THE UNCOMFORTABLE TRUTH ABOUT MONEY

How to live with uncertainty and think for yourself

PAUL PODOLSKY

"A very talented man"—RAY DALIO

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To Grandpa, who taught me my first money lessons and to my kids, Sasha and Nicole, whom I thought about on each page.

CHAPTER ONE: CAGED

Money is a cage, you need a strategy to live within its confines.

CHAOS WAS WATCHING my mother slowly give way from the inside out, like a pear going bad when I was three, four, and five. Cancer does that.

Order was gaining self-reliance, whether it was learning how to cook eggs or scaling a cliff.

When I became a father, I realized creating order also meant learning to be good with money. Up until that moment, I thought people who focused too much on money were narrow, risk-averse souls who were missing out on life.

In fact, I can name the exact moment when I realized I had misjudged.

It was 1997. I was 29 and standing on a Brooklyn sidewalk holding the hand of my three-year-old son, Sasha, and watching a line of rotund rats lazily amble back and forth between the entrance of our building and a stack of leaking garbage.

The thought floated up:

Paul, this is not working, something needs to change, fast.

I didn't want to raise my kids among rats. But to change apartments, I needed money that I didn't have.

So began a long journey from that time to today.

This book takes those money lessons learned, really a series of frameworks, and makes them accessible for any reader who, like me years ago, has no clue how money works.

Many things matter more than money.

Money certainly isn't everything, but it is something. You can't get away from money, but having a decent understanding is hard because money often means several things at once. For instance:

Money is cash today and cash for some distant tomorrow, like old age, if we are lucky enough to experience old age.

Money is cash but also credit.

Money is a dollar but also a euro or a yen to someone else in a different country.

Money is for things you know you need, like food, and for things you may or may not need, like emergency medical care, and for things you don't need but want, like a snazzy shirt.

Money is numbers and facts but also emotions and sensations.

We are all caged by money. It contains us sometimes physically and sometimes mentally.

Knowing the mechanics of how the money cage works helps distinguish logic from emotion and, in the process, keeps us calmer and facilitates better decisions.

Yes, it would be easier if there were simple answers. But the truth is money is a series of trade-offs without fixed, permanent answers.

People have been worrying about money for thousands of years and will continue to do so.

We think about sex a lot, and most thoughts are probably happy ones. But we might think about money even more and many of the thoughts will likely be anxious ones, that terrible sense of being short or worrying about being short.

Talking about money makes people uncomfortable.

People are happy to tell you where they were educated. I'm told they will send naked photos of themselves on dating sites. But no one wants to tell you how much money they have.

Most everyone is insecure about the topic.

If they have too little money, they feel uncomfortable, like it is their fault. If they have a lot, they worry you will resent them for it or ask them for some. Sometimes rich people don't feel rich. Instead, they feel poor compared to other rich people to whom they compare themselves.

Few people know how money works, even though many are forced to behave in a certain way because of how much money they have, as any person who doesn't have enough money can attest.

Your life is easier if you are fluent with money. The thing that got me away from those rats was, pure and simple, studying how money works. It's a basic life skill that doesn't require more than high-school math, but it's still difficult to learn because money flits like the flame of a candle in value and form, and requires both big-picture understanding and micro, detail-level understanding. That's the goal of this book—to share that understanding with you so you don't have to learn from scratch, as I did, which, while rewarding, is time consuming.

This book focuses less on "what should be" than "what is," meaning how the system is set up. I find parts of the system to be unfair. The system is nonetheless a reality to be understood and navigated.

I got my money education in real-time, out of necessity, piece by piece. Money understanding appears gradually and for me was always tied to specific experiences.

At the time of the rat encounter in Brooklyn, I was toiling in the lowest rungs of financial journalism, filing reports about the cotton market. I was married, with a child, and living on $38,000 in New York City.

During the day, I'd interact with traders who seemed to understand things about money that I didn't.

Tony, I'd say, this is Paul from Dow Jones.

Tony traded in the cotton pit, an institution that dated to the 19th century and established the price for cotton at some point in the future when the crop matured.

I got his name from a list of sources passed down from reporter to reporter.

Bid, weather, said Tony, then slammed down the phone.

At first, I had no idea what he meant. Then I got it. Cotton prices were rising ("bid") because bad weather, like a tornado, risked hurting the crop and reducing supply.

Flash forward 20 years. I was now an equity partner at the biggest hedge fund in the world. By this point, I'd not only studied and traded commodities like cotton, copper and oil, but also bonds, stocks, real estate, and currencies.

I had more money, but I still worried about money. Earning it was stressful. I was now older and life was short.

How long would I live?

How much money did I need?

To the outside world and maybe my kids, I might have looked like a stodgy guy, off to work in the morning, home for dinner, appearing at my kids' sports events or guidance counselor meetings.

Inside though, there was another reality. I knew that experiencing a meaningful life was more important than accumulating money. Money was merely a tool to accomplish that goal, though an important one.

I felt and feel life requires us to mentally occupy two spheres at once—reverent awe and practical reality.

This belief in the importance of awe formed early on, well before I knew anything about money.

The moments of connection with my Mom before she died were precious few. But they existed and left a deep impression, like an early morning bird-watching jaunt at a Woods Hole, Massachusetts salt marsh, the scent of brackish water. Maybe I was three? Wet sneakers, my small hand in hers.

After that, I was always in search of moments that transcended the ordinary, that reminded me of what a miracle it is to be alive. I suspect we all are looking for such moments. Particularly after she died, I knew life was short and unpredictable and those magical, rare moments were to be both cultivated and treasured.

Sometimes these moments came on the side of a mountain, in a fierce snowstorm. Sometimes they came rounding a corner in a cobblestoned foreign city, picking up little smatterings of an unfamiliar tongue. Sometimes they came from reading the perfect sentence sitting quietly in a library or a cafe, like when I first tried a latte at a cafe in Berkeley while reading the poet Milosz.

I definitely felt it the first time I held my children, warm and defenseless.

Those were the times when I felt most alive. Life vibrated with possibility and connection.

Money wasn’t any part of it.

That feeling of awe was what I was chasing after when I lived in Moscow in my early twenties, working as a journalist. I wanted to be a writer and writers seemed to pursue writerly experiences early on, like Hemingway driving an ambulance in Italy during World War I.

Love fit right in among those elevated experiences. I met my wife Marina during that time. She was a guest at a party my boss threw. It was love at first sight, at least for me. Later, we drank wine and discussed everything, the kitchen window flung all the way open, Gorky Park’s verdant expanse visible across the river.

That dreamy state was rudely interrupted by very practical concerns, like needing to come up with the money to bribe the Moscow doctors and nurses to deliver our son, Sasha. In a place like Russia, and many other parts of the world, the doctors supplemented meager official pay with money under the table negotiated ahead of time. As I recall, it was about $2,000 in crisp $100s. The rat episode several years later only cemented my growing awareness of the need to focus on practical realities.

Money is a shackle that keeps us tethered to such realities, like rent, health insurance, and electricity bills. When I was young, I acted as if this chain did not exist. But it does. It is inescapable like our mortality is inescapable. That's also why the very rich or famous often lose their way. When they become too rich or famous, they lose their tie to reality.

Having a frank conversation about money is sort of like having a frank conversation about sex—awkward, but better to have the talk than not.

When I grew up, my brother and I had an awkward sex talk with our father.

At that point, the man's penis becomes…lectured my father, as my brother and I exchanged looks. But we never had the money talk. That's probably because my father didn't understand money.

I had the sex talk with my kids, too, but we also never had the money talk. Part of that is due to reasons I shared in *Raising a Thief*. Each of my kids had pressing challenges that didn't leave space for the money talk.

This book is for the general public but also for my kids, in place of the money talk we should have had.

Money awareness, while practical, doesn't preclude awe. At least it doesn't have to.

I still crave those transcendent moments and hope I have more before I am gone. But even a funeral costs money, so there will be money questions right up until the end.

Figuring out money is in part about finding your spot in life, which can seem an impossibly large question, particularly when you are young.

When you do something others need, you get paid. When you spend less than you earn, your wealth increases. It's that simple. The question is how much you will get paid and at what rate will your savings grow. The longer it takes you to figure out what you can offer, the slower this process will be.

Answering those questions requires figuring out what you are made of, which requires courage and honesty. We all worry whether our particular defects preclude a happy life. Everyone is insecure. Earning a living and building up savings will help you feel more secure.

My own fear about being able to earn a living crystalized under florescent light, in a small room off of the college green.

I sat opposite a kind, older woman with a warm voice and a face lined like a walnut.

Take a piece of paper, roll it up, and look out of it like a telescope, she said.

Holding the white paper with my left hand, I scrunched shut my left eye and held the 'telescope' up to my right eye. In other words, I was left-handed and right-eyed, neither side was dominant.

That sequence was part of what led her to believe that my wiring was wacky. I was 19. I had struggled with school my whole life. Geometry was a breeze, grammar a nightmare. I didn't think anything was wrong with me, only that I was unpredictably stupid. I never knew what subject would crush me and what would be unexpectedly easy. The diagnosis was an initial relief, quickly followed by a wave of anxiety.

Who would hire someone with dyslexia?

I already knew I wanted to be a writer. Were there any dyslexic writers?

Writers were either brilliant and independently wealthy, like Tolstoy, or indigent and crazy, like Dostoyevsky, or locked alone in a room with no dependents, like Proust. I wasn't rich, didn't want to be crazy, and didn't want to live my life as a hermit in a cork-walled room. In short, I couldn't envision a spot in the work world that suited me.

I slowly figured out there was another option. I could write if I had enough money to not need to depend on writing for money. The problem was, I didn't know anything about money.

One way or another, you need to bring what you are interested in in line with the need for positive cash flow. To figure out what you are interested in, observe your hobbies. What do you do involuntarily? If it is, say, skateboarding, what is it about skateboarding? Being outside all day? Being physical? The gear? Whatever it is, it is a riddle only you can answer and a first step in solving the money question.

The basics of money are deceptively simple. Beyond spending less than you earn, there is getting the best job you can, investing your savings into a mix of stocks and bonds using the cheapest, simplest instruments, and avoiding getting stuck in things that destroy wealth—like addictions and divorce. Retire when you've got enough and share your excess savings with your kids.

It's like diet advice, which is also deceptively simple. Don't eat much, mostly vegetables. Yet, many people in rich countries are overweight and feel they don't have enough money. Reality defies simple slogans.

Following a good food practice is hard because we live in an era of abundance and are wired for scarcity. A food industry that injects what it can with addictive substances, like sugar, doesn't help. Eating healthy doesn't just mean choosing some foods and avoiding others; it means rewiring our brains for abundance, training ourselves to abstain, getting used to mild bouts of hunger. A scale helps. Diet books don't want to say that because abstaining from cake is hard, weighing yourself is humbling, and they want weight loss to be easy. It ain't easy and it never will be.

Money is also not easy.

A fundamental issue is the inescapable fact that money isn't stable.

The stock that was trading at $100 a month ago is worth $10 today. The company that looked like a safe place to work, General Electric, became financially fragile. What looks from afar to be an oasis—a career making horse bridles or combustion engines—can, upon arrival, be an illusion, when first cars and then electric cars gain traction.

Conditions that prevail for a protracted period of time lull participants into believing those conditions will last forever. Thus, the relative stability of

Europe in the 19th century made the rapid shift of conditions during World War I wildly unexpected. Similarly, falling inflation from 1980 until roughly 2020 led savers to believe inflation would never be a problem. Then came the pandemic. Oops.

These violent shifts relative to the past are massively wealth-destroying.

Beyond the intellectual challenge of understanding what is going on, there is the emotional challenge.

We want something from money—security—that money structurally cannot provide.

Your job is unstable, your savings are unstable, and the country you live in might be unstable. The whole thing is rickety.

Moreover, your functioning is unstable. One day you are healthy, the next day you aren't. You go from earning money to being dependent on savings.

When your conditions change, your relationship to money changes, in the same way you look at a set of stairs differently after you sprain an ankle.

Some people come through this turbulence just fine, not ever realizing how unstable the structure itself is that they are inside. Others get wiped out.

As I write this, it is less than 100 years since a hyper-developed country, Germany, lined up behind a maniac. He created hell on earth, obliterating lives and wealth. Millions of people enthusiastically followed him, both in Germany and elsewhere. In the years since, people haven't changed. If it can happen in Germany, it can happen anywhere and it has—Chile (1970s), Rwanda (1990s), Italy (1930s), Russia (1930s and 2020s).

This truth will not appear in money books for the same reason the diet books are deceptive—it's uncomfortable, even unnerving, to consider that reality.

Never look away.

Institutions related to money retain a facade of solidity—heavy granite columns, stone, and steel. It is meant to look permanent, like the Colosseum in Rome, to disguise a chaotic reality. Similarly, money experts wear suits and ties, meant to show that they are serious people, as opposed to people making probabilistic judgments about an uncertain, ever-shifting future.

If you don't want to get wiped out, study how things work. It's like skiing in avalanche territory. Avalanches happen for a reason. Study the reasons. Some of this is mechanics. Some of this is history. Some of it is psychology. Low-probability events can have enormous impacts. Freak storms occur and then the avalanche danger rises exponentially.

By study, I mean look at the entire system.

For instance, when I already had a graduate degree in economics and worked at a bank, I still didn't understand much because up to that point I studied small chunks of information—like interest rates—as opposed to trying to understand how all the moving parts interacted. This book is in part a response to that sense of confusion, an effort to show how the moving parts connect. Not only was I clueless about the cotton market, I didn't understand how the stock market worked, either, and the financial news talked about the stock market every day.

My job wasn't directly tied to the stock market, so strictly speaking I didn't need to understand equities—but this gap was, to put it mildly, a glaring hole in my knowledge.

And it wasn't just me.

I once interviewed a Federal Reserve governor for a job. If I asked him anything about inflation or Fed policy, his answers were perfect. But if we moved one degree off of that knowledge base, like to long-term interest rates (versus short-term) or stocks, his answers were weak and uncertain. He too, a guy who actually ran the system, had a partial knowledge. With only partial knowledge, you get bad outcomes.

To fill in partial knowledge and build up understanding, good frameworks are invaluable.

What do I mean by a framework?

Most everything related to money can be simplified into a framework. Good knowledge of money is really a series of interlocking frameworks, maybe a few dozen of them.

Take one of the most basic challenges with money: inflation. The general concept is known. Practically, it means the money you have buys less over time. But to understand what causes inflation you need to understand how a price is formed, and what forces determine supply and demand.

Inflation is roughly the equation below. To understand what is going on with inflation, you need to understand these components, all of which can rise or fall for different reasons. These frameworks make a topic that can seem abstract concrete. Inflation is what we pay to drive around, have a place to sleep and pay or receive in wages. Oil prices can rise due to a conflict in some distant land that has nothing to do with how much it costs to rent an apartment or buy a house.

Inflation = (roughly) 1/4 oil + 1/4 shelter + 1/2 wages

You can either be wiped out by inflation over your lifetime, or you can study it.

Your choice.

If you don't want to be wiped out, you need to be familiar with the big episodes of inflation, like Weimar Germany, 1970s America, the post-COVID surge, and repeated bursts of inflation in emerging markets. Moreover, you need to know how to protect your money against inflation. There are techniques that can help, like buying government-issued inflation-linked bonds.

The money system is complex, evolves, and doesn't give a damn about you or your well-being. You need to adapt to it, rather than it to you. To do so, you need a strategy and the next chapters lay out that strategy step-by-step.

Step number one is separating what you can control—your mindset—from what you can't control—constant disruption.

CHAPTER TWO: DISRUPTION

We want something from money—stability—which it can't provide. You can't control that, so focus on what you can control—your mindset.

TO UNDERSTAND MONEY, you first need to get perspective on you.

We all are buffeted by disruptive forces that shape our emotional relationship to money. The specific disruptions vary over time and from person to person. Money is attracted to coherence and repelled by chaos. That disorder is both external and internal. You need to be aware of your emotional reflexes, which are typically imprinted early in life.

I was thrown off equilibrium by my mom’s death and given an enormous boost by my father’s calm, scientific, sober approach to everything. Losing a mother was bad luck and having a dad like that was good luck.

Dad was a scientist out of central casting. As a young man, he worked on the Manhattan Project. Oppenheimer was his boss. He didn’t know much about money, but he had good instincts—get the best education you can and do not spend lavishly. That message was passed down to me just by looking at him. At the same time, losing a mother that early probably made me more high-strung, more aware of how things can go wrong, the bottom can suddenly fall out.

Everyone I know well has their own glitches. My wife grew up in the Soviet Union, a state that penalized independent thinking, with an abusive, alcoholic father, and a shortage of basic consumption goods, like food. She has always been practical about money, with her philosophy being that more is better, but don’t waste it on silly stuff. Together, like many parents, we tried to pass on a focus on education, hard work, and frugality to our own kids.

But it wasn’t so simple.

One of my children was born to an alcoholic single mother in rural Russia who did not provide the most basic forms of infant care, like holding an infant when they cry. This early scar impacted everything that came next after we adopted her, including education. My son also has a specific learning style. Like my dyslexia, my kids’ wiring made school a slog for both of them, though even more so than it was for me.

It’s likely your upbringing had its own challenges.

Moreover, both our kids grew up more affluent than my wife and I. This gave them more opportunities than either of us had, but also probably made them less scrappy; certainly less scrappy than my wife.

We tend to regard what we were born into as normal, both our internal emotional world as well as our material conditions. In reality, it is random and we all need to put our package of upbringing and wiring into perspective, particularly if it was unsettled.

The first step in the money journey is therefore learning to think calmly and accurately about yourself, what is going on around you, and how you fit into it.

You can see how different, and random, starting conditions are by looking at economic statistics like household wealth. This is shown in the table, with data from 2021. As you can see, if you are born in the lowest decile your only experience of money is its utter absence. Rich people have the opposite experience. Do people in the 50th percentile think of themselves as rich or poor?

US Household Wealth, 2021

10th - zero.
25th - $16,500
50th - $166,900
75th - $604,900
90th - $1,623,000

Source: U.S. Census Bureau.

From the get-go, there are significant differences between living in a zip code with a lot of rats or without. Money, as I said before, isn't everything, but it is something. Similar differences exist for families with education and without, or with and without mental illness. That's just how it is. It's also true the causation goes both ways; more money allows you to access education more easily if you choose.

Getting from a lower quintile to a higher one won't happen by accident. It requires strategy.

The more disrupted your initial circumstances, the harder it is to be calm enough to discern this strategy. The good news is the knowledge of how to calm yourself and work on your deficits exists. A combination of sleep, diet, exercise, therapy, yoga, and meditation are all things that will train your mind to be calmer and see the chaotic thoughts that pass through you as just thoughts, not reality. Some people find religious practice helps as well.

This sounds simple, but it isn't. I've been working on becoming calmer for decades, as has my wife and many of the people we know around us. Knowing that this is key to being good with money is an invaluable first step.

Some people who are extremely wealthy in the US—Bill Gates, Warren Buffett, or my old boss, Ray Dalio—probably have wiring that helps them, the same way Olympic athletes have unusually high V02 max.

For instance, while I am not a doctor and can't diagnose these people, they remind me of my father. I suspect he had undiagnosed Asperger's syndrome, one of whose components is weak emotional affect and strong analytical chops. Such people don't feel emotions strongly and think in a highly logical way, more like a computer. This is a good disposition for money or science, but challenging for deep relationships, which is perhaps why my father never remarried after my mother died and was twice divorced before marrying her.

If you are someone like me, with the typical emotional yo-yo, learning how to manage jittery thoughts is important. I've accepted I won't always be calm, but I have gradually become better at recognizing the emotion as it is occurring, when my brain jumps from the logical part that does well with abstract reasoning and difficult money decisions, to when I am rattled, more fight-or-flight thinking. Being able to bucket my concerns into different categories—money, relationships, health—helps. I try to remind myself of the big picture—I am healthy and surrounded by many wonderful people, doing work I enjoy. Still, calm takes effort. My kids were born into their own disruption and, going forward, will face many more disruptions as, likely, we all will. The money journey is in part about navigating those moments.

The calmer I am internally, the easier it is to make sense of external economic disruption. To make money, entrepreneurs need to do something different than what is. They are incentivized to do this and incentives work. If they don't take risks, they get nothing.

Changes in technology encourage this constant disruption. For instance, once you have a computer, new businesses can be created that were not there before, like online shopping or traffic navigation. The same was true of technology shifts in the past, like the combustion engine, and shifts today, like artificial intelligence.

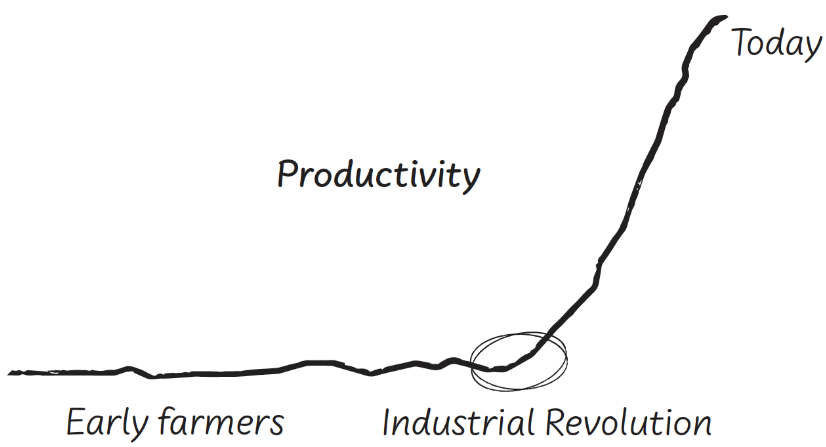
This evolution creates a constant shifting of winners and losers, people getting fired and hired, and investors getting rich and wiped out. Uber makes money, legacy cab drivers lose. Microsoft makes money, Olivetti—the typewriter manufacturer—loses.

If you are on the winning side of this disruption, it feels good, almost like the natural order of things. If you are on the losing side, it feels bad, as if something is unfair. There are no easy solutions to this constant tumult.

The most famous theorist of this change was an economist named Joseph Schumpeter. In the 1930s and 1940s, he popularized a term called "creative destruction," which posited that the economy was in a constant state of flux as old industries were destroyed and new ones created—like the example I shared of transport shifting from horses to cars to electric cars. When he was writing, this process of constant disruption was relatively new but also obvious.

If the sector you are working in gets disrupted, remember Schumpeter.

Relative to human history, rapid disruption isn't the norm. For most of our history, shifts in productivity were modest. The long-term chart of productivity—the output per person—looks something like the below. This rapid pace of change began with the Industrial Revolution and we are living with a similar degree of change today. Most of us value a degree of stability and predictability, but rising wealth is predicated on the opposite.



I've seen a lot of creative destruction over my life and you will too. In fact, it may accelerate with artificial intelligence.

An early example was one of my first jobs, delivering *The Washington Post*. I recall waking up pre-dawn with my brother and walking down to the corner where a *Post* delivery truck dropped off the stack of papers. I was maybe in fourth grade. The driver was a puffy guy in a sweatshirt. He came directly from the downtown printing plant. I unbundled the papers, which smelled of ink and dampness, and scanned the headlines as if they came directly from Moses. Back then, the *Post* had real power. Their reporting forced President Nixon from office.

By the time I was in college, however, things suddenly, and unexpectedly, began to change. The internet destroyed the *Post's* vice grip on classified advertising. Cash flows dried up as competition mushroomed and the *Post* entered a long decline before it was ultimately purchased by an internet disruptor, Jeff Bezos.

This type of rapid change often causes social tumult. Yet, societies that try to resist this disruptive change—the Soviet Union, North Korea—suffer terrible declines in wealth, which requires ever greater repression to keep people in line, which also creates instability!

There is always a cost to any choice. Risk aversion is a cost and too much risk-taking is also a cost. The balance is delicate.

Given how disruptive capitalism is, some try to avoid private sector tumult. That's what my Dad did. He worked for the government. If you work for the government, it is indeed more stable but, commensurate with that, the overall payoff is a fraction of what you can get in the private sector. That's how markets work, both for labor and for assets. They compete and, over time, find the right price to balance opposing forces, like our desire for money and stability.

Government salaries need to rise to a level where they are high enough to lure people out of the private sector. But they can't be too high, or few are going to take the risk inherent in being an entrepreneur, which is also essential to creating innovations that improve our standard of living. When a government pays its civil servants too little, corruption develops.

These are the natural forces at work. They can't be undone or willed away, they can only be negotiated and studied. As you understand them, you will have more control because you are likely to make better choices on average, if not every time.

Within this slow-moving, creative destruction tumult, there are sometimes more violent shifts in the economy and markets—what is typically viewed in retrospect as an economic crisis.

I’ve seen a number of such crises firsthand, like the Asian economic crisis of 1998, the 2000 tech collapse, 2008 credit crisis, and later a global pandemic. While these are now events you read about on Wikipedia, at the time they were scary. Imagine having, through hard work, saved $100,000 and then seeing that number shrink by tens of thousands of dollars in a few days. That is what a crisis feels like.

Your emotional construction and economic turbulence interact with one another. There have been times when I struggled to make sense of how to navigate a financial crisis because my nerves got so bad I was crushed by headaches. This reflects a lack of emotional resilience. Everything is connected.

Knowing about creative destruction and the inevitable crises that spring from it helps to set expectations. Don’t expect things to go well. Some things will go well, fantastically well I suspect, but don’t be surprised when things go terribly wrong. This is true both about your personal life and the economy.

Just like psychologists seek to understand and categorize the different types of disruptions that can happen to people, great investors study the nature of financial crises. These are disruptions so large that they throw millions of people out of work, trigger severe stock market declines or, alternatively, get people caught up in a speculative fever. There are different types of booms and busts and different theories about why they occur.

Ray, the founder of the hedge fund I worked at, Bridgewater, was ever mindful of the Great Depression. His father, like mine, had lived through it and that experience stuck with Ray. Ray believed Depression-like crises repeat due to the nature of debt.

Debt creates two things at once—spending now and an obligation to produce cash in the future. My spending is your earning; a self-reinforcing mechanism up and down. When I take on debt, it can create a boom, but if I quickly need to liquidate debt, it can create a massive bust.

Structurally, most economies have far more debt than they have income or cash. If everyone or at least many people tried to pay off their debt at once, spending drops massively. Cash dries up. This is one reason why money is structurally unstable. The very nature of leverage, or borrowing, creates that instability.

For instance, as of this writing, the US economy is roughly $25 trillion. However, the cash flows support almost $100 trillion in debt. If everyone tries to de-lever or get rid of that debt at once, economic activity will collapse.

Ray (and others before him) believes economic growth is cyclical, meaning it moves in cycles the way the seasons do. When the economy is hot, often due to a build-up of debt, spending rises, typically inflation does as well, and then the central bank needs to boost the cost of credit to reduce debt growth and cause a mini bust. When the economy cools, the central bank eases the cost of credit, to send things in the opposite direction.

As I sat in a windowless office in the Connecticut woods when I first joined Bridgewater, I tried to understand Ray's thinking by studying old PowerPoint presentations and recordings of conversations. What immediately struck me was the power of having a framework to make sense of an idea. The news is focused on a pitter-patter of discrete facts, but it does not provide context and explain the cause-effect relationships behind the facts.

Ray tried to step back and ask, "How does it work?" He wasn't always right, but at the same time, exposure to his thinking provided a leap forward for me in trying to come up with a framework to make sense of reality. Of course, reality is endlessly complex, but the effort to simplify it and test those theories in the market resonated. To make sure it resonated, Ray and his lieutenants gave me a series of oral exams. I was used to getting reasonable grades at school. Suddenly, I was struggling. The oral exam process was part high standards, part hazing.

I gradually figured out that violent economic downcycles are relatively rare. The Great Depression was one of them. Another was in 2008. Yet, knowing how to recognize this tumult and understand why it occurred was invaluable.

