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Points of Inflection: Investment Management Tomorrow

Peter L. Bernstein

My presentation is going to focus on the future of the investment management business. Although I always have misgivings about the value of predictions, there is a way to approach the problem of confronting the unknown future. As William Wordsworth reminds us, the boy is father to the man. The present is the prelude to the future. If we can understand the present—its dynamics, its weak points, and its strong points—we may be able to arrive at some judgments about what lies ahead.

The present is most revealing when we are approaching or passing through a point of inflection. Points of inflection are rare, but I believe our profession is passing through a point of inflection right now. A "point of inflection" means that the future will share few of the features of the past. That is not necessarily bad news. Although some changes may be challenging, others make life simpler. It all sounds like more fun to me. The main message is that the way we go about earning our living is going to be different. Everything is involved, from expected returns and portfolio structures to performance measurement and management fees.

I must emphasize that my focus is on investment management. The wider world around us has also passed through important points of inflection—in the changed role of government and government finance, in the substitution of deflation for inflation on the U.S. Federal Reserve's radar screen, in the decay of economic globalization, in China as a world economic power, in levels of interest rates not seen for some 40 years, in the new vulnerability of the dollar exchange rate, and in corporate governance and accounting. Towering over all this is the war against terrorism. These changes are mighty significant, but the spotlight today is on just plain investment management.

Peter L. Bernstein is president of Peter L. Bernstein, Inc., and consulting editor of the Journal of Portfolio Management. *This article is a slightly revised version of a presentation given to the 2003 AIMR Annual Conference in Phoenix, Arizona.*

I shall begin by taking a moment to define exactly what I mean by a point of inflection. Then, I shall discuss four areas of investment management that appear to be undergoing the most profound changes.

What Is a Point of Inflection?

Mathematically, a point of inflection is the point on a graph where the concavity of a function changes. Or to put it another (equally technical) way, a point of inflection is located where the second derivative of a function reaches zero.

In plain English, a point of inflection occurs when the rate of growth slows down—when the change in the rate of change turns negative. In a more profound sense, a point of inflection marks the moment when the same forces that have worked in a particular way for a long time begin to operate in a different and frequently unfamiliar direction. After passing through a point of inflection, *the world no longer obeys the same rules it has been obeying.*

I first learned about the enormous importance of this concept many years ago at a lecture by Jonas Salk, who pioneered the polio vaccine now in general use. Salk drew an elongated S-curve on a blackboard and showed how the S-curve becomes increasingly steep as you move upward from the left, but at a point, the curve begins to tilt over and veer toward the horizontal. That is the point of inflection, where the curve ceases to be convex relative to the horizontal axis and becomes concave.

We are all familiar with this curve, because it is what the growth process is all about. Salk used the example of microbes multiplying by dividing themselves in a contained space, such as a test tube. In the early stages, the test tube contains only a few microbes and lots of space, so the number of

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microbes grows exponentially. After a while, the test tube is so crowded, the microbes begin to get in each other's way. The forces at work—a bunch of microbes dividing themselves—continue, but instead of microbes multiplying exponentially forever, the process crosses a barrier and the growth rate slows down. If it did not slow down, the microbes would take over the whole world. The identical forces that promoted accelerating growth to the left of the point of inflection become disruptive obstacles on the other side because the test tube is so crowded that most newcomers can no longer survive.

The most important feature of a point of inflection is that *the transformation in the growth rate is endogenous*. Nothing comes from outside to make it happen. Although the time needed to reach a point of inflection is uncertain, the outcome is predestined. This truth is the great lesson of Hegelian dialectics: Changes in quantity ultimately become changes in quality.

The Investment Business and the Point of Inflection

Investment management has passed through such a point of inflection, not in its growth rate, but in the way we manage portfolios. I do not mean to disparage what we have been doing. It suited the purpose for many years and reflects many productive improvements in both theory and practice along the way. Rather, what we have been doing has begun to outlive its usefulness; the world in which we invest today bears too little resemblance to the world of yesterday. It may be too soon to suggest exactly how far these innovations will progress and in precisely what direction they will travel, but I have no doubt that a point of inflection has been passed.

