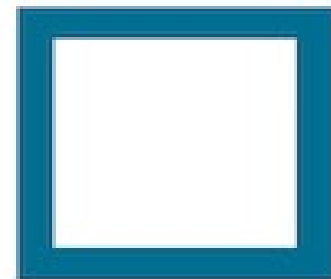
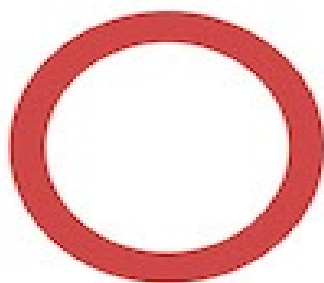


“Elegant and insightful”

— CHRISTINE BENZ, MORNINGSTAR

The
Geometry
of
Wealth



*How to shape a life of
money and meaning*

BRIAN PORTNOY

Hh

The Geometry of Wealth



How to Shape a Life of Money and Meaning

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For Tracy, Ben, Zach, and Sarah

Do not hurry; do not rest.

– Johann Wolfgang von Goethe

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About the author

Brian Portnoy, Ph.D., CFA, is the author of two books—*The Investor's Paradox* and *The Geometry of Wealth*—which simplify the complex world of money. Both suggest that in a noisy world achieving simplicity is hard but worthwhile. Currently the Director of Investment Education at Virtus Investment Partners, a \$100 billion investment solutions platform, Brian works with financial advisors and individual investors to make smarter decisions and attain better life outcomes. For the past two decades, Brian has worked in both the mutual fund and hedge fund industries, including at Morningstar and Mesirow Financial. He has spoken to audiences globally about investment strategy and decision-making, including the U.S. Securities and Exchange Commission as part of its Leading Authors series. Brian earned a doctorate from The University of Chicago, a bachelor's degree from The University of Michigan, and holds the Chartered Financial Analyst designation. He lives on the north side of Chicago with his wife and three children.

Introduction: A Story About Three Shapes

“The map appears to us more real than the land.”

– D.H. Lawrence

MONEY BEWILDERS.

How to earn it, spend it, save it, and invest it—these are practical, often complicated, puzzles we attempt to solve just about every day. Few relish these tasks, yet there’s no getting around money’s indelible imprint on life’s narrative, generating an array of emotions along the way: Fear, excitement, stress, confusion, envy, boredom, hope, and—yes—happiness.

Despite its import, money is something we all grapple with mostly in private. It’s a Lord Voldemort of topics, feared by most and mentioned by few. It’s uncomfortable to discuss socially, and rarely even with our partners, parents, or children. The reasons are many but boil down to the fact that money is both analytically complex and emotionally fraught. Either reason alone is sufficient to stifle inquiry and discovery; combined, complicated *and* emotional make for a highly-charged third rail. We don’t touch it.

As a result, we also leave largely untouched the bigger questions, the ones that go beyond practical matters of salaries, budgets, mortgages, retirement, insurance, and charity. These questions explore more difficult matters, requiring deeper introspection. How does money figure in to a joyful life? A lot, a little, or not at all? Can it buy happiness, and if so how? The relationship between money and meaning defies easy explanation.

In *The Geometry of Wealth*, I take a crack at making sense of it all. I offer a plan for anyone who wants to grow and remain wealthy. That journey, however, doesn’t resemble what many think it will. The path toward wealth is clearly marked, but only if you’re looking in the right direction. And willing to take three important steps:

1. Define purpose: Illuminate the ingredients for a life well-lived;
2. Set priorities: Chart a focused strategy to do the right things in the right order; and
3. Make decisions: Employ simplified tactics to drive better outcomes.

At each respective step, we adapt to life's evolving circumstances, set clear and actionable priorities, and render difficult decisions easier through the act of simplification. The book attempts to create a seamless narrative I've not seen accomplished elsewhere, as money tends to be addressed either in broad philosophical terms or wonky technical details. Most maps of this world chart only a fraction of the journey.

We begin by distinguishing rich from wealthy. Being rich is having "more." The push for more is a treadmill on which satisfaction is typically fleeting. The quest to be rich usually doesn't end where many of its sojourners think it will. Wealth, by contrast, is *funded contentment*. It is the ability to underwrite a meaningful life—however one chooses to define that. Ultimately, I contend that wealth is achievable for many, including those who despair that it is out of reach. Here's the catch: Wealth, truly defined, is only achievable in the context of a life in which purpose and practice are thoughtfully calibrated. In isolation, neither deep thoughts nor long checklists is up to the task. To succeed, clear minds and dirty hands must work together.

Backwards and forwards

The Geometry of Wealth is a prequel to an earlier attempt I made at making sense of money. My first book, *The Investor's Paradox*, started at the end of the tale, not the beginning. It seems, in retrospect, that I wrote the wrong book first. That effort spoke to the nuances of making good investment decisions, particularly regarding choosing the right mutual funds or hedge funds. While it took seriously the foibles of human decision-making, it leapfrogged much of what's most relevant—and frankly, more interesting—about how to achieve wealth. It embraced the detailed machinery of unpacking complex investments and building optimal portfolios. It also, unwittingly, borrowed a classic economic assumption that each of us is a "utility maximizer," a turgid phrase meaning that one's primary motivation is more. Implicitly, it was a book about getting rich.

I think of things differently nowadays. Personally, the older my children grow, the more I wonder about the lives they'll lead in the decades to come. Like any parent, I worry about whether they'll find happiness and fulfillment. Of course, I'm hardly worried about the stocks and bonds they might own someday, but I am concerned whether, in a rapidly changing global labor market, they will be able to afford the lives they want to live. Giving them either "big picture" or "in

the weeds” advice seems incomplete. So does giving both without showing the connections between them.

Professionally, my road from academic to investor back to educator and writer has revealed a universe that had been formerly out of focus. I now have the privilege of traveling the country and speaking to thousands of financial advisors and their clients (people just like you and me) about making better financial decisions. The differences among people I meet are dwarfed by the similarities. No matter the lifestyle, accent, politics, or favorite sports team, everyone I meet wants to take care of their families, remain or get healthy, be generous to others, enjoy their hobbies, and excel at work.

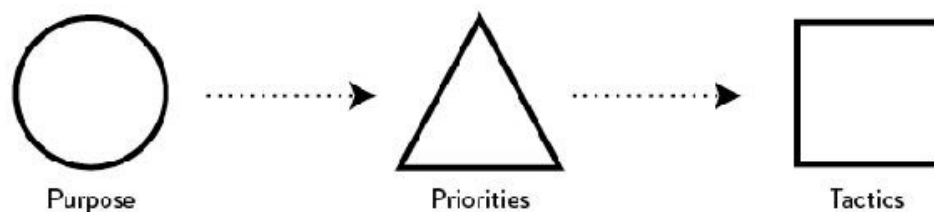
All these concerns are connected to the biggest question of all: *Am I going to be okay?* The question—not explicitly about money, but one which stubbornly sits in its shadow—is posed by everyone from the ultra-wealthy to the just-getting-by, from the retiree to the just-getting-started.

I've come to realize that conventional financial maps are aligned along the wrong north star. From my vantage, the land—our real journey—looks quite different. It is time to draw a better map with a truer compass. This book is an attempt to do just that.

So, now, let's start at the beginning.

A story in three parts

The Geometry of Wealth is a story told in three parts, through three basic shapes: A circle, triangle, and square. These represent the journey from purpose to priorities to tactics. Each step has a primary action associated with it. The first is adaptation. The second is prioritization. The third is simplification. The framework builds a bridge from mindset to action. The narrative of the book moves from the most important to the least, and from the most abstract to the most actionable. The principle that motors us along the entire way is what I call “adaptive simplicity,” a means of both rolling with the punches and cutting through the noise.

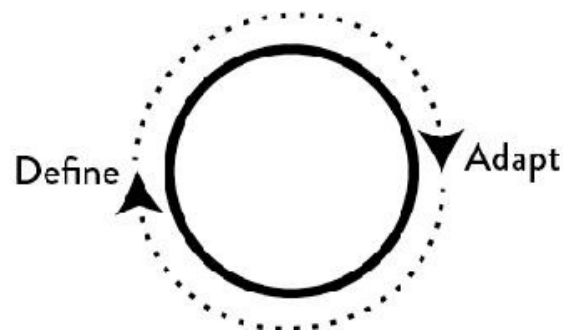


Purpose

Funded contentment starts with figuring out the stories that define us. There is no general formula for discovering what each of us should or can attach meaning to. We can find purpose through family, career, community, faith, country, or any other number of personal passions or interests. How you identify or choose what defines you is the most personal of considerations.

However, the process by which we navigate life's inevitable ups and downs is shared. The circle illuminates the process of figuring it out.

No matter how well plans are set and executed, there will always be the need to adapt. Adversity can never be avoided entirely. And even when things go well, progress itself generates change. The need or opportunity to recalibrate, to redirect our own narrative, happens over and again, and never the exact same way. You never step in the same river twice, to quote Heraclitus, so coming to terms with an adaptive understanding of the self is mission critical.



One part in figuring out this back-and-forth is interrogating the relationship between the two abstract concepts: Money and happiness. Both are fictions in the sense that they don't exist in nature: They aren't dug out of the ground or picked from a tree. Their definitions and value are self- and collectively-defined.

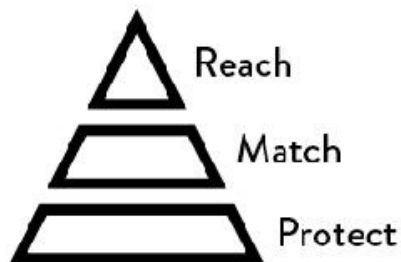
Generally, the relationship between the size of your bank account and your sense of contentment is conflicted because of how the human brain is wired. We are each endowed with a dual-track brain driven by intuition and reason. A basic understanding of the brain gives us an edge in understanding the complicated nexus between money and happiness.

People who have more money are not necessarily happier—though some are. If anything, money alleviates sadness more than it inspires joy. In day-to-day living, beyond a modest income, more money doesn't help. But research reveals that those who live with purpose and embrace the adaptive self tend to be more content. In that case, money—when spent wisely—makes a positive difference.

You'll soon have the chance to form your own take on what the current science argues, but this much is true: Money is an inescapable part of the journey. It not only pays the bills, it's also an emotional scorecard, a social marker, and holds the potential to underwrite joy or stoke fear. Try as some might, it can't be ignored.

Priorities

It's one thing to imagine a fulfilling life. It's another to put a plan in place to achieve it. Crossing from mission to method, a triangle puts in motion three ranked priorities for navigating our money lives. Having a clear-cut hierarchy of goals quickly allows us to distinguish the more important tasks and evade the distractions.

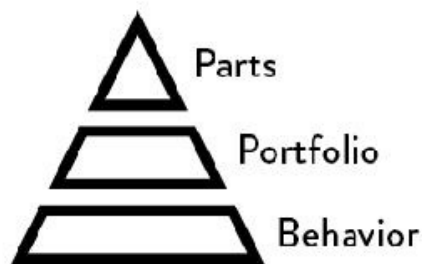


Priority one is risk management. It is to protect ourselves from the potential for loss, especially catastrophe. In the human mind, losses weigh much more heavily than gains, so elevating risk management is the right thing to do. This step is about building the proper mindset, one that values avoiding mistakes over demonstrating brilliance.

We then plan the everyday flow of our money lives—earning, spending, saving, and investing—by smartly mapping what we own versus what we owe. Maintaining such a scorecard is a simple exercise with a huge payoff, for it both articulates and inspires balance in our day-to-day routine. It helps to calibrate thorny spending and saving decisions. It clarifies the consequence of imbalance. Once that's in order, we are well-positioned to underwrite any number of life's exciting pursuits, to dream big. In our aspirations, we can strike a tone of being modest but not miserly.

Even the right mindset and a calibrated scorecard are not always enough to achieve funded contentment. This, then, is where investing *per se* comes in: We risk our savings to make more than we would in a riskless bank account. Investing is a series of bets on an unknowable future, and that active engagement with uncertainty triggers some of the brain's built-in quirks.

I employ a second triangle to bridge from planning priorities to investment decisions. Three factors drive good investment outcomes. The first is our own behavior, unquestionably the most important of the three. The human brain is hardwired to make a litany of cognitive and emotional errors. The classic example is when the market tanks and investors sell in a panic, locking in losses and then later missing the rebound. The thing is, we're not irrational, we're just human. The importance of our own behavior in directing our money lives, as distinct from an unfamiliarity with fancy finance concepts, is a theme throughout the book.



After behavior, it's the content of one's overall portfolio that allows us to manage risk and grow our capital. Portfolio management focuses on a smaller number of more impactful decisions. The specific parts that go into these portfolios—the stocks, bonds, and funds which grab the eye and quicken the pulse—are important drivers of financial success, but only when understood in the proper context.

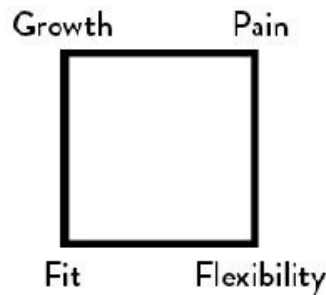
Tactics

The square approaches tactical decision-making through the lens of expectations. We aim to set reasonable investment expectations for how to navigate the market's ride, both intellectually and emotionally.

Simplification is the smart path toward effectively managing expectations. In general terms, met expectations lead to temporary happiness and unmet ones lead to temporary sadness. The human mind is wired to avoid losses more than it is to achieve gains, so minimizing regret is more important in this process than is maximizing future upside.

The square breaks investment decision-making into four irreducible elements. The first corner represents the growth we hope to achieve. Estimating reasonable future gains is more art than science, or at least requires the somewhat unnatural act of thinking in terms of probabilities. The second corner is the emotional pain of achieving those gains, as driven by how jumpy prices are. Volatility can

prompt bad decisions. Third, fit captures how additional decisions improve or undermine what you already own. Finally, flexibility—what technicians refer to as liquidity—illuminates both the value and cost of being able to change your mind. Discretion is a double-edged sword.



It's a common perception that finance is a precise science and that money questions, especially related to investing, have a "right" answer. Nope. The square reveals that this game is less complicated and more winnable than it might appear at first. Getting from complex to simple isn't easy, though, which is why being methodical is the key to unlocking success.

~

If true wealth is the ability to underwrite a meaningful life, however defined, then the three shapes act as signposts on the path to getting there, moving from purpose to priorities to tactics. Adaptive simplicity is the engine that moves us along the path, unifying our holistic engagement with the world of money.

Ultimately, we must acknowledge and navigate the eternal tension between having enough and wanting more. Both are legitimate evolutionary instincts, but in our minds they sit together uncomfortably, revealing a tenuous relationship between our current and future selves—who we are now and who we will become. We cherish both presence and progress as each galvanizes a meaningful life, albeit in different ways.

The goal here is not to declare victory on the philosophers' ancient battlefield of being versus becoming; that's not possible. But with awareness of the tension, and perhaps some preparation and perspective for managing it, we can stride in rhythm toward contentment.

TAKING SHAPE



The part where we begin to figure things out

1. Alone Together

“For many of us—we silent sufferers who cannot speak about our financial tribulations—it is our lives, not just our bank accounts, that are at risk.”

– Neal Gabler

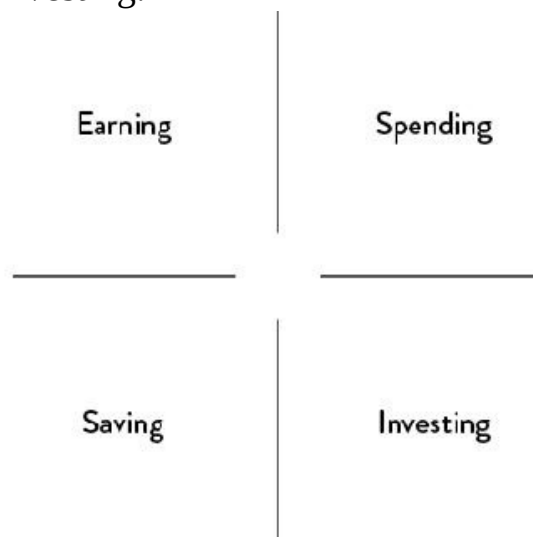
“Nothing is so bitter that a calm mind cannot find comfort in it.”

– Seneca

Money life

MONEY COURSES THROUGH both daily decisions and grand contemplations. It acts as the oil in the engine of everyday life, without which metal grinds metal. With it, the engine operates, which isn't to say it drives in the right direction.

Money life, a term I'll use many times, has four dimensions: Earning, spending, saving, and investing.



It starts with a paycheck. The phrase “Making a living” is heavily loaded with the gravity of holding a job whose first but not sole purpose is to sustain ourselves and our families. Absent the ability to earn, the future is dim. Paycheck in hand, we then must figure out how to navigate a vast array of decisions. The first and largest batch of decisions relates to spending. Beyond the monthly bills, there are consumption choices that have grown more and more

plentiful. The remainder of unspent earnings, if any, creates the opportunity to save. Lastly, there is investing, the process of putting our financial capital at risk to grow it at a higher rate than what it would make sitting in cash. Regardless of income level or inherited riches, the matrix of our money lives is complex and stressful.

While we all share similar concerns and pose similar questions, we don't figure it out collectively. Money is an isolated—and isolating—affair. We figure it out on our own.

What are we all up against? I see three broad challenges currently:

1. We have more control over our own finances.
2. We are wired to make bad money decisions.
3. We have less room for error.

I'll address each of these in turn.

The first challenge: You're in charge—like it or not

The zeitgeist of modern times is defined by a deluge of information and choice, a thinning of deep social ties despite unprecedented digital connectedness, and a do-it-yourself approach to just about everything. In our world of lonesome crowds, we harbor great discretion and responsibility.¹ Through technology, we now have it in our grasp (or so we think) to be media moguls, culinary experts, travel agents, medical practitioners, meteorologists, instant scholars of _____ (choose a Wiki page), and, yes, market experts and portfolio managers. We have more autonomy across more domains than ever before. We live in an age of information. We live in an age of anxiety.

In the domain of money, we're being put to the test in unprecedented ways. The burden of managing your long-term financial health has shifted over recent generations. In particular, the nature of retirement is changing, in no small part due to the steady demise of the traditional pension plan. There are few more powerful structural forces driving the “democratizing” of our money lives and investing specifically.

Keep in mind that “retirement” wasn't really a thing all that long ago. Modern civilization is several thousand years old, so the idea to voluntarily stop working at some point and live off of savings and investments is relatively new. The reason for this is simple: Through most of history, people worked until they died. And those who outlived their human capital relied on traditional family

structures for support. In *Willy Wonka and the Chocolate Factory*, bedridden Grandpa Joe and Grandma Josephine weren't pensioners, nor did they have Social Security or some other government largesse to rely upon; they were the wards of Charlie Bucket's mom.

Starting in 19th century Europe and then later spreading to America, governments set up social safety nets for aging populations, while employers arranged benefits packages aimed at sustaining their workers in old age. In the United States, for example, a large percentage of the American private and public workforce participated in defined benefit plans for a good portion of the post-World War II era. In practical terms, that translated to a paycheck for life during retirement.

Over the past few decades, however, these collective retirement plans have been frozen or shut down altogether. They've largely been replaced by do-it-yourself investment programs, such as the 401(k). Since the 1980s, for example, workers with pension fund coverage shrunk from 62% to 17%, while those who had access only to 401(k) plans grew from 12% to 71%.² As we're now mostly all responsible for our own retirement investing, experts have concluded that the golden age of retirement security is over.

Our collective confidence in being able to enjoy a comfortable retirement is low. In 2017, only 18% of workers were "very confident" about having enough money after they stopped working. About one-fourth of Americans are not confident in a financially secure future, and the balance are somewhere in between.³ The questionable future of government benefits further undermines confidence. Though never designed or intended to be the sole paycheck in retirement, Social Security has become just that for millions.

As the social safety net weathers into a frayed hammock, the lack of retirement confidence is justified. The data on retirement preparedness are troubling. Nearly 40% of American workers have not saved for retirement. Let me repeat: Tens of millions of Americans do not have a dime saved for retirement. Slightly more than half of workers are currently saving for retirement, but most of them haven't saved much: 24% have saved less than \$1,000, 47% have less than \$25,000 socked away, and 65% have less than \$100,000.⁴ Keep in mind that even when invested reasonably, \$100,000 in savings provides just a few hundred dollars a month in retirement income.

This forced-upon responsibility for our long-term financial health collides with our general discomfort with the entire topic of money. Surveys have shown that

money is the most sensitive of topics, more so than other hot button issues. We just don't like talking about it.⁵

"It is such a loaded conversation," psychologist Daniel Crosby explains. "There is so much subtext and hidden meaning wrapped up in money. Money is shorthand for happiness, power, and personal efficacy, so it can be very scary."⁶ Crosby suggests three major reasons that we loathe talking about money: It's stressful, it's socially taboo, and most of us are uneasy with numbers. He cites a 2004 American Psychological Association survey showing that 73% of Americans say money is the most stressful factor in life. It is more stressful than death, politics, or religion.⁷

Most of us think that talking about money is: Embarrassing, not classy, inappropriate, confusing, intimidating, immoral, boring, or some combination of those. Spouses struggle with honest conversations, adult children and elderly parents find money discussions painful, and we rarely talk to, let alone educate, our children on the matter. Other studies show money is either the first or second most important issue behind divorce. Many couples would prefer to talk about infidelities rather than how they handle family finances or how much money they earn.⁸

There's a pretty good chance you know a great deal about your best friend's marriage, health, and job, but close to nothing about his or her finances. What's your best friend's salary? Is he deeply in debt or has he saved enough for retirement? Does he have a budget? As Crosby says, "We commiserate with our friends about not having enough money, we let out collective groans about the burdens of taxes, and dream together about how to spend fictional lottery winnings. But in terms of the more quotidian, serious matters that form the basis of our actual financial lives, we are conditioned toward silence."

Sitting at the root of this predicament of having this uncomfortable control over our own money is widespread financial illiteracy.⁹ Take a stab at the following three questions:

1. Suppose you had \$100 in a savings account and the interest rate was 2% per year. After five years, how much do you think you would have in the account if you left the money to grow? (A) More than \$102. (B) Exactly \$102. (C) Less than \$102.
2. Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After one year, how much would you be

able to buy with the money in this account? (A) More than today. (B) Exactly the same. (C) Less than today.

3. Please tell me whether this statement is true or false: Buying a single company's stock usually provides a safer return than a stock mutual fund.

The two experts in financial literacy who authored this quiz found that only one-third of Americans age 50 and older answered all three questions correctly.¹⁰ Only half answered both of the first two questions correctly. No wonder that managing our own money is not something most of us embrace. But the fact is that you're going to have to.

The second challenge: You are doing it backwards

The second problem is even bigger: It's ourselves. The human brain is wired with a host of emotional and cognitive biases, some of which steer us toward making lousy financial decisions.

Take the most basic rule of the game: Buy low, sell high. If you do this, you will earn a profit. It seems pretty straightforward. Alas, we collectively do the opposite: *We buy high and sell low.*¹¹

How could that be? The short answer anchors on the brain's inexorable focus on survival. Over many tens of thousands of years, evolution favored those with the wherewithal to attack opportunity and retreat from danger. The "fight or flight" instinct is powerful and immutable. A big challenge, we will see, is that when our "old" brains confront modern day financial markets, there's a disconnect. The cycle of greed and fear deters good money outcomes.

Look at the following matrix: When we observe—feel, really—the market rising, we're calm and perhaps even excited as we grow richer and more secure. It's at those times when we want to invest more.

Greed, Fear, and Investor Behavior

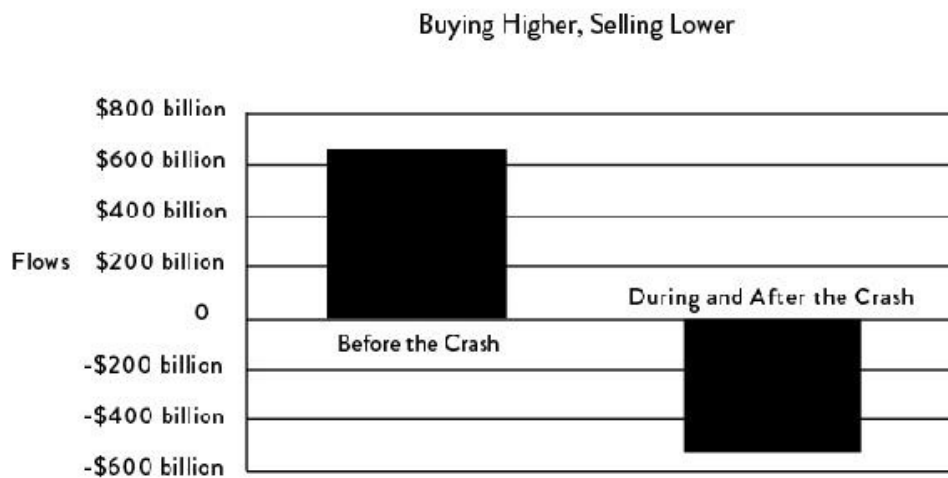
	Buy	Sell
Worried	No	Yes
Excited	Yes	No

When the market is falling, we feel less secure. Thoughts of loss cloud the mind and we worry that things will continue to fall. We grow uncomfortable holding on to what we already own, and certainly aren't inclined to buy. We buy when things are pricier and stay away when they are cheaper.

This is not "normal" consumer behavior. We don't sprint to Target when they mark up all of their merchandise and avoid the mall when everything goes on sale. But that's exactly how the investment community in aggregate acts. Anyone who has taken Economics 101 knows that when prices rise, demand falls. And when prices fall, demand rises. Managing money doesn't often work like that.

If this doesn't sound like you, ask yourself whether in 2008, when the market was down more than 50%, you were calmly seeking to buy stocks that were massively marked down. Probably not. Contrarian investing (buying what's out of favor) and value investing (buying what's cheap) sound great on paper but require an emotional fortitude that few have.

We can look at the actual data on investor behavior before and after the crash to get a sense of real-world outcomes. The image simply shows the flows in or out of U.S. equity mutual funds in the five years leading up to the crash (2003–2007) and the five years including and following it (2008–2012).¹²



As markets advanced steadily in the middle of last decade, investors placed about \$660 billion of new assets into U.S. equity mutual funds. During and after the crash, they withdrew more than half a trillion dollars, even though there hadn't been a better opportunity to buy in many years. We are our own worst enemy.

The third challenge: You don't have much room for error

Finally, current structural changes in global capitalism give us a narrower runway to success. The potential returns from both our earnings and our investments appear challenged.

Human capital

It has gotten harder to make a good living. Real wages, on average, have been stagnant since the 1970s. The potential for upward economic and social mobility has been stymied while structural shifts in global labor markets suggest a weak outlook for human capital development.¹³ Our money lives anchor on earnings potential, so this dynamic is concerning.

One of the key shifts that has become subject to an intense debate is the consequence of automation in the workplace.¹⁴ The consternation over this accelerating trend is well-founded. Not only lower-class but middle-class and even upper-class vocations are being threatened. Factory workers are now joined by accountants, lawyers, doctors, and portfolio managers in this state of jeopardy. It's not that there aren't or won't be exciting jobs that pay fabulously well. The issue is that there will be far fewer of them.

Think about the following comparison from Martin Ford's *Rise of the Robots*. He notes that in 1979, General Motors employed 840,000 people and earned profits of about \$11 billion. Meanwhile, in 2012, Google employed less than 38,000 people and generated profits of nearly \$14 billion. In case you're wondering, these profits are adjusted for inflation.¹⁵ So on an apples-to-apples basis, the labor necessary to produce great profits has plummeted. In this case, there were comparable profits, but fewer than *one-twentieth* the jobs. Unfortunately, it's not difficult to find current examples where companies need relatively few employees to run their business.

Such is what in 1942 political economist Joseph Schumpeter famously called the process of capitalism's "creative destruction," an idea every bit as relevant now as back then. Capitalism, he writes, "is the process of industrial mutation... that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one."¹⁶ Change and forced adaptation, including failed adaptation, is a feature—not a bug—of capitalism. Schumpeter called creative destruction capitalism's "essential fact."

From frontier farms to server farms, the "revolution" never stops. Where that leaves individuals' attempts at making a good living, or positioning their children to do so, is arguably the deepest source of stress in our current global political economy. That's in no small part because the trend is affecting not only low-skill/low-wage jobs. Many service professions such as law and medicine are now seeing a stagnation of incomes and thinning ranks.

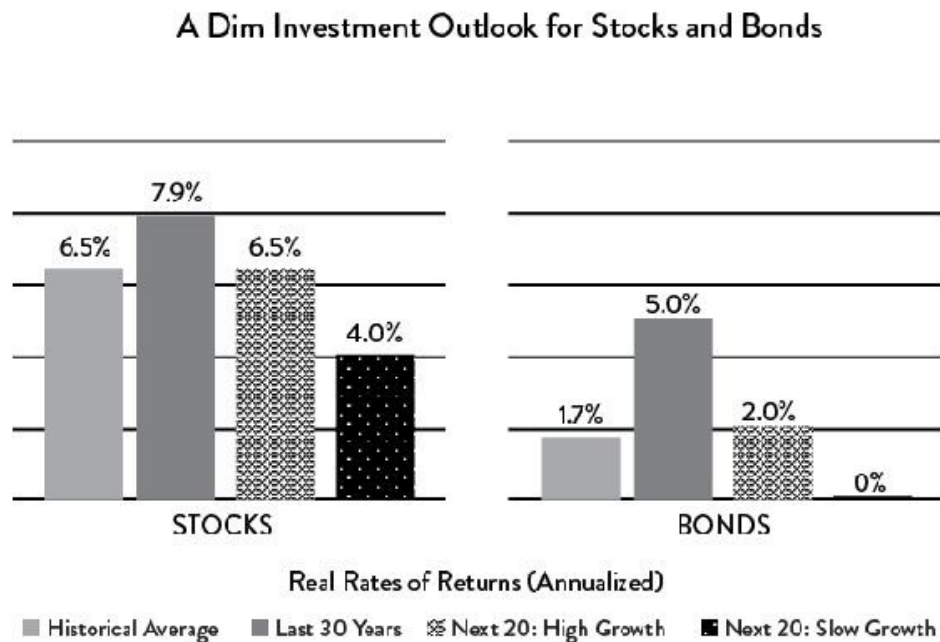
Nor are many of us entering this transition from a position of strength. Many Americans live in a condition of what writer Neal Gabler calls "financial fragility."¹⁷ Gabler's 2016 essay in *The Atlantic* struck a chord because the private challenges he, a once successful writer, faced were so widely shared, yet never discussed. He wrote, "I never spoke about my financial travails, not even with my closest friends—that is, until I came to the realization that what was happening to me was also happening to millions of other Americans." As Gabler notes, only 38% of Americans can cover a \$1,000 emergency-room visit. He cites a Pew Charitable Trust report that indicated that 55% of households don't have enough liquid savings to replace a month's worth of lost income.¹⁸

Financial capital

It's not only harder to earn, and thus save, it's also probable that in the coming years capital markets will deliver lower returns than they have over the past generation. We can't ignore that from the early 1980s through today, market

returns—both stocks and bonds—have been outsized relative to long-term history.

