

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

SOME QUESTIONS

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Note: As the title suggests, this paper should be regarded as a kind of thinking out loud by the author. Like Byron Wien's annual essay on possible surprises during the coming year, it is personal in nature and intended to provoke thought. As an explicit piece of speculation, it is not intended to provide considered policy recommendations.

Question One**Is it possible to identify investment principles that will prove enduringly reliable?**

Probably not. Even if a good idea is not taken to a self-defeating extreme, circumstances will change, and circumstances can change either because the facts have changed or because opinions have moved and thus changed the facts. The interplay of fact and perception (what George Soros calls "reflexivity") means that even principles that seem grounded in hard logic (e.g., that stocks should outperform bonds over time) may prove false. Hence no principle can be expected to be enduringly reliable, and every principle must be continually reconsidered. Since most people rely on principles in the first place to protect themselves from emotion, but the world itself is continually being reshaped by emotion, the process of reconsideration will always be fraught with error.

An example: In 1940, the Yale University investment committee established a permanent target of 30% equities and 70% bonds, with equities to be sold if their weight in the portfolio exceeded 40% or bought if their weight fell below 15%. Interestingly, the minutes of their deliberations indicate that this formula was the logical conclusion of a careful analysis of capital market history and was specifically set up to forestall emotional reactions to market cycles. Although we know now that the principles behind this formula would prove fallacious, we are less ready to acknowledge that some of our own principles will prove equally fallacious, and to recognize that no mechanistic formula can serve as a substitute for individual judgment under varying circumstances.

Question Two**Have the principles embodied in policy portfolios, market benchmarks, and index funds recently backfired?**

Policy portfolios, market benchmarks, and index funds have served most investors well by introducing much more discipline into the investment process. In recent years, however, they have arguably fed a stock market bubble, especially after 1998, by ensuring that cash kept flowing into markets and sectors regardless of valuation and that, in the case of capitalization-weighted index funds, more cash flowed into the 100 or so leading index and new era stocks that had already ballooned to represent 75% of total stock market capitalization. Even active managers have had less and less scope to perform an arbitrage function between securities, sectors, and markets because of a perceived need to hug benchmarks for business reasons.

A weakening of the arbitrage function may become temporarily self-reinforcing because it inhibits the normal process of mean reversion and makes the equity market's characteristic "fat tails" even "fatter." As a result, equity managers become increasingly afraid to place bets that may not work out within the

relatively short period of time over which clients measure results. The reluctance of managers to place longer-term bets helps explain their seeming inability to outperform broad market indexes, although their tendency to overweight mid-cap stocks, and their excessive fees and costs are also contributory factors.

Avoidance of these structural problems would require greater reliance on someone's judgment along with a much longer investment time horizon—a difficult combination to implement—in addition to less dependence on capitalization-based benchmarks. This is essentially the Buffett-Munger model that Munger in particular has widely recommended, but which has had few takers.

Question Three

The current paradigm is for long-term commitments to asset classes but only short-term commitments to individual securities. Should this be reconsidered, modified, or reversed?

Although both market volatility and price correlation within industries have been increasing (a very uncomfortable combination), the effect has been mitigated by decreasing price correlation between markets (e.g., stock and bond markets) and market sectors (e.g., financials and technology or value and growth). In addition, valuations between markets and sectors have been decreasingly linked, so that in some cases the stocks and bonds of a single company seem to be priced in different universes. This could all change in a flash, with everything going down or up and being priced together, but these higher correlations would be unlikely to persist, because, as just noted, the increasing passivity and/or specialization of managers has weakened the arbitrage function. Under these circumstances, it might be logical to adopt the heretical position of hiring managers whose mandates would be designed to encourage more trading between markets and less between securities, especially securities within a single industry.