Ray was not all spreadsheets and rigid logic. He was also curious and constructed his business to allow him to travel all over the world so he could satisfy that itch.

Early in my time at the firm, I sat with him in an elegant conference room in Beijing. Black leather chairs. We were meeting with government officials. His message, delivered in a radio-perfect baritone, was that the 2008 financial crisis had done grave damage to the global American economy. The US in particular was cooked. The Chinese sat, listening attentively. Despite those frameworks and years of study, Ray was wrong. The US bounced back quickly from 2008 and living standards rose yet further. Disruption is hard to predict.

The famous speculator George Soros had another set of ideas to explain the system's inherent volatility.

I spoke with Soros a number of times at small gatherings.

He was concise and brilliant in person, but more abstruse in writing.

His central theory was "reflexivity." I read his book *The Alchemy of Finance* a few times and initially could not make much sense of it.

Alchemy means turning one thing of relatively modest value, like lead, into something of greater value, like gold. What Soros meant was similar to Ray, which is that in an upswing, a cycle feeds on itself. Soros just had different reasons for thinking that than Ray did.

While Ray focused more on debt, Soros focused more on asset values and psychology. He gave the example of buying a stock. If I buy a stock, all else equal, the price goes up. And when it goes up, I feel better, richer, which then makes me want to spend more, so there is a self-reinforcing loop. Seeing the stock go up might make me like the stock even more. This doesn't make logical sense, because the stock is now more expensive so I should like it less, but it makes *psychological* sense.

The key point from Soros is that the system is structurally unstable and will remain so due to what he called reflexivity and what I'd call psychology and innovation. To make money you had to observe the convulsions of optimism and despair in others and not become prey to them yourself.

As you can see, that's a lot of disruptive forces to keep track of, both your own and external economic ones like debt booms and stock bubbles. Conditions can shift fast. Russia had a thriving stock market… until 1917. Germany was a solid economy… until 1923. The US housing market was resilient… until 2008.

A handy concept a trader uses to understand this world is volatility. Volatility is the rate of change. Typically, this concept is applied to finance. For instance, to help anchor their expectations, good traders know roughly how much things can move. However, you can apply the same concept to your job, savings, and physical health.

In a financial context, a portfolio manager knows short-term bonds are less volatile than stocks, meaning in a year of bad performance short-term bonds tend to lose less money than stocks, and might even make money. For a stock index like the tech-heavy NASDAQ, losing 30% in a year should not be unexpected. The key thing is to recognize how significantly conditions can shift or, in trader speak, how volatile conditions can become.

The volatility in financial conditions mimics the volatility in your life. At times, both can become volatile at the same time. You can get fired, fall sick, and experience a stock market crash all at once. That's not likely, but it is possible, and you need to think about money with an awareness of how big such shifts can be. It's even possible the country you live in can effectively collapse, like Russia in 1917 or Venezuela in the first part of this century.

Volatility is inescapable. That's why the first step to being good with money is learning how to be as calm as possible so that you have the best odds of thinking clearly when these disruptive shifts occur or are about to occur. That doesn't mean you won't be anxious, you will. Or at least, I was and am. But the difference between being hijacked by anxiety and being able to say to yourself, "I think I'm feeling a bit anxious" is huge. These disruptive shifts cannot be predicted precisely, but if you start to build disruption into your expectations you have much better odds of navigating them well.

Once you have learned the difference between feeling calm and anxious, use the calm part of your brain to develop a strategy for your income, saving, and retirement.

I'll start with income and work in the next chapter.

CHAPTER THREE: INCOME

Know how much money you need to survive, what work you can provide that others need, and recognize what jobs provide what salary will shift over time.

As you learn the process of making sense of and listening to your emotions and observing what is going on around you, the next question regarding money is how to earn it.

Work is trading liberty for money. What trade do you want to do?

Of course, work is more than that. Work is colleagues and sometimes memorable experiences you can only get at work. When I worked as a bike courier, the radio chatter from other couriers was hilarious; this was an unexpected perk. Journalism had rotten pay, but put me in rooms with the likes of Mikhail Gorbachev, Bill Clinton, and Tony Blair. The feeling of having the gap disappear between me and the stratosphere always brought a smile as did, though I'm a little embarrassed to admit it, seeing an article in the newspaper with my name attached.

I also worked variously as a carpenter, teacher, cleaner, bartender, mountain guide, banker, and investor. While all work is noble, relatively soon in my working career I found out it is possible to work hard, very hard, and not earn much money. For me, that continued right up past graduate school, when my wife, son, and I lived in a one-bedroom Brooklyn apartment. Marina and I slept on the kitchen floor, our son got the bedroom. That's where I crossed paths with the rats.

In terms of income, you might consider four things:

1. your needs,
2. what you can offer,
3. scale, and
4. change.

Let's look at these in turn.

1. WHAT DO YOU NEED?

I mean a hard number. Your minimum. On a spreadsheet. After-tax.

I've run my money on a spreadsheet for decades. It's just like the scale for managing weight; not fun, but effective.

My spending spreadsheet looks like this:

credit card
health insurance
RE tax
travel
home repair
food
home insurance
gardening
dining out
medical
tax prep
electricity
gas
cell phone
gym fees
cable
dentist
car insurance
trash
water

This measures the flow. I track the expenses each month, look at the averages and slice out anything that looks unnecessary.

You also want to measure the level, which is how much savings you have and how much you owe, debt. That part of my spreadsheet looks like this:

Savings	
Deferred pay	
Home	
Debt	
Net	

The first part of the spreadsheet establishes the minimum, the second one how much breathing room you have. If your income drops to zero, how long can you last? The more you grow your savings the easier it is to have some cushion, because your savings themselves will start to kick off a return.

Rich people are rich because they own assets that others need, and must pay for, to survive—be that real estate (rent) or shares in a company that produces something others want (say, toothpaste). There are people who struggle to pay off their credit cards and people who own stock in credit card companies. The question is how you get from a person paying those fees to a person collecting them.

Early on, strip out anything extra, anything you don’t absolutely need. You might object, saying “Hey, you have dining out and travel on your spreadsheet.” True, but I only added those once we had some savings, not when we started out. When we started out, date night for me and my wife was a single cup of tea at Starbucks. We shared.

With very rare exceptions, your first jobs are not going to pay much money.

And even if they do, your savings goals at the outset are massive. Frugality matters.

My patron saint of frugality is my Grandfather. He was a force in my life. He was a former boxer with white hair and khakis, and a man who lived through two world wars, the Great Depression and the Great Inflation (1970s).

I studied him and absorbed many of his habits. I recall watching him eat breakfast of wheat berries and tea.

The light in our Washington, D.C. kitchen was hazy and flat. I was staring up at him, the fittest grandparent I knew. I didn't know what a wheat berry was, but even then I could understand that it was more minimalistic and simple than the cereals my brother and I badgered Dad to buy us. No sugar or funky additives with unpronounceable names for Grandpa.

He lived life for less. Exercise wasn't a gym, it was long morning walks and calisthenics on the floor. Sometimes my brother and I clambered behind him on his walks, barely able to keep up. Chasing him on my seven-year-old legs didn't feel great, but his habit of morning exercise stuck with me.

Grandpa disdained TV, preferring books borrowed from the library. He didn't own a house or winter clothes. When it got cold, he drove to a warmer place—rural Mexico.

I also learned about frugality outdoors. For reasons I don't quite understand, my brother and I took up rock climbing when I was in elementary school, which led to pursuing all things outdoors, including camping year round. The woods taught me what was truly essential. Food, a tent, warm wool clothes, a rain shell.

The sharp edge of nature made the difference between superfluous—a thick mattress—and the essential—clean water—very clear. The modern world has lots and lots of the superfluous—like cable TV or dining out. At a certain level of wealth, you can engage in the superfluous, but early on these distractions will suck your money out of your pocket.

If you grow up poor, like my wife, you know all this intuitively. She didn't need to go hiking to figure it out. I grew up middle-class enough to obscure these basic truths.

Safety is an apartment, food, and decent medical care. Those have a cost. Know that number.

2. WHAT DO YOU OFFER?

School does not necessarily teach you what your special talent is except, implicitly, by showing you what you are bad at. School is mostly stacking information into categories, memorizing, and regurgitating. The faster you can process, stack, and organize information, the better your grades.

I suspect teachers reading this might wrinkle their noses. Yes, at the end of all this memorization, you can understand the world better, but that process doesn't help you understand what your special talent is, unless your talent is information recall, in which case you become a professor.

In a hyper-global labor marketplace, to compete you must know what your special gift is. True—there are hints, such as if math comes easier to you than writing. But in a labor market with thousands of different jobs requiring different skills, school is only a rough approximation.

To be sure, certifications matter. Statistically, there is a significant difference between the average salary of a person with a college education and a high school education, as I noted before. While I didn't enjoy college and grad school, I slogged through, getting first a BA and then a graduate degree in economics. Certifications give you a comparative advantage and are often worthwhile, even if they don't teach you many of the most important things.

My Grandpa was a living example of the cost of *not* getting educated. He never found a special talent, unless that talent was surviving. He read a lot of books but lived in a narrow world with limited relationships and lacked work that required an education. He sold soap door to door, a job he hated, and then ran a farm, which he liked more, and then did volunteer work in rural Mexico. He was a smart man, but the lack of credentials closed off avenues to him.

My father was different than Grandpa, almost the opposite. Dad had a head of fuzzy gray hair, caterpillar eyebrows, and thick glasses. He had a PhD from the University of Chicago in biophysics. After the war, he got a job at the National Institutes of Health (NIH) and never left. He spent most of his career trying to figure out how to cure diseases like muscular dystrophy. Important work.

He knew his special talent seemingly from birth.

I started building a lab when I was seven, he told me.

That's clarity.

That said, my father struggled mightily in other areas of life. Like I said, he might have been on the spectrum. He was socially awkward. Because he didn't know how to schmooze, he didn't have many friends, poor guy. I think that loneliness led to depression, which he called "the blues," and I wonder if it contributed to him getting sick and dying at a relatively young age. I recall taking a weekend vacation in Virginia with him when I was a teen. One day, I walked into his bedroom to see tears streaking his face. I awkwardly backed out of the room. He never mentioned what he was so sad about.

But in terms of money, he was OK because his NIH job gave him a permanent, safe income. He was paid to explore his passion, figuring out how muscle fibers worked.

Not surprisingly, Dad valued education and wanted both my brother and me to go to top colleges and graduate schools. In high school, the loose expectation was that I should become a doctor and my brother a physicist. I think my father's logic was my brother was good with math and I was better with people.

You aren't very smart, he said, but doctors aren't smart, so you should become a doctor.

While his words stung, I took them to heart. I initially tried to go down that path but found that a lack of interest combined with dyslexia prevented me from succeeding.

A key question in figuring out what you offer is deciding how much to push yourself through difficulties. If you are plodding at school, as I was, how much do you force yourself through it?

There is no easy answer to this question.

You need to push yourself hard to find out if you can break through. But you can also push yourself unproductively. In college, I started off pre-med, failed at that, and in that failure was forced to recognize as much as my father wanted me to be a doctor I wasn't wired for it. I then got a degree in history. The writing required for a history degree was hard, but not as hard, for me, as pre-med.

When have you done "enough" school? When certifications are no longer a barrier to your path. Clearly, if you want to impact the law, you are going to have to make it through law school. To be a writer and investor, what I do, more degrees beyond college won't help. But if you don't have a college degree, it is hard, almost impossible, to get certain jobs.

Recognize that schools too are a business, even if they are "not-for-profit." They will be only too happy to offer you degree programs that cost lots of money. This is a transaction, like any other. Be mindful of what you pay and what you get. I could have pursued a PhD in history, as opposed to a bachelor's, but I didn't see what exactly I would get in return for six years of work.

It took me a long time to figure out people would pay me to explain what was going on in the world and how to invest. This is, at the end of the day, a skill in demand. I bolted together history, journalism, foreign languages, culture, economics, and markets into a profession.

My father’s path was clearer. Some jobs have clear paths (army general), some jobs don’t (sculptor). In either case, you need to be clear on what you have to offer that is unique.

3. SCALE

Scale is thinking about how you apply your special ability.

If the goal is to earn money, the choices are either: a) train to do a job that very few people can do, often requiring years of education (e.g., brain surgeon); b) do a job that has scale (e.g., software engineer); or c) some of both.

The limited supply of certain workers is obvious. It drives up the price of their labor. That’s another framework.

Price = supply vs. demand

In the case of surgeons, supply is low, so price is high. That is one way to earn money. (The next chapter goes into more detail on how prices are formed.)

But scale varies a lot, even in areas where a lot of training is needed. Some professions have incredible scale, some don’t.

Take a classical musician. It takes years to become a classical musician. I have a few friends who play professionally and I am in awe of their talent. But the relative output of an orchestra has not changed in hundreds of years. There is no reward for playing Beethoven faster.

What has changed, though, is the ability to gain scale.

A classical musician who specializes in getting scores onto films that reach a mass audience will get paid more than someone who performs in concerts.

Recordings can help with scale, but how many recordings of Vivaldi do we need?

Those jobs are very difficult to get, said my friend, a violinist.

The thing that constrains the supply of surgeons is education and licensing. Barriers to jobs with scale are often scrappiness and raw will to compete, though talent also matters (Taylor Swift).

Initially, scale was invisible to me. On the Washington, D.C. street I grew up on, almost everyone worked for the government—Congressional aides, a Secret Service officer, and a Department of Justice lawyer. Everyone made pretty much the same amount of money, plus or minus ten or twenty thousand dollars.

But a distant, older relative of mine, who I will call Rob, broke out of that. Rob's father also worked for the government. But Rob didn't want to work in D.C. He wanted to get rich and work on Wall Street. He was the first person I knew who talked like that. In graduate school, he took his student loans and opened a trading account. He turned $100k into $1 million.

When I was in college, Rob took my brother and me out on the town in New York City.

I recall it vividly.

New York's towers felt dark, overwhelming, and exciting. I didn't know what exactly a trader did, but I wondered about it as we rolled downtown in a yellow cab catching glimpses of people spilling out for the night—a high pair of black boots, an edgy blazer, exposed shoulders.

Soon we were in a crowded hall. Giant vats of beer in steel containers. You had to yell to get your drink. I sucked down a beer and felt the tingle rise in my head. As the alcohol seeped in, the big crowd felt easy and fun. We could barely hear each other and ordered more beers.

In that moment, I realized something. My whole life I'd been living with the idea that I'd always be short of money. But it didn't have to be that way. I could choose. Rob had.

We left that bar, feeling happily lit up, and went to another. At the end of the evening, as I drunkenly walked back to my hotel, my mind flitted even further back to the first time I noticed someone who was obviously wealthier than me. When was it? Maybe at school. My mind began to click through the words I had heard from rich people. Words like Vail, Florence, opera, and Martha's Vineyard. These were all places where those people hung out. Maybe if Rob could go to those places, so could I.

Scale is complicated.

It's not just about getting big; it's about getting big in a way where your sales wildly outpace your costs.

Take airlines. They have scale. They can fly you anywhere. But the costs to do so are enormous. And they are highly regulated, so the scale doesn't translate into profits. A lot of people have work tied to airplanes, but most of them don't make much money.

That doesn't mean their work is not valuable. It is. It is a miracle the modern airline system works as well as it does and when I exit planes, I thank the pilot for getting me there safely. I am truly grateful. It's great for us consumers, but that fact ensures the people who keep those planes in the air and get you to your destination with a couple of bags of peanuts thrown in will struggle to accumulate wealth, as bitter a truth as that is to write.

The opposite type of scale is Google. They don't have to pay for anything beyond people and can sell to the world. That's why the founders are some of the richest people on the planet.

Only a few industries have scale. Wall Street is one of them. If you can trade $100 well, you can trade $100,000 well.

Around the time of the rats when I was a financial journalist, one of my sources took me out for lunch.

I need some help, said a person I will call Jason.

Jason was tall and model-good-looking in a stylish suit. He was what is called a currency strategist at a bank. That meant he forecasted shifts in global exchange rates for a living. He was hunting for an analyst for his team.

Uh-huh, I said, poker face.

I was a wire reporter in New York City for a now-defunct joint venture between the Associated Press and Dow Jones. Sometimes my stories were published in *The Wall Street Journal,* which is also part of Dow Jones. I had been hired into a training program for foreign correspondents. My son had recently been diagnosed with Asperger's syndrome and both my wife Marina and our doctor felt the lifestyle of a foreign correspondent would be terrible for him. If foreign travel wasn't an option, I didn't want to be a journalist.

A job like that, Jason said, will have you earning about $200,000 a year the first year, but the salary can go up a lot from there. A good strategist pulls in a buck.

What is a buck? I thought. Did that mean $1 million?

I tried to play it cool.

Let me talk it over with Marina and get back to you, I said.

Later that night, Marina's response was simple.

Are you crazy? Take it, she said.

4. CHANGE

The final element to understanding your income is constant change. As you can see by now, adapting to change is a theme throughout this story.

It's easy to see the big changes in hindsight. To navigate money, you need to see the changes when they are on the horizon.

Economies shift every day, like sands under the ocean tide. It helps to be able to recognize or at least be aware of those shifts as they are happening. Innovation waves in the economy will govern your life.

Most of the companies I have worked for have either lost their prominence, failed, or been bought and disappeared. *The Washington Post* is owned, as noted earlier, by Jeff Bezos. The joint venture with AP-Dow Jones collapsed. The bank I got hired at, BankBoston, was bought by Fleet, which was bought by Bank of America. The CEO of Bank of America who engineered the purchase, Ken Lewis, was later fired. I then worked at a hedge fund that went through a boom in assets and then a reduction.

Miraculously, over this time my income rose, but it was only because I was jumping from one iceberg to the next before it melted into the sea.

Big income attracts competition, which, if successful, then destroys income. The system works in aggregate and can be quite a challenge to navigate on a personal level. The only way I know of detecting such shifts is to pay attention to what is going on around you. Just as I said hobbies can help you find your direction; the same thing is true for tectonic shifts.

What big changes will come next?

Pay attention to how your behavior is shifting. For instance, I used to get my music from a record store (yes, such places once existed) and now an algorithm selects songs for me. I used to check out of the local pharmacy with a person, now there is a computer. We know artificial intelligence will shift many jobs. I'd be cautious about pursuing a job that could easily be disrupted by technology, like cashier, paralegal or librarian. Given electric cars, owning a chain of oil change stores seems like a bad idea. Similarly, the planet is warming, and certain places are going to be flooded more frequently, which will disrupt property values and investment in these places. The list goes on.

However, knowing these changes are afoot isn't enough. You must know if the change is already in the price. Often, it is.

What’s in a price? That’s the next chapter.

CHAPTER FOUR: PRICES

To understand money, you must understand prices—the ones you receive (salary), and the ones you pay (consumption, saving).

YOUR SALARY IS the price of your talent.

Your bills are the price of your consumption.

Your assets are today's prices on tomorrow's savings.

One way or another, you will spend a lot of time negotiating prices, so if you want to understand money you must understand them.

Like with other aspects of money, prices mean two things at once.

A price is both a precise measure at a moment in time of supply and demand, and an expectation about tomorrow. To understand how prices will shift you need to think about how supply and demand will shift over time and how expectations fluctuate. For instance, the price of a stock reflects both supply and demand, driven in part by expectations of what future earnings of that company will be.

Prices may look man-made (a doctor gets $x, a plumber gets $y), but prices are more like physics, the way water flows according to gravity.

Demand is primal, we simply can't live without food and water, and we can't live very long without safety, shelter, and medicine. That demand cannot be extinguished by even the most authoritarian state.

You can see this with greater acuity when there are dislocations, like during the Covid-19 pandemic. Suddenly demand for certain items, like thermometers, skyrockets. You can buy them… if you are willing to shell out $1000. A government might try to regulate a lower price, but then a black market will likely develop.

Over time, technology radically changes prices. For instance, due to technology, the cost of mailing a letter, which was once something, now, given email, is essentially zero. Ditto taking pictures. I vividly recall standing in line at the Moscow telegraph office, in downtown Moscow, a short walk from Red Square. It was a warm summer day in 1990. I'd just arrived, in what turned out to be the last year of the Soviet Union's existence, as a summer language student. I wanted to tell my father I'd arrived safely. I lined up for 20 minutes and then submitted a note. ARRIVED SAFELY. ALL IS WELL. I paid *by the letter*. Now we send a text from the airport.

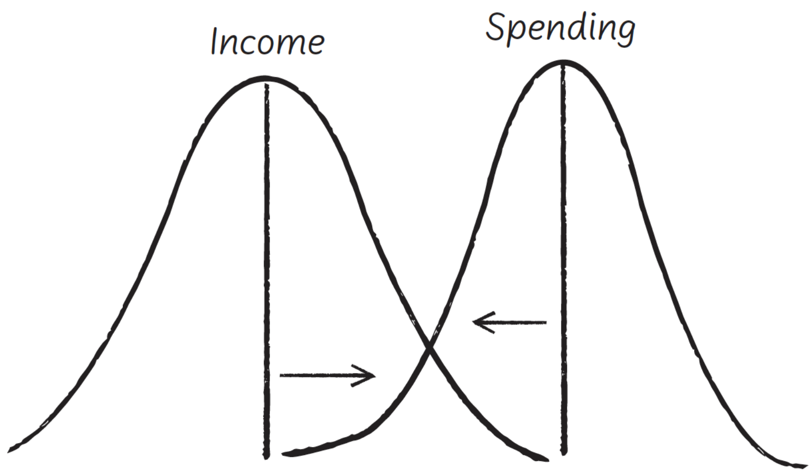
In terms of your own income, you need to determine where you want to stand in the money flow—closer to the center, where the water runs fast and deep, or more on the periphery, where the water pushes with less force. Said differently, do you want a job that is high stress and high compensation (brain surgeon), or do you want a job that is more predictable and lower pay (gardener)? You are unlikely to get a job that is high pay and low stress.

You need to know what to do to get to the job that is right for you. This is what I meant by knowing your advantage and understanding scale.

In terms of consumption, the price of the basket of what you consume is set by the average, meaning that if you want to accumulate money, you need to learn how to identify prices that are below the mean, or simply spend less, like my Grandpa.

In terms of investing, you need to understand the forces that change prices over time and learn how to identify quality assets trading at a discount to that long-term value. This is hard to do, and impossible to do perfectly, but worth the effort.

Putting these concepts together, if you want to be good with money, you want to aim to earn prices at one tail of the distribution and pay prices at the other tail. This is shown in my illustration.



The image is of a successful trader, or brain surgeon, or software engineer, who shops at Costco and drives a beat-up Subaru or goes for long walks as opposed to joining an expensive golf club. It is hard to have a high-stress job and then go to Costco and sort through enormous containers of food rather than order out. I can say that from first-hand experience. And, yes, sometimes if you are driving an older car, a wave of desire hits to own a new one. But not giving in to this desire is the behavior that makes a difference and this is what leads to different outcomes in terms of wealth.

In some ways, wealth simply means paying attention to the prices you pay.

There are prices for labor, consumption and saving. I discuss each in turn below.

LABOR

No one has ever figured out how to set a price on labor that everyone agrees is fair. Fair in the sense the person paid at the low end of the distribution agrees that what the person at the high end of the distribution is making is appropriate, particularly given, as I noted earlier, that what we produce and consume evolves (like gas-driven cars versus electric cars).

The challenge is how to have everyone get their basic needs met and thereby preserve social stability, while at the same time recognizing we are not all born equal. Some people are smarter and harder working and can tolerate stress more easily. How much should their talents and efforts be rewarded versus shared?

It's a delicate balance and societies frequently fall out of balance. In fact, the history of the rise and fall of empires is in part around the struggle to get that balance right.

Some of the big political disruptions I've already mentioned, like the Russian Revolution, Hitler's rise to power, or China's 1949 Revolution, came after significant wealth shifts that disrupted social stability. In the US, in the time I've been working, the share of wealth going to the top 1% has increased markedly, leading many to feel, with some justification, that the system is rigged against them. This in turn fuels significant political volatility.

Sometimes this is solved through politics—determining how much to tax some and give to others, essentially redistributing the wealth. Sometimes it is solved through negotiations between labor and management. I won't say much about taxes, except that when it comes to money, taxes are a part of life: you have to pay them and factor them into your thinking. Depending on where you live and how you behave, these taxes can be impactful.

For instance, in the US there is a big difference between holding a stock for less than a year, which carries a 37% tax at the highest income bracket, and more than a year, which carries a 20% tax. If you could avoid losing 17% (37%-20%) on an investment, you would. (I use the highest income bracket just to make the point more vivid.) This tax percentage does not include local taxes, which in my state adds another 7% to the tax bill. Moreover, interest from a bond is taxed at 37% and many dividends on stocks are taxed at 20%. I am not an accountant, and you should rely on professional advice rather than me, but suffice to say I am mindful of these taxes when I save money and also understand why I pay them, which is mostly to keep our infrastructure, military and health care functioning.

While regulation is important in setting prices, it is a weaker force than supply and demand, what I refer to earlier as primal forces. For instance, most plumbers won't work on Christmas Day but, for the right price, some will. I've had a pipe burst on Christmas Eve, and I can attest that this is reality, not theory!

People will risk incarceration to buy certain things they believe they must have. The more prices are dictated by a central authority as opposed to the market, the more force the government needs to apply to keep them there. I saw this when I lived in the former Soviet Union immediately after college and worked as a journalist. When your heart or your toilet is clogged, you will pay almost any amount to solve the problem. The Soviet Union sought to pay a doctor roughly the same as a coal miner. But the state could not overcome the animal desire of a young father (me) with some extra cash to get the best doctor available. I was willing to fork over everything I had, which at the time wasn't much, to pay doctors and boost the odds of a healthy birth of my child.

To be sure, some of the high cost of doctors in the US is artificial, related to limited space at medical school and other forces that restrict supply. But the basic issue is that it is hard to become a doctor and less hard to become a plumber, even though plumbing is complicated and important, and plumbers have justifiable pride in their ability to make water flow in the right direction.

You need to be realistic about what you have to offer, how many other people can offer similar skills and what someone else will be willing to pay for your services. That's the process whereby your income is determined. We tend to overestimate what we're worth and underestimate how many others can offer a similar skill, at which point you are on the wrong side of the distribution curve I drew.

CONSUMPTION

Individual prices, as I said above, are a function of supply and demand. Supply is driven by technology and productivity. Demand is driven by income, whether you have the money to spend, and income is not equally distributed. For many things (like, say, bread) there are limits to demand and technology has driven costs down. Grain drills and combines now produce wheat instead of farmers working with their hands.

For other goods, like shelter, healthcare, education, and some of the finer things in life, prices are driven disproportionately by demand of high-income consumers. This makes many things out of reach for the bottom half of the income distribution. Another brutal truth. The system is set up, structurally, so that a significant percentage of the population will be in pain. That also means that if you earn above average, and you consume the average, it is easier to save money.

To be clear, many of the poor now live better than the rich 300 years ago. But having been truly short of money at points in my life, the fact I lived better than someone in the 1700s, who could easily die from a simple infection, wasn't much solace. I acutely recall distinct pain points, like struggling to pay medical bills, repair a car, or just do something sweet for my wife, like buy her a dress. Each bill felt almost like a physical blow to be endured.

This means we all face a moral choice.

To buy things with less stress, you will be positioning yourself such that others take the uncomfortable spot.

It's another awkward truth.

I would have thought I'd choose the moral high ground until I was faced with the reality of living with the rats. Then came the job offer to work at a bank, Marina's enthusiasm for that move, and all of a sudden we went from the lower third to the top third of income. When put in the position of pain and offered a solution, I responded right away.