All four areas I shall discuss have gone through the microbe process. In the early stages, growth was uninhibited and free of obstacles. But over time, these features of investment management became so common and so deeply entrenched in the investment process that they lost their dynamic impact. More seriously, they began to undergo qualitative changes that blunted their value—and may even have destroyed it. These management methodologies are losing their long-standing effectiveness because the world on this side of the inflection point does not work as it worked before we passed through the point of inflection.

Here are the four areas, which I list in order of their visibility right now—research, indexing, benchmarking, and long-only investing. I shall deal with each in turn. In the end, we shall see that these four separate stories join into a major overarching theme that is the true moral of the tale I have to tell.

Research. On May Day 1975, when fixed commissions met their demise, the price of trading collapsed. Ever since that day, brokerage revenue has failed to cover the costs of research without a contribution from investment banking fees, forcing fine research boutiques like HC Wainwright & Company and Faulkner, Dawkins & Sullivan either to go out of business or to seek the shelter of investment banking firms. Others, such as Donaldson, Lufkin & Jenrette, joined the world and became more conventional brokerage/investment banking firms. Ever since that day, soft dollar research and investment banking have operated under the same roof.

As the microbes multiplied, we arrived at the world of the 1990s. And what a world it was! The New Economy and revolutionary technological change would have been enough to mark it as a great decade, but at the same time, the proliferation of defined-contribution retirement plans—most notably 401(k)s—brought swarms of individual investors into the capital markets. Economic change led to an explosion in the demand for investment banking. Growth in individual investors provoked a huge increase in the mutual fund industry. The demand for investment research soared, and aggressive investment banking firms were delighted to provide the supply. Just as with the microbes: There were so many new issues to sell and so many mutual funds coming into existence, the only way to keep the process going was to make research and mutual fund performance hotter and hotter.

The rest is history. Suffice it to say, quantitative changes became qualitative changes—and for the worse. Here, we can have no doubt the point of inflection has been passed.

Efforts to separate the research process from the investment banking process are already under way, but getting from here to there is going to be more complex than many people, including the regulators, believe. Keeping the taint of investment banking away is no easy task in the real world, and so-called independent research is going to be less than 100 percent independent.

These developments are going to have an impact on the pocketbooks of investment management firms and their clients, whether or not that impact is visible to you at this moment. In the past, the habit of paying for research with soft dollars made life easy for managers—they trade anyway—and acceptable to clients because the drain on their assets was less visible than an increase in management fees. But soft dollar research is not objective

research. For how long will the clients of investment managers allow their assets to be managed in a world of hanky-panky? Objective research means true independence from conflicts of interest. Objective research is also expensive. I expect that both managers and clients will come to accept the reality that there are no free lunches.

If you want objective research, you are going to have to confront the hard dollar route one way or another. Investment managers will have to do more of their own research or dip into their pockets to pay for outside research. Either way, management fees are likely to rise. Because investment management is a competitive business, I cannot predict whether managers or clients will bear the cost of hard dollar research or how it will be distributed between them. I can only emphasize three points to clients. First, soft dollar payments for research have always come out of your pockets. Second, hard dollar research is likely to lead to less trading and fewer brokerage commissions. Third, higher-quality and truly independent research should have a bigger payoff than tainted research—otherwise, what has all the shouting been about?

If this last point is correct—and I would defend it to the end—penny-pinching on research makes no sense. There is no such thing as a free lunch. One way or another, the cost of research is going to rise. How much will come out of the manager's pocket and how much out of the client's pocket will ultimately depend on bargaining power, but one thing we do know: Paying an investment banker for research with a few cents a share is no longer a viable strategy.

Indexing. The practice of indexing has been the most glowing offspring of the efficient market hypothesis.[1] Indexing means matching asset-class market returns on a risk-adjusted basis, a feat the efficient market hypothesis tells us is impossible and that a steady flow of research tells us is *almost* impossible. Almost all of the superior performance earned from indexing has derived from extremely low fees, extremely low turnover, and extremely broad diversification.

But indexing has passed through a point of inflection. "Extremely" no longer fits, at least as far as turnover and diversification are concerned.

