

PRINCIPLES

RAY DALIO

“Ray Dalio has provided me with invaluable guidance and insights that are now available to you in *Principles*.”

—BILL GATES

“I found it to be truly extraordinary. Every page is full of so many principles of distinction and insights—and I love how Ray incorporates his history and his life in such an elegant way.”

—TONY ROBBINS

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**To Barbara, the half of me who has made me whole for
more than forty years.**

INTRODUCTION

Before I begin telling you what I think, I want to establish that I'm a "dumb shit" who doesn't know much relative to what I need to know. Whatever success I've had in life has had more to do with my knowing how to deal with my *not* knowing than anything I know. The most important thing I learned is an approach to life based on principles that helps me find out what's true and what to do about it.

I'm passing along these principles because I am now at the stage in my life in which I want to help others be successful rather than to be more successful myself. Because these principles have helped me and others so much, I want to share them with you. It's up to you to decide how valuable they really are and what, if anything, you want to do with them.

Principles are fundamental truths that serve as the foundations for behavior that gets you what you want out of life. They can be applied again and again in similar situations to help you achieve your goals.

Every day, each of us is faced with a blizzard of situations we must respond to. Without principles we would be forced to react to all the things life throws at us individually, as if we were experiencing each of them for the first time. If instead we classify these situations into types and have good principles for dealing with them, we will make better decisions more quickly and have better lives as a result. Having a good set of principles is like having a good collection of recipes for success. All successful people operate by principles that help them be successful, though what they choose to be successful at varies enormously, so their principles vary.

To be principled means to consistently operate with principles that can be clearly explained. Unfortunately, most people can't do that. And

it's very rare for people to write their principles down and share them. That is a shame. I would love to know what principles guided Albert Einstein, Steve Jobs, Winston Churchill, Leonardo da Vinci, and others so I could clearly understand what they were going after and how they achieved it and could compare their different approaches. I'd like to know which principles are most important to the politicians who want me to vote for them and to all the other people whose decisions affect me. Do we have common principles that bind us together—as a family, as a community, as a nation, as friends across nations? Or do we have opposing principles that divide us? What are they? Let's be specific. This is a time when it is especially important for us to be clear about our principles.

My hope is that reading this book will prompt you and others to discover your own principles from wherever you think is best and ideally write them down. Doing that will allow you and others to be clear about what your principles are and understand each other better. It will allow you to refine them as you encounter more experiences and to reflect on them, which will help you make better decisions and be better understood.

HAVING YOUR OWN PRINCIPLES

We come by our principles in different ways. Sometimes we gain them through our own experiences and reflections. Sometimes we accept them from others, like our parents, or we adopt holistic packages of principles, such as those of religions and legal frameworks.

Because we each have our own goals and our own natures, each of us must choose our own principles to match them. While it isn't necessarily a bad thing to use others' principles, adopting principles without giving them much thought can expose you to the risk of acting in ways inconsistent with your goals and your nature. At the same time, you, like me, probably don't know everything you need to know and would be

wise to embrace that fact. If you can think for yourself while being open-minded in a clearheaded way to find out what is best for you to do, and if you can summon up the courage to do it, you will make the most of your life. If you can't do that, you should reflect on why that is, because that's most likely your greatest impediment to getting more of what you want out of life.

That brings me to my first principle:

- **Think for yourself to decide 1) what you want, 2) what is true, and 3) what you should do to achieve #1 in light of #2 . . .**

. . . and do that with humility and open-mindedness so that you consider the best thinking available to you. Being clear on your principles is important because they will affect all aspects of your life, many times a day. For example, when you enter into relationships with others, your principles and their principles will determine how you interact. People who have shared values and principles get along. People who don't will suffer through constant misunderstandings and conflicts. Think about the people you are closest to: Are their values aligned with yours? Do you even know what their values or principles are? Too often in relationships, people's principles aren't clear. This is especially problematic in organizations where people need to have shared principles to be successful. Being crystal clear about my principles is why I labored so much over every sentence in this book.

The principles you choose can be anything you want them to be as long as they are authentic—i.e., as long as they reflect your true character and values. You will be faced with millions of choices in life, and the way you make them will reflect the principles you have—so it won't be long before the people around you will be able to tell the principles you are really operating by. The worst thing you can be is a phony, because if you're a phony you will lose people's trust and your own self-respect. So

you must be clear about your principles and then you must “walk the talk.” If inconsistencies seem to exist, you should explain them. It’s best to do that in writing because by doing so, you will refine your written principles.

While I will be sharing my own principles, I want to make clear to you that I don’t expect you to follow them blindly. On the contrary, I want you to question every word and pick and choose among these principles so you come away with a mix that suits you.

MY PRINCIPLES AND HOW I LEARNED THEM

I learned my principles over a lifetime of making a lot of mistakes and spending a lot of time reflecting on them. Since I was a kid, I’ve been a curious, independent thinker who ran after audacious goals. I got excited about visualizing things to go after, had some painful failures going after them, learned principles that would prevent me from making the same sort of mistakes again, and changed and improved, which allowed me to imagine and go after even more audacious goals and do that rapidly and repeatedly for a long time. So to me life looks like the sequence you see on the opposite page.

I believe that the key to success lies in knowing how to both strive for a lot and fail well. By failing well, I mean being able to experience painful failures that provide big learnings without failing badly enough to get knocked out of the game.

This way of learning and improving has been best for me because of what I’m like and because of what I do. I’ve always had a bad rote memory and didn’t like following other people’s instructions, but I loved figuring out how things work for myself. I hated school because of my bad memory but when I was twelve I fell in love with trading the markets. To make money in the markets, one needs to be an independent thinker who bets against the consensus and is right. That’s because the consensus view is baked into the price. One is inevitably going to be painfully wrong

a lot, so knowing how to do that well is critical to one's success. To be a successful entrepreneur, the same is true: One also has to be an independent thinker who correctly bets against the consensus, which means being painfully wrong a fair amount. Since I was both an investor and an entrepreneur, I developed a healthy fear of being wrong and figured out an approach to decision making that would maximize my odds of being right.

AL

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- **Make believability-weighted decisions.**

downloaded over three million times and I was flooded with thank-you letters from all over the world.

I will give them to you in two books—Life and Work Principles in one book, and Economic and Investment Principles in the other.

HOW THESE BOOKS ARE ORGANIZED

Since I have spent most of my adult life thinking about economies and investing, I considered writing Economic and Investment Principles first. But I decided to begin with my Life and Work Principles because they're more overarching and I've seen how well they work for people, independent of their careers. Since they go so well together, they are combined here in one book prefaced by a short autobiography, *Where I'm Coming From*.

Part I: Where I'm Coming From

In this part, I share some of the experiences—most importantly, my mistakes—that led me to discover the principles that guide my decision making. To tell you the truth, I still have mixed feelings about telling my personal story, because I worry that it might distract you from the principles themselves and from the timeless and universal cause-effect relationships that inform them. For that reason, I wouldn't mind if you decided to skip this part of the book. If you do read it, try to look past me and my particular story to the logic and merit of the principles I describe. Think about them, weigh them, and decide how much, if at all, they apply to you and your own life circumstances—and specifically, whether they can help you achieve your goals, whatever they may be.

Part II: Life Principles

The overarching principles that drive my approach to everything are laid out in Life Principles. In this section, I explain my principles in greater depth and show how they apply in the natural world, in our private lives and relationships, in business and policymaking, and of course at

Bridgewater. I'll share the 5-Step Process I've developed for achieving one's goals and making effective choices; I'll also share some of the insights I've gained into psychology and neuroscience and explain how I've applied them in my private life and in my business. This is the real heart of the book because it shows how these principles can be applied to most anything by most anyone.

Part III: Work Principles

In *Work Principles*, you'll get a close-up view of the unusual way we operate at Bridgewater. I will explain how we've coalesced our principles into an idea meritocracy that strives to deliver meaningful work and meaningful relationships through *radical truth* and *radical transparency*. I'll show you how this works at a granular level and how it can be applied to nearly any organization to make it more effective. As you will see, we are simply a group of people who are striving to be excellent at what we do and who recognize that we don't know much relative to what we need to know. We believe that thoughtful, unemotional disagreement by independent thinkers can be converted into believability-weighted decision making that is smarter and more effective than the sum of its parts. Because the power of a group is so much greater than the power of an individual, I believe these work principles are even more important than the life principles on which they're based.

What Will Follow This Book

This print book will be followed by an interactive book in the form of an app that will take you into videos and immersive experiences so that your learning is more experiential. The app will also get to know you through your interactions with it in order to provide you with more personalized advice.

This book and the app will be followed by another volume containing two other parts, *Economic and Investment Principles*, in which I will pass along the principles that have worked for me and that I believe might help you in these areas.

After that, there will be no advice I can give that will not be available in these two books, and I will be done with this phase of my life.

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nights. She died when I was nineteen. At the time, I couldn't imagine ever laughing again. Now when I think of her I smile.

My dad worked very late hours as a musician—until about three in the morning—so he slept late on weekends. As a result, we didn't have much of a relationship when I was young other than him constantly nagging me to take care of chores like mowing the lawn and cutting the hedges, which I hated. He was a responsible man dealing with an irresponsible kid. Memories of how we interacted seem funny to me today. For example, one time he told me to cut the grass and I decided to do just the front yard and postpone doing the back, but then it rained for a couple of days and the backyard grass became so high I had to cut it with a sickle. That took so long that by the time I was finished, the front yard was too high to mow, and so on.