In addition, there is a separate case in favor of an active, but long-term selection of individual stocks. Jack Treynor once wrote that even in efficient markets (and even more so in the irrationally volatile and inefficient markets we have seen lately), an investor with a very different time horizon than the mass of investors enjoys a significant advantage. With equity mutual fund turnover commonly exceeding 100% (even some index funds recording turnover as high as 30%), and total annual trading exceeding three times GDP, there is no question that the average holding period for individual securities has shrunk dramatically. By contrast, David Babson, a father of traditional growth investing, said at the end of his career in 1968 that no one could "seriously call" turnover of 20% a year "investing" and that markets were "being turned into a gigantic pari-mutuel operation," a sentiment more recently echoed by Warren Buffett, who likened today's stock market to a "casino." The problem with adopting an active, but long-term, security selection policy is of course in finding someone like Babson or Buffett to manage it. There are still a few possibilities left—although none have what could be called a stellar three-year performance

record since they did not participate in the 1999 phase of the bubble when by far the best-performing stock sector was comprised of companies with negative earnings.

Question Four

Will high quality, long-term, non-callable bonds provide a reliable deflation hedge?

Cambridge Associates has always answered affirmatively and argued that some bonds of this type are an essential component of any portfolio. A near-term concern is that Treasury bonds could virtually disappear (in five years according to Congressional Budget Office estimates, although surplus projections are more than doubtful). A more compelling concern is that 44% of tradable U.S. Treasuries are held by non-U.S. investors, along with 20% of corporate bonds and 8% of marketable equities, at a time when the United States is financially overextended and the dollar high. If non-U.S. holders stop investing at a current rate of \$1.7 billion a day or even sell what they already have, interest rates might rise and values fall even under conditions of deflation. So is there a way to hedge the hedge? Apart from their own currencies, presumably gold or the euro are the only real alternatives to the U.S. dollar for non-U.S. investors, and so it would make sense to add some sovereign bonds denominated in euros to deflation-hedging portfolios. Substituting money-market instruments for long bonds, whether dollar- or euro-denominated, would leave portfolios unprotected against an income collapse such as occurred in Japan, where money-market rates fell from 15.5% in 1980 to a low of 0.06% in 2000, thus forcing income-dependent retirees or funds to start spending principal—and pray that they have enough.

Question Five

If the deflation hedging part of a policy portfolio is more important (and harder to construct) than ever, what about hedging against inflation?

The pessimists expect deflation, probably now. The optimists expect a soft landing and maybe a V-shaped market recovery, as in 1998 (which the pessimists think would just make matters worse). Almost no one suspects that easier monetary policy¹ (and/or a weaker dollar) at a time of extremely low unemployment will lead this time to rapid price inflation rather than simply to asset price inflation. And precisely because the one outcome that nobody anticipates is for inflation and interest rates to rise, this scenario should at least be considered.

¹ Although a large minority of economists recently polled expressed the view that money is still too tight, the broad money supply has recently been growing at a 19% annualized rate, and some other measures of monetary growth are even higher.

Quite apart from current circumstances, the argument for the inclusion of a permanent inflation hedge in a policy portfolio relates to the 1970s, when rising inflation led to rising interest rates, which seemed to sharply reduce the net present value of stocks, with the result that multiples collapsed into single digits. However, this was probably a conceptual error on the part of investors. Once companies understood the climate they were in, they largely succeeded in raising prices and thus passed inflation through to their customers, restoring profits. This illustrates the proposition that equities are actually an excellent inflation hedge over the longer term, so that a separate inflation hedge should not be necessary for long-term equity investors, *who do not need to protect against a downturn in real spending*. Deflation is by far the greater threat because it can lead to default and bankruptcy, whereas even runaway inflation's greatest risk is precisely that it can lead to deflation.

For investors who need or wish to hedge themselves against inflation, by far the cheapest inflation hedging asset today is gold or gold mining shares. Moreover, in the event of a deflation accompanied by a flight from dollar-denominated assets (as already noted), gold could prove a hedge against such deflation as well as an inflation hedge.

Only a few years ago, all the gold in the world was valued at less than a handful of U.S. high-tech companies, so the price of this particular form of insurance has never been less in relative terms.

Question Six

How much leverage do we really have?

