BOOK REVIEW ARTICLE

Beyond the Random Walk
Vijay Singal
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Is Academic Finance Research of Any Value?

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Is academic finance research of any practical value? Dr. Vijay Singal in his book *Beyond the Random Walk* (Oxford University Press, 2004) shows that the answer is yes. He starts by reviewing a vast amount of academic research and summarizing it in a useful way. After adding a touch of his own research to update the results, he presents a series of investment strategies for making money. The result is one of the most useful books for investors we have seen. For academics, it is a useful way to learn about areas in the literature they may have missed.

This review will attempt to show that academic finance has found ways to make money. The primary source will be Singal's book, but we will draw on other sources (including our own research) to supplement the discussion.

The book begins with the highly controversial subject of market efficiency [Grossman and Stiglitz (1980); Fama (1998); Haugen (1999, 2002)]. The introductory chapter summarizes most of the market anomalies ("market anomaly" is a technical term for predictable regularity) in a clear fashion, and makes useful points for anyone hoping to exploit possible mispricings.

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Especially useful is the discussion of why investment opportunities may persist. Anyone contemplating trying to profit from a publicized "anomaly" should try to figure out whether it will disappear now that it is publicized. If there is a good reason for it to persist, one can be much more confident in trying to exploit it. After the introductory discussion that should apply to many of the effects discussed in the book, Singal proceeds to useful discussions of many possible profitable effects.

He starts by discussing the well-known January effect for small firms (or past losers) and a new December effect for past winners in stock markets. The January effect consists of very high returns for the smallest firms. The primary reasons for both effects are tax-related. Investors sell stocks in December to realize capital losses to offset capital gains; but investors delay selling past winner stocks till early January in order to postpone the taxes on their capital gains.

The author shows both effects in terms of differential returns and turnover (volume), especially during the December-January period. Singal divides firms into ten deciles by capitalization and into four quartiles by how much the stock price has declined since its high over the previous eleven months. If one sells a stock that is down within a year of its purchase, one has a short-term loss. If it has risen, one has a short-term gain (which is taxed at a higher rate than gains earned on stocks held for over a year). Especially, near the end of the year investors often sell their losers in order to take the losses (which can be offset against capital gains or against ordinary income up to $3000). It is believed that this selling tends to force prices down in December. Come January, this year-end selling lets up and the stocks rebound.

Singal shows how the smallest firms in the worse loser quartile had returns of -20.2% for December (data is over 1963-2001). However, in January they are up an average of 4.5%. However, this well-known January effect is hard to trade because of large bid-ask spread in small low priced stocks (which is what losing stocks tend to be after their loses). This is probably why it has not been arbitraged away.

However, much less attention has been paid to the good performance of winner stocks in December. Firms, which are both, top quartile winners and in the top size decile average a 9% December return. The next to top decile did even better, 11.3% (Table 2.1, p. 25). This is

probably because the owners typically have capital gains in these firms and are reluctant to sell when selling involves taxes. Come January, they are willing to make their delayed sales and the returns drop to 2.5% and 2.7% respectively. Since these are large firms, buying and selling within a short period is practical. Singal explains ways of exploiting this December effect using different financial instruments, such as individual winner stocks, index futures, exchange traded funds, index mutual funds, and large-cap stocks (such as the NASDAQ 100). He presents some very valuable data showing how the last five days of the year, the largest winner firms (based on the price change from the high over the previous eleven months) have averaged (1988 to 2000) a return of 2.6% (remember this is over only 5 days), with this return being positive in every year, except 1990.

Because these winner firms are large and liquid, a strategy of buying them for the end year period and then selling is practical. The return is estimated at 2.16%, of which about 0.5% will be need for the trading costs, leaving about 1.66% profit. Good returns can also be earned by purchasing S&P futures, or exchange traded index funds (both of whose performance are dominated by the large winner firms). Somewhat lower costs of trading seem to make up for not be able to own only winner firms. The Nasdaq 100 seems to have an even larger end of year effect (3.18%) than the S&P (1.56%).

Mutual funds might also be used. Frequently transfers between funds are permitted at no cost within retirement accounts or mutual fund families. While they may restrict trading if done frequently, most of these funds would permit going in near year-end and going out at year-end. This could be attractive. Buying the seventh last trading day and selling on the next to last trading day seems to give the best five-day returns.