After my mother died, my dad and I became very close, especially when I started my own family. I both liked and loved him. He had a casual, fun way about him the way musicians tend to, and I admired his strong character, which I assume came from living through the Great Depression and fighting in both World War II and the Korean War. I have memories of him from when he was in his seventies, not hesitating to drive through big snowstorms, shoveling himself out whenever he got stuck like it was no big deal. After playing in clubs and cutting records for most of his life, he began a second career in his midsixties, teaching music in high school and at a local community college, which he continued until he had a heart attack at eighty-one. He lived another decade after that, as sharp as ever mentally.

When I didn't want to do something, I would fight it, but when I was excited about something, nothing could hold me back. For example, while I resisted doing chores at home, I eagerly did them

outside the house to earn money. Starting at age eight, I had a newspaper route, shoveled snow off people's driveways, caddied, bussed tables and washed dishes at a local restaurant, and stocked shelves at a nearby department store. I don't remember my parents encouraging me to do these jobs so I can't say how I came by them. But I do know that having those jobs and having some money to handle independently in those early years taught me many valuable lessons I wouldn't have learned in school or at play.

In my early years the psychology of the 1960s U.S. was aspirational and inspirational—to achieve great and noble goals. It was like nothing I have seen since. One of my earliest memories was of John F. Kennedy, an intelligent, charismatic man who painted vivid pictures of changing the world for the better—exploring outer space, achieving equal rights, and eliminating poverty. He and his ideas had a major effect on my thinking.

The United States was then at its peak relative to the rest of the world, accounting for 40 percent of its economy compared to about 20 percent today; the dollar was the world's currency; and the U.S. was the dominant military power. Being “liberal” meant being committed to moving forward in a fast and fair way, while being “conservative” meant being stuck in old and unfair ways—at least that's how it seemed to me and to most of the people around me. As we saw it, the U.S. was rich, progressive, well managed, and on a mission to improve quickly at everything. I might have been naive but I wasn't alone.

In those years, everyone was talking about the stock market, because it was doing great and people were making money. This included the people playing at a local golf course called Links where I started caddying when I was twelve. So I took my caddying money and started playing the stock market. My first investment was in

Northeast Airlines. I bought it because it was the only company I'd heard of that was selling for less than \$5 a share. I figured the more shares I bought, the more money I would make. That was a dumb strategy, but I tripled my money. Northeast Airlines was actually about to go broke and another company acquired it. I got lucky, but I didn't know it at the time. I just thought making money in the markets was easy, so I was hooked.

In those days, *Fortune* magazine had a little tear-out coupon you could mail in to get free annual reports from Fortune 500 companies. I ordered them all. I can still remember watching the mailman unhappily lugging all those reports to our door, and I dug into every one of them. That was how I began building an investment library. As the stock market continued to climb, World War II and the Depression seemed like distant memories and investing seemed like simply a matter of buying anything and watching it go up. It would certainly go up, the common knowledge held, because managing the economy had developed into a science. After all, stocks had nearly quadrupled over the previous ten years, and some had done much better than that.

NORTHEAST AIRLINES EQUITY PRICE

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As a result, “dollar-cost averaging”—investing essentially the same dollar amount in the market every month, no matter how few or many shares it could buy—was the strategy most people followed. Of course, picking the best stocks was even better, so that's what I

and everyone else tried to do. There were thousands to choose from, all neatly listed on the last few pages of the newspaper.

While I liked playing the markets, I also loved playing around with my friends, whether in the neighborhood when I was a kid, using fake IDs to get into bars when we were teens, or, nowadays, going to music festivals and on scuba-diving trips together. I've always been an independent thinker inclined to take risks in search of rewards—not just in the markets, but in most everything. I also feared boredom and mediocrity much more than I feared failure. For me, great is better than terrible, and terrible is better than mediocre, because terrible at least gives life flavor. The high school yearbook quote my friends chose for me was from Thoreau: “If a man does not keep pace with his companions, perhaps it is because he hears a different drummer. Let him step to the music which he hears, however measured or far away.”

In 1966, my senior year of high school, the stock market was still booming and I was making money and having a blast, cutting school with my best friend Phil to go surfing, and doing what fun-loving high school boys usually do. Of course I didn't know it then, but that year was to be the stock market's top. After that, almost everything I thought I knew about the markets was proven wrong.

1 A surprise simultaneous attack by the North Vietnamese on more than one hundred cities and towns in South Vietnam.

CHAPTER 2

CROSSING THE THRESHOLD:

1967–1979

I came into this period with the biases I had picked up from my experiences and the people around me. In 1966, asset prices reflected investors' optimism about the future. But between 1967 and 1979, bad economic surprises led to big and unexpected price declines. Not just the economy and the markets but social sentiment deteriorated as well. Living through that taught me that while almost everyone expects the future to be a slightly modified version of the present, it is usually very different. But I didn't know that in 1967. Certain that stocks would eventually rebound, I kept buying them, even as the market fell and I lost money until I figured out what was going wrong and how to deal with it. I gradually learned that prices reflect people's expectations, so they go up when actual results are better than expected and they go down when they are worse than expected. And most people tend to be biased by their recent experiences.

That fall, I started at a local college, C. W. Post. I got in on probation because of my C average in high school. But unlike high school, I loved college because I could learn about things that interested me, not because I had to, so I got great grades. I also loved living away from home and having independence.

Learning to meditate helped too. When the Beatles visited India in 1968 to study Transcendental Meditation at the ashram of

Around 1970 or 1971, I noticed gold was starting to tick up in world markets. Until then, like most people, I hadn't paid much attention to currency rates because the currency system had been stable throughout my lifetime. But as currency events increasingly appeared in the news, they caught my attention. I learned that other currencies were fixed against the dollar, that the dollar was fixed against gold, that Americans weren't allowed to own gold (though I wasn't sure why), and that other central banks could convert their paper dollars into gold, which was how they were assured that they wouldn't be hurt if the U.S. printed too many dollars. I heard our government officials pooh-pooh the worries about the dollar and the excitement about gold, assuring us that the dollar was sound and that gold was just an archaic metal. Speculators were behind the rising gold prices, they said, and they would get burned once things settled down. Back then, I still assumed that government officials were honest.

In the spring of 1971, I graduated college with a nearly perfect grade point average, which got me into Harvard Business School. The summer before I started at HBS, I got a job as a clerk on the floor of the New York Stock Exchange. By midsummer, the dollar problem began to reach a breaking point. There were reports that Europeans wouldn't accept dollars from American tourists. The global monetary system was in the process of breaking down, but that wasn't clear to me quite yet.

Then, on Sunday, August 15, 1971, President Nixon went on television to announce that the U.S. would renege on its promise to allow dollars to be turned in for gold, which led the dollar to plummet. Since government officials had promised not to devalue the dollar, I listened with amazement as he spoke. Instead of addressing the fundamental problems behind the pressure on the

dollar, he continued to blame speculators, crafting his words to make it sound like he was moving to support the dollar while his actions were doing just the opposite. “Floating it,” as Nixon was doing, and then letting it sink like a stone, looked a lot like a lie to me. Over the decades since, I’ve repeatedly seen policymakers deliver such assurances immediately before currency devaluations, so I learned not to believe government policymakers when they assure you that they won’t let a currency devaluation happen. The more strongly they make those assurances, the more desperate the situation probably is, so the more likely it is that a devaluation will take place.

As I listened to Nixon speak, I wondered what those developments meant. Money as we’d known it—a claim check to get gold—no longer existed. That couldn’t be good. It seemed clear to me that the era of promise that Kennedy had personified was unraveling.

Monday morning I walked onto the floor of the exchange expecting pandemonium. There was pandemonium all right, but not the sort I expected: Instead of falling, the stock market jumped about 4 percent, a significant daily gain.

To try to understand what was happening, I spent the rest of that summer studying past currency devaluations. I learned that everything that was going on—the currency breaking its link to gold and devaluing, the stock market soaring in response—had happened before, and that logical cause-effect relationships made those developments inevitable. My failure to anticipate this, I realized, was due to my being surprised by something that hadn’t happened in my lifetime, though it had happened many times before. The message that reality was conveying to me was “You better make sense of what happened to other people in other times and other places because if

you don't you won't know if these things can happen to you and, if they do, you won't know how to deal with them.”

Enrolling at Harvard Business School that fall, I was excited about meeting the extraordinarily intelligent people from all over the planet who would be my classmates. And high as my expectations were, the experience was even better. I lived with people from all over the world and we partied together in an exciting, eclectic environment. There was no teacher in front of a blackboard telling us what to remember and no tests to see whether we remembered it. Instead we were given actual case studies to read and analyze. Then we gathered in groups to thrash out what we would do if we were in the shoes of the people in those situations. This was my kind of school!

Meanwhile, thanks to the wave of money printing that had followed the demise of the gold standard, the economy and the stock market were soaring. Stocks were in again in 1972, and the fashion at the time was the Nifty 50. This group of fifty stocks had fast and steady earnings growth and were widely believed to be a sure thing.

As hot as the stock market was, I was more interested in trading commodities, so that spring I begged the director of commodities at Merrill Lynch to give me a summer job. He was surprised because people from places like Harvard Business School weren't typically interested in commodities, which were considered an obscure stepchild of the Wall Street brokerage industry. Up until then, as far as I know, no Harvard Business School student had ever worked in commodity futures anywhere. Most Wall Street firms didn't even have commodity futures divisions, and Merrill Lynch's was small, tucked away on a side street, and furnished with basic metal desks.