The most fundamental risks incurred by any investor are leverage and poor financial quality, which are often linked, and which can create irrecoverable losses. Although most investors do not think they have assumed more leverage in recent years, indirectly they have. First, in the past five years alone, U.S. non-financial corporations have devoted 246% of earnings to stock repurchases and acquisitions. In the process they have added almost \$2 trillion to their total debt of \$4.7 trillion, contributing to the \$13.1 trillion total indebtedness of all U.S. corporations (equal to 146% of U.S. GDP). Consumers, on whom the corporations depend for customers, have also added almost \$2 trillion in debt, for a total of \$6.5 trillion. Second, many companies and most financial firms are using derivatives heavily (worldwide exposure is estimated to exceed \$100 trillion), some portion of which potentially creates a great deal of financial liability, even if other portions may actually be reducing leverage. Third, more money has flowed to hedge funds (some of which still have leverage of up to 50:1, and many of which, especially those offshore, have more leverage than they acknowledge), LBOs, and other classes of investment that either may or do involve leverage. Although it is difficult to x-ray funds for the total amount of indirect leverage, on average the amount has substantially increased.

Question Seven

Are valuation models telling us the truth?

Accurate equity valuation requires reliable earnings figures, and so the quality of the reported earnings data is critically important. Unfortunately, the only honest answer to the underlying question about the quality of earnings is that one can only guess. Presumably there would be much more disinterested information available if most analysts did not work for investment banks. However, anecdotal evidence includes the following:

- Since 1991, return-on-equity for U.S. companies has risen 108%, while return-on-assets has only risen 13% and now equals the long-term average of 9%.
- In the second quarter of 1999, Microsoft's net income rose 9.4% because of securities sales, while its operating income fell 13.1%. In 2000, Intel's net income rose 79.0%, while operating income rose 4%. In other instances, operating income growth has leapt ahead of net because of restructuring and write-offs that are really deferred expenses. (Peter Bernstein has calculated that on average over the past 15 years, 20% of reported profits have later disappeared through write-offs.)
- About 20% of Colgate's profit growth since 1997 can be attributed to advertising cuts in a business where brands are built and sustained by advertising. Similar trends are evident at Procter and Gamble.
- As of March 2000, Lucent had extended \$7.2 billion in loans to customers, a 65% increase over the prior year.
- As of early 2001, Cisco had expensed only \$134 million of \$16 billion worth of acquisitions thanks to the use of pooling, which the Financial Accounting Standards Board (FASB) now plans to eliminate. As of the end of 2000, Cisco had also exceeded Wall Street earnings estimates by exactly one penny for 13 quarters in a row.
- Other familiar corporate earnings "management" tools include use of "pro forma" earnings, pension earnings, under-depreciation, taking revenue prematurely, unwarranted reserves, and taking advantage of confused accounting for derivatives.
- Andrew Smithers estimates that expensing employee stock options would have reduced the profits of U.S. companies in 1997 and 1998 by over half; that Microsoft would have reported a loss of \$17.8 billion in 1998 instead of a profit of \$4.5 billion; and that immunizing options on a forward basis in 1998 would have cost companies on average at least 24% of earnings. Parenthetically, it is interesting to recall that the FASB planned to require the expensing of options in 1994, but that Senator Joe Lieberman stopped them in their tracks with threatened legislation to overturn any such regulation. As it is, options may often be deducted against taxes, although not expensed, which is

especially anomalous. The existence of stock options does not necessarily align the interests of management with those of shareholders, since management incurs little or no downside risk (yet another point Warren Buffett has made), and the cost of options may help to explain why the earnings growth of the S&P 500 has trailed GDP growth over longer measurable periods.

- Bridgewater Associates has pointed out that one of the features of a capital spending boom of the type we have had is that seller revenues are booked immediately while buyer expenses are taken over a period of years. If capital spending ebbs, the resulting earnings accelerator becomes a decelerator.

The existence of these earnings questions casts doubt on the results of standard valuation models. At the same time, it would be helpful to know better the degree to which differences in the quality of various companies' earnings are already factored into market prices (i.e., although prices may generally be higher than justified by "true" earnings, are these higher prices at least consistent across companies?). Given the increased correlations among stocks within industries, one would assume that distinctions in earnings quality are not fully reflected in market prices, but then again, with the increased focus among U.S. corporate managers on the price of the company's stock, companies in a given industry may well compete in pushing the envelope of acceptable accounting.

Question Eight

How reliable is the Black-Scholes Option Pricing Model and its successors?