Take a look at the following data from global thought leader McKinsey & Co. In the past 30 years, the real returns (meaning adjusted for inflation) for both U.S. stocks and bonds have far exceeded long-term historical averages.¹⁹



The four bars to the left show that for the past 30 years, stocks have outpaced their long-term historical average. The set of bars to the right show bonds have had a massive bull run; they've earned triple the long-term average.

Can the next generation of investors achieve comparable results? Unlikely, especially with bonds. Bond prices go up when interest rates go down, and interest rates have fallen dramatically since the early 1980s. It's hard to believe that interest rates topped 17% around that time. Fed Chairman Paul Volcker attacked that problem aggressively and kick-started the long, steady decline in the cost of capital. This triggered the strongest bull market in bonds in history.²⁰

Now, there's little juice left in the squeeze—interest rates are now quite low, meaning that there is no chance that future bond returns can match recent history. Equities are more unpredictable, but historically high valuations suggest modest long-term gains ahead. McKinsey's data speak to muted expectations for future returns, as do some other serious observers who anticipate that a balanced stock and bond portfolio will likely return in mid-single digits.²¹

These lower expectations clash with more ambitious return targets by some investors who foresee high-single or even double-digit annualized returns going forward.²² Anything is possible, but these beliefs are unrealistic. Note that a “good” investment is one that meets expectations.²³ And when expectations of the future don’t match reality, we end up with dismal outcomes—not only financially, but emotionally.



Here’s a summary of our predicaments:

- We have more responsibility for our financial lives than ever before.
- We are uncomfortable talking and learning about money.
- We are living considerably longer, prolonging all of these problems.
- Our brains are hardwired to make lousy financial decisions.
- An unprecedented amount of information and choice makes decision-making harder.
- Many people are financially fragile.
- Our earnings and savings potential is less than it once was.
- Outsized investment returns are unlikely, so the market will not save us.

This is not a good state of affairs. But as so many of us like to say when confronted with a tough situation: It is what it is. We carry on.

Let’s now see what we can do about it.

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17. Neal Gabler, “The Secret Shame of Middle-Class Americans,” *The Atlantic*, May 2016.
18. Maggie McGrath, “63% of Americans Don’t Have Enough to Cover a \$500 Emergency,” Forbes.com, 6 January 2016.
19. McKinsey Global Institute, “Diminishing Returns: Why Investors May Need to Lower Their Expectations” (McKinsey & Company, 2016).

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2. Adaptive Simplicity

“I know of no more encouraging fact than the unquestionable ability of man to elevate his life by conscious endeavor.”

– Henry David Thoreau

“Our job is to find a few intelligent things to do, not to keep up with every damn thing in the world.”

– Charlie Munger

HUMANS ARE EXTRAORDINARY problem solvers.

Our brains and bodies have evolved over many millennia to navigate an astounding range of environments. Humans are the dominant species on earth for good reasons, including the advanced use of language, the willingness to cooperate, the creation of story and myth, and the ability to think forward and backwards through time.

At the root of these achievements is a “dual process” mind that has empowered billions of humans to survive and thrive. In this chapter, I want to explain why the two-part brain is so consequential to the quest for wealth. The formidable power of deliberate thinking is, as we’ll see, mitigated by certain factors. That’s okay. Imagine that we are beginning to build a rugged but lightweight system to do the best we’ve been wired to do.

My shorthand for the system of making sense of your money life is what I call “adaptive simplicity.” It is a mindset that accepts that change and complexity are unavoidable features of daily life, but then responds by embracing the frequent challenge of rolling with the punches and cutting through the noise. Adaptive simplicity is the engine that moves us along the path toward funded contentment.

The two-speed mind

Everyone is blessed with a two-speed mind. At one speed, we are intuitive. At the other, we are reasoning. Combined, they operate by far the most complicated organism ever considered—that’s you—mostly without effort or problem.

The Dual Process Theory of the brain distinguishes between what has become popularized as “System 1” versus “System 2” thinking by Daniel Kahneman, the

father of behavioral finance, or the science of making good money decisions. In his magisterial *Thinking, Fast and Slow*, Kahneman details the relationship between “fast” (System 1) and “slow” (System 2) thinking, which will be generously employed throughout *The Geometry of Wealth*.

The power switch for the fast brain is always on. It operates automatically and quickly without our knowing what it is doing.²⁴ Its operations are largely effortless and involuntary. It can’t be turned off.

System 1 is continuously monitoring the environment around us, observing what is “normal” and what seems out of place. Humans need the world to make sense and it is System 1’s continuous survey of the landscape which makes that possible. The fast brain is a novice storyteller: “It offers a tacit interpretation of what happens to you and around you, linking the present with the recent past and with expectations about the near future.”²⁵ Our model of how the world “works” is embedded in System 1.

Most critically, our sense of danger and opportunity is embedded in the fast brain. The “fight or flight” instinct reflects the coding of hundreds of thousands of years of *Homo sapiens*’ evolution into our neural networks. The instinct operates nearly instantaneously, enabling us to avert danger. In a perceived emergency, the fast brain shifts into its highest gear. Recall a time when your car skidded out of control. The actions you took to redirect the car occurred before you had time to “think” about a response. Likewise, it works to avoid losses harder than it does to achieve gains. Survival is paramount.²⁶

The fast brain loves consistency. It is biased to confirm beliefs and see patterns even when they don’t exist. It shies away from ambiguity and doubt. It accepts given categories and isn’t fond of thinking in terms of probability, preferring specific predictions. It anchors on what you already think you know and ignores evidence that’s hard to find. In Kahneman’s terms, “what you see is all there is.” One of the ironies of our brain wiring is that the need to make the world feel safe and sensible can lead to poor decision-making.

The fast brain is the home of impressions, affect, intuitions, impulse, and feelings. It is more sensitive to incremental change than it is to levels: Standing way ahead of the pack isn’t necessarily pleasant if you don’t feel you’re moving forward from where you are. Meanwhile, making progress toward a goal, even when just getting started, is a source of happiness.

System 1 is highly efficient, needing little energy to operate. But it knows when it’s outgunned and summons its more powerful partner when needed. Indeed, the relationship between System 1 and System 2 is highly complicated,

but we should not think of them in conflict with each other. They are complementary processes.²⁷

In our mental cockpit, the shift from System 1 to System 2 thinking means turning off autopilot and moving to manual control. It happens quickly and an incalculable number of times during our waking hours. If I asked you if the room you're in right now is comfortable, System 1 would already have an answer. If I asked you how many words are on this page, your slow brain would power up. The task isn't difficult, but it's not what the fast brain does.

System 2 specializes in effortful mental activities. Kahneman nicely describes the effort as literally “paying” attention because operating the slow brain requires significantly more mental energy—as measured in terms of glucose and other chemicals in our systems. Being “mentally exhausted” is not a metaphor.²⁸ Prominent behavioral expert Dan Ariely explains, “Thinking is difficult and sometimes unpleasant.”²⁹

The slow brain is engaged when we are deliberately thinking and making choices. It's how we follow complex rules, remember more than one thing at a time, observe a data series and transform it into a causal argument. As a technical matter, “walking and chewing gum” can both be handled by System 1. Add the task of counting your steps along the way and System 2 will get involved. Executive functioning, or the wherewithal to organize and plan (which every parent of a teenager must deal with)—is also System 2 territory.

The slow brain will transform impulses into agency and impressions into belief. As Kahneman notes, the slow brain is “lazy” and rarely disagrees with fast brain intuitions. However, System 2 is mobilized “when a question arises for which System 1 does not offer an answer.” System 1 tells you the world is flat. System 2 allows you to know better.³⁰

Why bother delving into our noggin like so? Because lacking a basic sense of how we think impairs the effort to shape a life of money and meaning. These systems bring together affect, intuition, belief, and decisions that in turn shape our identities and ability to lead a good life. A basic understanding of the roles and relationship between System 1 and System 2 is a critical tool to understand the decisions we make (or don't) as well as our emotional response to them.³¹

The 40% solution

With this context, we are now in a better position to ask: How much agency do we have over our own happiness? The answer is: We have some, but not complete, control. We now know that System 1 automatically drives quick

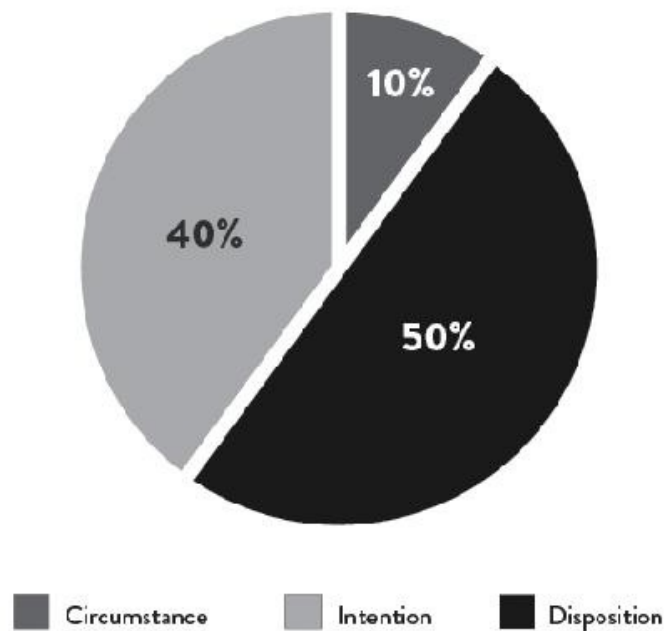
reactions to most stimuli, generating intuitions and affect. For instance, the immediate “gut” reactions to receiving a raise or getting turned down at the dance are predictable. However, the muscular but lazy System 2 will step in at times to deliberately shape comprehension, preference, and identity. System 1’s involuntary and substantial influence cannot be neglected, but adaptive simplicity relies on the recognition that System 2 can be harnessed to write our own stories as we see fit—at least to some extent.

Sonja Lyubomirsky, a professor of psychology at the University of California, argues that there are three factors which determine human fulfillment.³² These are:

- Disposition: Who you are.
- Circumstance: What you face.
- Intention: What you do.

More surprising than the factors themselves is their relative importance. As the pie chart illustrates, our built-in genetic disposition drives about half of the happiness (and moods generally) we experience. Only a small percentage is driven by circumstance, ranging from our age or gender to the weather outside. The balance is subject to our own control. Let’s discuss each, because the consequences of this division course throughout the narrative.

Driving Towards Happiness



Disposition

Our disposition is the features and attitudes we're born with; in some sense, who we were born to be. In the tug-and-pull between nature and nurture, this is pure nature or genetic disposition. Some are born skinny while others husky, some tall and others petite. We can also think of smart versus slow, sarcastic versus earnest, cocky versus humble, cheerful versus grumpy.

With happiness everyone has a "set point."³³ Even after disappointment or exuberance, you return to that level relatively quickly. Research suggests that about half of our aptitude for achieving the good life is received, not gotten: "Like genes for intelligence or cholesterol, the magnitude of our innate set points ... governs to a large extent how happy we will be over the course of our lives."³⁴

The study of twins provides the most powerful evidence for this proposition.³⁵ Even among twins who were separated at birth, and thus grew up apart in different circumstances, researchers note that the twins shared very similar life outlooks and attitudes. The importance of set points is corroborated elsewhere. One fascinating set of studies by University of Virginia psychologist Jonathan Haidt examined how people develop their sense of morality and politics, concluding that it is largely received genetically. A good portion of what we

believe about ourselves and the world is hardwired at birth.³⁶ Telling someone who is blue to “be happy,” or trying to convince a liberal to embrace conservative beliefs, will likely fall on deaf ears.

Circumstance

Despite the power of genetics, much of our self-definition stems from life’s external circumstances, such as gender, age, ethnicity, attractiveness, healthiness, marital status, educational level, career success, or riches. There are few more widely accepted beliefs about a life well lived than that these conditions weigh heavily on life’s outcomes.

It ends up it’s not true.

Only a small portion of our contentment in life—about 10%—is determined by life’s circumstances. Ponder the gravity of that insight for a moment. The attributes many of us often use to define ourselves are only incidental to living well. Whether you live on a country estate or in a one-bedroom flat; whether you have perfect features or are a strong candidate for plastic surgery; whether you enjoy family bliss or endured nasty divorce; whether you are at the top of your class or are an unrepentant slacker. These and countless other examples have only a slight impact on our lifelong happiness.

So much of what we think defines us isn’t actually all that important. How could this be? The answer is that we grow accustomed to just about everything, both good and bad. The brain is wired with an ability to adapt to whatever situation we find ourselves in, and it does so much more quickly than we anticipate. It’s a remarkable defense mechanism, for it allows us to transcend most setbacks in life. Misfortune or sorrow rarely hold us back from moving forward. The flip-side, however, is that the psychological impact of great outcomes or good fortune evaporates quickly as well. The evidence for what’s sometimes referred to as “hedonic adaptation” is vast.³⁷

Even so, we don’t conduct ourselves as if demographic and environmental factors are largely irrelevant for lasting contentment. We covet beauty, fame, riches, success, standing, and so forth. We tilt toward the windmills in our minds, fighting battles of ephemeral import. According to Lyubomirsky, “Nearly all of us buy into ‘the myths of happiness’ – beliefs that certain adult achievements (marriage, kids, jobs, wealth) will make us forever happy and that certain adult failures or adversities (health problems, not having a life partner, having little money) will make us forever unhappy.”³⁸ The evidence suggests otherwise.

Intention

After taking into account genetics and environment, we have some control over our own destiny—about 40% according to the research.³⁹ Conscious decision-making and deliberate action have material consequences for the quality of one's life experience. Your choices of thought and action make a big difference.

I find the 40% estimate empowering, for two reasons. First, it's a big-enough number. Yes, each of us is born with strong dispositions to be one type of person or another. But almost the same level of impact comes from planning. You can certainly lean on genetics and the whims of fate as an excuse for the situation you find yourself in. But that is a choice in itself, and hardly an inspired one knowing that we are each born with a hearty self-improvement toolkit.

Second, the proportional impact of intention sets reasonable expectations for what we can and cannot do, for what's possible or not. As Karl Marx famously wrote, "Men make their own history, but they do not make it as they please."⁴⁰ There's no getting around life's great lottery, that powerful set point we receive from our biological parents. Its importance can't be overlooked or minimized. Nor are circumstances entirely irrelevant, either.

Knowing that there's always a balance between what's in our control and what's not alleviates some of the pressure of believing that through raw willpower, we can become someone we're not. It just doesn't work that way, so there's no need to abide by unachievable standards. While I love the Thoreau quote that opens this chapter, we shouldn't neglect that America's patron saint of contemplative independence had his mother do his laundry.⁴¹ Quiet walks around Walden Pond were one thing, but dirty drawers were another. We all have our limits. We do what we can.

Principled planning

Taking control of your own destiny is gratifying, even when accepting that control is incomplete. The potency of neurons, genes, and circumstances in partially determining life outcomes doesn't diminish the importance of agency. Building and executing on a plan is, in itself, a source of happiness.⁴² We should strive to establish what the French chemist Louis Pasteur called a "prepared mind," a concept of empowerment that has been adopted by modern social psychologists.⁴³

According to Timothy Wilson in *Redirect*, those who fare better in life "have better coping strategies in the face of adversity—they confront problems rather

than avoid them, plan better for the future, focus on what they can control and change, and persist when they encounter obstacles instead of giving up.”⁴⁴ Those who take the prepared mind seriously will have better life outcomes.

In life, we begin just once, but we begin again countless times. Resilience is where many great things are born. Adaptation recognizes the need to respond to life’s events, including those which are unforeseen and unwanted. To use Wilson’s felicitous phrase, it is “changing the stories we live by.”⁴⁵

As the guiding principle to keep our money lives in order, adaptive simplicity finds empowerment in change and inspiration in clarity. Mental energy is not a euphemism. It is literally a limited physical resource, so we want to engage our effortful brain in the most efficient way possible.

Amid the overwhelming complexity of modern life, we seek to find simplicity, a break from the noise. Perversely, we are naturally attracted to the complex, especially in technically challenging domains like money. We sometimes assume that what appear to be thorny problems are best addressed by elaborate solutions.

In so doing, we engage with more and more information, but research suggests that the more information we gather, the worse choices we make.⁴⁶ Further, the more information we gather, the more compelled we feel to make decisions. We don’t like to harvest new information but then do nothing with it. It feels like wasted effort. Finally, too much deliberation hinders satisfaction. At a certain point, putting too much thought into something undermines the value of whatever it is we’re seeking to figure out.⁴⁷ To wit, one of the deepest sources of sadness for the consumer is comparison shopping: Weighing the pros and cons of multiple attributes across multiple product lines is mentally exhausting and sometimes depressing.⁴⁸

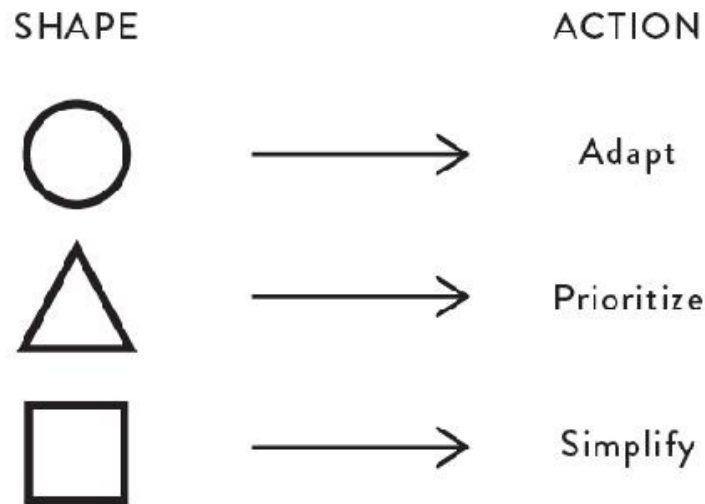
In the context of our money lives, simplicity means having a limited number of clearly articulated concepts that both make sense of a noisy world and drive sharp, reasonable decisions; and an awareness that these concepts can weather the inevitable forces of change that disrupt even the best made plans.

The shape of things to come

The shapes delineate the path. Adaptive simplicity is the engine. It drives through each stage of the journey.⁴⁹ In the first step, we define purpose or mission. That doesn’t happen just once in life. It happens every now and then, involving course-corrections as we get knocked around from time to time. We adapt. Next, we underwrite a meaningful life by relying on a clear, well-articulated strategy. The “to do” list in our money lives can feel endless, so the

key here is prioritization. Finally, we have many decisions to make, so simplification is essential.

Adaptive Simplicity in Motion



We can now intentionally shape a life of money and meaning.

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32. Sonja Lyubomirsky, K.M. Sheldon, K.M., and D. Schkade, "Pursuing Happiness: The Architecture of Sustainable Change," *Review of General Psychology* 9, 2005, pp. 111-131; and K. Sheldon and Sonja Lyubomirsky, "Change Your Actions, Not Your Circumstance: An Experimental Test of the Sustainable Happiness Model," in A. K. Dutt and B. Radcliff (eds.), *Happiness, Economics, and Politics: Toward a Multi-Disciplinary Approach* (Edward Elgar, 2009), pp. 324–42. The work of Lyubomirsky has been very influential for this project. See *The How of Happiness: A Scientific Approach to Getting the Life You Want* (Penguin, 2008); and *The Myths of Happiness: What Should Make You Happy but Doesn't, What Shouldn't Make You Happy but Does* (Penguin, 2013). The three factors she suggests are discussed throughout the field of social psychology. See, for example, Jonathan Haidt, *The Happiness Hypothesis: Finding Modern Truth in Ancient Wisdom* (Basic, 2006), in particular the "happiness formula" on p. 90.

33. Lyubomirsky, *How*.

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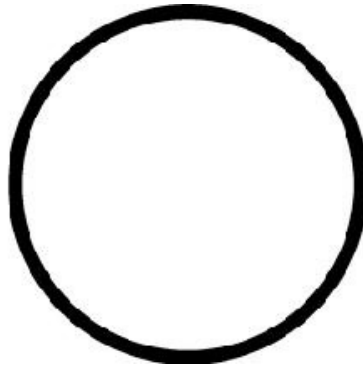
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47. Loran Nordgren and Ap Dijksterhuis, “The Devil Is in the Deliberation: Thinking Too Much Reduces Preference Consistency,” *Journal of Consumer Research*, Vol. 36, No. 1 (June 2009), pp. 39–46.

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PURPOSE



The part where we intersect happiness and money

3. The Places You Might Go

“It is not the strongest of the species that survives, nor the most intelligent, but the one most responsive to change.”

– Charles Darwin

“Fall seven times, stand up eight.”

– Japanese proverb (“Nana korobi ya oki”)

Not-so-good streets

THE FINAL BOOK Dr. Seuss published in his lifetime was *Oh, The Places You’ll Go!* Released in 1990, it was an instant classic, achieving the top ranking in the New York Times Best Seller list for fiction, yet another accolade in Theodor Seuss Geisel’s 50-year history of dazzling readers with his off-beat but profound tales.

Since then, *Places* has sold millions of copies—though not evenly throughout each calendar year. The book sees a spike in sales each spring, right around the time of high school and college graduations.⁵⁰ That’s not surprising, as it is often considered the “grown up” Dr. Seuss book, telling the tale of a character—you, basically—who is embarking on an epic journey, a trip to “Great Places.” Along the way, in Seuss’ unmistakable rat-a-tat rhymes and polychromatic drawings, the protagonist—again, you—encounters success and challenge, time and again:

“Wherever you fly, you’ll be best of the best. Wherever you go, you will top all the rest. Except when you don’t. Because, sometimes, you won’t. You’ll get mixed up, of course, as you already know. You’ll get mixed up with many strange birds as you go. So be sure when you step. Step with care and great tact and remember that Life’s a Great Balancing Act. Just never forget to be dexterous and deft. And never mix up your right foot with your left.”

Seuss’ deceptively elementary book lays bare in just 340 words life’s journey of ups and downs, decisions good and bad. Many exclamation points notwithstanding, its affirming message is sober—things don’t always work out, and even when they do, it often requires taking some scrapes, hitting dead-ends down a “not-so-good street.” Life’s journey, Dr. Seuss teaches us, goes around

and round, for better or worse. We don't get to that Great Place in a straight line. Even as we move forward, life's path is a circle.

I suspect that the perennial popularity of *Places* is due less to its obvious relevance for young graduates than for its profound meaning to those who gift it. As we grow older, we encounter more and more “not-so-good streets” and “strange birds.” We appreciate that as many times as we get knocked down, life's success is found in getting back up.

Grown-ups walk away from *Places* mindful of the “big” questions. What is my life's journey? Where am I going? What path do I want to take to get there? What happens if I don't make it? What happens if I do?

Answering these questions is the deep undercurrent of our lives. They're unlikely to be daily obsessions, but we certainly stop from time to time and wonder. The thing is, most of us don't know the answers, especially at the start; many of us may never figure it out entirely. Even when we think we've got a fix on it, something upsets the cart and resilience is a must. *Fall seven times, stand up eight.* It's the grit to push forward, the wherewithal to adapt, that matters most.

In the real world, money eventually creeps into the tale. How do I pay for it all? Is a particular journey worth it? Can I afford a meaningful life? Throwing money into the mix is a bummer. Yet that discomfort is precisely why our money lives are so fraught. As we engage in earning, spending, saving, and investing, we're ultimately attempting to underwrite whatever it is we end up choosing to value and strive for.

The first step in *The Geometry of Wealth* is figuring out where you want to go. Money serves to push us in that direction.

It's a tough love moment: It's up to you and no one else to figure this part out. Neither I nor anyone else can get you there. Only you can decide what mountain to climb. In fact, most of us would resent being told where to venture. But that's not to say that we're not appreciative of receiving some help along the way.

Two kinds of help are possible: Perspective on the *content* of a meaningful life and the *process* of managing the ride and staying on track. The circle symbolizes that we're never done figuring it out. Adapting to the unpredictability of life's rich pageant is constitutive of the quest, and in my humble opinion, one of the joys of the ride.

A very brief history of happiness

Thousands of years of civilization have given us tens of thousands of volumes which plumb the depths of what counts as a life worth living. Countless philosophers, priests, and pundits have spoken to what it means to flourish and the conditions for doing so.

In the checklist-driven world of financial planning, this is when we typically talk about “goals.” After basic sustenance is certain, the script is somewhat predictable: A nice home in a nice community. Support your children well, set them off in the right direction, pay for their college if possible. Retire comfortably and with dignity. These are the things that money buys. Generic but hardly trivial, these goals are important. They are markers of a modern life well lived.

Markers, yes, but not the core. Instead, the core could be said to be the pursuit and attainment of happiness.

Aristotle famously proclaimed that happiness is “the meaning and the purpose of life, the whole aim and end of human existence.” It is the ultimate human endeavor, one that has long occupied mankind’s imagination. Indeed, fast forward more than a couple millennia, there is now a massive field of inquiry known as “positive psychology,” or the science of happiness. What’s remarkable is that the ancient formulation of human happiness squares just about perfectly with what is proffered by modern psychology and neuroscience.

About 2,339 years separate the publication of Aristotle’s *Nicomachean Ethics* and a landmark 1998 address by Marty Seligman, the then incoming president of the American Psychological Association and widely considered the father of positive psychology. His talk was a clarion call to his profession to, once and for all, understand happiness with scientific rigor, jumping off from his view that “We have scant knowledge of what makes life worth living.” It’s a bold claim given the vast insights on the topic from philosophy, literature, psychology, religion, and other disciplines. What, then, was the disconnect? Let’s go back in history in order to understand the arc of this fundamental existential inquiry.

Straight talk

First off, there’s no getting past the semantics of “happiness.” Joy, pleasure, ecstasy, fulfillment, contentment, satisfaction, cheerfulness, merriment, gaiety, delight, well-being, glee, exuberance, exhilaration. The thesaurus earns its keep on this topic. The Wiki page on “Happiness” has had 3,000 authors and 6,000 edits. Without a single exception, every philosopher and scientist I’ve read on the issue grapples with definitions.

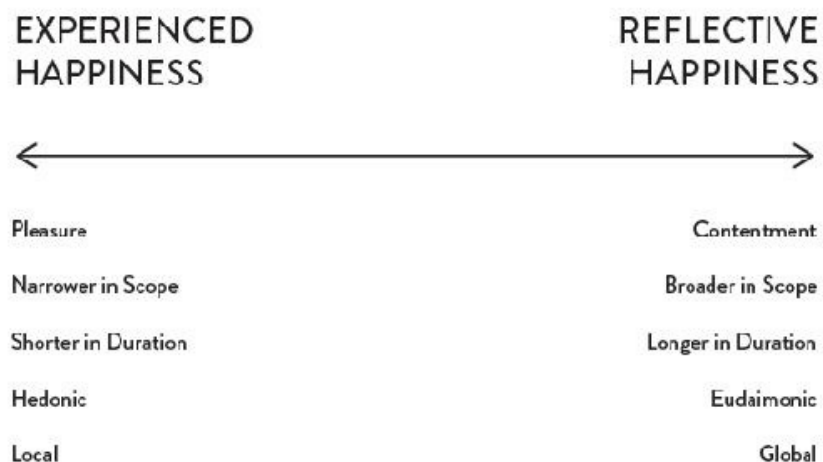
Attempting to precisely define and distinguish all these terms is an epistemic and emotional cul-de-sac. Aristotle and his contemporaries grappled with the meaning of *eudaimonia*. Technically, it translates to merely happiness or well-being, but its more robust interpretation is that of “human flourishing,” of the realization of the best version of one’s self.

In the 4th century BCE, Aristotle took issue with the hedonism of Epicurus and others, who defined happiness in terms of the attainment of pleasure and the avoidance of pain.⁵¹ He argued that a more valuable realization of happiness was tied to leading a virtuous life, writing “The function of man is to live a certain kind of life ... and if any action is well performed it is performed in accord with the appropriate excellence: If this is the case, then happiness turns out to be an activity of the soul in accordance with virtue.”⁵²

To Aristotle, the pursuit of happiness is an exercise in virtuous living. It was the climactic experience of pursuing good things: Justice, courage, temperance, honor, benevolence, and prudence among them. From this perspective, happiness is action more than feeling. In a sense, happiness is a skill.

Those who elevated *eudaimonia* rejected hedonism’s focus on moments of pleasure and/or minimized pain. They regarded happiness as something weightier, encompassing reflection over whether one has lived up to their potential over the course of their lives. The “good life” is not the tweak of ephemeral pleasure, but engagement with more meaningful, virtuous pursuits. Momentary pleasures are distinct from the enduring gravity of meaningful experience.

This spectrum captures the range of characteristics and emotions we associate with happiness:



At one end is *experienced* happiness. This is the hedonistic take. It's mood or affect: Are you cheerful or are you blue? You just ate an ice cream cone on a hot day or sat riveted to that blockbuster movie. You checked your bucket list with a zip line ride in Costa Rica or a hike through Yellowstone. You just had a fight with your spouse or lost the pick-up basketball game. These either delightful or sad moments stem primarily from our System 1 "fast" brains. Experienced happiness or sadness is effortless.

