dimson et al. conclude that “unless an investor is blessed with clairvoyance, there is no evidence that GDP growth is useful as a predictor of superior stock-market returns,” but find that equity returns help predict economic growth (Elroy Dimson, Paul Marsh, and Mike Staunton, “Emerging Markets,” Credit Suisse Global Investments Return Handbook, 2010).

¹⁰ The FTSE® All-Share Index was the only of these indices with a positive AACR (1.6%) in nominal terms, while the Topix actually returned less in nominal (-5.1%) than in real terms.

¹¹ Although this was far less than their 41.2% AACR during the prior decade, nominal returns in US\$ terms were down only slightly, to 10.1% from 11.0%.

¹² Intermediate- to long-term U.S. Treasuries also returned 3.6% annually in real terms, while a blend of U.K. gilts had a 2.9% AACR in real sterling terms.

¹³ Note that global linker returns date back only to second quarter 2000.

¹⁴ End-to-end internal rates of return (IRRs) are used to calculate U.S. buyout returns.

¹⁵ Secular bear markets reflect prolonged periods during which investors move from excessive optimism to excessive pessimism. In the case of equities, such markets have historically coincided with prolonged strained economic conditions, such as an extended period of economic contraction/deflation or unexpectedly high and rising inflation, and have not ended until normalized real price-earnings (P/E) ratios have fallen to single-digit levels.

benefitted in response to lower interest rates (Exhibit 7). Commodities boomed thanks to rapid emerging markets growth. Hedge funds, meanwhile, returned over 9% on average, with global macro, event-driven, and, especially, relative value funds all producing returns much higher than this figure. This fact was not lost on investors, who began plowing more money into hedge funds, viewing them as a source of diversification with reasonable (or better) return prospects.

The tide turned for equities after first quarter 2003 and performance was strong over the next four-plus years (Exhibit 6). On average, hedge fund performance strengthened compared with the prior period¹⁶ but, given the depth of the rally, not surprisingly lagged that of developed markets equities; this was seen as further evidence of the diversification attribute of hedge funds. Fixed income continued to perform well, although not as strongly as in the first part of the decade, and the commodity rally accelerated. U.S. buyouts and venture capital, after having posted negative returns earlier in the decade, reaped large returns. Private investments in real estate and natural resources had end-to-end returns of 36.2%.

Of course, the rally contained the seeds of subsequent problems. The reflationary policies of the U.S. Federal Reserve (Fed) and other developed markets central banks encouraged the extensive use of leverage by investors, financial firms, and individuals. Financial innovation such as securitization and the burgeoning credit default swap market helped fuel a massive increase in debt and the distribution of opaque and poorly understood financial assets across the globe. We viewed this as a cyclical bull rally within a secular bear market and, as the rally continued to run, became increasingly concerned that equity and fixed income valuations provided skimpy risk

¹⁶ However, the annualized returns of relative value funds fell slightly.

premiums that reflected expectations of a continued low-risk environment despite deteriorating fundamentals.¹⁷

Equity indices peaked in October 2007 (although U.S. equities never breached their March 2000 peak in real terms) and then fell at an even faster rate than in the first part of the 2000s. Commodity prices declined by roughly the same amount as those of equities. On an end-to-end return basis, non-marketable assets had very low or negative returns, with private real estate by far the hardest hit asset class, losing more than 26%. Leveraged investments and low-quality assets experienced the most severe hits to performance, while sovereign bonds were the only asset class that performed well.¹⁸ Hedge funds outperformed long-only equities, but their sharp losses surprised many investors that, given hedge fund performance (especially that of absolute return funds) during the previous recession, had counted on greater protection from this investment strategy. Markets bottomed on March 9, 2009, and then staged a massive rally. However, neither developed nor emerging markets equities had regained October 2007 peaks by the end of 2009 (Exhibit 6).

Some Lessons Learned—or Relearned

What lessons can investors draw from the 2000s? Or, perhaps more accurately in many cases, what lessons did investors need to relearn over the past decade?

The World Can Change Rapidly

To begin with, investors received a good, if painful, tutorial in how quickly global markets can change.

¹⁷ Please see our March 2007 Asset Allocation in the Current Environment report *It's Getting Late—Risks Are Rising*.

¹⁸ In US\$ terms, however, non-U.S. bonds performed poorly for the most part.

For example, investor sentiment (especially with respect to technology) was bullish in 2000, to say the least, given that developed markets equities had produced a 14.7% AACR in nominal local currency terms since 1982, their best 18-year performance ever (using annual data).¹⁹ Ten years later, however, investors had suffered through one of the worst periods ever for equities.

The European saga provides a good example of how a broad macro theme can be in—and then out—of vogue. From 2000 to 2007, European Union membership almost doubled (to 27 from 15), while the number of countries approved for Eurozone membership grew by four, to 15. The euro, which was introduced only in 1999, appreciated by 38.0% versus the U.S. dollar (and 25.6% on a trade-weighted basis) from January 2000 through mid-July 2007. Increasingly, it was seen as a competitor to the dollar as a reserve currency. By the end of 2009, however, the debt crisis faced by one country, Greece, highlighted broader issues that threatened to bring the whole European edifice down.²⁰ The euro fell 15.6% in trade-weighted terms from December 3 through June 29, 2010, although as of this writing it had recovered roughly 20% of its losses. The bailout of Ireland and concerns related to the other so-

¹⁹ U.S. equities had done even better, returning the same 14.7% annually in *real* terms. Lest we be accused of cherry-picking the data, which goes back to 1900 for the United States, performance as of December 31, 1999, was strong for a variety of holding periods: the five-year AACR in real terms for the S&P 500 was 25.6%, the second-best ever; the ten-year ACCR was 14.8%, the sixth-best ever; and the 15-year AACR was 15.2%, the best ever. For developed markets as a whole (only nominal data are available and the data go back only to 1970), the five-year AACR was 21.3%, the second-best ever; the ten-year ACCR was 11.0%, the 13th-best ever; and the 15-year AACR was 14.3%, the second-best ever.

²⁰ Of course, the problems of Greece, which accounts for only 2.5% and 3.9% of Europe's GDP and public debt, respectively, are viewed as representative of a much larger chunk of the Eurozone. For more on the details and implications of the Greek debt crisis, please see our February 2010 Market Commentary *A Note on the Greek Drama*.

called periphery countries—Italy, Portugal, and Spain—show that underlying issues continue to simmer and the presumption that the euro will further displace the U.S. dollar as a reserve currency has weakened significantly.

The huge changes we have seen over the past decade teach us that investors must constantly question conventional wisdom and consider whether systemic risks—and new opportunities—are being properly discounted. Who would have thought at the start of the millennium that within a decade there would be serious concerns whether the global financial system could survive (leading to the biggest legal and regulatory overhaul of the U.S. financial industry since the 1930s), that China would be credited for leading the world out of its deepest economic downturn since the 1930s, or that emerging markets government finances would soon look much stronger than those of developed markets?

Valuations Matter!

Ten more years of data only reinforce our long-held view that valuations are essential to any investment decision. As the 2000s began, P/E ratios were at or just off record levels²¹, with normalized real P/E ratios, or “Shiller P/Es,” for the MSCI World, S&P 500, and FTSE® Composite indices at a record 36, 45, and 29, respectively. The idea of a “new paradigm” was used to justify these extended valuations. Meanwhile, there was almost reverential devotion to venture capital.

However, an inflated asset at the time of purchase is unlikely to produce a good long-term return. Accordingly, we considered all developed markets equities that we covered in early 2000 at least

²¹ This was true on the basis of trailing 12-month earnings, ten-year real normalized earnings, and normalized earnings adjusted for differences between current and historical returns on equity. Data for the S&P 500, FTSE® Composite Index, and MSCI World Index go back to 1900, 1962, and 1974 respectively.

overvalued, with the exception of U.S. value equities and non-U.S. small caps, which we believed were fairly valued. We put the S&P 500 and U.S. large-cap and growth equities into our “Very Overvalued” bucket and even added a new category to our valuation matrix labeled “Dangerous Bubble,” into which we placed global technology equities and U.S. venture capital (Exhibit 8).

Poor returns over the next decade were consistent with such starting valuations (Exhibits 4 and 5). Developed markets equity returns, as discussed earlier, were negative. The performance of the MSCI World Information Technology Index was even worse, lagging the broader MSCI World Index by between 754 bps and 781 bps *annually* in yen, sterling, US\$, and euro terms. The Nasdaq fell 44.2% over the course of the decade. U.S. venture capital’s end-to-end return was slightly negative—and far below the stellar performance of the prior decade. By contrast, commodities, which we considered undervalued in early 2000, returned an annualized 13.2% through October 2007 before plunging as the global recession deepened.

Likewise, on a *relative* basis, performance during the 2000s was consistent with valuations at the start of the decade. For example, emerging markets equities, which we considered fairly valued and which traded at a big discount to their developed markets counterparts when the decade began, vastly outperformed, although the story here obviously (as discussed above) went well beyond valuations. Meanwhile, U.S. growth and large-cap stocks, which were quite expensive relative to their value and small-cap counterparts after substantial outperformance in the late 1990s (which followed significant *underperformance* in the 1980s), lagged significantly over the next ten years (Exhibits 9 and 10).

On the other hand, there was no meaningful reversal of U.S. equities’ substantial outperformance

in the 1990s relative to non-U.S. developed markets equities; U.S. equities slightly outperformed in the 2000s in local currency terms (although they underperformed in US\$ terms) (Exhibit 11).²² However, the valuation differential at the start of the decade was much smaller in this case than in the other examples cited above.

The 2000s showed that over- and undervaluations can persist for extended periods and provided extraordinary evidence of something often witnessed in decades past—the remarkable power of both “greed” (as the 2000s began) and “fear” (as the market bottomed in early 2009). Even the most thoughtful and experienced investors were not immune to such emotions.²³ Investors do not always—in fact, often do not—behave rationally. For this reason, it can take a long time for valuations to correct from highly overvalued or undervalued levels.²⁴

The decade thus reaffirmed the importance of being aware of behavioral factors and avoiding

²² As Exhibit 11 makes clear, the performance of Japanese equities explains virtually all of U.S. equities’ substantial underperformance in the 1980s, and much of their massive outperformance in the 1990s versus other developed markets equities.

²³ The ability to block out such emotions can therefore be a significant advantage. The writer Michael Lewis has remarked that the investors he wrote about in *The Big Short* were similar in that their personalities made it easier for them to distance themselves from the consensus. This allowed them to earn enormous profits from the market crash. Similarly, according to analysis by Dimson et al. investors have historically earned the highest returns (though with greater risk) by investing in countries that have shown recent economic weakness rather than those that have grown most rapidly. Contrarian investing, while difficult to do, can thus produce significant benefits (Elroy Dimson, Paul Marsh, and Mike Staunton, “Economic Growth,” Credit Suisse Global Investments Return Handbook, 2010).

²⁴ Indeed, we would argue that U.S. equities, which we believe became undervalued only briefly (in March 2009) before rocketing in price to a slightly overvalued level, have still not corrected. Past secular market bottoms saw much lower equity valuations. Corporate bonds, by contrast, reached very undervalued levels in late 2008 before rebounding.

undue faith in new theories purporting to rationalize clearly extended valuations. Valuation discipline, which involves analyzing potential risks and opportunities, helps investors combat behavioral tendencies to believe “this time is different.” Valuations do not tell us what subsequent returns will be, particularly in the short term, but they do indicate what is more likely (assuming one lends some credence to historical data), as well as the potential sensitivity to unexpected good or bad news (corporate profits, economic indicators, etc.).

Diversification Worked (!)

The power of portfolio diversification, the apparent free lunch in investing, has often been misunderstood. By capturing a greater percentage of equity upside returns than downside returns, diversified portfolios should experience lower volatility and therefore produce better long-term returns (Exhibit 12). However, it is incorrect to believe that diversified portfolios should always outperform less-diversified portfolios. For example, during the mid-1990s through March 2000—a period when many large U.S. institutions were implementing them—highly complex diversified portfolios underperformed simple 80/20 stock/bond portfolios because of the stellar returns of large-cap equities, which outperformed virtually every major asset class (Exhibit 13). Diversification came under fire as a result.

However, once broad market equity indices fell sharply in the 2000–02 bear market, the benefits of diversification into non-traditional asset classes (particularly hedge funds and investments in attractively valued private real estate and natural resources funds) proved their mettle (Exhibit 14). In response, an increasing number of investors plowed headlong into alternatives of all varieties, hoping to replicate what they viewed as the formula for success of highly diversified

investors.²⁵ Their approach often reflected a misunderstanding of how to achieve diversification, an issue we had flagged even as the new decade began: “Portfolio diversification is not necessarily achieved simply by investing in asset classes with different names. Rising correlations and higher concentrations of specific risk exposures can erode the diversification many investors believe they have attained in their equity portfolios, increasing potential volatility and the probability of negative returns.”²⁶

Indeed, this is precisely what transpired in the mid-decade run-up. To a large extent, the easy availability of credit and the substantial use of leverage drove the rise in asset prices. Consequently, when credit markets froze up, virtually all assets and investment strategies were similarly affected, with virtually all risky assets plunging in value, illustrating how in stressful environments only investments relatively uncorrelated with equities because they have fundamentally different drivers of returns can dampen the downside. This presents a challenge since investments that fit this bill, such as high-quality sovereign bonds or commodities, while potentially increasing portfolio Sharpe ratios, should be expected to decrease long-term expected returns and the likelihood that post-spending purchasing power will be maintained.

²⁵ According to the National Association of College and University Business Officers (which used an equal-weighted mean), U.S. equity positions dropped from 54% to 18% of the portfolio, fixed income positions fell from 24% to 13%, and alternative strategies accounted for 51% of portfolios by 2009 versus less than 10% a decade earlier. Our U.S. client data show similar trends. Meanwhile, the United Kingdom’s WM Unconstrained Charity Universe shows the percentage of domestic equities in U.K. portfolios declining to 47% from 62% (although almost half of the drop occurred from 2008 to 2009) and the amount devoted to cash/other (which would include alternatives) rising to 11.8% in 2009 from 2.7% in 1999, with the increase occurring in the last half of the decade.

²⁶ Please see our February 2000 report *Diversification: A Warning Note*, p. 4.

Understanding and Managing Risk Is Essential

The tech bust and, even more, the financial crisis were painful reminders that investors must take a multi-dimensional and customized approach to risk management. The policy portfolio must be aligned with the investor's particular liquidity needs, spending requirements, and risk tolerance. It is a mistake to try to copy blindly the allocations of peers or highly visible institutions that may operate under a very different set of conditions. In large part, this is because the portfolio cannot be walled off from what is going on with the institution more generally. For example, declining endowment market values may affect the institution's debt covenants.

The events of 2008 made it clear that endowment liquidity issues pose a risk to institutions and that liquidity can be far more ephemeral than many investors previously believed. Risk management should therefore include the program budgeting function and well-developed contingency plans to address changes in spending needs and available resources triggered by volatile markets. Interaction between the investment office and treasury is an essential component of comprehensive risk evaluation within an institution.

In fact, the events of the last two years suggest that an organization likely will require *greater* support from its endowment during periods of stress, as various other revenue sources such as fund raising and government grants and contracts may dry up and, in the case of educational institutions, demand for financial aid increases and/or the willingness or ability to pay higher tuition costs declines. To make matters worse, portfolio-related liquidity demands may also increase in a sharp market downturn as distributions from private investments tend to dry up and capital calls *can* accelerate; fortunately, this worst-case scenario was avoided during the credit crisis

as capital calls also ground to a halt. A crisis-induced drop in endowment spending often means that jobs have to be cut, programs and grants have to be discontinued, and other excruciatingly difficult choices need to be made.²⁷

These are not merely bookkeeping exercises, but decisions that can affect the very essence of an institution. Given the decades since the last truly deep and extended bear market, it is unlikely that institutions such as schools fully appreciated the potential risk of expanding operations under the implicit assumption that the endowment would provide an ever greater share of support. The longer-term cultural effects of such an assumption are unknown, even as institutions, with the prospects of lower endowment growth than historically experienced and a decline in other revenue sources, grapple with the strategic implications of having potentially less powerful endowments.