One of the key assumptions today is that we know how to hedge risks with derivatives and in the process hedge the derivatives themselves. In this context, it is useful to recall what Merton Miller, a Nobel laureate, wrote about his fellow laureates, Myron Scholes and Robert Merton, principals of Long-Term Capital Management, in 1998: "The question... is whether the LTCM disaster was merely a unique and isolated event, ...or whether such disasters are the inevitable consequences of the Black-Scholes formula itself and the illusion it may give that all market participants can hedge away all their risk at the same time."

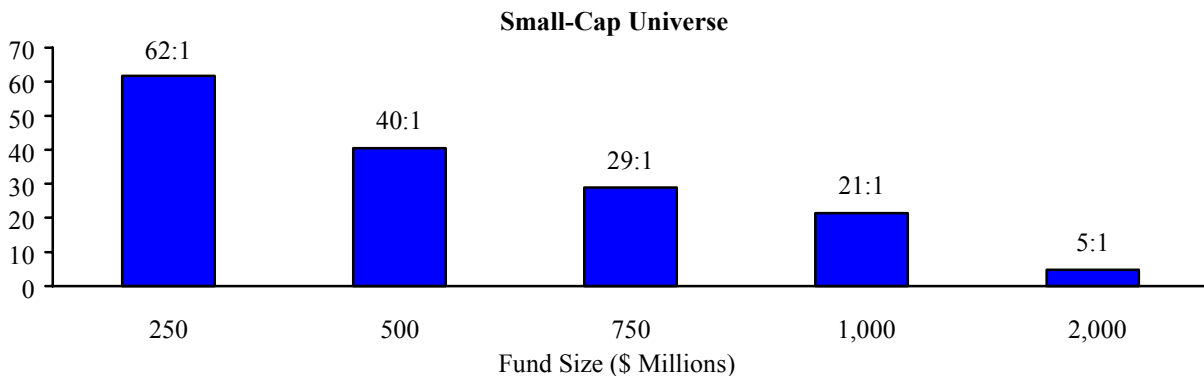
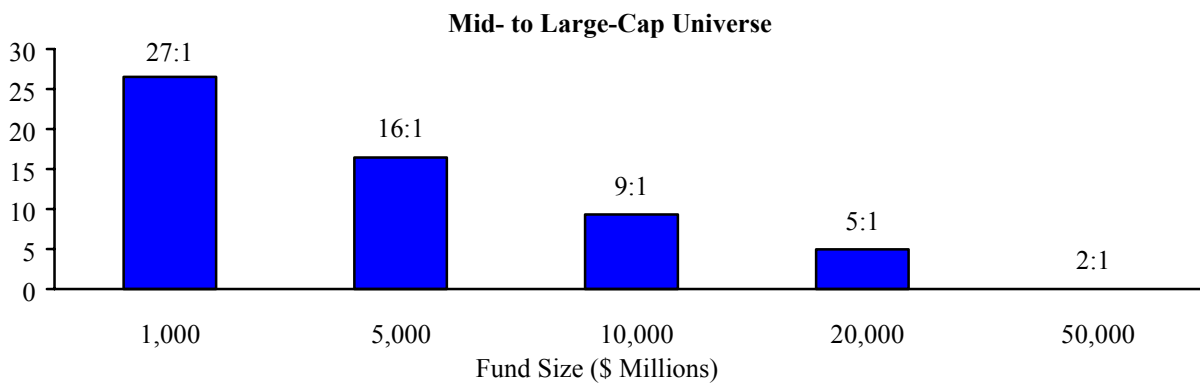
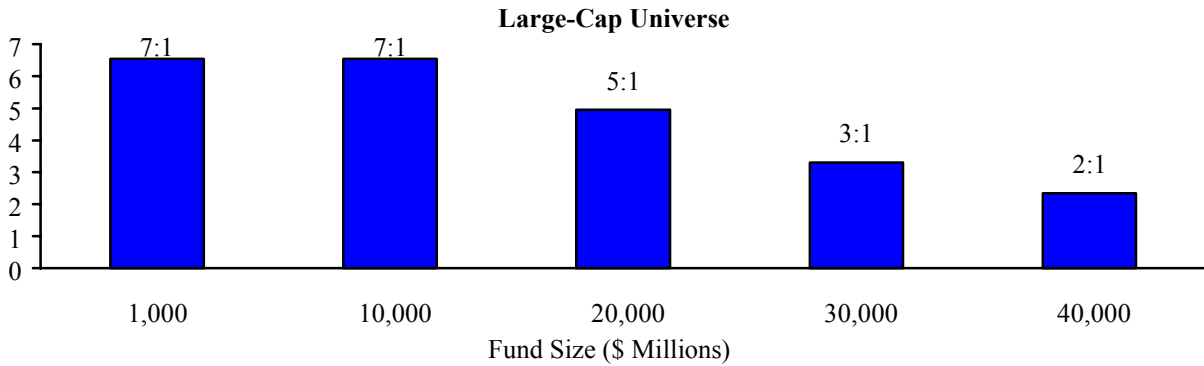
Question Nine