At the other pole is *reflective* happiness, Aristotle's *eudaimonia*. It's a deeper sense of fulfillment. As I will detail in the next chapter, this could be building deep relationships with others, honing excellence in a favorite craft, demanding liberty to make one's own choices, or finding purpose in a greater good. Getting at the contentment these experiences can generate requires System 2 thinking insofar as they involve deliberate introspection.

Reflective happiness sounds weightier than experienced happiness. Frankly, it sounds more *important*. However, the pursuit of experienced happiness consumes us most of the time. Per neuroscientist Tali Sharot: "Our happiness is not affected to a large extent by reflecting on our lives, but by the flood of feelings that are constantly generated within us."⁵³

Distinguishing the poles of pleasure and contentment has a temporal dimension. Experienced happiness occurs in the here-and-now. Its impact is shorter in duration and the subject matter at hand (the ice cream cone or zip line) is usually narrow in scope. Feelings of deeper contentment can have a longer duration as they tend to be grounded in broader engagements.

The early debates among the Greeks took place in an era when modern conceptions of individual freedom, technology, and industry were literally unheard of. Even so, the legacy is strong. The modern science of happiness tangles with hedonism versus eudaimonism, investigating how each operates in the brain, including the relationship between the two. Of course, the science is more complicated than a simple fork in the neural road, but as we'll see from much of the current scholarship in positive psychology, that distinction gets us a lot of the way home.

Modern times

Between then and now, not much happened for a very long time. The so-called Dark Ages that ensued after the decline of Greco-Roman civilization brought these debates to a standstill for around 1,000 years or so (in Western civilization, at least). And then a lot happened: The Reformation, Renaissance, and

Enlightenment did not just resume the conversation, but accelerated and broadened it.

The modern contemplation of happiness couldn't start in earnest until the rise of the modern individual. Starting slowly in the 16th century, and accelerating in the 18th, a radical reordering of societies took place in which the individual was—at least in principle—incrementally empowered with a voice to confront both State and God in legacy social orders. It was only in the Age of the Individual that the quest for happiness took on its modern guise. The forces that ushered in a different playbook for what counted as legitimate individual happiness included the reform of Catholic Church orthodoxy, the early shoots of capitalism and modern science, and the creeping enfranchisement of the formerly ignoble.

Critically, large-scale revolution in the late 18th century galvanized the political pursuit of individual liberty which, until then, had only been articulated in theory. For example, the utilitarianism of Jeremy Bentham advocated for the greater happiness principle, the idea that actions are moral when they promote happiness (“utility”) and societies are improved when more people enjoy more happiness. At the time, this was truly radical thinking. The global discourse on “freedom,” and then centuries later “human rights,” emerged from this era.

No country was more central to the expression of Enlightenment ideals than the United States. At the risk of hyperbole, it all started with one sentence:

“We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty, and the pursuit of Happiness.”

The second sentence of The Declaration of Independence was a watershed moment in human history. Perhaps it is so ingrained in American culture that it's difficult to fully appreciate its status as one of the most revolutionary sentences ever written. In lilting prose, it drove a dagger into the heart of the traditional political and social order. Its radicalism is cast in a proclamation that the individual (yes, it says “man” and yes, the fact that it was written by slaveholders remains controversial) has a natural right to set his own destiny and pursue *eudaimonia*.

In both political discourse and social structures, the sentiment raised expectations for all generations to come. The sunset of slavery, the rise of individual liberties and self-determination, the advent of human rights—these are all children of the Enlightenment project, of the Age of the Individual. There have been exceptions and backpedaling, but the grand arc of history over the past 250 years has edged toward a social context in which individual

contentment is both legitimate and desirable, not only as a private affair but as a matter of public policy.

The United States as a global cultural force in the 20th century was an important part of that arc. American dominance after World War II was not only economic and martial, but cultural. Materialist values and the creation of the modern consumer were key pillars of its culture. Consider this somewhat odd list of American inventions from the last century: The song Happy Birthday, the Happy Meal, the Happiest Place on Earth, *The Power of Positive Thinking*, the “self-help” industry, and the modern advertising industry (including the yellow smiley face, invented in 1963 by ad man Harvey Ball). These, among other factors, popularized a particular form of happiness, one with human-as-consumer at its center.

Indeed, a prominent research study from 1967 defined a happy person as: “Young, healthy, well-educated, well-paid, extroverted, optimistic, worry-free, religious, married person with high self-esteem, job morale, modest aspirations, of either sex and of a wide range of intelligence.”⁵⁴ In other words, you were in pretty good shape if you had a starring role on *The Dick Van Dyke Show* or *Bewitched*.

Fast forward to the end of the last century, this saccharine view sat in the crosshairs of Marty Seligman’s new science of happiness. Along with a cohort of other researchers and practitioners, he aimed to pivot psychology from reactive to proactive, to “show the world what actions lead to well-being, to positive individuals, to flourishing communities, and to a just society.”

In his 1998 address, Seligman recognized that trend, raising two thorny problems in trying to identify what goes into living well. The first was the backdrop of widespread depression in an era of unprecedented prosperity. He called this “the major paradox of the late 20th century,” especially as chronic sadness impacted so many young Americans. Happy Meals and Disney World weren’t the solutions.

Second, Seligman remarked that modern psychology had been primarily shaped by the aftermath of World War II, when many endeavored to put their lives back together. Psychopathology focused on how people endure and recover from tragedy, not “how normal people flourish under more benign conditions.”

The Age of the Individual is about 500 years old, but the science of individual fulfillment is young. It has already generated a massive and fascinating literature.⁵⁵ The fruits of that coordinated and well-resourced research—the

answers to the question of what really matters for a life well lived—are revealed in the next chapter.

50. Noted in usat.ly/2sQdAOL.

51. Richard M. Ryan and Edward L. Deci, “On Happiness and Human Potentials: A Review of Research on Hedonic and Eudaimonic Well-Being” (2001), *Annual Review of Psychology*, 52: 141-66; Luke Wayne Henderson and Tess Knight, “Integrating the hedonic and eudaimonic perspectives to more comprehensively understand wellbeing and pathways to wellbeing” (2012), *International Journal of Wellbeing* 2(3), 196-221.

52. Aristotle, *The Nicomachean Ethics*, 1098a13.

53. Tali Sharot, *The Optimism Bias: A Tour of the Irrationally Positive Brain* (Pantheon: 2011), p. 76.

54. Cited in Ed Diener et al., “Subjective Well-Being: Three Decades of Progress,” *Psychological Bulletin* 1999, 125(2): 276-302.

55. In addition to the books on happiness already cited, see: Tal Ben-Shahar, *Choose the Life You Want: 101 Ways to Create Your Own Road to Happiness* (Experiment, 2012); Tal Ben-Shahar, *Happier: Learn the Secrets to Daily Joy and Lasting Fulfillment* (McGraw-Hill, 2007); Robert A. Emmons, *Thanks!: How the New Science of Gratitude Can Make You Happier* (Houghton Mifflin, 2007); Daniel T. Gilbert, *Stumbling on Happiness* (Knopf, 2006), Rick Hanson, *Hardwiring Happiness: The New Brain Science of Contentment, Calm, and Confidence* (Harmony, 2013); Stefan Klein, *The Science of Happiness: How Our Brains Make Us Happy—and What We Can Do to Get Happier* (Marlowe, 2006); Richard Layard, *Happiness* (Penguin, 2005); Raj Rahunathan, *If You’re So Smart, Why Aren’t You Happy* (Portfolio, 2016); Martin E.P. Seligman, *Flourish: A Visionary New Understanding of Happiness and Well-being* (Free Press, 2011); Emma Seppala, *The Happiness Track: How to Apply the Science of Happiness to Accelerate Your Success* (Harper Collins, 2016).

4. What Matters

“The mystery of human existence lies not in just staying alive, but in finding something to live for.”

– Fyodor Dostoyevsky

The Four C’s

In 2015, two of the world’s spiritual leaders met in Dharamshala, India to sit down, talk, and celebrate their birthdays together. Over the course of a few days, the Dalai Lama and Archbishop Desmond Tutu, already dear friends, engaged in a wonderful conversation about life—about splendor and suffering.

As described in *The Book of Joy*, the two men covered the waterfront, from the meaning of it all to whether the soup was hot enough. (These guys are funnier than I would have expected.) On serious matters, the distinction between joy and happiness anchored the conversation. Like I mentioned earlier, no engagement in this topic, even by its high priests, can avoid semantics.

According to the Archbishop, “Joy is much bigger than happiness. While happiness is often seen as being dependent on external circumstances, joy is not.” The Dalai Lama agreed: “Joy is something different from happiness. When I use the word happiness, in a sense I mean satisfaction.”

Channeling Aristotle’s original distinction, they introduced another critical dynamic. While happiness (what I refer to as *experienced happiness*) comes and goes with daily pleasures, the achievement of joy (*reflective happiness*) takes work.⁵⁶ From their respective Catholic and Buddhist traditions, both expressed that there is no joy without struggle, perhaps without suffering. Joy, it seems, has a price of admission.

So what does the modern science of happiness tell us about what’s worth paying for? If wealth is defined as funded contentment, then we need to know what we’re supposed to be funding.

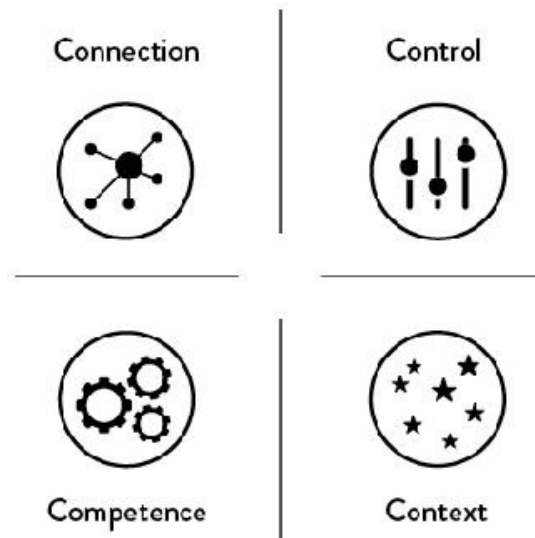
Wrapping my brain around what goes into the good life isn’t an exercise that started only with the writing of this book. Like everyone else, “What does it mean to be happy?” and “What is a life worth living?” are questions I’ve thought about many times, and in different ways, starting when I was a kid. I’m betting

the same applies to you. For the purposes here, I've also put in hundreds of hours reading across the many disciplines that speak to this big topic. Based on that, I've come to believe that there are four enduring sources of a joyful life.

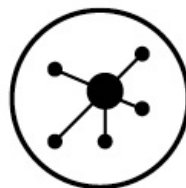
I call these Connection, Control, Competence, and Context.

- Connection is the need to belong.
- Control is the need to direct one's own destiny.
- Competence is the need to be good at something worthwhile.
- Context is the need for a purpose outside of one's self.

At the nexus of money and meaning the "Four C's" are what is being underwritten. They sit at the heart of funded contentment. Let's look at each of these in turn.



Connection



Connection

Every now and then I have the pleasure of walking my kids to school. Over those five blocks, I find joy in holding my daughter's hand, listening to her stories, and fielding my son's endless questions about everything, usually sports. Maybe someday I'll tire of the chatter, but I doubt it. I also feel happy, though

less intensely, when we come around the corner of the school and enter the sea of kids, parents, and teachers convening on the playground, all waiting for the opening bell to ring.

As I wade into the crowd of hundreds, I enjoy seeing neighbors and friends, knowing that these are nice people with whom I share many values and aspirations. Our leafy northside Chicago neighborhood is a special place to my family and me. My wife and I are active in this community, giving time and raising money for the school and other social missions with a local impact. I guess what I feel when I turn that corner, and see my kids sprint toward their friends, and stand there in the controlled chaos of a grade school playground, is that I belong. I am home.

Humans are social animals and we harbor an unwavering need to belong. In order to feel alive—and going back millennia, in order to *remain* alive—we must belong to a community. Community provides safety, identity, and meaning. Tribalism is an essential fact of human life.⁵⁷ It transcends time and culture.

In *Social: Why Our Brains Are Wired to Connect*, neuroscientist Matthew Lieberman writes that our brains have evolved not just to think, not just to solve problems, but to connect with others: “We are wired to be social.” It’s a captivating thesis as modern science now allows us to literally see via digital imaging technologies the power of connection. According to Lieberman, the need to connect is as fundamental as our need for food and shelter:

“Our sociality is woven into a series of bets that evolution has laid down again and again throughout mammalian history. These bets come in the form of adaptations that are selected because they promote survival and reproduction. These adaptations intensify the bonds we feel with those around us and increase our capacity to predict what is going on in the minds of others so that we can better coordinate and cooperate with them. ... This is what our brains were wired for: reaching out to and interacting with others.”⁵⁸

This is big news: Who we are as human beings is not what most of us suspect it to be. It does not begin, as is conventionally thought, with the fully-formed individual who then finds his or her way in the world. Instead, connection to others creates who we are as individuals—an epic reversal of the received wisdom. Even the ability to reason evolved to solve social problems. “Reason is an adaptation to the hyper-social niche humans have evolved for themselves.”⁵⁹ When we recognize that what appear to be deeply individual functions are

actually driven by social connections, it should come as no surprise how much tribalism defines each of us.

The evidence of the importance of social bonds for a meaningful life is overwhelming.⁶⁰ Noted psychologist Timothy Wilson suggests that “Happiness research will tell you that the number one predictor of how happy people are is the quality of their social relationships.”⁶¹ Moral philosopher Jonathan Haidt remarks that positive psychology can be summarized in three words: “Other people matter.”⁶² Prominent happiness researcher Edward Diener has empirically shown that social relationships—strong and frequent ties to friends, family, and community—are highly correlated with happiness.⁶³

Research into the opposite of connection—isolation and loneliness—reinforces the point. More than a century ago, the writer Emily Dickinson, a legendary recluse who didn’t leave her house (or even her bedroom) for years, described loneliness as “the Horror not to be surveyed.” Despite her admonition, modern science has delved deeply into the nature of chronic loneliness and documented how it causes suffering, both emotionally and physically. There is a verified neurological link between loneliness and depression.⁶⁴ Loneliness is associated with increased stress and blood pressure and a diminished immune system.⁶⁵ It accelerates cognitive decline, especially in the elderly, and stunts development among adolescents.⁶⁶

The deep-seated need to belong *in general* does not tell us the *specific* scope or level of abstraction at which we build these bonds. We might enjoy kinship with our blood relations and close friendships with a select few. We are part of local communities, like my little Chicago neighborhood.

Geographically, many are strongly affiliated with their region and especially their country; faith, patriotism, and nationalism are among the strongest human identities. Our interests bring us together as well. Tying yourself to anything from environmental causes to a sports team (I am a proud member of Steeler Nation) to a group of hobbyists (boating, chess, online gaming, dog lovers) is one of life’s most powerful motivators. Numerous and overlapping memberships perhaps give us multiple forms of belonging, love, safety, identity, or purpose. (An important sociological trend is the weakening of these social ties.)⁶⁷

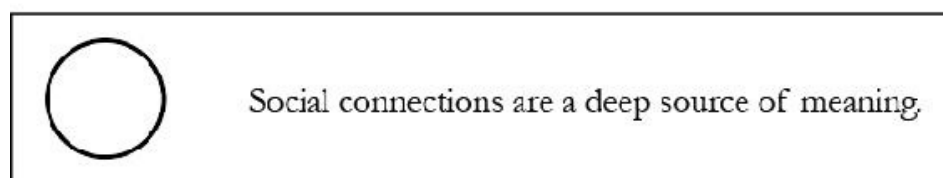
It is not only connection to others which drives us, but also opposition to others we perceive as different or threatening. A ridiculous sub-plot in one of the most ridiculous comedies of all time, Monty Python’s *Life of Brian*, pitted two groups—the People’s Front of Judea and the Judean Peoples’ Front—against each other. They shared the exact same goal (liberation of Judea from the Romans).

They basically had the same name. They looked exactly like each other. But they were deadly rivals. The rivalry was absurd, which was to prove a point. The mere fact of “otherness” and literally nothing else drove the schism. Blessed are the cheesemakers, I suppose.

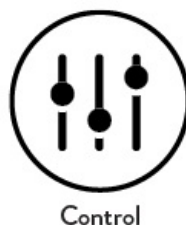
The fact of in- versus out-group conflict, always more serious than Monty Python, has been a topic of circumspection through history. Harvard neuroscientist and philosopher Joshua Greene, in *Moral Tribes*, demonstrates that oppositional identity is very powerful.⁶⁸ Intergroup competition is a strong cause of individual identity. According to Yuval Harari in *Sapiens*, “Homo sapiens evolved to think of people as divided into us and them. ‘Us’ was the group immediately around you, whoever you were, and ‘them’ was everyone else. In fact, no social animal is ever guided by the interests of the entire species to which it belongs.”⁶⁹

For us more advanced animals, the list of us-versus-them is innumerable. Christians vs. Muslims vs. Jews. Protestants vs. Catholics. Sunni vs. Shiite. Americans vs. Russians. India vs. Pakistan. Democrats vs. Republicans. Labor vs. capital. Crips versus Bloods. Real Madrid vs. Barcelona. Steelers vs. Bengals. You can come up with ten more in the next minute without trying hard.

Can’t we all just get along, as Rodney King implored us after the horrible outbreak of interracial violence in 1992 Los Angeles? I doubt it. Tribalism is deeply wired and no group is tightly-knit without the “other.” There is a price of admission for the various forms of contentment. It is rare to tap that deeper vein of meaning without dripping some blood.



Control



Humans crave control. We want to determine our own destiny. We don’t want others to tell us what to do. Our preternatural instinct for self-determination and

self-definition is an indelible quality of the human condition.

The deepest-seated instinct for any biological organism is survival. We have physical needs—food, water, oxygen—that permit us to propagate. But we have innate psychological needs as well. One, just discussed, is the need for connection. Another is for autonomy. (Yes, those are in conflict—we'll address this at the end of the chapter.) We want to be free to be able to choose the life we want for ourselves and those important to us.

In a brilliant 1958 lecture on the nature of liberty, philosopher Isaiah Berlin described this imperative:

“I wish my life and decisions depend on myself, not on external forces of whatever kind. I wish to be the instrument of my own, not other men's, acts of wills. I will be a subject, not an object; to be moved by reasons ... which are my own, not by causes that affect me, as it were, from outside. I wish to be a somebody, not nobody; a doer – deciding, not being decided for, self-directed and not acted upon by external nature or by other men as if I were thing or an animal, or a slave incapable of playing a human role.”⁷⁰

Research supports the merit in Berlin's description. In one study, Edward Deci and others showed that people who set their own goals, versus those who are told what to do or care about, were more deeply engaged in their tasks, learned or produced better, and found more enjoyment.⁷¹ Those with autonomy put more of themselves into tasks, and such genuine effort produces not only better external outcomes but also internal satisfaction. Conversely, responding to coercion or obligation is uninspiring, even discouraging.

It's also true that we still value control, even when it's illusory. Years ago, psychologist Ellen Langer uncovered the tendency for people to overestimate their ability to control events. Langer and others demonstrated how this illusion drives decisions that would otherwise seem odd. In a lottery, for example, subjects were given either a random ticket or were allowed to choose their own. The odds in the lottery were established ahead of time and the odds across all tickets—random or chosen—were mathematically identical. However, those who had chosen their own ticket expressed more confidence in winning. They were also unwilling to swap their tickets for ones in different games with a higher chance of winning. We believe we have control over situations even when we can be shown we do not.

There appears to be a strong relationship between one's sense of freedom and feelings of happiness. In an analysis of national surveys spanning four decades, University of Michigan political scientist Ronald Inglehart observes that

“economic development, democratization, and increasing social tolerance have increased the extent to which people perceive that they have free choice, which in turn has led to higher levels of happiness around the world.”⁷²

While making intuitive sense, these findings have limits. First, while more freedom and choice sound good, they have diminishing returns. There are tipping points in life’s many domains—investing, consumption, education, health, leisure, etc.—where too much choice can undermine happiness. The “paradox of choice,” coined by psychologist Barry Schwartz, states that we crave more choices but the more we have, the more miserable we become.⁷³ This insight squares with Marty Seligman’s observation that a wave of depression has struck the Western world, despite a sharp rise in prosperity.

Second, we should not mistake autonomy for the need for unfettered liberty. Of course, some want to do what they want whenever they want and see their ability to do so as a natural right. But playing a cartoonish hero in an Ayn Rand novel is not the key to finding meaning. In fact, it’s sometimes the minor or fleeting liberties that throw into stark relief why life is worth living.

One of humanity’s great paradoxes is that the robbery of liberty can highlight the value and resiliency of the human spirit. The deprivation of physical freedom and basic rights prompts some of the most life-affirming stories we know, in both life and art. Here are a few examples that are meaningful to me:

Victor Frankl, Nazi concentration camp survivor, *Man’s Search for Meaning*: “We who lived in concentration camps can remember the men who walked through the huts comforting others, giving away their last piece of bread. They may have been few in number, but they offer sufficient proof that everything can be taken from a man but one thing: the last of the human freedoms – to choose one’s attitude in any given circumstances, to choose one’s own way.”

Alexander Solzhenitsyn, Soviet gulag survivor, *The Gulag Archipelago*: “It was only when I lay there rotting on prison straw that I sensed within myself the first stirrings of good. Gradually it was disclosed to me that the line separating good and evil passes not through states, nor between classes, nor between political parties either—but right through every human heart—and through all human hearts ... And that is why I turn back to the years of my imprisonment and say, sometimes to the astonishment of those about me, ‘Bless you, prison, for having been in my life!’ ”

James Stockdale, North Vietnamese prisoner-of-war survivor, *Courage Under Fire*: Channeling Epictetus and the ancient Stoics during four years of imprisonment and torture, he wrote that: “Each individual brings about his own good and his own evil, his good fortune, his ill fortune, his happiness, and his wretchedness ... Suffering was *all down here*—remorse at destroying yourself.”

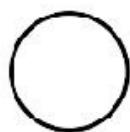
Andy DuFresne, *The Shawshank Redemption* (fiction): “I guess it comes down to a simple choice, really. Get busy living or get busy dying.”

The ability to define one’s own predicament, control one’s attitude, and respond to adversity can be an incredible source of inner strength.⁷⁴

We want to be in control of our life’s narrative. Meaning is ultimately found in the stories we tell about ourselves. We are literally authors of our own mission, with opportunity to edit those stories as we see fit. People with a good story about who they are and where they’re going are more content than those without one.⁷⁵ Stories give us a sense of purpose, especially when the narrative arc bends toward progress. We find meaning and motivation when we believe we are moving toward a goal. We can embrace what cutting-edge neuroscience now calls “the future self,” an idea we’ll return to in the final chapter.

In the cycle of planning and adapting, demonstrating willpower (control before the fact) and resilience (control after the fact) is critical.⁷⁶ In a large-scale and long-term study led by Mark Seery, it was found that “people with a history of some lifetime adversity reported better mental health and well-being outcomes than not only people with a high history of adversity but also than people with no history of adversity.”⁷⁷

Elsewhere, psychologist Angela Duckworth observed that a large percentage of new cadets at the United States Military Academy at West Point dropped out within a few months after matriculating, despite being among the most qualified and heralded young men and women in America. Duckworth argued that a combination of passion and perseverance, what she calls “grit,” distinguished those who made it versus those who didn’t. Those with the right attitude survived. While “What doesn’t kill us makes us stronger” is one of the more tired phrases in our culture, it ends up being true.



‘The ability to direct and define your life is a deep source of meaning.’

Competence



Competence

For two decades, Shannon Mulcahy was employed by Rexnord, a multinational corporation which makes specialized parts for vehicles and other motorized equipment. The *New York Times* ran a front-page feature on Shannon with a story that is unfortunately too common in modern global capitalism.⁷⁸

From the age of 25, Shannon was a steelworker at Rexnord's Indianapolis plant. Despite not having graduated from high school, Shannon was able to rise in the plant, becoming an expert in manufacturing custom bearings, a craft both technical and dangerous.

In 2016, Rexnord announced that it was moving its Indiana operations to two different plants, one in Texas, the other in Mexico. In losing her job, Shannon suffered twice over. First, she lost her income. She had all the obvious bills to pay—mortgage, electricity, gasoline, food—plus her daughter's college tuition for Purdue University and the care of a chronically ill grandchild.

The second loss was that of identity and pride. Being a steelworker was an anchor in a tumultuous life marked by divorce, abuse, and, at times, borderline poverty. Shannon described her job as giving her “a sense of self-worth.” It was her “liberator.” Even as the plant's operations wound down, she accepted the demoralizing task of training her replacements, saying that “I still care. I don't know why. It becomes an identity. Part of you.”

A flash of the obvious: We work to make money. We work to pay the bills. Shannon's loss of income was devastating. As we'll see later in the book, there are thresholds at which income from employment will support a “better” or “happier” life.

But work means something more than a pay check. What we “do” in life is a deep source of meaning. It defines us. (What's the first question you usually get asked when meeting a stranger?) Being good at something you care about is one of life's most profound sources of fulfillment. When we can exercise our craft, excel at it, and see that it has a positive impact on the world around us, it feels good.

When our labor is disregarded, disrespected, and undermined by misfortune or malice, we are left with a gnawing hole in our soul. The need to express and

contribute via our work is a non-negotiable source of meaning in life.

In the early 1970s, as deindustrialization swept the United States, columnist and critic Studs Terkel wrote *Working*, in which he interviewed American workers about their jobs.⁷⁹ Though nearly half a century ago, his impressions ring true with the experience of Shannon Mulcahy and others today. As Terkel observed, work “is about a search for daily meaning as well as daily bread, for recognition as well as cash, for astonishment rather than torpor; in short, for a sort of life rather than a Monday through Friday sort of dying.”

Why then are many people miserable in their jobs? This occurs when they don’t find the work engaging, stimulating, or edifying. The cult classic film *Office Space* is a brilliant send up of the modern corporation, where workers at a bland technology company spend a good portion of their day filling out “TPS reports” and shuffling forms from one department to the next. The movie is funny because it rings true of almost all jobs, at least in part. In fact, studies have shown that only a tiny percentage of a workforce is highly engaged in their work. McKinsey reported that the figure is as little as 2% to 3% in some countries.⁸⁰

What makes workers tick? We need to pay the bills. We need to earn a living. In that context, one might expect that with more pay or a desired promotion, we respond with harder work, better work, more collaboration, fewer difficulties. Likewise, we’ll stop counterproductive behavior or raise our game when demotion or a pay cut looms.

That intuition is largely incorrect, however. In a classic set of experiments, people who received a monetary reward to perform an interesting activity were later less intrinsically motivated than those who completed the same task without the reward. As organizations expert Daniel Pink points out in *Drive*, “one of the great misunderstandings in life is that we respond in predictable ways to reward and punishment.” A focus on external rewards and punishment can extinguish intrinsic motivation, diminish performance, crush creativity, crowd out good behavior, encourage cheating, become addictive, and foster short-term thinking.⁸¹

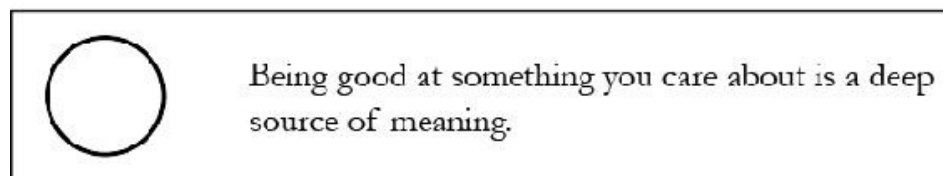
Research shows not only the limited impact of carrots and sticks, but the strongly positive impact of affirmative feedback on intrinsic motivation. “Threats of punishment, deadlines, evaluations, and surveillance all undermined intrinsic motivation, whereas providing people with choice, as well as acknowledging their feelings and perspectives, tended to enhance their intrinsic

motivation.”⁸² It is intrinsic motivation, including the mastery and enjoyment of one’s craft, that truly elevates both individuals and entire organizations.

Work doesn’t become meaningful without some sense of struggle, without genuine effort. The noted expert on motivation, Carol Dweck writes, “Effort is one of the things that gives meaning to life. Effort means you care about something, that something is important to you and you are willing to work for it. It would be an impoverished existence if you were not willing to value things and commit yourself to working toward them.”⁸³ Dweck compellingly argues that effort in itself should be valued. The grit, willpower, and resilience we saw in the realm of control matter here, too.

Competence is a good example of when happiness and meaning can diverge. For many of us, our most meaningful professional accomplishments required hard work and sacrifice. It’s not “fun,” or at least not the conventional definition of fun. Indeed, the most meaningful work experiences of my life all involved a fairly painful process of grinding toward success—finishing my dissertation in graduate school, traveling ceaselessly to find great investments, passing the exams for the Chartered Financial Analyst certification, writing my first book. These were miserably joyful (joyfully miserable?) experiences of which I have vivid memories and received great lessons.

It’s not just work that matters, but *hard work*.



Context



On April 3, 1968, Martin Luther King Jr. spoke to a large crowd in Memphis, Tennessee. In his soaring oratory, he exclaimed: “Something is happening in our world. The masses of people are rising up.” He spoke of progress, of solidarity,

of struggle. He spoke with determination about redress, but not revenge. He indulged both imagination and fear, closing with these words:

“I don’t know what will happen now. We’ve got some difficult days ahead. But it really doesn’t matter with me now, because I’ve been to the mountaintop. And I don’t mind. Like anybody, I would like to live a long life. Longevity has its place. But I’m not concerned about that now. I just want to do God’s will. And He’s allowed me to go up to the mountain. And I’ve looked over. And I’ve seen the Promised Land. I may not get there with you. But I want you to know tonight, that we, as a people, will get to the promised land!”

The next day, Dr. King, just 43 years old, was assassinated.

His fellow traveler, Andrew Young, said afterwards, “He always knew some speech would be his last.”⁸⁴ There was a sense of inevitability among Young and others, perhaps including King himself. By his words and deed, he was acutely aware of the danger before him. Eyes wide open, he stepped forward, clearly recognizing that something bigger than himself was at stake.

