WHY JOHNNY CAN'T INVEST

It's because people just aren't wired to be rational about money. Here's what's really on your mind when you think you're making like Warren Buffett.

By Brian O'Reilly

Anybody who tackled financial economics in college surely recalls lots of deadly serious professors filling blackboards with algebraic gibberish that purported to explain precisely how financial markets work. The capital asset pricing model, the efficient-market hypothesis: Nobel Prize–caliber stuff, totally brilliant. Except for one nagging problem: While these models explained things *generally*, they assume that we make financial decisions with the rationality and precision of an astrophysicist calculating a moon launch. But "rational" sure didn't capture the foolish, half-assed ways I approached my finances. And subsequent years careening around this economic planet have confirmed my suspicion that I'm not alone. After all, if we're so almighty rational, how come we're not rich?

Because, when it comes to sorting out complicated stuff like our own financial affairs, we are actually foolish, sentimental, illogical, and badly flawed. That, at least, is the premise of a fast-rising academic discipline called behavioral economics. The field sprang up in recent years to plumb the many ways *Homo economicus* falls short of the perfectly rational being that traditional economics assumes he is. Predictably, humankind's faulty circuitry was the main topic at a conference convened by these thinkers last month in Cambridge, Mass., and attended by a capacity audience of investment advisers, financial managers, and the merely curious.

To be sure, behavioral economists say, your brain is a marvel at the sorts of things it evolved to do—like figuring how far to lead a stampeding mastodon with a hurled javelin, or calculating the social status to be gained or lost by putting the moves on the gorgeous hunk of Neanderthal in the next cave. But when you use the muscle between your ears to, say, pick a mutual fund or allocate your retirement assets, you fall prey to errors in cogitation that never mattered to your pre-401(k) ancestors.

Say, for instance, that your Uncle Dudley has died and left you $10,000 in government bonds. He has also bequeathed your brother (who has the same appetite for risk that you do) $10,000 of stock in a risky Internet company. You can't both be content with such drastically different investments. So what will you do? The odds are superb that a year later neither of you will have done a thing. Why? You both are suffering from a malady known (to Harvard Ph.D.s, at least) as fear of regret. The fact is, what drives a lot of investors' behavior is not simple, rational greed, but a desire to avoid feeling stupid. And these assembled dons have determined that we feel far worse when we make dumb moves than when we fail to make smart ones. In other words, you will kick yourself much harder if you swap the bonds for the Internet stock, and the bonds later zoom in value, than if you sit tight and the bonds tank. So you do nothing. Your brother is going through the same exercise. Uncle Dudley is chuckling to himself.

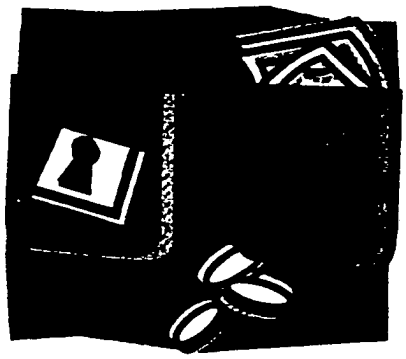
Look hard enough and you're likely to see the footprints of regret avoidance all over your portfolio. Still holding on to that Milwaukee Cement stock, telling yourself that you'll hang tough until you get back to even? Hyperrational agent that you are, you're hanging on only because you know that the stock will rebound any day now. But who's to say that you simply haven't been paralyzed by fear of regret, as the behaviorists might claim? To back up their assertions, the profs cited a 1996 study of 10,000 discount-brokerage trades between 1987 and 1993. It confirms that most investors (not just you) hold their losers far too long and sell their winners too soon.