To be sure, a swath of my friends from college and some family members looked askance at switching from journalism to finance, as if I'd sold my soul. From my vantage point, it was more like I was trying to find my way. Living in constant fear of my bills was unpleasant, plain and simple. But working for a gigantic corporation, a bank, also didn't feel like me. I was feeling my way down a dark, windy hallway. America was cleaving itself into different sectors, some were starved for cash flow, others overflowing. And I sought safe shelter for my family.

Solving one problem—the rats—created a new one—how much should I save?

The moment I started making more money, I found I could no longer live with the frugality that I had earlier, or as Grandpa lived. This is why the money cage is tricky—your perceptions of what is necessary or appropriate shift depending on your circumstances such that if your salary goes up it is easy for your consumption to go up as well. While Marina and I knew that spending money on a Chanel purse wasn't smart, I began to look at prices for items related to safety quite differently. One example: cars.

After we adopted our second child and moved to Connecticut, we drove a Honda with more than 100,000 miles on it. I was at the Mobil on Post Road to put air in my tires. After I filled up, I saw a horribly disfigured car resting in the corner of the garage lot.

It was a nice spring day. My kids were happily strapped in the back seat, gabbing, windows down.

What happened? I asked the attendant.

T-boned on the Merritt last night, he said, referring to the Merritt Parkway.

I looked inside. The driver's side was crushed and saturated in a dark stain.

She didn't survive, said the attendant, nodding at the pretzeled wreckage.

I looked over at my kids. Tiny little things, waiting impatiently for me to drive them to the playground.

Later, I did a Google search for "safe cars." I got a lot of garbage. Then I figured the insurance companies must have accurate data on car safety and charge insurance accordingly. One more example of why prices are such useful indicators. Insurers' lists of cars ranked from most safe to least is public. That year, the safest car made was an Audi. It cost twice what I had ever paid for a car—in the $40k range, when a new Honda was in the $20k range.

At the time, I thought arrogant jerks drove Audis. Then I thought of the twisted car I'd seen in the garage.

Flash forward eight years.

My wife and I were getting onto the Triborough Bridge. Up ahead, a van was stalled on the entrance ramp. I jammed the brakes. There was nowhere to go. I was at a full stop on the entrance ramp. To my left, cars hurtling by, going 60 around a turn meant to go 50. I waited. Then, suddenly, slam!

My Audi was T-boned, pinned to the retainer wall, high up above the ground.

It was a multi-car pileup. A car hit black ice and ricocheted off other cars and came to a stop when it slammed into me. The Audi was totalled, we were fine. Would I have survived in a cheaper car? Perhaps, but the odds of us surviving that car crash unscathed was certainly higher in the Audi. What bets do you want to take? You never know for sure.

At the opposite extreme of the Audi, there was Grandpa's decision to live for many years in rural Mexico.

Mexico was cheaper than living near his children in Washington, D.C. That remains true today. Mexican per capita GDP, one measure of wealth, is about one-seventh that of the US.

A Mexican doctor can't charge US prices in Mexico or he won't have any business. The “averages” are different, so Grandpa paid less than we did for medical care. But this doesn’t come free. I am sure there are many hard-working, well-educated, excellent doctors in Mexico. But, broadly, prices reflect quality or an expectation of quality, particularly when it comes to technology. My grandmother had a stroke while living in rural Mexico. She died. If she had lived in a rural US town I’m not sure what would have happened, but perhaps a different outcome.

Again, what bets do you want to take?

You can “escape” to Mexico, or vacation there, but there are risks and that cost is reflected in the price. It’s also this reality that explains why some countries struggle to retain their talent and other countries have long lines of people trying, sometimes risking their lives, to get in.

SAVING

I discuss how best to save, which is investing, in more detail in a few chapters. That said, it is important to note that looking at investing through a pricing framework makes a lot of sense as well.

The price for a stock, a bond or a house is also formed by supply and demand.

In terms of investing, *everything known is in the price*. That means that to make money—certainly, to make above average money—you need to see something that is not already in the price, a future that is not yet reality.

That’s not easy to figure out, which is why successful investors are rare.

In general, by the time you suspect a company is a great investment, everyone else knows it too. For example, now it’s obvious that a company like Apple was a good bet. But that was not the case in the 1990s, when Apple looked like it might die. Apple is a one in a million story of ingenuity, hard work and luck. Will Apple be a great company 50 years from now? That's unlikely, though I can't say today what exactly will go wrong.

When companies are deemed to be a "good bet," people buy their stock and the price goes up. But just like it is better to buy jeans on sale, the same thing is true of companies. But is it a sale or a crisis? Competitive moats are being forever assaulted. When conditions shift, the hot companies often run into financial trouble and either sell more stock to raise capital (depressing the price), or investors flee ahead of this, selling their stock, which also reduces the price.

A century ago, the top US companies were American Locomotive, American Sugar, Central Leather, and Western Union. In the 19th century, top companies included American Cotton Oil and Tennessee Coal. Now, these companies either don't exist, were merged into other companies, or are not widely held.

Moreover, just like the question of what type of car to buy, the same thing exists in investing. How much do you prioritize safety versus risk?

True, in general, asset prices rise over time so if you are saving, time is on your side.

That said, just like many people will find it difficult to buy what they'd like, a typical effort to speculate on the market (as opposed to buy and hold) is zero sum. If I buy Apple's stock and someone sells it to me, only one of us can be right.

Money, used properly, is autonomy. Starting a family, traveling, getting an education, having the freedom to pursue something that matters to you but with uncertain monetary rewards, like writing this book, all require money and to get some you need to think about how prices work. Prices aren't sexy, but if you want to understand what you are paid or what you are paying, try to understand supply and demand. Therein lies the answer you seek. At least part of the answer.

It’s also true that price setting, either the ones you are paid or the ones you pay, isn’t rigidly logical. There are sometimes weird group and tribe dynamics at work, which is what I talk about next. I wouldn’t have believed such a thing existed unless I bumped into it myself.

CHAPTER FIVE: CASTES

In any industry, there is a caste system.
Changing castes is hard, not impossible.

ONCE YOU HAVE settled on a type of work, you need to recognize there are castes within that work.

You can change your financial caste.

There are administrative assistants who become nurses who then become doctors. There are cops who become lawyers and mayors. But it is rare. It's rare because it is hard.

When Jason brought me into the bank, he changed my caste. In fact, he changed my whole family's caste.

A few times in my career, I've changed castes. Each time was a lot of work. Writing this book is part of the same journey. To be accepted as a writer isn't easy. Writers are territorial. There are gatekeepers. And the public is deluged with material these days, supply outweighs demand.

If you are factoring in money in deciding how to apply your special talents, you need to be mindful of castes, sectors, and castes within sectors.

Castes have always existed in society.

I don't mean caste in terms of race or ethnicity; I mean castes in terms of money and power—though of course there can be overlap.

Education is one measure of caste, as I alluded to in chapter 2. The average person with a college degree has about 10 times the wealth of a person with no high school diploma. The gap is even wider for those with a graduate degree. If you come from wealth and spend years and money to get a graduate degree, you are likely to end up staying in that upper caste. Likely, but not guaranteed.

The table shows the median wealth by education level in the US, based on 2022 data from the Federal Reserve.

Median Net Worth by Education, 2022 (roughly)

No high school	*$38,000*
High School	*$107,000*
College	*$464,000*

Many jobs are simple enough that they could be performed without a college degree, but you can't get hired to do the job without a college degree. It shouldn't be like that, but it is. Yes, there are always exceptions. Bill Gates didn't graduate college. But, on average, education is part of the caste structure.

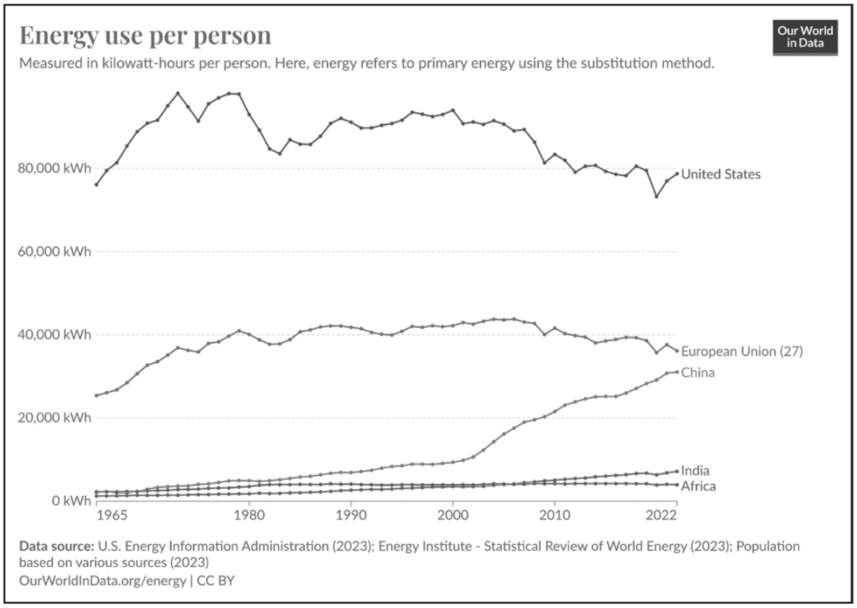
There is also a geographic caste system. Some countries have more wealth than others, which relates to culture, rule of law, and geography. North America has 200 times the wealth of Africa. While the Industrial Revolution was a global shift, it was far more impactful in some regions, like North America, than in other regions, like Africa.

Wealth Per Adult (roughly)

North America	$560,000
Europe	$180,000
China	$76,000
Asia-Pacific	$64,000
Latam	$27,000
India	$15,000
Africa	$8,500

Source: Credit Suisse Global Wealth Report

Some of this boils down to how we use and apply energy. The power a single person can exert has shifted radically as we went from muscle power to steam to nuclear. As with education and wealth, energy use varies vastly by region.



Source: Our World in Data. ourworldindata.org/grapher/per-capita-energy-use

Said differently, if you are uneducated and live in Africa, it is structurally much harder to earn money. You are in a caste within a caste (uneducated and in a poor region). That's a tough reality.

Some of the castes are via personal habit as well. Statistically, married couples have greater wealth than unmarried. And while I could not find the data, I am certain those people with addictions are on average poorer than those without.

If you want to change your caste, you need to be aware of how different countries work and how different industries work and then how to maneuver yourself within a company (the topic of the next chapter).

There is a vast difference in cash flow by industry.

This information is public. Yes, profits are cyclical and depend in part on whether we are in a boom or a bust. Certain industries—like water and electricity—make money all the time. Other industries—cars and housing—tend to do well when there is an economic boom, income is strong (because unemployment is low), and borrowing costs are not too high and many people buy both cars and houses with credit.

But certain businesses simply have less competition than others, either in a boom or a bust, whether it is due to regulation (banks), or monopolies (utilities), while others have great scale (like semiconductors and software). Some companies have great scale when there is a boom, like oil production. An oil well has certain fixed costs. But when oil prices go up (in a boom), those fixed costs don't change and the company experiences high profits.

Margin By Industry

High: Finance, Oil and Gas, Technology

Medium: Restaurant, Building, Trucking

Low: Recreation, Retail, Media

Source: NYU

As noted earlier, who is doing well changes all the time due to creative destruction. At the moment, media, meaning book publishing, is struggling. Why? Because these days anyone can publish a book or an article. Supply is infinite, which drives down the price—something I experienced as I began to publish books. There are many other rewards to writing books, but money is generally not one of them.

This table of profit by sector may seem academic, but I can tell you first-hand that it is not. The different sectors relate to different income, and with that income, different culture—as you would expect in any caste.

For instance, when I became a banker, I had to learn a new vocabulary. I was still doing essentially the same thing I did when I was a reporter—sitting at a computer, trying to figure out what was going on and writing about it. But I had switched castes and immediately noted the difference.

Learning new lingo was all part of the challenge of "getting paid," a term my boss Jason, who originally pitched me on the job, frequently used.

I’d often learn new jargon early in the morning when we were getting a bagel and coffee.

Getting paid meant the prospect of a big pay check. Since I’d been working not so long ago for $38,000 a year and staring at rats, I felt like the $75,000 I earned meant I was already getting paid, right? Marina and I now had an apartment with two bedrooms, not one, and a washer and dryer, so we didn’t have to spend our downtime at the laundromat.

Jason didn’t think in terms of a pay check. He was talking about getting rich.

Once, while traveling to a client sales call, another banker asked me what my “number” was.

My what? I asked.

You know, your number, he said. My number is two. I’ll do this job until I have $2 million in the bank, then I’m done. I really enjoy doing yard work. We’ve got a big property. I get to two and that’s what I’m doing.

I nodded gravely. Having the aspiration of retiring at a young age seemed almost untoward. Between Grandpa and my father or maybe my own myopia, I’d taught myself not to think that I should get rich and that I should work until I keeled over.

I didn’t know anyone my age who was wealthy.

Jason intimated there were massive differences between who made what on the trading floor. What did that tantalizing page of salaries look like? Every organization and every industry has one. A page with numbers. One of the things you need to figure out is what those numbers are and how you can shift your spot on the spreadsheet.

When I became a banker, most of the people I knew were “outside,” non-financial types. I felt like I put on a disguise when I went to work, acting like I was someone who I wasn’t; a raging case of imposter syndrome.

What’s your new job like? an acquaintance asked.

He'd known me when I was in graduate school, back when Marina and I went out on dates and drove slowly by Cambridge stoops looking for furniture being thrown out that we could salvage.

Well, I try to read about what's going on in the world and make forecasts about what will happen next, I said.

We were sitting in the kitchen in his Somerville triple-decker. He lived off his wife's salary and a first-floor tenant.

Well, hell, I'd like to sit around reading the newspaper and get hundreds of thousands of dollars, he said bitterly.

I understood his anger. To the outside, it seemed like bankers earned silly money for nothing more than reading the newspaper. It wasn't until I got inside the door that I saw how exactly bankers made the money they did. It wasn't equitable, but it was reality.

My first post was on a floor that exchanged foreign currency. A client, a big company, might have revenue in Europe and need to transfer some of this money to the US. They didn't need to transfer a few hundred dollars, more like $10 million, $50 million, and sometimes if they were acquiring a company even $1 billion.

That's what I mean by scale. It took us no more effort to move $1 billion than it did $10 million. Costs were fixed, and profits were a function of volume and price, like an oil rig.

For each dollar transacted, the bank took a tiny spread. The bigger the "ticket," or transaction, the more profitable the deal. For instance, say a US company was buying a German one. The "spot" or actual exchange might have been $1 = Deutsche Mark 1.90. So with no spread, $1 billion would be DEM1.90 billion. The goal, just like with a vegetable stand in a market, was to buy low and sell high. The salesman would tell the client that the spot rate was actually DEM1.8990, only a small difference from the actual price. But that small difference equals about $526,000. That's right, half a million dollars for picking up the phone. If he could sell the Deutsche Marks for just a little bit more, like 1.9100, he would make even more.

That was part of the reason why the people who managed these operations, my boss's boss, made so much money. The other was that with this much money sloshing around, it wasn't hard to do something stupid that ended up costing a lot of money.

Just before I became a banker, Nick Leeson of Barings Bank hid $2 billion of losses and destroyed a bank that was more than 100 years old. How could someone hide $2 billion, my friend in Somerville might ask?

Now that I was there, it wasn't hard to see. Deals happened fast, every few minutes sometimes. If a trader, instead of buying low and selling high, did the opposite for a few weeks and concealed their activity, losses would mount, fast.

While it took some brains to run the show, as I gradually settled into the work rhythm I started to take a measure of my colleagues. At Brown University, where I'd gone to college, I'd met people who were just plain smart. They could write a 30-page paper in one night on a complex topic and pull down an A. They spoke multiple languages and could do two complicated things at once, like engineering and sculpture. But despite their prodigious talents, no one in my immediate circle made much money.

The trading floor people were different. I don't think any of them went to Ivy League Schools, read many books, or had much understanding of the countries whose currencies we traded. Many of them had studied accounting or business and were religious and Republican. Disdain for liberals and high regard for the wealthy were considered so obvious as to not warrant discussion. Reagan was God.

To me, their abilities didn't justify getting paid more than doctors and lawyers. What was unique was their seat. The bank had a license and access to a money infrastructure. We were just manning the battle stations.

This also meant that if you got fired for whatever reason, you might never make this kind of money again. And people got fired a lot, so everyone was insecure.

Once, before walking into our 7 a.m. morning meeting, a senior manager pulled me over to one side. As a strategist, I led the meeting, giving an economic and market overview to our salespeople and traders.

Talk a bit longer than normal today, he said, cryptically.

I nodded.

We have a few people we need to … talk to, he said in a gravelly voice.

Just as I was about to walk into the meeting, half a dozen colleagues got an email from HR telling them to stay at their desks. When we came out of our morning meeting they were gone, never to be heard from again. What had they done to get fired? I had no idea. We sat down at our desks to work, acting as if nothing had happened. I imagined the people outside on the street, weeping.

Maybe there was a good reason for firing them. But the reason wasn’t made known to me.

In addition to the jargon and survival of the fittest culture, the banking caste had unwritten rules regarding plumage.

The first day I showed up on the trading floor, I was wearing a brown suit.

Jason promptly corrected me.

Suits are black, gray, or blue, not brown. Shirts are solid white or solid blue. A check shirt is OK on a Friday, he instructed.

That was the last time I wore the brown suit.

Shifting from journalism to finance was one caste shift, but it wasn’t the only one.

I say this not to brag, but to explain how things are set up.

It turns out there are castes within castes. Each industry is a labyrinth and the question I slowly started to ask is—OK bankers get paid a lot, but who gets paid more?

I started to read books about famous traders and study who else beyond banks traded in foreign exchange.

The most profitable part of a bank was something called a “prop desk,” jargon for “proprietary trading.” Prop desk traders took the bank’s capital and bet on asset price movements. Done right, you could make a lot of money without spending much. All you had to do was press the right buttons on a computer and out came money.

Problem was, most of my colleagues were too scared to take much market risk. They had relatively cushy jobs making hundreds of thousands. If they started to prop trade, they could make more money, but the risk of getting fired rose exponentially because predicting markets is so hard. So no one did it.

At least, no one at my bank did it. But other people did it, including Ray, the founder of the hedge fund, Bridgewater, I worked at. Ray had in essence extracted the risk-taking function from a bank and ran it as a private company. Specialization brought a focus to the task you’d never find at a bank. For instance, Bridgewater undertook research projects that might last years before impacting the portfolio. No bank would ever invest in that much research. The more of these projects Bridgewater did, the bigger their advantage over other traders.

I met Ray by accident. After my bank was acquired by Bank of America, I was promptly fired, at which point I began to look for work. I got to Ray by word of mouth.

In my interview, Ray was wearing shorts and Crocs, no socks.

The uniform sent an unmistakable message—I don’t have to follow those silly rules of suit and tie or blue and white shirts. In fact, I make my own rules and if you earn that type of money, you can too.

It was 2004 and I was in a glass-walled room overlooking the Saugatuck River. I was mid-30s with two young kids, just the kind of person Ray was looking for. Someone hungry and with significant obligations.

So, tell me what you know about markets, asked Ray.

At the bank, I mostly focused on currency.

How do you think about currency?

I think about it in terms of supply and demand, I said.

Continue, he instructed, staring at me intently.

I did and got into the nitty-gritty details of how a currency prices.

We do pretty much the same thing, said Ray, only we try to predict where those flows will be in the future.

He was taking the same frameworks I was using, but projecting them far out into the future, which was smart.

I got the job. In those days, when the firm was small, Ray did all the interviewing personally, though I had to pass muster with other people beyond him.

Once inside, I underwent a crash course in investing. The idea was that you had to know all the moving parts of a portfolio to understand how to invest, which is what Bridgewater did. That meant I had to study for and pass a series of oral exams. I failed some exams numerous times before I passed.

I was no longer a banker. I was now a hedge fund guy. I had, once again, changed castes.

The bank operated like a toll gate. To get money from Europe to the US, you had to pay a fee. The hedge fund operated more like a subscription. To have Bridgewater manage your money, you had to pay a fee every year plus, if they made money, a bonus based on the amount of outperformance.

So a $100 money management contract would pay Ray $2 a year plus, if they made $10, another $2, or $4, per $100. As the business scaled, he, as the owner, made more and more money. People like me, the staff, were paid what we could earn by working at another company, like a bank, with maybe a modest bump higher in a good year.

But the owners, Ray in particular, made a lot of money.

Over the time I was there, Ray would rise to be one of the wealthiest people in the world.

While many people envy his wealth, the work and grit required to earn it is vastly underestimated. I have never seen a person work so hard, so intently, day after day.

Shifting your caste is tough. Every phase in the journey was a challenge. It was hard to get into a good college, hard to become a journalist, hard to become a banker, and hard to become a hedge funder.

Then, after 16 years with Ray, I left.

Ray was the chief, I was the Indian, and no matter how long I worked there that was not going to change.

Beyond that realization, two other things changed.

First, I saved enough that I could leave if I wanted to. I could not live “large,” but I could live.

Second, I craved being the owner, or, said differently, using my brain for creating things that were either true or made money. I did not want my goal to be trying to anticipate my boss’s needs.

Now I face a fork in the road.

How exactly do I want to do this?

Well, like with money, there is no set of fixed rules.

Right now, I manage money and write.

Investing is hard, but if done well, profitable. It’s also social, you need a team to do it well and can share thoughts with others who are wrestling with the same questions. Opening my own money management firm, Kate Capital, and going from underling to owner is one caste shift.

Being a writer is another. It is wonderful work, but very few people can make money doing it. Many of the writers I most admire only produced exceptional work after their fifth or sixth book. Some were only recognized long after they were dead.

Writing is also isolating. You need to sit alone in a room for long hours to produce anything good. Some isolation is good, but how much? Writing successfully means that I need to pry your eyes away from something else to read my work, which is what you are doing right now. I don't know if I can break into another caste, but I am trying. That is my journey.

The basic question is, do you want to break your caste? There is no need to do so. But many people I know strive to and if you are the type of person who reads a book like this, maybe you do too.

Getting from a position where things aren't working for you to where they are requires you to make adjustments. *Nothing is guaranteed.* People get to the top 10% of wealth by looking at the rules of the game and following them. People get to the top 1% by looking at the rules and figuring out how to break them, legally. Or sometimes, they can't do it another way. Having watched Ray up close, the man was not cut out to be a dentist.

Everything is a bet.

I tried to understand the caste structure a bit at a time and work through it. Money is not a measure of success, it shifts for logical, if not "fair," reasons. Becoming a successful writer may not mean money, but it is a caste of another kind.

Whatever you decide, you need to be shrewd about how the system works. Try to play games where there is a natural advantage in your favor. And study the castes. You will be in a caste one way or another, so decide which one you want to join. Then see if they will have you.

Part of navigating castes is navigating groups, like offices. And while talking openly about office politics makes many squirm, it's another reality of the money world. Better to stare openly at it, the topic of the next chapter, than pretend it doesn't exist.

CHAPTER SIX: OFFICE POLITICS

Office politics matter and the very best players play so well they appear not even to be playing. At a minimum, learn to advocate for yourself.

As you navigate castes you will encounter office politics.

If you are the boss, this isn't as big an issue. But if you are working for someone, it is. This isn't merely learning to get along with colleagues; it is learning to figure out how to navigate an organization such that you get what you want and it gets what it wants. The bigger the organization, the more intricate the politics.

In school, if you are fast at memorizing and regurgitating information, you will do well. But that does not necessarily translate into doing well at work. I've seen plenty of people who went to top universities like Harvard get fired. The best protection against office politics is to be good at your job, look for ways to contribute and be others focused. The WeWork slogan "do what you love" is bad advice. Instead, provide a service another person cannot do without. However, that alone does not guarantee you will be compensated fairly because any judgment is subjective.

How well you manage these politics has a direct impact on your compensation.

You can get practice at how to negotiate social landscapes in school clubs and teams and other groups, which is one reason why being part of such groups is important. But office politics is a different beast because the outcomes are more win–lose than win–win. On a sports team, you all rise or fall together. In an office, that is less true or at least in the offices I was a part of, that was less true.

Office politics has a few different elements—hierarchy, personality, bullies and tells, safety, and leverage.

Before describing these elements, I need to distinguish between work that offers clear metrics and work without such metrics. Most jobs fall into the second category, where it is hard to precisely measure how good a person is at their work.

For instance, a baseball pitcher has clear performance measures. How many strikes does he pitch and how many balls? Ditto, a money manager, if it is a single investor who is making the buy and sell decisions. The results are also very clear. If you can do a job with objective measures like this, do it. It's much easier to make money—though, of course, the stress level is commensurate.

But many jobs (writer, teacher, cop, doctor, lawyer, salesman) lack that clarity. And if that's the case, there will be disagreements over your contribution. Your employer wants to pay you as little as possible. They don't want to say that out loud, but it is almost always true. You want to get paid as much as possible. So there is a natural, persistent tension. Given that, you need to work the organization as best you can to boost the odds that your contributions are viewed favorably, since objectivity simply doesn't exist.

Here are the pieces to that campaign.

HIERARCHY

Every organization has a structure and it is important you understand that structure. I always found my colleagues who had served in the military understood this better than me.

Write out the org chart and the function of each person in the chain. This will help you figure out how to respond to the flurry of emails and comments you are sure to face as you negotiate your caste and figure out how far you are from the money. If your goal is getting paid, you always want to have as few layers as possible between you and the money.

At the bank, the money came from two places. First, it came from the clients. I didn't have clients of my own, the salespeople did. If I could help the sales folk increase the amount of cash that came in, I knew I was doing something valuable. Reducing how much cash goes out the door is also important, but the best thing to do is be one of the people on whom cash flow depends. Second, money came from decisions about how to divide up the bonus pool, which was from my boss's boss, Jim. As a result, I tried to be on good terms with Jim.

Jim is a huge dollar bull, Jason told me early in my tenure at the bank.

That was useful information. Jason meant that Jim had a bias to believing that the dollar would rise in value against other currencies.

It didn't make sense to me—currencies go up as easily as they go down—but I didn't openly question it. I noted his enthusiasm and made an internal reminder that if I was going to make a bearish call on the dollar, I better have overwhelming evidence.

Did my approach lack courage?

That's not the way I saw it. I'd grown up with an older brother who was both athletic and had a temper. When you are 8 and your brother is 12, you don't stand a chance. So at an early age, I learned that there are forces more powerful than us and you need to negotiate around them or else you will be crushed.

This does not mean you act subservient to your boss. Any quality boss will be repelled by that. You need to act as if you are a peer. But the keyword is "act." In reality, at moments, you need to reinforce the hierarchy, let him or her know that you know he or she is indeed the boss. That's why you always see Cabinet officials saying "The President believes… ." It is a way of reinforcing the hierarchy and demonstrating fealty.

Particularly in an American workplace, the work vibe is supposed to feel egalitarian, like it is a team. But the truth is that it is not; the structure is more authoritarian. You have a job at your boss's pleasure. Certainly, big corporations are like that.

I once had a boss who was a former military officer with excellent social skills. With him, it was particularly tricky. I needed to both act as if we were buddies, but also subtly acknowledge I recognized he outranked me. But I am not good at respecting hierarchy and my disregard sometimes leaked through. Not surprisingly, when he had a chance to undermine me in a quiet, behind-the-scenes way, he did. I earned that one. That's an example of me playing office politics poorly.

PERSONALITIES

The designer Tom Ford once said that he viewed a good suit as a form of "armour" to protect him in a hostile world. That makes sense. Office bureaucracies are tough, at least in financial services offices like BankBoston and Bridgewater. I never felt safe. I craved armour (but was too cheap to spill out for Tom Ford!). Maybe finance is an outlier. But that was my reality and I suspect to some degree this exists in many professions.

