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Reflections

Are Active Management Fees Too High?

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If the potential payoff from active management has waned since 1960, why is the price of active management at or near its all-time high?

What are the prospects for alpha? Those of us who were launching our careers in the 1960s would never have believed a Greek letter would become the mantra of investment management. The money management establishment of that era dismissed the concept of "beta," which was just emerging from the grove of academe. Yet today, talk of "alpha"—beta's elusive companion, that precious portion of extra return—is everywhere. Managers say they harvest it, separate it from beta, and transport it about. Consultants and advisors tout their ability to pick "alpha-generating" managers of every stripe. Pension fund trustees hear they ought to stretch for alpha to meet hopeful actuarial assumptions. (Who couldn't use a little extra?) And the trade press and sponsors of commercial conferences avidly sustain the buzz. Pursuit of alpha, it seems, has become the Zeitgeist of our times.

Is alpha potential on the rise? Let's begin with a historical perspective.

Market Efficiency

The 1950s saw the beginning of a sustained effort to evaluate the efficient market hypothesis (EMH). By 1970, the academic consensus was that the market was quite efficient.[1] At least one prominent practitioner of that era also threw his lot in with the academics. In 1976, Benjamin Graham said:

> I am no longer an advocate of elaborate techniques of security analysis in order to find superior value opportunities. This was a rewarding activity, say, 40 years ago, when our textbook "Graham and Dodd" was first published [1934]; but the situation has changed a good deal since then. In the old days any well-trained security analyst could do a good professional job of selecting undervalued issues through detailed studies; but in the light of the enormous amount of research now being carried on, I doubt whether in most cases such extensive efforts will generate sufficiently superior selections to justify their cost. To that very limited extent I'm on the side of the "efficient market" school of thought now generally accepted by the professors. (p. 22)

Consider now the conditions that give rise to market efficiency. Is there reason to believe, *a priori,* that the market has become more or less efficient in the past 30 years?

Information. At the heart of an efficient market is freely available information. In the past 30 years, we have experienced what may be the greatest period of innovation in information technology in the history of humankind. The personal computer arrived on the scene in the mid-1970s. Before its coming, analysts relied on hand-held

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calculators, and those of us analyzing balance sheets in the 1960s used a slide rule for compound interest and present value calculations. Leveraging the abundant and versatile computing power we obtained are the Internet—a development of staggering proportions in its own right—and the creation of vast electronic databases. Within our industry, information technology has its own distinctive manifestations, such as the cornucopian Bloomberg system.

Communication. Fiber optics and satellite-based systems have revolutionized communication in the past 30 years. In days of old, we had no fax, no cable news, no cell phone, no e-mail, no Blackberry. International calling was crude and prohibitively expensive. Today, inexpensive and instantaneous global communication is pervasive.

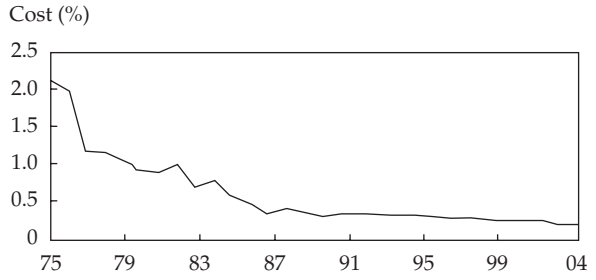
Frictions. The EMH is predicated on the absence of frictions that might preclude trading, which eliminates mispricing. The advent and refinement of derivatives during the past 30 years have had a profound effect on reducing market frictions of various types. Contractual innovations such as futures, options, and swaps have reduced transaction costs and enabled risk sharing in entirely new ways.

Transaction costs for common stock trades have fallen significantly and steadily since the NYSE eliminated fixed minimum commission rates in May of 1975. **Figure 1** presents an estimate of one-way trading costs for U.S. equities from 1975 through 2004. Trading costs at the end of 2004 were roughly 10 percent of their level prior to the advent of negotiated rates. The merger now occurring of traditional trading venues with electronic ones promises further reductions in transaction costs.