Index fund turnover is a function of our extraordinarily dynamic U.S. economy. New companies come along all the time to threaten and then overthrow the dominance of older companies. Creative destruction is our trademark. Even some foreign economies have caught the fever. The result has been a significant increase in the turnover of the indexes, most particularly the S&P 500 Index. Perhaps some of the turnover in the latter half of the 1990s was superfluous, but I see no reason for the process of replacing the old with the new to grind to a halt. Technological change and marketing innovations are still very much with us. Consequently, index turnover is likely to remain high—and costly as well because market participants have learned that front-running index turnover can be profitable.

Even if turnover and its companion, front-running, diminish, the indexes themselves have developed a serious problem: It would be difficult to characterize the S&P 500 as a diversified portfolio. Matters were much worse a couple of years ago, but even as recently as April 2003, the 10 largest companies in the index—2 percent of the total number—accounted for 25 percent of the market value and the top 25 companies accounted for 40 percent. That is diversification? As past experience demonstrates, it is a formula for heightened volatility.

Broader indexes than the S&P 500 are available—the Wilshire 5000 Index, the Russell indexes, and so on—but the dominance of the largest-capitalization companies affects the behavior of those indexes also. Meanwhile, those indexes have problems of their own: Strictly speaking, they are not investable pools of securities; they are floating crap games because their membership is much more fluid than even the membership of the S&P 500. A so-called indexed portfolio based on these constructs is a tracking portfolio, not an indexed portfolio, with complex problems of turnover and rebalancing. An oath simply to be diversified across market classes would serve as well, but even so, maintaining balance within such a portfolio in a dynamic environment is going to require turnover—and turnover costs money. The futures markets offer more interesting solutions to this problem, but they still leave open the question of how the fund invests its *assets*.

There is another element in this picture over which the indexers have no control. When expected returns from investment portfolios were upward from 9 percent—and many have been into double digits—beating the market was nice but alphas were not essential for meeting investment objectives. As expectations become more realistic, the hurdle of investment objectives looms higher. Now, taking on the risks of active management appears more attractive, even essential, and indexing is no longer such a slam dunk.

Therefore, even if the elevated rate of turnover and the bizarre concentration in the indexes subside over time, indexing is not likely to regain its

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old popularity until expected returns once again comfortably exceed required returns. I do not see that happening any time soon. Yet, indexing may have a whole new role to play, as we shall see shortly.

Benchmarking. Benchmarking exists primarily as an element in performance measurement, which is my focus in this section. Benchmarking has other important uses, such as in risk control and factor management, which were set forth with admirable skill and clarity in a recent article for Barclays Global Investors by Barton Waring and Laurence Siegel (2003).[2] Those functions of benchmarking are outside the purview of this discussion. I am focusing here on performance measurement.

Measuring an active manager's performance against a benchmark is popular for good reasons: It is a clear and simple method of describing how a manager is doing. But when W.C. Fields asked Mae West, "How do you do?" she replied, "How do you do what?" Exactly what are we measuring when we compare a manager's performance with an asset-based benchmark? Can this comparison provide more than a superficial hint of the manager's skill? An asset-based benchmark, whether public or customized, limits a manager's security selections to the benchmark (or encourages only minor excursions outside the benchmark). As a result, the client is arriving at judgments about performance on poor-quality information, whereas a manager with skill suffers from being locked up in a style box. The refusal to be locked up in those style boxes is one important explanation for the continuing exodus of bright people from conventional portfolio management to the world of hedge funds.

The seminal work in this area is a 1989 paper by Richard Grinold, "The Fundamental Law of Active Management," which is more fully developed in the excellent textbook by Grinold and Ron Kahn (1995) appropriately called *Active Portfolio Management*. The principle involved is simple: Managers with skill should be free of constraints. Anybody in this business with skill must have a nose for value in more than one corner of the market. I cite Warren Buffett as a case in point, but the argument is a powerful one: Why restrict a skilled manager's search for opportunity to one class of stocks or bonds? The more opportunity the manager has, the more good picks that manager can discover. "Breadth" is Grinold's expression for this, and he even has a mathematical equation to define it precisely.[3]

In a persuasive article published two years ago, "The Case for Whole-Stock Portfolios," Richard Ennis (2001) argued that "equity product differentiation and proliferation has served managers much better than clients" (p. 25). He also provided a detailed road map for superior risk-adjusted returns based on the Grinold hypothesis. Under the whole-stock strategy, an active manager would have a mandate embracing "substantially all of the active management opportunities represented by an asset class" (p. 22). The more breadth, the merrier the outcome—assuming we start with a manager who has skill.