Learning the catalog of mental missteps identified by the behaviorist gang—from

ILLUSTRATIONS BY DANIEL PELAVIN

"asymmetric loss aversion" to the "hot-hands fallacy" and even the dreaded "1/N heuristic"—isn't likely to make you rich. Anyone who went to Cambridge looking for ways to cash in on the intellectual and emotional shortcomings of his fellow man may have experienced some regret of his own by the end of the conference. More than one grumbled that the exercise was more entertaining than practical. "I came here because I can't beat the S&P 500," lamented a mutual fund manager. But that is missing the point. A lesson on gun safety won't make you an expert marksman. Its real point is just to keep you from blowing off your leg with a shotgun. So too with Harvard's Program on Investment Decisions and Behavioral Finance. Knowing the tricks your mind plays, especially when dealing with complicated problems, may not turn you into the next Peter Lynch. But it might keep you from a few expensive blunders.

Like a two-pocket gambler, we take risks with our easy money but play it safe with our principal.



Holding that thought in our not-as-reliable-as-we-might-have-hoped minds, let's introduce some classic ways investors fool themselves. Don't be alarmed if you recognize yourself in any of these; the surprise would be if you didn't.

The Two-Pocket Gambler

SUPPOSE THAT YOU BROUGHT $1,000 with you to Las Vegas, and won $2,000 on your first bet. Wahoo! Chances are, your mind will instantly divide the money into two very distinct piles: the hard-earned cash you squeezed from your paycheck and took to Vegas, and the easy money you won at the roulette table. The first wad you will continue to spend relatively cautiously; the second you will fling around the room with abandon. Same goes for the person who takes $500 out of the bank to cover the cost of a trip to Boston, but discovers when it's over that Boston was a bargain and he still has $200 in his pocket. "Hey! Free money. Right here in my wallet!" If we were economically rational, we would value the gambling win or the surplus travel money as much as the stuff we sweat for. But we don't.

The two-pocket illusion, which behavioral economists prosaically call "mental accounting," pops up all over the financial scene. Why else, for example, do companies pay dividends? What rational shareholder wouldn't be happier if the company reinvested the earnings paid out as (taxable) dividends or used them to buy back shares? Either tactic would help lift the share price without triggering taxes. Yet when Con Edison eliminated its dividend in 1974, shareholders at the annual meeting sobbed and shouted for the chairman's ouster, and some had to be driven from the room by security guards.

Why such emotional behavior? Because the shareholders had segmented their investment into two pockets: capital and dividends. The capital was viewed as untouchable, but those fat, spendable dividends delivered a warm glow. At least until they disappeared.

A form of mental accounting known as "framing"—applying weird yardsticks and arbitrary time periods to assess whether you're winning or losing—may influence how small investors will react to the current correction. The little guys' loyal purchases of stock funds were the fuel of the bull market, and their calm response to the global crisis so far has kept things from getting really bad. But maybe all that's keeping the masses opiated is a lucky bit of irrational framing: Even though funds have been slaughtered since the market's peak on July 17, the only measure that really counts to many shareholders is their calendar-year performance.

So what happens, wonders Don Phillips, president of the mutual fund research firm Morningstar, when those shareholders receive their annual statements next January? Suppose they then see that they have lost not just the gains they earned leading up to the peak, but also some of the principal they started with at the beginning of this year? At that point, the whole dam could give way. "So far," says Phillips, "investors can tell themselves all they've lost is the house's money." Easy come, easy go. But if next January they realize they've also lost some of the money that they had at the beginning of the year, why, that's principal! You can't risk that.

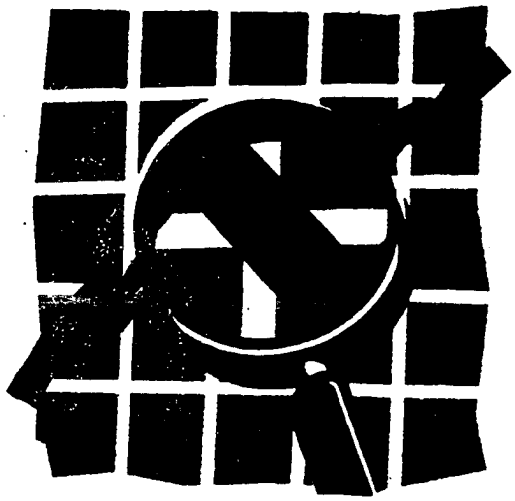
The Myopic Milquetoast

A STRANGER COMES UP TO YOU ON the street and offers to flip a coin. Heads, you have to pay him $500; tails, he'll pay you an agreed amount. How much would that amount have to be to make the game attractive? Assuming the guy is trustworthy, common sense says that any offer over $500 tilts the wager your way. Yet you balk. If you're like most people, you're not tempted by anything under $1,000.