Once you know the org chart, spend time noting the personalities of the people in it, like an ornithologist cataloguing birds. Everyone has their strengths, biases, and glitches. When Obama was a lowly State representative, he picked up golf and poker for a reason, even though his passion was basketball. He was learning how to get along.

At the bank, my boss Jason liked to shop. We got to work, as I already said, early in the morning, and by early afternoon our workload eased. That's when we would spend time working on longer-term research. But it was also a time when you could take a break.

Jason sometimes liked to leave work and go up to Filene's Basement flagship store. In the basement, you could buy name-brand suits like Zegna at a fraction of the cost. And Jason liked company.

I am not a big clothing guy. I particularly don't like suits. But that doesn't matter. My boss liked to shop and so I joined him. There were two other guys on the desk. Jason never asked them shopping.

Nice, Marina said when I got home from work, you get paid to go shopping.

My view was that in part I got paid because I got along with people. This is the type of behaviour HR types loathe—something that smells of bias. I looked at it as survival.

Similarly, Jim, my boss’s boss, beyond being a dollar bull, was partial to “team building” exercises, like drinking Sancerre on a boat overlooking the Boston harbour. I recall a beautiful summer afternoon, all of us in our suits and pantsuits, maybe an occasional loosened tie. Everyone cautious around Jim, myself included. But I made sure at each of these parties to approach Jim and exchange a few words, yet not to linger, sending the message that I see you, I respect you are the boss and I am not clingy. I recognized he was taking what to him likely felt like a risk (what if people didn’t show up, or all ducked out early?) by organizing such an event. I gave him a quick joke and a brief bit of appreciation and then circulated. Did any of this make a difference in my outcome? It’s impossible to say but I suspect it didn’t hurt.

Circulation at such gatherings is key. Don’t expect a conversation to have real content. If there are 50 people in your section and the gathering is 90 minutes, think about shifting circles every few minutes, almost like square dancing. And, yes, fake that you are truly delighted to chill with your colleagues as opposed to performing another form of work, which is what you are really doing.

BULLIES AND TELLS

I always felt on edge at the organizations I worked at. Many people wear a disguise, with the real them somewhere well buried underneath. Perhaps in the organizations I am creating now, it will be possible to have a different vibe. I hope so.

But if you do work in a place with intricate politics, every now and then, a person lets down their guard. This is what I’d describe as a tell.

This is different than a person’s personality. A tell pops out, unexpectedly, and gives you a new insight into the nuances of a personality.

For instance, one salesman at the bank was extremely attractive. I was told he had been a model for *GQ*. He certainly looked like he could be. He was aware of his good looks. His tell was difficult to define precisely; a certain insouciance, as if the rules didn't quite apply to him.

He could also be controlling. After Jason left BankBoston, I got promoted to be the chief strategist and my job was to make predictive calls on interest rates and exchange rates. Said differently, I had to predict what the euro/US dollar exchange rate would be six months from now or what Fed policy would be. GQ's job was to sell business and to use my calls to help him do it.

The relationship between a salesperson and a strategist is odd. On the one hand, as I noted earlier, the salesperson has the client relationship and is closer to the money. On the other hand, the more calls I got right, the better my reputation, the more leverage I had in the organization and the more trust I had with clients. At the same time, the salesman might have a client that would benefit from a weaker euro, when I was arguing the currency would move the other way, and this could create a natural tension, the integrity of my calls relative to the incentive to do a deal.

After Jason left, GQ began trying to push me into a certain market view, a line he was not supposed to cross and one he never crossed with my former boss.

After a few weeks of this, we had an interaction in the middle of the trading floor. He stepped up a few inches away from me and began to lecture me. I felt others were watching. As he was talking to me, I remembered a tactic both New York Governor Cuomo and Henry Kissinger evidently used, jabbing people about their waistlines.

I hear you, I said. By the way, you doing OK? You look like you've put on some weight.

GQ jumped back away from me as if I'd zapped him with a cattle prod.

The bullying stopped. Is it ugly to body shame a bully? Yes, even one cut like a movie star.

But there also aren’t a lot of pretty ways to respond to a bully. You will encounter a lot of bullies and you need to know what they are insecure or overly proud about. If he was my boss, I would not have dared. But he was a peer trying to act like my boss and thus in my mind he was fair game. I also never would have said that to a woman.

You can use a tell either to pull a person closer or to create some distance. For instance, a person who is having a crappy day wants above all to hear that you are not judging them.

Also, be aware of your own tells. One of mine is that when I am not crystal clear about what is going on, my arguments lose analytical rigor. I found that out at Bridgewater, where some of my colleagues possessed minds that worked like a big spreadsheet.

My tell would be making a statement that was not sufficiently backed up, like an assessment about the implications of a political shift without considering the fine details of fiscal policy. Not surprisingly, I got justifiably punched in the face (metaphorically) a few times for that error. I sent drafts of this book to people who are more analytical than me; an effort to learn from that mistake.

SAFETY

The overriding concern of almost everyone in the org chart is safety. Yes, many would like a promotion or more money or some sort of recognition, but the first thing that people are looking for is security, one of the basic functions in Maslow’s hierarchy of needs. Think about that when you interact with anyone at your office. Whether they are above or below you in the hierarchy, they want you to make them feel safe. Even if, in reality, no one is ever safe.

For instance, I was once at an internal meeting for Bridgewater where a woman was presenting a series of changes they were going to roll out in certain financial reporting. While we reported into different business functions, technically I was more senior than her. It was a perfectly ordinary meeting that mattered little to me. As the woman spoke, I noticed her hands shaking. That was about as obvious a tell as one could get. A meeting that didn't matter much to me evidently mattered a lot to her.

This is good, super helpful, I said, interrupting her and sounding more interested than I really was.

She took a breath and her hands stopped shaking.

It wasn't a big thing, but it helped. At a later date, she was more likely to be well- than ill-disposed to me.

All around you, people are getting into situations that make them feel unsafe. It could be a meeting with a corporate adversary, it could be a person who needs to fess up to a vice that is impacting their work. In each case, you have a choice to make the person feel ashamed or accepted, and if you accept them, they will be your ally. Similarly, once a colleague got very drunk at an event. I was sober. In theory, I could have made a stink about it. Instead, I never said a word.

LEVERAGE

When you start off in an organization, you have no leverage. Particularly if you are young and inexperienced. But you need leverage if you are ever going to get anywhere. Leverage is what makes you more valuable.

Leverage takes many forms. Maybe it's technical expertise, like the finance PhD. I worked with at my banking job. He built a complicated set of calculations into Excel spreadsheets that generated trading signals for foreign currencies. Only he knew how the spreadsheet worked.

Or maybe it's people skills. You develop good relationships with important clients. Or it could be by just staying put and doing your job you gradually accrue a deep knowledge of how the organization works and what it takes to get things done inside of it. Initially, this might be slow going, but over time it matters. A steady presence is an asset to any organization.

When I was at the bank and at the hedge fund, I saw people fired for lying, messing with their expense reports, being slow to return urgent emails and calls, or just plain being difficult. With time, I became more “senior” merely because I was still in the seat. As you move up, you get more leverage. And then you begin to use it. That’s how you change your caste within the caste.

With time, you gradually begin to learn that most secret information—what everyone makes and the secret formula to your organization’s Coca-Cola—which, suddenly and miraculously, makes negotiating your own salary a lot easier. (Which is why in most organizations, this information is closely guarded.)

In the private sector, most salaries are benchmarked against other firms. Managers buy this information and use it to determine your pay. After six years at the bank, I started seeing these reports. Now, I could go to my boss armed with real numbers and argue, like a lawyer, what was fair and what was not. Until I got fired and the whole game began again.

It’s also true that as you know more and get paid more, the cost savings from axing you goes up. So as you learn more you get safer in one respect, but also more vulnerable in another.

The longer you are at an organization, particularly a large one, you spend less time working and more time navigating around various personalities. It helps to be disciplined. Answer every email, never show up late for a meeting. Or unprepared. Know what everyone in the meeting wants to get out of it. Anticipate every question they might ask. Said differently, meeting jiu-jitsu becomes a full-time gig.

If that sounds different than what you thought work was going to be, you are right. It’s political, more high school, less college. And the people who are most able to boost their income are often geniuses at these games (much better than I was) and spend a lot of time thinking and strategizing about it.

Once I took a trip with a politically connected colleague. We were in Hong Kong meeting with clients and his partner, who was also in politics, was on the other side of the world, in the US. For the week we were there, I noted how he operated.

He was less focused on clients than on internal strategy. But boy was he clever about how to navigate a bureaucracy and get his piece of pie. Between every meeting, it seemed he and his partner strategized about the next internal meeting each of them had on their schedules. This was the opposite of how I operated; I prioritized client meetings. What struck me most about this couple was their complete dedication to “the game.” They played well. I watched him get promoted and realized that’s what it takes to win. Or at least, that’s what it takes for that type of person to win.

Knowing what I’ve said above doesn’t guarantee you a big job, but it does convey the processes at work and why money is hard but not impossible to obtain. Office politics isn’t a distraction; it’s a central work function in any job where performance is subjective.

This chapter and the previous chapters have been about spending and income. I now want to turn to saving. You can pay less attention to office politics if you save more simply because any organization will have less leverage over you.

CHAPTER SEVEN: ERROR

Bad things happen, so assume a large margin of error and know your "risk-free" position.

ONCE YOU JOIN a caste and get a job and perhaps get a raise, you will hopefully start to earn more than you are spending. You then start to save.

The first thing you need to do is put money into the stock market, right?

Actually, no.

The first thing is to build an emergency fund. Emergencies happen. A lot. A lot more frequently than you imagine. The very first thing you need is a buffer to deal with these disruptions.

Based on a survey by the Federal Reserve, about one-third of US households don't have enough cash on hand to deal with an emergency $400 expense.[1] (That said, the average checking account has more than $400 in it.)

You don't want this to be you. So you should build an emergency fund.

The standard financial advisor advice is to save up to three months of your salary or your normal expenses in this emergency fund.

That is bad advice.

The thing is to build up a margin of error; enough money to navigate one of life's jarring, unpleasant events.

What's a reasonable margin of error?

It depends on the scope of your obligations and aspirations, which will shift over time.

But it is a known number, just like your basic living expenses discussed in the "income" chapter is a known number.

When I calculate my margin of error, I do so on the basis that I need to have enough money on hand to cover:

- Unemployment. Calculate expenses per month times how long it will take to find work. It can take a long time.
- Debt obligations, like student loan payments or a mortgage or a

credit card bill. Ideally the entire sum, at a minimum enough to cover debt payment obligations if you experience protracted unemployment, like say 18 months.

- Expected future large purchases, like replacing my car, roof, hot water heater and air conditioning when they wear out.
- Extraordinary expenses—for instance, a medical emergency that requires huge co-payments.

If you are wealthy, this might also include payments to people who are less wealthy that you can help out if they get into a crisis and turn to you. If that is in your emergency fund, when you do get the exceptional request (I've received many of them), it does not come off as much as an "unexpected" expense. Perhaps you are saving money to buy a house and need to put aside money for a down payment. Maybe there is an impending legal issue or you have a parent in poor health. In any case, there is certain money that you need to spend.

Think about your margin of error conceptually, not rigidly in terms of months. I've seen people be unemployed for a year or more. If you work in a cyclical industry like tech, recognize that you will likely get fired when everyone else you know is fired too, which makes getting work harder (because lots of people as skilled and experienced as you are also looking for work) and the need for a margin of safety greater. If you work for the federal government and have a deep family network that can help in a health emergency, on the other hand, you can probably have a smaller margin of error.

Extraordinary expenses can, at times, be quite extraordinary, like an acquaintance of mine whose husband got awful brain cancer. She had health insurance but suddenly needed to pay for 24/7 nursing care. Despite working her whole life, she ran into acute financial difficulties.

Calculating this margin of error is what in the money management business is known as your “risk-free position.” This risk-free position is the first step to investing well. It is the part of your portfolio where you don’t take risk, meaning you don’t expose yourself to the ups and downs of a financial asset, like a stock or a long-term bond. Instead, this money should go into a risk-free instrument, like a 3-month Treasury bill.

The equation below sums it up. I’ll explain how to build a risk-seeking portfolio in subsequent chapters.

Total Return = Risk Free Position
+ Risk Seeking Portfolio

Just like switching your caste or living lean is not purely an academic exercise for me, neither is the margin of error.

In 2019, Marina wanted me to speak with a childhood friend of hers, who I will call Sergei.

For Marina, childhood friends matter as much or even more than family, which in her case was neither coherent nor supportive.

Sergei had grown up in a home as dysfunctional as Marina’s. His father was a fireman and a thief, literally. When the father was called to a job, they’d put out the fire and steal whatever they could get their hands on. Sergei’s mother was not much of a presence. Later in life, he was estranged from his older brother, who died young.

Sergei had brains and drive, but no training in money. He was in his late 20s when the Soviet Union collapsed, and he used a facility with languages to strike up a relationship with foreigners who had some capital and were eager to make a buck in Russia.

Over time, he broke out on his own and became a successful businessman.

He had an office, staff, cars, security, and multiple apartments. By local measures, he was considered to be quite shrewd.

The business itself was simple. He bought elegant, manufactured goods in Europe, paid the requisite bribes to get them through Russian customs, and then sold them at a markup in Russia. Building a new hospital in Siberia? Well, someone needs to buy the machines and beds and windows to make such a place function. That's how Sergei made his money. Bribery in a place as complex as Russia takes a lot of thought and nuance. Not the line of work I aspired to, but that was his way.

As time went on, Sergei tired of the difficulties of running a business. In Russia, running a business is particularly fraught. He had a number of tangled legal run-ins and lost a chunk of his money on lawsuits. Some of his bodyguards were killed by the mafia. He was beaten up, as a warning.

A few years ago, he decided to simplify his life. He bought a large commercial building in downtown Moscow. This was what he thought would be his retirement. Corporate clients are considered more reliable than individuals, so he rented the offices out to businesses that catered to the burgeoning population of Asian tourists taken with Tolstoy and the romance of Russia.

To boost his returns, he borrowed money to allow him to get a bigger building than he could get with cash alone. But he had run into a glitch with borrowing from one of Russia's banks and said he needed short-term bridge financing.

I'll pay you back in a few months, Sergei said to me over the phone, maximum three.

That's why Marina wanted me to talk to him.

He needed $125,000. I'd lent people money before, but never nearly that much.

Listen, it's Russia, said Marina. We do things differently.

She meant that if a friend calls, you give until you can’t give anymore. That’s what we did. It hurt to give that much.

I didn’t interrogate Sergei about his finances. He had a record of making reasonable business decisions and said he needed the money for a month. As of this writing, he hasn’t paid me back, not because he doesn’t want to, but because things have gone from bad to worse, a case study in the absence of a sufficient risk-free position.

First, Covid. While Russia imposed a chaotic and inconsistently enforced lockdown, lockdowns across Asia were severe and comprehensive. Visitors didn’t decline, they dropped to zero. Thus, the revenue in Sergei’s building dropped to zero. His revenue was variable and his debt was fixed. Suddenly, he’d gone from being a successful businessman with a small army of helpers to a guy in dire financial straits. He owed money and the cash dried up. He sold his Porsche and tried to auction off his art collection and called us again. This time, I refused.

He had no margin of error, or the margin he’d applied was way too low. He didn’t have reasonable coverage of his debts and he didn’t apply enough imagination to what a reasonable buffer would be.

It’s not surprising it is hard for people to accurately calculate a margin of error. The money in the emergency fund is “dead,” mouldering, not earning a meaningful return. It’s always tempting to push your investments to the limit. And if you do build a solid risk-free position and by chance you don’t face an emergency, it looks like you were a Nervous Nellie.

Then, Sergei suffered a second disaster.

As Russia and China emerged from Covid, Putin invaded Ukraine, turning Russia into an international pariah. The exchange rate collapsed, meaning any purchase of foreign currency was that much harder. That meant in ruble terms (which is how Sergei earned his money), his debt to me had increased markedly. Given the sanctions on Russia, I don’t even know how he can ever repay me. Getting the money out of Russia and into my hands might violate some rule.

Not getting repaid is unpleasant. It took a lot of work to earn that money, which is what I had received after paying Federal and local taxes. So the actual amount lost was even bigger if I considered the number in pre-tax dollars. The lesson for me is a complicated one—if you have experienced some financial success, how much do you want to help those around you and according to what criteria? I also need to do work on deciding how to calculate my risk-free position.

Sergei could not have anticipated Covid and Ukraine any more than Grandpa could have predicted the Depression. But they both could have predicted that things would go wrong—because it's likely they will, as much as you hope and pray they won't. Grandpa lived by that rule. I do too, but not quite to his extent. As for Sergei, he could have used a lot more Grandpa in his thinking. If you live in a country as volatile as Russia, it's also wise to keep a good chunk of your emergency fund in dollars and euros and, if possible, outside the country. I live in the US, but even I always keep some foreign currency on hand.

Over the course of your life, you will meet a lot of fast-talking people who seem smart and confident. I've learned to be cautious with them. Get them to slow down and probe their logic. That's what I should have done with Sergei.

In short, bad and hard things will happen and you should build that into your plan.

The underlying message here is not a nice one, but it is real—you should not rely on anyone but yourself. Assume the world is cold and indifferent to your travails. Of course, the opposite is often true and, in general, when I treat the world with kindness and respect, I get the same back. But don't expect that. Expect to get nothing and set yourself up mentally and financially to withstand great pressure, like a boxer in the ring. In the end, it will feel much better. You will walk a little taller and have a degree of confidence that you would not otherwise have.

How big should the emergency fund be exactly?

It should now be clear that this is a different answer for everyone.

The amount is one question, the specific security where you keep it is another. I already mentioned Treasury bills. You might be tempted by a “money market” fund that gives you a yield slightly above a Treasury bill. I avoid those. The purpose of cash is to have no risk, so own something that is truly risk-free.

One other security many people don’t know about, but which can be helpful in this regard, is a government inflation-linked (IL) bond. I talk about bonds more later on. But in regards to the emergency fund, it is worth briefly pointing out that an IL bond is a government-issued bond that pays you a “real” interest rate, plus an additional return that is solely a function of the prevailing inflation rate over the lifetime of the bond. Said differently, your investment is protected from higher inflation. As a result, if your future obligations, or your risk-free position, are longer-term you can buy a bond that is matched to the maturity of that expense. For instance, say I retire from the private sector at 60 and believe I will live until I am 80. I can buy an inflation-protected security for each year I need to make payments for living expenses.

In this sense, my “risk-free position” is the set of payments that guarantees me enough cash to live on. I can then build a risk-seeking portfolio on top of that. Yes, I’d have to reinvest my interest rate payments and pay taxes both on the realized interest and what is known as the “inflation accrual,” which means the price of the bond goes up contractually with inflation. The big point is that each of these bonds is a contractual agreement. So I know I will get a payment in real (inflation-protected) dollars ten, or 11, or however many years from now.

To be sure, the tax treatment of these bonds is not good. In the US, the interest on these bonds is taxed as… income, as opposed to a dividend on a stock, which is taxed at a lower rate. I am not an accountant, and everyone's situation depends on their tax bracket, but it is worthwhile being mindful of the tax. At the same time, the certainty of an inflation-protected payment is also worth something. Like many things with money, there is no perfect solution.

Emergencies come in many different types—some slow the money coming in; others accelerate the money going out. The scary ones do both.

The money coming in is mostly either losing your job or your savings collapsing.

The money going out is divorce or health emergencies, broadly defined, and inflation or government confiscation, like sanctions.

These are not theoretical events. I've seen people experience collapsing family income due to fatal car crashes (on a freezing New Year's Eve), cancer (losing a parent), drug addiction (a neighbor), firings (myself and many others), fraud (former colleagues), and jail (acquaintances of friends).

This does not mean that life is a string of disasters. As I said at the outset, there are plenty of beautiful moments, moments of awe. But your expectation should be that difficult things are coming at you. If you get through life without such upheavals, good for you. It's just that the odds are not in your favor.

Sometimes these crises are sudden, like a car accident; sometimes gradual, like inflation, which slowly erodes wealth. Sometimes the system itself falls apart. That's a scary possibility, but a real one. I already mentioned Venezuela. Add to the list, in my lifetime, Rwanda, Yugoslavia, Ukraine, and Haiti. Russia opened up but then closed down.

Could that happen in whatever place you are reading this?

Yes.

States fail not due to some odd meteorological event, but because people are people and calibrating the right relationship between the rulers and the ruled is still a work in progress, despite thousands of years of evolution to more market-based, democratic organization. Nothing is truly certain.

Yet, you don't want to go too far in the risk-averse direction. That's why the balancing act with money is so hard. While there is Sergei, Marina's childhood friend, at one extreme, there is also a person I'll call Jerry.

Jerry has been worried about the sky falling as long as I have known him. He isn't dumb. Just scared. Always.

I've got 1/3 gold, 1/3 cash and a lot of real estate, Jerry told me, confident that he had it all dialed in.

Why? I asked.

Jerry shared his logic. US debt was very high. At the time, the central bank was printing a lot of money. Technology was shifting the balance of power between the haves and the have-nots. Inflation was on the rise. Given the inflation, interest rates could rise and stocks could crash.

All of his facts were right. But somehow, the US and much of the rest of the world continued to stumble forward and, as it did, the financial markets generally rose in value though, yes, there were some nasty downturns where things got scary. The return of investing in the NASDAQ versus gold in my lifetime has been 4000% versus 350%.

Said differently, Jerry's risk-free position was virtually all his savings. This is too much protection and it reminds me of a more sophisticated version of my grandfather, who was also risk-averse. Behaving in this way, both Jerry and Grandpa missed out on an enormous amount of potential wealth gains and, with it, the ability to either enjoy unique experiences or help others. Over Grandpa's investment lifetime, his wealth would have increased 15 times if he had the confidence to own stocks.

You miss out on an awful lot by being risk-averse. It doesn't mean taking risks always works out. I've been burned on a number of investments and business decisions, like lending money to Sergei. Part of taking risks is getting crushed. But true learning comes most cleanly through first-hand experience. And as you learn, the wins will likely outweigh the losses.

Travel is a case in point and a metaphor for both career and investment risks. Leaving home is risky. You don't know the environment or sometimes the language. It is also expensive. It isn't, strictly speaking, essential.

However, ever since I was a kid, when I read the datelines on stories in *The Washington Post*—ISTANBUL, GENEVA, MOSCOW, BEIJING—I wanted to see these places. And not just see them. Ideally, I wanted to speak some of the language and have an experience—perhaps in a cafe, or at someone's home, or walking down a street—of perceiving how these places looked for the people that were there, and to try to stand, if even for a moment, in their shoes.

If my risk-free position was all-consuming, there would be no room for travel.

And yet I went. I recall walking on Red Square's nubby, gray cobblestones for the first time in 1990. Or, not long after I became a banker when Jim, the patrician boss, sent me on a trip to Singapore. I sat on planes for a long time, Boston->Chicago ->Tokyo->Singapore->Frankfurt->Boston. When I arrived in the middle of the night in Singapore, I watched, transfixed by palm trees bending in the wind as we drove to my hotel.

So this is Singapore, I thought.

The three years I spent in Russia when I started my career earned me very little money and were often lonely. I struggled to master the language. When I travelled to India, I contracted a virus that ultimately made it into my spinal fluid and wreaked so much havoc on my system that I was hospitalized for a week. In Chile, my raft overturned, and my wife nearly drowned.

My point is, I've spent a lot on travel and risked a lot because the risk-free position should not dominate. It just should not be ignored.

If you get to be my age, you will almost certainly meet people who followed the rules, saved assiduously, finally retired with an eye to this long-delayed portion of their life, and then promptly got sick and even died. That's the minority, but it happens.

And then you will really be wondering, was I too risk-averse or not risk-averse enough?

There is no perfect answer, but you will find a much better answer if you can put hard numbers around a budget and your risk-free position. For me, that helps separate the logic from the emotion, and money is always emotional. That's particularly true if you take on debt, the subject of the next chapter and a clear subtext in Sergei's story.

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1 "Economic Well-Being of U.S. Households (SHED)," The Fed.

CHAPTER EIGHT: DEBT

Debt is a tool, use it well.

ONCE YOU HAVE a job, some savings, and an emergency fund, you will probably think about debt.

That's what happened to me. I don't mean debt like credit card debt. Credit card debt is diabolical, and my only advice is to avoid it completely. Yes, I have a credit card, but I only use it for convenience, and I pay it off each month. Credit card companies prey on the weak, so don't be one of them.

Debt to buy a property is something else, however.

Marina and I were sitting on a couch in our small Brookline living room. We lived in a set of apartments that a lot of immigrants working at Boston universities and hospitals rented. I liked it. It was simple, not a budget buster, and at a density that made it good for socializing. My son merely needed to walk outside to find some other kids to hang out with.

Why are we paying rent each month, asked Marina, we could be paying ourselves?

It was a jarring question. This was 1998 or 1999. I was in my early thirties.

Only one year earlier I had been eye-to-eye with the rats.

A jarring question, but also a reasonable one. There is a passage of time. We are all on a timeline, with a fixed expiration date. Water is flowing toward a waterfall and we are on that water.

After I'd been paid one bonus, then another, we could now afford to hire a babysitter and go to a favorite Brazilian restaurant in Allston. No more buying one cup of tea for two people.

But Marina wanted more and that is normal. A lot of people want more. And my caution about being too risk-averse needed some coaxing.

Marina's logic, at first glance, made sense.

Couldn't we indeed be paying ourselves?

When I was a journalist and lived in Brooklyn, my flinty Syrian landlord shared his real estate investing philosophy with me:

Rather than you work for the house, make the house work for you, he instructed in a hoarse voice.

I didn't know if he was successful, but I know I paid him rather than him paying me.

But the idea of buying a home made me nervous, the way driving up a steep mountain road with no guardrails makes me nervous.

After Marina first prodded me, it took me a few days to understand what made me so jittery, to move an emotion deep inside me onto a logical plane I could understand.

I slowly realized I had an instinctive fear of debt, of being roped into an obligation. I was now married and a father. Those were already two big obligations. But debt seemed more constraining and less joyful than family. No matter what happened to my income, the debt would remain.

At the same time, there was pressure from Marina. In Russia, a real man, a *myzhik*, owns his own house. Renters were the guys "in short pants," as she said. I didn't want to be the guy in short pants.

Still, something didn't sit. I was thrilled my salary had gone up, but it had been sudden and unexpected. Couldn't it go back down again just as fast? (Yes, is the answer.)

On my bike rides to work through dark, chilly Boston roads, flashbacks of Grandpa conversations bounced around my mind.

Here kid, take this, said Grandpa.

It was the 1970s. I was maybe six. Washington, D.C. Hot outside, humid. Cicadas screeching.

Grandpa handed me a brown envelope with silver dollars. He gave me a packet every time he visited from rural Mexico, where he spent most of his time.

Why silver?

I think he didn't trust paper money. Or maybe he thought we'd think a coin was special. In part, it was probably from living through the Depression and World War II. In the 1970s, high inflation eroded the value of paper money. Gold was the most useful thing you could own because it bought more and more dollars. Grandpa couldn't afford gold. So giving us silver was probably his way of trying to protect us. The silver coins sit in a box near me now.

Later on as I learned more about financial history, I discovered that indeed paper money never lasts. Think of how many governments and countries have come and gone, from the Roman Empire to the Hapsburgs to multiple Chinese dynasties. They each had their own currency.

The sense of fear, of having been through a financial maelstrom that Grandpa gave off, left a faint psychological imprint. Dad was also rattled by instability. They both seemed to believe present circumstances could become much, much worse.

In his 20s, after Japan bombed Pearl Harbour, Dad joined the military and tried to sign up for as many obscure, highly mathematical training courses as he could to diminish the likelihood "that I'd get shot and killed," as he said. Little did he know Uncle Sam was watching. That's how he ended up on the Manhattan Project.

