

Chapter 1

The Global Macro Maven

Ray Dalio

Bridgewater Associates

Above all else, I want you to think for yourself—to decide 1) what you want, 2) what is true and 3) what to do about it. I want you to do that in a clear-headed thoughtful way, so that you get what you want.

—*From the introduction to
Ray Dalio's Principles*

In his famous *Principles*, Raymond, or “Ray,” Dalio tells his employees, “You learn so much more from the bad experiences in your life than the good ones. Make sure to take the time to reflect on them. If you don’t, a precious opportunity will have gone to waste. Remember that pain plus reflection equals progress.”

This is just one of the many aphorisms, precepts, nuggets of wisdom, and practical management tips that the 62-year-old Dalio—the founder of Bridgewater Associates, the global macro fund that is the world’s largest hedge fund, with \$120 billion under management—emphasizes time and time again. Bridgewater advises and runs portfolios for the most powerful pension funds, central banks, and countries around the world. In fact, a recent study by London-based research firm Preqin shows that Bridgewater is the most popular hedge fund among public pensions.

If you did a quick search on Dalio, you’d be flooded with stories of his firm’s success in the markets (including generating its best returns in the most difficult markets of the last decade) and get a fair dose of his philosophy on life and management. For example, Dalio has been practicing transcendental meditation for more than 40 years and calls it “the single biggest influence” on his life.

You’d also find that his most important maxims involve his relentless “pursuit of truth” and hunger for “personal evolution.” His unwavering focus on these goals has no doubt affected his performance figures and client satisfaction for the better, but has earned him mixed reviews from employees, some of whom judge his approach as unnecessarily harsh. Dalio is unapologetic. In his *Principles*, Dalio proudly says, “I have become a ‘hyperrealist.’”

Dalio is also well known for how his big-picture, innovative thinking has changed investing in important ways. In fact, industry magazine *aiCIO* devoted its December 2011 cover story—“Is Ray Dalio the Steve Jobs of Investing?”—to him, highlighting the similarities between the two leaders’ motivations and approaches and how each has impacted his industry. Dalio, like Jobs, feels his life is a journey during which he must turn his bold visions into reality. Dalio’s industry-changing innovations have earned him two lifetime achievement awards and won Bridgewater dozens of “Best of” awards.

Dalio says the form of meditation he practices “is a combination of relaxation and a very blissful experience. That sounds more like an

orgasm than it really is; by blissful I just mean that I just feel really good and relaxed and in good shape. You go into a different mental state—neither conscious nor unconscious. But unlike when you're sleeping, if a pin drops all of a sudden, it can reverberate through you; it's shocking.”

It took some time for Dalio to discover a meditation technique he could master, but eventually he began to notice that even 20 minutes of meditation could make up for hours of lost sleep. It also began to change the way he was thinking about things: he became more centered and more creative. Meditation put Dalio in a clear-headed state so that when challenges came at him, he could handle them “like a Ninja—in a calm, thoughtful way.” He says, “When you're centered, your emotions are not hijacking you. You have the ability to think clearly, put things in their right place, and have good perspective.”

The Makings of a Maven

Sitting in his modern Westport, Connecticut, office in a blue Bridgewater polo shirt and khakis, Dalio seemed comfortable and at peace. But cultivating a calm mind and demeanor hasn't dampened his lifelong desire for independent thinking. Growing up the son of a jazz musician and a homemaker, Dalio didn't like following instructions or remembering what he was taught. Instead, he loved chasing after what he wanted and figuring out for himself how to get it. Because his parents afforded him the freedom to do this, he feels, he received a better-than-normal education, learning more from negative experiences than the positive ones and developing the skills that serve him so well to this day. One of the problems with traditional education, Dalio believes, is that it punishes people for making mistakes rather than teaching them how to use those mistakes to learn and grow.

The idea of someday starting his own firm was the last thing on his mind when a 12-year-old Dalio began caddying to make extra money at the Links Golf Club in Manhasset, New York, near his home. He earned \$6 a bag and had some regulars, many of whom were Wall Street investors. It was 1961, and he felt like he heard about stocks everywhere he went. “If I got a haircut, the barber would be talking about stocks,” he remembers. “If I got my shoes shined, the shoeshine

guy would be talking about stocks. I didn't know if I could do it, but it looked very interesting to me." Dalio began combing the *Wall Street Journal* and started looking for stocks that fit his criteria: they had to cost less than \$5, have a name he had heard of, and be available if he wanted to buy more. He landed on Northeast Airlines, a stock that tripled in value shortly after his purchase. "I saw all these names in the paper and figured it must be easy because I only have to pick one that goes up. If that didn't happen and I lost money," says Dalio, "I could have easily ended up in another field." The big win with his first stock piqued his interest to continue. So he began reading *Fortune* magazine, and sending in coupons requesting corporate annual reports. "The mailman would lug in all these annual reports and I would spend hours studying them." Studying caused him to ask a lot of questions. "And questions lead the way," he says. "Learning is through questions, it's not through being told." Through the 1967–1968 bear market, he taught himself how to sell short and by the time he was in high school, he had already amassed a stock portfolio worth several thousand dollars.