A few months later, when I was back for my second year at HBS, the first oil shock began, with prices quadrupling in a matter of months. The U.S. economy slowed, commodity prices soared, and in 1973 the stock market took a dive. Once again, I was blindsided—but in retrospect I could see that the dominoes had fallen in a logical sequence.

In this case, the debt-financed overspending of the 1960s had continued into the early 1970s. The Fed had funded this spending with easy-credit policies, but by paying back its debts with depreciated paper money instead of gold-backed dollars, the U.S. effectively defaulted. Naturally, with all this money printing the dollar plunged in value. That allowed for more easy credit, which led to even more spending. The inflationary surge that followed the breakdown of the currency system sent commodity prices even higher. In response, in 1973, the Fed tightened monetary policy, which is what central banks do when inflation and growth are too strong. This in turn caused the worst decline in stocks and the worst weakening of the economy since the Great Depression. The Nifty 50 were particularly affected, plunging severely.

The lesson? When everybody thinks the same thing—such as what a sure bet the Nifty 50 is—it is almost certainly reflected in the price, and betting on it is probably going to be a mistake. I also learned that for every action (such as easy money and credit) there is a consequence (in this case, higher inflation) roughly proportionate to that action, which causes an approximately equal and opposite reaction (tightening of money and credit) and market reversals.

I was beginning to see things happening over and over again, which led me to see that most everything is “another one of those”: Most everything has happened repeatedly before for logical cause-effect reasons. Of course, being able to both properly identify which

ones of those are happening and to understand the cause-effect relationships behind them remained difficult. Though most everything seemed inevitable and logical in retrospect, nothing was nearly as clear in real time.

Because people chase what's hot and avoid what's not, stock investing fell out of favor after 1973 and commodity trading became the thing to do. With my background in commodities and my Harvard MBA, I became a sought-after property. Dominick & Dominick, a middle-sized, hundred-year-old brokerage firm, hired me as director of commodities for \$25,000 a year, which was near the top of what HBS graduate starting salaries were that year. My new boss paired me with an older, experienced guy who had lots of commodities brokerage experience, and we were assigned the task of setting up a commodities division. I was in way over my head, though I was too arrogant to realize it at the time. I probably would have learned a lot of painful lessons had the job continued, but the bad stock market took Dominick & Dominick under before we'd made much progress.

As the economy unraveled, the Watergate scandal dominated the headlines and I saw again how politics and economics intertwine, usually with economics leading. This downward spiral led people to become pessimistic, so they sold their stocks and the market continued to fall. Things couldn't have gotten much worse but everyone was afraid they would. It was the mirror image of what I'd witnessed in 1966 when the market hit its top, and just as it was then, the consensus was wrong. When people are very pessimistic, they sell out, prices typically get very cheap, and action to improve conditions has to be taken. Sure enough, the Fed eased its monetary policy and stocks hit bottom in December 1974.

STARTING BRIDGEWATER

Actually, I *re*started it. Just after I graduated from HBS and went to work in commodities at Dominick & Dominick, I'd set up a little business with Bob Scott, a friend from HBS. Along with a few pals in other countries, we made halfhearted attempts to sell commodities from the U.S. to other countries. We called it Bridgewater because we were “bridging the waters” and it had a good ring to it. By 1975 there wasn't much left of this commodities company, but as it did already exist on paper, I used it.

I worked out of my two-bedroom apartment. When a pal from HBS who I shared the apartment with moved out, I made his bedroom an office. I worked with another friend I played rugby with, and we hired a great young woman who worked as our assistant. That was Bridgewater.

I spent most of my time following the markets and putting myself in the shoes of my corporate clients to show them how I would handle market risks if I were them. And of course I continued to trade my own account. Pursuing a mission with friends to help clients beat the markets was much more fun than having a real job. As long as my basic living expenses were covered, I knew I'd be happy.

In 1977, Barbara and I decided to have a child, so we got married. We moved into a rented brownstone in Manhattan and I moved the company there too. The Russians were buying lots of grain at the time and wanted my advice, so I took Barbara on a combined honeymoon–business trip to the USSR. We arrived in Moscow on New Year's Eve and rode by bus from the drab airport through a dusting of snow, past St. Basil's Cathedral to a big party with a lot of incredibly friendly, fun-loving Russians.

My business has always been a way to get me into exotic places and allow me to meet interesting people. If I make any money from those trips, that's just icing on the cake.

MODELING MARKETS AS MACHINES

I was really getting my head into the livestock, meat, grain, and oilseed markets. I loved them because they were concrete and less subject than stocks to distorted perceptions of value. While stocks could stay too high or too low because “greater fools” kept buying or selling them, livestock ended up on the meat counter where it would be priced based on what consumers were willing to pay. I could visualize the processes that led to those sales and see the relationships underlying them. Since livestock eat grain (mostly corn) and soymeal, and since corn and soybeans compete for acreage, those markets are closely related. I learned just about everything imaginable about them—what the planted acreage and typical yields were in each of the major growing areas; how to convert rainfall levels in different weeks of the growing season into yield estimates; how to project harvest sizes, carrying costs, and livestock inventories by weight group, location, and rates of weight gain; and how to project dressing yields, retailer margins, consumer preferences by cut of meat, and the amounts to be slaughtered in each season.

This wasn't academic learning: People with practice in the business showed me how the agricultural processes worked, and I organized what they told me into models I used to map the interactions of those parts through time.

For example, by knowing how many cattle, chickens, and hogs were being fed, how much grain they ate, and how fast they gained

weight, I could project both when and how much meat would come to market and when and how much corn and soymeal would be consumed. Likewise, by seeing how much acreage was planted with corn and soybeans in all the growing areas, doing regressions that showed how rainfall affected the yields in each of these areas, and applying weather forecasts and rainfall data, I could project the timing and quantity of corn and soybean production. To me it all looked like a beautiful machine with logical cause-effect relationships. By understanding these relationships, I could come up with decision rules (or principles) I could model.

These early models were a far cry from the ones we use now; they were back-of-the-envelope sketches, analyzed and converted into computer programs with the technology I could afford at the time. At the very beginning, I did regressions on my handheld Hewlett-Packard HP-67 calculator, plotted charts by hand with colored pencils, and recorded every trade in composition notebooks. When the personal computer came along, I could input the numbers and watch them be converted into pictures of what would happen on spreadsheets. Knowing how cattle, hogs, and chickens progressed through their stages of production, how they competed for meat-eater dollars, what meat-eaters would spend and why, and how the profit margins of meatpackers and retailers would influence their behaviors (for example, which cuts of meat they would push in advertisements), I could see how the machine produced cattle, hog, and chicken prices that I could bet on.

As basic as those early models were, I loved building and refining them—and they were good enough to make me money. The approach to price determination I was using was different from the one I had learned in my economics classes where supply and demand were both measured in terms of quantities sold. I found it much

more practical to measure demand as the amount spent (instead of as the quantity bought) and to look at who the buyers and sellers were and why they bought and sold. I will explain this approach in *Economic and Investment Principles*.

This different approach was one of the key reasons I caught economic and market moves others missed. From that point on, whenever I looked at any market—commodities, stocks, bonds, currencies, whatever—I could see and understand imbalances that others who defined supply and demand in the traditional way (as units that equaled each other) missed.

Visualizing complex systems as machines, figuring out the cause-effect relationships within them, writing down the principles for dealing with them, and feeding them into a computer so the computer could “make decisions” for me all became standard practices.

Don’t get me wrong. My approach was far from perfect. I vividly remember one “can’t lose” bet that personally cost me about \$100,000. That was most of my net worth at the time. More painful still, it hurt my clients too. The most painful lesson that was repeatedly hammered home is that you can never be sure of anything: There are always risks out there that can hurt you badly, even in the seemingly safest bets, so it’s always best to assume you’re missing something. This lesson changed my approach to decision making in ways that will reverberate throughout this book—and to which I attribute much of my success. But I would make many other mistakes before I fully changed my behavior.

BUILDING THE BUSINESS

While making money was good, having meaningful work and meaningful relationships was far better. To me, meaningful work is being on a mission I become engrossed in, and meaningful relationships are those I have with people I care deeply about and who care deeply about me.

Think about it: It's senseless to have making money as your goal as money has no intrinsic value—its value comes from what it can buy, and it can't buy everything. It's smarter to start with what you really want, which are your real goals, and then work back to what you need to attain them. Money will be one of the things you need, but it's not the only one and certainly not the most important one once you get past having the amount you need to get what you really want.

When thinking about the things you really want, it pays to think of their relative values so you weigh them properly. In my case, I wanted meaningful work and meaningful relationships equally, and I valued money less—as long as I had enough to take care of my basic needs. In thinking about the relative importance of great relationships and money, it was clear that relationships were more important because there is no amount of money I would take in exchange for a meaningful relationship, because there is nothing I could buy with that money that would be more valuable. So, for me, meaningful work and meaningful relationships were and still are my primary goals and everything I did was for them. Making money was an incidental consequence of that.

In the late 1970s, I began sending my observations about the markets to clients via telex. The genesis of these *Daily Observations* (“Grains and Oilseeds,” “Livestock and Meats,” “Economy and Financial Markets”) was pretty simple: While our primary business was in managing risk exposures, our clients also called to pick my

2 His inability to meet his obligations, especially his margin calls at brokerage houses, could have led to cascading defaults.