The 2000s also showed that investors must construct portfolios with tail risk in mind. We have long believed that while mean-variance models (with normal or lognormal distributions) are generally effective at portraying the probability of results likely to occur most of the time and over the long term, they do not adequately portray the severity of tail risk events. Scenario models and stress testing are better able to illustrate possible outcomes of such events. Further, financial models are only as good as the assumptions they use. First-ever events that are not anticipated by models—such as the fall of U.S. housing prices nationally—*can* occur. There is no substitute for qualitative assessment of risk. The last few years of the decade, for example, provided clear evidence that investors had placed undue faith in new technical tools such as value at risk (VAR)

²⁷ For lessons about endowment governance, drawn in part from the experience of the financial crisis, please see our 2010 research report *Governance in Turbulent Times: An Endowment Perspective*.

calculations, which were believed to facilitate management of ever more complex balance sheets, and new financial instruments, which were believed to spread risk more broadly among knowledgeable risk takers.

Finally, the performance of less liquid private investments during the past decade was a reminder that investing in such instruments does not by any means ensure that an investor will realize liquidity and equity risk premiums. Manager selection (and monitoring) is crucial for hedge funds and private equity funds of all varieties, given the extreme performance disparity among managers, the relatively long lock-ups, and the higher risks associated with these investment strategies. Investors should lock up capital only with managers they are highly confident will outperform public markets, net of fees, on a risk-adjusted basis.

The Implications for Return Expectations of Another Ten Years of Performance Data Are Mixed

While freely admitting the possibility that the past 20, 50, or however many years are themselves an anomaly,²⁸ we believe that in the absence of anything better, the historical record provides a *starting point* for arriving at reasonable return expectations. Investors that hope to avoid the mistakes of the past must carefully consider any

²⁸ This argument was made (not for the first time) by the late Peter Bernstein in his February 15, 2009, paper *Where Has the Long Run Run? The Policy Portfolio Reconsidered Once Again*. Likewise, it is certainly possible that other data on economic and financial crises over many centuries or deleveraging episodes over the past 80 years are just as relevant, if not more relevant (or just as *irrelevant*, for that matter) to understanding what we should expect in the coming years. See Carmen M. Reinhart and Kenneth S. Rogoff, *This Time is Different: Eight Centuries of Financial Folly*, 2009, and McKinsey Global Institute, *Debt and Deleveraging: The Global Credit Bubble and its Economic Consequences*, January 2010. For more information on returns since the start of the twentieth century, see Credit Suisse Global Investments Return Handbook, 2010.

similarities between current and past conditions while being cognizant of how relevant the differences are. The historical record also helps us understand investor behavior and the various arguments in support of, or in opposition to, particular investment strategies.

With these considerations in mind, a decade's worth of data is unlikely *by itself* to significantly change our view of the long-term risk/return profiles of asset classes for which we have a long data series.²⁹ On the other hand, we may give more weight to ten years of data in the case of a newer asset class, such as venture capital. Thus, whereas venture's end-to-end IRR was 23.2% in nominal terms from 1981 (the first year for which we have industry data) through 1999, it was *negative* during the 2000s. Bad performance was linked to poor public equity markets and high valuations (in part the result of the non-marketable space becoming crowded), both of which are reversible. Nevertheless, one can argue on the basis of the last ten years that long-term return expectations for venture capital should be revised downward.³⁰ At the very least, investors should think long and hard about manager fees and terms in this space.³¹ The same holds true for other non-marketable asset classes such as buyouts.

²⁹ Of course, our views may well change should we decide that larger macroeconomic trends require fundamentally different assumptions than in the past. Using data from two different sources, it appears that as a result of poor performance in the 2000s, the real AACR for developed markets equities as a whole (dating from 1900) fell from 6.2% to 5.4% in US\$ terms.

³⁰ Obviously, this depends in part on the starting point: an investor that had high long-term expectations on the basis of limited data would be more likely to see a need to revise expectations today.

³¹ Please see our February 2009 report *Restoring Balance to GP/LP Relationships*. We raised similar issues regarding hedge fund fees in that paper. *The Wall Street Journal* reported in March 2010 that a number of well-known U.S. venture capital firms have been offering investors lower fees in recent months in connection with their efforts to raise new funds.

The last ten years represent an even larger chunk of the available data for emerging markets equities. In this case, annual returns in the 2000s trailed those in the 1990s by nearly 31 percentage points in local currency terms, although the differential in US\$ terms (less than 100 bps) was small. Emerging markets equities have become a more crowded trade (like non-marketables), but have benefitted from the growth story of local markets. We continue to believe their long-term expected return is above that of developed markets equities, largely because of their higher risk (e.g., political risk, corporate governance), although such risks arguably are much lower today than ten or 20 years ago.³²

Looking Forward, Not Backward

To the extent the experience of the 2000s serves to dampen overly optimistic investor return expectations and prompt reconsideration of spending, liquidity, and risk generally, this is healthy. More broadly, however, how can investors best apply the lessons of the decade?

Monitor the Environment for Change and Opportunity

How can investors effectively navigate an environment in which change is a constant, particularly if one believes it will accelerate—a distinct possibility in an increasingly technological society? One theory is that investors should be more tactical in order to take advantage of a greater number of opportunities. While the dividing line between strategic and tactical is not always sharp, we believe tactical opportunities are appropriate, but should be based on opportunities with enough return potential to compensate for

³² The fact that emerging markets equities trade at less of a discount (or, by some metrics, at a *premium*) to developed markets than they did in most of the 1990s (when they were substantially cheaper) also supports this thesis.

the risk taken and should be done within the context of the long-term strategic policy portfolio.

This approach provides lots of leeway for tactical moves, as policy portfolios should reflect allocations to the most strategically important and differentiated asset classes, but not be so detailed as to fix allocations to investment strategies with similar return drivers. Before making such bets, investors should carefully consider how they are likely to add value—as well as the perceived exit strategy. Investors must consider *ex ante* the potentially disastrous implications to the portfolio of an incorrect, oversized tactical move.

At the same time, we continue to believe that tactical asset allocation moves from high-risk/high-expected-return investments to low-risk/low-expected-return investments (i.e., shifts from stocks to bonds or cash) can be extremely hazardous, particularly for investors with high investment return objectives, such as the 4% to 5% objectives typical of most endowed institutions. Meeting such investment objectives over the long term is difficult under any circumstances; given that returns tend to be clustered in relatively short periods, missing the best days, months, or years of equity performance can make such objectives effectively unattainable (Exhibits 15 and 16). To benefit from such tactical moves, investors must essentially get two decisions right—when to enter and when to exit. This skill has proven elusive for investors.

The consequences of making poor timing decisions may not be so devastating for investors with lower return goals that are consistent with a higher allocation to cash and bonds. However, such investors should tread warily if high-risk assets appear exceedingly risky and should not view potentially greater tactical flexibility as a blank check. Likewise, those with higher return objections should always question whether their strategic policy targets are appropriate or whether

they may be better served with a lower-risk policy portfolio with more limited downside risk.

Investors should also seek to recognize secular changes as they develop, preferably before they are fully priced into the markets. One powerful theme discussed above is the rising importance of emerging markets, particularly in Asia, relative to major developed markets. However, these sorts of secular transitions can take decades, not years, to transpire and are often accompanied by huge swings in investor sentiment and valuations as market conditions change. We believe markets are currently pricing in higher, but not unreasonable, growth prospects for emerging markets assets than for developed markets assets, and we are encouraged by the fact that emerging markets economies showed particular strength coming out of the 2008–09 global recession.

Another potential secular change we will monitor is whether the events of the last couple of years will have a long-term effect on investor preferences. U.S. fund flows showed a big movement into cash in 2008 and into bonds the following year, with equity funds suffering huge withdrawals in both years. Are investors in the United States (or other developed markets) fundamentally changing their views on equities? It has happened before and, if it is happening again, will seriously impact investment returns and, therefore, institutions' operations. If investors continue to pour money into sovereign bonds, it is quite difficult to see how investors will earn enough to cover their current and planned spending, which, in the case of institutions, is typically about 4% to 5% of assets on an annual basis. For now, even as interest in bonds (including credits) has increased, U.S. fund flows into emerging markets equities have also been quite strong, suggesting that if a shift in preferences takes hold, it may not be uniform across all equities.

Use Valuations to Guide Portfolio Positioning, Rebalancing and Risk Management

We continue to believe strongly that close attention to valuations is an important tool in portfolio rebalancing and managing risk and, more broadly, is essential to long-term success. Given that valuation multiples—and associated variables such as earnings, returns on equity, and credit spreads—regress back toward (and typically through) equilibrium levels,³³ valuation analysis is often a straightforward matter. At the same time, as indicated above, metrics for a number of asset classes are not particularly reliable due to factors such as a lack of data or a short operating history. Further, secular changes do occur on occasion, making it important to consider whether new conditions necessitate a revised view of valuations. Finally, the pace of valuation regression can often be too long and irregular for many investors, even the most experienced, to tolerate. These considerations support our belief that it is important for investors to diversify and keep valuation-based bets sized at tolerable levels.

With the exception of global inflation-linked bonds, and sovereign bonds in the United States and the European Monetary Union (EMU),³⁴ markets today are not marked by the extreme overvaluation we saw ten years ago in certain asset classes (Exhibit 17). However, in 2000, even as select markets were dangerously overvalued, there was also a wide dispersion of valuations across asset classes and investment strategies, which meant that opportunities existed for those willing to swim against the tide. By contrast, we consider two-thirds of the 54 asset classes/ investment strategies we presently rate to be fairly valued today, with only three (Japanese equities,

³³ Such levels tend to be historical means, but may also reflect secular changes that lead to a new equilibrium.

³⁴ As we go to press, even these valuations have become slightly more attractive.

European, Middle Eastern and African emerging markets equities, and non-Agency mortgages) undervalued. Accordingly, in contrast to periods such as early 2000 or late 2008/early 2009, when opportunities in certain asset and sub-asset classes were more plentiful, investors should not anticipate a significant markup from purchases at current valuation levels.

Investors should also be very cautious about paying up for growth prospects, which are inherently uncertain. Rather, they should develop an investment thesis and implementation plan that uses valuations to help inform the decision of when to expand positions, seeking to build any strategic overweights on weakness and slowing the pace of investment when at risk of overpaying. Finally, investors should continually evaluate the validity of their investment hypotheses.

We anticipate that more opportunities to take advantage of mispriced assets will develop as company earnings and country economic outlooks continue to diverge and correlations, at some point, lessen. However, given that such opportunities can evaporate quickly, investors must consider both whether they can act quickly and whether they will be able to maintain positions in the event that valuation corrections take longer than expected. More broadly, just as investors expend tremendous resources measuring and monitoring manager performance, they should take a hard look at their ability, using valuation-based investment decisions, to obtain the greatest benefit to portfolio returns over time without assuming excessive risk.

Valuations are an important means of avoiding undue reliance on extremely overvalued assets, or assets that have become much more risky than modeled for. We have long noted that establishing and adhering to a process for rebalancing is more important than the method of rebalancing, given that selling what has appreciated and buying what

has underperformed is always difficult from a behavioral standpoint. Even in portfolios that are regularly rebalanced, however, assets can at times become so cheap or so expensive that maintenance of target capital allocations may be insufficient. In such cases—e.g., late 2007, when valuations of equity and equity-like investments had become inflated across the board—investors should seek ways to align the price risk of such assets more with desired long-term risk exposures.³⁵

Understand the Benefits and Limitations of Diversification

Correlations within equities and among equities, bonds, and hard assets continue to be much higher than usual, reflecting the fact that markets appear to be responding more to macro factors than fundamentals. All risk assets have been moving in a relatively coordinated fashion against those assets perceived as defensive, such as the highest-quality sovereign bonds, the U.S. dollar, and the Japanese yen. While correlations today are relatively extreme, these conditions tend to be ephemeral.

Diversification within risk assets should therefore prove a successful component of risk management, as it has in the past. However, periods in which common sources underpin price appreciation or stress is extreme will continue to be important exceptions. In such environments there will be

³⁵ Thus, investors could have reduced equity beta in late 2007 through, for example, allocating more capital to lower-beta managers investing in similar assets, such as high-quality equity managers and long/short managers. Such changes can be made while maintaining policy target allocations to equities. Likewise, from the late 1990s through early 2000, when valuations were more divergent, valuation risk and equity betas could have been reduced by investing in non-U.S. equities, as well as U.S. small caps and value stocks. Of course, increasing allocations to other asset classes, such as high-quality bonds, would also serve to reduce equity beta, but such shifts between asset classes should be carefully considered as they change the risk profile of portfolios more materially.

only limited benefits to adjusting allocations among equities by, for example, cutting exposures to higher-beta equities, such as emerging markets and small caps, and increasing allocations to lower-beta assets like high-quality equities and certain hedge funds that use careful hedging. In addition, if the strategy includes exposure to asset classes with no passive vehicles and widely divergent manager performance, success will likely rest more on skillful implementation than diversification per se.

In any event, investors should take a hard look at how their portfolios might perform under high-stress scenarios (including an extended period during which the current secular bear market continues), the degree to which they have adequate flexibility to weather such a scenario, and the costs they are willing to bear to mitigate the impact of such possibilities. Meanwhile, it is worth considering just how well assets heretofore considered safe are likely to perform going forward, given underlying macro conditions (not to mention current valuations!); for example, we share investor concerns about the ability of developed markets sovereign bonds to continue to serve a defensive role over the intermediate-to-long term, as sovereign financial positions have deteriorated and, in some cases, are under pressure.

Not surprisingly, given these conditions, investors have become increasingly interested in tail risk protection, either directly through derivatives (e.g., out of the money puts) or indirectly through managers that invest in such protection, often taking more basis risk (e.g., long positions in credit default swaps, interest rate derivatives). Investors have also been searching for strategies that may be less correlated to equities, such as those that are inherently “long volatility.” We agree that these derivatives, managers, and strategies are worth considering, and we are dedicating significant resources to evaluating both

their appropriate uses and how to manage the associated risks. Investors should likewise examine carefully the costs, potential drag on long-term returns, counterparty risk, and significant implementation and behavioral risks that are involved. Indeed, we have seen investors time and time again engage in such defensive activities only to capitulate prior to market declines—the worst of all possible situations.

Measure, Monitor and Manage an Array of Risk Factors

As for risk, yes, it can be better understood and managed than in the 2000s. For example, not only is there a greater focus today on liquidity management, much thought has been given to analyzing “exposures” rather than “asset classes” so as to understand how much of a portfolio is at risk across all asset classes under different adverse events, such as when credit spreads blow out or interest rates spike unexpectedly. It is now widely recognized that there are many dimensions to risk that should be measured and managed, and that standard deviation or VAR summary statistics alone are insufficient. As noted earlier, rebalancing to desired risk exposures can be a valuable risk management tool.

However, risk management, like valuation analysis, is not an exact science. Risk is multi-dimensional, can be very difficult to measure, and requires qualitative assessment, in addition to quantitative analysis. It is also easy to focus too much on recent lessons (such as those discussed here) and, as a result, miss what the greatest risks are going forward.