In 1967, Dalio was admitted, just barely, to Long Island University's C.W. Post Campus in Brookville, New York. Unlike in high school, in college Dalio thrived. He took some finance classes and developed a love of learning. He could finally learn about things that interested him and, for the first time, studied because he enjoyed it, not because he was forced to. He also learned to meditate during his freshman year. Dalio did so well that, after graduating, he gained admission to Harvard Business School. "With a more centered, more open state of mind, everything got better. My grades went up. Everything became easier," he says with a smile.

Coming of Age through a Crisis

The summer before starting Harvard Business School in 1971, Dalio clerked on the floor of the New York Stock Exchange. During that summer, the Bretton Woods system broke down, and it left an indelible impression on him.

"It was one of the most dramatic economic events ever," says Dalio, "a very, very big deal and I was at the epicenter of it on the floor of

the New York Stock Exchange. It thrilled me.” Dalio remembers President Nixon making a nationally televised address on a Sunday night. “He was spinning political speak, but what he was saying was that the U.S. has defaulted on its debts. And it got me thinking about what money is. What are dollars if they are not tied to gold?”

Recognizing that the currency crisis was now driving all other market behaviors, Dalio delved into a study of the currency markets. He began to pay attention to Paul Volcker, now a friend and adviser, then the Treasury Department’s Undersecretary for Monetary Affairs. He began reading all the public statements, then tried to reconcile them with reality. “I saw how the government lied or certainly spun things in a certain way. I had all these philosophical questions, like Whom do you believe? What is actually truthfully going on? All of this pulled me into global macro markets. The currency markets would be important to me for the rest of my life.”

At business school, Dalio was like a duck in water, as he likes to say. He felt he had climbed to the top of the academic heap and would be learning with the best of the best. Harvard’s case study method excited him because it allowed students to have the freedom to lead with their own thinking. There was very little classic teaching or memorization, techniques Dalio had resisted for so long. Dalio felt, at long last, he had found his ideal environment. “Basically, all you were given was the description of the case and a situation. It was up to us to decide what was important. There were no questions, let alone anyone telling you what to do. I always had this desire to talk about what’s true, and here was a process where there was a quality debate and discussion among smart people with different points of view. It was not left-brain learning. It was right-brain learning in the sense that you’re learning through the experience. It was so exciting.”

Dalio would eventually take this learning method with him when he formed Bridgewater, where he, above all, encourages the search for truth and excellence.

In 1972, the summer between Dalio’s two years at business school, he decided he wanted to learn more about the world of trading commodities, and he convinced the director of commodities at Merrill Lynch to give him a shot. Because of commodities’ low margin requirements and, at that time, relative obscurity, Dalio figured he was likely

to be successful and make money. He was wrong. “I hardly made any money,” he says, recalling his summer as an assistant at Merrill, “but I remember I loved it. And that was great. Even back then, I was never really concerned with money past a certain point of utility. I was happy sleeping on a cot in a studio apartment. All I cared about was having the freedom to do what I wanted to do.”

As luck would have it, Dalio’s return to Harvard coincided with a huge surge of inflation. The breakdown of the monetary system in 1971 had caused a surge that pushed commodity prices higher and created the first oil shock in 1973. To combat inflation, the Federal Reserve tightened monetary policy, which brought on what until then was the worst bear market since the Great Depression. All of a sudden, there was a rush into previously unfashionable commodities futures trading, and brokerage houses clamored to build new trading departments. Because Dalio had experience trading commodities, had worked for the commodity division head at Merrill Lynch the previous summer, and had a Harvard MBA, he immediately got a job as the director of commodities at a midsize brokerage and was tasked with setting up the new division. When the brokerage house folded, Dalio moved to Shearson Hayden Stone, the brokerage firm run by Sanford Weill.

At Shearson, Dalio was in charge of the institutional/hedging business, advising clients on how to hedge their business risks. He did not last long. He was fired, he says, shortly after having a drunken argument with his boss on New Year’s Eve in 1974. Dalio decided to strike out on his own. He was 26 years old.

Building Bridgewater

Ringling in 1974 on a positive note, Dalio set up shop in his two-bedroom apartment on East 64th Street in Manhattan on New Year’s Day. He had been trading the markets since he was 12 years old and had planned to continue doing so as he developed his outfit. It seemed the stars had aligned—he already had incorporated the name “Bridgewater” for an association he had cofounded with some former

Harvard Business School classmates. They wanted a generic name that made sense for a physical commodities import business. Though that business didn't take off, the "boring" name they chose would last for quite a while.

Dalio was never afraid to dive into unfamiliar territory. "I think ego stands in the way of a lot of people doing that. It's like learning how to ski. . . . The sting of the fall hurts for about a minute but that's how you learn." So he pored over as many annual reports as he could get his hands on. He didn't know they contained income statements, balance sheets, or cash flow statements. As he started studying, he began to ask himself a lot of questions. "And questions lead the way," he says.