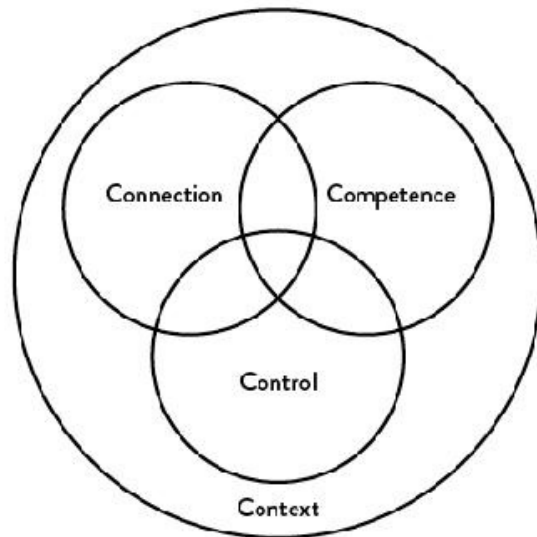
Sacrifice, even martyrdom, has been part of the human fabric for time immemorial. We give for something beyond ourselves, where there is higher purpose. We want—need, actually—our lives to be embedded in a broader context. According to Marty Seligman, human beings want “meaning and purpose in life.” To achieve that involves “belonging to and serving something that you believe is bigger than the self.”⁸⁵ The fork in the road to flourish instead of flounder is marked by purpose.

King’s purpose was found in his spiritual and civic determination. The attachment to something bigger arrives in many forms but religion and spirituality have been the most consequential. Humans have looked to the heavens, literally and figuratively, for the answers to life’s greatest mysteries. In Judaic Scholar Abraham Heschel’s elegant phrase, “Religion begins with a consciousness that something is asked of us.”⁸⁶ We live in search of wonder. Over the millennia, faith has been the north star in that search.

Yet there are other stars in the sky. Countless men and women have given life and limb for nation or tribe. How many of the stories we tell each other and read about focus on wartime triumph and sacrifice? In life and literature, the good guys fight for others. The bad guys fight for themselves. Heroes have context.

Intersections

Faith and patriotism as expressions of purpose open a door to discuss the all-encompassing nature of context. Context is, in a sense, a “catch-all” for *eudaimonia*. Take a look at this graphic. It’s how I’ve come to imagine the overlap and interplay among the 4 C’s.



Three of the circles intersect each other, while context surrounds them all. One could suggest that Context is a fourth circle that overlaps with the other three, but the available psychology seems to suggest that attachment to something bigger than oneself encompasses elements of the others.

How does each of us define what matters most? As we navigate life’s ups and downs we subconsciously engage these either individually or in combination. We push down the path of least resistance. Work sucks, but there is family. Divorce looms, but at least you have your friends. And so forth. A port is available in almost any storm.

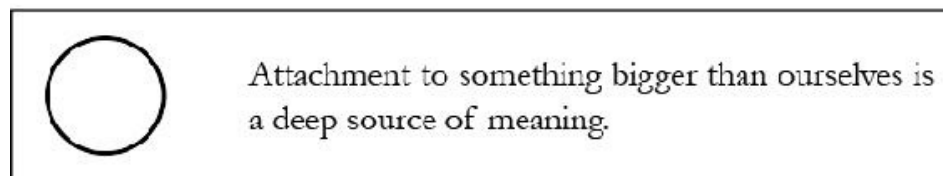
There are synergies in the intersections. With religion, there is potentially powerful interplay between connection and context, when religious belief combines with religious affiliation. Jonathan Haidt smartly observes that “Whatever the origins of religiosity, nearly all religions have culturally evolved complexes of practices, stories, and norms that work together to suppress the self and connect people to something beyond the self.”⁸⁷ Second, there is a similar combination of connection and context with nationalism, as nations and tribes are rooted in common myths. But, struggles of national independence or self-determination also draw in control. In a third example, athletics fuses

competence and connection. If you listen to almost any interview with a former professional athlete, they'll remark that what they miss the most from their days of playing ball was not so much the sport as the comradery.

The diagram highlights not just synergies but deep tensions as well. Most prominent is the conflict between self and group, between control and connection. Do you want to chart your own course or go along with the group? At the trivial level, nearly every movie about teen angst is about the tension between societal pressures versus "being yourself." Each of us was somebody in *The Breakfast Club*. At a serious level, this can be a major source of life stress and sadness.

This tension cannot be resolved. It's literally wired into our genetic code. Some, most notably Richard Dawkins in *The Selfish Gene*, contend that the *individual* organism is the primary unit of natural selection and evolution. Others provide compelling evidence that the *group* is the primary unit in nature.⁸⁸ I'm not an evolutionary biologist, so I couldn't possibly know who's right. But I do see a simpler path forward: To achieve more deeply experienced forms of contentment, our mission in life must be *self-directed but not self-regarding*. This razor's edge is sharp: To at once embrace and reject the ego. Brene Brown offers some direction when she writes: "True belonging requires us to believe in and belong to ourselves so fully that we can find sacredness both in being a part of something and in standing alone when necessary."⁸⁹

Where do you find your juice? In any specific bucket, or in the crossovers? How has that changed over the course of your life? Are these experiences a function of deliberate activity or has it just sort of happened? There are no right or wrong answers to these questions. The diagram is an opportunity for you to evaluate what matters to you, and to reflect on how that has evolved over time.



Conclusion

So that's that. Such is the content of a meaningful life. It anchors on a sense of belonging, a belief in an ability to control one's own destiny, being good at a vocation you value, and feeling some sense of connection to something outside yourself. A lifetime of study couldn't get to the bottom of all this, but hopefully

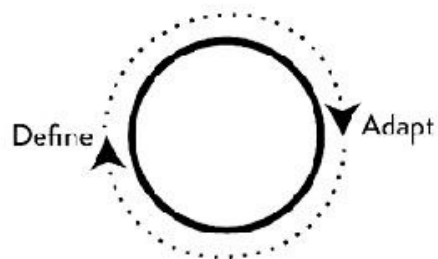
I've teed things up in a way that allows us to move forward in our quest to connect meaning and money.

The following table offers a brief summary. I bucket control and competence as part of our inner lives, the parts that are more closely tied to the individual. The pursuits of connection and context reside outside the individual, toward the social. There is tension between our inner and outer lives. We also don't want to lose sight of the fact that, as explained by the Dalai Lama and Archbishop Tutu, the path from everyday happiness to deeper joy is paved with struggle, and in some cases suffering.

Four Touchstones

Locus	Source	Description	Friction
Inner Lives	Control	Autonomy over the direction and definition of one's life	Competition, grit
	Competence	Mastery over a valued vocation or craft	Effort, sacrifice
Outer Lives	Connection	A sense of belonging in social relationships and communities	Group conflict
	Context	A sense of purpose, serving something beyond yourself	Competing priorities

The circle illustrates the process of writing and editing one's own story. It's a dynamic of adapting or becoming. This isn't all armchair contemplation; quite the contrary, it is hard work in which disappointment and sadness are unavoidable stones along the path. Happiness is not only a description. It's also a process, even a skill.



Now money enters the equation. If wealth is funded contentment, the last couple chapters addressed one-half of the formula. We need to figure out if we

can afford a meaningful life. It's a crass formulation, but one that's inescapable in our complex and, frankly, expensive, world. Purpose and prosperity aren't necessarily a match for each other.

What does it mean to "afford" connection or competence or control? We don't write checks made out to "Purpose."

Or do we?

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5. Yes, Not Really, It Depends

“I don’t care too much for money, money can’t buy me love.”

– Paul McCartney

“Whoever said money can’t buy happiness didn’t know where to shop.”

– Gertrude Stein

Prosperity rising

DOES MONEY BUY happiness? The answer to that question can be summarized as Yes, Not Really, It Depends:

- *Yes*: First and foremost, money alleviates poverty, which is demoralizing and deadly. It can alleviate pain. It can purchase short-term pleasure. And, it can underwrite long-term joy.
- *Not Really*: Happiness can be achieved independent of one’s station in life. The poor can be content, the rich, miserable. Day-to-day, affect occurs mostly independent of money. Its potency to purchase joy and alleviate pain has limits.
- *It Depends*: The science of happiness is sufficiently new and inconclusive, so anyone contemplating the issue must be comfortable with shades of grey and unknowns.

Answering a question, “It’s complicated,” feels like kind of a cop-out. But here it’s an honest assessment of the current research. Further, this mixed answer in no way interrupts the engine of adaptive simplicity.

Begin by appreciating the broader historical context in which we’re even asking the question. The improvement in material well-being in recent decades, let alone the past few centuries, has been extraordinary.⁹⁰ For much of human history, people endured difficult and filthy conditions, and then died young. In the mid-18th century, as the Industrial Revolution ramped up, the average European lived to around his mid-30s, although the numbers are skewed

downward because of the high incidence of infant mortality.⁹¹ The figures from pre-Revolutionary America are comparable.

Life has gotten much better.⁹² We enjoy more money, better health, and longer lives. Even many of those who don't live with great bounty have still found freedom from deprivation. Global poverty has been on a sharp decline for the last two centuries. It's not all good news as Nobel Laureate Angus Deaton has convincingly shown that a rise in living conditions for some has resulted in greater inequality, which creates its own set of health, political, and social challenges. Well-being has accrued to some, but not all. Even so, the readers of *The Geometry of Wealth* live in an age of unprecedented comfort.

Life is "better," but are we happier? Across and within societies, do richer individuals lead more fulfilling lives? Here philosophers must step aside for science. Aristotle and others have offered reasoned argument, but evidence matters. Thousands of studies have tackled the issue, but in aggregate, the literature remains "vast and inconclusive."⁹³ In a large swath of inter- and intra-national studies, some point to a strong relationship while others say there is none.⁹⁴

What gives?

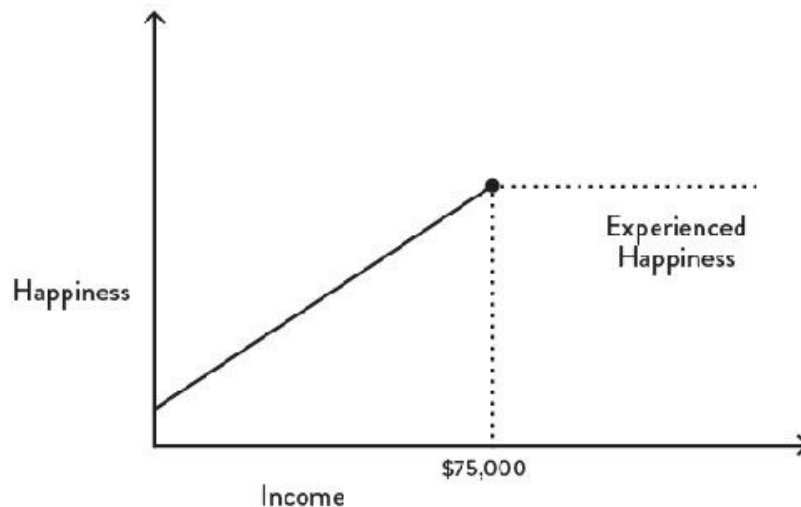
Fast and slow, happy and sad

In a kind of Justice League of happiness researchers, Daniel Kahneman and Angus Deaton teamed up to make sense of the issue.⁹⁵ Their answer, like with Aristotle and the Dalai Lama, hinges on semantics. Analyzing survey data of more than 450,000 Americans, the two concluded that higher incomes do buy happiness, but differently for its experienced versus reflective versions.⁹⁶

This seminal finding "underscores the importance of the distinction between the judgments individuals make when they think about their life and the feelings that they experience as they live it." In other words, the classic distinction between hedonic (experienced) and eudaimonic (reflective) happiness remains vital. This also suggests that System 1 and System 2 thinking are associated with different forms of contentment in life.

Kahneman and Deaton make a two-pronged argument. First, the impact of money on our day-to-day affect dissipates at an annual income of around \$75,000 per year, or something approximating what many would consider a middle-class income. The survey asked people about the frequency and intensity of emotions they felt in the past day—"the emotional quality of an individual's everyday experience"—including "joy, fascination, anxiety, sadness, anger and

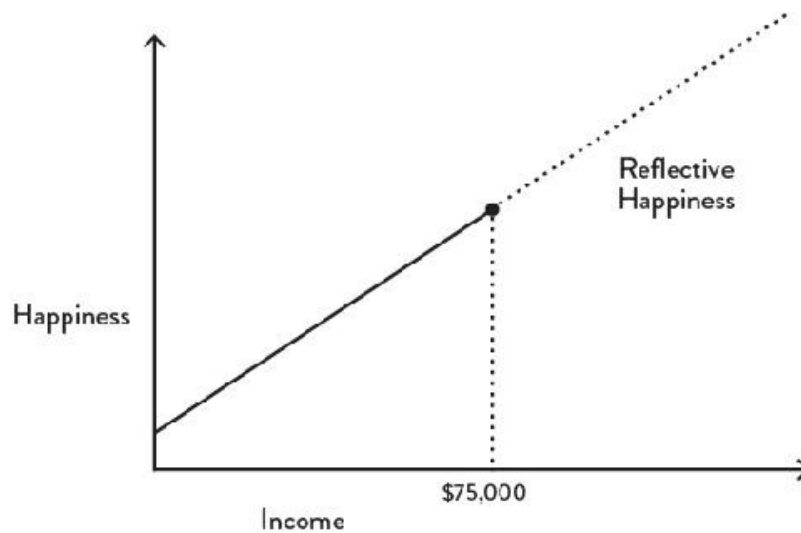
affection that make one's life pleasant or unpleasant.” Leading up that threshold, income had a positive impact.



It's not hard to surmise an explanation for this upward slope. At lower income levels, especially in poverty, it is difficult to satisfy basic needs. Until the needs for food, shelter, medicine, and other necessities are met, daily happiness is harder to come by.

Above that threshold, however, the impact of a higher income did not increase positive affect. Good and bad moods come and go at the same pace for someone making \$100,000 per year as someone making \$1 million per year—adjusting for disposition. A middle-class income meets many of life's basic comforts, beyond which there is no opportunity for additional experienced happiness.

Kahneman and Deaton's second finding raises more eyebrows than the first. They observed that reflective happiness does *not* cap out at a specific income level, as shown in the next graphic.



This finding is based on responses to Cantril's Self-Anchoring Scale.⁹⁷ In positive psychology, the scale is a well-known and highly regarded measure of broad life evaluation, of eudaimonic happiness. It reads:

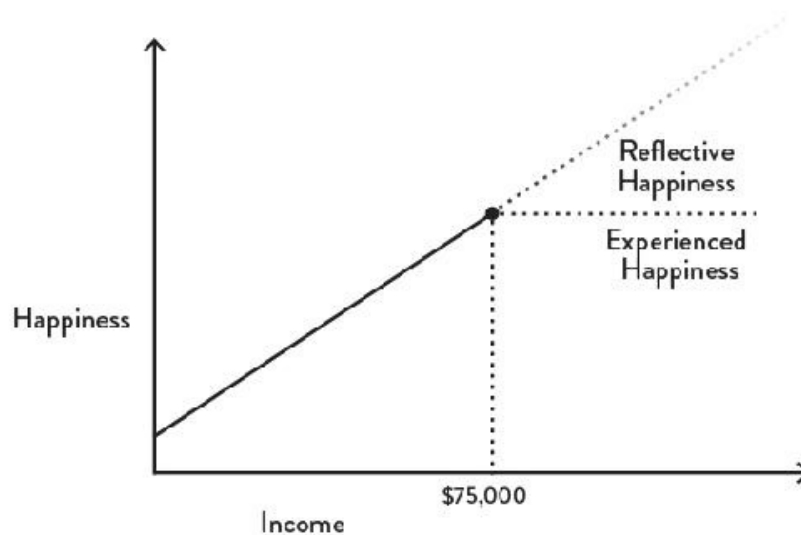
“Please imagine a ladder with steps numbered from 0 at the bottom to 10 at the top. The top of the ladder represents the best possible life for you, and the bottom of the ladder represents the worst possible life for you. On which step of the ladder would you say you personally feel you stand at this time?”

Kahneman and Deaton found no evidence of a satiation point at which reflective happiness diminished with income: Higher incomes contributed to stepping higher on the Cantril Ladder, even among those who were already well off. Other large-scale studies have corroborated a robust relationship between income and reflective happiness. As one study put it, “While the idea that there is some critical level of income beyond which income no longer impacts well-being is intuitively appealing, it is at odds with the data.”⁹⁸ In other words, money buys happiness.

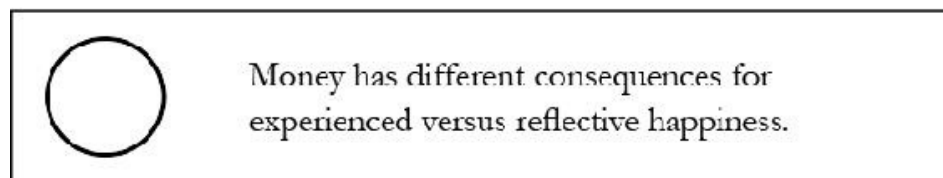
It is important to appreciate that these findings are based on change relative to where one had been, versus achievement of an absolute level. A \$1,000 raise for a recent college graduate will have a much greater impact than it does for a company's CEO. Thus, while *eudaimonia* and income appear to be positively correlated, it doesn't follow that someone who makes \$1 million per year is ten times “happier” than someone making \$100,000 per year. At higher and higher

levels, the impact of making more tapers off and other considerations play a bigger role.

I've combined Kahneman and Deaton's two findings to arrive at the following drawing, which begins to capture the uneasy "kind of does, kind of doesn't" instinct many of us feel about money and happiness.



One might get past this puzzle by prioritizing one form of happiness over the other. Aristotle threw his hat in the ring for *eudaimonia*, at odds with the hedonists. Fast forward a couple millennia and Kahneman seems to tilt toward the preeminence of experienced happiness, arguing that it's day-to-day affect that molds our minds most of the time. I don't believe that we can choose one or the other, in the same sense that we can't choose between System 1 and System 2 thinking, as they come as an inseparable package. In fact, Marty Seligman has argued that to truly "flourish," people need to achieve along metrics of both experienced and reflective happiness.



Understanding the fork in the road

Adaptive simplicity—the path toward wealth—requires an explanation for these findings. Why is our daily mood largely unrelated to money, past a threshold

income level, but our quest for *eudaimonia* appears to benefit from more and more money?

Three dynamics deepen our understanding of this finding:

1. We become quickly accustomed to most of the comforts in our life.
2. Money is more effective at diminishing sadness than increasing happiness.
3. If allocated wisely, money can underwrite the Four C's, which constitute reflective happiness.

Let's discuss each in turn.

Running in place

"Happiness is what you get right before you want more happiness."

Such was the uplifting sentiment of Don Draper, *Mad Men's* advertising genius. Just like his campaigns for Glo-Coat and Jaguar, Draper's instincts on human motivation were spot on. We want what we want until we want some more.

Draper anticipated one of the most widely shared findings among happiness researchers: A process called "hedonic adaptation" determines that we quickly become accustomed to most things in our lives. As a result, experienced happiness is often fleeting.

Hedonic adaptation undermines our ability to make better choices about future happiness, especially the experienced happiness that shapes our daily routines. It operates at both macro and micro levels. Prosperity has spiked in recent centuries, but as life gets better, expectations are raised, which in turn become a source of potential disappointment.⁹⁹ This has occurred at the most fundamental levels of health and well-being. For example, high rates of infant mortality were the norm in many countries until relatively recently. Advances in medicine and lifestyle have led to its very sharp decline, setting quite different expectations today compared to previous generations.

Innovation has also brought waves of technological conveniences, including electricity, automobiles, indoor plumbing, air travel, air conditioning, refrigeration, washing machines, and mobile phones. Richer humans become ensnared in a "luxury trap," in which formerly unimaginable inventions evolve from mind-blowing to luxuries to taken-for-granted to necessary. I can't imagine

living without a refrigerator or airplanes, but my great-grandparents certainly could. Over time, the amazing becomes normal.

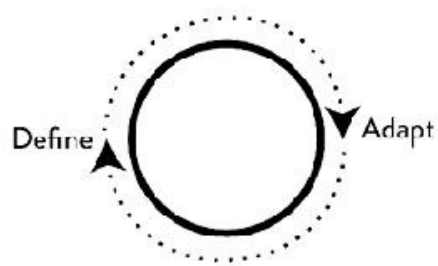
On a micro level, our daily lives are defined by an always-running hedonic treadmill on which the satisfaction associated with good or bad outcomes dissipates. In a landmark study of how paraplegics and lottery winners responded to their bad or good fortunes, a group of psychologists found that in both cases, people grew accustomed to their new situations quickly, and generally returned to their pre-event level of happiness or sadness.¹⁰⁰

We're always attempting to move on from where we just were. After a while, those who won or inherited large sums of money made their "dream purchases" and settled back into a normal daily routine, in which the bigger house and fancier cars didn't delight all that much. Meanwhile, fast riches can undermine life's more meaningful pursuits. Social connection deteriorates as many new "friends" arrive to partake in your spoils. No longer needing to work undermines the joy attained from being engaged in our jobs. We have more control but perhaps a broader purpose feels more elusive.

The same dynamic works in reverse with tragedy. Illness or hardship can be devastating. After some time, however, the acceptance of the "new normal" kicks in and daily affect from there forward is level set. Take the case of late famed astrophysicist Stephen Hawking, who became severely crippled at a young age due to a neurological disorder. He remarked later in life, after extraordinary professional success, that "My expectations were reduced to zero when I was twenty-one. Everything since then has been a bonus."¹⁰¹ We can also recall the tales of Victor Frankl, Alexander Solzhenitsyn, and James Stockdale, who transcended horrific circumstances.

The hedonic treadmill defines our daily pursuit of experienced happiness, but it does not negate the fulfillment generated by making progress toward goals. We have hopes and dreams, and we can feel a sense of pleasure or loss as they grow closer or recede into the distance. Joy can stem from a sense of moving forward from wherever we currently are. Someone in the front of the line moving backwards is likely less happy than someone toward the back who is moving forward. The gratifying feeling of progress is not just a preference but is hardwired into us. According to Jonathan Haidt, "Adaptation is, in part, just a property of neurons: Nerve cells respond vigorously to new stimuli, but gradually they 'habituate,' firing less to stimuli that they have become used to. It is *change* that contains vital information, not steady states."¹⁰²

Indeed, as our journey pushes from purpose to priorities to tactics, that first stage—the circle—is defined by this neural carousel. Haidt says that we “take adaptation to cognitive extremes. We don’t just habituate, we recalibrate.” With every met goal, we then push on to the next objective. With every setback, we retool and either try again or redefine the next target.



The treadmill may sound like a dizzying experience, but it’s also the motor of progress. The push for the constructive elements of “more”—higher, better, smarter, faster, bigger—sits at the core of our evolutionary success.

Hedging sadness

The opposite of happiness is not sadness. They are not poles of the same emotional spectrum. Commuting misery and increasing pleasure—negative and positive affect—are related but distinct neural reflexes. If given a choice to avoid pain or enjoy pleasure, instinct would push us toward stopping whatever is hurting us. Commuting misery is the priority.

The survival instinct that is carried out by System 1 thinking has fascinating implications for how a person’s money life is connected to the quest for wealth. In particular, there is emerging evidence that a higher income may have more of an impact on lessening sadness than increasing happiness.

In 2014, a group of researchers conducted the first large scale study of the relationship between money and sadness. How do higher incomes impact sadness, and does it differ from the income/happiness nexus? Psychologist Kostadin Kushlev and his team confirmed that higher income has limited impact on experienced happiness, similar to the findings of Kahneman and Deaton. That said, higher income was effective in diminishing sadness. The following table summarizes their findings.¹⁰³ Across 13 mundane activities, higher income was associated with lower sadness.

How Higher Income is Associated with Sadness and Happiness (by Activity)

	Less Sadness	More Happiness
Commuting & traveling	✓	×
Eating & drinking	✓	×
Watching TV	✓	✓
Preparing food	✓	×
Work	✓	×
Relaxing	✓	×
Taking care of children	✓	×
Housework	✓	✓
Shopping	✓	×
Socializing	✓	×
Exercising & recreation	✓	×
Religious activity	✓	×
Talking on the phone	✓	×

In activities like commuting, working, or exercising, for example, more income is strongly associated with less sadness. The converse is not generally true: In almost none of those same activities did higher incomes lead to more experienced happiness. “Poorer people feel sadder than wealthier people because income predicts greater sadness throughout the day regardless of what people are doing.”¹⁰⁴

Imagine waking up on a cold morning and finding your car battery has died, making it impossible to get to work. Or coming home to a leaky roof and waterlogged floors. With enough funds, these nuisances are solved quickly or never happen to begin with. Some of life’s more serious difficulties can be solved, in part, by writing a check. We can devote resources to help aging parents, support a wayward child, or deal with personal strife. Money gives us options for dealing with adversity. At lower incomes, being unable to address these means that not only do misfortunes persist, but we take on feelings of helplessness and victimhood.

Ultimately, having less income speaks to a deeper issue of the control we have over our lives.¹⁰⁵ One of the four touchstones of meaning is autonomy—a sense of independence and self-determination. That sense of control guarantees nothing; it can be squandered. But absent control, we are less able to fend off danger and seize opportunity.

Indeed, if the daily activities that define the lives of many—working, taking care of kids, going to school, keeping up the house, running errands, and so forth—aren’t a source of too much stress and too much sadness, then it means that we can better preserve our finite and limited mental energy to spend on both experienced and reflective happiness. Recall that it is tiring to shift out of fast thinking into the slow, effortful thinking necessary to be contemplative. If the tank is empty, then that shift is harder to make.

Spending wisely

Channeling Gertrude Stein, money can buy happiness if you shop in the right places, both physically and mentally. When money is spent to underwrite the sources of contentment detailed in the previous chapter, then—yes—money buys happiness. “Money is an opportunity for happiness, but it is an opportunity that people routinely squander because the things they think will make them happy often don’t.”¹⁰⁶ People don’t spend wisely.

When you reach into your wallet and hope that a purchase brings joy, there are three broad categories where you have a better chance at being able to “afford” the Four C’s. These are ways we can underwrite meaningful lives:

- Experience
- Others
- Time

Experience

Dinner with friends. Caring for a sick family member. Concert tickets. Shopping for used books. Family game night. Tutoring. A walk in the desert. Cooking. Settlers of Catan or Ticket to Ride. The Tate Modern in London and the Art Institute in Chicago. Whirleyball. Volunteering at a local food pantry. Yakitori in a Tokyo alley. Dim sum in Wan Chai. Watching my sister’s play. Bourbon(s) at The Fountainhead. Road trip with my wife. Hanging out with my kids. Camping with the whole family.

The Geometry of Wealth might be the thousandth book to suggest that experiences provide more happiness than stuff. So be it. The evidence supporting

the argument is overwhelming.¹⁰⁷ But why?

First, experiences—doing, instead of having—deepen social relationships. Many of the activities I listed above are, by definition, social or are enhanced when shared with others. One study that looked at a dozen different forms of daily consumption found that only one—leisure—was positively related to happiness.¹⁰⁸ It was not the activity *per se*, but the sharing of experiences that drove those positive emotions. Of course, a solo journey has its merit, but most experiences are cherished because we enjoy them with other people.

Second, experiences are more immune to hedonic adaptation.¹⁰⁹ They are harder to get used to, unlike material goods, which are fixed in their qualities. Experiences can be more multi-faceted, stoking different forms of enjoyment. That new luxury car drives you from point A to point B, albeit with comfort, control, and entertainment. But an indulgent vacation can include comfortable travel, sumptuous lodgings, delicious foods, adventure, and social engagement with friends and strangers. There's more to psychically sample from with an experience.

Thus, experiences help thwart adaptation.¹¹⁰ We can mentally revisit them in ways we can't with material possessions. Our memories can jump from one part of the experience to another, allowing for savoring of its various dimensions. In one scenario, we enjoy telling the story of that great day exploring a city; in another, we connect with new friends we met on the trip. These experiences are more open to positive reinterpretations. You probably won't like your new couch more than you do now, but you can certainly reimagine a trip you took.

Research has shown that smaller, frequent experiences better defy the hedonic treadmill. Take these two experiments. In one, subjects were each awarded a \$50 prize, but some won two \$25 lotteries, while others won just one for the full amount. In another, a group of subjects each received a three-minute massage session. One group received two 80-second massages with a 20-second break. The other group received a full three-minute massage. In both experiments, people reported achieving more pleasure from the first instance with the shorter recurring experiences rather than the longer single experience.¹¹¹ Therefore, frequent manicures, the occasional weekend getaway, and a fixed "date night" with your partner, add up to more than that one elaborate vacation you've been dreaming about for years. Choosing between occasional flowers or that special diamond for your loved one? Science tells us that over the long run, one's a much better choice than the other.¹¹²

Experiential goods are more amenable to personalization than material goods, because we can tailor them to whatever we choose to value—connection, control, competence, or context. In turn, they are more likely to become part of our identity. Most people view experiences as more self-defining. What we “do” is more closely tied to who we are than the things we have.¹¹³ Experiences become part of your story.¹¹⁴

Others

Walking around town one day, you are approached by a friendly stranger.¹¹⁵ She politely introduces herself and asks if you’d like to participate in a brief, harmless experiment. Sure, you say. She asks some basic questions about how you are feeling that day, then hands you an envelope and asks you to complete the task detailed inside. You rip open the envelope to find a \$5 bill and this message:

“Please spend this \$5 today before 5pm on a gift for yourself or any of your expenses (e.g., rent, bills, or debt).”

Not every envelope she handed out to strangers contained the same message. A second one read:

“Please spend this \$5 today before 5pm on a gift for someone else or a donation to charity.”

You agree to follow the instructions and then accept a phone call from the researcher later that evening. On the call, you are asked two questions: First, how happy are you right now? Second, how did you spend the money?

In the real-world results of this experiment, those who received the first envelope purchased things like coffee or trinkets for themselves or paid a parking meter. The second group gave gifts to children, the homeless, or others. The researchers discovered that those who spent money on others were measurably happier than those who spent it on themselves, even though there were not systematic differences in happiness levels at the beginning of the day. The researchers even varied the amount of cash in the envelope. Some received \$20, not \$5. Yet the larger amount had zero impact on either group’s affect, even those who were given \$20 to spend on themselves.