Institutional Ownership and the Rise of Arbitrage. Research has shown that the prevalence of security mispricing is inversely related to institutional ownership of shares.[2] Thus, the extent of institutional ownership is itself an index of market efficiency. According to the NYSE, 7 percent of the outstanding shares of common stock were held by institutions in 1950. The figure rose to 28 percent in 1970 and today stands at fully 50 percent.[3]

More than 7,000 hedge funds represent a new class of institutional investor. Hedge funds are highly opportunistic traders, often using leverage to maximally exploit mispricing. Many operate in a different dimension from the world of traditional long-only managers, with arbitrage-like (long–short) trading as the focal point. There can be little doubt that the accumulation of close to $1 trillion by hedge funds in the past 15 years has contributed to making markets more efficient.

Figure 1. One-Way U.S. Equity Trading Costs as a Percentage of Trade Value, 1975–2004



Sources: The data for 1975–1994 are from Wermers (2000), Table V, p. 1683, for converting transaction costs as a percentage of fund value to one-way costs, with turnover data provided by the author. Subsequent to 1994, the series was extrapolated by using per share agency commission rates provided by Greenwich Associates.

Extraordinary advances in information and communication technology, dramatic reductions in transaction costs and other market frictions, and a sizable increase in institutional ownership, including a new breed of opportunistic trader and arbitrageur—all suggest that today's U.S. equity market has an even greater degree of market efficiency than the efficiency we posited 30 years ago. What does the empirical evidence say?

The Facts on Active Management. Many authors have examined whether active management successfully exploits whatever security mispricing might exist. Central to this literature are the persistence studies, which seek to identify a correlation of fund performance in one period with that of a prior period. These studies have been conducted by scholars all over the world.[4] The preponderance of this literature finds no evidence that top-performing funds in one period repeat their success in the next.

Cost-recovery studies have examined how management fees and transaction costs affect fund performance. Beginning with Jensen (1968), authors have consistently demonstrated that, on average, active investment managers underperform their

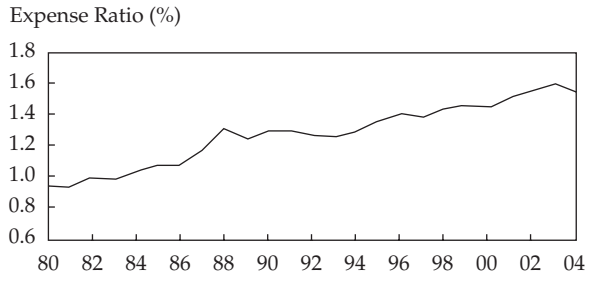
benchmarks by an amount approximately equal to their fees. Indeed, recent studies have indicated that management expenses hurt average fund performance *more than* dollar for dollar (Carhart 1997; Bogle 1999).

Therefore, despite today's alpha mania, we have every indication that it has become harder, not easier, to beat the market in the past 30 years.

And Yet the Price Rises

Since about 1975, however, we have witnessed another pronounced trend, one that at first blush appears to be at odds with vigorously efficient markets and with the evidence on manager performance—namely, the steady rise of the price of active investment products. **Figure 2** illustrates the point. Since 1980, the average equity mutual fund expense ratio has risen from 0.96 percent to 1.56 percent.

Figure 2. Average Equity Fund Expense Ratio (Equal Weighted), 1980–2004



Source: Lipper Analytical Services.

Just as striking is the fact that a price increase of this magnitude would occur while revenue soared in an industry characterized by ease of entry and minuscule marginal costs. (The dollar-weighted average expense ratio also rose during this period but by a somewhat smaller margin, from 0.64 percent to 0.86 percent.)

A contributor to this rise in prices is the phenomenal growth during the past 15 years of the priciest form of money management—the hedge fund. In this type of fund, management fees are typically 1.5 percent on top of expense reimbursement, and all before the manager takes a sizable share of the profits. Ineichen (2005) estimated that the revenue of the hedge fund industry (including funds of funds) has averaged an astounding 5.9 percent of the value of assets, annually, since 1991.

As a product or service becomes less valuable over time, its price ordinarily declines. But even as efficient capital markets have become arguably more efficient, we have witnessed no downward pressure on the pricing of active management. Why not? I believe the answer lies in the phenomenal growth in the value of "assets-to-be-managed" in the past 25 years. In 1980, the aggregate value of investable capital markets *worldwide* stood at $7.5 trillion. By 2004, the figure had ballooned to $87.2 trillion.[5] This is an increase of more than 1,100 percent and represents *real* growth of more than 7 percent a year over the entire 24-year period. Accounting in part for this spectacular growth is that interest rates in the early 1980s were hitting their all-time high whereas stocks were extremely cheap. And the extraordinary prosperity of the 1980s and 1990s lay just around the corner. No doubt, this period will go down in the annals of money management as The Great Era of Asset Gathering.