Although not discussed by Singal, one wonders if there may be some mutual funds that are even better for exploiting the effect than the index funds. One could look at the last reported holdings of the stocks held by a fund, and estimate whether they tended to be large winners or not. While this would be work, the Morningstar service does provide a list of the largest 25 holdings and the return of each of these stocks to date. This could be used to calculate the average gain. One would then choose

to invest in the fund or funds where these gains were the highest. Rydex and ProFunds funds can also be used for implementing this strategy. Rydex Nova fund gives a return that is 150% of the S&P 500 return while Rydex Velocity fund gives a return that is twice the NASDAQ 100 return.

Mutual funds tend to not change their holdings very rapidly (over a period of a few months this is). Often when they change the individual issues, they continue to invest in the same types of stocks. Thus, a fund that is up near the year-end is likely to outperform funds that are down, or have not done as well. Thus, a sensible strategy for those who are forced to invest only in mutual funds (i.e. those with money in retirement accounts, annuities, etc.) or those who choose to do so, would be to be in the best performing large capitalization funds near the end of the year, and possibly in the worse performing small stock funds at the beginning of the year. The smallest quintile of the loser firms outperformed the largest decile of the winner firms for the first three months of the year, and then the effect reversed. However, the smallest decile of firms is probably too small to be in many mutual fund portfolios. The second size decile of loser firms outperformed the large winner firms only in January. Thus, if one ever sought to invest in loser funds, it should probably be only for January (and then we would make sure the poor performance was due to stock selection, including being in the wrong industries or sectors of the market, rather than being due to high expenses or high turnover).

Continuing with the theme of calendar related effects, Singal moves to the weekend effect. In the finance literature, the weekend effect is described as the tendency for Monday security returns to be low (or negative) compared to other days-of-the-week. Many explanations have been offered for this effect. One of the authors of this review has argued [Miller, (1988)] that it arises from the fact that brokers work five days a week. Many trades arise from brokers calling customers and suggesting purchases. Brokers seldom suggest sales because few customers will own what is being suggested as a sale, and because few will make short sales. In the few cases where the customer actually owns the stock and the broker knows it, the broker probably suggested the purchase and it is awkward to now suggest a sale. Thus, the net effects of broker's Monday

to Friday efforts are purchases. Yet, there must be a sale for every purchase.[3] Individual sales arise over the weekend when individual investors have time to reflect on their portfolios. These reflections often result in sales. The sell orders are placed Mondays.

Singal offers an alternative explanation along with supporting evidence. He argues convincingly that the weekend effect arises from speculative short selling. Singal explains the lower returns on Mondays by unhedged short sellers closing their speculative positions around the weekend. Events can happen over the weekend that expose the short sellers to risks that are unacceptable to them, and they insure their ability to enjoy the weekend by closing the short positions out (via buying the stocks) just before the weekend, and then reopening them at the beginning of the week.

Singal shows that the weekend effect has recently shifted. The effect diminished gradually after 1977 and completely disappeared in the 1991-2000 period, especially for large stocks. After the introduction of put options market in 1977, short sellers could hedge their positions through puts. This explains the disappearance of the weekend effect for the larger stocks. For the smaller ones without puts, he reports there remains a weekend effect. He reports that an equally weighted average (which gives high weight to the small stocks) shows a 0.2% gains for Fridays versus a zero or negative return for Mondays. The value-weighted indices (which reflect the larger firms) no longer show an appreciable Monday effect.

Singal shows that the historical role of speculative short sellers is consistent with the observed facts and evidences related to the weekend effect. The author argues that the other major explanations (such as measurement errors, micro market effects, information flow effects etc.) play insignificant roles in contributing to the weekend effect. In a recent survey article by Pettengill (2003), it is also concluded that the logical explanation for the weekend effect lies in the economic and behavioral trading patterns of investors.

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[3] Short term imbalances are handled by market markers and short term speculators net buying or selling. Price changes are needed to induce the market markers and short term speculators to do the buying or selling need to offset the net buying or selling done by individuals.