The average ratio of personal to pro-social spending is more than 10-to-1.¹¹⁶ That doesn’t mean we’re living lives of gluttony or indulgence. Most of that personal spending is for the mortgage, utilities, groceries, or other essentials. But when possible, giving has positive consequences for the giver.

The feelings are grounded in a neural link between pro-social spending and experienced happiness. The link exists even when someone is *forced* to give. In one study, subjects commanded to be generous still registered more positive affect.¹¹⁷ The links between generosity and happiness are universal, consistent across countries and income ranges. Rich and poor alike enjoy giving. Pro-social spending also has a significant impact on reflective happiness. Like with experiences, pro-social spending deepens our connections with others.¹¹⁸ It enhances our senses of control and context in that we have the liberty to script our story however we see fit and tie it to something beyond ourselves.

Time

We live in an age of being “busy.” Many feel overwhelmed by obligations and distractions, leaving scant time to enjoy life’s pleasures, whether it be family time or engaging in a favorite hobby. There are trade-offs between having more time and having other things of value, especially money. Most commonly, we can work harder to earn more, or we can step back in order to enjoy, but make less. Having both more time and more money is a luxury few can achieve.

Money can buy time by both eliminating distractions and purchasing short-cuts or conveniences, thus opening up more time to do enjoyable things. The non-stop flight, FastPass at Disney World, or ample and flexible vacation leave all “create” time. Experiences require blocks of hours, days, weeks or longer to fulfill. You can’t take a week-long trip in a day. Time is spent to cultivate relationships, travel, volunteer, and engage in hobbies and work we enjoy. Time affluence, distinct from time poverty, creates opportunity.

Time affluence also conserves the mental energy needed to achieve reflective happiness.¹¹⁹ The Four C’s—connection, control, competence, and context—are more achievable with more time to be rested and contemplative. Conversely, time poverty stings twice: It prevents the opportunity to alleviate sadness or pain, and shrinks the space to improve happiness. It’s hardly a revelation that workaholics are often miserable because they’ve forgone most of the touchstones in life that generate a deeper sense of purpose.

In a 2016 study, researchers engaged in five different experiments in which people were given the choice of more money or more time.¹²⁰ In every situation, more voted for money than time, but those who chose the latter reported higher levels of both experienced and reflective happiness, even when controlling for factors like age, income level, and occupation. Those who preferred time over money were more likely to be more self-reflective and engage in more joyful

activities. Eliminating distraction and creating the space for more achievement drives contentment.¹²¹



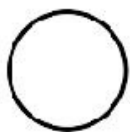
Happiness follows a serpentine path through our money lives. Having more money can buy daily happiness, but only so much and for only so long. The hedonic treadmill is unavoidable. Equally if not more profound, having more money can alleviate the pain and distraction of sadness. That's valuable in both the obvious sense, but also in that by sidestepping misfortune we preserve the mental energy to engage in more contemplative pursuits.

A neural tragedy of sorts occurs when our minds are too cluttered and distracted to be able to shift into the more effortful work of finding deeper contentment.¹²² That means having the wherewithal to underwrite meaning and become truly wealthy.

The following table offers some highlights on how we can fund contentment.

Funding Contentment

Locus	Touchstone	Money Connection
Inner Lives	Control	Can afford better nutrition and medical care. Buys independence, time, and flexibility. Keeps or gets you out of trouble. In some cases, let's you do whatever you want to do.
	Competence	Invest in skills and the potential for excellence.
Outer Lives	Connection	Buys the sociality of experience, networks, memberships and access. Buys time to build and reinforce older, and establish newer, relationships.
	Context	Buys time and the synergies with control, competence, and connection.



Money buys happiness if spent wisely.

Conclusion

Much remains unknown about the intersection of money and happiness. The existing research appears to make no distinction between income and total net worth. One is a measure of a monthly paycheck, but the other is accumulated assets to be spent any way one would like. Income and assets can be mutually reinforcing, or the dynamic between them can work in opposite directions: One can have a sizable income but remain broke due to profligate spending or irresponsible borrowing. Or, one can have a modest income, but sizable assets—this would explain the condition of some retirees. We don't know how these interact in the scientifically rigorous sense.

Second, the \$75,000 figure (which has gotten a great deal of press since the release of the Kahneman and Deaton study) seems to lack much context. Even with general adjustments for time and place, there is still softness in comparing 1960 with 2010, and Manhattan with Tuscaloosa. Finally, as income and wealth inequality grow, and both versions of happiness are influenced by relative comparisons, we do not know how such dynamics seep into the measurement and outcome of subjective well-being.

All that said, we know more than enough to continue along the path of adaptive simplicity. We now depart the circle stage, where adaptation ruled, and engage the triangle, whose prime activity is prioritization. In the quest for wealth, the span between purpose and practice is built through preparation, focusing on a limited number of elements that are in our control.

90. See the data in Max Roser and Esteban Ortiz-Ospina, “Global Extreme Poverty,” bit.ly/2FvAe3E; and Angus Deaton, “Income, Health, and Well Being around the World: Evidence from the Gallup World Poll” (2008), *Journal of Economic Perspectives* 22(2): 53–72.

91. For data and sources on life expectancy, see: en.wikipedia.org/wiki/Life_expectancy.

92. This point has been subject to intense debate. See Deaton, *The Great Escape: Health, Wealth, and the Origins of Inequality* (Princeton University Press, 2015); Steven Pinker, *Enlightenment Now: The Case for Reason, Science, Humanism, and Progress* (Viking, 2018); Matt Ridley, *The Rational Optimist: How Prosperity Evolves* (Harper Perennial, 2010); and Yuval Harari, *Sapiens: A Brief History of Humankind* (HarperCollins, 2015). On freedom from deprivation, see Amartya Sen, *Development as Freedom* (Knopf, 1999).

93. Daniel Kahneman and Angus Deaton, “High Income Improves Evaluation of Life but Not Emotional Well-Being” (2010), *PNAS* 107–38: 16489–93.

94. Much of the scholarship over several decades examined the relationship between standard macro-economic statistics, especially GDP, and self-reported measures of well-being. For a 2017 survey, see OECD, “How’s Life? Measuring Well-Being,” bit.ly/1Oo1mzM. Other important sources include Esteban Ortiz-Ospina and Max Roser (2018), “Happiness and Life Satisfaction,” bit.ly/2FgdV2x; Ed Diener and Robert Biswas-Diener, *Happiness: Unlocking the Mysteries of Psychological Wealth* (Wiley-Blackwell, 2008); and Ed Diener and Martin E.P. Seligman (2004), “Beyond Money: Toward an Economy of Well-Being,” *Psychological Science in the Public Interest* 5(1): 1–31. The classic essay in the literature is Richard Easterlin, “Does Economic Growth Improve the Human Lot? Some Empirical Evidence,” in Paul A. David and Melvin W. Reder, *Nations and Households in Economic Growth* (Academic Press, 1974).
95. Kahneman and Deaton, “High Income Improves Evaluation of Life but Not Emotional Well-Being.”
96. They employ three expressions of experienced happiness, or what they call “emotional well-being.” They measure positive affect (good mood), blue affect (sadness), and stress.
97. Hadley Cantril, *The Pattern of Human Concerns* (Rutgers University Press, 1966).
98. Betsey Stevenson & Justin Wolfers (2008), “Economic Growth and Subjective Well-Being: Reassessing the Easterlin Paradox,” *Brookings Papers on Economic Activity* 39(1).
99. Lyubomirsky, *How*, p. 37.
100. Philip Brickman, Dan Coates, and Ronnie Janoff-Bulman, “Lottery Winners and Accident Victims: Is Happiness Relative?” (1978), *Journal of Personality and Social Psychology* 36(8): 917-927.
101. Maria Vultaggio, “16 Inspirational Stephen Hawking Quotes About Life, the Universe, and More,” *Newsweek*, 14 March 2008, bit.ly/2q9GQM7.
102. Haidt, *The Happiness Hypothesis*, p. 86.
103. Kostadin Kushlev, Elizabeth W. Dunn, Richard E. Lucas (2015), “Higher Income Is Associated with Less Daily Sadness but not More Daily Happiness,” *Social Psychological and Personality Science* 6(5), p. 483.
104. Kushlev, Dunn, Lucas, “Higher Income.”
105. On how poorer individuals feel less control over their environment, see Wendy Johnson and Robert F. Kreuger, “How Money Buys Happiness: Genetic and Environmental Processes Linking Finances and Life Satisfaction” (2006),

Journal of Personality and Social Psychology 90(4): 680–91; and Michael W. Kraus, Paul K. Piff, and Dacher Keltner, “Social Class, Sense of Control, and Social Explanation” (2009), *Journal of Personality and Social Psychology* 97(6): 992–1004. On the relationship between perceived self-control and sadness, see Albert Bandura, “Self-Efficacy: Toward a Unifying Theory of Behavioral Change” (1972), *Psychological Review* 84(2): 191–215; and Ira Roseman, A. Antoniou, and P. Jose, “Appraisal Determinants of Emotions: Constructing a More Accurate and Comprehensive Theory” (1996), *Cognition & Emotion*, 10: 241–77. On the disconnect between more perceived control and more joy, see Roseman et al., 1996. Overall, money tends to have a stronger effect on sadness than on happiness.

106. Dunn, Gilbert, and Wilson, “If Money Doesn’t Make You Happy, Then You Probably Aren’t Spending It Right,” p. 115.

107. Elizabeth Dunn and Michael Norton, *Happy Money: The Science of Happier Spending* (Simon & Schuster, 2013), Chapter 1; Leaf Van Boven and Thomas Gilovich, “To Do or To Have? That Is the Question” (2003), *Journal of Personality and Social Psychology* 85(6): 1193–202; and Carl Richards, “More Money, More Success, More Stuff? Don’t Count on More Happiness,” *New York Times*, 2 July 2016. Also see Leonardo Nicolao, Julie R. Irwin, and Joseph K. Goodman, “Happiness for Scale: Do Experiential Purchases Make Consumers Happier than Material Purchases?” (2009), *Journal of Consumer Research* 36: 188–98. They argue that experiences are better at driving positive outcomes than material goods. But in a negative outcome, experiences can be worse than material goods. They suggest that consumers adapt more slowly to experiences, so the happiness or disappointment is prolonged.

108. Thomas DeLeire and Ariel Kalil investigated the happiness associated with spending in a dozen different domains. See their “Does consumption buy happiness? Evidence from the United States” (2010), *International Review of Economics* 57(2): 163–76.

109. Lyubomirsky, “Hedonic Adaptation to Positive and Negative Experiences.”

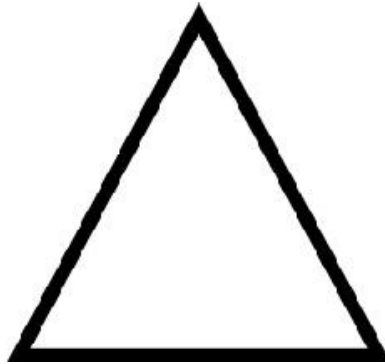
110. According to Lyubomirsky, “The key to achieving increased and lasting well-being thereby lies in effortful, intentional activities that slow down or preclude the positive adaptation process. Our hypothesis is that such activities share several properties that potentially help them to effectively forestall adaptation: they are dynamic, episodic, novel, and attention-enticing,” quoted from sonjalyubomirsky.com.

111. Richard Thaler and Eric Johnson, “Gambling with House Money and Trying to Break Even: The Effects of Prior Outcomes on Risky Choice” (1990), *Management Science* 36(6): 643–60; “Interrupted Consumption: Disrupting Adaptation to Hedonic Experiences” (2008), *Journal of Marketing Research* 45(6): 654–64.
112. Ed Diener et al., “Happiness Is the Frequency, Not the Intensity, of Positive Versus Negative Affect,” in F. Strack et al. (eds.), M. Argyle, & N., *Subjective Well-Being: An Interdisciplinary Perspective* (Pergamon, 1991), pp. 119–39; Dunn and Norton, *Happy Money*.
113. A majority of adults see experiential purchases as more self-defining than material goods. We tend to attach our identity to experiences more than stuff—it’s what we “do” versus what we “have.” See Van Boven and Gilovich, “To Do or To Have?”
114. Thus, some psychologists support the practice of spending extra on the material things that enhance your important experiences (e.g., a nicer surf board, mountain bike, fishing pole, or chess clock).
115. Dunn and Norton, *Happy Money*, Chapter 5.
116. Dunn and Norton, *Happy Money*.
117. Diener and Seligman, “Very Happy People.”
118. Elizabeth Dunn, Lara Ankin, and Michael Norton, “Spending Money on Others Promotes Happiness” (2008) *Science* 319(5870), pp. 1687–8.
119. Tim Kasser and Kennon M. Sheldon, “Time Affluence as a Path toward Personal Happiness and Ethical Business Practice: Empirical Evidence from Four Studies” (2009), *Journal of Business Ethics* 84(2): 243–55; Kennon M. & Tim Kasser, “Psychological Threat and Extrinsic Goal Pursuit” (2008), *Motivation and Emotion* 32: 37–45.
120. Hal Hershfield, Cassie Mogilner, and Uri Barnea, “People Who Choose Time Over Money Are Happier” (2016), *Social Psychological and Personality Science* 7(7): 697–706.
121. Time poverty can also lead to cognitive overload and feelings of pressure that may interrupt one’s ability to be present in the moment. See Kirk Warren Brown and Richard M. Ryan, “The Benefits of Being Present: Mindfulness and Its Role in Psychological Well-Being” (2003), *Journal of Personality and Social Psychology* 84(4): 822–848. It also inhibits the ability to find “flow,” a deeply engaged mental state in which someone is completely absorbed and loses a sense of space and time; it’s “being in the zone.” Achieving flow is recognized as a

source of deeper happiness. See Mihaly Csikszentmihalyi, *Flow: The Psychology of Optimal Experience* (Harper & Row, 1990).

122. Emily Badger, “How Poverty Taxes the Brain,” Citylab.com, 29 August 2013.

PRIORITIES



The part where we set priorities to help make better decisions

6. Setting Priorities

“It is remarkable how much long-term advantage people like us have gotten by trying to be consistently not stupid, instead of trying to be very intelligent.”

– Charlie Munger

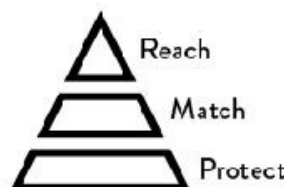
“Three, that’s the magic number.”

– De La Soul

FUNDING OUR DREAMS is less fun than imagining them. Even so, what ultimately drives us down the path toward wealth is preparation—making hard decisions amid the uncertainty that defines everyday life. Until now we’ve talked the talk. Now we must walk the walk.

The strategy for achieving wealth starts with mapping priorities, represented by triangles, the three points of which illustrate three steps. With the first triangle, we clarify the three priorities in our financial lives. I refer to these as Protect, Match, and Reach. These priorities reflect the heart of what is conventionally referred to as financial planning, which is putting our money lives in order. After that (and only after that), we need to make smart investment decisions, which we will consider using the second triangle in Chapter 7.

In the world of money, what’s most noticeable is often what’s least important. Our money lives are a mishmash of budgets and bills, stocks and bonds, saving and spending, mortgages and deeds, wills and estates, insurance and taxes. There’s plenty to distract us. And like a cat with a shiny ball, we usually home in on what’s right in front of us.



With a well-ordered set of priorities, we can prevent that from happening. To grow and stay wealthy, we should:

1. *Protect*. Think risk first.
2. *Match*. Keep resources in balance.
3. *Reach*. Aspire for more.

Let's look at each of these elements of the triangle in turn.

Protect

The big bet

Before his death in 1662, the French philosopher and mathematician Blaise Pascal contemplated the existence of God. That's hardly unique—it is a question that many of us ask along life's journey—but his manner of introspection still receives attention 350 years later, with large implications for our money lives. Eschewing a traditional theological approach, he used an early version of probability theory to size up the decision. At stake was nothing less than eternal salvation or damnation.

In what has famously become known as Pascal's Wager, he weighed the expected costs and benefits of believing in an ultimate deity. For Pascal, logic would not deliver a definitive answer: "God is, or He is not. But to which side shall we incline? Reason can decide nothing here" In the Judeo-Christian context, there would be no way to know until the end of life, at which point it would be too late to act accordingly.

What did Pascal do? He played the odds. He had two choices: to believe or not. And two states of the world: God exists or does not. Thus, there were four scenarios Pascal had to wrap his brain around. Consider this summary of Pascal's decision tree:

	God Exists	God Doesn't Exist
Belief	Infinite Gain	Small Loss
Disbelief	Infinite Loss	Small Gain

Pascal figured that if he chose to believe but God did not exist, the downside was limited. He'd make some material sacrifices in the here and now (fewer luxuries, more modesty, more charity) without the benefits of a bountiful afterlife. But choosing to believe in an existing God would lead to an afterlife of

infinite salvation, which is a really good outcome. In the other direction, an atheist in a Godless universe can lead a life of unfettered indulgence. An atheist in a Godly universe will likely endure a terrible afterlife, an eternity of damnation.

Pascal concluded that any reasonable person should believe in God—or at least conduct himself *as if*. The costs are low and the payoffs are infinite: “If you gain, you gain all; if you lose, you lose nothing. Wager, then, without hesitation that He is. ... There is here an infinity of an infinitely happy life to gain, a chance of gain against a finite number of chances of loss, and what you stake is finite.”¹²³ The downside to heresy, however, is infinitely large.

Loss aversion

As odd as it may sound, Pascal’s 17th century conundrum wonderfully illuminates the critical first step on the path to growing and staying wealthy. Like us, he has no idea what the future holds. When guessing about two possible states of the world, the best he can do is basically flip a coin. His insight came not from assigning the probabilities of a coin flip, but in estimating the consequences of heads or tails.

Like our own attempts at planning for the future, this was hardly an exercise in precision: The chance of a deity was 50-50 and the consequences were either “infinite” or “small.” But by simple back-of-the-envelope reasoning, Pascal’s decision was obvious: Pay a small cost to avoid a potential catastrophe. And if the small cost led to large gains, even better.

What drove Pascal, just like it does us, is what modern behaviorists call “loss aversion.” This is the simple but powerful idea that the pain of losses is greater than the pleasure of gains. We are wired this way: Our brains emphasize avoiding losses over achieving gains.¹²⁴

This condition is an important part of System 1 thinking. There’s an evolutionary logic here. Those among our distant ancestors who were superior at assessing risk were more likely to survive. In the wild, rule one is stay alive. After that, it’s all upside.

Psychologists have found that our sensitivity to losses is about twice as much as it is to gains, a roughly 2:1 ratio. That means a \$100 loss feels about twice as bad as a \$100 gain feels good. You could also say that it would take a \$200 win to neutralize the anguish of a \$100 loss. For most of us, when we go to the casino and make a few hundred bucks, it feels pretty good. But if we lose a few hundred, it feels downright awful. That’s loss aversion in action. So is driving

the reliable prescribed route versus taking the chancy short-cut. Or eating at the chain restaurant over the independent joint. Or being an employee instead of an entrepreneur. And so on.

Modern psychologists have replicated Pascal's logic. For example, people are unwilling to accept an even payout when it comes to flipping a coin. Most will reason, "Why bother?" We demand much better than even odds to make a 50-50 bet. Daniel Kahneman observed:

"In my classes, I say: 'I'm going to toss a coin, and if it's tails, you lose \$10. How much would you have to gain on winning in order for this gamble to be acceptable to you?' People want more than \$20 before it is acceptable. And now I've been doing the same thing with executives or very rich people, asking about tossing a coin and losing \$10,000 if it's tails. And they want \$20,000 before they'll take the gamble."¹²⁵

Many different experiments have led to the same conclusion: We value avoiding loss more than achieving gains. For example, when given a choice between certainly *winning* \$1,000 or a 50% chance of winning \$2,500, most people do not take the bet. Yes, the probabilistic outcome of the gamble we learned in Statistics 101 is higher (\$1,250, or 50% x \$2,500), but that's not the way most of us think about these things. Humans don't naturally think in terms of probabilities, an important issue we'll return to in Chapter 8.

But when we take the inverse of the exact same bet, people do the opposite: When given a choice between certainly *losing* \$1,000 or a 50% chance of losing either nothing or \$2,500, most take the bet, even though a \$1,250 loss exceeds a \$1,000 loss. In one case we avoid risk, in the other case we seek it out. The difference is the reference point: we are more motivated to avoid loss than make a gain. We approach risk asymmetrically. We like risk, especially in the quest to avoid loss.

Loss aversion has no "off" switch. It's always on, animating one of life's endless tensions. We want great things, but the disproportionate impact of losses holds us back. We are both aspirational and scared, greedy and fearful. We like risk, we just don't like losses. Broadly speaking, in life successfully managing the daily balance between *risk seeking* and *risk aversion* is the first key to wealth.

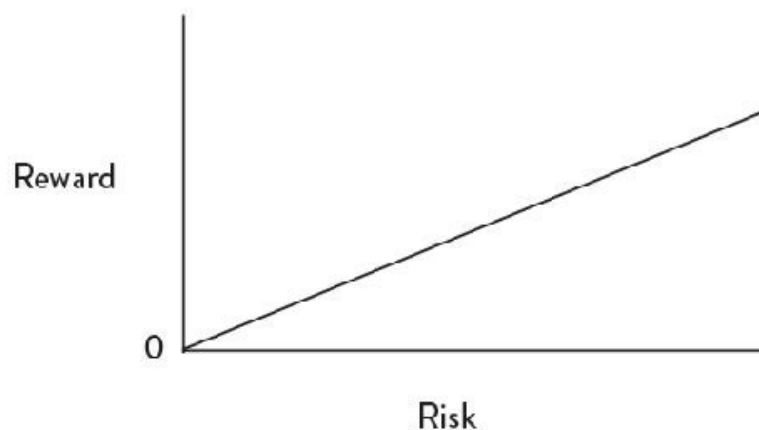
Risk and reward

A risk-first mindset defines the "protect" stage of our three part triangle. While the sun sets in the west and it's colder in winter, much of what we experience in

life is hard to predict. Amid uncertainty we need to make decisions we hope will produce good outcomes. That applies to big things like raising our children or choosing a career, and the mundane, like choosing a line at the grocery store or which movie to see.

One consistent source of confusion is what and how much risk to take to get where we want to go. Too much, and we end up over our skis. Too little, and we never get started. A critical question that almost always goes unasked is: How much risk does one need to take to win? We see plenty of people who appear rich, but it's rarely obvious how much risk they took to get there. Some were reckless while others were prudent, but we really don't know.

The answer begins with what sounds to be a simpler question: What's the relationship between risk and reward? This is one of the most foundational yet misunderstood concepts, not just with money but in life. The casual observer (and sometimes even the investment professional) will remark that *if you take more risk, you'll earn a higher reward*. Platitudes abound: "No pain, no gain," and "There's no such thing as a free lunch." It's assumed that there's a linear relationship between risk and reward, represented in this simple graphic:¹²⁶

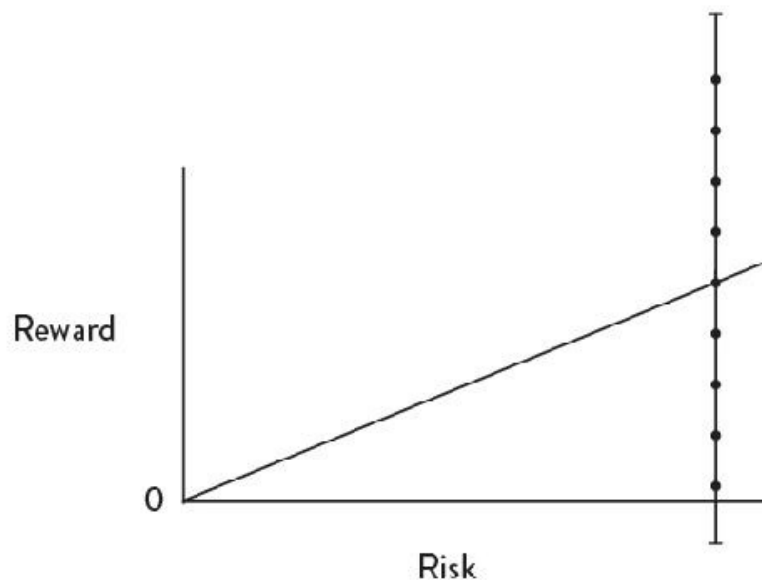


Though sensible, the sentiment is only half true. To achieve great things in life, to come out ahead, to make great investment returns, you need to put your capital at risk (human, financial, social, or otherwise). That could be paying for a pricey education, investing in the stock market, or asking the prettiest girl to the prom.

The half that's not true is where the problem lies. Taking more risk does not produce greater returns. Instead, taking more risk *increases the variability of future outcomes*. That's not great bumper sticker material. Nevertheless, if there

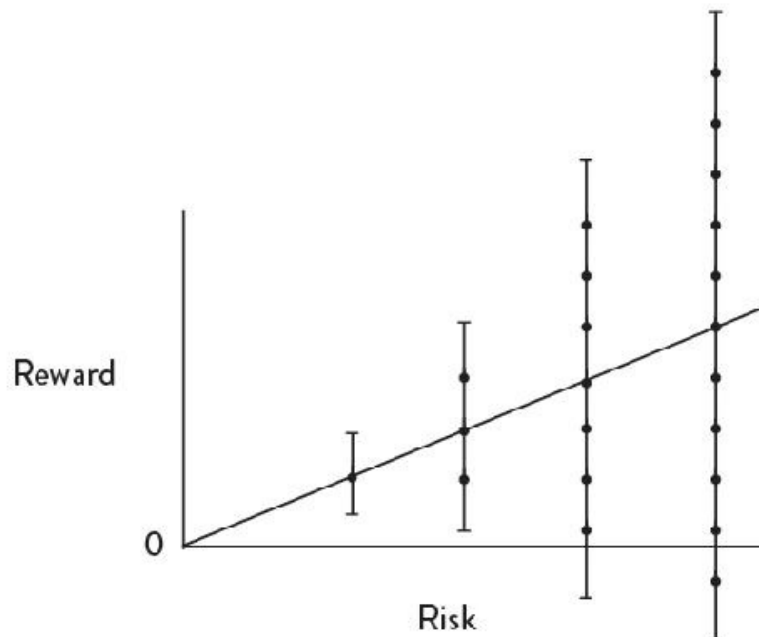
were a reliable relationship between more risk and bigger rewards, then technically you wouldn't be taking more risk. Everyone would bet long shots all the time.

There does remain a positive relationship between risk and reward, but as we take more risk, the range around possible outcomes grows. As the next graphic shows, just because we move out on the risk spectrum, we don't necessarily land further out on the line, but instead somewhere in a range around it. We might be massively compensated for risking our capital or we might lose it all. We can't know in advance.



Imagine you want to start your own business. Any entrepreneur knows this is a big risk of money, time, energy, and even reputation. To get started, one usually borrows from the bank or sells some equity in the company. Each step along the way to success is also an opportunity to fail. We can all think of examples from our own lives, from friends or family, or even from movies, of those who tried and failed, at least at first. Recall the movie *Joy*, starring Jennifer Lawrence, about the real-life housewife who invented the self-wringing mop and went bankrupt before she later succeeded. Most American movies end on a happy note, but entrepreneurship usually doesn't. Ninety-six percent of businesses fail within ten years of their founding.¹²⁷ This is why most people choose employment over ownership. The potential reward of starting your own business is huge, but so is the potential downside. The latter weighs more heavily on our psyches.

We can now envision a more realistic relationship between risk and reward: Each extra ounce of risk we take increases the variability of the outcome, creating a distribution of possible outcomes. This final image shows an expanding cone of possibilities, both good and bad. This image accurately depicts the relationship between risk and reward.



Less wrong

We constantly navigate a delicate balance between taking enough risk to get ahead, but not so much as to court danger. In that balancing act, we first seek to avoid mistakes, if possible, and to mitigate the consequences of those that inevitably occur. Not losing is the first step toward winning.

Being wrong is an unavoidable part of the human experience. Not that we aim to screw up. We are always striving to succeed, to do better, to be right. In the domain of money as much as any other, we want to be *more right* than others—to leverage our edge. Trying to be more right is daily bread for most of us: choosing the right pre-school for our toddlers, making accurate sales projections, choosing the fastest route home, picking the best stock, anticipating the next storm.

The challenge is that as we push to be more right, we leave ourselves open to loss. The more risk we take, the wider the range of outcomes, both good and bad. So, at least at the start, we don't want to be more right, we want to be *less wrong*. This is winning by not losing.

Legendary investor Howard Marks makes a critical distinction between “risk avoidance” and “risk control.”¹²⁸ By avoiding risk, we can’t progress. Instead, the aim should be to control risk—taking enough, but not too much.

Pascal tried to be less wrong. He didn’t know what the future held, so he made a ballpark guess and took his chances. Contrary to what appears to be the scientific rigor and mathematical precision of finance, most of what we care about is incalculable. Risk is usually hard to define and almost always impossible to measure precisely. We need not look much further than severe market crashes that a statistics Ph.D. would claim are once-in-a-lifetime events but that happen every decade or two. Black swans are more common than we think, and not just in the stock market.

The philosophy of less wrong—the heart of the “protect” stage of our triangle—courses through key elements of our money lives: Insurance, investing, and debt.

Insurance. This is the most obvious example of how most of us intuitively try to be less wrong. We don’t know if our house will catch on fire. We suspect it won’t. We don’t act carelessly around flames, we purchase smoke detectors, and have an extinguisher handy. But you never know. So we buy fire protection on our homes and don’t give it a second thought. Most of the insurance premiums we pay for our homes, cars, and lives will forever be “lost.” But we don’t see them as money squandered. For small sums, we buy peace of mind. Who doesn’t sleep a little bit better knowing that if such a catastrophe happened, they’d still be able to put their life back together? Pascal bought insurance on his soul and was, I’m sure, happy to pay the premiums.

Investing. In one of the most important investing articles ever written, “Winning the Loser’s Game,” money sage Charley Ellis argued that most investors should win by not losing.¹²⁹ He used the game of tennis to illustrate his point. For novice tennis players (which is nearly everyone) victory usually stems from avoiding errant shots and keeping the ball in play. We patiently capitalize on a competitor’s mistakes; we let the game come to us. Professional tennis players do something entirely different. They hit the ball with power and pinpoint accuracy. In tennis, like investing, professionals strive to be more right, while most others should focus on being less wrong.