Today, with interest rates near 4 percent and stocks yielding less than 2 percent, few among us expect double-digit investment returns for any extended period in the near future. In other words, the investment management industry is unlikely to benefit from the wind of extraordinary asset growth at its back as it did throughout the 1980s and 1990s. Yet, we live with a legacy of that era: historically high fee structures brought on by trillions upon trillions of dollars seeking growth during the boom and shelter in its aftermath.

When Are Management Fees Too High?

The economist in me avers that freely set prices are never too high (or too low); prices merely convey information. With that bow to economic theory made, I also believe that the higher the price of investment management, all else being the same, the harder it is to deliver a product that will satisfy the investor seeking a *net* gain from active management. Thus, the very *plausibility* of each active investment product varies inversely with the price that attaches to it.

My colleagues and I have devised a simple model to assess the plausibility of investment management fees.[6] Assume that active investment risk is normally distributed. Also assume that an investor has a horizon of at least 10 years, not an unreasonable assumption for most defined-benefit

pension funds and certainly reasonable for the vast majority of endowments and foundations, which generally consider themselves perpetual in nature. Indeed, it is a reasonable assumption for most individual investors.

In the model, *manager skill* is represented by the *ex ante* probability that a manager will produce a positive cumulative alpha, after transaction costs but before management fees, over the course of 10 years. *Investor success* occurs when the investor, employing a particular manager, realizes a positive alpha after fees. In this model, skill translates directly into success; it is transformed only by assessment of a constant, namely, management expense. As in the real world, cost alone separates manager skill and investor success. (See Appendix A for model particulars.)

Figure 3 illustrates how the cost of active management affects the *ex ante* probability of investor success (vertical axis) for a particular degree of manager skill (horizontal axis). The active risk of 5 percent in this illustration is typical of an equity portfolio. The diagonal describes a truly hypothetical case in which the manager charges no fee. In the no-fee case, the *ex ante* probability that the manager of a portfolio with active risk of 5 percent will produce a positive alpha over 10 years is identical to the probability that the investor will realize a positive alpha. In other words, in the absence of fees, the investor realizes whatever alpha the manager earns.

The three curves in Figure 3 describe how imposition annually of three fee levels—0.5 percent, 1.5 percent, and 3.0 percent of the value of assets—affects the relationship, annually, of before- and after-fee probabilities.[7] At a higher level of cost, a greater level of skill is required to sustain a given probability of investor success. **Table 1** summarizes these relationships numerically.

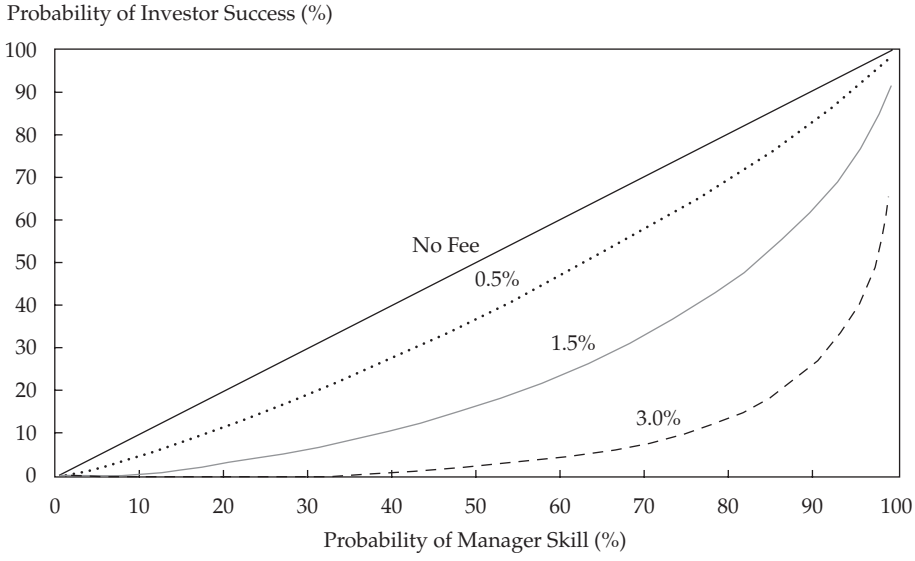
Table 1. Likelihood of Success under Various Fee Rates