The weekend effect may not be exploited by trading most of the individual stocks because of transaction costs. Singal studies implementing the weekend trading strategy (sell on Fridays and buy on Mondays) in exchange traded funds, mutual funds, futures, options, and stocks (such as stocks with high level of relative short interests; with low-price and low-transactions costs; without actively traded options; without any major corporate events; not listed in S&P500 or Nasdaq100 indices; traded in NASDAQ etc.) and empirically finds no significant profitable opportunities. However recent studies showed a weekend trading strategy could be profitably implemented with mutual funds [Miller, Prather and Mazumder (2003)]; and retirement accounts [Compton and Kunkel (1999, 2000)].

Another chapter deals with short-term price drift in stocks; a situation that occurs when there is a large price changes accompanied by high volumes and public information (such as news or announcements related to actual earnings or earnings forecasts; analysts' reports; distributions; accounting; legal actions or trial etc.). Singal provides an excellent discussion on defining a large price change in terms of absolute and relative returns; and on different dimensions of information signals (such as magnitude, precision, and dissemination). Empirical evidence documents the short-term price drift observed in the US market during the most recent periods. A simple trading strategy to capitalize the short-term price drift is presented. Singal even tells how to select candidate stocks. The basic notion of the trading strategy is to buy the candidate stocks after a large price increase that occurs within a specified time and to short-sell the candidate stocks after a large price decline. The net annualized abnormal returns (i.e. returns relative to an index) during the drift period after large price increases are estimated as approximately 36%. The net annualized abnormal returns during the drift period after a large price decrease are estimated as approximately 18%. The returns might be higher for real time data. The trading strategy results are classified by different types of news (corporate, business, legal, economic etc.).

Several explanations are given as possible sources of short-term price drift; however the major candidates are information cascades (good or bad news follows by more good or bad news), strategic trading

by large institutional investors, and irrational behavior of investors (investors quickly sell the winner stocks and slowly sell their loser stocks). Individual stocks are the only financial instruments that can be used to exploit the short-term price drift following company specific news.

However, industry wide news may produce momentum in industry portfolios (chapter five). Industries that performed well in one period are more likely to perform well in the next period. Momentum provides an excellent opportunity to predict short or intermediate term industry returns, and to implement profitable hedged trading strategies. Singal provides an excellent and thorough analysis of this trading strategy, using Fidelity's sector mutual funds (as well as other sector funds). Industries that do not have any related futures markets tend to exhibit greater momentum and higher trading strategy profit. But investors may be subject to higher risks because sector funds are not well diversified. Singal endorses a fund newsletter (*Hulbert's Financial Digest*) as a good source to implement momentum related profitable trading strategies.

Besides industry effects, mutual fund predictability has received renewed consideration in recent academic studies. In chapter six, Singal describes mutual fund related anomalies. The price of a mutual fund is determined by its net asset value (*NAV*); where *NAV* is the market value of a mutual fund share (similar to a bid price of stock). After the close of each trading day, mutual fund companies compute *NAV* by taking the closing market value of all underlying securities of a fund plus other assets (cash) and subtracting all liabilities of the fund, and dividing the total net assets of the fund by total number of outstanding shares. Mutual funds determine the values of their portfolios as of 4 PM Eastern Time (ET) when the New York Stock Exchange (NYSE) closes. However, most of the European and Asian stock markets respectively close 5-7 hours and 12-17 hours before the NYSE closes. This causes the last closing prices of the underlying shares of international funds to be stale. Speculators could take advantage of time differences between overseas and the *U.S.* markets, i.e., by buying international funds at one point in time today (before the NYSE closes) following a rising *U.S.* market and selling them next day. The current *NAV* pricing provides opportunity to short-term speculators to exploit stale pricing that causes

international funds (as well as funds that invest in illiquid assets) to be predictable. Singal summarizes recent international equity mutual fund mispricing studies. Singal provides an excellent empirical analysis at the end of this chapter of how even with redemption fees a profitable trading strategy remains. However, the increased use of fair pricing by international funds may have greatly reduced the profitability of the trading strategies described here. Singal identifies the European, Foreign and Pacific funds as the most mispriced funds (and hence the most profitable to trade).

A recent study by Mazumder (2004) shows that Emerging market and Pacific-Asia ex. Japan funds also exhibit high degree of predictability. Mazumder (2004) also investigates the predictability of world equity funds and international bond and hybrid funds using almost 10 years of daily data. Mazumder (2004) documents how mutual fund pricing has predictable and exploitable components. He then calls for further regulatory changes to improve the efficiency of the markets.