Moreover, while every dollar in secure government bonds provides liquidity as well as some protection against deflation or a flight to quality, it also increases the possibility that an investment portfolio will fail to achieve its long-term return target, particularly if the investor spends from the

endowment. Likewise, a policy of keeping uncalled capital commitments in cash (particularly when rates are as low as they are today) or placing severe limits on allocations to illiquid investments (for those investors for whom such investments make sense) could be very costly. However, the less flexible an investor's short-term spending and other cash needs, the greater its inability to invest as a true long-term investor. Investors must maintain adequate liquidity and provision to survive in difficult times without having to sell off risk assets at depressed prices. *In short, risk management involves trade-offs.*

We believe investors with aggressive long-term return targets (e.g., the real 4% to 5% target incorporated in many investment policy statements) must be prepared to invest in equity-dominated portfolios and understand that even well-implemented diversification has its limits. Investors must also accept a “cost” in the form of the relatively high downside risk that equities carry, while also implementing contingency plans for likely short-term hits to the portfolio.

Diversification, as noted above, is one way to manage risk, but in good times, investors underestimate the need for it, while in bad times, they may want too much. Anticipating cash needs under various stressed environments can help investors determine the appropriate level of diversification into defensive assets that are expected to have lower risk and return characteristics. Such a decision should also factor in the availability of other resources, such as operating reserves and debt capacity, including secured lines of credit.

Government—A Big Wild Card

Blasphemous as it may sound to many, fundamental company analysis may not be enough in the next decade. The political world is bumping up against the capital markets much more frequently today than ten or 20 years ago.

One reason for this is the massive government intervention in developed markets in response to both the financial crisis and the recession.³⁶ The U.S. and other developed markets governments now run companies, support financial institutions (especially the largest ones) much more explicitly, and appear far more willing to take active measures to bolster housing prices, shift demand for automobiles forward, etc. This none-too-subtle shift in policy has already affected markets and sectors (especially financials) significantly and is likely to have a broad impact on asset classes and investment strategy in the years ahead. While many of these measures are said to be temporary, the huge and growing debt-to-GDP ratios (identified earlier this year by the IMF as *the* biggest issue facing developed markets) makes it unlikely that we will see small government for some time. Reading the tea leaves of government seems increasingly important.

Financial regulation is one area where there will clearly be further change, and this will present some important questions for investors. For example, under the new system, will it be possible for financials to consistently deliver strong returns or will they revert to the utility-like status they once held, as high profitability is sacrificed for steady income and explicit government backing? How much oversight of hedge funds and/or private equity firms will be put into place and what will the impact be on the risk/return profile of these asset classes?

From a broader perspective, we may have a “too big to fail problem” or we may have a “too small to succeed” one. New regulation such as oversight of derivatives may lead to more transparent and better functioning markets that create investor confidence and good returns. Conversely,

³⁶ For an extended discussion of the Fed's response to the financial crisis, please see our August 2009 Market Commentary *Uncharted Waters: The U.S. Policy Response to the Financial and Economic Crisis*.

reforms might serve as a straightjacket on corporations in the United States and Europe, hampering the beneficial transfer of risk, stymieing good financial innovation, and scaring off corporations and investors as they calculate the possibility of excessive litigation. The extent and impact of international regulation is another big question.

The rise of emerging markets with more state-centered economies—China being the most prominent example—also presents a challenge to the way international capital markets have functioned over the last few decades. Notwithstanding explosive capital markets growth in emerging countries and the influx of foreign capital, the *percentage* of their public equity markets open to foreign investors has, on average, increased little over the last ten years—and by much less than developed markets (Exhibits 18 and 19). Thus, in China, where the investable market increased to \$645.4 billion from just \$4.7 billion, foreigners may still invest in only 21.6% of the total market (compared with 17.5% in 1999).³⁷ One big question is how the rise of emerging markets will affect the value of the U.S. dollar and other major currencies.

Emerging markets account for many of the sovereign wealth funds (SWFs) that now dot the global landscape. SWFs, more than half of which were created during the last ten years, are estimated to have held \$3.8 trillion in assets at the end of 2009. Emerging markets SWFs often invest with strategic (e.g., access to natural resources) as well as just financial motives in mind. Nonfinancial motives may create inefficiencies that allow others to profit, but it is also possible that the game has changed, with significant implications for the prices of commodities and other assets.³⁸

³⁷ Admittedly, in the case of China, there are ways to invest in companies listed in Hong Kong or elsewhere.

³⁸ For example, the competition for natural resources could end up making acquisition prices that seem overly

Conclusion

The perspective that comes with the passage of time will allow us to better synthesize the enormous changes that occurred globally during the first decade of the twenty-first century. Over time, a consensus will develop as to how we remember the 2000s—although that consensus may itself change as future generations reconsider this era. We should be mindful of Zhou Enlai’s assessment of the impact of the French Revolution: “It’s too early to say.”³⁹

From an investment perspective, the decade was a difficult one. As it began, stretched public and private equity valuations suggested a rough patch was ahead. This indeed proved to be the case, although being properly diversified helped. Today, developed markets equity valuations, while certainly not compelling (particularly in the case of the United States), look much better than a decade ago, which should augur better returns in the 2010s (Exhibits 20 and 21).

Nevertheless, longer-term headwinds in developed markets include a substantial deleveraging that consumers must undertake at some point, a worrisome increase in public debt levels, and government intervention that creates issues like moral hazard and favoritism. The effect of new financial regulation is likely to be significant, but its implications are far from clear. At the same time, developed markets remain centers of innovation that have shown their ability in the past to adjust to a new environment.

Emerging markets have been on a different trajectory, which helps explain why their valuations (both absolute and relative) are not as attractive as ten years ago. However, many believe these markets

stretched today more than justifiable in hindsight should protectionist measures gain more traction.

³⁹ The remark, said by some to have been a response to a question posed by Henry Kissinger, may be apocryphal.

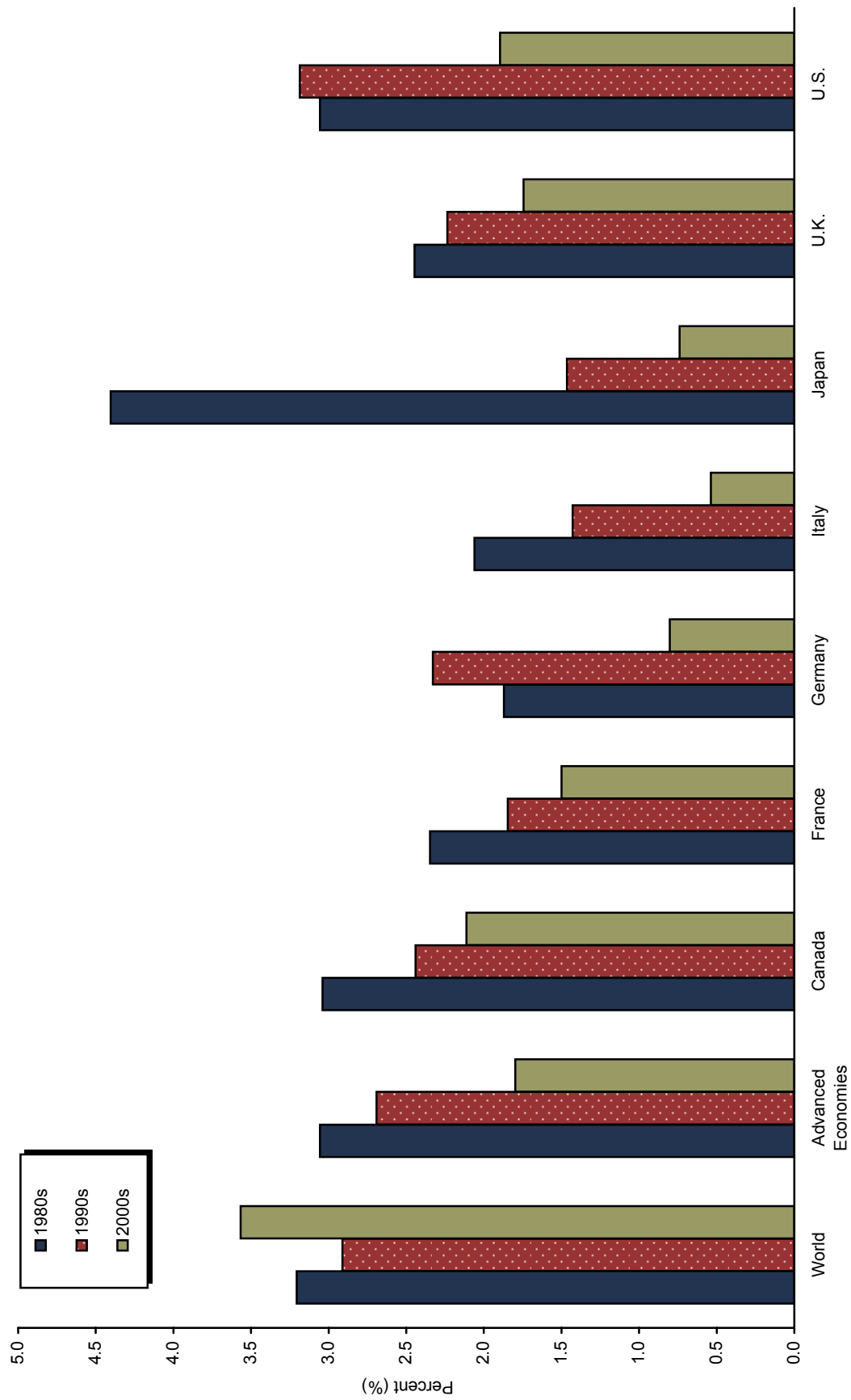
remain ripe for investment given capital market liberalization, good public finances, and high economic growth prospects. Given these strong fundamentals and valuations that are reasonable, we continue to advise a strategic overweight to emerging markets, particularly in Asia. On the private side, emerging markets may also offer better opportunities than their developed counterparts, given their less crowded capital markets and extensive need for capital.

Looking ahead, investors need to be mindful of the lessons of the last decade as they navigate what is likely to be a difficult environment. They should attempt to glean lessons from history, while recognizing that its utility is limited, and strive to avoid the natural tendency to anchor their views to the familiar—which would cause them to interpret secular shifts in the environment through the wrong historical lens. Investors need to focus on valuations, seek true diversification, assume only those risks that they reasonably expect to get paid to take, and pay close attention to manager selection. Risk management is essential, including both tail risk and the core risk of failing to maintain purchasing power of assets after spending. Perhaps even more than in the past, investors must constantly and rigorously question their assumptions concerning asset classes, portfolio strategy, and capital markets. Given the fragility of the global economy, we continue to focus on quality, maintaining adequate protection against the risks of inflation or an extended period of economic contraction, and finding ways to be defensive and diversified. At the same time, we remain on the lookout for valuation-based investment opportunities.

We will make two predictions. The first is easy: capital markets will fail to properly discount some major events that will occur over the next decade, whether due to major geopolitical changes, scientific advances, or something else entirely. Second, notwithstanding the pressure the U.S.

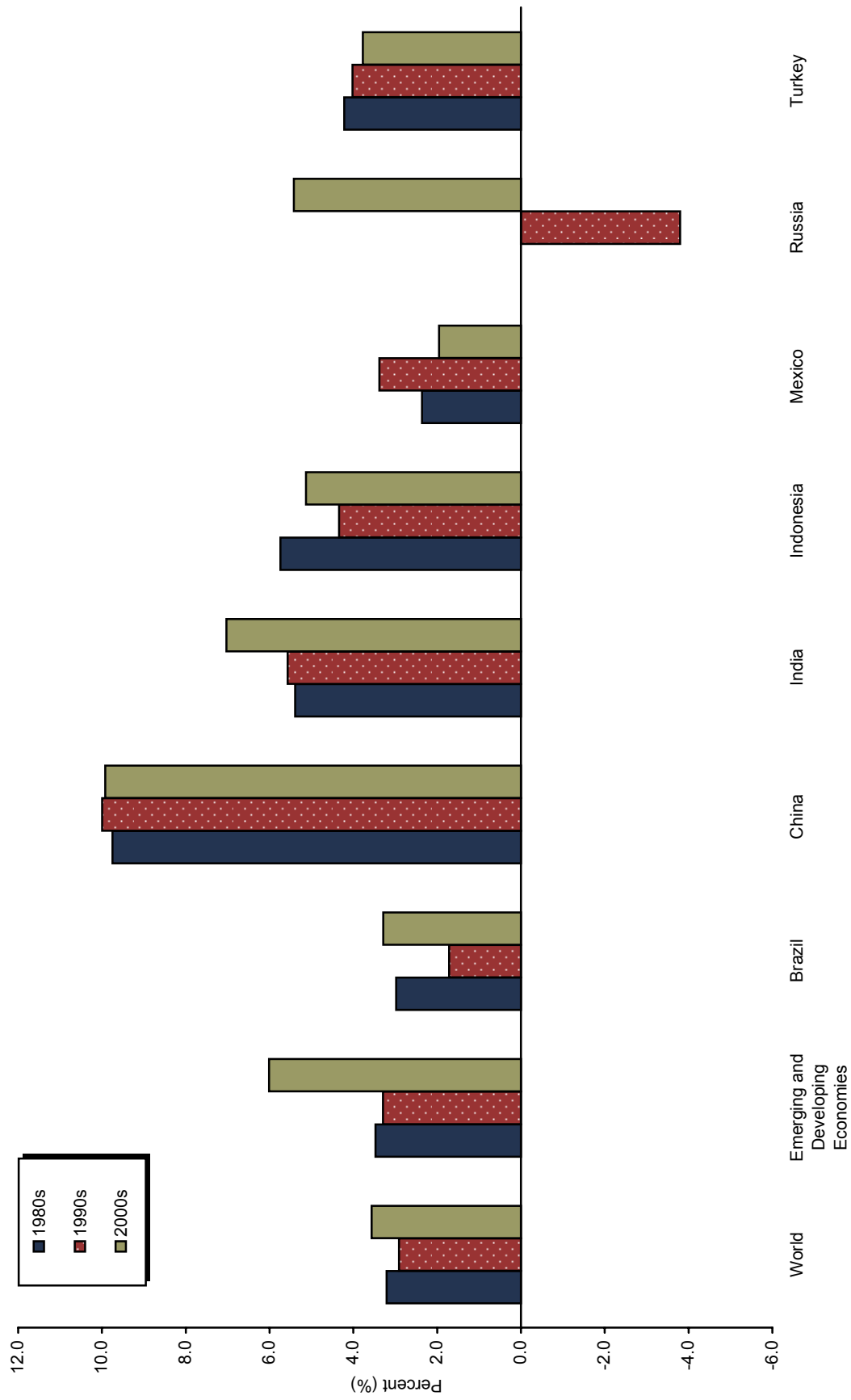
economic model is under at the moment, other pretenders to the throne (the state-directed system is currently in vogue) will undergo their own crises of confidence—just as Japan has done since the end of its bubble. It is a mistake to overestimate the ability of more centralized economic systems to manage economic and other change in the coming years—just as it is wrong to underestimate the ability of less centralized and more dynamic economies to adapt. ■