Fee	Manager Skill Required for Investor to Have at Least a 50/50 Chance of Earning a Positive Alpha	Investor's Probability of Earning a Positive Alpha When Manager Skill Is 0.80
0.5%	0.62	0.70
1.5	0.83	0.46
3.0	0.97	0.15

The first column of Table 1 indicates that for an investor to enjoy an even chance of realizing a positive alpha when paying 0.5 percent, the manager's required skill level is 0.62. At 3.0 percent per year, the manager's required skill level rises to an inconceivable 0.97.

The second column of Table 1 turns the proposition around to show the probability that an investor will realize a positive alpha over a decade at various fee levels by employing a manager with

Figure 3. Plausibility: Probability of Investor Success for Various Fee Levels
(active risk = 5 percent; time horizon = 10 years)



skill equivalent to a 0.80 probability of producing a positive alpha, before fees. Despite investing with such an extraordinarily skillful manager, the probability that *the investor* can benefit from that skill drops from 0.70 at a fee of 0.5 percent to a mere 0.15 at 3.0 percent.

Figure 3 and Table 1 illustrate what by now must be obvious: *A good manager cannot be "good" irrespective of cost.* And a management fee is too high when, despite the manager's ability to earn a positive alpha, the fee level drives the likelihood of investor success to be unacceptably low.

I do not claim that *all* active investment management services are overpriced. A number of fine equity mutual funds have expense ratios in the vicinity of 50 bps. And large institutional investors can establish separate equity portfolios with leading managers for less than 40 bps. Some successful hedge funds even have management (base) fees of 50 bps or less. For every such opportunity, however, dozens of other active managers use pricing that, in my judgment, is beyond the pale of plausibility.

The Future

Looking ahead, I see four trends:

First, markets will become even more efficient as frictions continue to disappear. The markets will approach the economist's efficient market ideal while never quite reaching it, which is to say that imperfections of some type will always be with us. And as long as imperfections persist, the prospect of trading profits will beckon. Actual gains from active management, however, will be as elusive as ever.

Second, facing the dual challenge of market efficiency and high costs, investors will continue to shift assets from active to passive management. Although indexing got its start in the early 1970s, passive investment before 1980 accounted for a negligible percentage of institutional assets. In the past 25 years, passive management of U.S. pension and endowment fund domestic equity assets has steadily risen to 44 percent of the total. Among public funds, passive investing has gained a 55 percent market share.[8]

Mutual fund investors have also responded to the challenges of attempting to beat the market by investing passively. According to Bogle (2005), index funds "have accounted for more than one-third of equity fund cash inflow since 2000 and now represent fully one-seventh of equity fund assets" (p. 17).

Third, some of active management's true believers will shift assets from expensive products to more reasonably priced products. Impetus for this move will be the growing realization that high fees sap the performance potential of even skillful managers. Signs of greater price sensitivity are appearing now. **Table 2** summarizes recent years' net cash flow data, sorted into quintiles by expense ratio (ER), for *active* large-capitalization domestic equity mutual funds

As Table 2 shows, in 1999, funds in the top two quintiles of ER took in $46 billion in net cash inflows; the bottom two quintiles took in $30 billion. In 2001, a shift occurred: The top two quintiles had net cash *outflows* of $6 billion, whereas the two lowest had *inflows* of $10 billion. In 2002, all flows were outflows. Years 2003 and 2004 are similar to one another in that the two most expensive quintiles experienced sizable net cash outflows whereas the least expensive garnered even larger net inflows.

Table B1 and **Table B2** in Appendix B show less pronounced patterns of price-conscious cash flows for, respectively, small-cap funds and non-U.S. equity funds.