Insiders, in most cases, have substantial positions in a company's shares due to having founded the firm, stock options, voluntary stock purchases, or corporate bonuses and awards, etc. Insiders probably possess valuable information about the prospects for their companies. Chapter seven deals with open market trading by insiders. While it is illegal for insiders to trade on material non-public information, they are free to trade on public information. Because their attention is focused on only one company in an industry they know, insiders probably interpret even the public information better than the typical analyst (who is usually responsible for many companies and can devote little time to each).

Although it is not often pointed out, insiders are free to use non-public material information in making their investment decisions. They are merely restricted from trading on it. However, it is legal to use non-public material information to decide not to do what one would otherwise be led to do by the public information. For instance standard arguments about diversification suggest an insider should hold a large position in his company only when he expects an above normal return (after allowing for tax effects). An insider who would normally sell to diversify his holdings is free to refrain from selling (or to delay his

selling) when his non-public information says the stock is likely to go up over the next year. Of course, buying on the same information is illegal. Likewise, buying may be timed to avoid purchases when inside information warns of a price decline. (Of course, actually selling on such information is illegal). A reason individuals contemplating large investments in a company (such as venture capitalists) often seek board membership is that they can use the information to confirm that there are no hidden problems.

Singal mainly focuses on how investors can mimic trading by insiders and earn above-normal annual returns of 10-15 percent. Singal reveals that there has been a strong positive serial correlation in purchases (or sales) by insiders during the last two decades. This suggests that insiders are looking far enough ahead that information on their trading is useful in spite of delays in obtaining it. His empirical evidence suggests that a firm is more likely to perform better following an insider buying month than an insider selling month. Singal further shows that the average abnormal returns are better correlated with the trading activities of top executives than with that of directors or of large shareholders. This is because managers know more than other insiders. Returns are positively correlated with small firm sizes; insider purchases (as opposed to insider sales); large trades; and number of insiders. Purchases convey more information because a purchase usually reflects a belief that the stock is worth purchasing, while many sales are of stocks obtained through options or through founding the company. Sales of such stocks are often for diversification, or because money is needed for something else. These sales hence lack as much informational content.

The Security and Exchange Commission (SEC) approved a new regulation in September 2002 that requires insiders to report large trades to the SEC within two business days (via internet). Earlier rules allowed forty calendar days. Singal suggests that this will make information more readily available to investors. Since the studies reported were based on the old rules, the profit potential from following insiders may be greater now than when the studies were done. The strong serial correlation in insider trading suggests that they do not believe that their own trading eliminates profitable opportunities.

If one did not believe in any of the active investment strategies

discussed in this book, one might decide to adopt a passive indexing strategy. One would buy an index fund. However, even for the passive investor Singal's book has implications. A chapter discusses the returns from listing and de-listing of firms from the S&P 500 index. Many index funds try to duplicate the performance of the index by holding the firms in the index with the weights they have in the index (and by using sampling strategies for the smaller firms). Deletion of a firm from the S&P 500 index may be a decision of Standard and Poor's (when the firm no longer representative of the US economy or industry) or forced (when there is a major corporate restructuring and the firm simply disappears). Singal describes how the value of the added firm increases from the announcement date to the effective date. Likewise the value of the dropped firm declines from the announcement date to the effective date. However, this latter price decline reverses after the effective date.

Singal discusses five possible explanations (such as imperfect substitutes, temporary price pressure, certification, liquidity, and investor recognition) of the price impact of index changes. He decomposes the price effect of index changes into temporary and permanent effect for the added firms. Since the deleted firms have only a temporary price effect, they regain their value. Finally, Singal proposes a profitable trading strategy: buy (short-sell) the securities of added (deleted) firm after the announcement date; reverse the position on the effective date; hold the new position for about a calendar month (20 trading days) and then liquidate.

The passive investor might note that an S&P index fund buys into stocks after the announcement they will be in the index and sells S&P stocks after they are removed. This mechanical trading strategy imposes losses on investors that could be avoided if they invested in a fund that followed less popular indices. A fund based on a broader index would occasionally benefit from holding a stock that went up when it was added to the S&P, and would sometimes hold a stock that rebounded after being removed from the index. A recent study by Chen, Noronha and Singal (2004) documents that (passive) investors in S&P 500 related index funds incur annual losses between 0.03% to 0.12% and (passive) investors in Russell 2000 related index funds lose between 1.30% to 1.84% as a result of trading during index changes.