Years later when I was standing on Omaha Beach looking up at the grassy, steep hills and imagining how terrifying it would be to run up toward a wall of bullets, his fear seemed prudent. If he'd filled out different paperwork, that could have been him in one of those caskets under a white cross (or in his case a Star of David) at the top of the hill. The message, unspoken, I absorbed from the silver dollars was bad things can happen. And I'd seen it with my mom. Bad things had happened.

I put that fear on one side and then I thought about Marina and my role as father and protector and tilted toward buying a home, particularly when pulling up at the bank on my bike. I had a banking job for goodness' sake. Wasn't that stable? The bank looked stable enough when I showed up in the early morning hours. It was housed in a looming granite building! All I had to do was show up, right? (Years later, I'd watch workers sandblast the name of the bank from the granite stone after we were acquired and thousands of workers were fired.)

Debt was the bridge from one side of the capitalist system—renter—to another side—owner. Debt also meant I needed to generate years of future income. The magic of making the jump to owner was to spend much more than I had at the time. That's all debt is: spending tomorrow's income today.

I was betting on my salary staying above average or, if I got fired, that I'd find something else. Fast. It was a big gamble, which felt all the bigger because I didn't have a license or a certificate like a doctor or a lawyer. Finance paid me like a doctor or lawyer, even better actually, but it lacked any hard qualifications, which created constant angst that it could all disappear while the debt, like a cockroach impervious to nuclear war, remained.

So we bought the home and took on debt. The house was not large, but it was ours. Our son's bedroom was a few feet from our room. There was a third bedroom that would soon become our daughter's. The moment I moved in, my thinking shifted. I've experienced this throughout my life with regards to money. I "thought" I knew what buying a home would be like. But once I owned a home, I suddenly began to look at everything differently, more acutely aware of the moving pieces.

When you buy a home, you are at a point of maximum risk. That you owe a lot of money to someone else is obvious. But you are also exposed to a number of other risks that only become clear later on, or at least they weren't clear to me back then.

To begin with, I added another moving part to my list of worries—the stability of the housing market. It was the summer of 1999. The stock market was soaring. I felt we might be in a financial bubble, but I didn't know precisely how to define a bubble or the difference between how the stock market worked and how the housing market worked. If one went up, what happened to the other?

The house cost $380,000. As I recall, we put down about 30%, virtually our entire savings.

How onerous the debt was depended in part on how much my salary and home prices oscillated.

I calculated that if the home lost 20% of its value, I'd be out $80,000, an incomprehensibly large amount of money. If the house lost 30% of its value, then I'd have *negative* equity, meaning that the market value had declined by more than my down payment.

This is when I began to think in terms of ratios. The ratio of debt to equity. The ratio of income to debt. It's helpful to think in terms of these metrics to know how you are doing. To use a diet metaphor, it is a little like Body Mass Index, the ratio of height to weight. No one measure is perfect (BMI can rise if you put on muscle or fat, so it doesn't tell you everything on its own), but they can be helpful.

Debt to equity was how much debt I owed, about $300,000, relative to how much of the house I owned free and clear, about $80,000. So the ratio was about 3.75. If the house price rose by 10%, to $418,000, the ratio would fall to 2.54. That was a good thing. I was also earning about $100,000 at the time, meaning I was levered to three times my income. If I paid down $30,000 of debt, that ratio dropped to about 2.7 times, also a good thing. However, if house prices fell, my debt-to-equity ratio would get much higher, meaning worse. The key point was to think about how much I owed related to how much I owned and earned. Both pieces of the equation mattered.

Over time, I turned my animal fear of debt into numbers I could observe. As long as the house price didn't fall, I had so far merely traded a liquid asset (cash) for an illiquid one (my house). The house was an asset. That helped calm me. And the debt payment (not the debt level) was less than 30% of my income, meaning I could even afford to sometimes overpay and bring down the principal. I loved doing that.

In April of 2000, Marina and I sat at Les Deux Magots in Paris. Things had been going OK. I'd been paying the mortgage. It was, as April in Paris is supposed to be, a sunny spring afternoon. The air had a softness to it. Parisians around us were doing what they do better than anyone else—sitting around, drinking coffee, smoking and talking. In Paris, somehow, the little clouds of cigarette smoke smelled pleasant.

I'd correctly bet the euro would fall against the dollar. So the bonuses kept flowing. Marina looked ravishing. Green-blue eyes, an easy traveler. We'd bucked out of Boston for a short trip because I'd always dreamed of coming here with her and she is always happy to be on the road.

But trouble was afoot. On our last day, a French newspaper headline blared, "NASDAQ falls sharply." That much I could read in French. *Tombe.* That didn't sound good.

My job at the bank wasn't related to the stock market, but I knew the stock market was important. I just didn't understand how it worked. My job was following foreign exchange rates and interest rates. I knew why the euro was at the level it was when we were in Paris. But how could you be in your 30s and not know how the stock market worked? Well, I was there, and I didn't.

As the market began to tank, bonds began to rally and interest rates fell. (Bond prices move inversely to yields.) I quickly realized there was a third moving part to our house. It wasn't the house exactly, but the financing of the house. In addition to my income and the price of the house, there was the cost of debt. That's what the interest rate is: the cost of borrowing money.

That too could move a lot. As the stock market fell, people rightly assumed household wealth would fall and there would be less spending. That's what happened and, pretty soon, as the outlook for the economy weakened, interest rates began to sink. But falling interest rates made it *cheaper* to borrow money, which supported house prices.

Back in Boston, a flier came around the bank. It was one page with the bank logo. They were willing to re-finance our mortgages at a 4% interest rate. 4%! The original interest rate was in the 7s, as I recall.

That changed things immediately. If I spent less on the interest, I could spend more on the principal and get out of debt faster. As opposed to the stock market being a bust for the housing market, it was a boon. I had, plain and simple, been lucky.

Here are my papers, I said.

I was sitting on the first floor of the bank, with a loan officer of the same institution I worked for. The ceiling was forty or so feet high. My desk was 12 floors up.

4%?

Yep, he said.

A lot of people biting on this?

Oh yeah, we are back-to-back, he said.

Thanks to not getting fired and those lower interest rates, I gradually got a degree of freedom back. My debt relative to equity began to move in my favor. These ratios began to feel less like abstract math and more like something very tangible that impacted my life.

As the house payments diminished relative to everything else, my emotions once again shifted. Not only did I now see how income, house prices, and interest rates were interrelated, I noticed we all got used to the money. Pretty fast. After years and years of paying rent, all of a sudden we got used to paying a mortgage. Boom, our expectations and definition of normalcy shifted.

A related thought: the difference between words like “home” and “lodging.”

Lodging was like a motel, a place to sleep. Four walls to keep you from getting attacked at night. A home was something entirely different—your nest—and I came to realize that to me owning my home was very important. I recalled when my father, felled by his terrible illness, sold our childhood home to raise money for his nursing care. For several years when I was bouncing between Russia and the US, I had no fixed address. I hated that.

The house bought for $380,000 I later sold for $680,000 when I got fired from my job in a bank merger. That house is now worth over $1 million.

Part of that price appreciation is 20+ years of inflation. Inflation alone would boost the price of the house to around $620,000. The other part of the price increase is interest rates and demographics.

Looking back my fears were overstated. The things that happened to my Grandfather and father didn’t happen with me or the house. It was good I listened to Marina.

But did it mean that taking on the debt was a good idea?

Not necessarily.

I made money on the house; I bought low and sold higher. But with time, I realized that’s not the right way to count. As opposed to buying the home, I could have rented, saved on tens of thousands of dollars of interest payments and maintenance, and instead invested the money into the stock market. During that time period, 1999–2004, a 60/40 stock/bond portfolio (60% of your money in stocks, 40% in bonds) declined by about 5%. So in this specific case, buying a home was a better deal than investing in a portfolio of assets, but only because there was a stock market crash. However, if I held the house until today, the stock market would have been a much better deal. I’d have about $2 million as opposed to $1 million. I would not have had the emotional satisfaction of owning my own home, but I would have had more money, which brings other pleasures.

That only became clear once I was in and out of the darn house.

But at least I now know what the moving parts are: home prices, interest expense, maintenance, and the opportunity cost of not being invested elsewhere.

Sometime later I bought another house, this time in Connecticut, as an investment property. I wanted to see what it was like to own a house and rent it out as opposed to live in it. In this case, the house turned out to be a much worse investment than I could have earned by instead saving the money and investing in the stock market. The house returned about 40%, while being invested in the market would have yielded over 200%. And a big part of that bump in the home price was that during Covid many people fled Manhattan for the suburbs.

I didn't know how to invest properly when I bought my first house. I had no idea what a portfolio is or how to calculate an expected return of a portfolio. As a result, I didn't know how to make a logical calculation about the relative merits of buying versus renting.

The lesson is that a house has a lot of moving parts. The big thing that is appealing about a house is that you can live in it. That's unique among different types of money. You can't live inside a checking account. In my house, no landlord can tell me what color to paint it. I once had a landlord that complained about the curtains we put up. But in financial terms, a house is really a trade; a bond trade. If bonds go up, house prices go up, and vice versa.

This raises an important point.

To understand money, you have to understand bonds, which many people don't find that interesting. But as you can see with the house example, the thing that shifted was the interest rates, that is the cost of money. To understand interest rates, you have to understand where money comes from and how it is priced, which is the topic of the next chapter.

CHAPTER NINE: SOURCES

Money primarily comes from the central bank and their printing ebbs and flows directly impact your work and savings.

BEFORE I GET into the practical issues of stocks and bonds, I want to start with something more fundamental and possibly more boring—the central bank. The reason this is worthwhile to understand is not because it is interesting. The reason to understand it is because it has so much direct impact on your income and investments. You probably should not get into the business of trying to predict what a central bank is going to do (which is how bond traders spend their time), but you should understand how a central bank's decisions impact you.

Money is an invention, like the light bulb. It's a practical solution to a complicated problem, how to trade one item for another. Barter is unwieldy; how many potatoes do you trade for bread?

Money solves that problem. These days, the primary mechanism to produce money is a central bank, which has a monopoly on the ability to create it. The key question is how much money to create.

The difference between having work or not, or whether your savings is worth more or less, is often how much money the central bank is printing.

They are Oz in the Wizard of Oz. In fact, some see *The Wizard of Oz* as an effort to make the abstract world of money more vivid. "Oz" is an allusion to "ounce," and the yellow brick road an allusion to the Gold Standard, and silver shoes a reference to bi-metalism, which at the time (before the Federal Reserve was created) would have meant boosting the money supply.

Rather than spin up a metaphor, I want to talk about how, mechanically, the central bank creates the money, and then talk about how hard it is to do this properly. I also will discuss a second source of money, credit, which echoes the first source, printing. If you understand what a central bank does and how credit creates money, you will understand a lot.

At the source in Colorado, the Rio Grande looks like a damp bog. The water catches the light, refracts up.

On this flow depends everyone and everything on either side of the river for the hundreds of miles of its course.

Just like the farmer keeps an eye on the Rio Grande, anyone with money concerns needs to keep an eye on the central bank.

When the central bank reduces the supply of money, it intentionally creates a shortage, a drought. The measure of how “tight” central bank policy is is the interest rate, or cost, of money. When the central bank is tight, the cost of borrowing rises, spending (dependent on this credit) slows, and unemployment typically rises. The house price changed, in the previous chapter, because the central bank increased the supply of money, monetary policy was “loosened,” which lowered the cost of money, the interest rate, which led to more borrowing.

I know that if you have not thought in these terms the lingo can be confusing. Trust me, it is simpler than it seems. Less printing = tight money = higher interest rates. More printing = looser money = lower interest rates. Lower interest rates = more borrowing. Higher interest rates = less borrowing. That’s it.

The mechanics behind how the central bank prints or tightens is mysterious to many and worth reviewing to burn away the mystery. In fact, it’s even a little mysterious to the people themselves that are doing it. I’ll share a story I heard, but didn’t witness, and sounds so good that it is probably true. Former Federal Reserve Governor Paul Volcker was asked how exactly interest rates shift when the Fed announces they will change rates. That’s a mystery, he reportedly said, we announce a policy change and they instantly move there.

The market instantly adjusts because it knows the Fed has the power to buy or sell as many securities as it wants to get its desired outcome. In 2009, when interest policy rates fell to zero and the economy was still weak, the Fed began printing money and forcing it into the economy. What? This is how that worked.

Printing money involves three parties—the US Treasury, a commercial bank, and the US Federal Reserve, which is the US central bank. It works the same elsewhere, just with different names. For instance, in many countries what in the US is called the Treasury is instead called the Ministry of Finance.

This is how the sequence works:

1. The Treasury issues bonds in the amount that fills the gap between tax revenue a government receives and the spending they are conducting. If the government spends $100 on defence, but only takes in $80 in taxes, they need to issue $20 in bonds.
2. The commercial bank buys this bond at an auction, thus lending the US government the money. The bank has this money based on its deposits, which you gave it because you didn't want to keep your spare cash at home where you could be robbed and the money earns no interest.
3. The Fed "prints" money by adding zeroes to a spreadsheet and then goes out and buys those Treasury bonds from a commercial bank, replacing those bonds with "cash." I say cash in quotation marks because they aren't literally carting around cash, it is all electronic.
4. The commercial bank then uses that cash for loans because a loan yields more than the cash. While the central bank and the Treasury are both part of the government and work closely with one another, they are separate entities. The Treasury issues the bonds. The Fed prints the money.

A spike in interest rates that makes buying a house more difficult isn't an act of nature, it is specific people at specific institutions pulling levers to change the cost of money by making it scarce. When I say specific people, I think of people with whom I have crossed paths.

For instance, my uncle worked at the Board of Governors of the Federal Reserve system in Washington, D.C. I visited his work as a child. I recall him showing me around his spacious office. He showed me phones attached to scramblers whereby he, as I recall, transmitted instructions from Washington, which decided on a policy action, to New York, which implemented it. That the phones had to be scrambled for security reasons made a huge impression on me. I had no clue what they were doing, but it was clearly important if security was required. As an adult, I met and spoke with famous central bankers like Paul Volcker and Wim Duisenberg, both people who played important roles in setting policy. In person, they struck me as thoughtful people navigating a complex world, just like the rest of us—hardly wizards. In fact, a conversation with Volcker about the murder of a Russian central banker is part of what inspired my second book, *Master, Minion*.

To understand the world that Volcker or Duisenberg lived in, or the world that today's central bankers occupy, you need to grasp that the true cost of money is something more than the interest rate you see on the internet or in the newspaper. The true cost of money is the central bank rate minus inflation. This is what is known as the real interest rate. Real means after inflation. The before inflation rate is the nominal rate. The higher the real rate, the more money is sucked out of the economy and into saving and vice versa, like a sluice gate on a dam.

This makes sense if you slow down to think about it. If the nominal interest rate is 5% that sounds high. But if the inflation rate is 6%, the nominal rate isn't high at all. It's low. So what you ultimately care about is the real rate. That's why GDP, or economic growth, is reported in real terms, not nominal.

When the flow of money slows, and the real interest rate rises, your risk of getting fired rises and, typically, stocks and housing lose value. Again, this isn't an academic concept. It has touched my life and will probably touch yours.

When I graduated college, I had trouble finding a job because the economy was weak following a Fed tightening. I vividly recall the spring day in 1991 when I completed my last exam and walked out onto the leafy college green, feeling a sense of lightness and possibility.

But beyond the college gates, the economy was weak. Few were hiring. Or at least no one would hire me. I couldn't get a job in the US, which is in part what led me to look abroad, to Russia. When you apply for dozens of jobs and get rejected, one reason might be what the central bank is up to.

The 1929 economic collapse Grandpa and my father lived through was caused by more extreme tight money, in their case a sharp, catastrophic rise in real interest rates. In 1929, the central bank made a massive mistake. They were way, way too tight. As inflation plummeted, real interest rates jumped. The economy ground to a halt. Unemployment rose to 25%. At the time, the US was on a "gold standard," meaning that the central bank could only print money based on how much gold they owned. In retrospect, it's a pretty crazy system, but there are a lot of systems that hold power over us that start to look crazy once you understand them.

These days the central bank sets policy based on what it thinks will happen with the economy. They are not constrained by a gold standard. They increase or decrease the amount of money as they see fit and overall our lives are much better off given that they have this flexibility. The nominal policy interest rate is set such that the cost of capital (the real rate) is roughly as fast as the economy can grow, plus however much inflation will be.

Think about it like this.

If inflation is around 2%, expect the policy rate to be around 3% or 3.5%. If inflation is 4%, the policy rate will be around 5%. And if inflation is negative, the policy rate will be close to zero. Or said differently:

Central Bank (nominal) Target Rate
= Expected Inflation (+/-) 1% to 2%.

Knowing this framework is what I mean by learning to think for yourself. As opposed to reading about what a central bank will do, think about what it should do. To be sure, this target rate guidance only holds over the long term and doesn't necessarily revert to this theoretical level over a short time frame.

There are of course more complicated ways of figuring out what this central bank interest rate should be that depends on how fast the economy is growing, if the growth is highly dependent on borrowing (like building a factory), or not (like software), and psychology, including inflation expectations.

But all that is beyond what an ordinary person needs to know and care about.

The big point is that you need to have a rough idea of what has been going on with interest rates to understand money, how the central bank changes policy and what roughly a policy rate should be set at.

In practice, setting monetary policy is messy.

As a species, we have never figured out exactly how much money to create. Ever. If we create too much, we get inflation. Inflation destroys wealth, making it much more costly for people to buy basics, like food. That's what happens when the central bank sets rates too low. If we create too little money, the economy grinds to a halt and can even start to contract, like what Grandpa experienced. This also destroys wealth. The US Fed, the central bank, was created in 1913 as part of an effort to control violent swings in economic activity. The date is significant.

From the founding of the country in the 18th century to the creation of the

Fed, the US underwent massive economic change. The country transformed from rural to urban, with investments in canals, railroads, factories, and highways. All these shifts required significant capital investment, which meant borrowing money. A railroad is expensive. Think about miles and miles of steel and ties and the workers to lay it down. In the process of funding such shifts, the financial system became more intricate.

The more complex the system, the harder it is to anticipate the cash flows. When enough people misjudge expected cash flows, there can be a cash crunch. In the 19th and early 20th century some of these cash crunches were alleviated by private sector lenders, like J. P. Morgan. Not J.P. Morgan the bank, but the actual person. You can visit his mansion in New York City, now a library, and get a sense of what his life was like, a kind of private sector money Ubermensch.

But as the financial system grows in complexity, it needs a more substantial backstop than a single wealthy individual. The central bank was created to alleviate or at least soften the acuity of those crises by trying to reduce the flow of money when things became too heated and increase the flow of money when economic activity was too slow. Because the central bank can print money, they have unlimited power to alleviate a financial crisis or create one.

But just because they have the power doesn’t mean they will use it wisely. In the equation I shared above, the central bank is supposed to judge where inflation will be (“expected inflation”). In practice, that is incredibly difficult to do.

How do you figure out how much money to create when a new technology appears, like the internet or artificial intelligence? It is now much easier to compare prices online, which has pushed prices down. But enthusiasm over the internet, in fact overenthusiasm, has also led to a series of stock market bubbles that suggested monetary policy was too loose. How would you set policy in such circumstances?

And technology isn't the only moving part.

The financial system also evolves.

The financial sector is an abstract word for the basic function of matching borrowers to savers. There are borrowers—like railroads—who need capital, the central bank, which prints the money, and the financial sector, which is organizations like banks that collect deposits and turns them into loans. The lenders are you, the households, but also pension funds, insurers, endowments, sovereign wealth funds and others.

This financial sector is a second source of money. To understand where money comes from, in addition to understanding how a central bank prints, you need to understand credit.

Money = Printing + Borrowing (credit)

If I want to borrow money and the credit card company gives it to me, I've just created money. Magic. There are many of these credit spigots. Not only credit cards but also mortgages, margin loans, bonds issued by governments, municipalities, and corporations.

Of course, the policy rate (created by the Fed) is related to the longer-term market interest rates that are the price of credit. That's why I earlier said credit is like an echo of money printing. Once the Fed cuts rates, there is an echo or reverberation in the rest of the credit system as longer-term interest rates respond to the Fed's manipulation of short-term interest rates.

Just like you can visualize the Rio Grande, with time you can visualize this flow of money. The central bank creates money and the financial system distributes it through the economy via credit.

Money is always in motion.

When the interest rate, or cost of money, is high, it benefits savers (who get a higher rate on their savings) and hurts borrowers, who need to pay more for money. In the case of households, borrowers tend to be younger, starting out their careers, and are most vulnerable to higher borrowing costs, which hurts their ability to buy property and cars and also risks boosting unemployment. Savers tend to be older and are now trying to live off of their savings, so there is a generational challenge in setting these rates.

To understand whether the flow will be strong or weak you need to track all the central banks and all the credit pipes opening and closing, like the snow melt trickling down to the Rio. Drought cycles can occur at inopportune times. It is always hard to get the first job and can be impossible when there is a downturn. Retiring can also be fraught. If the stock market crashes the year you retire, that is very different than if it goes up 20%.

These ripples of money are self-reinforcing, in either the positive or the negative direction. When I took out a mortgage and bought my first house, that money went into the pocket of the seller, in that case a kindly pharmacist, who could then spend it on something else. And if I default on my loan, there is a commensurate negative ripple.

Ultimately these self-reinforcing moves can create market bubbles, and bursts of inflation and deflation. When things are good, they tend to be good for longer than people imagine due to these self-reinforcing forces. The same thing is true on the way down. This is due to both the nature of debt (it can create spending out of thin air) and also psychology, in the form of our trouble imagining a future that looks different than the recent past.

With time, you may come to see the beautiful complexity of this intricate ecosystem.

The central bank is the heart, but the arteries—credit—really matter, too. And those arteries are global. I can borrow money in dollars but also euros or yen and a foreign company can borrow where they reside or in dollars. Anyone who is predicting what will happen next in the economy has to be able to predict all those flows at once. I sometimes find myself in conversations where a person confidently predicts what will happen next. I also make predictions and invest with an eye to the future. But I am never confident. Once you become aware of how many moving parts there are, you learn humility.

Moreover, the economy is different than asset classes. The economy is how we work, assets are how that work is financed. Each distinct asset class operates differently, so to understand their behavior you not only need to understand printing and credit, you need to understand how the asset classes themselves work. This is the subject of the next chapter.

CHAPTER TEN: ASSETS

You save in either cash, stocks, bonds, or real estate. Know their basic moving parts.

I LIKE TO INVEST. I have spent a lot of time trying to learn how. It isn't easy and I am still learning because it takes a lifetime to learn well.

There is both learning about how investments work and, equally important, learning how to train your mind and body to respond to the stress of investing.

When looking for a job, you need to understand and interact with just one part of the system, your employer. The employer, if they are in the private sector, has revenues, costs (including borrowing), and profits.

But when you are trying to invest, you need to understand something much bigger, not only the company, but the sector, and what is going on with the economy and policy overall. In other words, you need to understand the specific picture and the big picture, zooming in and out. This big picture includes understanding emotion, both yours and other market participants. This perception is dynamic, a kaleidoscope. However, some things are true and can be relied upon, albeit not many. Here are a few guideposts.

1. Assets, like stocks and bonds, rise in value over time. That's why you invest in assets, rather than hold all your money in cash.
2. Assets tend to do better when the central bank is printing money and worse when the central bank is reducing money (which is why we spent a chapter on the central bank). That is logical. If there is more money, everything denominated in money should increase as well.
3. The cash flows of any asset can be broken down into fundamental elements, in the way I broke down the cash flows of a house in Chapter 8. By analyzing those pieces carefully, you can select assets that will do better than others at different points in time. For instance, equities do well when growth is booming and government bonds tend to do well in a bust for reasons I will explain in a moment.
4. If you don't have much understanding of central banks or an asset's

> moving pieces, the smartest thing for you to do is hold a diversified basket of assets. I will talk more about how to construct a portfolio in the next chapter, but a good start is 1/3 of your assets in your residence, 1/3 in long-duration government bonds, and 1/3 in stocks, or some other simple rubric. Or, if you recall the inflation-linked bonds I mentioned earlier, you could own something like 20% nominal bonds, 20% inflation-linked bonds, 40% stocks and 20% in real estate, initially composed of your residence. You can get more sophisticated if you choose.

A portfolio is a grouping of assets. It will lose plenty of money at points in time—during crises and big monetary tightening—but it will make money over time because the capitalist system is designed to make my first tenet above (assets beat cash) be true. Timing when an asset will make or lose money is hard and if you aren't willing to put in the time, don't try.

Why diversify across so many assets?

Because losses are a big deal. A lot of people don't think about this because they have not done the math around compounding. Some even have a certain bravado about taking big swings.

However, consider what happens if you have a $100 portfolio that loses 50%. You need to have enormous investment returns to get back to $100, literally 120% to get back to where you would be without the loss. 120% is a lot of work.

That's why a steady 8% or 10% return with limited losses is better than a portfolio that experiences wild swings, which is what I illustrate in the diagram below. The way to do this is to spread your risk across returns that are different, that rise and fall at different points in time. It could be different asset classes (as I said above), or it could be very different stocks. Apple, for instance, has different cash flows than, say, an Australian coal producer.

When I was growing up, investing wasn't discussed, let alone compounding.

I recall my father, in his seersucker bathrobe, carefully reading the newspaper and drinking black coffee from a ceramic cup. He put the business section aside, never touching it.

Maybe he didn't understand the lingo. People interested in financial markets talk a certain way, like those interested in a specific sport. They throw around terms like "the Fed," "rates" and "the market." I've used some of those terms in this book. This lingo plus strong opinions and references to iconic events (the "tech wreck") are unfamiliar to outsiders. Certainly, no one in my home spoke that way.

It took me a long time to be able to understand the differences between assets. I didn't pick it up in either graduate school or at *The Wall Street Journal*. In 1996, when someone at Dow Jones gave me a pamphlet with a long set of mutual funds to invest in my 401(k), I was clueless. There were hundreds of funds. What was the difference between all of them? Should I invest internationally or locally? I felt shame. What chatter I picked up from the media was some version of “stocks for the long run.” Was that true, I wondered? Just because people said it was true, didn’t mean it was true.

It took: a) working at the bank; b) trading on my own; c) a ton of reading; and d) many years at Bridgewater to answer those questions well enough to manage my own money.

My first year at Bridgewater, I had to pass an investment class, taught by one of the Chief Investment Officers. We sat around a U-shaped table and went through investment concepts piece by piece. I just barely managed to survive. After passing that, I worked for years inside the guts of the fund, and while there are things I can’t discuss, much of the Bridgewater approach gradually dribbled out to the public. I also found plenty I disagreed with and adjusted the concepts to suit my personality and needs.

With that background, below are the big moving pieces to be aware of when you invest.

Some of the below is technical. I’m only sharing with you what I found was essential to understand. The key terms and concepts are: discounting, cash, stocks, bonds, commodities, currencies, and real estate.

DISCOUNTING

Before you buy an asset, you need to understand what is “in the price.” This is not intuitive, but it relates to the story I shared about the safety of the Audi relative to the old Honda. The extra safety features of the Audi were “in the price,” that is, you pay for more safety.

When you buy a security—meaning a stock, bond, commodity, or currency—you don’t really buy it “today.”

What?! I know.

The price of the security is the price of an expectation of what will happen at a later date. This is what traders call “discounting.” For instance, if you buy a 10-year bond from the government at a 4% yield (I'll explain these terms in more detail in a moment), that generally reflects an expectation the rate of inflation over the lifetime of that bond will be less than 4%. Otherwise, you probably would not buy it. You can say that the bond is "discounting" sub-4% inflation.

Perhaps the simplest example of this is buying shares in a company that is not making any money. Why would you invest in something that is losing money? Only if you expect at a later date for it to make a lot of money.