CHAPTER 3

MY ABYSS:

1979–1982

From 1950 until 1980, debt, inflation, and growth moved up and down together in steadily larger waves, with each bigger than the one before, especially after the dollar's link to gold was broken in 1971. In the 1970s, there were three such waves. The first came in 1971, as a result of the dollar's devaluation. The second, which came between 1974 and 1975, took inflation to its highest level since World War II. The Fed tightened the money supply, driving interest rates to record highs, which caused the worst stock market and economic downturn since the 1930s. The third and largest wave came in 1979–82 and was one of the greatest economic/market crescendos and reversals since 1929–32. Interest rates and inflation soared and crashed; stocks, bonds, commodities, and currencies went through one of their most volatile periods ever; and unemployment hit its highest level since the Great Depression. It was a time of extreme turbulence for the global economy, for the markets, and for me personally.

In 1978–80 (as in 1970–71 and in 1974–75) different markets began to move in unison because they were more influenced by swings in money and credit growth than by changes in their individual supply-demand balances. These big moves were exacerbated by the oil shock that followed the fall of the Shah of Iran. That oil market volatility led to the creation of the first oil futures contract, which gave me trading opportunities (by then, there were futures markets in interest rates and currencies as well, and I was making bets in all of them).

Because all markets were being driven by these factors, I immersed myself in macroeconomics and historical data (especially interest rates and currency data) to improve my understanding of the machine at play. As inflation began to rise in 1978, I realized the Fed would likely act to tighten the monetary supply. By July 1979, inflation was clearly out of control, and President Jimmy Carter appointed Paul Volcker chairman of the Federal Reserve. A few months later, Volcker announced that the Fed would limit the growth of the money supply to 5.5 percent. According to my calculations at the time, 5.5 percent money growth would break the inflation spiral—but it would also strangle the economy and markets and likely cause a catastrophic debt crisis.

A SILVER ROLLER COASTER

Just before Thanksgiving, I met with Bunker Hunt, then the richest man in the world, at the Petroleum Club in Dallas. Bud Dillard, a Texan friend and client of mine who was big in the oil and cattle businesses, had introduced us a couple of years before, and we regularly talked about the economy and markets, especially inflation. Just a few weeks before our meeting, Iranian militants had stormed the U.S. embassy in Tehran, taking fifty-two Americans hostage. There were long lines to buy gas and extreme market volatility. There was clearly a sense of crisis: The nation was confused, frustrated, and angry.

Bunker saw the debt crisis and inflation risks pretty much as I saw them. He'd been wanting to get his wealth out of paper money for the past few years, so he'd been buying commodities, especially silver, which he had started purchasing for about \$1.29 per ounce, as a hedge against inflation. He kept buying and buying as inflation and the price of silver went up, until he had essentially cornered the silver market. At that point, silver was trading at around \$10. I told him I thought it might be a good time to get out because the Fed was becoming tight enough to raise short-term interest rates above long-term rates (which was called “inverting the

yield curve”). Every time that happened, inflation-hedged assets and the economy went down. But Bunker was in the oil business, and the Middle East oil producers he talked to were still worried about the depreciation of the dollar. They had told him they were also going to buy silver as a hedge against inflation so he held on to it in the expectation that its price would continue to rise. I got out.

On December 8, 1979, Barbara and I had our second son, Paul. Everything was changing very fast, but I loved the intensity of it all.

By early 1980, silver had gone to nearly \$50, and as rich as he was, Bunker became a lot richer. While I had made a lot of money on silver’s rise to \$10, I was kicking myself for missing the ride to \$50. But at least, by being out, I didn’t lose money. There are anxious times in every investor’s career when your expectations of what should be happening aren’t aligned with what is happening and you don’t know if you’re looking at great opportunities or catastrophic mistakes. Because I had a strong tendency to be right but early, I was inclined to think that was the case. It was, but to have missed the \$40 move up was inexcusable to me.

When the plunge finally did happen, in March 1980, silver crashed back down below \$11. It ruined Hunt, and he nearly brought down the whole U.S. economy as he fell.² The Fed had to intervene to control the ripple effects. All of this pounded an indelible lesson into my head: Timing is everything. I was relieved that I was out of that market, but watching the richest man in the world—who was also someone I empathized with—go broke was jarring. Yet it was nothing compared to what was to come.

EXPANDING THE TEAM

Later that same year, a great guy named Paul Colman joined Bridgewater. We had become good friends from our dealings in the cattle and beef industry, and I respected his intellect and values, so I convinced him we should conquer that world together. He brought his wonderful wife and

kids up from Guymon, Oklahoma, and our families became inseparable. We ran the business in a scrappy, seat-of-the-pants way. Because the office part of the brownstone where I lived and worked was generally such a mess—with chicken bones or other scraps from working through the previous night’s dinner littering my desk—we held all our client meetings at the Harvard Club. Paul would hide a clean blue oxford shirt and tie amid the mess so I’d have something to wear. In 1981, we decided we wanted to raise our families in more of a country setting, so we all moved up to Wilton, Connecticut, to run Bridgewater from there.

Colman and I worked by challenging each other’s ideas and trying to find the best answers; it was a constant back-and-forth, which we both enjoyed, especially at a time when there was so much to figure out. We would debate about the markets and the forces behind them late into the night, plug data into the computer before we went to bed, and see what it spit out in the morning.

MY BIG DEPRESSION CALL

The economy was in even worse shape in 1979–81 than it was during the financial crisis of 2007–08 and the markets were more volatile. In fact, some would say this was the most volatile period ever. The charts opposite going back to 1940 show the volatility of interest rates and gold.

As you can see, there had been nothing like it prior to 1979–82. It was one of the most pivotal times in the last hundred years. The political pendulum throughout the world swung to the right, bringing Margaret Thatcher, Ronald Reagan, and Helmut Kohl to power. “Liberal” had ceased to mean being in favor of progress and had come to mean “paying people not to work.”

As I saw it, the Fed was stuck between a rock and a hard place. They either had to a) print money to relieve debt problems and keep the economy going (which had already pushed inflation to 10 percent in 1981 and was causing people to dump bonds and buy inflation-hedged

This view was extremely controversial. To most people, “depression” was a scary word used by kooky and sensationalist people, not something thoughtful people took seriously. But I had studied debt and depressions back to 1800, done my calculations, and was confident that the debt crisis led by emerging countries was coming. I had to share my thinking with my clients. Because my views were so controversial I asked others to track my reasoning and point out to me where it was bad. No one could find any flaws in my logic, though they were all reluctant to endorse my conclusion.

Because I believed that the choice was between accelerating inflation and deflationary depression, I was holding both gold (which performs well in accelerating inflation) and bonds (which perform well in deflationary depressions). Up until that point, gold and bonds had moved in opposite directions, depending on whether inflation expectations rose or fell. Holding those positions seemed much safer than holding alternatives like cash, which would lose value in an inflation environment, or stocks, which would crash in a depression.

At first, the markets went against me. But my experience with silver and other trades had taught me that I had a chronic problem with timing, so I believed I was just early and what I was expecting would happen soon. That didn’t take long to happen. By the fall of 1981, the tight Fed policies were having a devastating effect, my bond bets were beginning to pay off, and my kooky views were starting to look right on. In February 1982, the Fed temporarily added liquidity to avoid a cash crunch. In June, as the scramble for liquidity intensified, the Fed responded by printing money, increasing liquidity to its highest level since Paul Volcker’s appointment. But it still wasn’t enough.

THE GREATEST WHIPSAW EVER

In August 1982, Mexico defaulted on its debt. By then, it was clear to most everyone that a number of other countries were about to follow.

This was a huge deal, because U.S. banks had lent about 250 percent of their capital to other countries just as at risk as Mexico. Business loan activity in the U.S. ground to a halt.

Because I was one of the few people who had seen these things coming, I started to get a lot of attention. Congress was holding hearings on the crisis and invited me to testify; in November I was the featured guest on *Wall Street Week with Louis Rukeyser*, the must-watch show for anyone in the markets. In both appearances, I confidently declared that we were headed for depression and explained why.

After Mexico's default, the Fed responded to the economic collapse and debt defaults by making money more readily available. This caused the stock market to jump by a record amount. While that surprised me, I interpreted it as a knee-jerk reaction to the Fed's move. After all, in 1929 a 15 percent rally was followed by the greatest crash of all time. In October, I laid out my prognosis in a memo. As I saw it, there was a 75 percent chance the Fed's efforts would fall short and the economy would move into failure; a 20 percent chance it would initially succeed at stimulating the economy but still ultimately fail; and a 5 percent chance it would provide enough stimulus to save the economy but trigger hyperinflation. To hedge against the worst possibilities, I bought gold and T-bill futures as a spread against eurodollars, which was a limited-risk way of betting on credit problems increasing.

I was dead wrong. After a delay, the economy responded to the Fed's efforts, rebounding in a noninflationary way. In other words, inflation fell while growth accelerated. The stock market began a big bull run, and over the next eighteen years the U.S. economy enjoyed the greatest noninflationary growth period in its history.

How was that possible? Eventually, I figured it out. As money poured out of these borrower countries and into the U.S., it changed everything. It drove the dollar up, which produced deflationary pressures in the U.S., which allowed the Fed to ease interest rates without raising inflation. This fueled a boom. The banks were protected both because the Federal

Reserve loaned them cash and the creditors' committees and international financial restructuring organizations such as the International Monetary Fund (IMF) and the Bank for International Settlements arranged things so that the debtor nations could pay their debt service from new loans. That way everyone could pretend everything was fine and write down those loans over many years.