Merger arbitrage is an investment strategy open to individuals as well as professionals. In a merger the price of the firm taken over typically jumps suddenly, but does not rise to the full amount offered for the firm being taken over. Merger arbitrageurs try to capture excess speculative spread from mergers, where speculative spread is defined as the difference between the price of the target firm and the price offered by the bidding firm. Singal summarizes previous studies that report 4 to 34 percent excess annual returns from merger arbitrage. Arbitrage profits are affected by the degree of arbitrage activity, probability of merger success, and time for merger completion.

A strong point of Singal's treatment is that he recognizes that in theory arbitrage should eliminate such profits. Yet they exist. Thus there is a useful and real question to be answered here. If there is a reason for the opportunity to survive even if investors are aware of it, investors can be more confident in trying to take advantage of price discrepancies. In a recent year over 10% of the value of all stocks was involved in mergers. Even the rather large amounts of capital already committed to arbitrage cannot handle this volume of trading. Thus, some potential abnormal profits can remain. One implication of limited arbitrage capital is that on very large mergers, the professionals may not be willing to take large enough positions to eliminate the potential profits. Diversification requires that the professionals limit their investment in any one deal. At the opposite size extreme, professionals will avoid very small mergers because their trading at their usual volumes will affect prices too much. Small individual investors may not worry about affecting prices with their transactions and may find these attractive.

Investors can also invest through mutual funds that specialize in merger arbitrage. In absolute terms these funds' returns are not impressively high, but Singal points out that the systematic risk is typically low (since merger arbitrage often involve short selling the acquiring firm, which creates a hedged position). While individual deals are potentially risky (mergers do fail to occur), this risk can usually be diversified away by investing in several deals, or by making merger arbitrage only part of a portfolio. The risk that cannot be diversified away is that in times when the market is declining, more deals fall through. After adjusting for the low systematic risk of merger arbitrage,

both the academic studies and the real life experience of specialized mutual funds show abnormal returns.

At the end of this chapter the author analyzes different announcements for merger arbitrage, and concludes that not all announcements generate excess returns. Singal shows that investors may earn annualized raw returns of more than 16 percent by following the recommended deals. The process and characteristics of merger (stock, cash, and collar) and gains from merger are discussed comprehensively in this chapter. The author sufficiently explains the relevant factors in determining profit from merger arbitrage (table 9.4 of page 208).

He even discusses every merger deal for one month, showing how one might have decided whether to trade or not. Although the book is generally well written and readable, here he errs by using symbols for the companies rather than their real names, forcing readers to constantly turn to a table to find out which mergers are being discussed. The discussion of merger arbitrage is very detailed, with an almost cookbook style account of when to place orders and what type of orders to use. This advice could be very useful to someone who knew the profit potential was there, but was not sure quite how to exploit it.

Issues relating to international investing and home bias are a focus of another chapter. Singal begins with the theory of portfolio diversification, starting with explaining the correlation coefficient (readers can also find this topic in undergraduate investment courses). Several studies empirically document low correlations between home and foreign assets, suggesting foreign assets are useful for portfolio diversification. Singal also documents (Table 10.2 and Table 10.3) how the returns and risks of the S&P 500 differ from that of other foreign markets at various times. Moreover, the correlation between the S&P 500 and other foreign indices varies between 0.42 and 0.70 over the last one and a half decades. The author recommends that investors seeking diversification seek a portfolio that includes the US stocks (60%) along with developed markets (30%) and emerging markets (10%). Of course, a similar discussion can be found in standard textbooks (Reilly and Brown, 2003).

However, the home bias is not limited to the US. Investors all over the world are home biased (i.e. they invest more in home assets as

opposed to foreign assets). Investors with an optimally diversified portfolio should outperform domestic investors over the long run. The US-based American Depository Receipts (ADRs); equity, bond and hybrid mutual funds; Exchange Traded Funds (ETF); and multinational companies could be used for portfolio diversification.

