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CAMBRIDGE ASSOCIATES LLC

PRESERVING PURCHASING POWER IN A DIFFICULT ENVIRONMENT

2002

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CONTENTS

Introduction

Two years into a global bear market that has brought a renewed appreciation of relative risk and valuation across asset classes, we think investors should step back from day-to-day fund management and reconsider the most basic question:

Will my portfolio generate sufficient returns over the next five or ten years to ensure real growth, net of all expenses, distributions, and taxes?

Achieving this primary goal has been so easy for so many years that too many investors have become unduly complacent. **What follows is designed to rattle that complacency because we doubt most portfolios are likely to realize this objective going forward.**

Perhaps one should be patient, stoic, and skeptical, acknowledging merely that fat decades may be followed by thin, and that since neither is readily predictable one should stick with simple long-term policy allocations and trim spending as necessary. In the very long term (50+ years), this approach may work, but in practice few investors possess either Job's patience in the face of adversity or the stomach to cut their spending, and will inevitably revisit their asset allocation over a more limited time horizon as the shape of the investment world changes. In addition, no investor should presume to know the probable return on equities over the next 50 years—why should future returns or equity risk premia correspond to those of the past?[1] And since long-term asset allocations are predicated on estimated return assumptions, it is risky for investors to assume they will *necessarily* attain the results projected by long-term models. By extending the time horizon, we can increase our confidence in some outcomes—for example, that equities will outperform bonds—but should also acknowledge that we can have very little idea what to expect in most other areas, except perhaps that most predictions will be proved wrong.

In the face of such uncertainty, our basic approach to investment planning combines the stability of a predominant allocation to equities, which we think should remain relatively constant, with the flexibility of a broad definition of equities and an advocacy of diversification among different types of equity assets. In implementing a portfolio built along these lines, the key question then becomes, *which assets should we buy and sell, and when? To which we would answer, buy what looks cheap or reasonably priced, on the basis of relative valuations, and rebalance thereafter*.

For taxable investors, of course, the cost of changing asset allocations can be onerous, depending on such factors as trust structures, tax status, losses available to offset realized gains, and so on; consequently, the expected gains from any asset allocation shifts should always be considered in relation

[1] For a thorough and provocative examination of this issue, see Arnott and Bernstein's "What Risk Premium Is "Normal"?" in the March/April 2002 *Financial Analysts Journal*.

to the costs involved. The following discussion, however, does not address such issues, since these are highly dependent on individual circumstances, but instead focuses on evaluating the investment climate without regard to tax implications.

Times Past

Those were the days my friend, We thought they'd never end

-Mary Hopkin (1968)

Over the 20-year period from 1982-2001, a portfolio invested 70% in the Russell 3000® Equity Index and 30% in the Lehman Brothers Municipal Bond Index Portfolio (rebalanced quarterly) would have realized the following results, before taxes and any spending distributions:

- An average annual compound return (AACR) of 13.6% in nominal terms and 10.0% in real terms.
- An increase in nominal value from $100 on January 1, 1982, to $1,275 by December 31, 2001 (down from a peak value of $1,382 at the end of 1999).
- An increase in real value to $678 (down from a peak value of $772 at the end of 1999).

All this without incurring the added risk of active management—such was the power of the great bull market that market risk, or beta, was all investors needed to incur to reap these extraordinary rewards—and also without investments in non-U.S. markets, private equity, real estate, or hedge funds. (See the 20-year portfolio wealth simulation following this text.)

A few observations illustrate why this was the best of times:

- Only in eight of the 83 rolling 20-year periods since 1900 have U.S. equities generated higher real returns than the 11.6% real AACR of the period 1982-2001. The average real AACR for all 20-year periods is 6.6%.
- Bonds[2] have *never* generated a higher real return in *any* 20-year period since 1900—the 8.6% real AACR of the period 1982-2001 is the highest ever and is a staggering 6.7 percentage points better than the average real AACR of 1.9% for all 20-year periods since 1900.