From the start, Dalio never built Bridgewater to draw in investors. Instead, he wanted to focus on managing exposures, writing research, and continuing the pursuit of truth and excellence while he continued to study currency and commodities markets. He remembers being calm and pragmatic about the new venture. "I didn't really feel any anxiety about starting out on my own," says Dalio. "I could pay the rent. I had free time to do what I wanted—I liked the independence. And so I thought if it didn't work out, I'd go get a job. And if it did work out, then I'm home free."

He also thought he had the right personality to handle the pressure. "I think anybody who is a great investor, a good investor, a successful investor has to be a person who can be both aggressive and defensive, too. You have to be able to bet. But you also have to have enough fear to have the caution. But you can't let the fear control you."

Dalio found opportunity in the many large institutions that had exposure in different commodities as well as interest rates and currencies. Currencies, interest rates, and commodities were the things he understood. "There were a bunch of institutional clients at Shearson," he says, "who wanted to pay me for advice. Commodities were so volatile they needed direction." So he began consulting and managing exposures for corporations and institutional hedgers, and collecting his thoughts and observations in a kind of client letter called *Daily Observations*. "Because of my derivatives background, I traded commodities, which became various futures, which evolved into swaps and derivatives. I got evolved. I could separate things in a way that was unique."

Winning Over the World Bank

Dalio soon built a reputation for quality macro research. His *Daily Observations* became a critical touchstone not only for Bridgewater's clients but, from the early 1980s onward, became so widely read that they rivaled other firms' annual reports and are at least more popular, if not more influential. They became required reading for corporate executives, policy makers, and central bankers around the world.

One such reader was McDonald's. When the fast food giant invented the Chicken McNugget, they came to Dalio to help hedge chicken prices after reading *Daily Observations*. "They came to me and said, 'Look, we have all of this exposure. How do we protect ourselves so we don't have to change the menu price of Chicken McNuggets all the time?' I helped them through that." Another such client was Nabisco, which needed to manage its interest rate currency and commodity risks. "But they would also give me authority," says Dalio. "So when I say 'managing,' they'd give me a piece of the profits I created on top of the fees."

Frequently these days, Dalio's *Daily Observations* lead to discussions with policy makers and clients. Dalio doesn't reveal the timing of transactions or what banks he is trading with. He says, "I don't want to disclose things pertaining to what positions we're going into and why. So I'm just describing what I think in those *Daily Observations*, which is pretty open."

Bridgewater evolved from corporate consultant to money manager in 1985, when the officials of the World Bank, after reading *Daily Observations* religiously for several years, approached Dalio with a \$5 million test portfolio of domestic bonds to manage. For the first few years Bridgewater managed the accounts by creating a benchmark portfolio, as any manager would. That would be the neutral position. Then it would take deviations from the benchmark because there are always two portfolios—alpha and the benchmark replication (beta). Dalio knew that in order to protect downside risk and promote alpha generation, he'd need to convince the World Bank to let him transition from traditional asset management practices, where a portfolio manager would peg his hedges and positions to a benchmark, to an active manager that could take a variety of alpha positions around the benchmark. "I always wanted diversified alpha. So I encouraged the World Bank to give me greater leeway,

saying there's no reason you should be giving me a domestic bond account because you're getting much less diversification."

Bridgewater pursued a similar strategy in currency markets—managing “hedge portfolios” for clients based on their international equity exposure, but then deviating from that hedge portfolio in all currency markets. For example, a U.S. client could own a portfolio of European equities and hire Bridgewater to hedge his euro/U.S. dollar exposure, and, to add value, Bridgewater would trade all the major currency pairs globally long and short. By building an active portfolio that was fully diversified and free of systematic biases (no tendency to be long or short), Dalio felt the firm would be better suited to add value consistently and regardless of the particular market environment.

Driven by Dalio's hunger for innovation and his passion for truth and excellence, Bridgewater moved forward. Eschewing retail investors, Dalio preferred to work with institutions. “I like to deal with people who are thoughtful and I can have quality communications with,” he explains. He likes clients who don't simply put blind faith in the firm, but want to engage in a good dialogue, and then give their manager the freedom to execute. “Somebody said to us, ‘Never have a stupid client.’ And so why not manage money for clients who give you \$300 million or \$500 million and are smart?”

In 1991, Bridgewater set up its flagship Pure Alpha strategy. Pure Alpha traded global bond markets, currencies, equities, commodities, and emerging market debt. At any point in time, it would combine these 60 to 100 positions with any client-chosen benchmark. For the Kodak pension fund, an early client, Bridgewater managed Pure Alpha combined with a passive holding in long-duration bonds and inflation-indexed bonds. It was the best way to produce the best risk return. “Now it would be called innovative,” says Dalio. “Back then I guess it would be called crazy.” By doing this, the client could always specify beta.

“This is how we manage money now,” says Dalio. “Clients tell us they would like an equity account and set a benchmark, like the S&P 500. We either replicate the benchmark or buy futures to equal the benchmark. After they put money into Pure Alpha, it's overlaid on that benchmark. So Pure Alpha is just our best mix of alphas, calibrated at 12 or 18 percent volatility, depending on the leverage they'd like.”