A very interesting chart shows the correlation coefficient between large US multinationals (with much income from overseas) and the S&P. The correlations are so high that buying these firms would provide little of the benefits sought from international diversification. Although not discussed in the book, this table is a powerful critique of the standard economist model of the markets. If investors estimated future dividends and valued stocks at the discounted value of these dividends (as textbooks teach), a US firm would have approximately the same value as a portfolio of its different operations if these were independent companies (which could be in different countries), and would have about the same correlation with the S&P. This is clearly not so.

The obvious explanation is that prices in stock markets are affected by psychological factors (waves of optimism and pessimism), which are somewhat specific to certain markets. Firms listed in a particular country or market are subject to the same psychological factors, even if they do most of their business in other countries. Thus, US stocks tend to move together and US listed companies that do business abroad have returns highly correlated with other US companies. However, when you invest in countries outside the home market, one diversifies against some of these psychological factors that vary from country to country. Presumably, the very long term buy and hold investor who depends on dividends for his returns would find that the market the stock was traded in was less important. He would merely seek diversification against economic risk.

If one takes Singal's advice and invests internationally, one is exposed to currency risk. A currency trading strategy that captures biases in currency forward rates is the subject of one chapter. Presumably, this could be used also in deciding which countries to invest in (or when to hedge ones currency exposure). Singal begins the analysis by explaining the forward exchange rate (an exchange rate used for two currencies that require more than two days for delivery after the initial exchange). The forward rate almost always satisfies interest rate parity, which is

derived from the requirement that the total returns from two risk-free investments (bank deposits or government securities typically) be identical. If one country has higher interest rates than another, the forward exchange rate should be accompanied by a lower future value for that currency (otherwise there would be easy risk free profits). In addition, theory holds that the forward rate should be an unbiased predictor of the future spot rate. However, studies show that for a short-holding period the currency with the higher interest rate appreciates in value as opposed to the theoretical prediction that it should depreciate, as predicted by interest rate parity theory.

To exploit the forward exchange rate bias, Singal proposes a simple trading strategy: select the foreign currency that has the highest difference in interest rates with the US currency; then go long in foreign currency's future contract if the interest rate in the foreign currency is higher than that of in the US currency. If the foreign interest rate is lower than the US rate, one reverses the procedure. The position is closed after a month. The trading strategy generated annual excess returns of 9.3 percent (absolute interest rate) or 11.5 percent (steady-state interest rate) in his studies.

The author summarizes the possible reasons that could cause the forward rate bias, although none of them fully explains the bias. The forward rate bias persists because of the high risk associated with arbitrage trading; lack of arbitrage capital; and government intervention in currency markets. The foreign exchange markets are gigantic, and possibly the arbitrage capital is not large enough to eliminate the mispricing, (although most of the trading is believed to be speculative).

Also, efficient market theory (from whence the prediction of forward rates being the expected spot rate emerges) presumes that all players in the market are profit maximizers. However, governments (and Central Banks) frequently intervene in the foreign exchange markets. Central Banks and governments' goals are not to maximize profits, but to accomplish social and political (such as staying in power) goals. Sometimes, they may prefer a low foreign exchange rate to facilitate exports (export oriented firms tend to have a louder voice than consumers because they have enough at stake to employ lobbyists). At other times, governments prefer a strong currency for reasons of

national prestige, or because they said they would avoid devaluations. These non-economic motives may lead to them trading in such a way as to create profitable trading opportunities for others. While Singal argues that the market is too powerful for governments to control rates, his argument is probably stronger for longer periods. Clearly short term fluctuations are affected by government decisions and by Central Bank interventions.

Singal makes the point that risk is an obstacle to someone trading on the bias in the markets, and risk averse investors (considered to be typical) should require a higher return from risky investments, such as currency speculation. High inflation typically goes along with higher interest rates, and in periods of high inflation, inflation rates are probably more variable. Thus, at any given time the high interest rate countries are likely to be the countries with the high inflation rates, and to be perceived as the riskier places to hold funds. Central banks may try to control inflation by raising interest rates, a move that implies a bond price decline. The risk of this makes bonds (and stocks) riskier. This may lead to smart investors moving their funds out of those countries. This risk correlates with the return from exploiting the bias described in the book. This may explain part of the bias, or at least the failure of sufficient trading to emerge to eliminate the bias.