[2] The bonds cited here are taxable rather than tax-exempt bonds, since reliable data for the latter are not available for the period cited. However, since returns for both are driven primarily by changes in interest rates, and municipal bonds (Lehman Brothers Index) returned 6.7% after inflation during the past 20 years, one might reasonably guess that these two decades have also constituted the best of times for investors in tax-exempt debt.

- On December 31, 1981, the price-earnings ratio of the S&P 500 was eight. At the end of 2001 it was 49. The average since 1960 is 17.
- On December 31, 1981, the yield on 30-year Treasury bonds was 13.6%. At the end of 2001 it was 5.5%.
- The CPI for 1981 was 8.9%. For 2001 it was 1.6%.

Of course, by 1982, most investors were thoroughly disillusioned with U.S. equities, since the real AACR of the S&P 500 for the preceding 20 years (1962-81) had been 0.8% and for the preceding ten years (1972-81), -2.1%. Consequently, few investors would have had as much as 70% in equities. Today's U.S. equity allocations are generally more diversified than in 1982, when investors concentrated almost entirely on publicly traded stocks, but the diversification achieved by investing in various equity asset classes (e.g., public and private U.S. equities) may prove illusory if their exposure to fundamental financial or economic conditions (e.g., rising interest rates, or deflation) are essentially the same.[3]

Times Present

With the global equity bear market now two years old, and counting, it seems appropriate to take stock (so to speak) of where we stand today, and to think hard about how to allocate assets for tomorrow. Our theses are:

- The good old days are gone. Despite the recent decline in equities, from today's starting point one should expect U.S. equity index returns to fall considerably short of the real long-term mean of 6.8% since 1900.
- However, we may be entering a period in which active managers with strong research capabilities can add consistent value, since past periods of outperformance have tended to coincide with lackluster markets. To take advantage of such managers, investors may have to tolerate significant tracking error, relative to equity benchmarks—which means they should develop a high level of confidence in their managers *before* hiring them and should regularly rebalance among them.[4]
- Investors should also concentrate on identifying asset classes or sectors that are undervalued or at least fairly valued. These are often found stranded in the desert of investors' indifference, abandoned after a prolonged period of disappointing performance. The propensity of most

[3] For further discussion of this point, see our 2000 paper, *Diversification: A Warning Note*.

[4] On manager selection, see our papers, *U.S. Stock Manager Selection* and *Firing Managers: Should Performance Be Your Guide?*

investors to opt instead for the comforting hubbub and glitter of what has recently performed well, and to endure consistent disappointment as a result, is the central mystery of behavioral finance. We agree completely with Seth Klarman of the Baupost Group, who writes, "there is no investment so superior that its attractiveness overcomes an excessive price." We would only add that prices are inevitably driven up, and/or the quality of the products offered to investors is driven down (which amounts to the same thing), when demand soars.

Earning Enough to Produce Real Asset Growth

The key questions today are:

- Which asset classes and strategies are priced to generate sufficient returns to enable a real growth in portfolio assets?
- Which are overpriced and therefore vulnerable to disappointments?
- If beta won't generate enough return to pay the bills, where are investors most likely to find alpha (i.e., manager value added)?
- How should investors implement their allocations?

Asset Class Review

Our current thinking on asset class valuations is reflected each month in "Notes on Current Valuations" in *Market Update* on our website. The following remarks complement these monthly notes by taking a longer-term perspective of the outlook for the major asset classes.

U.S. Equities. In addition to the regular analysis of U.S. equity valuations in the "Notes on Current Valuations," a recent *Market Update* commentary, "The Rise and Fall of the S&P 500," examines in detail the various drivers of U.S. equity market returns, and concludes that:

- Notwithstanding the probability of sharp periodic rallies from oversold positions, the various engines of return lack the fuel needed to drive another bull market.
- Unless the economy falls back into recession, which would adversely affect corporate earnings, interest rates seem more likely to rise than to decline, which would drive equity multiples down (just as falling rates have driven them up).
- Inflation expectations are already low, with room for disappointment. On the other hand, lower-than-expected inflation would chill investors with premonitions of a deflationary freeze.