Thus, the price you buy at today reflects what people think will happen at some later date. How far away? There isn't a hard answer to this, but assume something like 10 years, though sometimes the market acts as if it is 10 minutes.

Every market has a "discounted price." You must know this discounted price before you buy, otherwise you will get burned again and again because you are buying something different than what you thought.

CASH

Your starting point for any investment. Cash is the dollars in your wallet. It's great in that it's available to spend today. It's terrible in that it is dead, inert. Cash has a negative expected real return, meaning it will be worth less in the future than it is today, mostly due to inflation. You can also think of this money as what I described as the "error" fund—the critical money you must have on hand for unemployment or debt payments. You need some of this, not too much.

Of course, like all money relationships, this one isn't stable. When the central bank is trying to significantly reduce the flow of money in the economy, cash rates can get high and attractive. That's not true over time, but it is true at moments in time. Also, recognize that what one person views as "cash" is different to what another person sees, because interest rates on cash in Europe or Brazil or Korea may be different than those in the US, where I live. Currency, which I'll talk about in a minute, is the price of switching from one form of cash to another. You can see what cash rates are discounted to do by looking at… well, that's probably too technical for now. (The answer is the futures market, but I don't want to delve into that here.)

STOCKS

A stock is a piece of ownership in a company. Generally, the value of the stock goes up when the company makes money and falls when it loses money. Said differently, the return of the stock is determined by the company's earnings. A level below that, a stock has two parts—earnings (profits), and the price relative to earnings, known as the PE or price-to-earnings ratio, which is what you pay to own those earnings. This is the equation:

Stock = Price relative to earnings x Earnings

Some people look at a third part, the dividend, but that falls out of the earnings.

Estimating what these pieces will be in the future is the challenge. If I have a lemonade stand and I sell $10 of drink and it costs $5 to obtain the lemons and make the juice, earnings are $5. How much should I pay to buy a piece of ownership of such a business? Perhaps five times its earnings? This is what the price-to-earnings ratio is. That means the company is worth $25 because 5 x $5 = $25. This five times earnings is also what I referred to above as the discounting. Discount in this sense means expectation of expected growth rate.

If I divide the company into 10 shares, each share should cost $2.5. As the company grows (hopefully) and makes more money, it will pay out some of its profits in the form of dividends. A 10% dividend yield means they pay a dividend of 25 cents for each share, because 10% of $2.5 is 25 cents. The

PE at 5 is much lower than the PE of high-flying technology companies because there is a limit to how much lemonade humans can consume, so there is a limit to how much the lemonade company can grow, while a new technology might experience exponential growth.

Recognize that these pieces move around, sometimes in different directions at the same time. If lemonade is suddenly discovered to extend life, earnings will soar. On the other hand, if a drought causes lemon prices to rise, then profits will slump because costs of lemons will rise while demand is roughly flat. There might be an economic downturn (bad for earnings) at the same time that lemonade is declared an anti-carcinogen, in which case the PE ratio might rise and current earnings fall. What happens to the stock depends on how much earnings go down and PEs go up.

Buying a stock is giving you ownership in a business. That sounds good, but the interests of the owners may or may not align with your interests. For example, if the CEO is paid in cash, not stock, they are likely not to focus as much on getting the stock price higher, which is what you care about. They also might do something like buy a new business in an effort to create an empire or for ego, or both, as opposed to using the company's money to buy back stock, which directly benefits you.

As an investor, you are exposed to these caprices of management, which is one reason all investors I know are obsessive news hounds. They are constantly scanning for what unusual shifts are afoot and if it can affect the moving parts of what they own. In a way, a CEO is like a money manager. They must anticipate how the economy will evolve. An investor does this by buying and selling stock. A CEO does it by opening and closing divisions of the company.

More broadly, a stock is generally tied to the economy via its earnings, although something idiosyncratic can significantly move the earnings of a single company (the anti-carcinogen lemonade example). Less spending by customers (weaker growth) equals weaker company earnings, and vice versa. That's why stocks are so sensitive to economic shifts.

Stock nerds will look at lots of additional statistics to try to anticipate how a company is doing, the same way a car nerd gets excited about how fast a car goes from zero to 60 and looks at numbers around torque and horsepower. But fundamentally what matters is earnings and discounting, though the earnings of companies vary wildly based on the sector they are in.

The price you pay for a stock is not only dependent on what you think future earnings will be, but also on what the available alternatives are. For instance, if you are paying a 20 PE on a stock, that is equivalent to a yield of 5% (1/20). If, however, the central bank raises rates to 6%, you might be better served putting your money in cash, which has a higher yield and doesn't have any of the risk associated with a stock. On the other hand, maybe earnings of this specific company are about to explode higher.

Said differently, different forms of money compete. When you see pictures on the news of traders staring at a bank of screens, one of the things they are looking for is the relative price of assets. That's also why to invest well you have to know how different assets price.

Hopefully, the above helps you see how hard it is to have an informed view about a stock. I have had friends text me and ask, "Is now a good time to buy Microsoft?" That is a difficult question to answer properly because you have to think about all the moving parts.

BONDS

Bonds confuse people because they are "mathy." But you can't ignore bonds. They are essential because a bond reveals precisely what the cost of money is and that cost then influences the pricing of everything. If you want to understand money, bonds are the heart of it. We already covered that the nominal interest rate on a government bond reveals the real (after inflation) interest rate, which in turn impacts (competes with) the pricing of stocks and liquid assets, which in turn drives the pricing of illiquid assets (like, say, commercial real estate).

A bond, any bond, is a loan. The simplest form of loan is one to the government, called a government bond. A loan to a corporation is called a corporate bond. A loan to a less creditworthy borrower is called a high-yield bond. But these are all just bonds, loans.

By convention, stocks are quoted in price and bonds are quoted in yield. When thinking about whether to own bonds or stocks, it is useful to convert the price of stocks into a yield as I did earlier.

A stock's earnings are variable. By contrast, a bond's payments are fixed. A bond issuer is contractually obligated to pay you the yield; a stock owner is not obligated to pay you anything. Once you buy the bond, the interest rate on it does not change, if you hold the bond until it matures. However, a lot of people don't hold the bond to maturity: bonds are bought and sold in a secondary market.

With a bond, as the yield moves down, the price moves up, and vice versa. If you buy a five-year bond with a 5% yield and you hold to maturity, you are getting a 5% return on your money, plus you get your original investment, what's called the principal, back after five years. However, if you buy a 10-year bond with a 5% yield, the economy weakens and yields fall to, say, 3%, your return on the bond is roughly 15%. If you want to understand the math, buy a textbook, I've listed one in the bibliography. (Very briefly, the change in price is yield change times duration, adjusted for convexity.)

Bonds are issued at different maturities. A two-year bond matures in two years—that's when you get your money back—and a 30-year bond matures in 30 years. The relative shape of yields at different maturities forms a "curve," which is known as the yield curve. When long-term yields are above short-term yields (a "steep" yield curve), the market is discounting strong conditions going forward, or some inflation, or a combination of higher growth and inflation. When long-term yields are below those of short-term yields, the curve is “inverted,” which means the market is discounting weakness going forward, or the market anticipates easing, or some combination.

At a level below that, a bond has two or three moving parts to it, depending on the type of bond. One part of a bond is the real yield, what a borrower receives from a lender after inflation. The second is the expected inflation. So a five-year government bond might yield 5% and that would be composed of a 2% real yield and 3% expected inflation. The last part of the bond is its “spread,” or the additional yield that any borrower other than the federal government (which can print the money) must pay. So sticking with the same example, the government might borrow at 5% and a corporation at 6.5%, creating a “spread” of 1.5%, which is meant to compensate the lender for the risk that a corporation does not pay them back.

While few read actual paper newspapers these days, when I grew up the newspapers, particularly financial ones like *The Wall Street Journal* or *Financial Times*, had pages of data in the back detailing the price of different types of bonds and stocks.

In general:

$$\textit{Bond Yield} = \textit{real yield} + \textit{inflation expectation} \\ + \textit{spread (for corporate bonds)}$$

Once you know what a bond is, you can then categorize the different types of bonds. I’ve already touched on government bonds, corporate bonds and inflation-linked bonds, but I want to note the key distinctions here.

A government bond is a loan to the government. With the government bond, there is technically no default risk because the government can always print the money and pay you back unless there is some bizarre political shift whereby a politician or group of politicians wants to default.

Because the bond has no risk of default and pays you a fixed payment, it is particularly useful when growth is weak.

A corporate bond is a loan to a company. A corporate bond is like a government bond with an additional layer—the spread. This additional layer is an extra interest rate a company pays to borrow money and can be thought of as, roughly, the likelihood that the company defaults, or doesn't pay you back. It's also called "credit risk," because the risk is the company can't pay you, which is called default. So a 2% spread roughly means a 2% risk of default. Corporate bonds are complicated because the spread does well when growth is strong and the government bond does well when growth is weak, so the two parts of the bond move in opposite directions.

A municipal bond is a loan to a local state or municipality. They are also the government, but they can't print money, unlike the federal government. Typically, an investor doesn't pay federal taxes on municipal bonds, which is then reflected in the yield, which will be lower than a bond where you do have to pay taxes (like a federal government bond).

An inflation-linked bond is a bond that pays you a guaranteed real yield, meaning that the interest rate adjusts higher or lower with the rate of inflation. Say you buy an inflation-linked bond and the yield is 4% at the outset, with a 1% real yield and a 3% yield that represents "inflation expectations." If the inflation over the lifetime of the bond is 4%, not 3%, your yield on the bond adjusts to 5%, a 1% real yield plus the 4% inflation rate. You get the same real yield, but a different nominal yield. In practice, the "inflation accrual," as it is known, gets added to the principal you receive when the bond matures. Unfortunately, as I noted earlier, the tax treatment, at least in the US, is unfavourable, mitigating their advantages.

Inflation-linked bonds should help you in times when your stocks and bonds aren't doing well, like when inflation rises unexpectedly. I say *should* because none of this is exact. If investors don't buy inflation-linked bonds when inflation rises, the bonds don't work as well.

Emerging market bonds are bonds from countries that, essentially, are poorer, often due to weaker rule of law. Some of them pay back money in dollars, others in local currency, like the Brazilian real. But fundamentally, they work the same way.

COMMODITIES

A commodity is a specific substance, like oil, copper, or wheat. These are “hard assets,” i.e., assets whose value rises when inflation rises. There is a certain basic demand for wheat and its price will adjust to whatever amount of money there is. As with stocks and bonds, there is a discounted price.

The primary way commodities are traded is via something called “futures,” another confusing term. A futures contract started off in the US in the 19th century as a way for farmers to hedge the price risk with crops like cotton and wheat. These futures allow the farmer to lock in a price on the crop to eliminate business risk, an ingenious invention. As an investor, you can take the other side of that deal, if you wish.

Doing so may be particularly profitable when there are unexpected bursts of inflation. For instance, if an oil producer sells oil forward by a year and you buy it and there is a conflagration in the Middle East (which produces a lot of oil) the price of oil will often go up and you stand to profit because you bought oil earlier when the price was lower. (To be sure, there are also lots of reasons why the price of oil can fall. During the Covid pandemic, oil prices even briefly went negative because the demand shock was so sudden.)

Commodities are the very guts of the economy, reflecting our fundamental needs. We can’t get by without food and light (both of which depend on energy via fertilizer, transportation, and electricity generation), so in that sense if you understand commodities, you understand something quite essential to civilization.

Since the first futures were created on agricultural commodities, they have now expanded and exist for most financial instruments. When I was talking about the discounting of cash earlier, this is what I was referring to. By looking up to see what is discounted in, for example, Fed Funds futures markets, you can see exactly what market participants believe cash rates will be in the future.

CURRENCIES

A currency is a price. Currency is not an asset with a set of cash flows, it is merely the cost of switching from one jurisdiction to another and effectively one cash rate to another.

If you are a US investor, you can't truly buy a foreign asset. You need to sell your currency to buy a foreign currency and then buy that foreign asset, like a stock.

Crypto is a currency that is not printed by the government, as is gold. Certain people can be quite fanatical about both of these but, in the end, they are merely currencies. Gold does have certain other uses, like jewelry.

Currencies, like all assets, price via supply and demand. For instance, to figure out the future price of the dollar you need to know: a) how many dollars the US creates; and b) how many dollars the rest of the world buys.

REAL ESTATE

Real estate is, basically, a bond, which is what my chapter on debt showed. If you own a house and rent it out, the rent is the yield and the house is the principal. But just like there are different types of bonds, there are different types of real estate. Some real estate has prices that fluctuate day to day, like hotels, while other real estate has prices that only change very slowly, like the rent on certain types of government buildings. It matters a lot if you buy the real estate with debt or not. That changes its attributes. And what kind of debt matters, fixed rate or floating. Floating debt changes in cost depending on what happens to the bond market, so some real estate is very sensitive to higher market interest rates and some isn't.

A key element of real estate is that it is "illiquid" versus other investments that are "liquid." It's nice to get your money back when you want it, like drawing it out of an ATM. But you pay for that privilege. An investor will require a higher return to part with their liquidity. Theoretically, there is what's known as a liquidity premium for holding illiquid assets that can't easily be sold. That said, proving such a premium exists is not easy.

Once you have a rough understanding of these assets, you need to put them into a portfolio. Let's move on to the next chapter, where we look at just that.

CHAPTER ELEVEN: PORTFOLIOS

A portfolio is a collection of assets; as a start, spread your risk more or less evenly among them.

HOW YOU COMBINE assets is like how you cook—you have a choice of what ingredients to use and how to put them together. Just as there are many cookbooks, there are many books about how best to arrange assets as well.

When new graduates joined Bridgewater, many of them would ask me how to learn how to invest. There is no better teacher than first-hand experience. If you have $5,000 saved, practice investing with $1,000. The moment the exercise is real, everything changes. Literally, your brain starts to work differently.

The assets in the previous chapter are what you are mostly limited to in terms of building a portfolio. I am simplifying somewhat. There are more assets to choose from to build a portfolio, like distressed debt, convertible bonds, credit default swaps, and on and on. But you can build a reasonable portfolio without all that.

To put the assets together, just like with food, you need to know what you want to cook or, in investment parlance, you need to know your goal.

My goal is to compound at a high, consistent rate.

The return part is obvious, the risk part, which is key to compounding, most people do not even think about.

Risk is a term that means many things at once. Broadly speaking risk is anything that can take your money.

In this context, however, I mean how far a portfolio can decline in value.

This is a mathematical concept, but also a practical one. I illustrated compounding with a diagram in the previous chapter. Now I want to dig in a little bit more. The key thing I am thinking about is how to minimize losses so that the compounding works in my favor.

For instance, if you run a portfolio with an expected 8% annual return and 10% annual risk, that means that on average the portfolio will return 8% a year, but in a bad year the portfolio will decline 2% and in a really bad year it might decline -22%.

How did I get those numbers?

Well, 8% (expected return) - 10% (risk or volatility) = -2%. That is the decline of 2%. If I experience a loss like that twice, I'm at -12% and three times I'm at -22%. The -22% might happen in a few days or over the course of a year. This is a statistical concept called standard deviation. It's kind of math-heavy, but the insight is that there is a range of outcomes (10% risk in this example) around any portfolio and you need to consider what that range is. In extreme environments, like a financial crisis, a portfolio can move by 3 or more standard deviations. If you invest for long enough, at some point you will experience losses like that. Not fun.

Another way to approximate how much risk is in your portfolio is to see how much it goes up or down in a month. I'm OK with swings of a few percent a month, like 2% or 4%. But more than that makes me uncomfortable. And even then, losing 4% in a month *hurts*. If your portfolio goes up 10% in a month, that means it could have just as easily gone down 10% in a month. I don't want to lose 10% of my money in a month. If you see swings like that, and you don't like the idea of losing 10% either, you need to re-examine your ingredients. Your food is probably too spicy.

The more risk you take, the easier it is both to make big money and to go to zero. Imagine if I took 30% risk as opposed to 10%. Then a few bad moves (three standard deviations) in the market and my $100 falls close to zero. I've in fact seen something like that happen with an investor I know. One year he made 100% on his money. But to do so he took so much risk that the next year he lost 60% and once his capital was diminished that far, he had a hard time making it back. In fact, as far as I know, he has not made it back… three years later. Ouch.

The big mistake most people make is trying to bet on the stock market or, even worse, an individual stock. For the vast majority of people, this is a waste of time. That's because so many people want to make "easy money" in the market based on a simple piece of information like, say, that artificial intelligence, or, before that, the railroad, will be important. As you now know, the price already reflects those expectations. There is a reason that hot stocks often have high PEs (a term from the last chapter, and also why I spent time explaining the concept of expectations). People already expect these companies to make a lot of money. You need to know more than all those people to make money and unless you pursue this full-time, you are highly unlikely to know more than other people, and so you are highly unlikely to win.

Even if you focus on it full-time, it is hard to know both what is happening to a company and what will happen. When I was at Bridgewater, which was in the press a lot, I read articles with assertions about how we were investing. People on the outside tried to guess and because I knew the truth, I could see how far off their guesses were. Unless you have the talent and drive to become an expert in a company or an asset class, the best thing is to hold a portfolio of assets and rebalance over time.

But how to design the portfolio?

By now you know what I am going to say—there is not one firm answer. My best advice, as the cover of the book says, is to learn to think for yourself, with a dose of always focusing on compounding and diversification.

When you are young, it's almost impossible to imagine how small changes can compound, or grow on each other. But they do. I already talked about how extreme losses can hurt short-term compounding. The flip side of that is that compounding at 8% or 10% can take years to play out, but is incredibly powerful. It's like prioritizing a good night's sleep. It doesn't seem like much, but over a lifetime you are much, much better for it. If you are 30 and put $1000 away today and let it compound at 8% a year, do you have any idea how much money that is when you are 80? $46,900. If you start just five years earlier, at 25, by age 80 that $1000 is worth $68,913. That’s the power of compounding. One of the reasons Warren Buffett is so rich is that, as of this writing, he is in his 90s and still compounding.

Diversification is one of those words, like bonds, that is boring. Because compounding matters, diversification matters. The essential idea is that you: a) hold two assets that are both expected to rise in value over time; but b) they rise at different points in time. If one asset goes down, gains in the other asset can minimize the loss, which leaves you in a better position to compound.

Armed with these two insights, you will be able to see that some existing advice is bad. Exhibit A is the 60/40 portfolio. This means putting 60% of your savings in stocks and 40% in 10-year bonds. But stocks are much more volatile than bonds, so a 60/40 portfolio is essentially an all-stock portfolio and if the stock market does badly, the portfolio does terribly and your compounding gets crushed.

Over time, you can think about the concepts I mention here as a flow—one connects to the other. Build the risk-free position first, then anchor to long-term allocations that diversify your exposures.

Learning how to invest is like learning a sport. Every sport I’ve learned first breaks the action into discrete steps. But when you finally learn how to play, it is more a flow than discrete steps. Ultimately every athlete has their own style and approach.

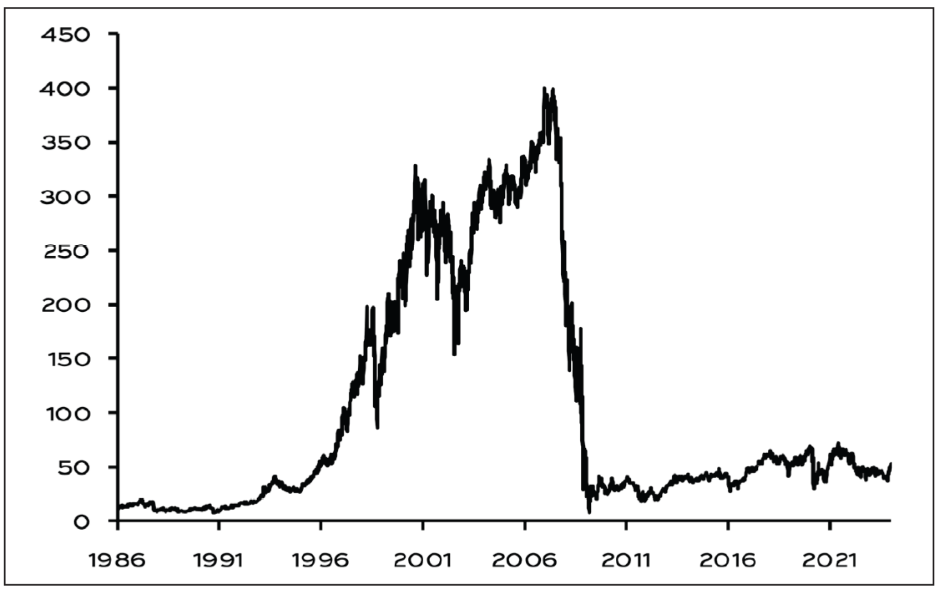
What portfolio you build depends to a degree on your circumstances.

One consideration is the nature of your income. I mentioned this in calculating your risk-free position. But the importance of understanding your income also relates to your investments. If you work in the tech sector, you don’t need to invest in it or certainly don’t need to have excessive exposure. Too much concentration.

For instance, I had a friend who worked at Citigroup for many years. Before the 2008 financial crisis, the widely held belief among Citi employees, I am told, was that the best way to save was to hold Citi stock. They worked at Citi and saved there. It was a way of showing faith in the team. It is a terrible idea.

When the financial crisis came, Citi stock got hammered (and as of this writing still has not fully recovered) and then the management fired thousands of staff. My friend lost his job and his savings. Yikes. He would have been better off: a) saving in non-financial stocks; and b) adding government bonds to his portfolio so that his portfolio was lowly correlated or even negatively correlated to the source of his wealth.

Citigroup stock price (1986–2024)



Source: Bloomberg.

A better framework is one Ray taught me, which is All Weather. All investors face four different scenarios: growth can either be above or below expectations (two scenarios), and inflation can be above or below expectations (two scenarios). This is the idea behind the portfolios (such as ¼, ¼, ¼, ¼) that I mentioned before. Perhaps put about 25% of your money in US stocks, 25% of your money in longer-maturity inflation-linked bonds, 25% of your money in longer maturity (>20 years) nominal bonds, 10% of your money in foreign stocks, and 15% of your money in commodities. You can play around with different weights and different assets. (I should note, as my lawyers remind me, this is not investment advice. Investing is risky and often painful. Do your own research.)

The reason I described the cash flows of assets is to help you see that assets have structural biases to do well or poorly in specific environments. A government bond is a great asset for weak growth, and stocks are a great asset for strong growth. Put them together (50% of your money on each) and that is a better portfolio than 100% in either asset.

To balance portfolios in this manner, you need to avoid the pitfalls of the 60/40 portfolio I noted, which is combining assets with differing risk levels. This may sound abstruse, but it is important. When you buy a bond to match your stock, make sure either:

- The bonds are long-term, like 20 or 30 years, not a short-term bond, like five-years. You want the assets to go up and down in roughly the same proportion. If you lend money to the government for 30 years, versus 10, it is more risky and the risk (how much it goes up and down) roughly matches the risk of a stock, or
- Alternatively, you can reduce the risk of your stocks by adding cash to the portfolio. If instead of having $100 in stocks you have $50 in cash and $50 in stocks, you have reduced the volatility of the stocks by half.

There are endless variations to portfolio construction. If you want to be more sophisticated, buy international bonds as opposed to domestic bonds, which will modestly improve the portfolio because it is more diversified. It’s just more work because you need to research international bonds, then find a counterparty that will sell you the bonds. Also, you need to decide what to do with the currency, which is an add-on risk.

If you are interested in learning how to invest yourself, you could change your weights and take perhaps 10% or 20% of your money and invest it according to your own research. That is how I've learned. In fact, I've continued to add new assets to my portfolio each year to keep learning, albeit utilizing only modest capital. The moment you start to take risk, you will start to worry again about how things will be in the future. All investors worry about loss and all investors make some terrible investment choices, even the greats, like Buffett.

Given this knowledge, we can amend the equation I provided earlier to the below:

Total Return =
Margin of Error Fund + Asset Allocation
+ Active risk if you decide to take active risk

I find the above equation and the All Weather framework invaluable. When I initially confronted investing in a 401(k) at Dow Jones, I distrusted the "stocks for the long run" philosophy, but I could not say why. Over time I learned any single asset, be it a stock market index, Citigroup stock or an inflation-linked bond, is unreliable. Thus, the margin of error and a diversified asset allocation deal with the inescapable fact that any individual assets are unreliable.

Even if you recognize assets are unreliable, it is still tough to experience loss. Yes, I am high-strung, often scanning for disaster. I've spent time awake at 2 a.m. wondering if my portfolio, or part of my portfolio, was going to fall apart. That comes with the territory.

For instance, early in the 2020 pandemic, I held an exposure to municipal bonds in my portfolio. While I didn’t own government bonds, I’d found what I thought were some good deals on municipals and also liked having some seemingly safe income given that I was then working at Bridgewater, which was high-risk.

The pandemic though changed everything.

States, unlike the federal government, must run balanced budgets. In a pandemic, I expected economic activity would grind to a halt, tax revenue would plummet and all of a sudden states might have a hard time paying their bonds. For instance, imagine what toll road revenue is like when everyone is hunkered down at home. Not good.

Early on, Senator Mitch McConnell said, adamantly, that Congress would not give any aid to states.

I read and re-read the story. If local tax revenue plummeted and the Federal government didn’t help, states would default on their debt. At night, I thrashed in my bed, seeing scenarios of default in front of me, like spinning tops. Could I end up like Sergei, the guy who ran out of money? Was a mass municipal default likely to happen? No. But it could. Surely Congress had to recognize the states would need some help? But McConnell had just said the opposite.

So I decided to dump all my bonds.

Municipal bonds are not liquid, you need to sell through a broker, and I got destroyed on the price.

Then of course a few months later the government announced a massive stimulus package, including aid to the states, and all my panic turned out to be a waste of time. I would have been better off doing nothing.

But that’s the way trading markets is, there are lots of false alarms, but a few real ones.

And it isn’t just high-strung investors like me.

George Soros stopped trading both because he had made billions of dollars and also because the stress wore him down. I know other traders who have developed intestinal and back problems and other ailments due to the stress.

And the opposite is also true, as zen as I try to be. When I wake up and look at my portfolio and it is up 1%, life feels much easier, more full of possibility. I was snoozing and my wealth just increased by 1%! Wonderful. Ideally, I would be equally zen about the ups and the downs. But it doesn't work that way.

So how do I invest?

I never stuck to any of the simple formulas described above. I can't.

I need to stare at everything I own carefully and if something seems like a terrible deal, I don't own it. For instance, bonds are part of the All Weather framework but I've gone through protracted periods of time where I held almost no bonds. From roughly 2019–2021, interest rates of government bonds were low. There were all sorts of reasons for this, but that's what they were and I simply couldn't buy them, upending the very advice I just laid out about balancing a portfolio. But in this case, my high-strung nature paid off. In 2022 and 2023, government bonds got crushed.

For me, investing is more like painting, even though I'm not a painter. I try to fill out a picture in my head of what the future will look like and I constantly daub here and there, changing this and that. Sometimes, often, the emotion or intuition of what to do comes first, at least for me, then I go back and test the logic. Sometimes I go "short," which is risky and nerve-wracking, again, for me. This means I sell assets that I believe are too expensive (like bonds in the example above). If it works, you buy back the assets when they have fallen in price, making money from something going wrong, not right. I've met people who exclusively short stocks, which I find incredible, but they do it.

In figuring out what works for you, it is worthwhile studying schools of thought, which is what I'll talk about in the next chapter. Soros traded the way Soros could trade. Ray did it his way. Warren Buffett does it another way. Each of them has their own style and each is designed relative to their particular personality. When I worked at Bridgewater I tried to trade as Ray did. I've been far more successful as an investor since leaving Bridgewater, even though I learned a lot while I was there.