My experience over this period was like a series of blows to the head with a baseball bat. Being so wrong—and especially so publicly wrong—was incredibly humbling and cost me just about everything I had built at Bridgewater. I saw that I had been an arrogant jerk who was totally confident in a totally incorrect view.

So there I was after eight years in business, with nothing to show for it. Though I'd been right much more than I'd been wrong, I was all the way back to square one.

At one point, I'd lost so much money I couldn't afford to pay the people who worked with me. One by one, I had to let them go. We went down to two employees—Colman and me. Then Colman had to go. With tears from all, his family packed up and returned to Oklahoma. Bridgewater was now down to just one employee: me.

Losing people I cared so much about and very nearly losing my dream of working for myself was devastating. To make ends meet, I even had to borrow \$4,000 from my dad until we could sell our second car. I had come to a fork in the road: Should I put on a tie and take a job on Wall Street? That was not the life I wanted. On the other hand, I had a wife and two young children to support. I realized I was facing one of life's big turning points and my choices would have big implications for me and for my family's future.

FINDING A WAY PAST MY INTRACTABLE INVESTMENT PROBLEM

Making money in the markets is tough. The brilliant trader and investor Bernard Baruch put it well when he said, “If you are ready to give up everything else and study the whole history and background of the market and all principal companies whose stocks are on the board as carefully as a medical student studies anatomy—if you can do all that and in addition you have the cool nerves of a gambler, the sixth sense of a clairvoyant and the courage of a lion, you have a ghost of a chance.”

In retrospect, the mistakes that led to my crash seemed embarrassingly obvious. First, I had been wildly overconfident and had let my emotions get the better of me. I learned (again) that no matter how much I knew and how hard I worked, I could never be certain enough to proclaim things like what I’d said on *Wall Street Week*: “There’ll be no soft landing. I can say that with absolute certainty, because I know how markets work.” I am still shocked and embarrassed by how arrogant I was.

Second, I again saw the value of studying history. What had happened, after all, was “another one of those.” I should have realized that debts denominated in one’s own currency can be successfully restructured with the government’s help, and that when central banks simultaneously provide stimulus (as they did in March 1932, at the low point of the Great Depression, and as they did again in 1982), inflation and deflation can be balanced against each other. As in 1971, I had failed to recognize the lessons of history. Realizing that led me to try to make sense of all movements in all major economies and markets going back a hundred years and to come up with carefully tested decision-making principles that are timeless and universal.

Third, I was reminded of how difficult it is to time markets. My long-term estimates of equilibrium levels were not reliable enough to bet on; too many things could happen between the time I placed my bets and the time (if ever) that my estimates were reached.

Staring at these failings, I realized that if I was going to move forward without a high likelihood of getting whacked again, I would have to look at myself objectively and change—starting by learning a better way of

handling the natural aggressiveness I've always shown in going after what I wanted.

Imagine that in order to have a great life you have to cross a dangerous jungle. You can stay safe where you are and have an ordinary life, or you can risk crossing the jungle to have a terrific life. How would you approach that choice? Take a moment to think about it because it is the sort of choice that, in one form or another, we all have to make.

Even after my crash, I knew I had to go after the terrific life with all its risks, so the question was how to “cross the dangerous jungle” without getting killed. In retrospect, my crash was one of the best things that ever happened to me because it gave me the humility I needed to balance my aggressiveness. I learned a great fear of being wrong that shifted my mindset from thinking “I'm right” to asking myself “How do I know I'm right?” And I saw clearly that the best way to answer this question is by finding other independent thinkers who are on the same mission as me and who see things differently from me. By engaging them in thoughtful disagreement, I'd be able to understand their reasoning and have them stress-test mine. That way, we can all raise our probability of being right.

In other words, I just want to be right—I don't care if the right answer comes from me. So I learned to be radically open-minded to allow others to point out what I might be missing. I saw that the only way I could succeed would be to:

1. Seek out the smartest people who disagreed with me so I could try to understand their reasoning.
2. Know when not to have an opinion.
3. Develop, test, and systemize timeless and universal principles.
4. Balance risks in ways that keep the big upside while reducing the downside.

Doing these things significantly improved my returns relative to my risks, and the same principles apply in other aspects of life. Most importantly, this experience led me to build Bridgewater as an idea

CHAPTER 4

MY ROAD OF TRIALS:

1983–1994

Coming out of my crash, I was so broke I couldn't muster enough money to pay for an airplane ticket to Texas to visit a prospective client, even though the fees I'd earn were many times the cost of the fare—so I didn't make that trip. Still, I gradually added clients, revenue, and a new team. With time, my upswings increased in magnitude and my downswings were both tolerable and educational. I never thought of what I was doing as building (or rebuilding) a company; I was just getting the things I needed to play my game.

Computers were among the most valuable things I acquired, because of how they helped me think. Without them, Bridgewater would not have been nearly as successful as it turned out to be.

The first microcomputers (what would later be known as personal computers) had come on the market during the late 1970s, and I had been using them as econometricians did, applying statistics and computing power to economic data to analyze the workings of the economic machine. As I wrote in a December 1981 article, I believed (and still believe) that “theoretically . . . if there was a computer that could hold all of the world's facts and if it was perfectly programmed to mathematically express all of the relationships between all of the world's parts, the future could be perfectly foretold.”

But I was a long way from doing that. Though my early systems provided valuable insights into where prices would eventually reach equilibrium, they hadn't helped me develop robust trading strategies; they just showed me that a particular bet would eventually pay off. For example, I'd run through my analysis and end up with a view that the price of some commodity should be, say, 75 cents or so. If it was currently 60 cents, I'd know I wanted to buy it, but I wouldn't be able to predict that the price would drop to 50 cents before climbing back to 75, and I wouldn't know when to buy and sell. Rarely, but still too often, the system would be dead wrong and I would lose a lot.

“He who lives by the crystal ball is destined to eat ground glass” is a saying I quoted a lot in those days. Between 1979 and 1982, I had eaten enough glass to realize that what was most important wasn't knowing the future—it was knowing how to react appropriately to the information available at each point in time. In order to do that, I would have to have a vast store of economic and market data to draw on—and as it happened, I did.

From very early on, whenever I took a position in the markets, I wrote down the criteria I used to make my decision. Then, when I closed out a trade, I could reflect on how well these criteria had worked. It occurred to me that if I wrote those criteria into formulas (now more fashionably called algorithms) and then ran historical data through them, I could test how well my rules would have worked in the past. Here's how it worked in practice: I would start out with my intuitions as I always did, but I would express them logically, as decision-making criteria, and capture them in a systematic way, creating a mental map of what I would do in each particular situation. Then I would run historical data through the systems to see how my decision would have performed in the past

and, depending upon the results, modify the decision rules appropriately.

We tested the systems going as far back as we could, typically more than a century, in every country for which we had data, which gave me great perspective on how the economic/market machine worked through time and how to bet on it. Doing this helped educate me and led me to refine my criteria so they were timeless and universal. Once I vetted those relationships, I could run data through the systems as it flowed at us in real time and the computer could work just as my brain worked in processing it and making decisions.

The result was Bridgewater's original interest rate, stock, currencies, and precious metals systems, which we then combined into one system for managing our portfolio of bets. Our system was like an EKG on the economy's vital signs; as they changed, we changed our positions. However, rather than blindly following the computer's recommendations, I would have the computer work in parallel with my own analysis and then compare the two. When the computer's decision was different from mine, I would examine why. Most of the time, it was because I had overlooked something. In those cases, the computer taught me. But sometimes I would think about some new criteria my system would've missed, so I would then teach the computer. We helped each other. It didn't take long before the computer, with its tremendous processing power, was much more effective than me. This was great, because it was like having a chess grandmaster helping me plot my moves, except this player operated according to a set of criteria that I understood and believed were logical, so there was no reason for us to ever fundamentally disagree.

The computer was much better than my brain in “thinking” about many things at once, and it could do it more precisely, more rapidly, and less emotionally. And, because it had such a great memory, it could do a better job of compounding my knowledge and the knowledge of the people I worked with as Bridgewater grew. Rather than argue about our conclusions, my partners and I would argue about our different decision-making criteria. Then we resolved our disagreements by testing the criteria objectively. The rapidly expanding power of computers during that era was like a constant stream of gifts from the gods to us. I remember when RadioShack came out with an inexpensive handheld chess computer; we sent one to each of our clients with the message, “A Systemized Approach from Bridgewater.” That little computer chess game could kick my ass on level two out of its nine levels. It was fun to put it up against each of my clients so they could see how hard it was to beat computerized decision making.

Of course, we always had the freedom to override the system, which we did less than 2 percent of the time—mostly to take money off the table during extraordinary events that weren’t programmed, like the World Trade Center going down on 9/11. While the computer was much better than our brains in many ways, it didn’t have the imagination, understanding, and logic that we did. That’s why our brains working with the computer made such a great partnership.

These decision-making systems were much better than the forecasting systems I’d been using before, mostly because they incorporated our ongoing reactions to developments, allowing us to deal with a wider range of possibilities. They could also include timing rules. In a January 1987 piece called “Making Money vs. Making Forecasts,” I explained that:

Truth be known, forecasts aren't worth very much, and most people who make them don't make money in the markets. . . . This is because nothing is certain and when one overlays the probabilities of all of the various things that affect the future in order to make a forecast, one gets a wide array of possibilities with varying probabilities, not one highly probable outcome. . . . We believe that market movements reflect economic movements. Economic movements are reflected in economic statistics. By studying the relationships between economic statistics and market movements, we've developed precise rules for identifying important shifts in the economic/market environment and in turn our positions. In other words, rather than forecasting changes in the economic environment and shifting positions in anticipation of them, we pick up these changes as they're occurring and move our money around to keep in those markets which perform best in that environment.