Exhibit 1
Average Annual Real GDP Growth of Developed Markets



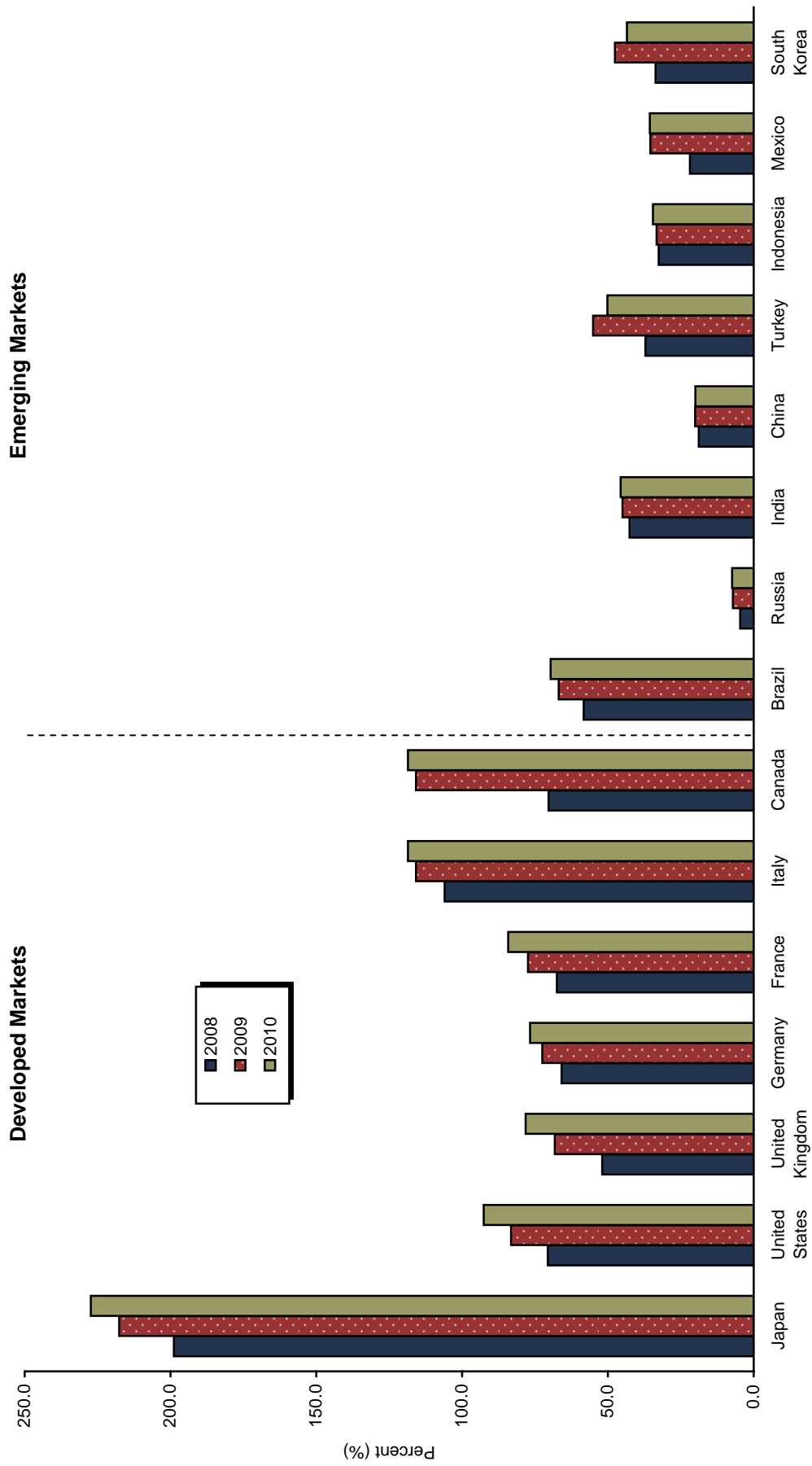
Source: International Monetary Fund.
 Note: Data are in local currency.

Exhibit 2
Average Annual Real GDP Growth of Emerging Markets



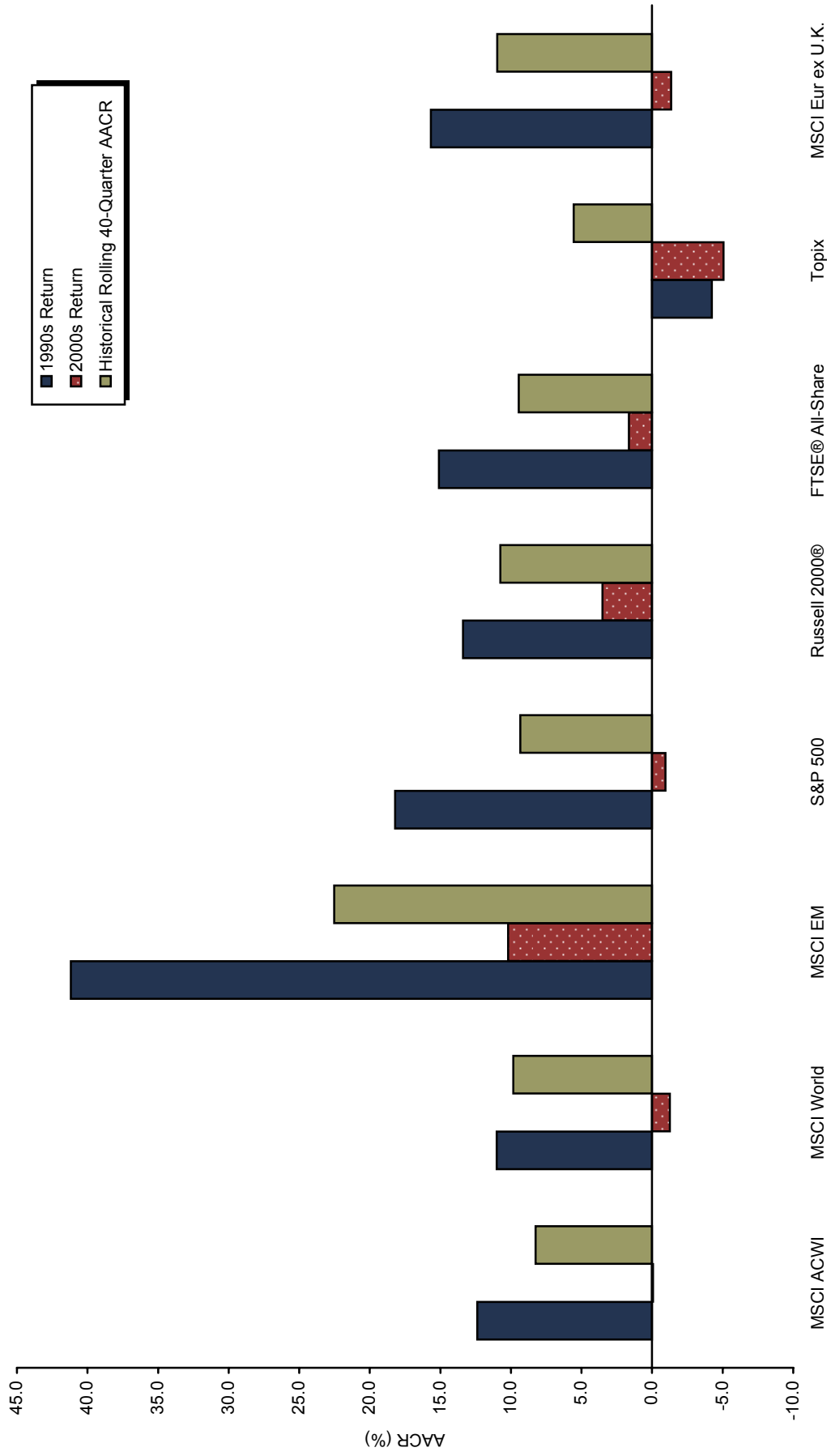
Source: International Monetary Fund.
 Notes: Data are in local currency. Data for Russia are not available for the 1980s.

Exhibit 3
Gross Government Debt as a Percentage of GDP
 2008–10



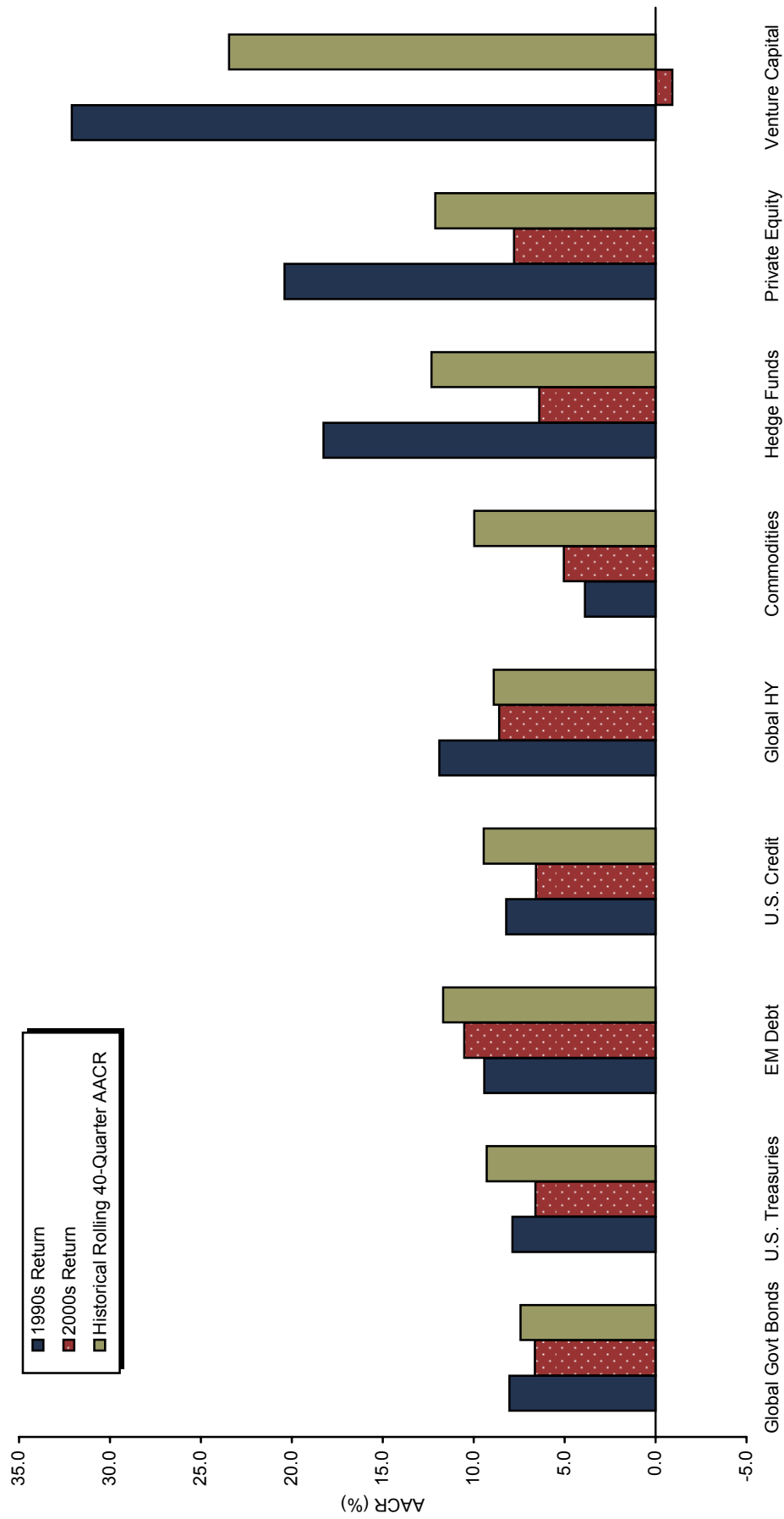
Sources: International Monetary Fund and J.P. Morgan Securities, Inc.
 Notes: Emerging markets 2009 and 2010 data are forecasts. Developed markets 2010 data are forecasts.

Exhibit 4
Nominal Ten-Year Asset Class Average Annual Compound Returns by Decade: Equities



Sources: Frank Russell Company, FTSE International Limited, MSCI Inc., Standard & Poor's, Thomson Datastream, and Tokyo Stock Exchange Group, Inc. MSCI data provided "as is" without any express or implied warranties.
 Notes: All data shown are in local currency. Historical rolling 40-quarter AACRs are since inception or since reliable data became available.

Exhibit 5
Nominal Ten-Year Asset Class Average Annual Compound Returns by Decade



Sources: Barclays Capital, Cambridge Associates LLC, Citigroup Global Markets, Hedge Fund Research, Inc., J.P. Morgan Securities, Inc., Standard & Poor's, and Thomson Datastream.
 Notes: Historical rolling 40-quarter AACRs are since inception or since reliable data became available. U.S. Treasury returns are a custom index of 50% BC Long Treasury and 50% BC Intermediate Treasury. Global government bonds are represented by the Citigroup World Government Bond Index and emerging markets bonds are represented by the J.P. Morgan EM Bond Index. The BC U.S. Corporate Index and the BC Global High Yield Index are used to represent U.S. credit and global high yield, respectively. Commodities and hedge funds are represented by the S&P GSCI™ and Hedge Fund Research Fund Weighted Composite, respectively. The CA U.S. Venture Capital and Private Equity indices are used to provide return data for private equity and venture capital. All data shown are in local currency except for the Citigroup WGBI, J.P. Morgan EM Global, Barclays Capital Global High Yield, and the Hedge Fund Research Fund Weighted Composite indices, which are shown in U.S. dollars. Returns for private equity and venture capital are pooled end-to-end internal rates of return.

Exhibit 6
Index Performance During the 2000s

	January 1, 2000 – March 31, 2003		April 1, 2003 – October 31, 2007		November 1, 2007 – December 31, 2009	
	<u>Cumulative</u>	<u>AACR</u>	<u>Cumulative</u>	<u>AACR</u>	<u>Cumulative</u>	<u>AACR</u>
MSCI World	-44.67	-16.65	117.61	18.49	-26.82	-13.42
MSCI ACWI	-43.47	-16.10	133.93	20.37	-24.93	-12.39
MSCI EM	-29.73	-10.29	350.66	38.89	-16.61	-8.04
S&P 500	-39.58	-14.36	98.43	16.13	-24.19	-12.00
Russell 2000®	-24.52	-8.29	139.59	21.00	-21.89	-10.78
FTSE® All-Share	-41.43	-15.18	130.82	20.02	-12.93	-6.19
Topix	-52.76	-20.61	116.17	18.32	-41.75	-22.08
MSCI Eur ex U.K.	-52.78	-20.62	166.68	23.86	-30.74	-15.59
Russell 3000® Growth	-55.68	-22.15	89.88	15.02	-19.23	-9.38
Russell 3000® Value	-16.61	-5.44	121.96	19.00	-28.24	-14.20
Hedge Funds	9.13	2.73	78.40	13.46	-4.47	-2.09
JPM EM Global	39.82	10.86	69.88	12.26	14.47	6.44
S&P GSCI™	40.79	11.10	87.96	14.76	-38.15	-19.89
BC U.S. Treasury	36.81	10.12	17.40	3.56	13.14	5.86
Citigroup WGBI	23.92	6.82	31.87	6.22	16.28	7.21
BC Global HY	16.18	4.72	71.43	12.48	14.66	6.52
BC U.S. Corps	35.83	9.88	22.47	4.52	13.68	6.10
CA U.S. PE*	-15.07	-4.90	189.56	26.65	-7.85	-3.57
CA U.S. VC*	-51.96	-20.19	64.06	11.63	-10.63	-4.87

Sources: Barclays Capital, Bloomberg L.P., Cambridge Associates LLC, Citigroup Global Markets, Frank Russell Company, Hedge Fund Research, Inc., J.P. Morgan Securities, Inc., MSCI Inc., Standard & Poor's, Thomson Datastream, and Tokyo Stock Exchange Group, Inc. MSCI data provided "as is" without any express or implied warranties.