Investors who do not wish to try to directly exploit the bias described in the book through foreign currencies may merely choose to use the information to aid in their international investing, or in deciding whether or not to hedge their overseas investments. If it appears bonds or stocks in one country will yield more than in a country with lower interest rates, the foreign exchange bias described suggests the odds of benefiting from a favorable foreign exchange move are positive (returns which are in addition to the returns from higher interest rates).

In a chapter on behavioral finance Singal points out that irrational behavior can be explained by behavioral finance and economics. Traditional finance allows some investors to act irrationally; however the market retains its efficiency because irrational investors do not persist or are overpowered by the rational investor (i.e. arbitrageurs).

The traditional argument (usually attributed to Milton Friedman) is that the less rational investors will earn lower returns than the rational

investors. Hence the percentage of the wealth in the markets controlled by the irrational investors gradually declines until they control too little funds to affect security pricing. However, Miller (2000) and others have pointed out a weak point in this argument. Financial theory suggests high risk investments earn more than low risk securities. In particular, equities return more than bonds. However, the less informed investors may take greater risks than the better informed or more rational investors. Of course, a fool and his money are soon parted. However, the less than perfectly informed, less than perfectly rational investors, are not to be classified as fools. Assuming the stock choices of the less informed and less rational investors are not much worse than those of the other investors, if they invest a higher percentage of their wealth in stocks, they will earn a higher rate of return, and their percentage of the total wealth will grow.

Psychological research shows that people consistently overestimate how accurate their estimates are. Sociobiology suggests that an appearance of self-confidence assists in getting mates, and this bias towards confidence in ones estimates and abilities is probably biologically selected for. Believing the errors in ones estimates are less than they really are implies underestimating risks, an error which leads to taking on riskier positions. If these riskier positions imply more invested in stocks, real estate, and small businesses, the percentage of the wealth controlled by the economist's rational man (as the wags put it, "someone who as a irrational passion for dispassionate rationality") may decline over time until their behavior no longer dominates security prices.

The references of chapter twelve are incomplete. Here are a couple of suggestions for additional information. The Cowles foundation at Yale University's Economics department has been running the most intensive research on behavior finance[4]. Interested readers can also gather both academic and practioneer information and resources on behavioral finance at http://www.investorhome.com/psych.htm.

For the rare reader who has not found any ideas he could use, the final chapter provides a long list and brief description (with references) of other possible mispricings in security markets including technical

[4] for details see, http://cowles.econ.yale.edu/behfin/default.htm

analysis or charting; the value line enigma; momentum and reversal in returns; short selling and returns; underpricing of initial public offerings (IPOs); underpricing of seasoned equity issues; unlocking value around expiration of IPO lockups; aftermarket returns from IPOs; pricing of closed-end funds; short-term price drift following earning and analyst recommendations; the influence of weather on prices; long-term price drift after open-market share repurchases and tender offers; long-term underperformance following IPOs; long-term underperformance following seasoned equity issues; long-term over performance following spin-offs; long-term performance following mergers; long-term price drift after dividend initiations and omissions; long-term price patterns after stock splits etc. Merely listing these effects makes the head spin. There are many opportunities to provide the basis for a profitable investing strategy. All of the above listed mispricings are interesting. Further research will provide more insights and understanding. The academic may find these discussions a brief introduction to interesting topics. The practical investor may find facts he can use.

In general, the book provides empirical evidences related to each anomaly using recent data. Singal has frequently done his own small study to update results reported earlier. This is useful because it is always possible that an effect that used to exist, but no longer exists. Indeed, theory predicts that effects that are found and publicized disappear.

Each chapter contains further book and journal article references on each type of anomaly discussed in the book. Internet data sources and references are extensively given at the end of each chapter. The most recent and important references are provided in each chapter. These references could be useful to an investor who was seriously considering trying any of these strategies, or to an academic who merely wishes to study them.

Dr. Singal also provides evidences, explanations, and trading strategies related to each anomaly discussed. The 'key points' and 'bottom line' of each anomaly are reported nicely at the end of each chapter. Three appendices at the end of the book are outstanding; market microstructure issues of different financial instruments, short-selling and hedging market return are respectively discussed in these appendices.

This is a book that can be recommended for academics and for those (virtually all of us) greedy enough to wish to increase their wealth. The website of the book[5] may be of use to interested readers.

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