You, pal, are suffering from asymmetric loss aversion. Its cause is simple, explains Richard Thaler, a University of Chicago economics professor. In numerous simulations he has conducted with students and executives, Thaler has determined that "losing money feels twice as bad as making money feels good." In other words, the value of a win in a fifty-fifty game of chance has to double the cost of a loss before we feel comfortable with the gamble.

One brand of asymmetric loss aversion may be abroad in the land this very moment, screwing up the economy through what economists call the wealth effect. This is the tendency for people who are making money in the stock market to feel confident and willing to spend money on cars and minks and backyard pools. The conventional estimate is that for every dollar in extra wealth created by stock market appreciation, consumers spend an extra 3½ cents. The effect works in reverse too—asymmetrically. Because we take losses harder than we enjoy gains, a dollar lost in the stock market tends to translate into a 5- to 6-cent tightening of the belt.

Thaler says loss aversion explains another great mystery of traditional economics: why any sane long-term investor would hold bonds. After all, who isn't aware that in the long run, stocks have almost always offered a higher return than bonds? Yet the average 401(k) investor still has 30% to 40% of his money invested in fixed-income funds. The reason: Not only are we hypersensitive to losses, but we are also what Thaler calls myopic. That is, we pay way



too much attention to the stock market's daily gyrations. That only means we get 252 chances a year (the number of trading days there are) to suffer the pangs of loss and regret. Most of us can't take it.

The solution is simple: Avert your eyes from CNBC and the *Wall Street Journal* and focus on the long run. In experiments conducted in 1995 and 1996 to prove the point, Thaler and other leading behavioral economists invited students to divide a hypothetical portfolio between stocks and Treasury bills. The students then sat at a terminal and, for about an hour, got a series of reports on how their portfolios would really have done over a representative 25-year period. Some, however, were bombarded with hundreds of reports on every six weeks' worth of market gyrations. Others got only five updates, which gave portfolio performance for every five years. The students were then asked to allocate the portfolio for the *next* 40 years. The group that had received frequent feedback put just 40% of its money into stocks; the group that had gotten performance reports invested 66%. Conclusion: The more closely you follow the markets, the more chicken-hearted you get. "My advice to you," Thaler told the Cambridge audience, "is to invest in equities and then don't open the mail."

You could argue that knowledgeable investors aren't just being myopic by investing in bonds: They're acknowledging that there have been rare long-term stretches—the one starting in 1929, for example—when bonds really did beat stocks. That only plays into another cognitive hiccup that the behaviorists have noted. Not only do we let loss aversion skew our analysis of that fifty-fifty coin toss, but most of us wildly overestimate the probability of events that are highly unlikely. And we don't have enough faith that almost-certain events actually will happen.

Imagine you're on a game show, and the odds are 90% that you will win the trip to Malibu, worth $10,000. How much would you be willing to pay the emcee to make 100% *certain* that you get to Malibu? It wouldn't make sense to pay more than $1,000, Richard Zeckhauser, a professor at Harvard's Kennedy School, told the crowd in Cambridge. But what difference does that make? Most people don't really trust those 90% odds of winning, and will pay far more than $1,000 to eliminate even a brief sense of risk and anxiety. Inversely, the prospect of winning on a really long shot is so delicious that we ignore the odds and trust our luck. Which is good for insurance companies, state lotteries, and Internet IPOs. Bad for you.

Losing money drives us twice as crazy as earning it makes us happy.