Over the last three decades of building these systems we have incorporated many more types of rules that direct every aspect of our trading. Now, as real-time data is released, our computers parse information from over 100 million datasets and give detailed instructions to other computers in ways that make logical sense to me. If I didn't have these systems, I'd probably be broke or dead from the stress of trying so hard. We certainly wouldn't have done as well in the markets as we have. As you will see later, I am now developing similar systems to help us make management decisions. I believe one of the most valuable things you can do to improve your decision making is to think through your principles for making decisions, write them out in both words and computer algorithms, back-test them if possible, and use them on a real-time basis to run in parallel with your brain's decision making.

One of our clients in the mid-1980s was Alan Bond, an audacious entrepreneur who was one of the richest people in Australia. A self-made man, he was famous for being the first non-American to win the America's Cup yacht race in its then 132-year history. Like Bunker Hunt, he eventually bet badly and was forced to declare bankruptcy. I advised him and his team on their way up and stayed on through his downfall, so I watched the tragedy unfold from up close. His was a classic case of confusing business with speculation and only hedging when it was too late.

Bond borrowed U.S. dollars to buy assets like breweries in Australia. He did that because U.S. interest rates were lower than they were in Australia. Though he didn't realize it, he was speculating that the U.S. dollar, in which he would have to pay back his loans, would not rise. When the U.S. dollar did rise against the Australian dollar in the mid-1980s and his Australian-dollar beer-sales earnings weren't enough to pay his debts, his team called me for advice. I calculated what Bond Corp's position would be if they hedged on currencies and saw that doing so would lock in losses that would ruin them, so I advised them to wait. When the Australian dollar rallied, I advised them to put the hedges in place, but they didn't because they believed the currency problem had gone away. Before long, the Australian dollar plunged to new lows and they called me in for an emergency meeting. There wasn't much they could do without locking in ruinous losses, so they again did nothing, and this time the Australian dollar didn't rally. Seeing one of the richest and most accomplished men on the planet lose everything made a huge impression on me.

We also did one-off consulting projects related to the markets. In 1985, I worked with Paul Tudor Jones, a good friend and a great trader, to design a U.S. dollar futures contract (a tradable index

tracking the price of the U.S. dollar against a basket of foreign currencies) that traded (and still trades) on the New York Cotton Exchange. I also worked with the New York Futures Exchange to help design and market their CRB futures contract (a tradable index that tracks the price of a basket of commodities).

Unlike most people who work in the markets, I never had any desire to build investment products, especially conventional ones, just because they would sell well. All I wanted was to trade the markets and build relationships, doing for our clients exactly what I would do if I were in their shoes. But I also loved building brand-new things, especially if they were great and revolutionary. By the mid-1980s, a couple of things were clear to me: First, we were making good calls in the interest-rate and currency markets, and the institutional investment managers who were buying our research were using it to make money. Second, we were successfully managing companies' interest-rate and currency exposures. With those two things going as well as they were, I figured we could become successful institutional investment managers ourselves. So I made the pitch to the people who ran the World Bank's pension fund, most importantly Hilda Ochoa, who was its chief investment officer at the time. Despite the fact that we had no assets under management and no track record, she gave us a \$5 million U.S. bond account to manage.

That was a huge turning point for us, as it was the start of Bridgewater as we know it today. The strategy we used for the World Bank shifted between holding cash and holding twenty-year U.S. Treasury bonds, because these positions would give us leveraged bets on the direction of interest rates. When our systems indicated that the pressures on interest rates would cause them to fall, we would hold twenty-year Treasury bonds, and when the

system pointed to rates rising, we would stay in cash. We did very well, and before long other large institutional investors gave us money to manage as well. Mobil Oil and Singer were our next two accounts and others followed in rapid succession. We went on to become the top-performing U.S. bond manager in the world.

VENTURING BEHIND THE “CLOSED DOOR” OF CHINA

Part of what was great about consulting was that it gave me opportunities to travel. The more unusual a place, the more interesting I found it. This curiosity drew me to Beijing in 1984. The only images I’d seen of China when I was growing up were of masses of people waving Mao’s Little Red Book, so having an opportunity to go behind what was still a mostly “closed door” was alluring. I got the invitation because I had a small office in Hong Kong whose director was an advisor to CITIC, the “window company” that was the only business in China allowed to deal with the outside world. Beijing was filled with wonderful and incredibly hospitable people who introduced us to the tradition of drinking shots of Moutai while shouting *Ganbei!* (Bottoms up!) and generally showed us a great time. This first trip, which I made with my wife and a few other people, began an incredibly rewarding thirty-plus-year journey that has had a profound impact on my family and me.

There were no financial markets in China at the time; eventually a small group put together by nine Chinese companies (including CITIC) known as the Stock Exchange Executive Council began to develop them. They started in 1989. They operated out of a small hotel room and hardly had any financing. I can still picture the big garbage bin under the metal stairway going up to their office. I really

respected the risks these young people were taking by doing this at such an unsettled time, so I made a small donation to give them a hand and was excited to share my knowledge with them. From nothing, these people built China's markets and the government's securities regulatory arm.

In 1994, I set up a company called Bridgewater China Partners. By then, I was convinced that China was poised to become the greatest economy in the world in the twenty-first century, but hardly anyone was investing in China yet; good deals could still be struck. I could bring money to the table by introducing my institutional investment clients to opportunities, and I could provide know-how by introducing Chinese companies to American ones. In exchange, we would get a stake in these companies. Essentially, I was setting up the first U.S.-based private equity firm in China.

I launched the company by bringing a small group of institutional investor clients, who together managed \$70 billion in assets, to China for a visit. When we got back, we agreed to move forward by setting up a jointly owned merchant bank in Beijing. While I knew that entering a territory where few had been before would require a lot of experimentation and learning, I soon realized I had sorely underestimated the complexity of the task we had set for ourselves and the amount of time it would take. I found myself constantly on the phone at three in the morning, trying to make sense of the shaky accounting and questionable controls at the companies we were interested in—with all my Bridgewater responsibilities awaiting me when the sun came up.

After about a year of this, I could see that running both Bridgewater and Bridgewater China Partners wasn't going to be possible, so I closed its doors. Nobody made or lost any money,

because I hadn't been comfortable enough with what I was seeing to make any investments. I'm sure that if I had devoted all my time to it, we would have had great success, but then Bridgewater would not be what it is today. Despite passing up this great opportunity, I don't regret my choice. I learned that if you work hard and creatively, you can have just about anything you want, but not everything you want. Maturity is the ability to reject good alternatives in order to pursue even better ones.

While I stepped away from that opportunity, China remained an important part of my own and my family's lives. We loved it, especially the people. In 1995, my wife, Barbara, our eleven-year-old son, Matt, and I decided together that Matt would spend a year in Beijing, attending an all-Chinese school and living with our friend Madame Gu, who had stayed with us in America and whom Matt had visited in China with us when he was three. Standards of living in China were very different from what Matt was accustomed to in Connecticut. For example, the apartment Madame Gu and her husband lived in had hot water for showers only twice a week, and the school Matt attended didn't have heat until well into the winter, so the students wore their coats in the classrooms. Matt didn't speak Chinese and none of his classmates spoke English.

All of this was not just a huge adventure for Matt; it was completely unprecedented and required special permission from the Chinese government. I was excited for Matt because I knew he would see a different world and broaden his mind. Barbara needed a little convincing and a couple of visits to a child psychologist for reassurance, but she had lived all around the world herself and knew how it had benefited her, so she was ultimately receptive to the idea, even if she was less excited about being separated from her son. Matt's difficult but life-changing journey profoundly affected his

that interesting and invaluable, and the richer perspective you gain will help you decide what you should do.

MY FAMILY AND MY EXTENDED FAMILY

My family, my extended family of co-workers, and my work have all been extremely important to me. Juggling work and family has been as much a challenge to me as to anyone else, especially since I wanted both to be great, so I combined them whenever I could. For example, I took my kids on business trips. When at first I brought my son Devon and later Matt to my Chinese business meetings, our hosts were always very kind—they would give them cookies and milk. One great memory from Abu Dhabi was when my clients/friends took my son Paul and me to the desert to eat a freshly killed and roasted goat with our bare hands. I asked Paul, who was dressed in the traditional gown they'd given him, how he liked it and he said, "What could be better than to sit on the floor, dressed in pajamas, eating with my hands, with nice people?" We all laughed. I remember another time when my eldest son, Devon, then about 10 years old, brought back silk scarves from China he'd bought for \$1 and sold for \$20 in a shopping mall just before Christmas—which was just the first sign of his business savvy.

By the mid-1980s, Bridgewater had grown to about ten people, so I rented a big old farmhouse. Bridgewater occupied part of it and my family occupied the rest. It was extremely informal and family-like: Everyone parked in the driveway, we met around the kitchen table, and my kids would leave the door open while they sat on the toilet. The people I worked with would wave as they walked by.