Dalio likens it to a two-column Chinese menu: choose your beta from column A and your alpha from column B. “We probably have 40 different benchmarks that the client can choose from,” he says. “How spicy do you like the alpha? If you want 6 percent volatility, you just put half the money in the 12 percent fund. If you want 18 percent volatility, you put 100 percent of your money in the 18 percent fund. If you want 1.8 percent volatility, you just take 10 percent of your money and put it into the 18 percent fund. It’s our best mix of alphas applied to every account we manage,” says Dalio.

After a year or two of tracking performance and seeing that they had all performed as predicted, investors became more accepting of the notion of separating alpha and beta and of putting that together in the fund. “We did it simply for functional reasons,” says Dalio, “and lo and behold the world calls it a hedge fund.”

Belly Up: Learning from the Bad

There were also rough times at Bridgewater, but all proved great learning experiences for Dalio and his team. His most painful experience was trading pork bellies in his personal account in the early 1970s. Because hard commodities had stop limits, if the commodity hit a certain price of “limit,” it would stop trading for the day. During one dark week, pork bellies traded down further and further, causing them to hit their daily limit price day after day and forcing Dalio to stay in the position. He ended up losing “damn near everything.”

“It was great in that it was terrible,” says Dalio, reiterating that you always learn more from the bad experiences in your life than the good. “It was a fantastic learning experience.”

Bridgewater also took a hit on missteps investing in sovereign bond markets, a position it sold off after the surprise Fed tightening in 1994. The firm was long various global bond markets, and, when the Fed tightened, they all became correlated to each other and lost money. Ultimately, the fund returned 2 percent that year but acquired something of far greater value: a better procedure and strategy going forward.

“We learned that if you had the same positions in a variety of countries, that you could take our relative views in each country and

trade those on a duration-neutral spread basis,” says Dalio. “By doing so they would systematically guarantee the fact that we wouldn’t have correlations to the broader market. So what we did was we discovered essentially how to restructure the balancing of our positions to produce greater diversification. That carried forward into all the markets we traded.”

Bridgewater made a further step toward the separation of alpha and beta when, in 2006, it stopped managing traditionally constructed global bond and currency accounts. From its first experiment separating alpha and beta for its clients in 1990, Bridgewater had found it was the best way to manage money. Its method is to take a value-added return from active management (alpha) minus the return from passively holding a portfolio (beta) and create optimal portfolios for each where clients specify their desired targeted level of risk. Bridgewater called its first optimal alpha strategy Pure Alpha, and it would be an integral step in the process for every investment made across the fund.

So, toward the end of the 2006 Bridgewater sent letters to clients about the “constrained” nature of those alpha-generating strategies, which didn’t permit the firm to move freely among asset classes. Bridgewater announced that henceforth clients would use Pure Alpha in conjunction with its bond or currency accounts; those unwilling to make the transfer would be resigned within 12 months. Once among the largest traditional global bond and currency managers in the world, Bridgewater today uses Pure Alpha only in conjunction with its actively managed accounts. While some would find this risky, Dalio maintains it is a better way to manage money and reduce the risk of underperformance for clients and the firm.

At the same time Dalio was finding ways of being uncorrelated to the market, he was making the discovery that other firms were becoming increasingly correlated to the market. Bridgewater wrote to investors in 2003 that hedge funds in aggregate were over 90 percent correlated to the equity market and that, within substyles, the managers were all highly correlated to each other. “The basic point here is that many hedge funds have a lot of beta (systematic risk) embedded in their strategies and returns. Investors investing in hedge funds need to consider the implications of these systematic risks in the hedge funds they are invested in.”

Sage advice from Dalio that would be realized in the 2008 financial crisis when 90 percent of hedge funds lost money and did not provide the downside protection or absolute returns.

Calculating Crises

“I think it would probably be a good idea to show you something called our crisis indicator,” says Dalio one bright spring afternoon at the firm’s retreat-like offices. Designed by noted architect Bruce Campbell Graham, the campus has three buildings constructed mostly of glass and midcentury fieldstone. The firm moved to Westport in 1990, and, like its corporate culture and hierarchy, the buildings are mostly flat and the spaces meticulously organized. Employees park their cars between the trees of the small forest across from the entrance, and lights hang from the branches. Once a natural reserve filled with large lakes, there is a serene ambience to Dalio’s inner sanctum. Somewhat contradictory to its placid work environment, however, the Bridgewater team is awfully focused on crisis.

Dalio creates universal investment and management principles by learning from history. He analyzes how different countries, cultures, and people around the world react to different incidents like debt or oil shocks, for example, and figures out the variables that affected the different outcomes. Stripping away all the variables let Bridgewater arrive at universal laws for doing business. “If you’re limiting yourself to what you experienced, you are going to be in trouble. . . . I studied the Great Depression. I studied the Weimar Republic. I studied important events that didn’t happen to me.”

Doing this over time led Bridgewater to develop ideas such as its crisis indicator. The crisis indicator looks at each of the major markets to show their correlation to overall market risk, which is part of the reason Bridgewater has always historically kept its leverage low by industry standards, about three to four times assets over equity over the life of the firm. By comparison, Lehman Brothers was more than 40 times leveraged before its collapse in 2008. In fact, Dalio believes that its limited use of leverage is one of the main reasons the firm has survived

for more than 30 years. “Using leverage is like playing Russian roulette. It means that you are inevitably going to get a bullet in the head.”