But the sins of benchmarking extend beyond style constraints to the critical question: Benchmarking to what? The convention is to benchmark to assets, such as an index, a specially designed passive portfolio, or a composite of similar portfolios. Although these comparisons are interesting, the objective of portfolio management is to fund liabilities, either current or future, either known with precision or estimated, either actual or expected. The true benchmark, then, is the return required by the structure and timing of these liabilities. This principle applies whether we are looking at a pension fund, an endowment fund, a foundation, or an individual hoping to grow wealthier. The critical ingredient of performance measurement, therefore, is a manager's contribution to the fund's required rate of return relative to the risk the manager takes and the allocation assigned to the manager in the fund's risk budget. The results from these kinds of calculations do not attract a crowd around you on the cocktail party circuit, but they do lead to more effective manager selection and to greater efficiency in optimizing the mix of managers for low covariance and higher expected returns.

I must beware of overstating the case. Liabilities are the proper benchmark, but every fund invests in *assets*. Management of liabilities is an entirely separate matter and a challenge in itself. Investment is about asset selection and allocation. Nothing I say here is an excuse to ignore all the important tools of valuation and risk control available to investment managers today. Awareness of exposures to market factors and disciplined valuation procedures are still essential. The trick is to relate these instruments to the characteristics of the liabilities rather than to a passive control portfolio of assets or the returns of a pooled sample of other investors.

This view of benchmarking is not yet mainstream, but it is gaining attention because the conventional applications of benchmarking have passed through a point of inflection. I shall defend that assertion more fully in a moment—we are almost there.

Long Only. Short selling has been perceived as risqué for a long time. Since the Great Crash of 1929, those few social outcasts who want to sell short have been hobbled by regulations prohibiting short sales except on upticks. This view persisted even after hedge funds as we know them were invented and a small coterie of hedge fund managers began selling short as a matter of routine strategy. But those funds were limited in number, their limited partners comprised a tiny band of adventuresome investors, and their performances were not made public. Even though some of these adventurers became legends—Alfred Jones and George Soros come to mind—hedge funds were not yet in the mainstream. A significant part of the success of these ventures came from total breadth in the manager's mandate, as well as from the freedom to sell short as opportunities appeared.

Then came the disinflation of the 1990s and the steady decline in interest rates. The search for higher return became urgent, even if it necessitated taking greater risk. Institutional investors who had never given a thought to short selling began to perceive hedge funds as a vehicle offering a new and more efficient trade-off between expected return and volatility. Hedge fund investing, with many variations on the theme, began its ascent along the convex portion of the S-curve: Growth was exponential.

The kind of product delivered by hedge funds raises an important question: Why should selling short be the privileged sanctuary of those managers who call themselves hedge funds? Why should conventional managers operate with one hand behind their backs? Why should institutions continue to tolerate the kind of volatility that conventional long-only investing inflicts upon their portfolios? Given the bias toward buy recommendations in most investment research and given the locked-in positions in which many taxable investors find themselves, should we not expect to find more alphas—more inefficiency—on the short side than on the long side? The investment managers at Harvard University today view the whole portfolio as a giant hedge fund—but Harvard is an outlier.

Yes, short selling has its own peculiar risks and requires a special brand of expertise (although short selling does contribute to market efficiency). Yes, a huge increase in the volume of short selling raises a tricky question about where all the securities lending is going to come from. Yet, I still believe that the view of the total portfolio as a giant hedge fund is going to become the norm for portfolio management.