Clueless Anchors

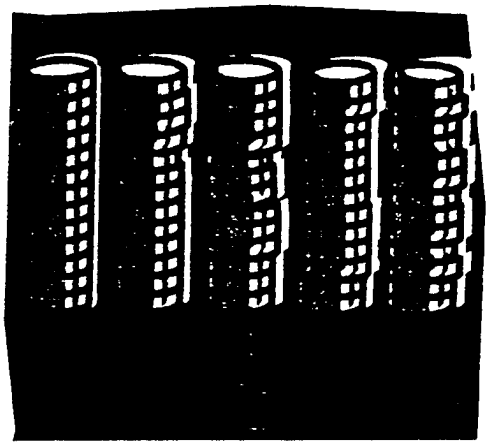
THE TRULY SMART INVESTORS understand how little they really know about the future of the market. The rest of us find that uncertainty so hard to tolerate that we impose patterns where none exist. And we create "anchors"—seemingly logical rules of thumb—to help decide issues about which we haven't got a clue.

For no known reason, employees tend to divide their 401(k)s evenly among all fund choices.

In a startling example of how easy it is to grab the wrong anchor, Thaler asked his students each to select a completely arbitrary date in history by adding 400 to the last three digits of their Social Security numbers. Then he asked, "How many years before or after that date did Attila the Hun invade France?" The students, sad to say, did not comb their memories of history lessons on the fall of the Roman Empire. Instead, they guessed, working backwards from the wholly irrelevant date they had just concocted. Virtually all said that Attila's visit occurred far later than it actually did (451 A.D.), and they were clearly thrown off by their faulty anchors: Students with the lowest Social Security numbers overshot by 175 years, while those with the highest missed by more than 500 years.

Random anchoring has long been a favorite pastime among Wall Street analysts. Without it, how could they ever fix a proper price for those Internet stocks with no earnings nor any imminent hope for same? "Let's see. Amazon.com trades at about 20 times sales, so software.net should go public at, say, 14 times...." Left unexamined is whether Amazon at 20 times sales made any economic sense. Perhaps not: The stock now trades at 15 times.

Behavioral scientists have spotted a particularly insidious and widespread instance of anchoring right in the retirement plans of millions of workers. The double domes call it the 1/N heuristic ("one over N"), a fancy way of saying that if people don't know how to allocate resources—and who is more clueless than the average retirement plan investor?—they will seize on almost anything and turn it into a rule of thumb. When given a choice by their employers of five mutual funds to put money into, unsophisticated employees will put roughly a fifth of their money into each fund. Bond, stock, value, or momentum funds—who cares? When TWA pilots were offered five stock funds and one fixed-income fund, they put 75% of their money into stocks. When the University of California offered one stock fund and four fixed-income, workers put only 34% of their money into stocks. Sound familiar?



Overconfidence Game

A KEY BENEFIT WE DERIVE from mental gymnastics like anchoring and the 1/N heuristic is a pleasant, if inappropriate, sense of confidence and feeling of control over our surroundings. Just ask us. In surveys, a whopping 80% of

people feel they are better-than-average drivers, says Daniel Kahneman, a Princeton professor of psychology and a leading behavioral economist. Most young adults say they are far less likely than their contemporaries to die of cancer before age 50. Most of us, to the utter dismay of our spouses, are convinced we have a better-than-average sense of humor too.

Confidence is not a bad thing, of course. It gives us the energy and optimism to tackle challenges, even if it makes us lousy at estimating the odds that we will succeed. Since investing means putting off enjoying today's wealth in the expectation of having more to enjoy tomorrow, optimism is literally a prerequisite for the game. But it can be expensive if it gives you the illusion that you know what's going to happen when you don't.

A brand of overconfidence that every investor succumbs to at least once is the "hot

hands" fallacy. It's part of that innate human talent for spying patterns in what are actually sets of random events. "The mind is a pattern-seeking device," says Kahneman. A baseball player gets a hit in 20 games in a row, and his coach (not to mention the player's agent) declares that the player has taken his game to a new level. In fact, according to Bruce Bemis, professor of mathematics at Westminster College in Salt Lake City, even in a league made up entirely of journeymen .250 hitters, at least one 20-game streak per season is only to be expected, simply as a matter of chance.