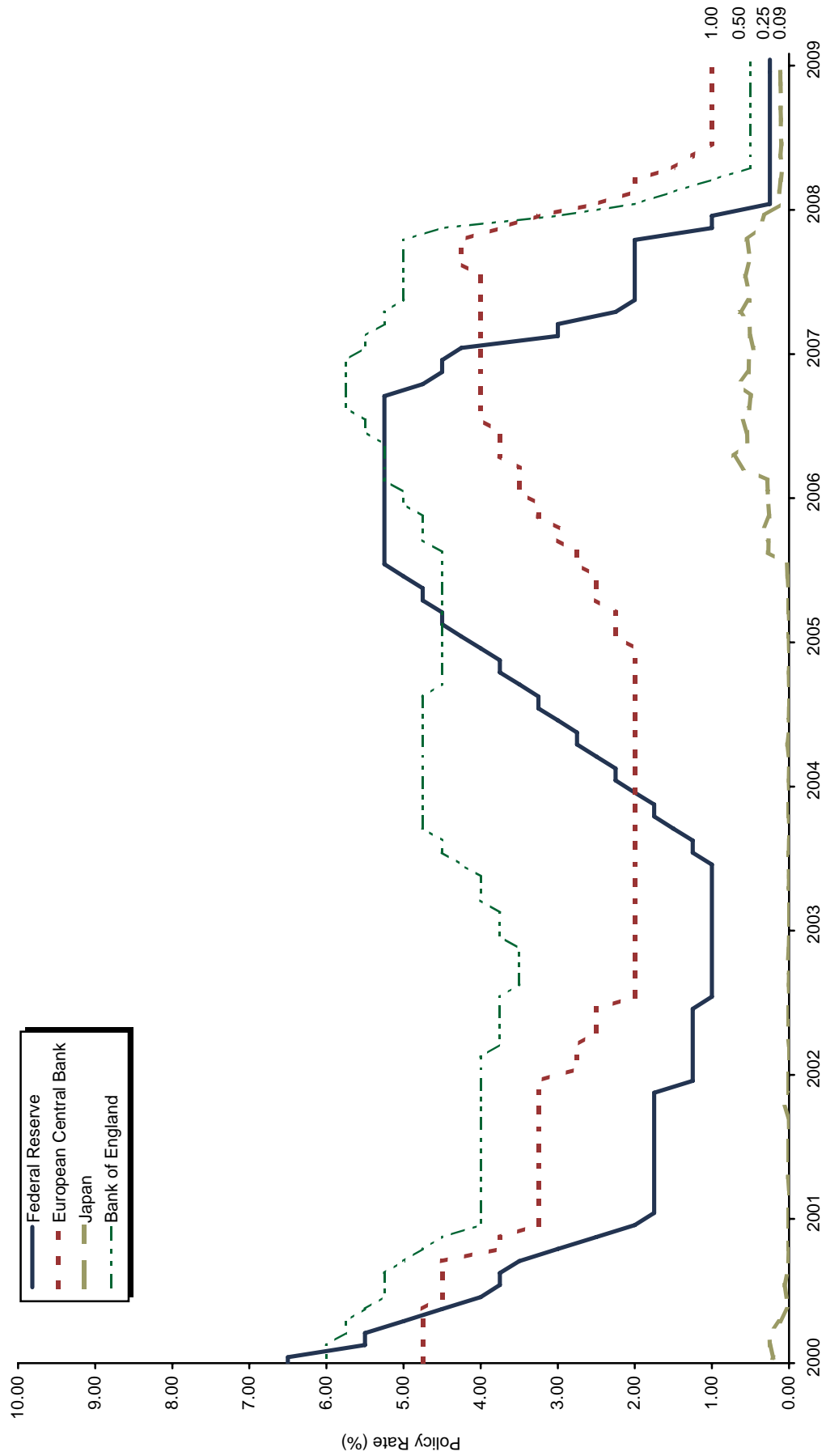
Notes: All data shown are in local currency except for the Citigroup WGBI, J.P. Morgan EM Global, Barclays Capital Global High Yield, and the Hedge Fund Research Fund Weighted Composite indices, which are shown in U.S. dollars. All data are monthly except CA Private Equity and Venture Capital returns, which are quarterly. Returns for private equity and venture capital are end-to-end internal rates of return.

* Since CA Private Equity and Venture Capital returns are quarterly, the corresponding time periods are January 1, 2000, through March 31, 2003; April 1, 2003, through September 30, 2007; and October 1, 2007, through December 31, 2009.

Exhibit 7

Policy Rates

January 31, 2000 – December 31, 2009



Source: Thomson Datastream.

Exhibit 8 Cambridge Associates Current Valuations

February 2000

<u>Dangerous Bubble</u>	<u>Very Overvalued</u>	<u>Overvalued</u>	<u>Fairly Valued</u>	<u>Undervalued</u>	<u>Very Undervalued</u>
Global Technology Equities	S&P 500	U.S. Small-Cap Equities	Real Estate	Real Estate	Oil & Gas Properties
< U.S. Venture Capital (later-stage)	U.S. Large-Cap Equities	U.S. Mid-Cap Equities	(retail)	(Public REITs)	
< U.S. Venture Capital (early-stage)	U.S. Defensive Growth Equities	U.K. Equities	U.S. Value Equities	Oil & Gas - Private Equity	
	U.S. Aggressive Growth Equities	European Equities	Global ex U.S. Small-Cap Equities	U.S. Inflation-Linked Bonds	
	U.K. Bonds (i)	U.K. Bonds (i)	U.S. Long Bonds	Goldman Sachs Commodities Index	
	Japanese Bonds	Japanese Bonds	U.S. Intermediate Bonds	Oil & Gas - Drilling	
	U.S. Buyout Funds	U.S. Buyout Funds	High-Yield Bonds	Tax-Exempt Bonds	
	U.K./European Private Equity	U.K./European Private Equity	European Bonds (i)		
	Japanese Equities	Japanese Equities	Emerging Markets Debt		
			Emerging Markets Equities		
			(Asia)		
			Emerging Markets Equities		
			(Europe)		
			Emerging Markets Equities		
			(Latin America)		
			U.S. Timberland		
			U.K./European Venture Capital		
			Real Estate		
			(apartments)		
			Real Estate		
			(industrial)		
			Real Estate		
			(office)		
			Gold		
			Event Arbitrage		
			Distressed Securities		
			Oil & Gas - Private Debt		

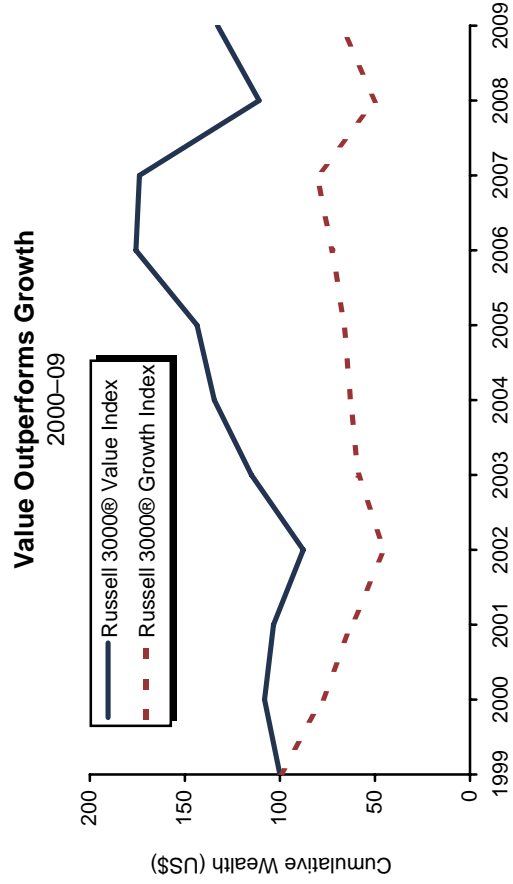
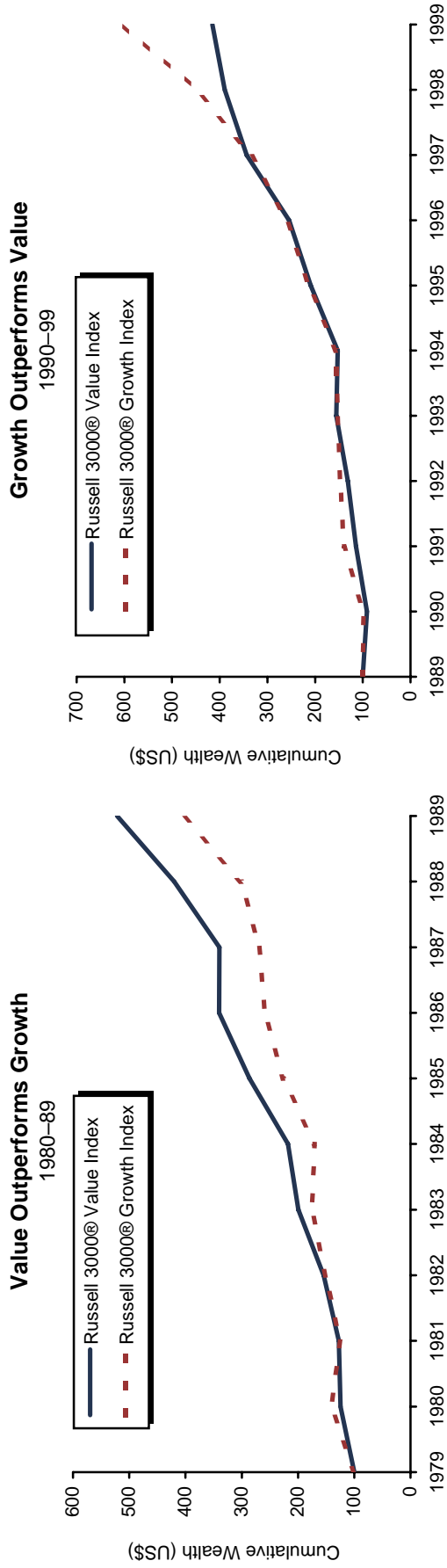
Format courtesy of Stratford Advisory Group, Inc. and Morgan Stanley & Company.

Notes: (<) Indicates a recent move in the direction of more overvalued. (>) Indicates a recent move in the direction of more undervalued. (i) Excluding currency. 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.

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Exhibit 9

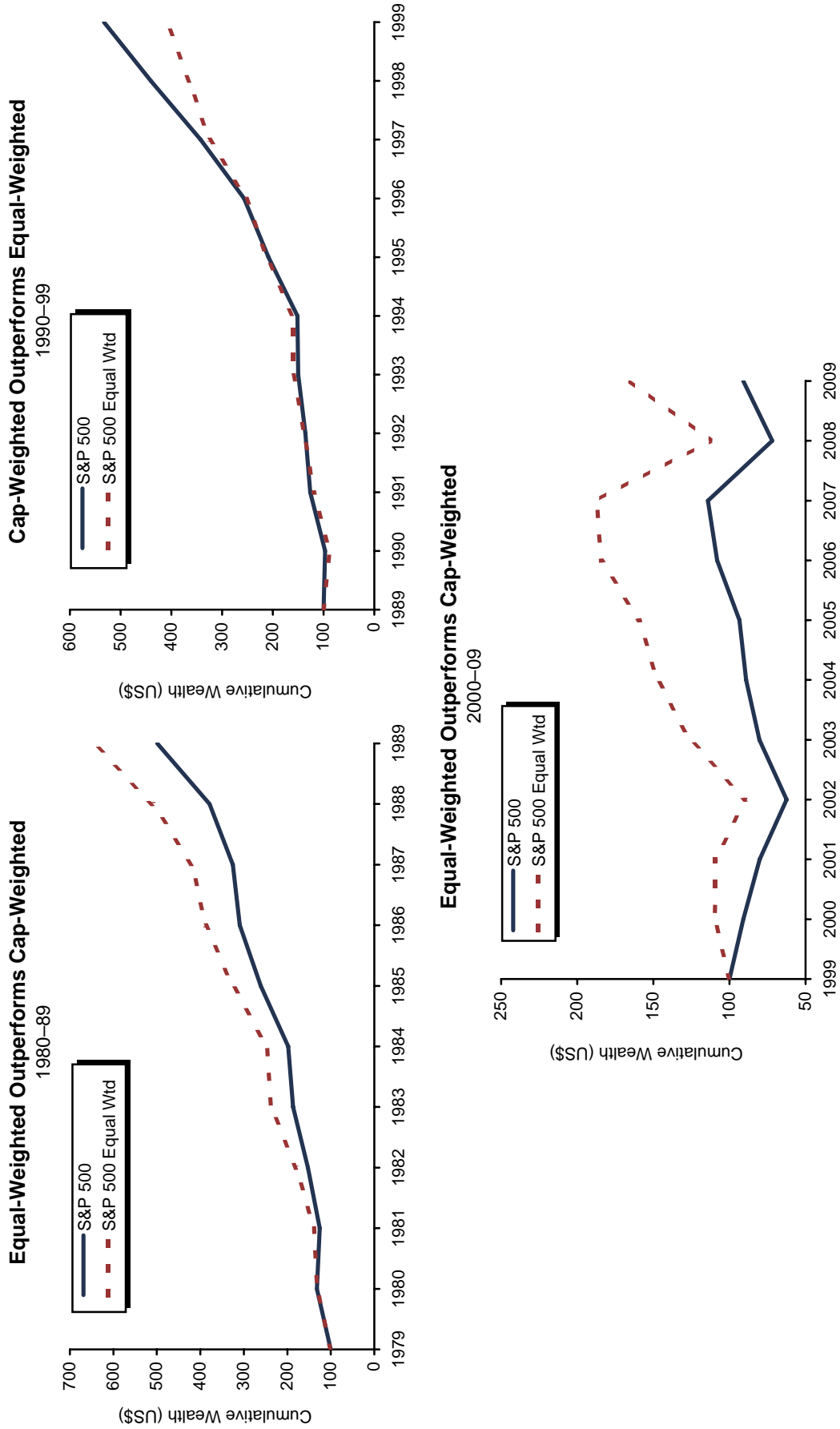
U.S. Growth Versus Value Returns by Decade



Sources: Frank Russell Company and Thomson Datastream.
Notes: All data are annual. Data rebased to 100 on December 31 of the preceding year.

Exhibit 10

U.S. Cap-Weighted Versus Equal-Weighted Returns by Decade

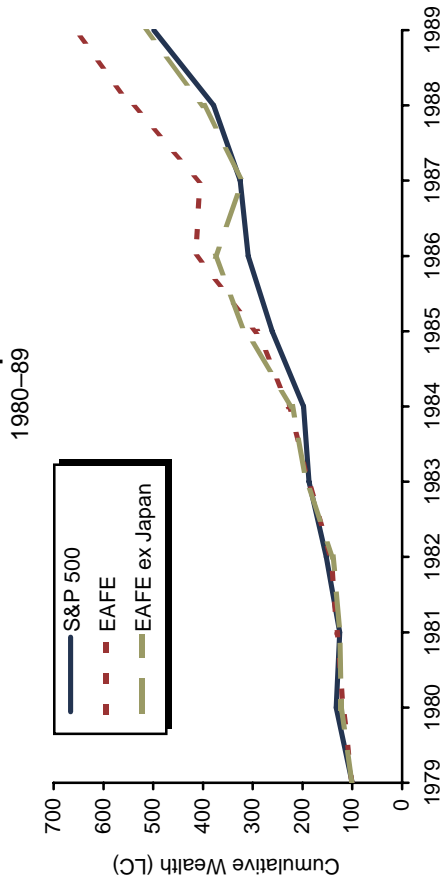


Sources: Standard & Poor's and Thomson Datastream.
Notes: All data are annual. Data rebased to 100 on December 31 of the preceding year.

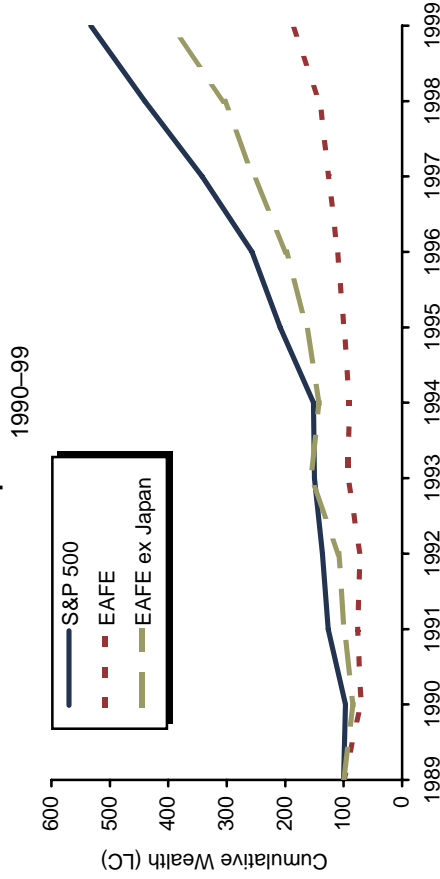
Exhibit 11 U.S. Versus Global ex U.S. Returns by Decade

Local Currency

Global ex U.S. Outperforms U.S.