Everything I have had to say so far revolves around this line of analysis:

- Taken to its logical conclusion, Ennis's proposal for whole-stock portfolios is nothing less than a call for a portfolio whose manager has complete freedom in security selection and balancing long–short positions, provided that the manager holds the portfolio's risk level to assigned parameters. Hedge funds fit into no style boxes, and their franchise lets them have all the breadth they need.
- Hedge funds do most of their own research and tend to stay clear of what the investment banking houses have to offer.
- Because hedge fund investing involves more specific risk than systematic risk—although systematic risk is visible in some instances[4]—defining a benchmark against which to measure hedge fund performance is difficult. But we can still plot the returns on a risk versus reward scattergram of long–short managers. When we do, we can see how managers compare with one another and determine how much they contribute to the client's wealth relative to the risk budget assigned to them. In the end, however, performance analysis should be only one ingredient of judgments about manager selection.
- We might find this trend attracting money back into indexing, because portfolio optimization is likely to show that an index fund, or even an enhanced index fund, would make an appropriate companion to a portfolio with which it has zero correlation.

I do not mean to imply that managing a hedge fund is easy, but who said beating the S&P 500 on a risk-adjusted basis is easy? Indeed, instead of aiming to outperform the stock market by *X* hundred basis points, hedge funds come in a wide variety of flavors, risks, and inherent volatilities to suit the taste and requirements of the overall portfolio. This approach has to be attractive to institutions with explicit goals and with the expertise to manage volatility.[5]

As investors look around at the detritus of the great bubble of the 1990s and, in particular, at the kind of herding the bubble generated, the question I posed previously should haunt them: Benchmarking to what? Are they benchmarking to the optimal benchmark? As always, the issue is the optimization of the trade-off between risk and return. The notion of uncorrelated returns—especially, absolute return—has a compelling attraction. If adding short selling to the arsenal of portfolio management tools can improve the optimization process, then investors will move in that direction. Under those circumstances, the distinction between a hedge

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fund and a conventional management firm with power to sell short will disappear.

Where Does It All Lead?

I am well aware that the explosive growth in hedge fund investing in the past few years has many of the earmarks of a fad. In addition, Steve Galbraith of Morgan Stanley recently pointed out, in a fascinating analysis, that the extraordinary fat tails in the distribution of stock returns during the bubble have thinned out since the bubble burst (Galbraith 2003). Both of these developments make long–short performance more demanding than it may have been in the past, but that challenge is no reason to reject this approach as superior to long only.

Neither development persuades me to abandon my case. Investment management has passed through a point of inflection. The supply chain of research material will never again concentrate under the roof of investment banking. When returns are not as easy to come by as in the past, the constraints on manager activity imposed by benchmarking are archaic. Indexing has become more costly and more risky. And new techniques—as well as old techniques such as selling short—that widen a manager's range of choices will always make sense in comparison with the old way of doing things.

I conclude with a confession. Although I have high convictions about the validity of framing my case with the concept of points of inflection, you may have detected a different theme running through the arguments as I have set them out. Maybe what I offer here is more normative than positive—more of a story of what the world *should* be like than what it *will* be like.

My points are a kind of wish list, because I believe each of the changes identified here would contribute to a rational system of portfolio management designed to bring maximum benefits to the owners of wealth. Such a system would use hard dollar research and give skilled managers the widest possible range of choices among both assets and operating techniques. Those clients who cannot identify skilled managers would do well to index; despite all its shortcomings, indexing should do better than unskilled managers.

If these developments will not arrive without a shove from the investment fraternity, then please, my friends, give managers and their clients a hard and unrelenting push.

Notes

1. I am referring here strictly to indexing as a *passive* strategy. Enhanced indexing today comes in many flavors and colors but is a form of active management and, therefore, irrelevant to these comments.
2. See also Siegel (forthcoming 2003).
3. Grinold and Kahn (pp. 118–119) put it this way: The fundamental law of active management is based on breadth and skill. Breadth is "the number of independent investment decisions made each year." Skill is the information coefficient—that is, "the correlation of each forecast with the actual outcome." The information coefficient multiplied by the square root of breadth equals the information ratio, the Holy Grail of active management, which is also equal to alpha (expected residual return) divided by the volatility of alpha (residual risk). With everything else held constant, an increase in breadth should lead to higher risk-adjusted excess returns.
4. See, especially, Clarke and De Silva (2003).
5. Short selling is invading the mainstream at a rapid rate. AIMR offered a special session on hedge fund management at the 2003 Annual Conference, and Morningstar now lists about 20 funds that engage in short selling.

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