Find a mutual fund manager who had five good years in a row, and people will think he can walk on water too. In reality, there are so many thousands of fund managers that a few are bound to have exceptional returns. Statistically, it's impossible to determine whether those returns were due to luck or skill. That doesn't deter investors, who are confident that they have discovered a pattern of superior performance and go on to fling billions and billions of dollars at top funds. Such managers repeat no more often than you'd expect by sheer chance. (However, the professors say "cold hands" really do exist. The worst 10% of funds are far more likely to be duds again next year, partly because they have higher-than-average expenses.)

The Rear-View Visionary

ONE REASON WE ARE CONVINCED WE can forecast economic events is that we firmly believe we have done so (or could have done so) in the past. We didn't, and couldn't, of course; it's just that we are dreadful at recalling risk assessments we made months ago, especially once we know the outcome.

For an example of how wondrous our forecasting prowess tends to be in hindsight, consider an experiment that Thaler, then at Cornell, conducted on students on a cold Feb. 1 in Ithaca, N.Y. Thaler asked students in a class each to write down the odds that, within 30 days, there would be a snowstorm, a 70-degree warm day, a minus 10-degree cold day, and that the Dow, then at 1550, would climb 50 points or drop 50 points. A month later, he asked the students to recall what odds they had originally placed on those events. Their memories were wildly skewed by the actual outcomes. For instance, it was unseasonably warm the day they were asked to remember. As a result, the students, on average, recalled that a month earlier they thought a warm February day in Ithaca had a 35% chance of occurring. In reality, they actually predicted a 19% chance. Their imaginations were even more variable when recalling their predictions for the Dow. It had surpassed 1600 by March. The students recalled, on average, that they had predicted a 61% likelihood of that a month earlier. In reality, the group had put the chances at only 37%. As for a drop to 1500? Only a 39% chance of that happening, they recalled forecasting. But they had pegged the probability of a drop that big at 49%.

Out of thousands of funds, a few will always seem to have **"hot hands."** It's chance, not genius.

This so-called hindsight bias is no mere parlor trick. It may have played a role in top-level resignations at UBS AG in Switzerland recently. After the bank took a $680 million write-down of an investment in the crippled hedge fund Long-Term Capital, the chairman and three other top execs bowed out—at least in part because they hadn't foreseen the disaster. As Thaler puts it, "Events that happen will be thought of as having been predictable. Events that don't will be thought of as having been unlikely."

Harvard economist Andrei Shleifer says that all our inept but overconfident predicting helps explain one of the more profitable loopholes in classic financial economics. Study after study has shown that out-of-favor stocks—those with low prices relative to yardsticks like earnings, sales, and cash flow—tend to perform better over time than high-priced glamour stocks. One reason: Overconfident investors tend to project glamour stocks' high rates of growth into the future indefinitely, setting the stocks up for disappointment. The expectations toward value stocks, on the other hand, are so low that any earnings surprise tends to be a pleasant one.

But you don't need all this stock market psychobabble. You're a cut above your peers and will glide into retirement with much more money than they, right? What a pleasant conceit. And so wrong.

In one of the last stunts pulled on the assembled audience in Cambridge, the professors asked everyone in the room to write down how much money they, as individuals, would have at retirement. Then to write down what they figured the average person in the room would have. The figures were collected and tabulated. On average, the hundreds of fund managers, analysts, and executives in the room figured they would have $5 million at retirement. But they figured their oh-so-middling colleagues would retire on a mere $2.6 million. "It happens every time," exulted Harvard economist David I. Laibson. "Whether it's CFOs from FORTUNE 500 companies or college students, the result is the same. Everyone figures they will fare twice as well as the rest."

So, okay, we're all lousy at stuff like assessing odds, taking risks, remembering predictions, and allocating resources. At least you know it now. Besides, that head of yours has some eminently practical uses. It makes a mighty fine hat rack. That's because you look good in hats. Not as good as I do, but then ... F