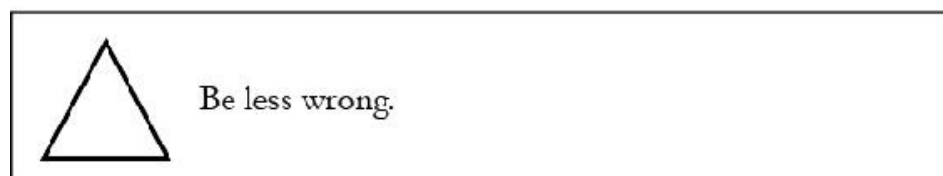
Great investors naturally think about being less wrong. Legends like Warren Buffett, Charlie Munger, Howard Marks, Paul Tudor Jones, George Soros, and Seth Klarman never flip coins. They patiently wait until the odds

are so stacked in their favor it would be foolish not to bet. They make plenty of mistakes along the way, but focus on minimizing the damage. Summarizing the point nicely, George Soros said: “My approach works not by making valid predictions but by allowing me to correct false ones.” Truly skilled investors value flexibility, adaptability, and the ability to withstand losses in order to fight the next day.

Debt. The less wrong mentality reveals a fresh view on why debt or excessive borrowing is a problem. Yes, rule number one in most personal finance checklists is: Don’t spend more than you make. We know that. Nonetheless, many do not heed that advice.¹³⁰ That’s a problem in the obvious sense that we’ll have to find some way to come up with the money to pay back our lenders. But indebtedness also has a ripple effect through our lives in that it limits our flexibility. Much of our need to calibrate happiness with our financial wherewithal requires us to adapt to changing or unforeseen circumstances. By curtailing our ability to adapt, debt makes that dynamic even harder than it already is. Debt not only puts us in the hole financially, it also limits our choices and inhibits our ability to be less wrong. Especially when debt compounds, it forces us to make decisions we wouldn’t have made otherwise.

In setting our main priorities for growing and staying wealthy, controlling risk comes first. This isn’t the sexy part of money. That comes later. This is the hard part because it involves a great deal of thought about how we should conduct our affairs, how we want to risk what we have in order to get ahead.

It’s hard because the rewards for doing this right are almost never visible. At the protect stage, the rewards are largely non-events, things that *don’t* happen. There are no awards or accolades for controlling risk, no shiny new car in the driveway for exercising prudence. Nonetheless, failure at this stage, failure to plan for life’s inevitable accidents and mistakes, ensures that we will not be wealthy, or at best consigns our fate to life’s randomness, where things arbitrarily work out or they don’t.



Match

Assets in Wonderland

Priority one was managing risk thoughtfully. Priority two moves us into the heart of financial planning: Articulating and striving toward our goals. We are individuals with our own stories and aspirations, but many of the basic financial goals most share—a comfortable and dignified retirement, a nice home, well-kept and educated children. Beyond those, anything goes—your own corner bar, a killer sneaker collection, living overseas, finishing an Ironman Triathlon. You name it.

Planning for one's future goals sounds straightforward enough, but there are a couple of rubs. First and foremost, relatively few of us do this. In a recent survey of around 7,000 well-off investors, only 37% of the respondents said that they had a formal financial plan.¹³¹ Nearly two-thirds of those surveyed were basically making it up as they went along. Many of these wealthy people work with a financial advisor, but relatively few advisors have their clients on a robust, adaptable plan. Sometimes when we sign up for “financial planning” or “financial advice,” what we're really getting is narrow *investment* advice: picking stocks or bonds or funds that are “good” investments.

But good for what? I want to state this strongly: If you're making investments outside a well-articulated plan—meaning that some or all investments are not explicitly matched to defined objectives—then you're speculating, not investing. This exchange in *Alice in Wonderland* summarizes, unfortunately, how many individuals approach their financial plans:

Alice: Would you tell me, please, which way I ought to go from here?

The Cheshire Cat: That depends a good deal on where you want to get to.

Alice: I don't much care where.

The Cheshire Cat: Then it doesn't much matter which way you go.

Alice: ... So long as I get somewhere.

The Cheshire Cat: Oh, you're sure to do that, if only you walk long enough.

Without a destination, we meander. Most of us become quite good at justifying wherever we end up, but would reluctantly admit that's not necessarily where we wanted to be.

Get balanced

The heart of financial planning is syncing up your assets and liabilities, or what you own versus what you owe. There is no more important first step to controlling your money life than building a personal balance sheet.

The great news is that the exercise of drawing up your money scorecard is relatively simple. ...

Your Money Scorecard

OWN		OWE		
House	\$300k	Mortgage	\$150k	
Retirement	\$50k	College Debt	\$40k	
Car	\$25k	Car Loan	\$10k	
Brokerage	\$15k	Credit Card	\$5k	
Collectibles	\$5k			
Own	\$395k	Owed	\$205k	
				Net Worth= +\$190k

The exercise involves listing in one column what you own (your assets) and listing what you owe (your liabilities) in the other. Add it all up and you've got your net worth. That's where you're starting from.

Appreciate that very few people take this simple step, so putting pen to paper sets you apart from the crowd. By updating it every year or so, you'll have an accurate check on your money health. Even if the number isn't what you want it to be, a clear-eyed view is a must. All sound management starts with accurate measurement.

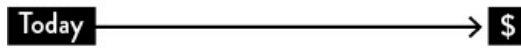
Match Game

With a starting point in hand, we can now map our money goals. I call this matching: We want to target individual financial goals as accurately as possible. This exercise will always be imprecise, but we'll never let the perfect be the enemy of the good.

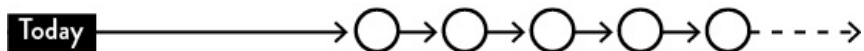
In the spirit of simplification, we have two types of financial goals:

1. **Terminal Goals.** At some point in the future, we will need to make a lump payment for something. Think of a fixed amount for a down payment on a house. Do you know exactly how much and exactly when? No. But you can ballpark, for example, that you want to put down about

\$60,000 on a \$300,000 house (a 20% down payment) in a few years. A terminal goal can be drawn like this:



2. **Flow Goals.** Other goals don't involve a fixed payment, but a steady stream of income, often for an indefinite period of time. By far the most important example of this is retirement. Many people think of retirement as a terminal goal, but that's a mistake. They will say they want to accumulate a \$1 million "nest egg" to live off after they decide to stop working. What they really need is an annual income that allows them to maintain the lifestyle to which they've become accustomed. A flow goal looks like this, with each circle a year in the future:



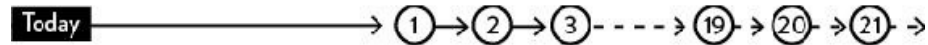
To see the relevance of the distinction, let's contrast arguably our two biggest financial hurdles, college and retirement. With planning for college, we benefit from knowing how old our kids are, which means we have a good idea of when they will leave home (hopefully). I know, for example, that my daughter is very likely to start college in 2025. Maybe she takes a gap year and maybe she doesn't want to go to college after all, but practically speaking, I have a very good sense of when I'm going to need to start writing some big checks.

All in, paying for college is a fixed amount, even though it's not distributed in one lump sum payment; whether those payments are spread across four, eight, or some other number of periods is secondary. The mystery here is not the timing but the total amount. We don't know where our kids will want to go, where they'll get accepted, what financial aid is made available, and the cost differential between one school and another. The latter can be massive—hundreds of thousands of dollars. And often, practically, the tail wags the dog: What we've saved, what we can borrow, and what we can afford determines where our child goes.



As noted, retirement is a flow goal, not a terminal goal. The “nest egg” concept makes casual sense but is a distraction.¹³² Unlike with college, we don’t have a good sense of when we will officially retire. Sure, there’s the conventional thinking that we will stop working at age 65 (or 62, or whenever), but the “new retirement” isn’t going to work that way, seeing how improving longevity will push out both the need and desire to stay engaged.

Nonetheless, there will be a point in the future when we want to slow down and there will also be a point when we must slow down—our bodies and/or our minds will compel us. It’s at that unknown date that we’ll start needing income to sustain a dignified lifestyle. Two tasks—calculating that income and turning assets into reliable income—are among the hardest and most stressful elements of our money lives.¹³³



Terminal and flow goals differ. But they do share the unfortunate quality of imprecision. Institutions like pension plans have it easier than we do because they can precisely calculate their future liabilities. They know they will owe a fixed set of pensioners a fixed amount at a fixed point in the future. They can “immunize” those liabilities through smart planning. For regular folks like us, our liabilities are harder to estimate. But the fact that individuals have it harder than pensions doesn’t mean that we don’t try. The “matching” mindset is what allows us to plan appropriately.

With this matching protocol, there’s an important general rule: The nearer in time a goal, the less risk you should be willing to take. For instance, think about owning stocks in a college savings account. When our kids are very young, that’s a great idea. With 10 or 15 years to go, we can financially weather the unavoidable ups and downs the stock market delivers.

Not so much when she is 17 years old. Markets can quickly drop 20% or more. If that happens just before you’ve got to write a big check, you’ll not only be working with a lot less money, you’ll also be withdrawing from the account at a lousy time, locking in losses. The same logic applies to retirement. No one wants to defer retirement, let alone leave retirement and go back to work, to make up for an unforced error of owning risky assets to meet short-term needs.

Hopefully the matching protocol sounds reasonable, but it’s important to recall that *very few actually do this*. It also stands in opposition to the favorite pastime

for too many investors and financial advisors: beating the market. That's a silly and fruitless game. It's not tied to our real needs, it's attached to our ego.

The problem with goals

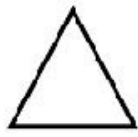
Planning for goals is less straightforward than it first appears. Relatively few of us set clear goals at all, let alone a plan to achieve them. The money scorecard and associated matching exercise is an attempt to remedy that. But there's another problem. Even when we put forth best efforts to plan, the game is a bit different than we think. Life is never cut and dried. Uncertainty abounds. In many instances, we don't know what we'll want in the future. In fact, recent research goes even further and suggests that we don't know who we'll be in the future. Popeye said, "I yam what I yam and dats all that I yam." But we're not two-dimensional cartoon characters. Our future identities are a moving target.

In a fascinating study, a group of prominent researchers measured the personalities, values, and preferences of 19,000 people ranging in age from 18 to 68. They found a wide gap between the expected and reported changes in those qualities. We look backward over our lives differently than we look forward. The researchers discovered that people are easily willing to accept that they've changed over the years into the person they are now—I yam what I yam—but then conclude that wherever they are is where they're going to stay: "People may believe that who they are today is pretty much who they will be tomorrow, despite the fact that it isn't who they were yesterday." The culprit here is time, that "powerful force that transforms people's preferences, reshapes their values, and alters their personalities."¹³⁴ Time, we will learn, looms large in the quest for wealth.

This type of research throws a monkey wrench into what sounds like reasonable goals-based planning. There is a natural, but often unnoticed, tension between the way we financially plan for our futures and what our brains are wired to accommodate. As financial planning guru Michael Kitces wrote, "The fundamental challenge of goals-based investing ... is that we don't really have any real clue what our goals actually are."

That's a bold statement but strikes me as true. It suggests that our matching protocol will need to walk the line between being too general and too specific. We want to plan for something beyond just "more." But overly specific long-term plans can cause problems, too. How sure are we that in a decade or two we will want that vacation home in Florida, that boat, or that high-rise apartment in the city? As I've pointed out, we're pretty poor at predicting what we want in the

future. We assume that what we prefer now is what we'll prefer far down the road, that our values will go unchanged—and that life's unpredictable events won't upend our assumptions.



Target your goals appropriately. Adapt as necessary.

Reach

Congratulations

You've protected yourself as best as possible from potential catastrophe. You feel safe. You're "less wrong." You remain aspirational, but you're willing to give up a little to avoid a big loss. You make best efforts to match your assets with your obligations. You've aligned your investments accordingly. You've executed all of this within your broader effort to establish a purpose-driven life, recognizing that things never go fully according to plan and that adaptation is a critical skill in life's journey.

What's next? In an important sense, *nothing*. You've won the money game! Wealth, we recall, is funded contentment. At this point, you should feel a sense of pride and gratitude that you've achieved what few do. Enjoy it. You've earned it.

Different people achieve this stage with very different-size bank accounts. The issue is calibration: Have you synced your scorecard with the life you want to lead? If so, then you are wealthy. Don't take lightly the enormity of this accomplishment.

We are now able to reach for "more," a concept I've largely assailed, but one that can be harnessed if pursued in the right way at the right time. We always remain aspirational, embracing the joys of living and still striving for better.

In practical terms, folks go in different directions at this stage. Fulfillment along the lines of the "4 C's" detailed in Chapter 4 can come in many different forms. None of those touchstones require you to accumulate a certain amount of money—the "number" that many casually employ as shorthand for their financial objective. All of them require you to be calibrated and often involve pushing toward goals outside themselves. These range from creating intergenerational wealth (e.g., paying for grandchildren's college, trusts for various family members) to underwriting charities that represent and promote

one's values. Many, in addition to these goals, just want to have a lot of fun—exploring hobbies, traveling, you name it. Ultimately, these are very personal, idiosyncratic decisions.

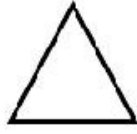
Saying thanks

Having achieved the “reach” stage should be a source of pride and joy. Many dream of it, but only some get there. Unfortunately, many of those dreams are off-base because wealth is typically framed in terms of how much money one has. The unhealthy mindset is, “if only I accumulate X, I’ll be happy.” But rich isn’t wealthy. It’s only those who have calibrated their own sense of happiness with a balance sheet to underwrite it who can consider themselves truly wealthy.

A critical ingredient in the recipe of growing and staying wealthy is expressing gratitude. Some of the most powerful findings in the field of positive psychology are that giving thanks and being generous are deep sources of happiness, both experienced and reflective. Generosity and gratitude are anchor practices in spending wisely, as discussed in the previous chapter.

Psychologist Robert Emmons suggests two steps to benefit from gratitude. The first is to acknowledge the good things you have in life. This is harder than it sounds because it’s difficult to resist comparisons to others. There is always someone who has more, or what appears to be better. Social media has aggravated an already unhealthy reflex because for the first time in history, we have the daily opportunity to observe the “happy” experiences of others—cool vacations, fun nights out, a child’s sporting victory. Facebook and Instagram, for example, can be uniquely stressful experiences that inhibit the path toward wealth. Though easier said than done, it’s healthier to think about one’s own progress rather than ranking ourselves by another’s measuring stick.

Second, you should recognize that in addition to our own determination, many of the good outcomes in our lives are due to the help of others as well as some element of luck.¹³⁵ Emmons suggests that gratitude “implies humility,” the recognition that we couldn’t have done it all by ourselves. Rather than a sign of weakness, it’s a validation of a positive connection to others.¹³⁶ This means that one must move from the inner feeling of gratitude to its outward expression. Saying thanks, including expressions of kindness, is one of the most positively selfish things one can do on the path toward contentment.¹³⁷ Few acts of such lasting impact are as free and easy. Gratitude can lead to a profound change in how one experiences the world.



Enjoy and be thankful.

123. en.wikipedia.org/wiki/Pascal's_Wager

124. Roy F. Baumeister et al., “Bad is Stronger Than Good” (2001), *Review of General Psychology* 5: 323–70.

125. Carl Richards, “Overcoming an Aversion to Loss,” *New York Times*, 9 December 2013.

126. This discussion of risk and reward was inspired by Howard Marks. See *The Most Important Thing Illuminated* (Columbia Business School Press, 2013).

127. Bill Carmody, “Why 96 Percent of Businesses Fail Within 10 Years,” Inc.com, 12 August 2015.

128. Marks, *The Most Important Thing*. See also Peter Bernstein, *Against the Gods: The Remarkable Story of Risk*, (Wiley, 1996).

129. Charley Ellis, “The Loser’s Game” (1975), *Financial Analyst Journal* 31(4): 19–26.

130. Maria Lamagna, “Americans Are Now In More Debt Than They Were Before the Crisis,” marketwatch.com, 23 December 2016.

131. Natixis, 2016 Global Survey of Individual Investors, bit.ly/2IdVEjZ.

132. Daniel Goldstein, Hal Hershfield, and Shlomo Benartzi, “The Illusion of Wealth and Its Reversal” (2015), *Advances in Consumer Research* 43. The “illusion of wealth” is more pronounced when people think of their retirement nest egg as a lump sum amount (e.g., \$1 million) instead of an income stream (\$3300/month).

133. Transforming assets into income is an area where most people need professional assistance.

134. Jordi Quoidbach, Daniel T. Gilbert, Timothy D. Wilson, “The End of History of Illusion” (2013), *Science* 339, pp. 96–8.

135. Robert A. Emmons, *Thanks! How Practicing Gratitude Can Make You Happier*, 2007; and Emmons and M. McCullough, “Counting Blessings Versus Burdens: An Experimental Investigation of Gratitude and Subjective Well-Being in Daily Life” (2003), *Journal of Personality and Social Psychology* 84: 377–89.

136. Emmons, *Thanks!* pp. 4–5.

137. Kristin Layous et al., “Kindness Counts: Prompting Prosocial Behavior in Preadolescents Boosts Peer Acceptance and Well-Being” (2012), *PLoS ONE* 7(12); S. Katherine Nelson et al., “Do Unto Others or Treat Yourself? The Effects of Prosocial and Self-Focused Behavior on Psychological Flourishing” (2016), *Emotion* 16(6): 850–61.

7. Making Decisions

“The discipline which is most important in investing is not accounting or economics, but psychology.”

– Howard Marks

“Invert, always invert.”

– Charlie Munger

UNTIL NOW, I’VE addressed money life in mostly broad strokes, combining the linked domains of earning, spending, saving, and investing. With earning power, we build a life for ourselves and our families. Much of the daily grind is consumed by not only making a living but striving to do even better—to make more, to do more, to grow. This is profoundly meaningful, seeing how control and competence are two of the four touchstones of a life well-lived.

Brass in pocket, we spend on daily needs and wants. Spending more than we earn is a no-no, though many do it throughout their lives. Others are more responsible, keeping dry powder that can be used down the road for future goals or dealing with unexpected adversity. Even a combination of wise spending and healthy savings, however, isn’t always enough. That’s especially true for the bigger things in life and their attachment to *eudaimonia*, such as college (competence), a nice home (control), or taking care of aging parents (connection).

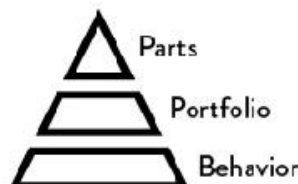
These aspirations don’t always come cheap, which is where investing comes in. We put our savings at risk to achieve results better than what’s achievable in a “safe” bank account. Investing is the realm of the uncertain, a series of bets on an unknowable future. Investing can quickly become wildly complicated as well as emotionally intimidating, which is why it’s critical to maintain fidelity to the principle of adaptive simplicity.

In this chapter, I sort out the main priority for our investing lives, which for normal people (not finance wonks) is shopping in the public stock and bond market.

Three factors drive good investment outcomes over time:

1. Your own behavior.
2. Your overall portfolio.
3. The individual investments you choose to populate that portfolio.

Once again, three is the magic number, represented by a second triangle.



This triangle flips conventional practice on its head by suggesting that what's most important is also the least visible. In the world of money, we tend to focus on what's right in front of us. In psychologists' parlance, it is the bias of "availability." Filtered through conventional media like the *Wall Street Journal*, CNBC, *Barron's*, or the Money section of *USA Today*, what we most easily observe—and thus think about—are individual investments, of which there are hundreds of thousands of stocks, bonds, and funds to choose. Those with dazzling recent performance are difficult to ignore as we can't help but think they have the chance to make us rich.

Yet this is a classic case of what's most observable is not necessarily what's most important. The specific parts are just that—a fraction of the whole. It's how we build and maintain our overall portfolio that's more important. And that, in turn, is dwarfed by the consequences of our own decisions.

Let's now look at the three parts of the triangle in turn.

Behavior

Winning the right game

The investor's primary problem is not figuring out the market. It is figuring out himself. Success stems not, as markets observer Jason Zweig wrote, from "beating others at their game. It's about controlling yourself at your own game." Psychology, not finance, is most important in achieving our long-term financial objectives.¹³⁸

Acceptance of this perspective has been a long time coming. The world of finance usually appears complicated and technical. And for good reason: Finance is a lucrative industry in which complexity is an important and often

unassailable competitive moat. Make things too easy and you potentially lose your customers.

The industry has begun to turn the corner. It's now been well evidenced that our brains are hardwired to make a litany of cognitive and emotional errors. Rectifying them sits at the core of a successful money life. It's no longer acceptable to say that something flatly described as "emotions" interfere with good decisions. Instead, recent achievements demonstrate the rich breadth of insights we now have for individuals to define and reach their goals. For example, Daniel Kahneman's 2011 bestseller, *Thinking, Fast and Slow*, delivered behavioral finance into the mainstream. Michael Lewis' *The Undoing Project* put a human face on the development of this iconoclastic science. Richard Thaler's 2017 Nobel Prize in Economics for his pioneering research in behavioral economics was another validation of this endeavor.

While some will casually claim that the many biases that define us are sources of "irrationality," I disagree. We are not irrational, let alone stupid. We are human. We are *normal*.

A cursory glance at the behavioral finance literature reveals scores of built-in quirks. System 1 thinking, or the "fast" brain, is responsible for many of them. While masterfully keeping us safe and well-functioning, it ironically produces systematic errors of perception, judgment, and decision.

I've touched on a number of different behavioral issues already. Here is a quick summary of those, plus some others. Recognize that the behavioral narrative courses through this entire book, and will continue until the very end, where we explore the relationship between our current and future self.

Common and Impactful Biases

Loss aversion Losses feel worse than gains feel good, which affects how we seek (or not) to take risk.	Overconfidence bias We think we know more than we actually do, leading to unduly bold decisions.
Confirmation bias We seek out information that substantiates our previously held beliefs, thus inhibiting the ability to learn.	Availability bias We weigh more heavily readily available information and tend not to seek out that which does not come immediately to mind.
Recency bias In our decisions, we prioritize factors we've most recently encountered.	Endowment effect Once we own something, we tend to value it more, making it more difficult to sell something we should.

These biases and many others lead to bad decisions or non-decisions, which can cost significant dollars and cents in investing. The objective here, however, is not to acquire a perfect understanding of all these quirks, for that in itself does not translate into great outcomes. When Daniel Kahneman, the man who co-invented this entire field of study, was asked what could be done to overcome behavioral biases, he remarked: “Very little. I have 40 years of experience with this, and I still commit these errors. Knowing the errors is not the recipe to avoiding them.”¹³⁹

Thus, success is not about deprogramming yourself. It’s about finding ways to mitigate the consequences of inescapable foibles and inevitable mistakes. That starts with recognizing how unique our experience with money and investing really is. We make many of those decisions under time’s long shadow. Unlike many other decisions in life, the temporal gap between when we make a money decision and when we are rewarded or punished for it can feel like an eternity. Much of what humans are good at does not center on weighing consequences of a possibility many years in the future.

Imagine the experience of enjoying your favorite cheeseburger. The pleasure starts prior to even sitting down at the restaurant. As you develop a craving, anticipation kicks in and dopamine is released in your brain. Anticipation is

central to the enjoyment itself. You've eaten this cheeseburger before, so you have a good sense of what it will taste, smell, look, feel, and even sound like. There is an expected but brief delay between when you order the burger and when it's served. And when you bite into it ... bingo. All of your five senses are amped. There is no temporal gap between the bite and your enjoyment. Pleasure is instantaneous.

Investing is also a form of consumption, but it's about the opposite of that wonderful cheeseburger experience in every regard. There is usually no joyful anticipation of purchasing a security. Perhaps if you have a hot tip for a quick winner, your pulse will quicken. Your expectations for what that investment will provide are at best imperfect. As we'll see in the square, having a clear and up-to-date set of expectations for our investments is elusive, explaining why so many people have poor investment experiences. At the time of "consumption"—the moment you officially own the stock or bond or fund—none of your senses is engaged. Because nothing happens. Indeed, with investment products, what we experience is an interminably long disconnect between purchase and enjoyment, between consumption and utility.

In that vast swath of time, humans have countless opportunities to screw things up.

The behavior gap

In Chapter 1, I raised what I consider the most powerful data point in demonstrating how in investing, emotional intelligence trumps financial intelligence: the fact that we *systematically buy high and sell low*—the exact opposite of what common sense, let alone finance theory, would tell us to do.

Overwhelming evidence shows that we underperform our own investments. Over the 20 years through the end of 2015, the U.S. stock market nearly quintupled. An average buy-and-hold investment gained 483% over that stretch. But the average investor in U.S. stock mutual funds gained just 251%. This difference is referred to as the "behavior gap."

Why did investors leave nearly *half* their gains on the table? In a word: Evolution. Our survival instincts compel us to run from perceived danger and pounce on perceived opportunity. That's true in all walks of life, including the domain of money. When markets trend upwards, investor sentiment tends to be more positive. Bull markets make for better moods. Because markets tend to trend upwards over long stretches, we hit new highs more frequently than one might casually suspect. For those focused on daily market action, those new

highs release dopamine in the brain (new highs physically feel good), which makes us more likely to invest more.

But when the market turns south, watch out. Our brain chemistry sours and we're unlikely to invest more. Who buys "on the dip?" Almost no one. In fact, we're prone to head for the exits when the prospect of losing even more money seems like a big possibility. This is our built-in survival instinct at work.

There is substantial evidence to support this cycle of greed and fear.¹⁴⁰ Look at the two numbers in the following graphic. The number on the left is the annualized return of big company U.S. stocks over the past 20 years. That figure is 8.2% per year.



The number on the right is more complicated because it considers investors' real-world buy-and-sell decisions. Sometimes we choose to put some money into the market; at other times we take it out. Data are available to precisely measure every dollar in motion. Thus, the average investor's investment compounded at just 4.7% over that same 20-year stretch.¹⁴¹

Percentages and other financial statistics are cold and abstract. They rarely resonate with normal people. Thus, it's hard to get a mental fix on the relevance of the difference between "8.2%" and "4.7%." The impact of buying high and selling low is understood more viscerally when we look at the real-world dollars at stake:

The Dollar Cost of Bad Decisions
(Dollar Returns, 1996–2015)



The gap between the two numbers is large. Based on a \$100,000 portfolio, the difference between the “set it and forget it” strategy versus the “let people be people” strategy is \$233,093. (You can adjust the starting amount however you’d like, but what won’t change is the nearly 2x difference). If you start this exercise at age 45 and stay with it until age 65, better behavior “buys” additional years of a comfortable retirement.

Choosing not to choose

An important distinction when thinking about making good decisions is whether we actually have any choice to begin with—or whether we want any. At times in life, we have a great deal of discretion. We choose to eat out instead of staying in; we then choose one of many restaurants; and we then choose whatever we’d like from an extensive menu. In an opposite scenario, we are obligated to attend someone’s dinner party and eat whatever we’re served alongside people we didn’t choose to be with.

This type of choice regime—discretion vs. not—is something we encounter daily, in all life’s domains—consumption, health, work, transportation, education, money. Its structure and its consequences are usually trivial. Our spouse’s friend may be a dreadful cook, but we’ll survive an overdone steak.

In some areas it’s not trivial. For example, some of us participate in our employer’s retirement plan. A small portion of our regular paycheck is automatically deposited in the plan. This is effectively putting our investment decisions on autopilot. Those who opt into retirement plans usually don’t then

later opt out. In contrast, most other types of investing are discretionary, in which you can buy and sell as you see fit.

One striking example of the consequences of these two approaches will bring the point home. In this case, different investors in *the exact same fund* over *the exact same time frame* had dramatically different outcomes:

Investment A over 10 years → Good Outcome

Investment A over 10 years → Bad Outcome

How could this be? The difference is determined by those who have discretion over their trip versus those on autopilot.

When we compare discretionary versus autopilot versions of the same investment, we often observe wildly different investor outcomes. Take as an example the world's largest mutual fund, the Vanguard 500 Index Fund. With about \$620 billion in assets, the fund comes in two different formats.¹⁴² The portfolio is *identical* in each, but one version is held in autopilot retirement accounts, the other in discretionary accounts. The only practical difference between the two funds is an immaterial difference in cost (a small fraction of a penny on the dollar).

As would be expected, the investment performance of the two funds is nearly identical. Over a 10-year span, the auto-pilot version (VINIX) returned 6.9% per year while the discretionary version (VFINX) returned 6.8%—a tiny gap explained by that small fee differential.¹⁴³

When we dig into the numbers, the picture grows more interesting. The behavior gap for the discretionary fund is wide. Compared to the actual 6.8% return, the average investor in the fund earned only 4.3%. Because this time span includes 2008, much of the behavior gap is explained by impulsive selling during the crisis and then failure to resume investing after markets calmed down.

The Benefit of Constraint

Discretionary Investors (VFINX)			Autopilot Investors (VINIX)		
Actual Return	Investor Return	Behavior Gap	Actual Return	Investor Return	Behavior Gap
6.8%	4.3%	-2.5%	6.9%	7.7%	+0.8%

Autopilot investors fared much better. While VINIX returned 6.9% per year, the average autopilot investor made 7.7% per year—a negative behavior gap! Why? Because investors in VINIX are dollar cost averaging into the market during good times and bad. They were less likely to sell in 2008. They buy more shares when the market is lower and fewer when it is higher; a slight twist on buying low and selling high. As a result, investors in VINIX outperformed their own fund.

All in, autopilot investors had a much better experience than discretionary investors. The real dollar consequence of this good versus bad decision-making is large. Here, the average \$100,000 investor in VFINX ended up with \$160,630 over the following decade, compared to \$260,087 in VINIX—a 62% difference. This isn't pie-in-the-sky finance. These are significant dollars that can make a difference in our lives.

In this case, one group of investors wasn't "smarter" than the other. They weren't more likely to have an MBA or a degree in finance. Instead, one group had a lot of flexibility—and abused it. The other forfeited that choice by going on autopilot and came out way ahead.

With investing, an itchy trigger finger invites trouble. When markets get shaky, we can't but help feel the urge to bolt. And once we step aside, we greatly underestimate the fortitude it takes to get back in. This is only natural—our brains are wired this way.