Table 2. Net Cash Flows to Active Large-Cap Domestic Equity Mutual Funds
($ billions)

ER Quintile	Typical ER Range	1999	2000	2001	2002	2003	2004
1 (highest)	> 2.00%	$21.1	$16.4	–$4.4	–$ 8.3	–$ 4.4	–$ 6.2
2	1.61–2.00	25.0	13.0	–1.3	–17.9	–8.0	–11.7
3	1.26–1.60	3.2	0.3	–2.5	–5.9	4.6	2.1
4	1.00–1.25	0.4	11.2	5.7	–4.9	0.2	0.2
5 (lowest)	< 1.00	29.8	–1.3	4.7	–0.3	32.0	28.4
Total net flow		$79.5	$39.6	$2.2	–$37.3	$24.4	$12.8

Source: Data from the Simfund mutual fund database of Strategic Insight Mutual Fund Research and Consulting, LLC.

A final prediction relates to the influence of hedge funds, whose sustained popularity has surprised many. The traditional investment management business and hedge funds have largely stood apart, separated by a cultural divide. Yet, traditional management funds and hedge funds have the same sole purpose: to make money by exploiting security mispricing. And as hedge funds seek to enlarge their market share while traditional managers defend their share, it will become increasingly clear that they are competitors.

The competition can be seen as a Hegelian dialectic, advancing from thesis to antithesis to synthesis. The traditional business represents the portfolio management thesis: (1) diversified and stylistic, (2) long only, (3) unleveraged, and (4) relatively transparent, with (5) fixed (guaranteed) compensation arrangements and (6) liquidity for investors. Hedge funds are the antithesis: (1) undiversified and opportunistic, (2) long–short (arbitrage) oriented, (3) leveraged, and (4) opaque, with (5) performance-based compensation and (6) lockups for investors.

Synthesis will bring about adaptations in both approaches. Some traditional money managers already are focusing on realizing alpha without regard to conventional notions of style; more will follow suit. Some are incorporating long–short techniques or expanded use of derivatives. And lockups might turn up in the traditional discipline in view of the vagaries of arbitrage (the spread on even a good trade can widen before it narrows) and the patience required to invest in the less-liquid sectors. Significant leverage, however, may not lend itself to money management for institutional clients, most of whom are fiduciaries acting on behalf of others. Only time will tell.

The synthesis of investment approaches will produce a new generation of institutional investment vehicles. They will have some key features of hedge funds, but these vehicles will have more the *feel* of conventional institutional investments, particularly in two areas—transparency and pricing. Transparency will present both cultural and reporting challenges for some managers. Pricing, whether fixed or contingent, will have to be *plausible*, which to me means that base fees must be a small fraction of those of most hedge fund managers.

Thus, the traditional business faces competition on two sides. On one side, indexing continues to erode traditional management's market share and will exert downward pressure on pricing for the first time in history. On the other side, hedge funds have introduced innovations in value-added investing that are difficult to ignore. Hedge funds might begin to provide greater transparency and a more judicious use of leverage as they strive to gain broad acceptance, but it remains to be seen whether dyed-in-the-wool hedge fund managers will—or even can, at this juncture—reduce charges enough to become plausible choices for the long run.

Interesting times lie ahead.

I thank Mike Sebastian for important contributions; Sudhakar Attaluri, Max Kotary, and Kevin Laughlin provided valuable research assistance.

Appendix A. Fee Plausibility Model

The plausibility model is designed to assess the economic reasonableness of investment management costs.[9] If a manager's fee is consistent with an acceptable probability of success to the investor, conditioned on the investor's estimate of the manager's likelihood of success (skill), the fee is said to be plausible.

We assume a normal distribution of manager alpha and assume that the information ratio is constant across levels of active risk. The inputs to the model are specified as follows:

T = investor's time horizon (in years)
σ = active risk of the manager
F = investment management fee
P_B = investor's estimate of the probability that the manager will produce a positive alpha *before fees* over the investor's chosen time horizon

The model's output is the probability that the investor will realize a positive alpha *after fees*, P_A, over the investor's chosen time horizon.

Given the investor's estimate of the probability the manager will produce a positive alpha before fees and the investor's chosen time horizon, we forecast the implied information ratio (IR) before fees as a numerical approximation of the integral:

$$P_B = \int_{-\infty}^{\text{Implied IR (before fees)}} \left[\frac{1}{\sqrt{2\pi}} e^{-\left(z^2/2\right)}\right], \qquad \text{(A1)}$$

where z is the value for which we want the distribution.