Dalio explains, “As risk at a particular period of time increases or decreases, it is either going to have a positive or a negative effect on certain markets and in various magnitudes.” For example, when dealing with bad economic conditions and higher default risks, Treasury bonds would have a positive beta, and equities would have a negative beta. And each instrument has various betas to it. “You can go back to Argentine stocks and certain emerging currencies,” Dalio says. “They all have various betas that we can see and adjust according to changes in the global risk environment. As a result, we pay attention to those things in structuring the portfolio. It’s a computer system that’s constantly updated.”

Foreseeing the Financial Crisis

It was the constant economic monitoring and fund evolution that led Dalio to the conclusion in 2006 that the American economy would be heading toward a bankruptcy-like situation, one where debt-service payments would rise relative to income, and the government would be forced to print tons of money and buy long-term assets. As a precaution, he and his team studied Japan’s “lost decade” and the Latin American debt crisis of the 1980s, and, as a result of their findings, the firm’s traders piled into those investments that would be least affected: U.S. Treasury bonds, gold, and the yen.

The first big payoff for Bridgewater’s “D-process” (research on deleveragings and financial crises) came in the spring of 2008. The risk metric for credit-default spreads clicked on, triggering Bridgewater to exit its entire position in several banks like Lehman Brothers and Bear Stearns (the week before Bear Stearns imploded). While most funds were down close to 20 percent that year, Bridgewater’s process led the fund to positions that weren’t tied to the performance of the stock market. Bridgewater was able to segregate risky investments, safer investments, and degrees of risk, causing the fund to clock in a 12 percent gain by the end of the year.

Being able to measure the degree of riskiness of assets in the portfolios by separating their betas helped influence the firm's positioning in 2008. To help clients better comprehend what was going on, Dalio penned a 20-page explanation of how the economy works called "A Template for Understanding What's Going On" that Bridgewater included in its 2008 annual report to investors.

Another input factored into Bridgewater's models: eight years before the financial crisis, the firm put in place a depression gauge. Because it had studied the nature of deleveragings or depressions, the team knew that deleveragings occur when interest rates go to zero and there's an excessive amount of debt. In January 2008, Dalio forewarned of the dangers of overreliance on tools like historical models during an interview with the *Financial Times*.

"What is the most common mistake of investors?" he warned. "It is believing that things that worked in the past will continue to work and leveraging up to be on it. Nowadays, with the computer, it is easy to identify what would have worked and, with financial engineering, to create overoptimized strategies. I believe we are entering a period that will not be consistent with the back-testing, and problems will arise. When that dynamic exists and there's close to zero interest rate, we knew that the ability of the central bank to ease monetary policy is limited."

When Dalio looks at the world today, he sees it divided into two parts—debtor-developed deficit countries and emerging market creditor countries. He further breaks it down into countries that have independent currency policies, and those whose currency and interest rate policies are linked. Dalio believes that countries like the United States and England that can print their own money are in much less trouble than countries like Spain that don't have independent monetary policy and have currency links. "You have a debt problem and can't print money—a terrible situation that's going to get worse."

On the other side of the spectrum, a creditor country that can't print its money and doesn't have independent monetary policy, such as China, is going to suffer from imported inflation. Dalio explains that debtors can't ease enough and creditors can't tighten enough. In the next 10 years or so, Dalio expects a major currency breakup over tensions between the United States and China. Because it will be

increasingly hard for countries like the United States to fund their deficits, we'll see a decreasing willingness of foreign investors to invest in these countries. He predicts the symbiotic relationship between China and the United States, in which the dollar is dominant, will end.

As a result, Dalio is interested in emerging markets' currencies. "As [countries are] experiencing higher levels of inflation and they're tightening monetary policy," he says, "it's going to be harmful for the bond and beneficial for the currencies." Dalio also feels the currency appreciation will hurt equities because appreciation makes a company less competitive in the world and the asset prices measured in its own currency go up along with the currency. "So it's particularly those emerging market currencies in countries that are large creditor countries," Dalio says, "which are running still large surpluses and that are overheating."

Extracting Alpha

In March 2010, after walking on stage to accept the Lifetime Achievement Award from Alternative Investment News, Dalio projected the future of the hedge fund sector—and it wasn't good. The tragedy, he explained, was that the average hedge fund is still about 90 percent correlated with equities:

"The industry is severely belying its central purpose by being persistently exposed to too much beta," stated Dalio. "By eliminating the beta in their portfolios, hedge funds would inevitably become more attractive to large pools of institutional capital." Deemed the world's first institutionalized hedge fund, with 300 clients, Bridgewater is known for accepting capital only from large pension funds, endowments, central banks, and governments.

Dalio believes that the issue of not having any systematic bias is a big thing. In other words, there's no good reason there should be a bad or good environment for hedge funds—they shouldn't have any beta—period. "There's an equal opportunity up or down in any kind of environment," says Dalio. "There should be just the alpha, and that is important in terms of what the role of hedge funds is and for portfolio diversification."