Does the consolidation of active money managers into ever bigger firms matter?

Investment management is one of the few businesses that suffers from acute diseconomies of scale, as illustrated by the following table:

INEFFICIENCY OF LARGE EQUITY FUNDS

In a 50-Stock Portfolio, What is the Ratio of Eligible Stocks to Stocks Bought?



Source: Standard & Poor's Compustat.

Assumptions: Portfolio holds 50 stocks, equally weighted, and can own no more than 5% of the total market value of a single company.

Notes: Large-cap companies are defined as all issues over \$6 billion. Mid- to large-cap is defined as all issues over \$1 billion. Small-cap companies are defined as all issues over \$100 million, but less than \$1 billion.

A logical response to this table by investors would be to recruit managers to operate captive or semi-captive boutique firms, a step that could also bring down fees. Talented, small asset boutique firms are still available in the manager market, but more and more are expensive hedge funds. Launching captive firms would both mitigate diseconomies of scale and reduce costs.

Question Ten

Hedge funds are becoming more and more popular. Do they make sense?

Cambridge Associates' recent paper, *An Evaluation of U.S. Equity Manager Structures*, argues that, mathematically, concentrated funds have a much better chance than more diversified portfolios of outperforming market indexes. Given the risks inherent in concentration, however, one obviously wants such funds to be managed by smart and highly motivated managers, and hedge funds fit the bill.

It is true that most such funds are short-term oriented, and that, as noted, a long-term orientation would provide a relative advantage to concentrated as well as to core managers. In addition, hedge fund fees are very high, although high upside potential in compensation can be justified by a commitment to limit assets under management and thereby avoid the diseconomies of scale reviewed above.

On balance, hedge funds do represent a suitable place to hunt for talented managers, but the policies applied to them too often make little sense. It does not make sense, for example, to employ one or two concentrated funds without regard to how they complement each other and without requisite risk controls. More often, both the amount of money being placed and timidity about investing in a new "asset class" leads to the selection of a whole raft of names. This is carried to a *reductio ad absurdum* when large investors allocate significant amounts of capital to the most expensive vehicle of all, a fund-of-funds, or, even worse, several funds-of-funds, even though such vehicles are themselves often far too big (as well as far too expensive) primarily because they want to avoid the bad PR that would ensue if a manager in which they had invested were to blow up.

Question Eleven

Do demographics favor the stock market?

A theory propounded by Harry Dent and others is that the average U.S. baby boomer is only now getting to his or her peak spending age (late forties), which should put a floor under the economy. A variant is that baby boomers will also be saving a lot for retirement, which should increase demand for stocks. The counter-argument is that baby boomers have so little savings and so much debt that when they start to

² Hedge funds are not, of course, an asset class, just a different form of active management.

save, especially if prompted by static or declining stock portfolios, shrinking consumer demand will smash both the economy and the stock market. In its own extensive review of demographic and market studies, *The Bank Credit Analyst* has found little or no historical correlation between demographics and asset prices, presumably because demographic factors have not worked in only one direction and are usually swamped by behavioral and other effects. For example, people in their sixties (who hold a large percentage of 401k assets) used to favor bonds, but as of February 2001 held 64% in equities, a significant proportion of which was in one stock alone—that of the company where they had been employed.