U.S. Outperforms Global ex U.S.



U.S. Outperforms Global ex U.S.

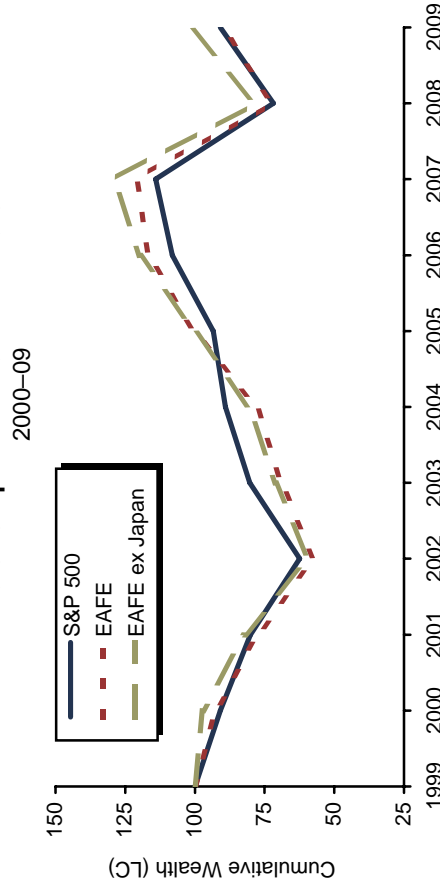
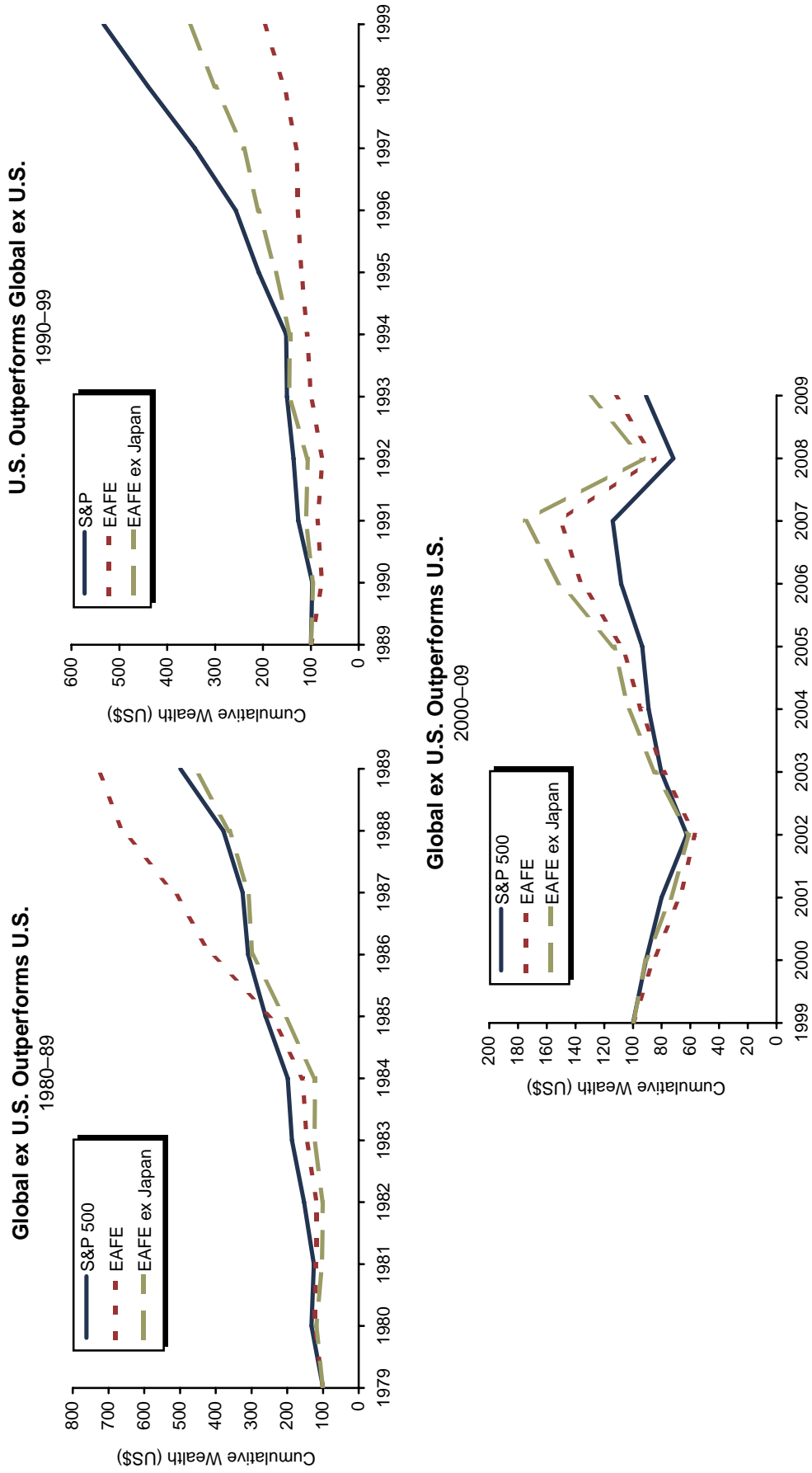


Exhibit 11 (continued)
U.S. Versus Global ex U.S. Returns by Decade
 U.S. Dollar

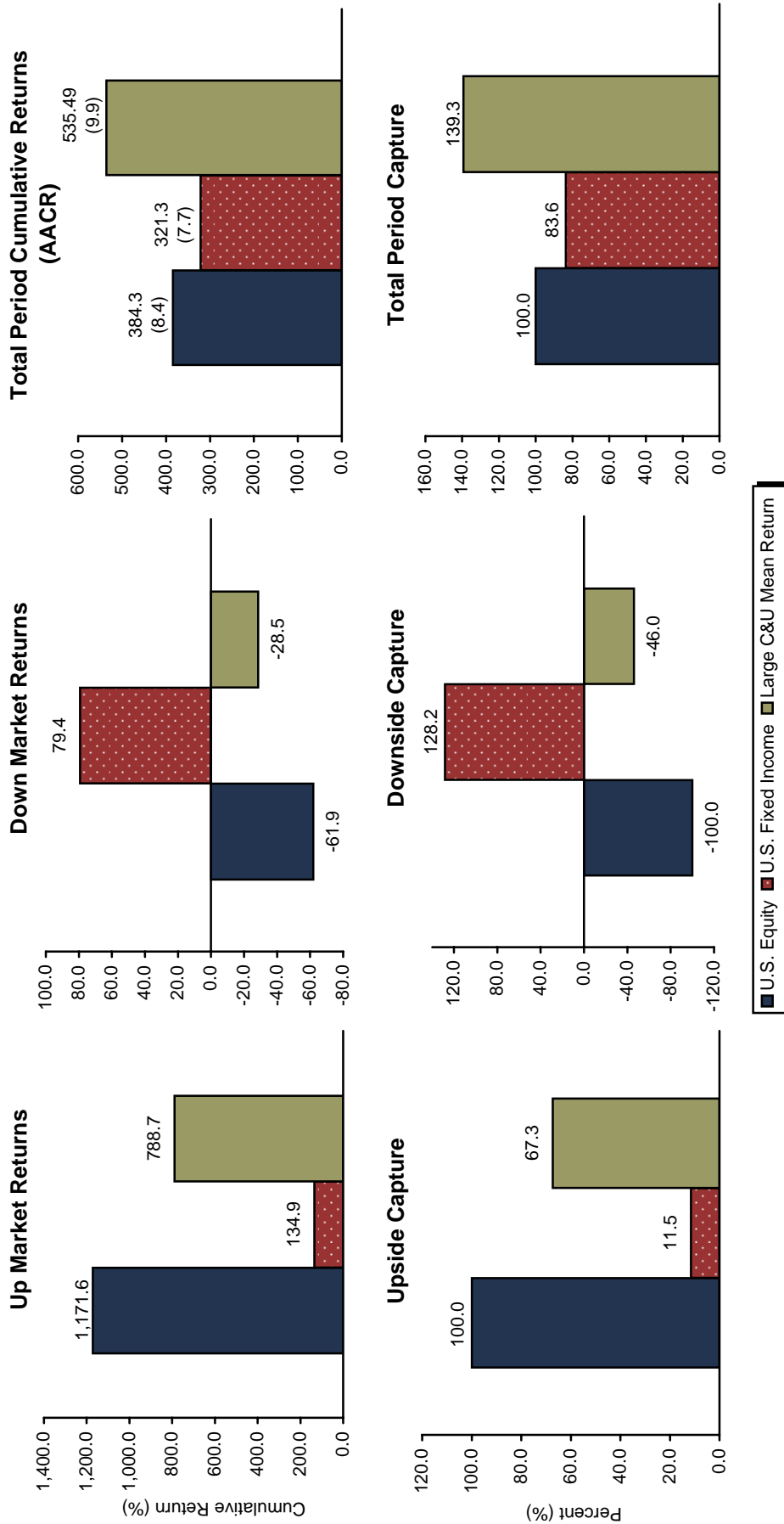


Sources: MSCI Inc., Standard & Poor's, and Thomson Datastream. MSCI data provided "as is" without any express or implied warranties.
 Note: Data rebased to 100 on December 31 of the preceding year.

Exhibit 12

Performance of Stocks, Bonds and the Large C&U Mean Return in Up and Down Equity Markets

December 31, 1989 – December 31, 2009

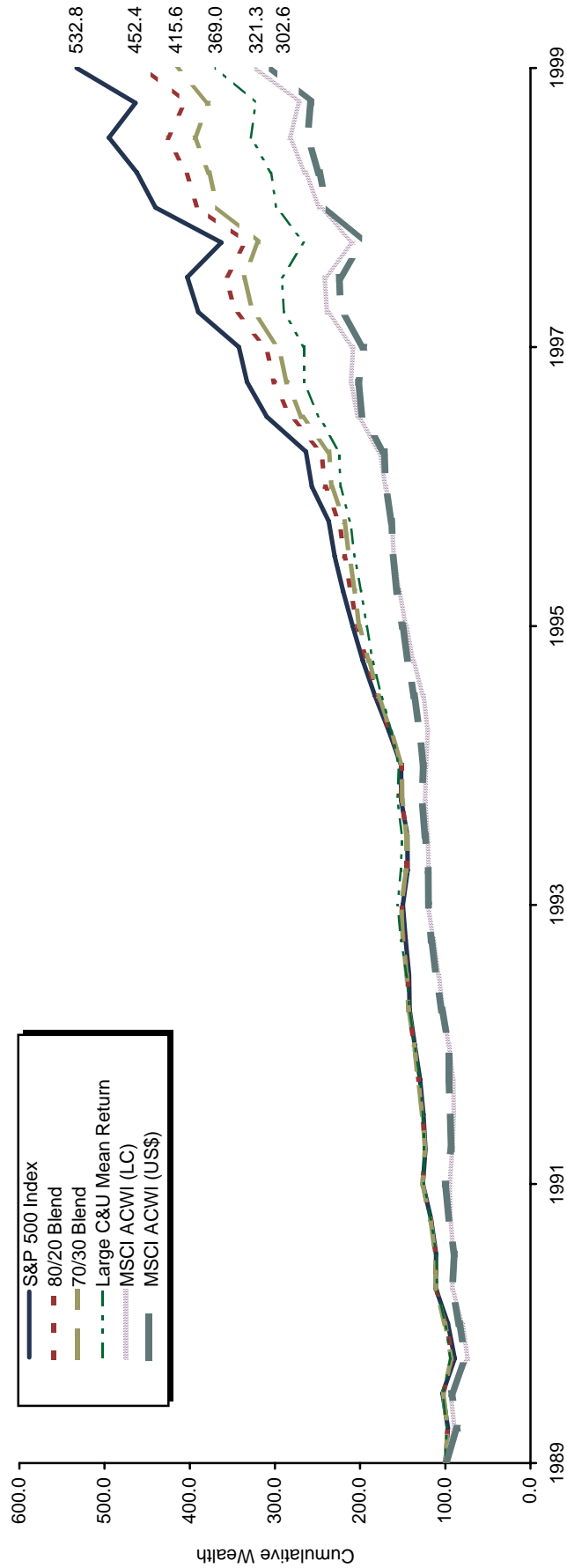


Sources: BofA Merrill Lynch, Cambridge Associates LLC, MSCI Inc., and Standard & Poor's. MSCI data provided "as is" without any express or implied warranties. Notes: Up and down markets are defined by the calendar-year total return of the S&P 500 Index. The Large C&U Mean Return is the mean return of all colleges and universities (>\$500 million) for which we have data back to 1990. U.S. equity is represented by the S&P 500 Index, while U.S. fixed income is represented by 50% BofA Merrill Lynch Intermediate-Term U.S. Treasuries Index and 50% BofA Merrill Lynch Long-Term U.S. Treasuries Index. Downside capture for fixed income of 128% reflects that bonds returned 128% of the absolute value of the negative equity return.

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Exhibit 13 Cumulative Wealth of Various Portfolios

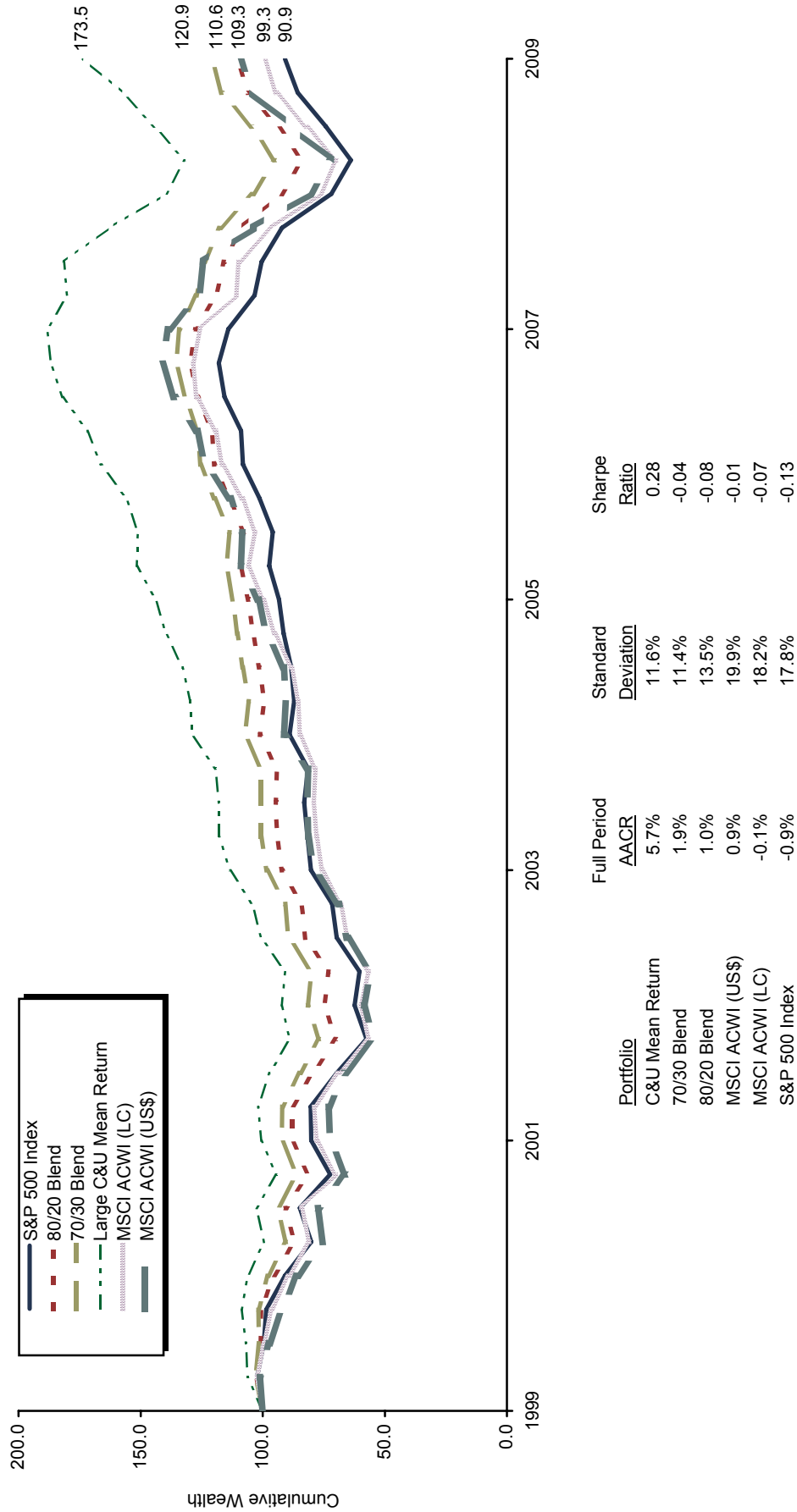
December 31, 1989 – December 31, 1999



Portfolio	Full Period AACR	Standard Deviation	Sharpe Ratio
S&P 500 Index	18.2%	13.7%	0.94
80/20 Blend	16.3%	11.2%	0.97
70/30 Blend	15.3%	10.1%	0.98
C&U Mean Return	13.9%	9.6%	0.89
MSCI ACWI (LC)	12.4%	15.7%	0.51
MSCI ACWI (US\$)	11.7%	15.2%	0.48