By the end of 2010, Bridgewater reported its best year ever, increasing assets by \$15.3 billion and earning about \$3 billion for Dalio personally. The flagship Pure Alpha Fund II returned 44.8 percent, and the firm as a whole made more money for its investors than the 2010 profits for Google, Yahoo!, Amazon, and eBay combined. In 2011, the Pure Alpha Fund II returned 25.4 percent, bringing its cumulative gains for investors to nearly \$50 billion—more than any other hedge fund.

From its first experiment separating alpha and beta for its clients in 1990, Bridgewater found it was the best way to manage money. Its method is to take a value-added return from active management (alpha) minus the return from passively holding a portfolio (beta) and create optimal portfolios for each where clients specify their desired targeted level of risk. Bridgewater called its first optimal alpha strategy Pure Alpha, and it would be an integral step in the process for every investment made across the fund.

Bringing Home the Alpha

To generate alpha, Bridgewater follows a fundamental and systematic investment process. It uses analysis of past events to help stress-test its thinking of how markets work, using over 100 million data series that extend across developed and emerging countries, and in some cases back 100 years or more. Once the criteria are proven to be sound, they can be processed instantly to stay on top of market developments.

Dalio explains the process this way: “What we’re basically doing is that there are individual concepts that are being multiplied in a number of cases—it’s not like there are 100 million independent observations,” says Dalio. Once the criteria are established, the work of engineering a portfolio begins. The criteria can be applied in 100 million cases or a single case. Broken down, the process allows the firm to better understand what is going on. “There’s information management that allows me to do quality fundamental analysis through my computerization,” says Dalio, “really high quality analysis that has a large sample size. And that large sample size allows me to produce a lot of uncorrelated bets.”

The skill comes into play with structuring and engineering a portfolio of bets. “To create the proper balance and diversification is even more important than any particular bets,” says Dalio, “which is the opposite of how most investors operate.”

Dalio deems this critically important: engineering his data series to produce as many uncorrelated bets as possible. He is constantly analyzing the spreads between any two markets in his portfolio that may generate the highest possible alpha, or, in other words, a return series.

Dalio says if you have 15 or more good, uncorrelated bets, you will improve your return to risk ratio by a factor of five. He calls this the holy grail of investing. “If you can do this thing successfully, you will make a fortune,” he says. “You’ll get the pot of gold at the end of the rainbow.”

He sets a simple example: say an investor has 15 bets and they all have an expected return of 3 percent, with a standard deviation of 10 percent, and they’re uncorrelated. And so you have one with a 3 percent expected return and a 10 percent standard deviation. And then the investor throws into the mix a second bet that also has a 3 percent return and 10 percent standard deviation but uncorrelated, thereby reducing the overall risk by about 15 percent. If the investor does that with 15 different bets, they reduce the risk by about 80 percent. Such a portfolio would still have a 3 percent expected return. But because there are still 15 uncorrelated bets outstanding, that 3 percent expected return now has only a little over 2 percent risk. That 3 percent can now be leveraged to meet the investors’ return target with far less risk.

Dalio estimates that if the firm can make money on 60 to 65 percent of its bets in any given year, the odds are very high that the fund will meet its return targets. In 2010, as the D-process continued to unfold, about 80 percent of Dalio’s bets made money.

Bridgewater sees endless opportunities to do this because spreads are uncorrelated. In doing this, the most important rule is not to compare the correlations against each other in a quantitative sense, but according to *their drivers*.

“But the truth is, as you get to 15 or 20 you start to reach diminishing returns,” says Dalio. “So the issue is, ‘Do you really know what you’re doing? Can you be confident it’s good?’ I used the word *good*. I didn’t use *excellent*. Can I be confident it’s good?”

Dalio thinks the best mix of assets is an amalgam of things, and advises to derive your top alpha generators from a combination of currencies, bonds, commodities, stocks, and so on, and calibrate them properly against each other, in terms of their size. For example, Bridgewater has never had a concentrated exposure to the U.S. dollar. It has always strived for diversification beyond what's needed for liquidity. After the position has been weighted accordingly, the goal is to create an optimal beta portfolio of positions, know how they behave, how they're structured, and how they're priced. Then Bridgewater does that for every single position—the firm has about 100 uncorrelated alpha streams in its alpha portfolio at any given time.

Perhaps the most important application of this portfolio engineering has nothing to do with the firm's Pure Alpha strategy. In 1994, faced with his own portfolio management decisions, Dalio created the "All Weather portfolio"—a passive asset allocation that was designed to take full advantage of diversification. "In the mid-90s I started to accumulate some money that I wanted to use to establish a family trust, and for that trust I wanted the right asset allocation mix," he recalls. "That's when I created the All Weather portfolio, which now accounts for virtually all of that family trust money."

In 2001, following the equity market crash, Britt Harris, CIO of the Verizon pension fund, would become Bridgewater's first institutional client to use All Weather. And in 2004, recognizing the need for the asset management industry to adopt the principles of separating alpha and beta, Dalio published a piece entitled "Engineering Targeted Returns and Risks," which would show investors how to use the concepts he had used for many years in Pure Alpha and All Weather. Dalio called it "Post-Modern Portfolio Theory (PMPT)" because it built on the concepts of portfolio theory, but went a few steps beyond.