Essentially, the model takes the probability and solves for the *z*-value (from a normal distribution with that portion below it) that attains the probability. The math can be done in Microsoft Excel by using the function NORMSINV. The syntax for the function is NORMSINV(P_B) = *z*-value.

We divide the *z*-value we obtained by the square root of the investor's time horizon to take into account the "square root of time" rule:

$$\text{Implied IR (before fees)} = \frac{z\text{-value}}{\sqrt{T}}. \qquad \text{(A2)}$$

We translate the implied information ratio *before fees* to an implied information ratio *after fees* as follows:

$$\text{Implied IR (after fees)} = \frac{\left[\text{Implied IR (before fees)}\,\sigma\right] - F}{\sigma}\sqrt{T}. \qquad \text{(A3)}$$

We then determine the probability that the investor will realize a positive alpha after fees over the investor's chosen time horizon by finding a numerical approximation of the following integral (finding the portion of the distribution of the information ratio to the left of the implied information ratio after fees):

$$P_A = \int_{-\infty}^{\text{Implied IR (after fees)}} \left[\frac{1}{\sqrt{2\pi}} e^{-\left(z^2/2\right)}\right], \qquad \text{(A4)}$$

where *z* is the value for which we want the distribution.

The model solves for the probability that attains the *z*-value in Microsoft Excel using the function NORMSDIST. The syntax for the function is NORMSDIST(*z*-value) = P_A.

Appendix B. Cash Flows to Small-Cap and Non-U.S. Mutual Funds

Table B1. Net Cash Flows to Active Small-Cap Domestic Equity Mutual Funds ($ billions)

ER Quintile	Typical ER Range	1999	2000	2001	2002	2003	2004
1 (highest)	> 2.17%	$0.0	$ 1.2	$ 0.3	$ 0.5	$ 0.3	–$ 0.3
2	1.70–2.17	0.0	0.4	3.5	1.8	1.5	–0.1
3	1.40–1.69	1.9	9.3	4.9	4.0	4.7	1.8
4	1.15–1.39	0.0	1.8	5.3	5.1	7.7	4.1
5 (lowest)	< 1.15	–7.7	2.6	10.2	10.0	13.8	14.0
Total net flow		–$5.8	$15.3	$24.2	$21.4	$28.0	$19.5

Source: Strategic Insight.

Table B2. Net Cash Flows to Active Non-U.S Equity Mutual Funds ($ billions)

ER Quintile	Typical ER Range	1999	2000	2001	2002	2003	2004
1 (highest)	> 2.35%	$0.2	$ 1.1	–$0.7	–$ 0.5	–$ 0.2	–$ 0.2
2	1.92–2.35	0.3	3.3	–1.0	–0.1	0.3	1.4
3	1.51–1.91	0.8	3.6	–0.2	–0.1	0.7	3.6
4	1.23–1.50	1.0	4.1	1.4	3.7	7.2	10.4
5 (lowest)	< 1.23	3.3	9.4	–2.5	8.5	10.2	29.0
Total net flow		$5.6	$21.5	–$3.0	$11.5	$18.2	$44.2

Source: Strategic Insight.

Notes

1. For example, Roberts (1959), Osborne (1959), Cootner (1964), and Fama (1970).
2. See Bartov, Radhakrishnan, and Krinsky (2000); Dennis and Weston (2001); Sias, Starks, and Titman (2002); Phalippou (2004).
3. *NYSE Fact Book*, "Holdings of Corporate Equities in the U.S. by Type of Institution" (www.nysedata.com/factbook).
4. See, for example, Allen, Brailsford, Byrd, and Faff (2002) for a survey of the literature.
5. This information is from UBS Global Asset Management.
6. I am indebted to Mike Sebastian and Sudhakar Attaluri for their assistance in devising the model.
7. The shapes of the curves shift, of course, if you shorten the time horizon. But chopping the measurement periods into shorter segments does not alter the outcome for an investor that expects to operate for at least 10 years because all the 1- or 5-year probability distributions must combine to form the same 10-year distribution. Thus, as to time period, what matters is the investor's expected time horizon.
8. Greenwich Associates, "2004 Greenwich Associates' Market Data Trends," Greenwich report.
9. This model is also available as an electronic spreadsheet from the author (rennis@ennisknupp.com).

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