Eventually, the farm was put up for sale so I bought a barn on the property and renovated it. My wife, our kids (eventually there were

four), and I lived in a small apartment inside the barn, and I made the unfinished hayloft usable as an office by putting in electric baseboard heat, which I chose because it was cheapest to install. It was a great space for parties and there was enough land for us to play soccer and volleyball and have outdoor barbecues. For our company Christmas party, we'd have a big potluck dinner with my family. After a few drinks, Santa would show up and we'd all sit on his lap for a photo and find out who had been naughty or nice. The night always ended with a lot of dancing. We also had an annual "Sleaze Day" when everybody would dress up sleazy. You get the idea: Bridgewater was a small community of friends who worked hard and partied hard.

Bob Prince joined Bridgewater in 1986 when he was still in his twenties, and more than thirty years later we are still close partners as co-chief investment officers. From the very start, Bob and I "played great jazz together" whenever we'd go back and forth on ideas. We still love doing that and will until one of us dies. He is also a great teacher, both to clients and co-workers. Over time, he became like my brother as well as one of the most critical builders and pillars of Bridgewater.

Soon, Bridgewater began to look like a real company. We outgrew the barn and moved into a small office in a strip mall; there were twenty of us by the end of the 1980s. But even as we grew, I never thought of anybody I worked with as an employee. I had always wanted to have—and to be around people who also wanted to have—a life full of meaningful work and meaningful relationships, and to me a meaningful relationship is one that's open and honest in a way that lets people be straight with each other. I never valued more traditional, antiseptic relationships where people put on a façade of politeness and don't say what they really think.

I believe that all organizations basically have two types of people: those who work to be part of a mission, and those who work for a paycheck. I wanted to surround myself with people who needed what I needed, which was to make sense of things for myself. I spoke frankly, and I expected those around me to speak frankly. I fought for what I thought was best, and I wanted them to do so as well. When I thought someone did something stupid, I said so and I expected them to tell me when I did something stupid. Each of us would be better for it. To me, that was what strong and productive relationships looked like. Operating any other way would be unproductive and unethical.

MORE BIG TWISTS AND TURNS IN THE ECONOMY AND MARKETS

1987 and 1988 were filled with more of those big twists and turns that helped shape me and my approach to life and investing. We were one of the few investment managers who were short stocks ahead of “Black Monday,” October 19, 1987, then the largest single-day percentage decline in the history of the stock market. We got a lot of attention because we were up 22 percent when most others were down a lot. The media dubbed us as among the “Heroes of October.”

Naturally, I was feeling pretty good going into 1988. I had grown up in an era of high volatility and had learned that the best way to play it was to get a hold of a big move and ride it. We used our indicators to catch shifting fundamentals and our technical trend-following filters to confirm that price movements were consistent with what the indicators were suggesting. When they both pointed in the same direction, we had a strong signal; when they were at

odds, we had little or no signal. But as it turned out there was hardly any volatility in 1988, and so our technical filters whipsawed us and we ended up giving back a bit more than half our 1987 gains. That stung, but it also taught us some important lessons and prompted Bob and me to replace our technical trend-following filter with better value measures and risk controls.

Until then our systems had been completely discrete—we would flip from a fully long position to a fully short one when we crossed a predetermined threshold (much as we switched from bonds to cash for the World Bank). But we weren't always equally confident in our views, and we'd also get killed paying transaction costs when we crossed back and forth. That drove Bob crazy. I can remember him running laps around the office building to calm himself down. So at the end of the year, we moved to a more variable system that allowed us to size our bets in relation to how confident we were. These and other improvements Bob made to our systems have paid off many times since.

Not everyone at Bridgewater saw things as Bob and I did. Some in the company doubted that systemization could work, especially when the systems didn't do well, which, like normal decision making, happened every now and then. It took a lot of reasoning to persuade some of the people I worked with to press on. But even if I couldn't convince them, they couldn't change my mind, because they couldn't show me why our approach of clearly specifying, testing, and systemizing our logic wasn't preferable to making decisions less systematically.

All great investors and investment approaches have bad patches; losing faith in them at such times is as common a mistake as getting too enamored of them when they do well. Because most people are more emotional than logical, they tend to overreact to short-term

results; they give up and sell low when times are bad and buy too high when times are good. I find this is just as true for relationships as it is for investments—wise people stick with sound fundamentals through the ups and downs, while flighty people react emotionally to how things feel, jumping into things when they're hot and abandoning them when they're not.

Despite our relatively poor investment performance, 1988 was a great year for Bridgewater, because by reflecting on and learning from our poor performance, we made systematic improvements. I have come to realize that bad times coupled with good reflections provide some of the best lessons, and not just about business but also about relationships. One has many more supposed friends when one is up than when one is down, because most people like to be with winners and shun losers. True friends are the opposite.

I got a lot out of my bad times, not just because they gave me mistakes to learn from but also because they helped me find out who my real friends were—the friends who would be with me through thick and thin.

THE NEXT Foothold FOR BRIDGEWATER

As the 1980s came to an end, we were still a very small company, with just two dozen employees. Bob introduced me to Giselle Wagner in 1988. She would be my partner in running the noninvestment side of the business for twenty years. Dan Bernstein and Ross Waller joined in 1988 and 1989, respectively, both fresh out of Dartmouth College. At that time, and for quite a while longer, I tended to hire people just out of school who didn't have much experience but were smart, determined, and committed to the mission of making the company great.

image

not

available

the past) and determine an “optimal mix” of those assets in a portfolio. But his model didn’t tell you anything about the incremental effects of changing any one of those variables, or how to handle being uncertain about those assumptions. By then I was terribly fearful about what would happen if my assumptions were wrong, so I wanted to understand diversification in a very simple way. I asked Brian Gold, a recently graduated math major from Dartmouth who’d joined Bridgewater in 1990, to do a chart showing how the volatility of a portfolio would decline and its quality (measured by the amount of return relative to risk) would improve if I incrementally added investments with different correlations. I’ll explain it in more detail in my Economic and Investment Principles.

That simple chart struck me with the same force I imagine Einstein must have felt when he discovered $E=mc^2$: I saw that with fifteen to twenty good, uncorrelated return streams, I could dramatically reduce my risks without reducing my expected returns. It was so simple but it would be such a breakthrough if the theory worked as well in practice as it did on paper. I called it the “Holy Grail of Investing” because it showed the path to making a fortune. This was another key moment in our education.



The principle we'd discovered applies equally well to all ways of trying to make money. Whether you own a hotel, run a technology company, or do anything else, your business produces a return stream. Having a few good uncorrelated return streams is better than having just one, and knowing how to combine return streams is even more effective than being able to choose good ones (though of course you have to do both). At the time (and still today), most investment managers did not take advantage of this. They managed investments in a single asset class: equity managers managed equities, bond managers managed bonds, and so on. Their clients gave them money with the expectation that they would receive the overall return of the asset class (e.g., the S&P 500 stock market index) plus some added returns from the bets managers took by over- and under-weighting particular assets (e.g., buying more Microsoft stock than was in the index). But individual assets within an asset class are generally about 60 percent correlated with each other, which means they go up or down together more than half the time. As the Holy Grail chart showed, an equity manager could put a thousand 60 percent-correlated stocks into their portfolios and it wouldn't provide much more diversification than if they'd picked only five. It would be easy to beat those guys by balancing our bets in the way the chart indicated.

Thanks to my process of systematically recording my investment principles and the results they could be expected to produce, I had a large collection of uncorrelated return streams. In fact, I had something like a thousand of them. Because we traded a number of different asset classes, and within each one we had programmed and tested lots of fundamental trading rules, we had many more high-quality ones to choose from than a typical manager who was

tracking a smaller number of assets and was probably not trading systematically.

I worked with Bob and Dan to pull our best decision rules from the pile. Once we had them, we back-tested them over long time frames, using the systems to simulate how the decision rules would have worked together in the past.

We were startled by the results. On paper, this new approach improved our returns by a factor of three to five times per unit of risk, and we could calibrate the amount of return we wanted based on the amount of risk we could tolerate. In other words, we could make a ton more money than the other guys, with a lower risk of being knocked out of the game—as I'd nearly been before. I called it the “killer system” because it would either produce killer results for us and our clients or it would kill us because we were missing something important.

The success of this approach taught me a principle that I apply to all parts of my life: Making a handful of good uncorrelated bets that are balanced and leveraged well is the surest way of having a lot of upside without being exposed to unacceptable downside.

As excited as we were about this new approach, we proceeded cautiously. We gave the system a 10 percent weight initially and it made money in nineteen of the twenty months in our test period. As we got more confident, I decided to reach out to a select group of investors I knew well about investing in the strategy with \$1 million trial accounts. I knew that asking these institutional investors to invest such relatively modest amounts would make it hard for them to turn us down. I called the new product “Top 5%” at first, because it comprised the best 5 percent of our decision rules; later I changed the name to Pure Alpha to convey that it consisted purely of alphas. Because Pure Alpha didn't have any betas, it didn't have any bias to

go up or down along with any market. Its returns depended only on how good we were in outperforming others.

Our totally new “alpha overlay” approach allowed investors to receive the return of their chosen asset class (the S&P 500 stock market, a bond index, commodities—whatever) plus the return from the portfolio of bets that we were making across all asset classes. As unprecedented as our approach was, we explained our logic carefully, showing why it was actually much less risky than traditional approaches. We also showed them how we expected the cumulative performance to unfold and what the expected range of performance around that would be. For our clients, it was a bit like being presented with the design of a plane that had never flown before but looked radically better than any other plane on paper. Would anyone be courageous enough to get on board?