Question Twelve

Are the two great commercial innovations of the moment, the Internet and outsourcing, as good for the U.S. economy as they are supposed to be?

Arguably not. The Internet will bring service workers from around the world electronically into the United States, where they will displace U.S. workers, and the outsourcing process is training the rest of the world in the development of high quality goods and services that can be sold domestically at a fraction of the cost of imported branded goods. In addition, the present outsourcing of so much electronics manufacturing to China (now about 18% of total outsourcing to that country) may also eventually affect Chinese weapons capabilities.

Question Thirteen

Is the worry about equities today exaggerated; even a positive sign for the market?

As many commentators have noted, in the late 1990s both the U.S. economy at large, and the U.S. equity market in particular, replayed the late 1920s to an astonishing degree, and also replayed Japan of the 1980s to a lesser degree. Although history never repeats itself without twists, turns, and surprises, the sobering lessons of the U.S. equity market decline of the 1930s (-83% peak to trough) and of the Japanese equity market decline of the past decade (-70% to date), both reached after numerous bear market rallies, suggest that policy precautions should not be neglected.

Question Fourteen

Should equity investors rely on the Greenspan "put"?

Not even Alan Greenspan is infallible. On January 7, 1973, two days prior to the market peak that preceded the worst bear market since 1929, he said that "It's very rare that you can be as unqualifiedly bullish as you can be now." In January 1990, just prior to the Bush recession, he said he saw only a

"temporary hesitation" in the economy. And he expanded the broad money supply at a 15% rate in late 1999 to forestall Y2K problems that never materialized.

The larger question with Greenspan, however, is his activism. He has ambushed the stock market twice in recent years, once in 1998 when he cut rates with only 45 minutes left on the day that index options and options on futures mature (the market shot up 5% in 4 minutes) and again on January 3 of this year. He has also pushed the pedal to the floor in monetary policy repeatedly, in 1987 with much heralded success, in 1990-91, 1998, 1999, and again this year, although U.S. monetary gyrations seem pale compared to those of the Japanese (the Japanese central bank pushed its growth in assets from 22% to 35% to 2% to 15% all in the space of the first six months of 2000). Most informed observers have praised Greenspan. As Rudy Dornbusch, the highly respected M.I.T. economist, said in 1998: "This expansion will run forever because we have the inventory and fiscal resources to keep the economy going as well as a policy team that won't hesitate to use them for continued expansion." Robert Solow, also of M.I.T., wrote this year that Greenspan has earned "the awe" with which he is regarded. Worries that a popping of the asset and debt bubble that follows so much monetary and credit expansion might precipitate deflation by reversing the wealth effect have in effect been rebutted by Milton Friedman: "We know how to stop deflation—print money. The Fed has plenty of ability to print money."

However, there are theoretical arguments why even so distinguished a quartet as Greenspan, Dornbusch, Solow, and Friedman might be wrong. One of the premises of so-called Austrian economics is that credit creation in excess of savings, if it does not lead to consumer price inflation, will instead lead to trade deficits and/or asset bubbles, and that the pricking of the latter will deepen a pre-existing deflationary trend. A common sense version of the same view would simply ask, first, with *The Economist*, why "American policy makers learned nothing from the errors of their Japanese counterparts in the 1980s, when private borrowing was also allowed to rip;" second, how speculators can be restrained if they are repeatedly protected; third, whether a recession postponed is not simply a recession magnified; and, fourth, human nature being as it is, how an economy can be expected to rid itself of inadequate saving, excessive buying of imported goods, excessive corporate investment, excessive consumer and corporate borrowing, and excessive equity market speculation without the discipline of defaults and recession? Precisely because similar excesses were allowed to pile up in Japan, and never fully purged, the deflationary end-game there has yet to be reached: government debt service now consumes two-thirds of tax revenue, and the worst may still be to come.

From a purely tactical perspective, this argument suggests that "fighting the Fed" (i.e., selling equities despite the Fed's easing, which generally leads to higher equity prices) may not be as unreasonable as it might seem. More importantly, from a policy perspective, it means that one should not embrace the Fed as a substitute for adequate long-term portfolio safeguards, and should take advantage of the current Fed easing to put such safeguards in place, if they are now lacking.