- Historically high P/E multiples (whether on trailing, forward, reported, or operating earnings) already discount earnings growth assumptions that historical precedent suggests are unrealistic, especially in light of the post-Enron insistence on more conservative and transparent accounting practices.

Hence our assumption that U.S. equity market returns over the next decade are more likely to end up at the bottom than remain at the top end of the long-term distribution.

A great bull market lifts all manager boats and blurs distinctions among them; a flat or bear market sorts them out. Those few managers with real investment insight and capability will outperform the broad market averages by considerable margins, but the many engaged primarily in asset gathering and retention, rather than investing, will add no value. The latter, of course, masquerade as the former, and it's not easy to distinguish between them, ex ante. However, since we doubt that beta risk will be adequately rewarded, we think investors should search for alpha.

Non-U.S. Equities. Outside the United States, the outlook for equities is somewhat better because their valuations are not so rich. Moreover, corporate culture (in Europe and Japan) is undergoing reformation, with a greater focus on return-on-equity and profitability; governments are gradually liberalizing economic policies that often impeded private sector growth; and with higher savings rates than in the United States and equity market capitalization a much smaller percentage of GDP, there is greater potential for broader market participation. In addition, Japan, still the second largest economy in the world, could possibly surprise on the upside sometime in the next five years or so, since everyone seems now to expect only the worst. Over the next five and ten years we would therefore expect non-U.S. equity markets to gradually outperform the United States and correlations across equity markets to decline from the very high levels of recent years as global economic dependence on the United States reverts to lower levels. In addition, investments in non-dollar assets serve as a crude hedge against the possibility of a substantial decline in the value of the U.S. dollar, which is a risk investors should not ignore.

Emerging Markets Equities. Emerging markets are always risky, always vulnerable to investor sentiment, and always a kind of leveraged bet on global economic growth. At the right price, however, the risk/reward ratio favors investors, and the risk/reward ratio today is better than it has been in decades, despite the strong rally of recent months.

Many U.S. investors are currently questioning why they have *any* allocation to non-U.S. equities, since these investments have failed to provide diversification benefits, and have underperformed U.S. equities in the past decade. We regard this as a classic example of driving with one's eyes glued to the rear-view mirror.[5] (For a more detailed argument on this point, see our recent *Market Update* comment, "Diversification, Returns, and Risk: The Promise of Global Equity Investing.")

Venture Capital. U.S. venture capital is likely to remain in the doldrums for at least several more years until the overhang of capital has disappeared and general partners can no longer live comfortably off the annuity stream produced by annual fee income raked off the huge pools of assets gathered during the boom.[6] Fund valuations do not yet reflect the reality that much of the capital drawn down and invested in 1999 and 2000 is gone—many funds will earn no return on investments made in those years. On the risk/return spectrum, venture capital resides on the far side of small-cap growth, and shares the same fundamental bases of return (although it should be noted that venture capital returns are even more abnormally distributed than those of public market equities; that is, more of the returns are found in "fat tails" at each end of the return distribution).

The AACR for the Nasdaq Composite Index from March 31, 2000 through December 31, 2001 is -38.6% (cumulative -57.4%), and for U.S. venture capital -26.2% (cumulative -41.2%). It seems likely that the decline in venture capital returns will eventually match or exceed that of the tech-heavy Nasdaq, especially in light of the more dramatic decimation of the smaller tech and telecom stocks, whose effect on the Nasdaq Index is muted by its capitalization weighting. However, during U.S. venture capital's last sojourn in the desert, in the 1980s, the best managers were still able to generate sufficient returns to retain investors' interest and-a good deal of the damage having already occurred—we would anticipate this would again be the case from this point forward, unless the economy sickens and remains prostrate for an extended period. In short, we expect the best managers to earn modest returns, the average to disappoint, and the worst to go bust.[7]

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[5] In a recent "Global Strategy" commentary, Morgan Stanley's Barton Biggs quotes Berkshire Hathaway's Charlie Munger: "It's stupid the way people extrapolate the past—and not slightly stupid, but massively stupid."