No matter what investment style you pursue, the hardest thing is to recognize when you are wrong. At many points in a successful investment, you will lose money and it will look like you are wrong, but you are right. But sometimes you are wrong and need to cut your losses, accept the hit and move on. I suspect this is a difficult concept for many, admitting they were wrong. Sticking to a simple investing formula is better than nothing at all, but worse than trading the markets—if you are one of those people who are good at trading markets. But trading the markets brings enormous pain and uncertainty. I've seen so many smart investors do careful research and then lose money. The systems we are navigating are complex so they can't be precisely predicted.

Do you want to spend your life like that? I did, but maybe you don't. If you don't, then buy, hold, and rebalance. By doing this you are already one big step ahead of both my father and grandfather. It is, however, useful to at least know the major schools of thought on investing, which is what I describe next.

CHAPTER TWELVE: SCHOOLS OF THOUGHT

There are different schools of thought regarding investing, follow one appropriate for your wiring or, better yet, develop your own.

If you decide to learn how to invest, recognize that there are sharply different approaches about how to do so, almost like different religions. The existing approaches can be described as:

- Index investors—and within this group 60/40 investors
- Long-only, value investors
- Long-only, growth investors
- Macro investors
- For all the above groups, some investors are systematic (rule-following) and others are discretionary.
- Illiquid aficionados

Let's look at each of these in turn.

Index investors are people who decide that trying to value one security over another is not a good use of their time. That's a reasonable perspective. So they buy an "index," like the S&P 500. What is an index? It's a pile of stuff. Specifically, the S&P 500 is 500 different stocks in US businesses (ranging from insurance to automobile parts) above a certain size, like over roughly $15 billion, and highly liquid, meaning shares are traded easily.

Buying an index is better than not saving. It is also like buying an energy bar at the supermarket—the list of ingredients is so long you don't really know what is inside of it. Certain stock indexes—like those in the US—have done well for the last 40 years, but in other countries—China, Germany, Japan—stock markets have gone through long, long bear markets where the indexes go down or sideways. The same thing can happen to the US and, of course, Japan and Europe can break out of their ranges. This has to do with the stocks that make up the index. The US has more technology stocks, which have done well, so the index has done well, but many people buying an index don't know that. They think it's just normal that stocks go up. To reiterate, stocks like other assets do rise over time, but "time" is measured in decades and going sideways for long periods is normal. The US market went sideways during the 1970s and collapsed in the early 1930s.

Within index investors, the typical recommendation from most advisors is to put your money in the 60/40 portfolio. If you do follow the 60/40, at least be aware of what you are getting (a lot of stock exposure). The most famous proponent of the index approach is probably the late Jack Bogle, founder of The Vanguard Group.

Value investors are people who buy not the index, but individual stocks according to certain criteria. The criteria vary, but the basic idea is finding a stock that is:

- Priced inexpensively, ideally less than the “intrinsic value” of its future cash flows and physical assets. Measures to deduce this value include price-to-earnings ratio, free cash flow yield, book value, and many others.
- A business that “compounds” meaning if the owners invest capital, not only does the business grow faster, but it also spits off enough cash that the shareholders (you) get paid either in the form of dividends or buybacks (which drive the stock price higher).
- A business with a “moat,” i.e., something without a lot of competition, like a toll road or a technology no one can easily replicate.
- A business with scale, something where the profits can increase without a big increase in costs, like a TV show, software or, again, a toll road versus, say, an aircraft or excavation company (where costs go up as sales go up).
- A business with a great CEO and management team who own a part of the company and are good capital allocators (they do the right acquisitions, not the wrong ones).

- A business with manageable debt and a sound capital structure.
- A security with a "margin of error," meaning that if you are buying the company below its "intrinsic value," however that is calculated, the stock might get cheaper, but that only means it is more attractive.

This all sounds reasonable, like eating your vegetables before you eat cake, but, as in all things, it is difficult to do in practice. The most famous practitioner is Warren Buffett.

In reality, there are thousands of securities to sort. Understanding a business is hard. Many of the measurements are less precise than they seem. How do you calculate "intrinsic value"? For a company that is highly technological, like a chip manufacturer, doing so requires sophisticated knowledge. In one decade, the technology is around the internet, in another combustion engines. Plus, not only do you need to know when to get into the stock, you need to know when to get out. Also, not easy.

Within the value camp, there is both wide variation in emphasis and also some managers evolve from one variant to another. Some value investors put more importance on the moat, while other investors put much more attention on the price, particularly when the price becomes dislocated for some idiosyncratic reason. Warren Buffett started off buying stocks at what he thought were depressed prices and evolved to an approach that put more emphasis on moat.

Recognize there is a structural flaw in all value investing. The measure of how attractive a stock is will increase as the stock falls in price. This makes sense as long as the world holds together. Typically, a sharp fall in price reflects a collapse in economic growth that the authorities will then adjust to by easing monetary policy. But what if they don't adjust, either because they can't or don't want to? Then the valuation sends you a false signal and you are loading up on the stock at the wrong time. This is a rare event, but not unprecedented, like in the Great Depression when authorities didn't ease because they wanted to maintain the gold standard, or during extreme political dislocations. In 2008, a number of value managers lost huge sums of money. In this sense, holding stocks is the very opposite of holding a bond. If you buy a government bond and growth doesn't just get worse but instead collapses due to tight money, the government bond only goes up in value.

Growth investors are not looking for stocks that are inexpensive and have a margin of error—they are looking for stocks that can rapidly grow earnings. Stocks with potentially explosive income growth can earn an investor an enormous amount of money, if the investor can get the timing just right, meaning before it has become obvious to everyone else. If you look at the return of buying a one-in-a-million stock like Apple when it first became public and held it to today, your return is roughly 110,000%. Of course, there were lots of companies that at one point looked like Apple but no longer exist. There have been many famous growth investors. Julian Robertson is an archetype though, like Buffett, he didn't stick rigidly to one style as far as I know.

Macro investors look at the world top-down, versus the bottom-up world of a value investor. The most famous practitioners are George Soros and my former boss, Ray. At the epicenter of this view is the production of money, what global central banks are doing. Macro investing forces you to see the world in broad strokes. China's boom or bust flows through to commodities produced in Brazil, which in turn relates to inflation in the US. You need to understand not only stocks and bonds, but also foreign currencies and commodities and how this all ties together. It's a more complicated way to invest than buying 10 great stocks but, if you can master the complexity, it's a more reliable way of investing because you aren't as dependent on the stock market to go up to make money and you can hedge environments when stocks often do terribly, like during a tightening.

Systematic versus non-systematic. For value, growth or macro investing, there are two different subtypes of people. Systematic people try to put their practice into a series of rules. A non-systematic person doesn't believe that fixed rules apply. There are pros and cons to each approach. The pro of being systematic is that you are more disciplined by devising and adhering to rules and can process vast amounts of data. The con of it is that there are no real rules, not ones that truly last. The rules are always changing. Systematic investors spend a lot of time going over the data because data is what drives their decision-making process. How far back can you get the data? Do you have to make adjustments to the data to keep it consistent? What happens when new data sources, like cell phone mobility data, become available? It's also easy to get stuck in the trees and miss the forest.

A subset of these systematic investors is pure "quants," or quantitative investors. They ignore fundamentals and look at asset prices almost like schools of fish that arrange themselves in patterns that, with enough sample size, can be predicted. The most famous of these is Renaissance, the most successful hedge fund ever. While their algorithms are secret, what seems likely, given that the strategy can't scale above a certain amount, is that they are essentially providing tiny pieces of liquidity to the market. If two stocks normally trade within a few percent of one another, if that gap widens out, they buy one and sell the other until that gap narrows. The strategy requires a lot of computing power spread across huge sample size. The results speak for themselves. My question is if this strategy began to lose money, would the people running it be able to isolate the reasons why, given that it is based on tons of small pieces of code. I don't know.

Intuition, or non-systematic investing, assumes the world is constantly shifting and that investors will hold a certain thesis in their mind for some time until that thesis breaks, such as "the internet will change everything." It has changed everything, but in the process it has given birth to two stock market bubbles which, if you were truly adroit, you could play both long (betting on prices going up) and short (betting on prices going down).

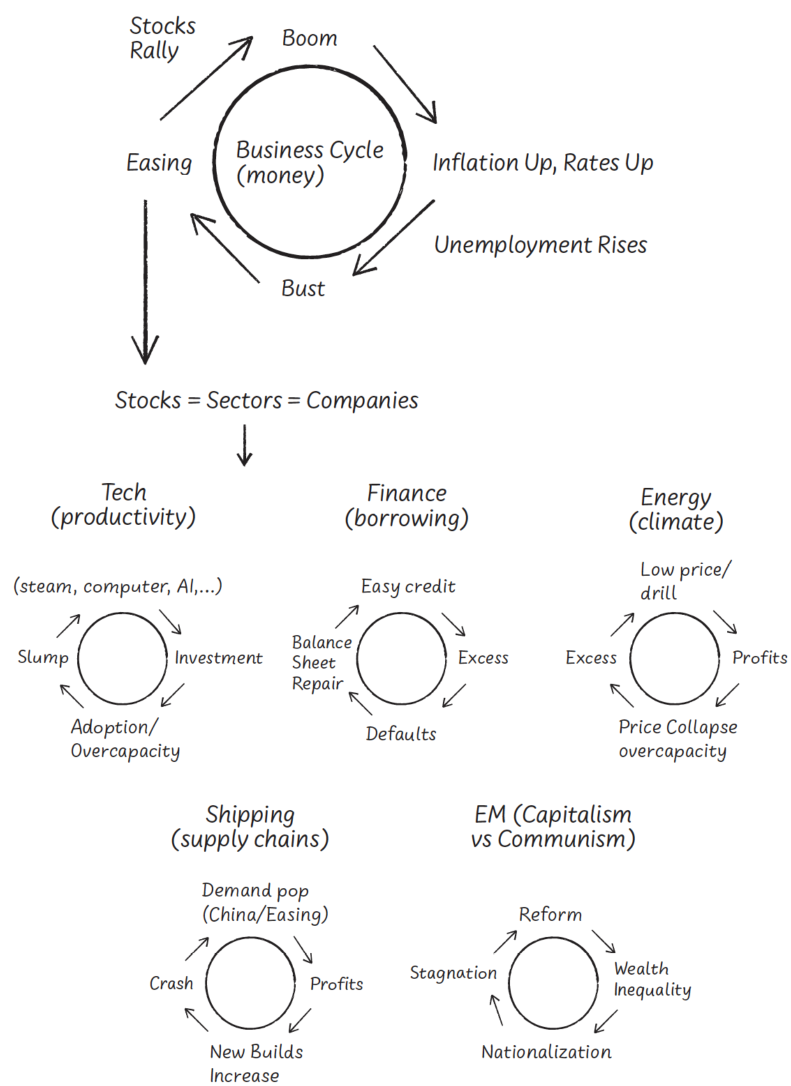
The con of such an approach is that it is easy for one's emotions to get in the way and requires you to process a lot of information in your head. Even the best investors are emotional. But emotions also tie to intuition and good investment instincts sometimes flow from that as well. The pro of such an approach is that it is highly flexible, like allowing you to navigate a pandemic as opposed to being rigidly wed to a model based on the last pandemic in 1918.

There are many variations of these schools of thought, though they still largely fit within the above rubrics. A distressed credit investor is similar to a value investor, only the former focuses on bonds and the latter on stocks. Distressed credit investors are a type of "illiquid" investor, meaning people who buy securities that can't be easily sold. So is private equity. Fundamentally, however, distressed credit and private equity are just illiquid bond and stock investments, respectively.

No matter what path you go down, it is helpful to familiarize yourself with market history. The history of markets is not so long. There weren't any meaningful financial markets that resembled today's until the early 1800s. There was not much wealth before then either and it was mostly based on land. Then industrialization came along and the need to finance expensive things like factories and power grids and our modern way of life. The life of a 16th-century king was incomparably worse than the life of a modern middle-class person with access to electricity, combustion engines, antibiotics, clean water, and the knowledge that washing your hands is helpful in reducing illness. True, people have been trading agricultural commodities like wheat for thousands of years, but sophisticated financial markets are a modern phenomenon.

In this history, there are cycles of expansion and contraction in demand for capital, and every few decades crises bring a shake-up of the existing order. You need to know the history for each of the markets you trade. That gives you perspective. Ditto the history of company collapses. You should know some of these stories, like the collapse of Enron. But companies are dying all the time and you should familiarize yourself with that dynamic as well.

In fact, I think of any security as being at the mercy of cycles. There is the economic boom/bust cycle, caused by expansions and contractions of credit, and then the cycle for every industry, from semi-conductors to banks to defense. Below is a diagram I sketched to illustrate what this looks like.



Given the above, here is my process for making an investment decision:

First, assess if cash is attractive or not.

Second, map out roughly what allocation I want to different asset classes, like 30% of this, and 30% of that. I show an example below. Because my understanding has continued to evolve, my weights have continued to evolve. Before I came to Bridgewater, for instance, I had never heard of an inflation-linked bond. A few years ago, I made my first investments in illiquid assets. One thing I love about investing is that, like literature, a lifetime of study only deepens your understanding.

Third, categorize the new opportunity—stock, bond, commodity, currency.

Compare the opportunity to the framework in my head about how that market works (the cycles) and consider the risk/reward of buying. Where can it go to, where can it fall? I try to look to the extreme. I typically enter the critical information in a spreadsheet too, so I can compare all my assets.

There are bounds for markets. For instance, a real interest rate can only get so high before the economy begins to collapse, at which point the real yield falls, so there is a rough relationship between the level of a real yield and the level of economic growth. In the US, potential growth is around 1.5%, meaning that if real yields get above 2%, that catches my attention. Of course, when you are buying a 2% real yield bond you must know it can go to 3% or higher and in that scenario your first purchases will lose heavily. There are many rough relationships like this in markets. Certain stock sectors go in and out of favor, for instance, sometimes leading to prices on stocks that are a fraction of their previous norm and protracted periods of over or undervaluation.

Fourth, compare the investment decision to systematic gauges my team and I have built of global economic conditions. Does the trade agree with the message that is broadcast on the gauges?

Fifth, listen to my gut. Does this seem like a safe thing to do, or does it make me nervous? Being a little nervous is OK, sometimes even good, because it means I am going against the grain.

Sixth, write up the logic for the trade. Sometimes I share this with others and get their feedback.

Seventh, think about how the portfolio pieces fit together. Do I have exposure that concentrates my risk in a particular outcome, like lower inflation? If so, I adjust exposures.

Once I have a trade on, I watch it. Can I understand why the asset goes up and down? For instance, if I am long bonds and an inflation report comes out stronger than expected, I'd expect to lose money. Is that what happens?

Sometimes, I stare at the portfolio and it just looks wrong. It doesn't agree with the dominant message in my head. For instance, if I am bullish about the stock market and every person who comes on the financial news says they are bearish, that makes me more comfortable. I get worried when people say the same thing as I am thinking, which means I am no longer ahead of them, at which point I go back to step #1. Remember, the price discounts all known information.

I recall Ray once talking about the early days of launching a new portfolio. He said he'd tested it and studied diligently but then always wondered, out in the real world, if the portfolio would work as designed. I understand that trepidation.

For me, great investing is a strange mix of rigorous analytics and intuition, and you almost never have the balance just right. If you are right on an investment decision, it always should have been bigger. When you are wrong, you were clearly not thinking well! Statistically, great investors get around 40% of their decisions wrong. If you're less than great then you will get even more than 40% wrong.

When it comes to ups and downs in the portfolio, it is better to be emotionally distant.

In this, investing forces a mental adjustment that is perhaps bad for many areas of your life—cold indifference. My wife certainly doesn't want me to be cold and distant. But sometimes that is helpful for managing money.

While I've been trading and tracking my results for almost 20 years, there have been years, not many, where I came out negative. Despite staring at the screens all year and the various rescue packages made to save the American economy and lots of homework, I lost 6% in 2008 by my count, though these returns were not audited. Losing money means you are out of sync with reality.

It is a bit like listening to your body. You need to feel when you are off course.

For instance, I drank alcohol until I was 54. Then I largely stopped. I was never a heavy drinker, but I drank enough that I woke up many times with a headache. After years of ignoring the pain, I listened to it. Then I stopped drinking and everything felt better. A bad trade or a bad portfolio is a little like having a hangover—throbbing pain that must somehow be addressed.

Money pain has certain specific features.

There is the fear of disaster. A $10k loss becomes an $80k loss, becomes… when will it stop?

Generally, this is because the market is haywire, and you should ignore these losses. Except sometimes when there is a genuine crisis and you should not ignore it. That is what's so complicated.

In general, the system holds together. I've bet on that again and again and been right. Yes, the stock market falls sharply sometimes. But then, this very action kicks into motion counter actions. The central bank changes policy. Investors with cash rush in. As long as the buyers have more money than the sellers, the market stabilizes.

A friend was flying to the West Coast and then all of a sudden the plane dropped very quickly toward the earth. 1,000 feet, 2,000 feet and then, wham, the geophysics of whatever caused that air pocket disappears and all of a sudden the plane's wings catch air and they recover altitude. That is what trading through a panic feels like.

In the US, almost all of these panics have been temporary. In trader's jargon, the right thing to do was to "fade" the decline in value or, even better, add risk to the portfolio if you had spare cash lying around. This means the stock market crashes of 1987, 2001, and 2008 were all, in retrospect, opportunities.

In early 20th century Russia, on the other hand, the right thing to do was sell everything and leave. Everything. And that is not an isolated case.

That’s why investors rely on their religion, their practice, to help guide them in such cases.

What is your game plan?

The authorities can always arrest a market panic if they want to. So it is a question of how bad things get before they intervene. But that doesn’t mean it’s OK to chill out when your assets are collapsing in value. Because the authorities might not intervene.

It’s also true that things often don’t go to extremes. They go close to them and that is when you should buy. But does that extreme mean a 2% real yield, or a 5% 10-year real yield? That’s difficult to say.

In a panic, some assets are easier to value than others. If a company has physical assets, the value of the stock will bear some relationship to those assets. Like if a company is in shipping, they own ships. And you can put a value on what it would generate if the company sold those ships for scrap. That is a reasonable minimum value for the shipping company. But a lot of companies that generate good cash flow do not have those assets. In fact, the most profitable US companies are not like that at all. That means in a market panic, it’s hard to know what the company is worth.

In my own approach, I’ve generally reduced risk during sharp increases in volatility or geopolitical risk. For instance, in the build-up of troops on the border of Ukraine, I owned Russian government bonds and stocks. Because people were so afraid of Putin these assets traded at a discount to foreign assets. Among my holdings, there was an excellent bank, Sberbank, that traded at a fraction the cost of JPMorgan in the US and paid out a much higher dividend to investors.

But as the signs got more and more risky, I decided to sell my Russian assets. All of them. I think I finally sold the last bond in January of 2022. Putin invaded in March and after that it became impossible to get any money out of Russia. The value of my assets would have effectively dropped to zero. In general, you do not want to be a jittery seller, as I was with the municipal bonds during the pandemic. In the Russia case, being jittery paid off.

Accumulating wealth is hard. At least it was for me. Once I had some, I was conservative with what to do with it.

In summary:

Spread investments across different assets, bonds, stocks, real estate, illiquid investments. No one investment dominates.

Track where these assets stand relative to some notion of their "fundamental value." Where are the real yields, rental yields and earnings yields as a start, though there are literally hundreds of metrics one could look at (I don't).

Look to see how bad things can get and assume it can get worse than I imagine. For instance, if I hold 32% of my money in stocks (as I did when I took the snapshot below), I know the equity market can fall 10% or 20% before I can react. That means I'd lose 3.2% to 6.4% of my wealth, which would be very painful, but not intolerable.

Distinguish between panics the government can do something about (financial) vs. ones they can't (war) and distinguish small wars from big wars.

Have enough of a margin of error in cash that I can survive.

This is the spreadsheet where I track my investments. It is a snapshot at a moment in time. I update this every time I make a change in my thinking.

Kate Capital Portfolio

	% of Portfolio	Target Asset Allocation	Diff vs Target
Equity	33%	30%	3%
EM	2%		
Stock Pickers	4%		
Index	1%		
Individual Stocks	22%		
Banks	4%		
Preferred	4%		
Bonds	16%	25%	-9%
Fed Funds	-10%		
US 10 Year			
Japanese bond			
Australian IL	3%		
Brazil	3%		
US IL	10%		
US Muni	10%		
Infrastructure/CMD	6%	10%	-4%
Pipelines	6%		
Hedge Fund of Fund	5%	5%	1%
Balanced Global AA	4%	10%	-6%
Illiquid Credit + RE	16%	20%	-4%
Capital Deployed			
Gross (Longs + Shorts)	99%		
Net Exposure	89%		
Cash Against Futures	10%		

By the way, the spreadsheet is written in trader shorthand. EM = emerging markets. IL = inflation-linked bonds. CMD = commodities. RE = real estate. The weights and the categories are less important than the basic idea, which is to categorize and track your investments.

Even with all the above, I know nothing is certain. As the Russian saying goes: “Guarantees are offered in the morgue.”

On months or quarters where all the above effort still results in me losing money, I go back to the basic idea I shared in Chapter 3—focus on a coherent mindset. That is all I can control. I meditate more, walk more and try to do less. Usually, a clarifying idea appears and I adjust tactics. On average, good decisions flow from that.

If you save well, at some point you can live off your savings, not your income. *When…?* That's the next chapter.

CHAPTER THIRTEEN: WORK STOP

You can stop working when the money you have saved divided by the years you will be alive is more than your annual expenses.

THAT TINGLE OF anxiety related to money is a permanent feature. Too little money is constraining. There is a tightness, an anxiety.

Similarly, overpaying for something or buying something you later deem to be unnecessary is also a bad feeling.

But too much money generally isn’t good for you either.

While many of us may long for a life without money limits, those limits also keep us human. Limits bind us together, like the need for sleep and the company of others, or the shared experience of a snowstorm.

One thing that separates the very rich from the rest of us is flying private. I’ve flown private a few times on someone else’s dime. Flying private is liberation from crowds and airport security, but also isolation from the community and the reality of everyone else.

What you want—excessive money—isn’t good for you. A part of you also wants to eat chocolate cake for breakfast and that also isn’t good for you.

Yes, unlimited money is not a widely shared problem, but the aspiration for it is. I’ve seen people walk into unexpectedly opulent houses. Often they look uncomfortable, a mixture of insecurity and discomfort. Money can drive a wedge between people.

Within this difficult balance between not enough and too much lies the question of what is enough and what do you aim for?

There is a mathematical answer to that question, but before I provide it, it’s necessary to revisit a concept I shared in Chapter 3 about income—what do you need?

As I got wealthier, I noticed my definition of “needs” evolved. Yes, I liked to take my wife to restaurants, which I didn’t do when we were starting out. But the big change was that I began to notice the needs of others more acutely. I referred to this when I discussed the concept of a risk-free position and having a fund to help others.

Earlier I was so focused on our family’s survival that I, frankly and rather shamefully, blocked out the needs of others. But once our acute needs were covered, I started to notice. My wife's family and friends in Russia and Ukraine had very basic needs, like removing a brain tumor, that our money could help solve. I also have people quite close to me who struggle with mental health. They also could use more support. And there are many worthy causes globally, whether it is fighting malaria or cleaning up our oceans.

If you are a person capable of earning money, there is almost a responsibility to do so because someone in your network of family and friends can't and your gift can change their life.

That means the "number" you come up with in answer to the question "what is enough and what do you aim for?" might need to be larger if you consider others. How large? There is no firm answer. Maybe Bill Gates thinks he is not wildly rich, but rather well-positioned to help others.

On the other hand, it's easy for that desire, too, to slip into excess.

I've seen people get obsessed with earning more and more money. Maybe helping others is part of what justifies their relentless pursuit of money. Maybe it is a pathological fear of shortage, the way someone who has lived through famine thinks about food. I know many people on Wall Street who are incredibly pessimistic or just very anxious and save more and more to manage some distant disaster they foresee.

Your time is your most limited resource, something that becomes obvious as you have less of it. Doing anything well enough to earn money takes a lot of energy and time so you face a constant gamble—how many months do I have left?

"Don't worry about money" is bad advice.

Learn how to worry well about money.

The literal, mathematical answer to the question of "enough" helps provide perspective.

The literal answer is how many years you have left to live times cash spent per year divided by your savings, divided by the prevailing real interest rate on government bonds. Or:

"Enough" = (Years left to live X Spending Per Year)
+ margin of error + taxes.

If you want to do the same calculation in a fancier way you can reduce the amount you need to save by the yield of an asset that gives you a guaranteed return, like the inflation-linked bond I mentioned previously. Then the equation is:

Amount needed = Annual spend x
(1 - (1/(1+real interest rate)^20)/real interest rate).

Calculate your years left using a lifespan calculator. I used the Social Security Administration.

So if you spend $100k a year and you are going to live 20 more years, you need at least $1.5 million, which is a lot of money.

Certain retirement products, like annuities, try to provide a way to guarantee this money. Be aware, there are pros and cons to such products. The pro is that you get to pool participants, which is to say if people born the same year in which I was have the same life expectancy, in reality some will live longer and some less. By pooling our resources, we disperse the risk and essentially the shorter-lived people create extra assets for the lucky few that get to live until 100 (fingers crossed!). That means if I am longer lived I have less chances of running out of money.

However, there is a wrinkle. The wrinkle is that you then face credit risk from the organization that sold you the product. If I buy such a product from a life insurance company, I am now in a long-term relationship with this company. Because such companies are subject to the same creative destruction risks of any company, who knows if they will continue to operate well. If they collapse, and they have, what happens to my annuity? Well, then I am dependent on some sort of government bailout of the insurance company. I can imagine just living through the stress of that will shorten my life. By the way, it is always worth checking the credit rating of any company from whom you are buying insurance. Just because they are in the insurance business, doesn't mean they manage their risks well. Of course, the credit rating agencies goof up these ratings sometimes.

Beyond the math of how much you need (whether you save on your own wits or buy a retirement product like an annuity) it's also true we have an inborn survival instinct. Positive cash flow is part of that survival instinct, at least it is for me. So even in the event that you have enough from a mathematical perspective, typically you will want more—not necessarily out of avarice, but out of a Darwinian instinct to keep moving forward.

I suspect this is why you see business mavericks working into their 90s. Money is no longer the point—they like the feeling of forward momentum and perhaps find that is the best antidote to what they know awaits all of us at the end. As my immediate need for money to survive has diminished—in part because my kids are grown, in part because I've built up more of a reserve—I've found my desire to work has not. I enjoy work. So work takes shape as a form of meaningful connection, less than as a direct exchange of freedom for money. To be sure, many people hate their jobs and want nothing more than to stop doing that. I've just realized that's not me.

Many things can't be understood until you experience them and even then they are tough to understand.

I didn't realize how tethered I was to emotions about money until I swung from the lowest decile to the highest in terms of wealth and got older. My emotions still swung to and fro even though I was wealthier, which was a surprise.

Throughout, I was slow to pause and feel the emotions money triggered. Before the rats parading before me and my son forced a shift in tactics, there were, I can now see, a number of jarring experiences that should have pointed me in that direction sooner. An uncomfortable emotion would pop up, but I'd turn it off.

If you grow up in a wealthy country, like the US, it's possible to get confused about how money really works simply because there is enough of it floating around. I was like that, in contrast to my more level-headed wife.

When I was at college, paid for by my hard-working Dad, I convinced myself I didn't need much money. Technically, I lived on even less than I had growing up in D.C. Renting a room in a triple-decker Providence house only cost a couple of hundred bucks. I biked to the Star Market.

My heroes at the time were people like Patagonia founder and renowned adventurer Yvon Chouinard, or Ernest Hemingway, both of whom seemed to not count pennies but instead live life. I figured $15k or so would be enough to live. In the year I graduated college, that was the federal poverty level, but I thought a lot of the things that people spent money on—soda, cable TV, air conditioning, and Florida vacations—I could do without.