However, impulse control is, to some extent, manageable. Through proper parenting, coaching, and socializing, individuals can buttress their willpower. Better outcomes are possible, even though much of the available data point to worse ones. As we just saw, one solution is to eliminate discretion altogether. When we sign up for automatic savings plans, we tend to achieve much better outcomes.

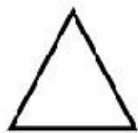
One of the most successful savings programs in U.S. history has done just that. By a small but important design tweak, the behaviorists behind the "Save More Tomorrow" program have driven billions of dollars in extra savings by individual investors.¹⁴⁴ That tweak was introducing "negative consent" to corporate retirement plans: Rather than asking people to opt *in* to a regular savings plan, they automatically enrolled them and then asked people to opt *out* if they so chose. The choice set and constraints were identical, but one paradigm has worked much better than the other.

Oftentimes we don't have the luxury of such structures, nor self-control. In these cases, it's important to partner with good counselors and associate with

good role models. We take direction well from those we respect; and we mimic the behavior of those we like. Individuals who work with good financial advisors tend to have better outcomes, not because those advisors are more market savvy, but because they are skilled at providing a check on bad investment behavior, such as selling during market choppiness. Likewise, if we run with a fast money crowd, we're more likely to try to keep up, especially in terms of conspicuous consumption: My neighbor just got that new Audi, so why shouldn't I upgrade? Associating with those who have healthier money habits produces healthier outcomes. The classic money book, *The Millionaire Next Door*, told tales of frugal millionaires who lived in communities where there was less urge to keep up with the Joneses.¹⁴⁵

Even more deeply, we strive to transform decisions into habits: Rendering sound money decisions into routines that we no longer think about. We just do them (such as regular savings) or don't do them (such as living beyond our means). Finding better habits is an important expression of adaptive simplicity, for it means that we can eliminate the psychic strain of self-control, frequent decisions, and the additional consumption of (often useless) information.

When the noise in our minds collides with time's quiet expanse, we struggle. We hold the keys to our own long-term success, even though we sometimes forget. Regular, consistent, disciplined investing is awesome—especially when we're not thinking about it. A much better experience with money is within anyone's reach.



Your own behavior is by far the most important factor in investment success.

Portfolios

Underneath the expansive sky of behavior, on the broad terrain of traditional finance, there are three paths toward making skillful investment decisions: Choosing the right markets, choosing the right components within those markets, and choosing the right times to enter and exit those markets. In wonkier terms, these are known as asset allocation, security selection, and market timing.

Let me quickly dismiss the third by stating, unequivocally, that market timing is impossible. Period. Guessing correctly on occasion about markets moving higher or lower is not a demonstration of market timing skill. At the very most,

there are some professional traders, or speculators, who can make good tactical buy and sell decisions. That's a different game than what any individual investors or financial advisors are, or should be, playing. Beyond that qualifier, market timing is a fool's errand.

That leaves the two other sources of smart investing: Properly allocating assets and selecting individual securities. Asset allocation is the more important, mainly due to one factor: Dispersion. This statistical concept looks at how much elbow room one has when making any sort of decision. It is defined as how much difference exists among the particular choices on a menu. When many disparate choices are available, there is the opportunity to exercise skill in making the "right" choice. With fewer choices, that opportunity is limited.

A food court at an airport or a local mall provides an off-beat but apt lesson in asset allocation and security selection. I travel through O'Hare Airport all the time and these are my choices in the Terminal 3 food court: McDonald's, Burrito Beach, Dunkin' Donuts, Reggio's Pizza, O'Brien's, Manchu Wok, B-Smooth Smoothies, Prairie Tap, and Tortas Frontera. These nine spots differ widely in their focus: Burgers, Chinese, Mexican, pizza, deli sandwiches, salads, and so forth.

What's going to drive a satisfying decision? First and foremost, it will be based on which of the nine restaurants I choose. I have many distinct choices and my preferences are what they are—I prefer Mexican to burgers, for example. Thus, I vote for Tortas Frontera over McDonald's. Either of those two restaurants has a dozen or more individual choices, but generally whatever I choose from either menu will be representative of that cuisine. Whether it is the Big Mac or Quarter Pounder at one, or a choriqueso torta or a smoked pork molette at the other, the key driver of a good meal is the restaurant and the secondary driver is the specific menu selection. The difference—or dispersion—in utility between McDonald's and Tortas Frontera is wider than the difference amongst the menu items at either of the respective places. Getting the restaurant right is more important than picking the right dish.

Choosing investments works similarly. The big choice at hand is one of "asset classes"—broad categories of investments that tend to work by their own distinct logic. The primary asset classes are stocks, fixed income, real estate, commodities, currencies, and cash. As a practical matter, the three "biggies" are stocks, bonds, and cash. Within each of those categories are many broad and fine distinctions. With stocks, for example, we can distinguish between domestic and overseas companies, big companies and small ones, and different sectors such as

technology, health care, or industrials. Same thing with fixed income, where the global marketplace is much larger and more nuanced than the equities markets: government bonds, investment grade corporate, high yield, asset backed securities, mortgages, and on and on. The purpose of the forthcoming section on the square is to help you navigate both the linguistic and analytic confusion of all these choices, so don't feel overwhelmed by this. We're going to simplify it all shortly.

Portfolio needs are largely determined by life circumstances. For goals further out in time—as measured in decades—we typically want to own stocks. With nearer-term goals—within a few years and certainly for generating current income—choosing grows more complicated. All else equal, more conservative investments make sense for nearer-term goals.

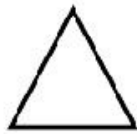
Seminal research has conclusively shown that building your portfolio around the right asset classes is more important than the individual pieces. A 1986 study led by Gary Brinson analyzed why some institutional investors put up better results than others.¹⁴⁶ Among the three potential drivers of performance—asset allocation, security selection, and market timing—they concluded the first was by far the most influential. Differences in asset allocation explained about 94% of the differences in results. Security selection and market timing were not meaningful contributors. It's a remarkable finding, one that has been subject to intense debate, but still generally holds.

A follow-on study in 2000 by Roger Ibbotson and Paul Kaplan corroborated that “about 90%” of the performance differences among investors could be explained by asset allocation (or in their light prose, “the variability of the fund's policy benchmark”).¹⁴⁷ Once you've settled on making U.S. big company stocks an important portfolio allocation, which specific large-cap U.S. equity fund you own is of secondary importance. It's not unimportant, but it isn't the primary driver of results. If you choose Mexican over burgers because you know you prefer it, regardless of whether you order the choriqueso torta or smoked pork molette, you're going to have a better experience at Tortas Frontera than McDonald's.

Putting a proper asset allocation in place is mission critical, but don't fetishize precision. It is the job of financial experts, institutional investors, and investment consultants to come up with pinpoint portfolio recommendations. An expert might see an actionable difference in a portfolio with, say, a 69% versus 71% allocation to stocks. But as a practical matter, in finance we often make

distinctions without a difference. For most portfolios, that shift wouldn't be worth it in terms of taxes, transaction costs, time, or mental energy.

A fantastic story about the father of modern portfolio theory, Harry Markowitz, brings this to life. Markowitz considered the optimal mix of assets for his personal portfolio but found it all too complicated to wrap his prodigious brain around. "I should have computed the historical co-variances of the asset classes and drawn an efficient frontier," Markowitz recalls. Instead, he went the simple behavioral route: "I visualized my grief if the stock market went way up and I wasn't in it—or if it went way down and I was completely in it. So I split my contributions 50-50 between stocks and bonds." Markowitz couldn't apply his landmark theory to his own money. "Good enough" portfolio planning was okay for this Nobel laureate. It's good enough for us, too.



A sensible asset allocation is critical for investment success.

Parts

Who doesn't remember the early scene in *Willy Wonka* when the visitors opened the tiny door to the huge room with the chocolate river, candy trees, and lollipop flowers? It's an exhilarating moment. It triggers in us a sense of wonderment and of indulgence. To this day, and I suspect forever, money magazines and financial TV shows will also feature a technicolor array of candy for adults, the kind that might make you very rich. The chocolate river for aspirational grown-ups is the "market"—an endless array of products that make us feel hopeful, often greedy. Each of us, at some point, has been Augustus Gloop, the investor.

From 17th century tulip bulbs to 21st century Bitcoin, the eye is dazzled by what's shiniest. In the money business, it's hard not to immediately zero in on all the componentry: Stocks, bonds, currencies, commodities, derivatives, mutual funds, hedge funds, exchange-traded funds, real estate, and other opportunities always on offer in a frenetic 24-7 global market. Hardly a matter purely of intellect, this is the stuff of quickening heart rates, expanding pupils, warming skin, and dopamine firing in the brain.

The components we purchase to build our portfolios are important, but only in the broader context of adaptive simplicity, where the circle and triangles have marked the way thus far. By analogy, the exact choice of brick or wood is

important when building a home, but only after one chooses town, neighborhood, and floor plan. Within the proper context, successful security selection can provide a big leg up for creating wealth. An early owner of Microsoft has likely led a life of plenty. A former owner of Enron might be penniless. The challenge, however, is that trying to pick winners—especially the kind that make a life changing difference—tweaks the exact psychological biases which increase the chance of making bad decisions.

For our purposes, the primary goal with choosing the right stocks, bonds, or funds is to be less wrong. We want to avoid individual investments that wreak havoc on our portfolios.

Avoiding losers is less fun than gambling on winners. So be it. In fact, most people who get into trouble with their portfolios are ones who find the investing “game” exciting. Like a trip to the casino, trading stocks and bonds can be exhilarating, but few walk away from Las Vegas as winners.

Picking securities is not an easy game—for anyone.¹⁴⁸ Every investor thinking about winning at trading securities must ask who’s on the other side of the exchange. When you’re buying, someone’s selling. And when you’re selling, someone else is buying. What do they know that you don’t? In fact, do you even know who “they” are? It could be a hedge fund manager, a supercomputer, a financial advisor, or your goofy neighbor Ed. You just don’t know.¹⁴⁹ A common phrase in poker is that if you’ve been in the game for 30 minutes and you don’t know who the sucker is, you’re the sucker. This applies to investing as well.

There is an army-sized cohort of highly educated market professionals seeking “edge.” Because even a slight edge can produce enormous riches, many people give the markets game a try. Decades’ worth of data validate that demonstrating persistent skill is very hard. According to Standard and Poor’s, more than four-fifths of professional stock pickers have not been able to beat their market (big caps, small caps, international, etc.) over 5-year or 10-year periods.¹⁵⁰

Meanwhile, those who try to pick the best funds—selecting the experts who believe they can demonstrate a persistent edge—don’t have it easier. There is no compelling evidence showing that one can consistently pick outperformers, as I demonstrated in *The Investor’s Paradox*. Both individuals and institutions—neighbor Ed and professional pension fund managers—tend to buy mostly based on strong recent performance and sell based on weak recent performance. With little exception, the song always remains the same.

The silver lining is that the “games” that matter more—behavior and portfolio building—are easier in the sense that they are not zero-sum competitions.

Instead, we need to choose what's appropriate and what we can stick with through thick and thin.



One of my investment heroes, Charlie Munger, once remarked: “Invert. Always invert.” By this he meant take the time to think differently about common problems. Conventional thinking leads to conventional outcomes. In money life, the conventional outcome is not very attractive.

Our triangles present three main inversions, three ways to think differently. I'd encourage you take close note of each:

- First, we prioritize being “less wrong” over being “more right.” Managing risk is a priority over enhancing returns. This risk-first mindset flies in the face of most elements of the modern money culture. It also happens to be the hallmark of history's greatest investors. It is how we protect ourselves and stay in the game.
- Second, we immunize our liabilities before we maximize our assets. Much of financial advice remains focused on choosing great investments or even “beating the market.” Instead, our priority is taking care of obligations—no matter how hard they are to define, especially far in the future.
- Finally, successful investing starts by looking in the mirror. It is undermined by looking out the window or by staring at financial television. The vagaries of psychology trump the precisions of finance over time.

We now turn to the square, where we'll continue to think differently about growing and staying wealthy.

138. Likewise, the father of modern investing, Benjamin Graham, remarked in his bellwether *The Intelligent Investor*, “The investor's chief problem – and even his worst enemy – is likely to be himself.” The Zweig quote can found in jasonzweig.com/from-the-archives-daniel-kahneman.

139. Cited in Jason Voss, “How Mediators Can Overcome Behavioral Finance Bias,” *Enterprising Investor* (CFA Institute), cfa.is/2opEZC1.

140. Quantitative Analysis of Investor Behavior, 2016, DALBAR, Inc., www.dalbar.com. Average equity investor performance results are calculated using data supplied by the Investment Company Institute. Investor returns are represented by the change in total mutual fund assets after excluding sales, redemptions, and exchanges. This method of calculation captures realized and unrealized capital gains, dividends, interest, trading costs, sales charges, fees, expenses, and any other costs. After calculating investor returns in dollar terms, two percentages are calculated for the period examined: Total investor return rate and annualized investor return rate. Total return rate is determined by calculating the investor return dollars as a percentage of the net of the sales, redemptions, and exchanges for each period. 20 year period ended 12/31/15.

141. Technically, it's the average dollar, not the average investor. For the sake of clarity, it's just as well we speak about investors.

142. As of 27 January 2018.

143. The data were sourced from Morningstar.com, as of 30 April 2016. In the course of writing this book, Morningstar changed its reported data, so I can no longer update the investor return for VINIX.

144. Alessandra Malito, "Nobel Prize Winner Richard Thaler May Have Added \$29.6 Billion to Retirement Account," MarketWatch.com, 6 January 2018.

145. Thomas Stanley and William Danko, *The Millionaire Next Door* (RosettaBooks, 2010).

146. Gary P. Brinson, L. Randolph Hood, and Gilbert L. Beebower, "Determinants of Portfolio Performance" (1986), *Financial Analysts Journal* 42(4): 39–44.

147. Roger G. Ibbotson and Paul D. Kaplan, "Does Asset Allocation Policy Explain 40, 90, or 100 Percent of Performance" (2000) *Financial Analysts Journal* 56(1): 26–33.

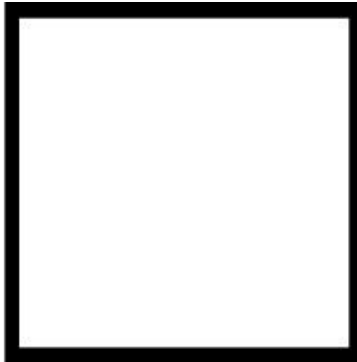
148. Michael Mauboussin, Dan Callahan, and Darius Majd, "Looking for Easy Games," Credit Suisse, 4 January 2017.

149. An increasingly large percentage of stock market activity is algorithmic trading through the world's fastest supercomputers executing programs written by some of the world's top experts in finance, mathematics, and computer science. Joshua M. Brown, "Who Are You Competing With?," www.thereformedbroker.com, 6 March 2017.

150. Over a five-year period, 84% of large-cap equity managers, 77% of mid-cap managers, and 90% of small-cap managers lagged their respective benchmarks.

Over a 10-year period, the figures were 82%, 88%, and 88%, respectively. See further detail see the SPIVA U.S. Scorecard published by S&P Dow Jones Indices, bit.ly/2FsoNGq.

TACTICS



The part where we strive for decent outcomes

8. Gray Matter

“Everything must be as simple as possible, but no simpler.”

– Albert Einstein

“Doubt is not a pleasant condition, but certainty is an absurd one.”

– Voltaire

Simple is not easy

DR. IGNAZ SEMMELWEIS was distraught. As chief resident of obstetrics at Vienna General Hospital in the 1840s, he witnessed a mounting number of mothers dying within days of giving birth. What was known as “childbed fever” was running rampant throughout the maternity ward.

The pattern made no sense to him. From what he could discern, the death rate for new mothers was higher (about 1 in 10) than that for “street births” (outside the hospital), or in the hospital’s clinic for midwives, where the death rate was about “only” 1 in 25. It seemed that medical oversight by a trained doctor was the deadliest care for new mothers.

Obsessed with finding a solution, Semmelweis attacked the problem from various angles, some reasonable (the body position of the mother during childbirth), others less so (how priests rang bells in the ward upon news of another death). Meanwhile, other doctors in the ward continued to use “traditional” methods for curing the fevers, including bloodletting, blistering, frequent enemas, and a generous application of leeches. None of these worked.

Semmelweis finally concluded that “cadaverous particles” were the culprit. A normal day in a mid-19th century hospital could see a doctor work across numerous practices, from obstetrics to pathology. Semmelweis deduced that doctors’ filthy hands, especially those covered with the blood and innards of dead bodies, infected the mothers, which led to fever and in some cases death.

Semmelweis’ solution was simple: Wash your hands.

Or at least it sounds simple to us in the 21st century. In the scope of history, it wasn’t that long ago that most medical doctors gave little thought to washing their hands between patients, or sometimes at all.¹⁵¹ But it works. At the

Viennese hospital, after handwashing was required, death from childbed fever fell to 1 in 100.

Semmelweis' "simple" solution was one of the great breakthroughs in medical history, one that over the course of future decades helped to develop the germ theory of disease developed by the likes of Joseph Lister and Louis Pasteur later in the century. What we take for granted now as obvious was hardly that at the time of its introduction.



Simple is hard.

As principle and practice, simplicity is naturally appealing. Every generation feels that its world is more complex than that of the past, and as a result, the prospect of dampening the noise is attractive. Simplicity is far more elusive than it first appears, however, in no small part because humans actually crave complexity. We love having many choices, in any domain of life, whether it be food, friends, or mutual funds. No one who has overheard the orders in a long line at Starbucks could disagree.

Choice, at its deepest level, is a proxy for the control we perceive to have over our lives. Thus, having more choice translates into a greater sense of safety. We naturally want more, not primarily because we are greedy, but because we want to survive.

More complex is often more interesting. Simplicity—in work, love, art, leisure, and everything else—can be boring. We want to enjoy the richness of life and avoid dreary sameness.¹⁵² We desire the "museum effect": You'd like to view your favorite painting in an environment where there are many other things to observe and enjoy. You want your favorite pair of blue jeans or that one great Thai restaurant down the street, but you also want a full closet and the Yelp app. Variety is indeed a spice of life, and variety rarely maps to simplicity.

Thus, complexity sells. Complain as some might about the aisles at Ikea or the menu at The Cheesecake Factory, the crowds never stop coming. This is true in finance as well. Only a handful of basic principles are needed to achieve good investment results—big examples include buy low and sell high, diversify, and stick to your plan—but we fail to execute on these partly because of a bias for complexity. From cryptocurrencies to hedge funds, much of what is most exciting in money world is wildly complex. "Invest for the long run" is wise advice, but talking about Bitcoin sure is more fun.

We often prefer complex solutions to what we perceive to be complex problems, the kinds with many dimensions and dynamics. This explains the appeal of the occasional genius who can simplify in ways that others couldn't. Most famously, Einstein turned the understanding of the physical world upside down with one elegant equation, granted one that took more than a decade to write. Other iconoclasts, from Aristotle (logic) to Darwin (adaptation) to Steve Jobs (design), imagined the world more elegantly, thus creating remarkable legacies.

Simple is almost never easy. Entropy, or a tendency toward disorder, is a part of daily life, as anyone who has tidied up their house or cleaned out their e-mail inbox fully appreciates.

There are few domains riper for simplification than investing. It is a jargon-filled and mathematically complex arena in which the stakes of getting things wrong are high. When you turn on CNBC, pick up the *Wall Street Journal*, power up a Bloomberg terminal, or even talk to a financial advisor, complexity can reign. Thus, simplicity is a tool to fight back. It's hard to acquire, however, which is why building a prepared mind according to the principle of adaptive simplicity will help.

For investment decisions, we measure success in terms of meeting expectations. A "good" decision is one that leads to a reasonable and appropriate outcome, not one that achieves other arbitrary goals like beating the market or trumping others. A "bad" decision starts with either vague or unrealistic expectations. The simpler we can conceptualize the problem and then frame expectations, the better positioned we are for success.

In Chapter 9, I offer guideposts for how to set realistic investment expectations. But first, there's some wood we need to chop so they are as clearly visible as possible. The problem is that the brain presents two large barriers on the path from complex to simple. They are:

1. *Categories*. The investment business is a linguistic minefield, filled with labels and jargon that rarely clarify. "What is this?" sounds like a basic question, but it's not.
2. *Probabilities*. The human brain prefers certainty, which undermines the ability to think through ranges of outcomes. There is skill in asking "What are the chances?" Few think this way, preferring incorrect precision over correct generalities.

While esoteric-sounding, a frank discussion of labels and chances is essential for the process of adaptive simplicity. With each, I'll first discuss the general problem, and then apply it to investing.

Categories

“What is this?”

I don't know how many times a day each of us subconsciously asks this question of the world around us. The number is probably incalculably high as our fast brain is always observing, making sense of the world, and seeing if anything is out of order: Is this normal or is this surprising? Even before the instinct toward fight or flight, we must know whether we've encountered lion or lamb.

Categories define our reality. From the trivial to the existential, they have a stranglehold on the experience of our daily lives. Yet we give them almost no thought whatsoever. The writer David Foster Wallace once told the following story:

“There are these two young fish swimming along, and they happen to meet an older fish swimming the other way, who nods at them and says, ‘Morning, boys, how's the water?’ And the two young fish swim on for a bit, and then eventually one of them looks over at the other and goes, ‘What the hell is water?’ ”¹⁵³

Categories are ubiquitous but largely invisible. Nonetheless, they have consequences, including making us better or worse investors: Those who can cut through the noise and jargon of modern finance have a leg up in making better decisions.

Noted linguist George Lakoff writes that “Categorization is not a matter to be taken lightly. There is nothing more basic than categorization to our thought, perception, action, and speech. Every time we see something as a kind of thing ... we are categorizing.”¹⁵⁴ Because of how System 1 thinking operates, we instinctively label or bucket *everything* we come across in our daily lives. When something doesn't fit well, or seems to fit into two buckets at once, System 2 needs to show up and make sense of it.

To level-set the discussion, a category is a class or division of something regarded as having a shared characteristic. It is defined by the common properties of its members. The elm and oak out back? They're both “trees.” Include the ferns and you have “plants.” The huskie and poodle are both “dogs,”

until the cat walks in the room and we're dealing with "animals" or maybe "house pets." The Chevy and Ford parked out front are "cars." Include the motorcycle next to them and car no longer works, but "vehicle" does.

This may come across as an esoteric exercise in semiotics, but it's not. Quite the opposite, it speaks to how we perceive reality. How we understand the world, and ourselves, is at base driven by the words and categories we have at our disposal.

That's because categories involve not just describing the world but *judging* it. When we ask what something is, we also ask whether it's good or bad. Most of the time this is trivial: Someone prefers Splenda over raw sugar, even though they're both "sweeteners," albeit with different health implications.

Other times, the consequences are existential, especially with the perceived purity of a category. When something does not have all the valued features of a category, it is deemed to be of lesser value. The United States was founded on the premise that a dark-skinned resident was the equivalent of 60% of a "real" person. Likewise, all white adults were citizens, but only "men" could vote. The current debate over transgender rights is a debate about categories—what fits or not, what's legitimate or not.

Something "not fitting" isn't necessarily bad. The cutting edge of not fitting is sometimes the engine of creativity and revolution. Stories of heliocentrism, citizenship, rock 'n' roll ("that's not music!"), and other tales of iconoclasm have been central to human progress. But appreciating them is the realm of effortful System 2 thinking. At most, System 1 tells us something is "alike" or "different." As the number of features or dimensions increases, it falters. Thus, engaging in things that don't make immediate sense requires extra work, straining the push toward adaptive simplicity.

Now let's use this quick dose of linguistics to become better investors.

Categories and money life

Like the water in David Foster Wallace's story, categories surround the investor, whether they realize it or not.

Stocks and bonds, growth and income, real estate and commodities, aggressive growth or contrarian value, iron condors and covered calls, cup-and-handle and the triple bottom ... the linguistic minefield stretches to the horizon. Indeed, hundreds of thousands of securities—something we buy which we believe will provide a financial benefit—are assigned categories, and never just one. Something might be a "stock," "health care," "European," and "large cap" all at

once, creating a dense latticework of overlapping descriptions. And then those securities are expressed through various strategies—long, short, leveraged, optioned, and so on. Our relief from the din is found in stable and meaningful descriptors.

Physicist Richard Feynman’s observation that “Knowing the name of something is not the same as knowing something” should penetrate finance as much as any other field in need of clarity. For example, I occasionally hear people say that they’re invested in “mutual funds.” Unfortunately, that claim reflects a fundamental misunderstanding. Sure, a mutual fund is a product that a consumer can buy, but from a functional perspective (taking desired risks in order to meet specific financial goals), a mutual fund is not a “thing.” Same thing with the now massive industry of “exchange-traded funds,” which are a slight variant of mutual funds. The phrase, “my advisor put me in mutual funds” (or exchange-traded funds) is the equivalent to a salesman putting you in a “motorized vehicle.” Car, truck, motorcycle, or boat?

With even more esoteric investments, the conversation grows squishier. These could be annuities, mortgages, derivatives, or others, but take for example “hedge funds,” a part of the market where I spent a good portion of my career. Hedge fund due diligence, even among highly trained investment professionals, is primarily a linguistic exercise. It aims to figure out what an investment “is,” so that we can set reasonable expectations for what it will do. The answer is typically found only after many hours of investigation.

Hedge funds are described by some as a class of investments designed to deliver “stock-like” returns with “bond-like” volatility, both terms themselves quite vague. Others will define them as hyper-aggressive get-rich vehicles. Neither description is generally true because in fact, “hedge fund” is not even a legitimate investment category; it is not a “thing.” If we delve deeper in proper strategy categories in this corner of the world—such as “global macro,” “arbitrage,” and “long/short equity”—we would quickly see that they don’t match either description. It’s really quite a mess.

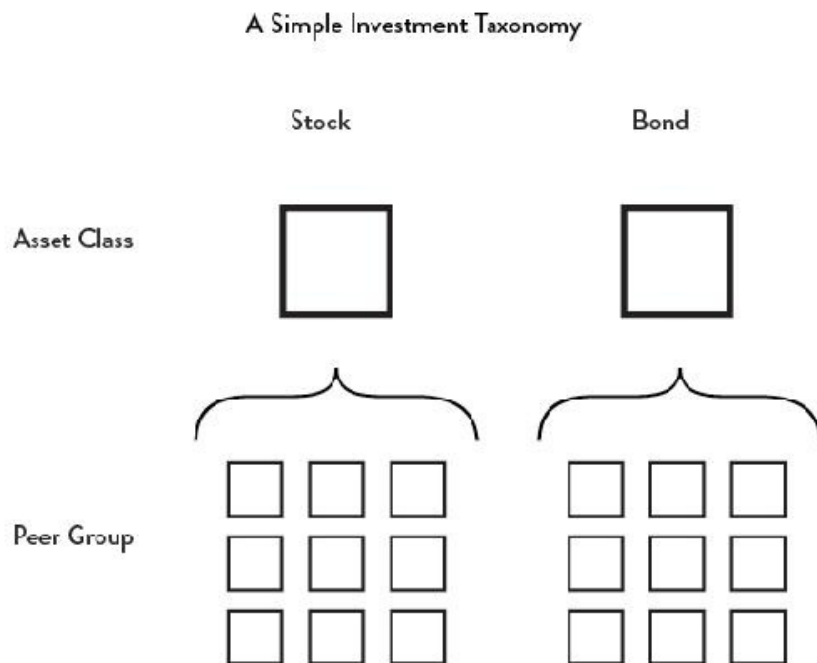
We need to cut through the jargon without losing sight of what’s relevant. How do we do that? The answer starts by thinking about levels of generality. Do we want to think in terms of very broad, all-encompassing categories, or instead focus on the very narrowly specific?

A little bit of biology helps us out here. The basic taxonomies of the life sciences are about as crisp and clear as they come. Taxonomies—a system of connected, coherent categories—move between global and specific. They are

defined via a hierarchy in which each level “up” is more general than the prior. In biology, we have, from most exclusive to most inclusive: Species, genus, family, order, class, phylum, kingdom, and domain. Different traits or features tie members together. A particular species, the red fox (*Vulpes Vulpes*) is part of the genus fox (*Vulpes*), which is then part of the *Canidae* family, which includes all foxes, dogs, wolves, and jackals. At the top of the hierarchy, the domain, is all animals.

Much of the linguistic confusion in investing centers on the level of abstraction at which you choose to focus. This makes more sense by borrowing a map of the world from Morningstar, an investor-friendly source of information.

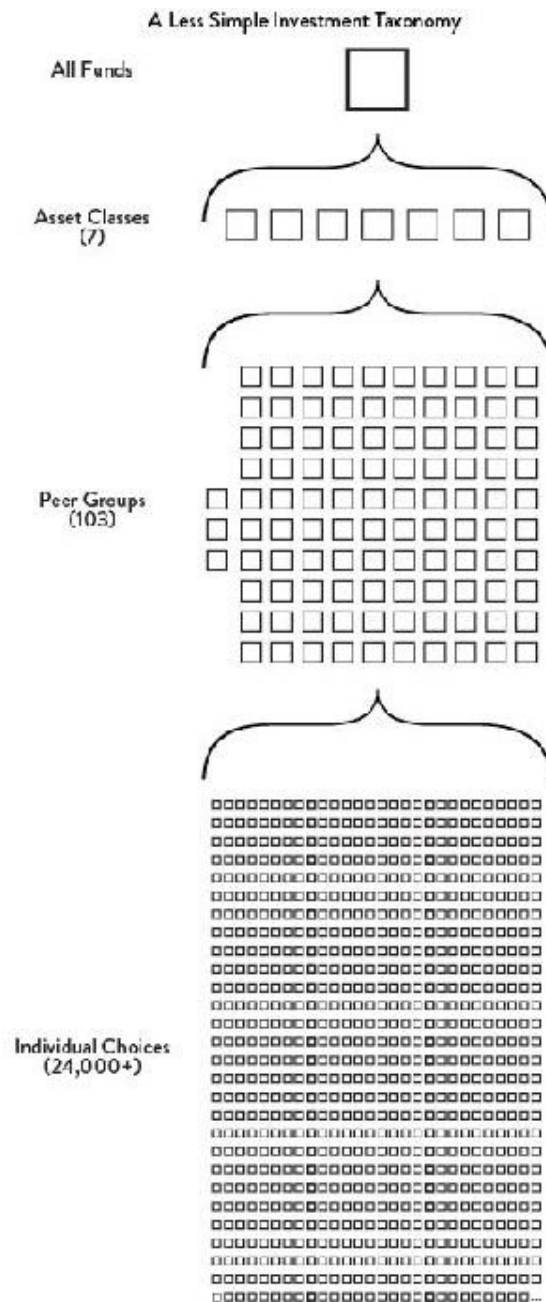
Here’s one very basic investment taxonomy, one with only two levels of abstraction. The higher level is the two major asset classes, stocks and bonds. An asset class, as we discussed in Chapter 7, is a group of securities that exhibit similar characteristics and behave similarly.