GROSS CUMULATIVE ALPHA VS. EXPECTATIONS (IN)



Some clients got the concepts and were excited to change the rules; others either didn’t understand or worked for organizations that refused to try cutting-edge things. Frankly, we were thrilled that any of them were willing to try. For over twenty-six years now, that new type of plane has flown exactly as we anticipated, making money in twenty-three of these years (having only modest losses in the other three) and making more money in total for our clients than any other hedge fund ever. While the investment management concepts that underlie Pure Alpha eventually changed our industry,

the journey from conception to general acceptance took many years of learning and grinding work by a group of dedicated partners.

GETTING OUR KILLER SYSTEM OUT INTO THE WORLD

Pure Alpha represented the best way we knew to actively manage money, but we also knew that if we wanted to manage a meaningful amount of institutional money, we had to accept the reality that only a limited number of innovative clients would try the approach. So while we tried to convince clients to adopt our way, by the end of the 1990s and into the early 2000s, Pure Alpha made up only around 10 percent of our total assets under management.

Even though we couldn't trade stocks and commodities in our pure bond accounts, we applied the portfolio structuring principles we'd discovered and used with Pure Alpha to give our bond clients higher returns at lower levels of risk. This included trading foreign government bonds, emerging market debt, inflation-linked bonds, corporate bonds, and the currency exposures that came with the foreign investments. In our most unconstrained bond portfolios, we would make about fifty different types of bets, way more than traditional bond managers traded. Doing so gave us a big edge and landed us at the top of many investment performance tables year after year.

Our Pure Alpha product was just the first of a number of innovative designs we brought to our clients. In 1991, we had become the first currency overlay managers for institutional investors. At the time, institutional investors were placing larger portions of their portfolios into global equity and bond markets. While investing internationally added valuable diversity, it also

how he affects people and company morale.” They sent me a memo first, the gist of which was that my way of operating was having a negative effect on everyone in the company. Here’s how they put it:

What does Ray do well?

He is very bright and innovative. He understands markets and money management. He is intense and energetic. He has very high standards and passes these to others around him. He has good intentions about teamwork, building group ownership, providing flexible work conditions to employees, and compensating people well.

What Ray doesn’t do as well:

Ray sometimes says or does things to employees which makes them feel incompetent, unnecessary, humiliated, overwhelmed, belittled, oppressed, or otherwise bad. The odds of this happening rise when Ray is under stress. At these times, his words and actions toward others create animosity toward him and leave a lasting impression. The impact of this is that people are demotivated rather than motivated. This reduces productivity and the quality of the environment. The effect reaches far beyond the single employee. The smallness of the company and the openness of communication means that everyone is affected when one person is demotivated, treated badly, not given due respect. The future success of the company is highly dependent on Ray’s ability to manage people as well as money. If he doesn’t manage people well, growth will be stunted and we will all be affected.

Ugh. That hurt and surprised me. I never imagined that I was having that sort of effect. These people were my extended family. I didn’t want them to feel “incompetent, unnecessary, humiliated,

overwhelmed, belittled, oppressed, or otherwise bad.” Why didn’t they tell me directly? What was I doing wrong? Were my standards too high? For Bridgewater to continue to be a one-in-ten-thousand-type company we had to have exceptional people and hold them to extremely high standards. Was I demanding too much?

This looked to me like another one of those fork-in-the-road cases in which I had to choose between one of two seemingly essential but mutually exclusive options: 1) being radically truthful with each other including probing to bring our problems and weaknesses to the surface so we could deal with them forthrightly and 2) having happy and satisfied employees. And it reminded me that when faced with the choice between two things you need that are seemingly at odds, go slowly to figure out how you can have as much of both as possible. There is almost always a good path that you just haven’t figured out yet, so look for it until you find it rather than settle for the choice that is then apparent to you.

My first step was to make sure I knew exactly what the problems were and how to handle them. So I asked Bob, Giselle, and Dan what they thought was going on. I learned that they personally, and many others who knew me well, weren’t as demoralized by me as some others because they understood my heart was in a good place. If they hadn’t known that they would have quit, because, as they put it, “I wasn’t paying them enough money to put up with my crap.”

They knew that I wanted the best for them and Bridgewater, and to get that I needed to be radically truthful with them and I needed them to be radically truthful with me. This wasn’t only because it produced better results, but also because being truthful with each other was fundamental to how I believed we should be with each

other. We agreed that being this way was essential, but since it was making some people feel bad, something had to change.

While those people I had contact with understood me, liked me, and in some cases even loved me, those who had less contact with me were offended by my directness. It was clear that I needed to be better understood and to understand others better. I realized then how essential it is that people in relationships must be crystal clear about their principles for dealing with each other.

That began our decades-long process of putting our principles into writing, which evolved into the Work Principles. Those principles were both agreements for how we would be with each other and my reflections on how we should handle every situation that came up. Since most types of situations arose repeatedly with slight variations, these principles were continually refined. As for our agreements with each other, the most important one was our need to do three things:

1. Put our honest thoughts out on the table,
2. Have thoughtful disagreements in which people are willing to shift their opinions as they learn, and
3. Have agreed-upon ways of deciding (e.g., voting, having clear authorities) if disagreements remain so that we can move beyond them without resentments.

I believe that for any organization or for any relationship to be great, these things are required. I also believe that for a group decision-making system to be effective, the people using it have to believe that it's fair.

Having our work principles written out and getting in sync about them in the same way we had with our investment principles were essential for our understanding each other, especially since our

unique way of operating—this radical truth and radical transparency—that led to our unique results is counterintuitive and emotionally challenging for some.

Trying to understand how we could get our meaningful work and meaningful relationships through this straightforwardness led me to speak with neuroscientists, psychologists, and educators over the decades that followed. I learned a lot, which I can summarize as follows. There are two parts of each person’s brain: the upper-level logical part and the lower-level emotional part. I call these the “two yous.” They fight for control of each person. How that conflict is managed is the most important driver of our behaviors. That fighting was the biggest reason for the problems Bob, Giselle, and Dan raised. While the logical part of people’s brains could easily understand that knowing one’s weaknesses is a good thing (because it’s the first step toward getting around them), the emotional part typically hates it.

3 By “return streams,” I mean the returns that come from executing a particular decision rule—think of them as lines on a chart that track the value of an investment through time, and the decision to either let it continue to grow in value or sell.

4 This approach is what I call the “5-Step Process.” I’ll dive into it in more detail later on.

5 I’ll explore more on the topic of working with computer-aided decision-making systems in Chapter Five of *Life Principles, Learn How to Make Decisions Effectively*.

6 With advances in digital technology, we continue to innovate our methods for recording and distributing this content.

7 You can find the references to books by Robert Kegan, Edward Hess, and Adam Grant in the bibliography.

8 Treasury secretary Hank Paulson's moves, especially putting government money into systemically important banks, were also crucial.

Summers began looking into whether the U.S. should issue its own inflation-indexed bonds, and because we were the only manager with a portfolio of such bonds, he called us in as experts.

Dan and I traveled down to Washington to meet with Summers, his Treasury colleagues, and a number of representatives from well-known Wall Street firms. We were late (punctuality isn't one of my strengths) and the doors to the big meeting room at Treasury were locked. I wasn't going to let that stop me, so I knocked until someone opened it. It was a large room with a table in the middle and a press gallery off to the side. There was only one seat open at the table and it had Dan's nameplate in front of it—we'd agreed that he'd be our one allowed representative since he'd done a lot of the prep work. I had forgotten that, so I walked over to the press gallery, grabbed a chair, and carried it next to Dan's so I had a seat at the table too. Dan describes that meeting as an analogy for what it was like for us in the 1990s in general: We had to barge our way into things. Larry Summers has since said that the advice he got from us was the most important in shaping this market. When the Treasury did create the bonds, they followed the structure we recommended.

DISCOVERING RISK PARITY

By the mid-1990s, I had enough money to set up a trust for my family, so I began to think about what the best asset allocation mix for preserving wealth over generations would look like. In my years as an investor, I had seen all sorts of economic and market environments and all kinds of ways that wealth could be created and destroyed. I knew what drove asset returns, but I also knew that no matter what asset class one held, there would come a time when it would lose most of its value. This included cash, which is the worst

investment over time because it loses value after adjusting for inflation and taxes. I also knew how difficult it was to anticipate the swings that cause those losses. I've devoted my life to it and I've made my share of bad calls; anticipating these swings wasn't something I'd bet on others doing well when I wasn't around. Finding investors who have done well in all economic environments—when inflation rises and when it falls, when there are booms and when there are busts—is like finding needles in a haystack, and they don't live forever so that's not a viable path. I didn't want the wealth I had created to protect my family to be wiped out after I was gone. That meant I had to create a mix of assets that could be good in all economic environments.

I knew which shifts in the economic environment caused asset classes to move around, and I knew that those relationships had remained essentially the same for hundreds of years. There were only two big forces to worry about: growth and inflation. Each could either be rising or falling, so I saw that by finding four different investment strategies—each one of which would do well in a particular environment (rising growth with rising inflation, rising growth with falling inflation, and so on)—I could construct an asset-allocation mix that was balanced to do well over time while being protected against unacceptable losses. Since that strategy would never change, practically anyone could implement it. And so, with help from Bob and Dan, I created a portfolio mix that I could comfortably put my trust money in for the next hundred or more years. I called it the “All Weather Portfolio” because it could perform well in all environments.

Between 1996 and 2003 I was the only “client” investing in it because we didn't sell it as a product. But in 2003, the head of Verizon's pension fund, a longtime client, told us he was looking for

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