In truth, I was living off my father's sweat. His success at work obscured what was going on. As part of my Brown tuition, I got access to stunning facilities, like the swimming pool and remarkable libraries. Moreover, at the time Providence was in a period of relative economic decline and the supply of apartments was probably bigger than demand, and rents were low. I lived in a money miasma.

After college and in an effort to become a writer, I moved to Russia. The Soviets spent more energy building missiles than apartments. Real estate—as opposed to being in surplus as in Providence—was in acute deficit and so were most consumer goods.

I could either live in the place I did—a roach-infested two-room apartment on top of a pancake house—or pay huge bucks I didn't have for something more civilized. There was no in-between. When I say "civilized," I mean it. When I came home at night, the roaches in the apartment skittered across the walls when I turned the light on. No AC. In the summers, I cracked the window and looked out on Moscow's ring road, clogged with traffic. The smell of burnt fuel and rubber. It wasn't romantic, it was unpleasant.

Similarly, I could either own a crappy Soviet car or lust after a German one the new Moscow rich tooled around in. The doors on the German cars made an incredibly satisfying "thunk" when you closed them and also comfortably managed rivers of Moscow slush. The blue Lada I drove required near daily visits to my mechanic, who was constantly swapping out parts or making small repairs. I could either shop at bare Soviet stores with a few dirty carrots or Finnish ones that only accepted dollars and were stocked with every delicacy you could wish for.

At that point, I should have recognized that money really does matter, that it can't be ignored. It matters the way knowing how to swim or basic first aid matters.

But I didn't allow myself to see it. Staring at the facts was uncomfortable in the way staring at a scale is uncomfortable when you have been overeating.

After Moscow and becoming a father and graduate school came a corporate job. This was 1996-ish. Even though I was earning more money, $38,000 as I said before, I felt more broke than ever because New York was so expensive. Our one-bedroom apartment abutted a Key Food. The stench of freezer-burned food seeped in through the thick walls.

At that point, I finally let the emotion of being money-illiterate sink in.

I first experienced the opposite of a money shortage in the fall of 1998 in a meeting with Jim, the patrician banker I spoke about in the chapter on office politics.

I stood, hands deferentially behind my back, in Jim's corner office, glass walls. Beyond his wall, rows and rows of Wall Street salespeople, traders, risk managers, and others. Everyone looked busy, even if they had nothing to do. They even did nothing with seriousness.

I didn't know why I'd been called into Jim's office. Was he going to fire me? People got fired all the time for unclear reasons. Corporate America was full of trap doors I now knew.

You've only been here three months, said Jim, glancing out at the trading floor, a Gucci loafer crossed on his bobbing knee. He had presence. I was both scared of him and respected him.

HR told me you aren't eligible for a bonus.

I understand, I said.

Inside, relief. This must mean I wasn't getting fired.

I like what I see, he said.

I nodded.

So… Jim smiled and paused. I told HR to fuck off.

I looked up, eyebrows arched, eyes wide.

I am giving you a bonus of $20,000, he said.

Twenty thousand?

Wow… thank you, I stammered, I will … strive to … fulfill those high … expectations.

He nodded.

Keep up the good work, he said, once again stern.

I left the office, poker-faced.

At the time Marina and I had a few thousand dollars to our name. If I'd been fired, we would have been out on the street.

At my desk, I picked up the phone, knowing the lines were recorded, called

Marina, and told her the news in Russian.

Oxyet, she answered, roughly equivalent to fucking hell.

Later that night I walked to the local liquor store. I bought a bottle of Oban single-malt scotch and a packet of cashews. I walked back home in the cold, crisp evening, feeling like I'd been let in on a big secret.

With the bonus in hand, an expensive bottle of whiskey was suddenly within reach. The bonus was $20,000 and the bottle was only about $50. A week before, spending $50 on a bottle of whiskey would have seemed crazy.

So that's how it works, I thought, after I'd made it home and cracked open the scotch. I'd earned less money working an entire year. And someone just handed it to you?

The money coursed through me like the whiskey coursed through me.

Money put distance between me and the wolves. I felt it that night.

The wolves are always there, circling. Money was like a stick I could wave at them. Wolves were shitty Moscow apartments, cars that broke down, crushing transaction fees, and a co-pay for the doctor that was bigger than expected.

Marina already knew all that. Credit growing up in a Siberian log cabin with no running water, she looked at money as the best odds of keeping her from ever going back. If I'd listened to her earlier, I would have figured that out faster.

Our son was asleep upstairs while I sipped whiskey and looked out into the velvet night. Before sending him to bed, Marina put the quilt blanket she'd sewn in our dryer to heat it up so his bed was a cozy nest. Her father heated her sheets in the Siberian log cabin, one of her few fond childhood memories.

When I joined, Bridgewater was located in a bucolic stone building, overlooking a stream. The main building literally had a bridge over water.

At the time, the company was private and controlled by just one person, Ray.

My job at Bank of America had ended a few months earlier.

Your services will no longer be needed, said Tom, a colleague and the lead on integrating our former bank into the Bank of America colossus.

What about you? I asked.

Bank of America will no longer need my services either, he said, smiling bitterly.

I'd joined BankBoston, survived acquisition by Fleet and been fired by Bank of America, typical corporate musical chairs.

What if I'd been fired a few years earlier, just as I took on the mortgage debt? That would have been scary. As it was, getting fired actually boosted our wealth, which also shocked me.

Throughout my time at BankBoston and through the subsequent mergers, we were handed stock options. This meant we had a piece of paper that said we could buy shares of the bank at some later date. The problem was, the stock kept sinking. So we were given stock options at, as I recall, around $60… and then the stock fell ever lower. By the end of my time there I had a drawer full of stock options worth nothing.

Then the geniuses at Bank of America decided to buy us. They paid a lot more than the stock was trading—enough to make the stock options go "in the money," meaning that the stock options suddenly had monetary value. I recall waking up, reading my Bloomberg in the early morning hours and seeing the headline. I then opened the drawer with the stock options in them. I'd gone from a guy with a mortgage who owed more than I owned, to a guy who was going to get fired, to a millionaire. In one day.

Did I mention money is unstable?

Fast forward 20 years.

You want a drink?

No, I said.

Come on, have a drink.

I don’t drink when I fly.

OK, said Ray, with a grunt. He took a gulp of whiskey.

It was just the two of us. This boss, Ray, was a lot more clever than the patrician banker Jim. We were in a private plane, waiting on the runway in an Asian capital about to fly to a European capital.

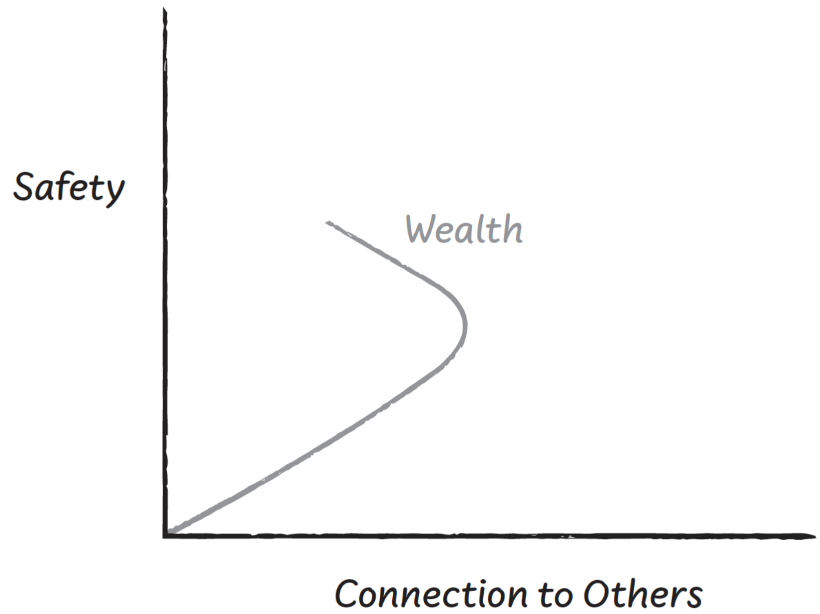
Once in the air, we floated physically and literally above the humdrum concerns of regular life—loose door handles, clogged gutters, insurance disputes, all the details of the money cage that I and most likely everyone else dislikes. But something also didn’t feel right.

How much would it cost to fly the two of us? I wondered but didn’t ask. Maybe in the hundreds of thousands of dollars? Why should we get to spend that money while the people we flew over might never set foot on an airplane? I knew the “right” answer—that no one gave Ray this money, he earned it via unbelievably hard work and a touch of brilliance and so theoretically could they. But that answer also felt narrow. What about dumb people? There was no way they would be able to earn this money.

That thought triggered another.

I don’t know how much money is too much, but this sensation doesn’t feel right, at least for me, I thought.

My goal was to have enough savings to be independent, to be my own boss, but I also craved connections with good people. The emotional side of money might look like the following image. Initially, money improves safety and in my experience connection with others. You have enough extra money to throw a dinner party. But at a certain level of wealth, the money separates you from others.



As I sat in the plane, I recalled other points of what to me felt like excess, like a fetish some extraordinarily rich people have for not carrying luggage. In college, I knew one uber-rich guy who had his luggage FedExed to whatever location he was going. Later on, I met another who had the exact same suit duplicated and shipped to different hotel rooms. And of course, it wasn't him doing the shipping, an army of assistants carried that out.

And yet, I notice how my own aspirations spiral up when I have a successful year investing. After one particularly good year trading, I thought about buying an apartment in New York City. I didn't need it. Or did I? Would it connect me with people or separate me? Maybe I also have a money addiction, I'm just less clever and hardworking than Ray so I have a lot less?

It's tough to know exactly where I am on the diagram above—it is tough for most of us.

Excessive money reminds me of sports. I have an acquaintance who is competing in the Olympics. Like him, I enjoy exercise. But when he describes his exercise regime to me, it sounds excessive, too much of a good thing. And for what? A medal yes, an extraordinary experience, yes, but also enormous work to shave a few seconds off of an already incredible time. Saying that becoming an Olympic athlete is a waste of time is sacrilege in many circles.

Excessive money also works like that.

Or maybe money fanatics and Olympians can’t help themselves, they need more and more and more and my wiring is just different? Maybe we are like fish that all swim at different depths and we need to find the depth that is right for us.

As I’ve come to better understand who I am and the trade-offs inherent in money, I see former heroes in a different light.

Hemingway wrote, partied, and hung out in far-flung locales, like Kenya and Cuba, with multiple wives. A chunk of that was financed not by his writing, but by various wives.

Cormac McCarthy was so poor he once got evicted from a boarding house and kept on writing, aiming for the great American novel, which he might have done (*All the Pretty Horses*).

But what about what Hemingway and McCarthy owed to those around them?

They had incredible talent, but did they also have incredible selfishness? Perhaps.

Chouinard, the Patagonia Founder, gave away most of his money to help the environment. That is a very real way of changing where he stood on the diagram above. I am not ready to give away what I’ve earned, at least not yet. But having enough to keep my family safe and protect those we know who are struggling with basic needs motivates me. Fighting the wolves motivates me.

Figure out what truly motivates you.

Whatever the goal, realize you will have better odds of achieving it if you live a long life and avoid both self-inflicted traps and toxic people, which is the topic of the next chapter.

CHAPTER FOURTEEN: SNIPER'S ALLEY

Health is wealth.

AS YOU WEND your way through the money maze, you need to be aware of snipers—people or forces that are out to hurt you. Sometimes you are out to hurt you.

The most likely sniper for all of us is disease.

The big ones for people in wealthy countries are cancer, heart disease, dementia, and diabetes.[2]

One day you may want to either stop working or work less. That's hard to imagine when you are young. But, if you are lucky, that day will come. Will you be in good enough health to enjoy it? You need to invest in that as well.

Of course, some of that is luck.

When I asked my doctor what was required for a good old age, she said "genes."

Once you crest a certain age, things start to break. But at what age? It is different for everyone. In my mom's case, tiny cancer cells began eating her alive and she never reached 50. In my father's case, that process started in his 60s.

At the age I am now, I have had several friends die of cancer, all in their 50s. Acquaintances have died from car crashes. One my age recently died of heart failure. A host of friends are now sick with various illnesses, ranging from diabetes to Parkinson's to cancer. Disease is a roll of the dice.

There is a lot you can't control, but there is a lot you can.

Wear a seatbelt and don't smoke.

My mother smoked. Maybe that screwed her over?

Sleep, exercise, nutrition, and ample socialization are all things you can control that reduce the odds of those diseases.

Probably some of these are easy for you, others harder, and some work against one another. I find being attentive to my investing hurts my sleep, for instance.

I used to feel guilty about exercise. Ditto taking a break from work to gab with a friend. I've slowly realized that these things are as important as work and are good for me. If being attentive to money is designed to give me liberty, then what use is it if I am sick?

Now I frequently sleep without an alarm and exercise for 90 minutes when I get up. I try to eat more fruits and vegetables and less chips, and do my best to resist cake. I make time for friends and family, including meals during the week. I rarely decline an invitation.

As I've aged, I've cut more and more out of my diet. First alcohol, now I am trying sweets. Cancer loves sugar, I'm told, and the data back this up.

Is all this asceticism a drag?

Some days it is, but at the same time I find living within limits opens up more possibilities than it closes. I once saw an interview with a top marathoner. He said his secret was "Vitamin N." The interviewer had a quizzical look. Then the athlete explained—vitamin "N" is the ability to say "no." It's hard to refuse things, but living inside those limits actually helps you feel things, like a healthy old age, you would not otherwise feel.

Disease is one thing. Toxic people are another.

It's an ugly feature of human life, but it is there.

People can prey on one another, the way a wild cat shadows a herd of wildebeest.

Sometimes that is psychological abuse, sometimes it is physical, like robbery. It ripples through the generations. The person who was terribly mistreated as a child is more prone to mistreat others as an adult.

Mistreatment at any age sticks with you.

I was first robbed in college. I know people who grew up in far more dangerous circumstances and experienced violent crime, which is obviously far worse.

While I was exercising, someone broke into a locker and stole a rain shell and my credit card. They went to the Gap and bought hundreds of dollars' worth of goods, fast, in the time I was working out. I called to cancel the credit card upon discovery, but the damage was done.

The sense of someone rifling through my stuff while I worked out felt wrong, even though it is a trifle compared to someone who is a victim of violence. This attack turned out to be one of many. My credit card has been subsequently lifted a few more times. Someone got a hold of my checking account number, called my bank, and tried to drain my account. Fortunately, they could not answer all the security questions. But it was close. Like many people, I've also had my social media hacked and been the target of people trying to steal my identity. You need to have faith in the world and be on guard for all the terribleness that is out there.

I've run into plenty of unethical white-collar people as well.

At the bank, a guy who I will call Marty was fired for fraud. He was struggling to trade profitably so he worked out a deal with co-conspirators to pool profits and dole them out when needed. In the business, it is called "taking points." He got fired in a room right behind me, kicking a trash can in his anger. Years later I saw him on a commuter train. When he got out he walked over to his BMW, which was parked in the handicapped spot.

I've also seen people create fraudulent hedge funds, lie about their citizenship, or sleep with their assistant, and then lie about that.

The more control you get over your environment, the less exposed you are to such people, and vice versa.

This is why certain periods of life are more vulnerable to such attacks, like when you are in your 20s and unsettled, switching cities or jobs, or traveling abroad, like when I was preyed upon in the Frankfurt airport as a student. Only at the very last second did I realize I was about to step into a trap. I suspect the same is true of old age, though I have not arrived there yet. In essence—keep an eye peeled for the unethical and steer clear.

To filter for scammers, look for moments when the person momentarily breaks character, and you can see behind the facade. This is another application of the tells I noted in terms of navigating office politics.

An obvious data point is lying. A person says they graduated from a certain school, but in fact, they didn't. A person who pads an expense report or takes seven days of vacation and says they took five. These aren't offenses like murder, but they reveal character and I avoid people like that once I see the lie. Also, realize other people are looking at you the same way.

I found writing my second book, *Master, Minion*, which is fiction, such a thrill because it was the first time in my life where it was safe to make things up. In real life, lying creates enormous harm. Of course, we all have our moral lapses. But the question is the pattern and brazenness of it, and if there is contrition. Speeding is one thing, lying about a resume is another. Speeding and getting a ticket and slowing down is one thing, getting a ticket and stepping on it after the cop is out of sight is another.

Some tells are behavioural, like stories that initially seem to make sense but then suddenly veer off course. In these cases, you can pick out a tricky character faster. But not always. The trickiest thing is the people who are so good at manipulation, you don't know you are being manipulated. The list of such people I've met is longer than the list of outright frauds I've encountered.

I knew a salesman who was so funny and charming that I could not resist his charm even when I tried. I'd say to myself, when he starts to tell jokes, *don't respond, keep your center*. I couldn't. He was too good. Of course, he knew he had that power and used it. I later found out that he had almost killed a man in a fight, used multiple hookers, and was probably an alcoholic. He was brilliant as a salesman, but deeply flawed as a person. Was he trustworthy? It seemed to depend on context.

I've been lied to by senior executives. One claimed he earned a certain amount and then, years later, was revealed to have been earning a different amount entirely. He lied effortlessly but was so smooth I missed it.

I was in the same room with Vladimir Putin a few times. Admittedly, it was a large room. I was one of thousands. Still, based on his speech and demeanour I would not have predicted he would go on to commit war crimes on a mass scale and demonstrate the behavior of a serial killer. He seemed business-like and belligerent, but not a war criminal. I was wrong.

All of these people, one way or another, are bad for your money and spirit. So learn to see them and keep your distance. If you feel yucky after you speak with them, that's important to notice.

If you run your own shop you can more readily control who you work with. If you work for others, you have less choice. I am better at recognizing manipulators than playing their game. The best advice is to maintain your distance, but if you can't maintain physical distance, maintain emotional distance. Don't share much and occupy the superficial.

We also can do unpleasant things to others and ourselves.

I robbed someone when I was a kid, shoplifting. It was maybe a year after my mom died. I think I was seven. I got caught. Terrible, terrible feeling. Why had I done it?

The truth was I'd seen Butch Cassidy and the Sundance Kid on TV and, to a kid suddenly without a mother, being an outlaw seemed pretty cool. Why follow the rules when life is short and we are all going to die? I never forgot the sensation of being caught and still frequently ask for receipts to prove I paid.

Those protracted feelings of guilt exist for a reason. They are warning signs that keep us on track. I've felt them in other areas of my life; maybe that's part of what got me to stop drinking or led me to leave the corporate world. I drive slowly in residential neighborhoods, ever concerned a three-year-old will bolt out into the street.

Listen to those internal voices and pay attention to your dreams. There is wisdom in both.

Many of us are striving for our better selves. It is a challenge every day. But that striving does pay off, over time. Even if we stumble. It compounds, like money itself. So be aware of the ways you can score on your own goal and try not to do those things.

Should you plan on a long life?

That's a glaring flaw in my "enough" retirement calculation from the previous chapter. No one knows when they are going to die. There are statistical averages based on hundreds of thousands of lives, but you have just one life.

I'd certainly spend money differently if I thought I'd be dead at 60 rather than 90.

I recall one former colleague. He followed many of the money rules I've laid out here. He earned well and spent more or less wisely. He earned millions and drove a beat-to-hell Toyota pick-up truck. He retired before he was 50. By 56, he was dead. Pancreatic cancer.

In part due to him and in part due to my mother, I was always worried about the possibility I too might die young. Would my Mom have spent differently if she knew what was coming? Of course.

My father shared a story of him going to Europe for a conference and agreeing to meet my mom in a Paris cafe. I picture the rendezvous. They are each in their late 30s, stylishly dressed, tan slacks for my father and a blue sundress for my mother, in love. This would have been 1962 or so. They were each what would look like kids to me now. What could be better than meeting your lover at an airy Paris cafe?

They would have spent much more on that occasion, and others like it, if they knew how short her life would be.

But we don’t know.

My father’s neurological disease required protracted care that almost exhausted his savings. He died with just a modest sum left. My mom’s case was having too big of a margin of error and my father’s case was having just barely enough. If he’d lived another two years he likely might have run out of money.

So we are left with the possible scenario of planning for a long life and living for a short one. Another of the many money paradoxes. I pause often to admire, at this moment, the play of light and shadows on the road outside my window.

At a certain point, for me it was around 50, I started to calculate how many months I had left to live.

As I write this, statistically, I have 276 months.

I look at that number and then think of my friend Saskia, who I sat next to the day before she died from stomach cancer, just a year older than I am now. Do I have 276, 528 or 12 months left?

I’d love to be one of those people who lives until 105 and is able to think and walk to the end and dies in their sleep.

But I now know the dangers of living in la la land. The clear-headed 100-year-old is a less than 5% chance.

Better to plan for the statistical likelihood that I too submit to one of those terrible diseases. That means I try to maximize my wealth, but also spend a lot of time on my health, which is preventative care that I enjoy.

There is a part of this mindset that is absorbing the beautiful things around us, regularly making time to revel in simply being alive, our brief moment before we, like all who came before us, disappear from this earth.

It was striving to get this balance right that led me to quit the fancy hedge fund job.

My salary went from high to zero.

That hurt.

Why did I quit?

Sniper’s Alley.

Once I started working for myself, many things changed.

A part of my brain turned on that was focused on “What do I think is true?” as opposed to “How do I manage the bureaucracy?” Deforming yourself to the expectations of others is not an ideal way to live, at least it wasn’t for me. It causes internal stress, which I suspect is not good for health.

Just before I quit, I was rowing early in the morning and churning inside over one more terrible email exchange with a boss (I had a lot of them) with whom I struggled to get along.

I can’t keep doing this, I said to myself that morning. I am miserable.

At that moment, a conversation bubbled up in my head.

Many years before, when I was at summer language school in Middlebury, Vermont, I was swimming in a pool, all alone.

My father was dying from his terrible disease. I was in a job that paid nothing and it didn’t seem to be leading where I wanted to go.

I was struggling to see how to put together the pieces, the very same issues I raised in the early chapters of this book.

So I churned back and forth in the pool, trying to cool my anxiety at being stuck.

I stopped at the end of the pool, stood up, and caught my breath. Then I heard it behind me.

Are you happy?

It was my mother’s voice. I recognized it instantly.

The question was so clear it sounded like she was right behind me.

Except that she had died almost 20 years before.

Was I going nuts?

That voice, or whatever it was, stuck with me.

I don't know where it came from. Maybe I imagined it.

But in any case, it served as a reminder and I've used it as a guide again and again.

I ask myself, am I happy?

Money cannot make you happy, but it can give you autonomy, which makes me a lot happier.

I don't know if I will have enough money to continue to be a writer and investor. It depends on how well I invest and write, but I always try to follow that happiness beacon to find my way.

With time, it gets easier.

You have more patterns and a larger sample size, and it is easier to recognize when you are on or off course. As opposed to feeling anxious, the thought will arise, "Now I am anxious," and by separating the thought from the emotion, you open up a little space. You will watch others around you mount the same hills you did—education, finding a job, marriage—with similar trepidation and excitement.

By your 50s, you will know what you like spending money on and what is a waste of money. I have both cut a lot out and also included more.

But even as things get more familiar, it is critical not to get caught in a rut.

I think of my father who loved science, possibly more than any other activity. It was an enormous, cosmic puzzle and he was trying to figure it out. And he was happy. Work wasn't a burden to him and his salary was reliable enough he could ignore investing, which is what he did. But he also struggled to adjust to age and loneliness. His circle of friends narrowed. I suspect he died earlier because of it.

He could have used his government salary to invest in hobbies. He liked ballroom dancing. He even took lessons. But a group class would have offered much more socialization. Maybe he would have made a new friend. I love making new friends. Maybe he was worried about saving enough for my obscenely expensive college education and felt a class lesson would be frivolous.

It's easy to see in retrospect and so hard to be objective about ourselves and our situation in the moment.

We are never free from money concerns, but the point of money is to allow us to experience the world more fully, not to be encased in anxiety. To feel the excitement of walking down a street in Seoul at dawn, or hearing the chant at a temple in India, or rowing a boat in Long Island Sound and, yes, seeing a bald eagle catch a fish. I recall reading the poet Milosz writing about Rome when I was in Rome.

> In Rome on the Campo dei Fiori
> baskets of olives and lemons,
> cobbles spattered with wine
> and the wreckage of flowers…

Money well spent allowed that experience to happen. There is also a joy, less elevated, of paying off your credit card bill, of being debt-free.

It's all a gamble and paths and probabilities and you need to figure out what the right mix is for you.

There is no prescribed answer.

There was a time I was miserable because I had no money. Now there is a degree of misery because I worry the zeros in my bank account can disappear, or tipping over the waterfall at the end with a brain wracked by dementia or a heart choked by disease.

So try to be calm and thoughtful about money, but it is a daily, daily struggle to find the balance and make room, lots of room, for the awe.

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2 A list I got from a guest, Bill Gifford on my podcast, A Conversation with Paul. Bill is the co-author, with Dr. Peter Attia, of *Outlive*.

CHAPTER FIFTEEN: SLOGANS

1. Money is a cage, you need a strategy to live within its confines.
2. We want something from money, stability, which it can't provide. You can't control that, so focus on what you can control—your mindset.

WORK

3. Know how much money you need to survive, what work you can provide that others need, and recognize that what jobs provide what salary will shift over time.
4. To understand money, understand prices: the ones you receive (salary), and the ones you pay (consumption, saving).
5. In any industry, there is a caste system. Changing castes is hard, not impossible.
6. Office politics matter, the very best players play so well they appear not even to be playing. At a minimum, learn to advocate for yourself.

INVESTING

7. Bad things happen, so assume a large margin of error and know your risk-free position.
8. Debt is a tool, use it well.
9. Money primarily comes from the central bank and their printing ebbs and flows directly impact your work and savings.
10. You save in either cash, stocks, bonds or real estate. Know their basic moving parts.
11. A portfolio is a collection of assets; as a start, spread your risk more or less evenly among them.

12. There are different schools of thought regarding investing, follow one appropriate for your wiring or, better yet, develop your own.

RETIREMENT

13. You can stop working when the money you have saved divided by the years you will be alive is more than your annual expenses.
14. Health is wealth.
15. Be wary of money sages. There aren't any (including me).

ADDITIONAL READING

Ahmed, *Lords of Finance*

Axilrod, *Inside the Fed*

Bethany, Mclean and Elkand, *The Smartest Guys in the Room*

Bernstein, *The Power of Gold*

Buffet, *The Essays of Warren Buffett*

Carroll and Mai, *Billion Dollar Lessons*

Eichengreen, *Other People's Money*

Fabozzi, *Fixed Income Mathematics*

Ferguson, *When Money Dies*

Graham, *The Interpretation of Financial Statements*

Graham, *The Intelligent Investor*

Gonzalez, *Deep Survival*

Goodheart, *The Great Demographic Reversal*

Hayek, *The Road to Serfdom*

Homer, *A History of Interest Rates*

Hull, *Options, Futures and other Derivatives*

Kahneman, *Thinking Fast, Thinking Slow*

Keynes, *The General Theory of Employment, Interest and Money*

Kindleberger, *A History of Financial Crises*

Klemperer, *I Will Bear Witness, 1933–1941*

Lefevre, *Reminisces of a Stock Operator*

Lowenstein, *Buffett*

Lowenstein, *When Genius Failed*

Mahar, *Bull!*

Miller, *Chip War*

Nairn, *Engines that Move Markets*

Nelson, *Oceans of Grain*

Octavio and Stieglitz, *Capital Market Liberalization*

Popper, *The Open Society and Its Enemies*

Poundstone, *Fortune's Formula*

Riasanovsky, *A History of Russia*

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