[6] A decline in the overhang of capital is not solely dependent on the pace of follow-on or new investments in portfolio companies. As the U.S. venture capital industry attempts to "right-size," we would expect more and more firms to follow the lead of some partnerships in shrinking recent mega-funds by announcing their intent to draw down only 60% or 70% of commitments over time. Although general partners obviously earn larger annual fees from larger funds, if economic and market conditions impair their opportunities to invest in such a way as to earn superior returns on invested capital, both their reputation and their share of realized profits will suffer.

[7] If we assume that U.S. venture capital will earn a return five percentage points better than that of U.S. public equities (which implies investment with above-average managers), and has a standard deviation of returns approximately ten percentage points greater than that of public market equities (our assumptions for modeling purposes are a 16.5% standard deviation for U.S. public equities and a 26.25% standard deviation for U.S. venture capital), then one should expect a venture portfolio to *underperform* a public equities portfolio in 36.4% of all five-year periods, 31.1% of all ten-year periods, and 24.4% of all 20-year periods. In other words, those who invest in venture capital in the belief that it will outperform public equities in virtually all periods longer than a few years have neither read their history nor done their math.

In Europe, however, where boom and bust were both less extreme (except in telecoms), the venture capital market remains far less developed at a time when the reconfiguration of the European economic landscape is expanding entrepreneurial opportunities in many sectors. As the U.S. venture market becomes broader, more transparent, more liquid, and generally more efficient (all of which suggests it should be accorded a lower premium vis-à-vis public market equities), private market opportunities in the less mature, less efficient, European markets become relatively more attractive. However, U.S. investors should not delude themselves into thinking that a couple of weeks in London, Paris, Frankfurt, or Milan is all they need to understand European markets and identify top-tier managers. A defining characteristic of inefficient markets is that some players have better information than others—and those will almost always be locals.

Private equity investors generally wince at the mention of Asia, where they have incurred considerable risk and have earned nothing. Looking forward, however, Asian private equity is nascent, cutting edge, interesting, and worth watching. Again, however, *local* knowledge and expertise are likely to prove invaluable.

Non-Venture Private Equity. In both the United States and Europe, the large buyout space appears crowded and over-capitalized, and pricing relatively efficient, which impairs managers' opportunities to generate strong returns, net of their handsome fees. The middle market offers better prospects—*if* managers can gain access to financing (which has recently proved difficult). Longer term, buyout investing remains reasonably attractive: the dynamic U.S. economy can be relied on to create successive waves of varied opportunity, and continued consolidation and rationalization will generate a steady stream of deals in Europe. As in venture capital, however, manager selection is critical to success: the worst managers are worthless, the average are not worth the trouble, and only the best generate sufficient returns to justify the added risks and illiquidity of the asset class.

Hedge Funds. Although a choppy, inconclusive, volatile equity market environment is theoretically ideal for long/short equity hedge fund managers, the majority of hedge funds—whether engaged in arbitrage activities or long/short investing—will dissolve within ten years, having dissipated investors' money. Some will blow up, inflicting collateral damage on others occupying the same space, but most will simply wither as a result of investor disillusionment. Similarly, most funds-of-hedge funds, having generated comfortable fee income for their sponsors, will also dry up. Currently, however, the large investment banks, both in the United States and Europe, are eagerly stoking the blaze of the hedge fund mania by promoting their prime brokerage services to prospective hedge fund managers and aggressively marketing huge funds-of-funds, and so the momentum has only gathered steam since we issued a cautionary warning in our paper, *Hedge Funds: Bangs and Whimpers?* last September.

In the case of long/short equity strategies, where capacity is not an issue, we simply expect that most managers will fail to meet investors' net return expectations; with many arbitrage (a.k.a. "absolute return") strategies, however, the influx of money degrades prospective returns because more anglers casting their lines in a given fishing hole results in fewer fish per angler. We don't know how long the hysteria will last, but every historical precedent says it will certainly come to a bad end.