Regarding All Weather, Dalio wrote, "I believe that, as this approach is increasingly adopted, it will have a radical beneficial impact on asset allocation that will be of a similar magnitude to that of traditional portfolio theory as it gained acceptance." Indeed, following the stress test of the 2008 financial crisis when most investor portfolios were down 40 percent into the stock market bottom, an All Weather portfolio was down less than 10 percent. Over its lifetime, it has

outperformed the conventional 60/40 stock/bond asset allocation with only half the risk.

Seeing the potential for such a strategy, other money managers quickly sought to replicate the passive All Weather approach, and the industry adopted the name “Risk Parity” for such approaches. Over the past five years, managers such as AQR, First Quadrant, Invesco, Putnam, and Wellington began offering Risk Parity products modeled after All Weather. And in 2011, a survey of institutional investors showed that 85 percent were familiar with the approach and 50 percent were using or considering using the concepts in their own portfolios.

So, as a funding crisis looms for global pension funds and the adoption of Risk Parity accelerates, Dalio’s greatest impact on the investment industry is likely his invention of All Weather.

Fund in Focus

The founder of the world’s largest hedge fund is not its ruler but rather the reigning mentor. Greg Jensen, Eileen Murray, and David McCormick, the former undersecretary of the Treasury Department, are Bridgewater’s co-CEOs. Dalio had been the fourth co-CEO, but stepped down in July 2011 to take an advisory role. Though his vision, principles, and process emanate from every noteworthy decision the firm makes, he is adamant about the division of power between the executives. In addition to co-CEOs, the firm has co-chief investment officers in Bob Prince, Jensen, and Dalio. Bridgewater’s success goes beyond just Dalio, he says.

The firm’s funds are divided into Pure Alpha, the flagship hedge fund with \$60 billion as of December 31, 2011; the \$45 billion All Weather Risk Parity strategy; a portfolio of equally balanced assets that perform well in environments of rising growth (e.g., equities), falling growth (e.g., nominal bonds), and rising and falling inflation and the fund’s \$15 billion Pure Alpha Major Markets fund, which launched with more than \$10 billion in 2010, giving investors the option to reinvest their gains from that fund into a new vehicle. The firm’s flagship fund has lost money in only one year and only had a negative net

of fees return in three years since its founding and boasts an average annualized return of 18 percent since 1991.

Though the funds are divided in a clear manner, Bridgewater's structure is quite complex. The journey *is* the process at Bridgewater, and it often takes a good deal of back-and-forth before decisions are finalized. Perhaps even more importantly, a high degree of personal reflection is required throughout the process. As Dalio continues to build Bridgewater into a thriving organization, attracting the world's most powerful clients, he is hit with a profound observation: the separation of alpha from beta, now a strategy synonymous with the hedge fund industry, was born at Bridgewater in 1990. The fund was also the first currency overlay manager and originated the idea of the popular Risk Parity strategy over 15 years ago. "From a business point of view, everybody told me each time that I was crazy because the thing wouldn't sell," says Dalio. "I would say I don't care if it sells."

All these inventions stemmed from innovative, independent thinking and focus on process. The process and subsequent reflection also helped taper the unruly emotion that can come along with investing. When asked about how he handles separating emotions from tough investment decisions, Dalio replies, "I think there were two ways: experience and meditation. I also found it very helpful to make systematic decisions." Key to his investment process is writing down why he makes each decision so that after he closes the trade, he enhances his learning by comparing what happened to why he made the decision. What he did right and what went wrong.

Procuring the Principles

Dalio began to write his *Principles*—roughly 200 life, management, and investment guidelines—in the mid-2000s after observing that the employees at his growing firm were straying from the company's basic tenets. He didn't originally want to give out this "advice" but found that his friends and colleagues were struggling with issues that were all related to them, and he wanted to help.

Dalio says the principles for successful investing are the same as those for becoming a successful manager or leading a successful life.

“You have to be assertive and open-minded at the same time. This is true in the markets; this is true in almost everything. You have to learn from your mistakes to keep getting better. And it’s through learning from those mistakes that you learn what reality is and how to deal with it, which is called principles. Knowing what’s true, whether you like it or not, is a tremendous asset. There’s no sense in fighting reality.”

The principles permeate everything Bridgewater does. Employees are encouraged to constantly ask themselves and their colleagues, “Is this true?” New hires are handed the text even before reporting for their first day of work on campus. Earlier this year, all employees were given iPads preloaded with *Principles*.

Dalio thinks it’s the fastest route to getting people where they want to be. “I learned that being totally truthful, especially about mistakes and weaknesses, led to a rapid rate of improvement and movement toward what I wanted,” Dalio says in the *Principles*.