Sources: BofA Merrill Lynch, Cambridge Associates LLC, MSCI Inc., and Standard & Poor's. MSCI data provided "as is" without any express or implied warranties.
 Notes: Graph represents quarterly data. Data rebased to 100 at December 31, 1989. The Large C&U Mean Return (C&U) is the mean return of all colleges and universities (>\$500 million) for which we have data back to 1990. In the blended benchmarks, U.S. equity is represented by the S&P 500 Index, while U.S. fixed income is represented by 50% BofA Merrill Lynch Intermediate-Term U.S. Treasuries Index and 50% BofA Merrill Lynch Long-Term U.S. Treasuries Index.

Exhibit 14
Cumulative Wealth of Various Portfolios
 December 31, 1999 – December 31, 2009



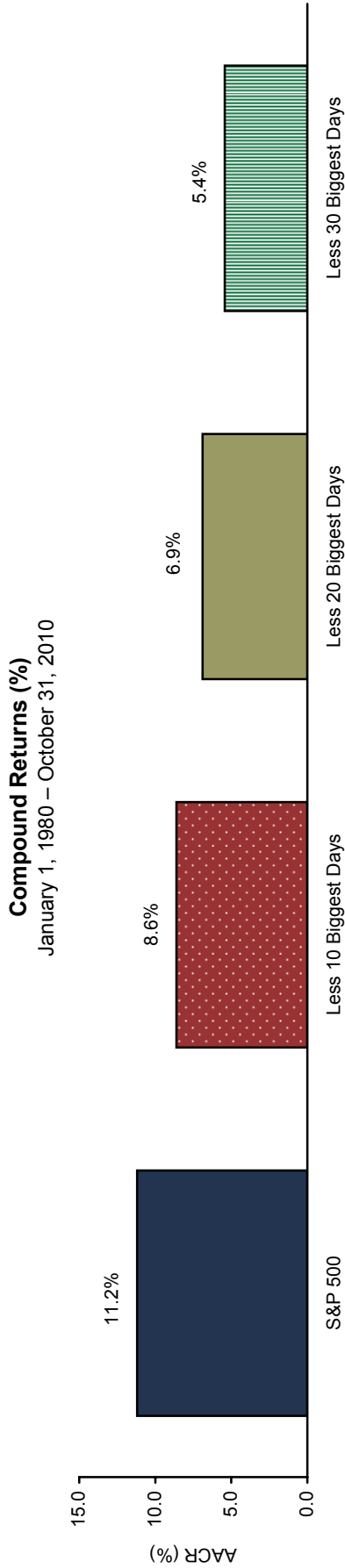
Sources: BofA Merrill Lynch, Cambridge Associates LLC, MSCI Inc., and Standard & Poor's. MSCI data provided "as is" without any express or implied warranties.
 Notes: Graph represents quarterly data. Data rebased to 100 at December 31, 1999. The Large C&U Mean Return (C&U) is the mean return of all colleges and universities (>\$500 million) for which we have data back to 2000. In the blended benchmarks, U.S. equity is represented by the S&P 500 Index, while U.S. fixed income is represented by 50% BofA Merrill Lynch Intermediate-Term U.S. Treasuries Index and 50% BofA Merrill Lynch Long-Term U.S. Treasuries Index.

Exhibit 15

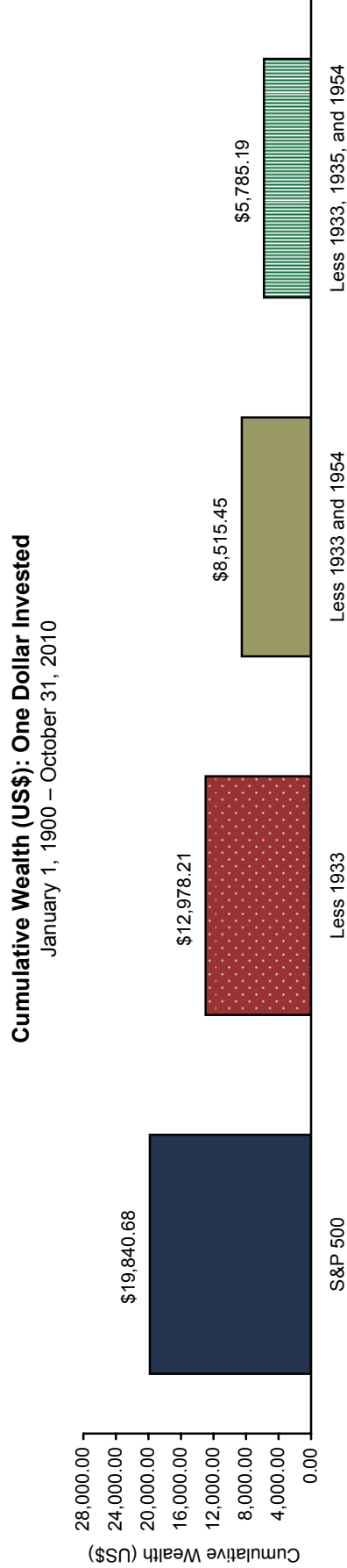
Market Timing: Missing the Best Days

Much of the return from equities is concentrated in very short time horizons. Returns on common stocks can be sharply cut if an investor misses only a handful of days or months.

A daily examination of the market from 1980 through 2010 dramatizes how a small error in timing can be costly. The horizon in this chart is the 8,044 trading days from January 1, 1980, through October 31, 2010.



The data lead to the same conclusion when viewed over longer time periods.



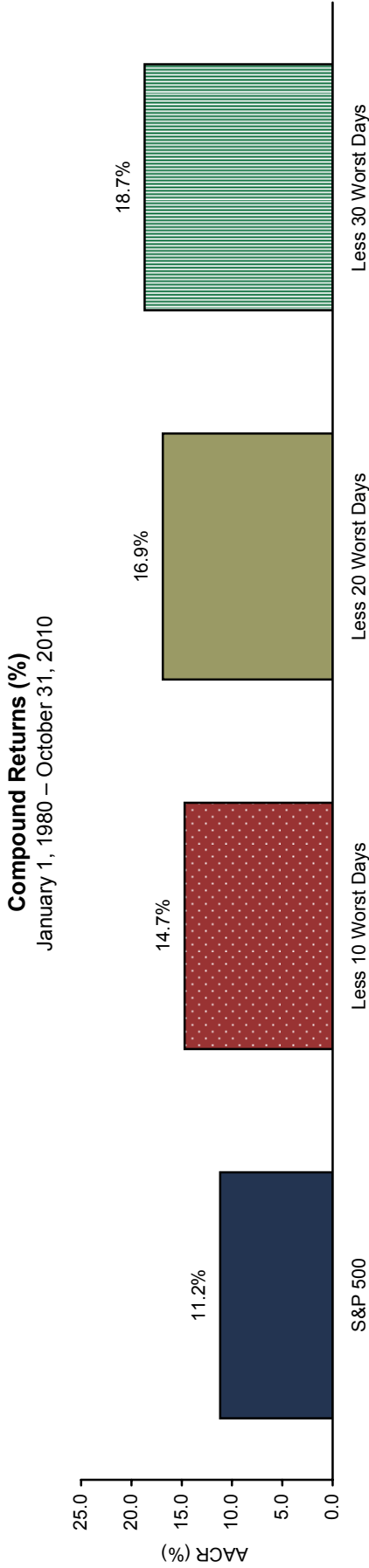
Sources: Standard & Poor's and Thomson Datastream.

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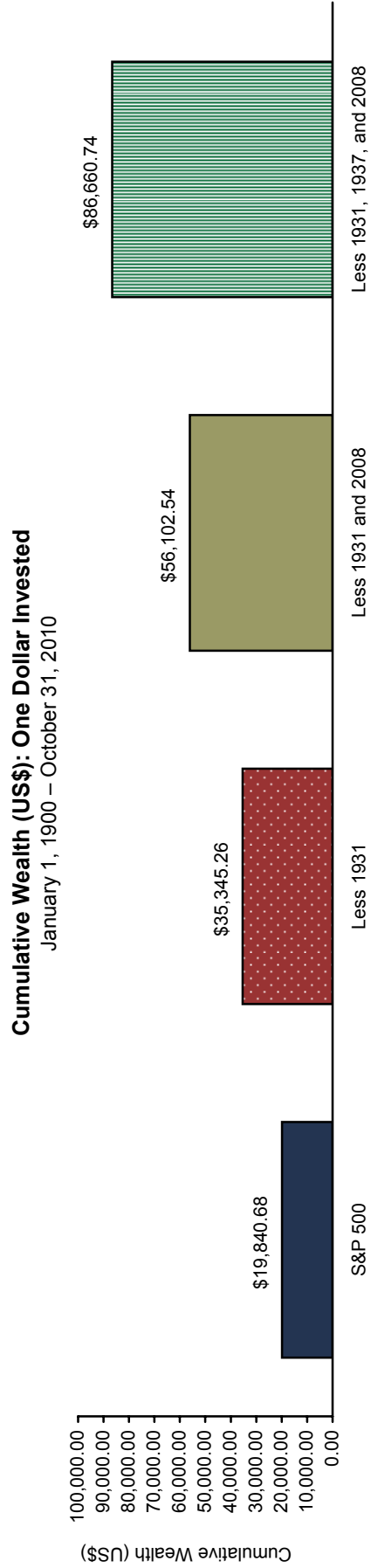
Exhibit 16

Market Timing: Missing the Worst Days

Returns on common equities can be increased dramatically if an investor misses only a handful of days or months. Again, the horizon for this chart is the 8,044 trading days from January 1, 1980, through October 31, 2010.



The data lead to the same conclusion when viewed over longer time periods.



Sources: Standard & Poor's and Thomson Datastream.

Exhibit 17

Cambridge Associates Current Valuations Summary*

November 5, 2010

<u>Very Overvalued</u>	<u>Overvalued</u>	<u>Fairly Valued</u>	<u>Undervalued</u>	<u>Very Undervalued</u>
Global Inflation-Linked Bonds	U.S. Equities	Global ex U.S. Developed Equities	Japanese Equities	EM Equities Europe, Middle East, & Africa
U.S. Inflation-Linked Bonds	S&P 500	Global ex U.S. Small-Cap Equities	EM Equities Europe, Middle East, & Africa	Non-Agency Mortgages
U.S. Treasuries	U.S. Value Equities	U.K. Equities		
EMU Sovereign Bonds	U.S. Small-Cap Equities	Europe ex U.K. Equities		
	Emerging Markets Debt***	Pacific ex Japan Equities		
	U.S. Bonds**	U.S. Growth Equities		
	U.S. Tax-Exempt Bonds	U.S. Mega-Cap Equities		
	U.K. Gilts	U.S. High-Quality Equities		
	U.S. REITs	Emerging Markets Equities		
	Europe ex U.K. Property Securities	EM Equities Asia		
	<i>European Private Equity</i>	EM Equities Latin America		
		Euro-Denominated Credits		
		U.K. Sterling-Denominated Credits		
		U.S. Corporate Bonds		
		U.S. High-Yield Bonds		
		Bank Debt		
		U.K. Property Securities		
		Asian Property Securities (developed markets)		
		Commodities		
		Natural Resources Equities		
		Convertible Arbitrage		
		Capital Structure Arbitrage		
		Merger Arbitrage		
		Hedge Fund Distressed Investing		
		US\$		
		U.S. Private Property (all property types)		
		U.K. Private Property		
		Europe ex U.K. Private Property		
		Asian Private Property (developed markets)		
		U.S. Timberland		
		Private Oil, Gas, & Other Energy		
		U.S. Private Equity		
		U.S. Venture Capital (all stages)		
		European Venture Capital		
		Asian Private Equity		
		Asian Venture Capital		

Notes: Data on fundamental valuations do not provide forecasts of expected returns; they reflect the vulnerability of a given asset class to disappointing economic and profit developments. Therefore, valuations may not necessarily correspond to short-term or even intermediate-term returns. For example, asset classes and investment strategies can 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. Italic type represents *non-marketable asset classes*. Valuations of such investments are based on our views on prospects for new commitments made today, which are informed by recent transactions, as well as consideration of near-term trends and intermediate-term expectations such as supply and demand factors, exit opportunities, and expectations of conditions that will influence risk and return over the life of a fund. Private equity includes buyouts and growth equity. (<) Indicates a recent move in the direction of more overvalued. (>) Indicates a recent move in the direction of more undervalued.