Nevertheless, the *idea* of hedge fund investing is sound and we recognize that the hedge fund format and compensation structure has attracted some of the best investment brains. Worldwide a small number of hedge fund managers will generate good returns through a combination of specialized expertise, diligent research, disciplined opportunism, trading skill, and excellent risk management. So we would by no means advocate abandoning these areas of opportunity—in the search for alpha, this field is relatively fertile—but would stress the pre-eminent importance of:

- Developing a coherent program designed to realize explicit objectives, rather than selecting managers individually, from the bottom up.
- Thorough knowledge and understanding of specific strategies, including their bases of return, pricing, valuation, and risks.
- Same, applied to individual managers.
- Diversification across strategies and managers.
- Awareness of how money flows, especially as directed by the funds-of-funds, affect different areas at different times, raising risks and degrading prospective returns.

U.S. Real Estate. As a result of the softer economy, real estate fundamentals have deteriorated across all property types and locations. Hardest hit are the more cyclical office sector and the geographic areas with high tech concentration. Falling rent and occupancy rates are adjusting from historical peaks to levels that in many cases are near long-term averages. Meanwhile, low and falling interest rates have done much to cushion the impact of reduced operating earnings. In contrast to their behavior in the mid- to late-1980s, bidders remained cautious during the recent economic boom, preventing prices from escalating much above long-term values in most areas.

Historically, investments in U.S. property have generated risk-adjusted returns competitive with those of equities; among the major asset classes, real estate stands out today as reasonably valued, under-owned, persistently inefficient (which means that skilled managers continue to find ways to add considerable value), and generating attractive cash flows, which investors will increasingly value if the U.S. equity market makes little headway in the years to come. In addition, the asset class provides portfolios with meaningful diversification benefits and some inflation protection—which amounts to a free bonus at current prices.

REITs. Although we have advocated REITs as a useful core holding that provides immediate diversification and a broad exposure to the asset class, we have also noted that REIT portfolios are more volatile than private real estate portfolios, not only because the latter are not marked-to-market every day, but also because REITs, like closed-end funds, will shift from premium to discount to net asset value (NAV) as investor sentiment towards them waxes and wanes. Consequently, we have suggested reducing exposure to REITs when their values exceed those of the underlying properties and increasing allocations when they trade at a discount. Today, REITs trade at a premium to NAV, having been scooped up both by equity managers and by hedge funds seeking the comfortable cushion of the large payout. As a result, we would regard private partnerships as offering better value.

Private Real Estate. Net income in the private sector varies by property type, location, and manager strategy, but is generally comparable to the 6.5% dividend paid by REITs. The opportunity to leverage equity investments and the structural inefficiencies of the private real estate market provide managers with various ways to add value, which enables investors to diversify their portfolios by strategy and risk exposures as well as by property type and location.

Summary Recommendations

Because the circumstances of each investor are unique, we are leery of issuing generic recommendations. Nevertheless, with that caveat in mind, we thought it might be useful to comment on asset allocations today, in light of our central concern that conventional equity portfolios seem unlikely to generate strong returns over the next decade.

Despite our dim view of the outlook for the U.S. stock market, we remain convinced that investors should maintain high allocations to equities, broadly defined, and relatively low allocations to bonds and cash. Within equity portfolios we continue to preach the virtues of diversification as the surest route to consistent success. In any given quarter or year, this or that highly concentrated portfolio will always perform best—after all, some asset class has to be top dog in any given period—but in the investment world, yesterday's best-in-show inevitably proves a mutt tomorrow, and history suggests that those convinced they can predict tomorrow's winners are simply deluded. Hence our insistence on diversification and assiduous rebalancing.

As noted in the introduction, there is scope for debate on the question of whether—and if so, when, why, and how—investors should shift their asset allocations rather than simply establish a long-term policy and then rebalance religiously. Assuming for the moment that they *should* periodically reconsider their allocations:

- Use rallies to **reduce allocations to U.S. equities**. Make lower-than-average allocations to core index funds and higher-than-average allocations to active managers. With this comes the need to tolerate substantial manager tracking error and to adopt a disciplined rebalancing policy.