Dalio has observed it takes about 18 months for a new employee to get used to the radical truth culture, and the firm publicly acknowledges that the culture is not for everyone. On its web site’s career page, Bridgewater asks potential applicants to ask themselves, before applying for a job there, if they want to: discover their strengths and weaknesses, work to get better fast, put aside ego barriers to learning, and demand others to be truthful and open and whether they are prepared to do the same. In Dalio’s *Principles* he supports this by saying, “There is nothing to fear from truth. Being truthful is essential to being an independent thinker and obtaining greater understanding of what is right.” That, in essence, is what Dalio hopes everyone that comes to Bridgewater will eventually learn.

Watchful Eye on the World Today

Dalio always keeps a watchful eye on all areas the firm is invested in, constantly in search of the next investment where it has been clear time has run out. For commodities, a sector he’s traded and studied for 40 years, a fundamental shift in demand may be near. Dalio recalls that many years ago there was the thought that if every Chinese had one more handkerchief, the world would run out of cotton. Now he fears it’s

a reality. “I think the world right now is in the beginning of a tightening cycle,” says Dalio. “And it’s changing the way consumption occurs.”

Dalio feels that the world is structurally in a different environment today because of the shift in supply and demand balance due to the change in consumption. Dalio explains that the commodities universe encounters two cycles: the economic cycle, which affects demand, and the crop cycle. Another reason for this tightening is, as large-population countries raise their living standards, they raise their consumption levels. “So as we’re going ahead, I think that, from the overall demand cycle, the monetary policies in emerging countries are going to be slow to be adequately tightened,” says Dalio. “Generally speaking for extractive commodities, it will be a relatively bullish environment until this tightening cycle crosses the overall falloff in demand which, as I said, will be in 2012.”

Aside from gold, that is. Bridgewater has been long a large position in gold since it was \$200 an ounce and plans to keep the position in place. Dalio doesn’t see gold the way other investors do as a tradable commodity, but rather as a currency hedge. “It serves the purpose of money. It was the original money. It can be used as a medium of exchange. You can move it around from place to place,” says Dalio. “Unlike a lot of commodities, it doesn’t have a big consumption element to it. It can be sliced up in little pieces like coins to be like money. And so it can serve that purpose.” For Dalio, it makes more sense to have the actual gold than to invest in the gold producers. “You can’t move around a producer like you can move around gold. And we’re in an environment in which there’s a question of what is the alternative to money.”

Dalio sees a real opportunity for institutional investors to better diversify using this “currency,” as he likes to call it, as a means to hedge. Dalio has observed that the assets most investors have the greatest exposure to are typically the worst assets because they are market-capitalization weighted. Moreover, they tend to have a lot of stocks and bonds that are particularly concentrated in the United States. “And so when you look at what percentage of a portfolio—either central banks’ reserves or institutional portfolios—are in assets like gold and emerging market currencies, you also see that they represent small percentages of those portfolios.” Dalio thinks that just the act of diversifying

will improve portfolio returns. “So I believe that institutional investors can diversify their portfolios better by using gold as an effective means to hedge against risk. I think that you’ll see a continued movement in that direction.”

Going After What You Want

Dalio doesn’t think people should seek out what successful investors do and follow it. Dalio tells a story about an architect that illustrates how he feels about innovation and marching to the beat of your own drum.

“I told the architect what I wanted in the house and how it should work. He said, ‘Yeah, yeah, I get it. I really want to build a house that way.’ So I asked, ‘Well, can you show me houses that you’ve done that way?’ He said, ‘No, because customers don’t want to build the houses that way so I’ve had to build these other houses.’ And I said, ‘But how do we know that we’re talking about the same thing?’ And he brings out this book of another architect’s work. And he said, ‘This is what we’re talking about.’ So then I said to myself, ‘Well, let me call this architect instead.’ So the other architect and I did the house together. The interesting thing about the second architect was, when I said, ‘this other guy has always wanted to build the house this way, but he really felt he didn’t have the opportunity,’ he said, ‘well that was true for me, too. So I built doghouses to begin. But I really wanted to build this kind of stuff.’ And so it’s the same for me. I’ve got clients now for 20 years who allowed me to innovate on a small scale before going big.”

Dalio stresses the importance of being true to yourself, especially with investing. “We all understand that [independent thinking] is a necessity,” says Dalio. “We understand it better than other people because value-added alpha is zero-sum. So if you think about almost any career and any job, you can add value and it’s not zero-sum. If you’re a doctor and somebody breaks their leg, you can fix their leg, you can add that value. In our business we’ve learned that it’s not so easy to have an opinion and be confident that opinion is right. I learned this at a very early age. So you take me at 12, I went after what I wanted to go after, not following instructions. And I also know

it's not so easy to have an opinion that you're confident in. Be careful of the opinion that you're overconfident in."

Dalio thinks the path to greatness is challenging, and that it ought to be, but he also believes it is attainable. "I met a number of great people and learned that none of them were born great," he writes in the *Principles*. "They all made lots of mistakes and had lots of weaknesses—and that great people become great by looking at their mistakes and weaknesses and figuring out how to get around them. So I learned that the people who make the most of the process of encountering reality, especially the painful obstacles, learn the most and get what they want faster than people who do not. I learned that they are the great ones—the ones I wanted to have around me."

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