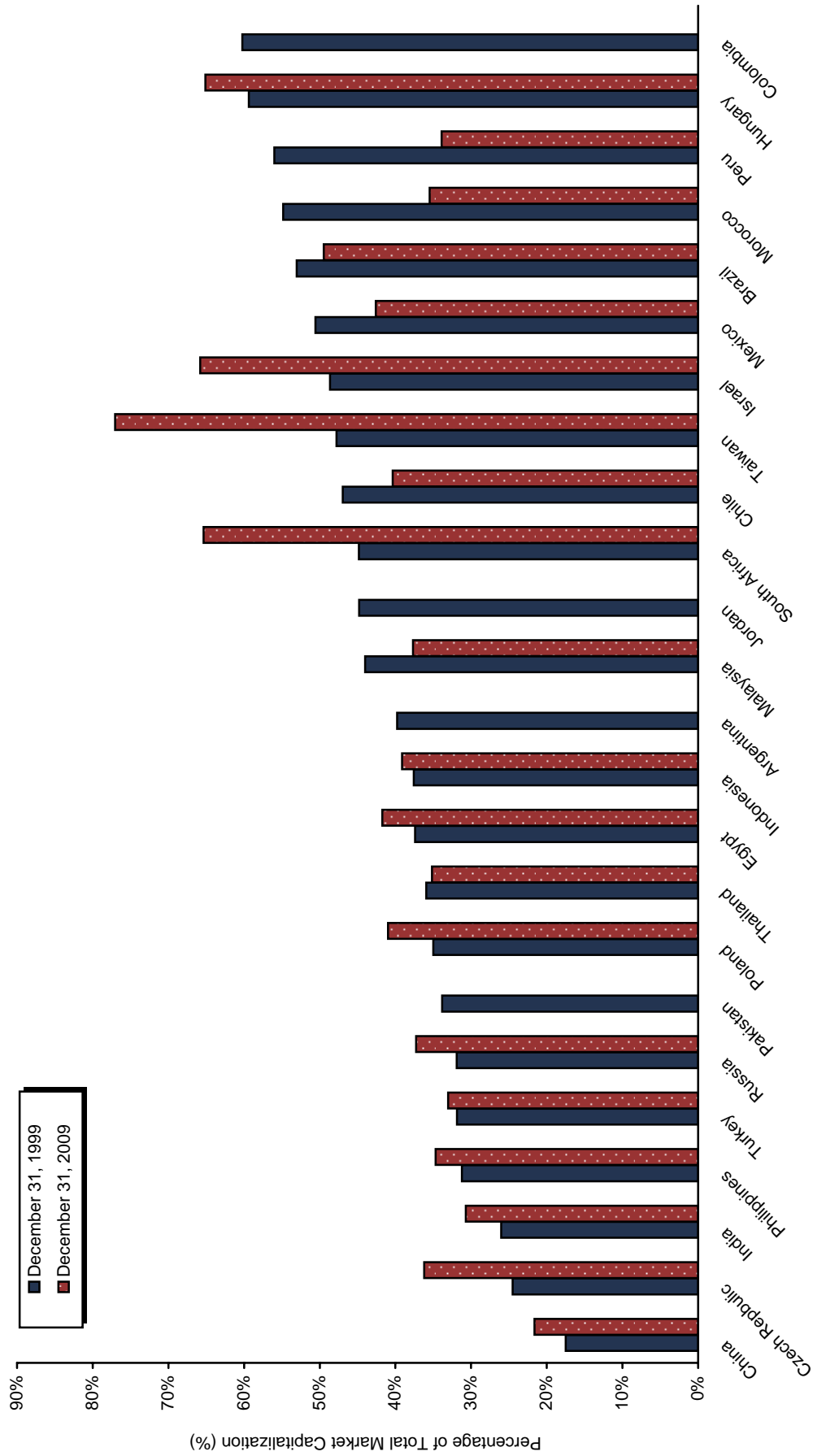
* For more detailed valuations information, read our monthly "Notes on Current Valuations" available on the Market Update page of www.cambridgeassociates.com and our report *Monthly Resources: Capital Market Commentaries, Notes on Current Valuations and Investment Publications Highlights*.

** Reflects a broad-based U.S. bonds allocation similar to Barclays Capital Government/Credit Bond Index.

*** Our valuation refers specifically to US\$-denominated emerging markets debt.

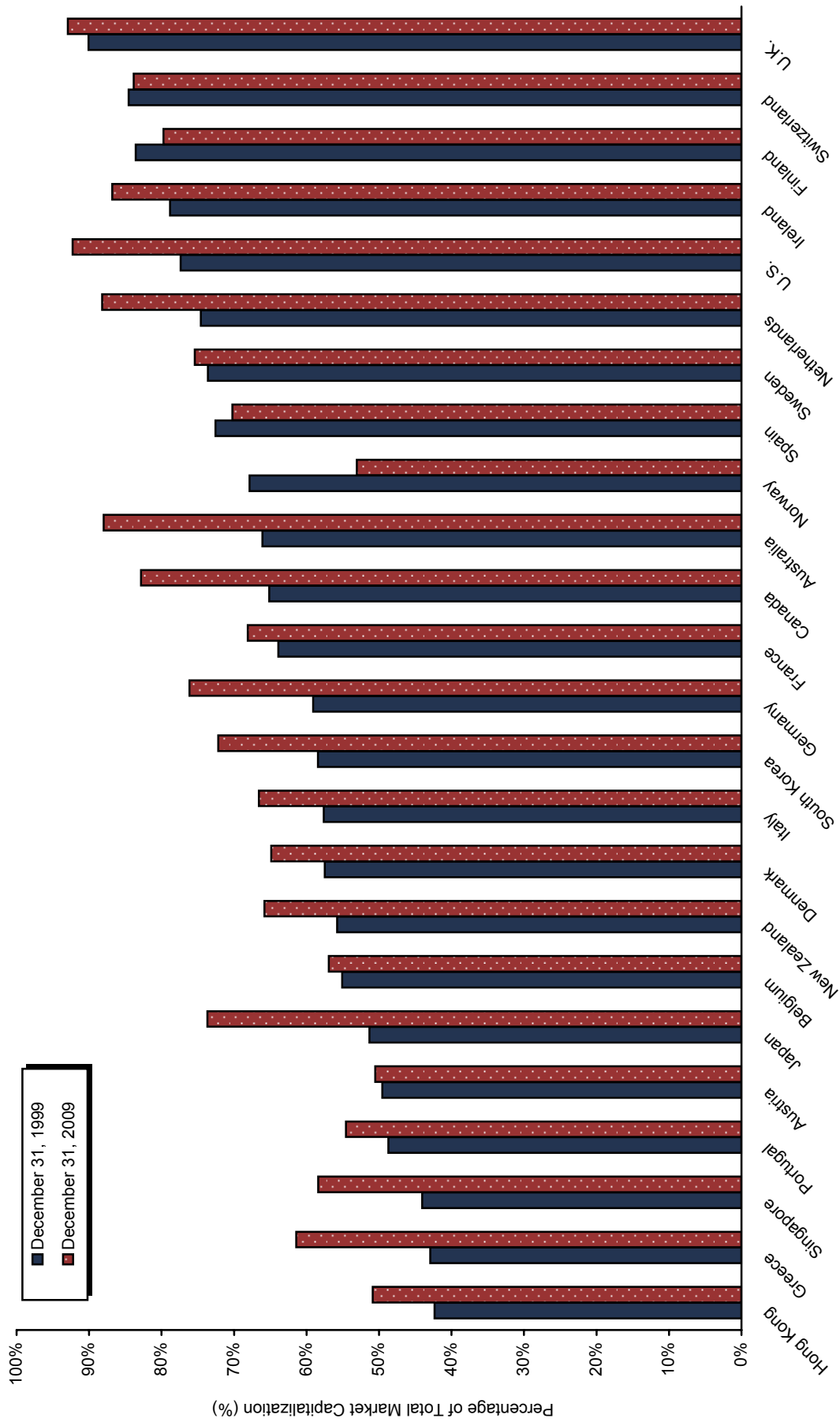
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Exhibit 18
Investable Percentage of Emerging Markets



Sources: Citigroup Global Markets and Standard & Poor's.
 Notes: Data are from the S&P/Citigroup Global Broad market Index. "Investable," or float-adjusted, represents the market capitalization that is available for purchase in the open markets. December 31, 2009, data for Argentina, Colombia, Jordan, and Pakistan are not included. Colombia, Jordan, and Pakistan were excluded from the index in November 2008 and Argentina was reclassified to frontier from emerging in late September 2009.

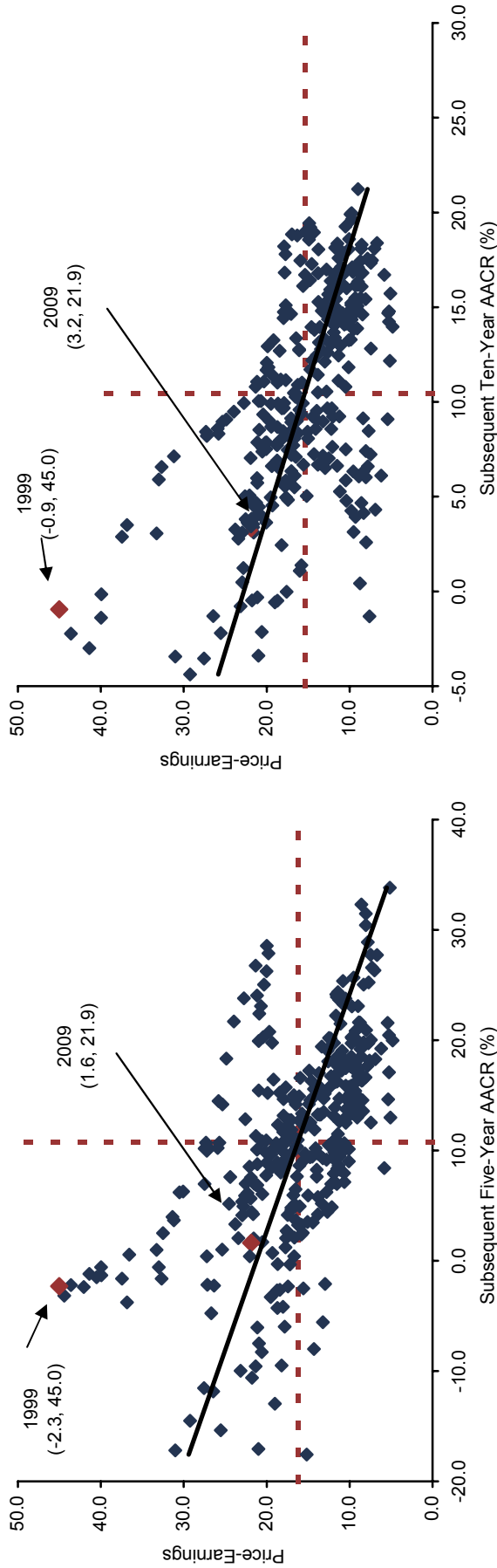
Exhibit 19
Investable Percentage of Developed Markets



Sources: Citigroup Global Markets and Standard & Poor's.
 Notes: Data are from the S&P/Citigroup Global Broad market index. "Investable," or float-adjusted, represents the market capitalization that is available for purchase in the open markets.
 Citigroup Global Markets classifies South Korea as a developed market.

Exhibit 20 Relationship Between S&P 500 Ten-Year Normalized Real Price-Earnings Ratio and Subsequent Real Five-Year and Ten-Year AACRs

1926–2009



P/E Ratio Quartiles	Beginning Period			Subsequent		
	Mean	High	Low	Mean	High	Low
First	8.7	10.7	4.8	18.1	33.8	7.1
Second	12.6	14.9	10.8	12.9	25.4	-8.0
Third	17.5	20.0	15.0	7.7	28.6	-17.6
Fourth	26.2	45.0	20.1	4.3	26.8	-17.2
Total	16.2	45.0	4.8	10.8	33.8	-17.6

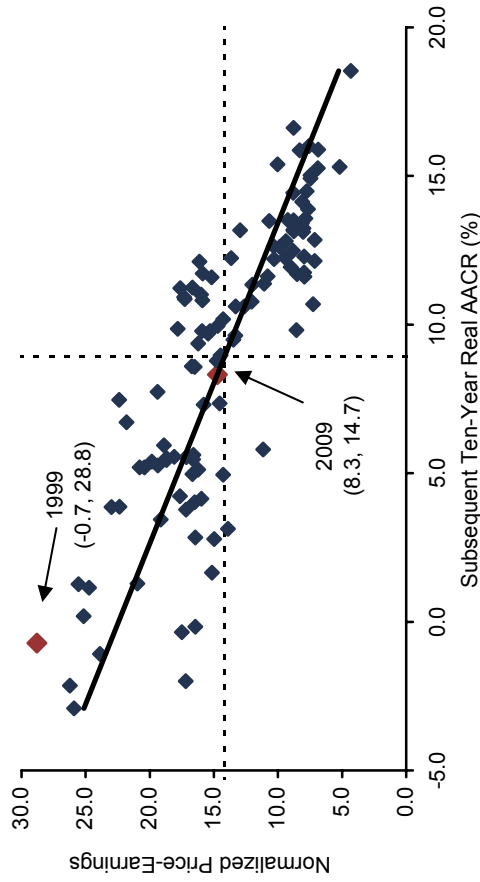
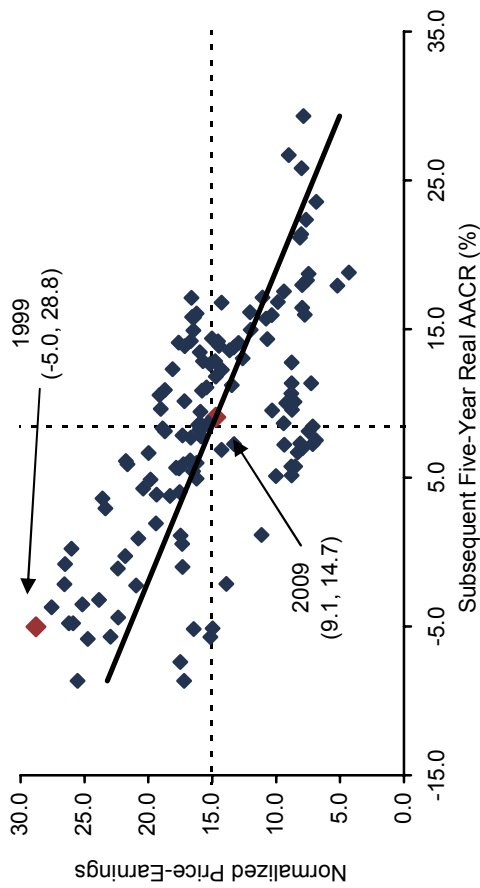
P/E Ratio Quartiles	Beginning Period			Subsequent		
	Mean	High	Low	Mean	High	Low
First	8.6	10.5	4.8	12.9	21.2	-1.3
Second	12.2	14.3	10.5	13.5	19.3	5.3
Third	16.8	18.7	14.3	10.3	19.4	-0.5
Fourth	24.2	45.0	18.8	5.1	13.3	-4.4
Total	15.4	45.0	4.8	10.4	21.2	-4.4

Sources: Calculated from data provided by Standard & Poor's, Standard & Poor's Compustat, U.S. Department of Labor - Bureau of Labor Statistics, and *The Wall Street Journal*.
 Notes: Normalized real price-earnings (P/E) ratios for the S&P 500 are calculated by dividing the current index value by the average real earnings for the trailing ten years. Based on quarterly data. The first and second numbers in the parentheses refer to the subsequent real five- or ten-year average annual compound return (AACR) and the starting normalized real P/E ratio, respectively. Subsequent AACRs for the five- and ten-year periods beginning on December 31, 2009, are trend-line projections based purely on the data history.

Exhibit 21

Relationship Between FTSE® Composite Index Normalized Real Price-Earnings Ratio and Subsequent Real Five-Year and Ten-Year AACRs

June 30, 1972 – December 31, 2009



P/E Ratio Quantiles	Beginning Period			Subsequent		
	Mean	High	Low	Mean	High	Low
First	7.94	9.38	4.31	14.06	29.33	5.15
Second	13.15	15.72	9.43	10.69	17.12	-5.70
Third	16.72	17.83	15.80	7.45	17.10	-8.65
Fourth	22.37	28.79	18.10	1.48	12.29	-8.65
Total	15.04	28.79	4.31	8.42	29.33	-8.65

P/E Ratio Quantiles	Beginning Period			Subsequent		
	Mean	High	Low	Mean	High	Low
First	7.72	8.81	4.31	13.80	18.54	9.82
Second	11.75	14.71	8.82	10.81	15.39	3.12
Third	16.08	17.21	14.73	6.87	12.11	-1.99
Fourth	21.04	28.79	17.26	4.30	11.22	-2.91
Total	14.15	28.79	4.31	8.95	18.54	-2.91

Sources: FTSE International Limited and Thomson Datastream.

Notes: Normalized real price-earnings (P/E) ratios for the FTSE® Composite Index are calculated by dividing the current index value by the average real earnings for the trailing ten years. Based on quarterly data. The first and second numbers in the parentheses refer to the subsequent real five- or ten-year average annual compound return (AACR) and the starting normalized real P/E ratio, respectively. Subsequent AACRs for the five- and ten-year periods beginning on December 31, 2009, are trend-line projections based purely on the data history.