- **Increase allocations to non-U.S. equities, including emerging markets**. Larger investors should consider regional allocations to specialist managers instead of, or complementary to, one-size-fits-all-countries EAFE mandates.

- In the quest for alpha, private markets still offer an advantage over public markets, because they are still less efficient. So we would recommend that **those invested in private equity investments** (venture and non-venture private equity) **should maintain existing allocations**, but scrutinize managers assiduously and seek to diversify globally. Are manager incentives still aligned with those of LPs? Have some become asset gatherers rather than investors? How did they respond to the boom and how are they reacting to the bust? Investors should allocate money only to managers in whom they have the highest conviction—if that means fewer commitments this year, next year, so be it. Those not already invested should be in no hurry to implement allocations to U.S. private investments, where venture and buyout both seem overvalued, but should perhaps start educating themselves with a view to implementing private equity programs gradually, over a period of years, as the decade ages.

- **Consider real estate allocations**. Although real estate as an asset class appears reasonably valued, and there are a number of excellent fund managers pursuing varied value-adding strategies. We consider real estate an under-utilized investment strategy. Current relative valuations give real estate a significant head start over U.S. equities, and we would be surprised if it failed to outperform U.S. equities over the next decade.

- **Beware, be cautious, be skeptical, and be vigilant in the treacherous world of hedge funds**. Many of the products offered are high-risk, high-priced dreck; many more are pablum priced as caviar. The dispersion of returns among managers will be huge, which means that manager selection and program construction are critical to success. Although we believe that hedge funds *can* provide investors with diversification benefits and opportunities to earn good returns, most investors have little hope of realizing these benefits without expertise in program construction and manager selection.

- Above all, **look forward, not backward**. Investors' steadfast propensity to invest in what *has done* well recently, despite the manifest failure of this approach, is truly astonishing. At the same time, investors should also recognize that future returns are inherently unpredictable—as a quick review of historical forecasts by investment banks, brokers, or managers readily confirms. But if buying what did well yesterday doesn't work, and one can't predict what will do well or badly tomorrow, how can one decide how to invest? The answer is that current prices provide a reasonable starting point for the evaluation of relative risk and reward on the long menu of available opportunities, and so this is where to begin.

20-YEAR PORTFOLIO WEALTH SIMULATION

1982-2001

	EMV ($)	Nominal Return	Real EMV ($)	Real Return
1982	127.15	27.15	122.46	22.46
1983	150.48	18.34	139.63	14.02
1984	158.85	5.56	141.80	1.55
1985	204.17	28.53	175.59	23.83
1986	240.47	17.78	204.56	16.50
1987	248.24	3.23	202.20	-1.15
1988	286.78	15.53	223.71	10.64
1989	354.57	23.64	264.31	18.15
1990	350.29	-1.21	246.09	-6.89
1991	445.14	27.08	303.43	23.30
1992	486.97	9.40	322.59	6.31
1993	542.03	11.31	349.46	8.33
1994	534.33	-1.42	335.52	-3.99
1995	698.90	30.80	427.99	27.56
1996	813.59	16.41	482.20	12.67
1997	1015.29	24.79	591.68	22.70
1998	1212.44	19.42	695.36	17.52
1999	1381.57	13.95	771.64	10.97
2000	1355.86	-1.86	732.47	-5.08
2001	1274.69	-5.99	678.10	-7.42
Mean	--	--	--	--
AACR (%)	--	13.57	--	10.04
Std. Deviation of Qtrly Rtns.	--	12.09	--	12.24

***The 70/30 portfolio had a 20-year nominal AACR (06/30/1981-06/30/2001) *before* spending of 13.34%.**

Sources: Lehman Brothers, Inc. and Thomson Financial Datastream.

Note: Portfolio of 70% Russell 3000® Index and 30% Lehman Brothers Municipal Bond Index rebalanced quarterly.