In this taxonomy, the second level is finer-grained stock and bond categories, sometimes called peer groups. Morningstar offers us nine of each. For stock funds, the two key axes are the size of the companies it invests in and their valuation metrics (e.g., accessing the earnings of a slow growing utility would be much cheaper than a fast-growing technology firm). Bond funds are distinguished by their credit quality and their sensitivity to interest rates.

Thus, in this scenario, there are a total 18 categories that investors can choose from, such as mid-cap value stocks or high-quality short-term bonds. A large percentage of assets invested in all mutual funds fall into one of the 18 categories.

For a category to be most useful, it must have some basic characteristics: Well-defined, measurable, and non-overlapping. In biology, such as with the red fox, that's certainly the case. It's less so with investing. The taxonomy I just detailed is only one part of the full taxonomy that defines the world of mutual funds:



Oy. It's now not hard to imagine how linguistic confusion creeps into the investment selection process.

From top to bottom, we move from general to specific. In the first column is all funds, which is not a meaningful category. The second column is a broader list of asset classes, not just stocks and bonds, but specifically: Domestic stock, international stock, taxable bonds, non-taxable bonds, commodity, sector-

specific, alternatives (i.e., liquid hedge funds), and allocation funds (a disparate array of strategies only united by a dynamic allocation either within or across asset classes).

Beneath those seven types are 103 categories, too numerous to list. They certainly don't abide by the non-overlapping quality noted above. For example, many of the "alternative" and "allocation" funds invest primarily in stocks. Domestic and international stocks are set as distinct choices when most of the drivers of those underlying markets are the same. All of the stocks owned by sector funds will also appear in funds from the various diversified equity categories. And so on. I could fill pages with all of the linguistic challenges in this taxonomy, or any other that are prominently used by analysts and investors.

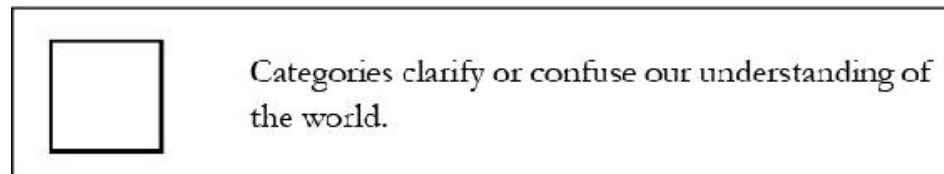
Like I've pointed out, simple is hard. So how do we cut through the confusing categories and other jargon? First, we ask the simple but powerful question: *What is this?* And we ask it as many times as is necessary to get to a clear answer. The four corners of the square, detailed in Chapter 9, will give you all the ammunition you need to arrive at a clear answer.

Part of this mindset is trying to distinguish attributes from functions. A car has doors and tires and an engine, and it also transports people from one place to the next. One of those facts is more relevant than the other. For investing purposes, what something *does* is more important than what it *is*. An official definition of an asset class, as cited above, is a group of securities that exhibit similar characteristics and behave similarly, but witness how even a formal definition conflates attribute and function. Sometimes things that look the same don't behave the same. Conversely, different-looking investments can behave similarly.

Second, we accept that to label something is also to judge it. What category something falls into will have both an empirical and a normative quality: What is it, and is it good or bad? In the investing world, the main proxy for good or bad is safe or risky.

Is this category (pick any), and the choices within it, safe or risky? Here assumptions can be dangerous. Take the basic distinction between stocks and bonds. Most would say the former is riskier than the latter. But that's necessarily true, for two reasons. First, factually, there are some very risky bonds and some very conservative stocks: Think about the stock of a large utility company versus an unsecured bond issued by a tiny biotech firm. Second, it depends on what you're trying to achieve (or avoid). If your goal is to accumulate wealth over a long period of time, bonds are riskier than stocks because over multi-decade

periods, stocks tend to return much more than bonds. The risk here is not meeting your goal. Conversely, if we define risk as short-term volatility or losing money quickly, stocks are clearly riskier than bonds. Safety or risk is in the eye of the beholder.



Probabilities

“What are the chances?”

We are not wired to think in terms of probabilities and this discomfort with statistical reasoning is a stumbling block for making good investment decisions.

Why the difficulty? Because humans love certainty. And why wouldn't we? Going back to our evolutionary instinct for survival, our fast thinking brains quickly decide to fight or flee. We did not calculate that there was a 72% chance that the tiger would attack and a 28% chance it would hang back. We did think: Looks dangerous and I'm getting the hell out of here. Not much has changed since our days on the savannah.

The subjective assignment of probabilities to an uncertain future sits at the core of behavioral finance. For example, imagine yourself in the following scenario. You walk into a glitzy casino. As far as you can see, in an area larger than a football field, colorful lights flash. There is activity everywhere, punctuated by the occasional screams from a spot where someone just won a big bet. As you enter the fray, pulse raised, you first come across roulette tables. Roulette is perhaps the least intimidating game in a casino, as it is merely betting on the outcome of a number, 1 to 35, spun on a wheel. Even simpler, you can bet on one of two colors associated with the numbers, either black or red.

You stand between two tables deciding which you're going to make your first bet of the evening. Conveniently, every roulette table has a digital display that shows the wheel's recent results. Here's a simplified rendition of the two tables, showing the colors, black (B) or red (R), but not the numbers:

Table 1: BBBB BBB

Table 2: BRRB BRRB

Which table do you bet?

Lest we think casino operators magnanimous, those displays are not there to provide you with helpful information. Instead, they make you see a pattern—one that doesn't exist. The signs exist to take advantage of System 1 thinking, which compels us to see patterns in nearly all dimensions of our lives. "Lazy" System 2 hangs out and waits to be summoned to solve tougher problems.

At the casino, you see a pattern at Table 1: 7 blacks in a row. You intuitively sense that "black is a on a roll," but upon quick reflection, you know that's not true. Assuming the wheel is balanced properly, all outcomes are random. Table 2's jumbled color string is equally as likely as Table 1's streak of black. The chances of both strings are identical. Nonetheless, many gamblers would instinctively think that precisely because it's a balanced wheel that red is "overdue" and thus bet accordingly. Others might take the momentum bet of black extending its streak. In either case, a non-existent pattern drives the decision.

Randomness is not something humans are particularly comfortable with. We tend to believe, due to System 1 thinking, that the world around us is ordered and mostly predictable. But we are frequently fooled by randomness, on everything from hot streaks at the casino or the basketball court, to success or failure in our careers or with raising our children. Nassim Taleb, the prolific and cocksure maven on probability, correctly observes that most events are more random than we instinctively believe—which is not to say that they're entirely random.¹⁵⁵ Chance and luck play an enormous role in life's outcomes, but when framed and analyzed properly, meaningful patterns exist to be discovered.

Because humans struggle with uncertainty, the mind often operates as a "machine for jumping to conclusions." System 1 is a busy beaver, making sense of the world at all times. Jumping to conclusions "is efficient if the conclusions are likely to be correct and the costs of an occasional mistake acceptable, and if the jump saves much time and effort." We make the world simpler and more coherent than it actually is.¹⁵⁶

Doing so has mixed consequences. One is to overweight the likelihood of low probability events. Growing up in the 1970s, I was terrified that a massive swarm of killer bees that was supposedly hovering in Texas would fly north and ravage my corner of southwest Pennsylvania. I don't recall how I came upon that fear, but I vividly remember thinking about it. (The bees never came.)

Yet the mere fact of thinking about something, no matter how remote its likelihood, renders us poor predictors of what the future holds. This is important beyond killer bees, shark attacks, or other unfounded fears. It helps to explain

the appeal of playing the lottery or purchasing insurance, both expensive bets on long odds. It also elevates the salience of extreme events that rarely happen—think of a stock market crash or contracting a terminal illness—in our decision-making.

Another consequence of our discomfort with real probabilities is that our sense of what's possible is primarily shaped by the information that's right in front of us at the time. As Kahneman says, “what you see is all there is.” This bias toward anchoring on the information that's most easily retrieved from memory has serious consequences for what we think comes next. In roulette, a short and random streak of colors feels like an actionable pattern. An exciting social media stock soaring higher “feels” like it will keep going. A news story last night about coyotes roaming the neighborhood alters our general estimate of the chance of wildlife attacks. The now weighs heavily.

Likewise, we are vulnerable to using conventional wisdom or other unquestioned assumptions to shape our sense of what comes next. For example, the Baby Boomer generation has been extremely lucky in terms of stock market outcomes. The 1980s and 1990s featured extraordinarily high returns. This has led many in this generation to have an elevated, somewhat unrealistic expectation for what the stock market can deliver over time.

The third consequence of our difficulty with probabilities is that our decisions are highly susceptible to how a problem is framed. Take the following examples:

- To cure a dangerous illness, one medicine has a 5% mortality rate. An alternative medicine has a survival rate of 95%. You choose the alternative.
- One package of cream cheese is “97% fat free.” A competing brand is labeled “3% fat.” You choose the first.

In both cases, the choices were identical. But, for at least a split second, that's not how you felt about your choice. An economist or a statistician would be puzzled by this scenario, but psychologists are not. We are generally wired with weak powers of statistical intuition (not immediately seeing these as the same) and being amenable to nudging by the clever use of language.¹⁵⁷

Probabilities and money life

Capital markets do not offer anything approaching certainty, therefore humans use mental shortcuts to make sense of them, for better or worse. Investing—taking risk in financial markets—is an informed guess at an uncertain future.¹⁵⁸

If we unwittingly rely on unarticulated shortcuts to make those decisions, we can severely mismanage our expectations, thus creating bad outcomes.

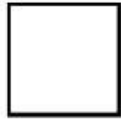
Like with categories and investing, the main task with probabilities and investing is simply to recognize the problem in the first place. Better self-understanding creates better decisions, and in turn, better results. More concretely, we must acknowledge the role that randomness and luck play in financial outcomes. We not only see patterns where they don't exist, but we also assign causality to outcomes that isn't there. She is a very smart portfolio manager, the argument might go, therefore the high returns of her fund are due to skill. That might be true, but skill is almost never obvious. Our default assumption should be that luck or randomness prevails. Skill is far less prevalent than many in the money business assume.

Second, we should endeavor to think in terms of *ranges* of outcomes, versus pinpoint estimates. As we're about to discuss in Chapter 9, conventional wisdom holds that stocks return "about 10%" per year. People also believe that stocks and bonds have a low correlation to one another. There is truth to both statements, but each is also misleading. Conversely, we should not extrapolate too much from extreme events. The carnage of the 2007–2009 bear market still looms large in many investors' minds, even though the chance of that repeating is slim.

The path toward simplification relies on capably setting expectations, which in the shorter term—not just days but a few years—implicates a very wide range of possible outcomes. The range will narrow in the very long run, but that is a time frame that few can emotionally accommodate.

Finally, we want to recognize, and probably avoid, situations with lottery-like outcomes, meaning ones that have the remote possibility of a very large pay out. Many types of investments fit this bill, including options-based strategies, aggressive growth stocks (i.e., finding the next Netflix), or lucrative one-off corporate events, such as a merger or an initial public offering.

When legendary economist John Maynard Keynes suggested that "It is better to be roughly right than precisely wrong," he nicely captured the spirit of embracing the softness in the art of making good financial decisions. Our aversion to ambiguity, that need for certainty and order, constantly gets in the way, but it's an impediment we have the power to overcome, at least from time to time.



Making decisions based on probability is an unnatural but necessary means to succeed.

Finance's false precision

No one would be mistaken to believe that the world of money, filled with numbers and equations, is characterized by precision. It appears to be an engineering problem, one in which a clear set of steps leads to a single, correct solution.

Alas, this belief is untrue. And that's a good thing. Investing is far less precise an exercise than most think, which means that with a bit of preparation, ending up in the right spot is more achievable than many suppose.

Listen to Charlie Munger, one of the greatest investors in history: "We tend to buy things ... where we don't know exactly what will happen, but the outcome will be decent." Perhaps that's some false modesty from someone who has earned billions in the stock market. But his point remains not only important but applicable: Accept the uncertainty of this game, remain humble in the pursuit of better things, and there's a decent chance that things will be okay.

In our money lives generally, we've already covered a variety of perspectives on calibrating a meaningful life with the means to afford it. And on the specific issue of making good investment decisions, we've now tackled two major impediments to clear thinking: Vague language and discomfort with uncertainty. Evading jargon and playing the odds are critical for employing adaptive simplicity. They are powerful tools in the process of managing expectations.

Lurking around this effort are the three most important words in investing: "I don't know." Admitting to not knowing something, especially in light of how much information we have at our disposal, is unpleasant. It can feel like a weakness, which is why the words are rarely uttered.

But consider that humility—the emotional capacity to admit ignorance—characterizes some of the world's greatest investors, including Munger, Buffett, and others. It's not a trait that we naturally associate with titans of Wall Street, but in fact humility roots out overconfidence, allows us to be less wrong, and ultimately compound our wealth at reasonable rates, based in part on the role of luck. As I've seen first-hand in the world of money management, investors will

attribute good outcomes to skill and bad outcomes to luck. That's so lame. Luck is as much of an ingredient for market success as anything else, a truth with which the less-humble take umbrage.

These hallmarks of great investors are available to us as well. Granted, it's easier said than done. In society, we are naturally competitive. We not only want more, we want more than others. "Nothing so undermines your financial judgment as the sight of your neighbor getting rich," J.P. Morgan once said. The true path to "winning" the investment game is not letting the perfect be the enemy of the good, of achieving "decent outcomes."

Striving for decent outcomes is as good and honest an effort as we can make. It's also the easier path. Our mental energy is limited. Adaptive simplicity's tank can run to empty, at which point complexity and impulsiveness are more likely to wreak havoc. In the spirit of simplicity, we now turn explicitly to the four corners of the square.

151. Not that it was well-received at the time. To the contrary, he was excoriated by prominent members of the Viennese medical community, who argued that Semmelweis' slipshod research proved nothing. Neither Semmelweis nor any other doctors at the time knew about bacteria, let alone the germ theory of disease, which emerged in the ensuing decades. Many of Semmelweis' colleagues rejected handwashing (which they felt made them look bad). The disposition to reject strong evidence for a contrary position has become known as the Semmelweis Reflex.

152. Donald A. Norman, *Living with Complexity* (MIT Press, 2010).

153. David Foster Wallace, "This is Water," bit.ly/1g1U1QY.

154. George Lakoff, *Women, Fire, and Dangerous Things: What Categories Reveal About the Mind* (University of Chicago Press, 1987), p. 5.

155. Nassim Nicholas Taleb, *Foiled By Randomness: The Hidden Role of Chance in Life and in the Markets* (Random House, 2005).

156. Kahneman, *Thinking, Fast and Slow*, pp. 79, 118.

157. Kahneman, *Thinking, Fast and Slow*, p. 436.

158. Howard Marks, *The Most Important Thing*.

9. Four Corners

“To achieve satisfactory investment results is easier than most realize; to achieve superior results is harder than it looks.”

– Benjamin Graham

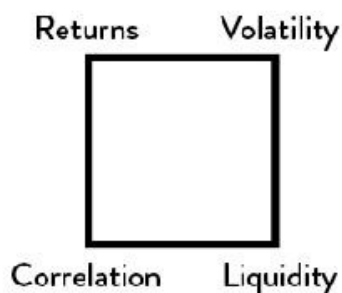
“Don’t sweat the technique.”

– Eric B. and Rakim

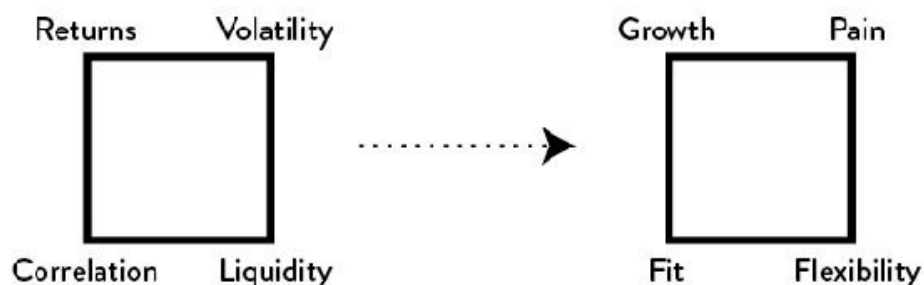
THE TRAJECTORY OF a happy life is shaped by expectations. When the future meets or exceeds our expectations, we tend to be happy; when it doesn’t, we’re not. It’s more complicated than that, but not by much. This lens colors both the trivial and sacred. The experiences of using a vending machine and teaching your child to be kind are shaped by the same neural pathways.

I designed the square to manage expectations for investment outcomes. The internal guts of this framework are driven by the problems just highlighted with both categories and probabilities. We need to cut through the dense jargon of the investment world to get at what really matters. And we need to unclench our minds a bit and allow for both ranges and randomness to do their thing.

There are four—and only four—quantitative elements that enlighten any potential investment.¹⁵⁹ These are, to use the technical terms: Returns, volatility, correlation, and liquidity. As a proper taxonomy, its categories are distinct and irreducible to other attributes. These are the foundational elements of investing. This is the technical rendition of the square:



These wonky terms will mean something vague to regular people and very precise to finance professionals. While it’s important to know the names of the raw concepts in play, let’s translate them into four intuitive yardsticks:



The square is the culmination of the path toward wealth, and a relatively complicated element of adaptive simplicity. So let's be clear about what's in motion at this moment. We've established how categories and probabilities impact cognition and decision-making. A basic understanding of both should make System 2 thinking (critical at this stage) less tiring and more effective. Loss aversion, a consistent theme throughout (e.g., alleviating sadness, less wrong), remains highly relevant. In this context, managing downside expectations has more psychic value than taking a guess at the maximum upside. Remember, successful investing is based more on minimizing regret than maximizing gains.

Conversely, we're not trying to come up with the singular "right" answer to build the "best" portfolio. Academics or investment wonks might crave what's "optimal," but as we learned from the inventor of the efficient frontier, Harry Markowitz, close enough is usually good enough. Finally, this approach holds no quarter for "hot" investments. My young daughter is obsessed with unicorns, but we shouldn't be. It's a waste of time.

The goal here is to make good investment decisions. We want to frame the key issues succinctly, manage expectations properly, and know how to ask the right questions. This is hard, so let's try to make it a bit easier by looking at each corner in some detail.

Growth

We buy financial assets to meet our daily obligations and fund our dreams. What the financial literature calls "return on capital" we'll just call gains, or growth. We want something smaller to turn into something bigger. In essence, growth is the main "product" we buy from investment companies.¹⁶⁰ We try to grow financial capital by choosing from a large menu of instruments (stocks, bonds, funds, etc.), which number in the hundreds of thousands. In some sense, the other three "corners" serve as qualifications on growth.

Understanding what gains are reasonable in the near and distant futures is ground zero of expectations setting. As the earlier discussion of probabilities hopefully made clear, we're interested in identifying what counts as a reasonable *range* of outcomes. What's a "normal" return for our investments? That obviously depends in which markets you participate. I'm going to focus on two: U.S. stocks and U.S. bonds.

The Stock Market

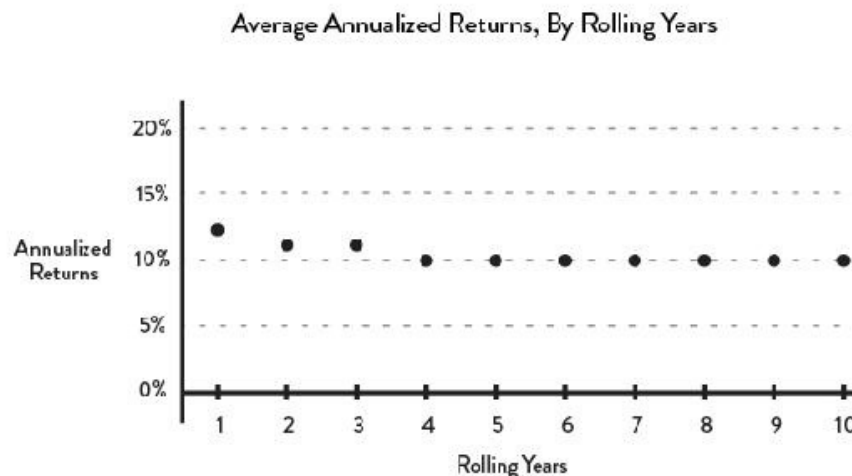
For stocks, the conventional wisdom is simply this: They return about 10% per year.¹⁶¹ Ask my dad or your neighbor what stocks "do" over time and they'll come up with that figure, or maybe a bit higher. Lo and behold, the conventional wisdom holds an element of truth. Sort of.

It's important to pause here for a brief comment on how to even think about measuring growth over time. A lot of financial data, especially in the popular media, is discussed according to *calendar years*. "What did the market do in _____ (fill in a year)?" That question is bandied about on CNBC, in the *Wall Street Journal*, and every other news outlet. The problem is that it is completely arbitrary to measure market outcomes from January 1 to December 31! There are good cultural reasons to do so (i.e., it's the way many others talk about it, so it's a social equilibrium), but there aren't good analytic reasons to do so.

Instead, I prefer to use "rolling" time periods. These are snapshots of uniform periods from "Day 1" to another designated day in the future. For example, the one-year period from January 1 to December 31 would be the first rolling period in a series; the second would be January 2 to January 1 (of the next year); the third from January 3 to January 2. And so forth. The unit of measurement can be days, weeks, months, etc. For an analysis of an entire century, when daily data would be too overwhelming, monthly windows would be: January to December, February to January, March to February, etc.

In addition to being arbitrary, using calendar years sharply limits the number of observations we have, diluting the reliability of any conclusions we make. From 1926 to 2017, which is the available data set on the U.S. stock market (specifically the S&P 500 Index) that most analysts use, there are 92 calendar year observations. By comparison, there are 1,091 rolling one-year periods in that span when using monthly windows, and hundreds of thousands with daily windows. With a larger set of observations, we can be more confident in our analysis. Alright, lesson over.

Here's the evidence for the average long-term return of the U.S. stock market over rolling time periods, from one-year rolling windows to ten-year windows.



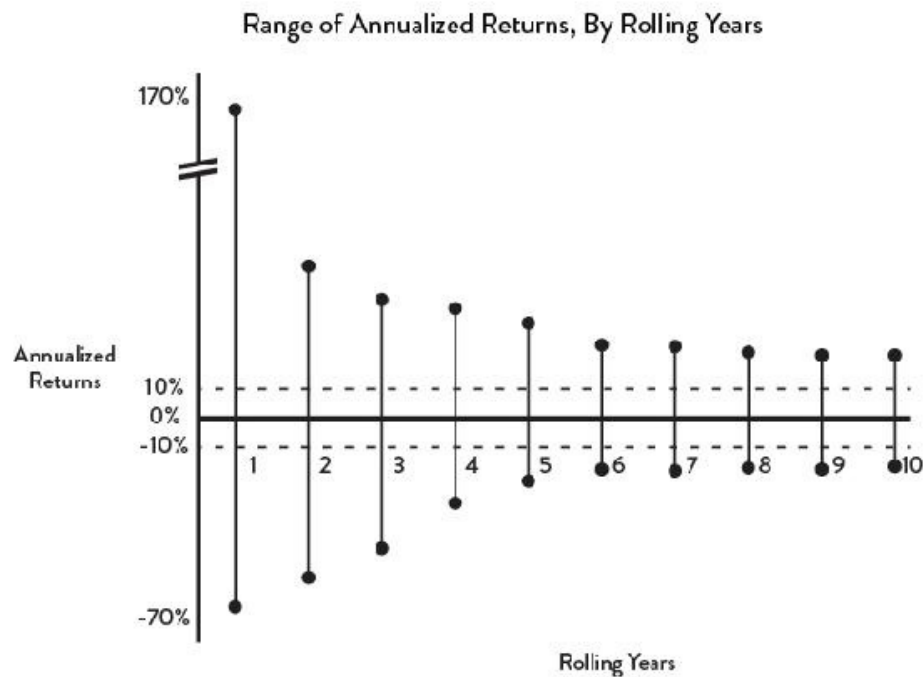
The “about 10%” line is correct.¹⁶² Over one- and two-year periods, returns are slightly higher owing to wild short-term performance swings that don’t get smoothed out in those windows—but do over the longer ones. This looks nice and tidy.

Unfortunately, “about 10%” is misleading. It violates many of the principles we’ve tried to establish in our quest for wealth:

- It doesn’t set expectations well.
- It ignores loss aversion.
- It skips over the question of probabilities.
- It generally disregards the importance of investor behavior in driving long-term outcomes.

There’s the old saw about the guy whose head is in the oven and feet are in the freezer, and says he feels about average. In any walk of life where there are a wide range of outcomes, averages become very misleading for setting expectations about an experience. Precisely because people like to use calendar year averages, it’s worth noting that in nearly a century of modern market history, the market has rarely been even close to producing “average” returns. Average doesn’t tell you much about the experience of real people.

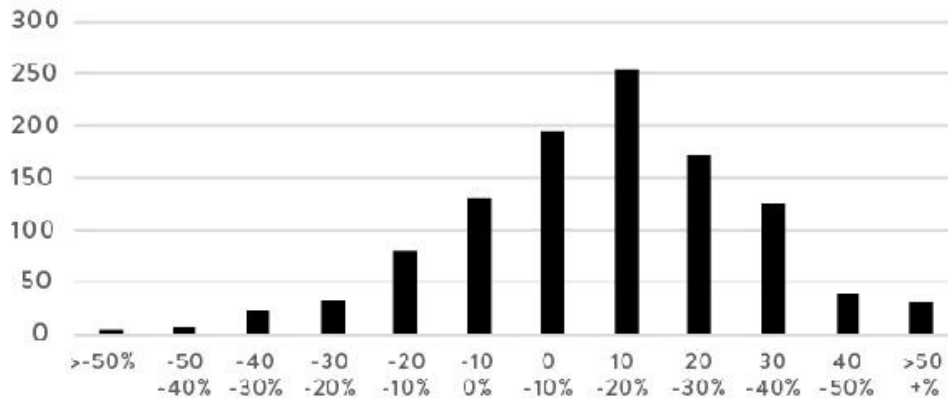
Because investing is an emotional roller coaster, we must understand *ranges* of outcomes. The probabilities mindset from Chapter 8 is useful here. Using the same rolling monthly data as above, here’s the “real” view on how to set expectations for the market.



This looks very different! Now you can clearly see how over shorter time periods, the range of potential outcomes is massive. Over our more than 1,000 rolling one-year periods, the U.S. stock market climbed as much as 166% in one year and fell by 67% in another. Those huge numbers are outliers, but the bulk of the range in the shorter windows is still much wider than during the longer ones. What should jump off the page here is that the longer the time frame, the narrower the range of outcomes. By the rolling six- or seven-year frames, the range stabilizes, thus making it easier to set expectations as a long-term investor. That said, easier does not mean easy—there is still a wide range of potential outcomes even when we think in terms of decades.

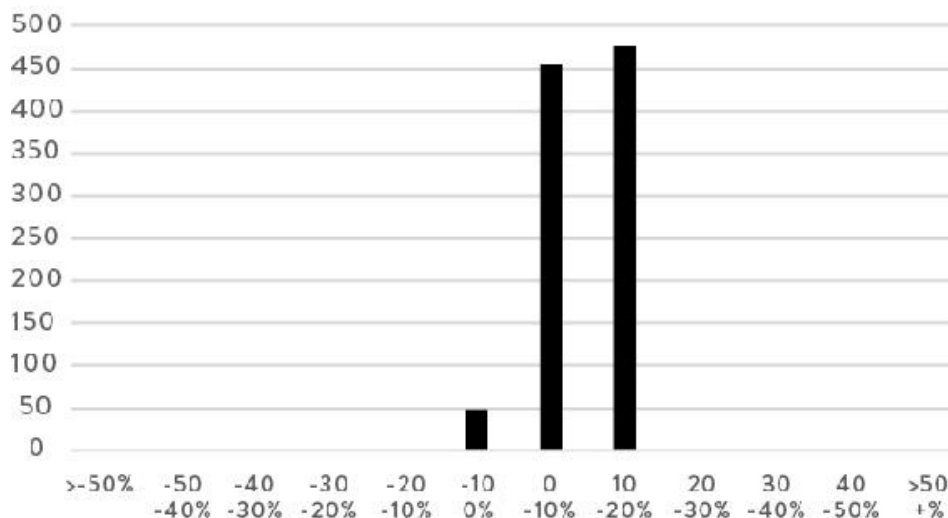
To flesh this out a bit more, here's another image showing a distribution of only rolling one-year periods. In other words, I've basically taken the first long vertical line above and displayed it horizontally.

Distribution of Rolling One-Year Returns



It resembles a “normal” distribution, with short “tails” and a fat middle. From this we can see that in any given one-year period, the U.S. stock market usually returns somewhere between +40% and -20%, which is a wide range. The most common result is between flat and +20%. But then contrast that to the rolling ten-year results:

Distribution of Rolling Ten-Year Returns



There are no “tails” in this image. Almost all the outcomes are annualized returns somewhere between 0% and 20%. There are some periods where the rolling ten-year return is negative. To reiterate: The longer we hold risky assets,

the more likely they are to revert to something approaching a long-term average. That said, there is still a wide range of outcomes even in this “long run.” The difference between, say, 3% and 15% annualized returns over a decade has massive consequences for our money lives. In order to plan accordingly and avoid disappointment, we must maintain a probabilistic mindset, as best as possible.

Individual stocks

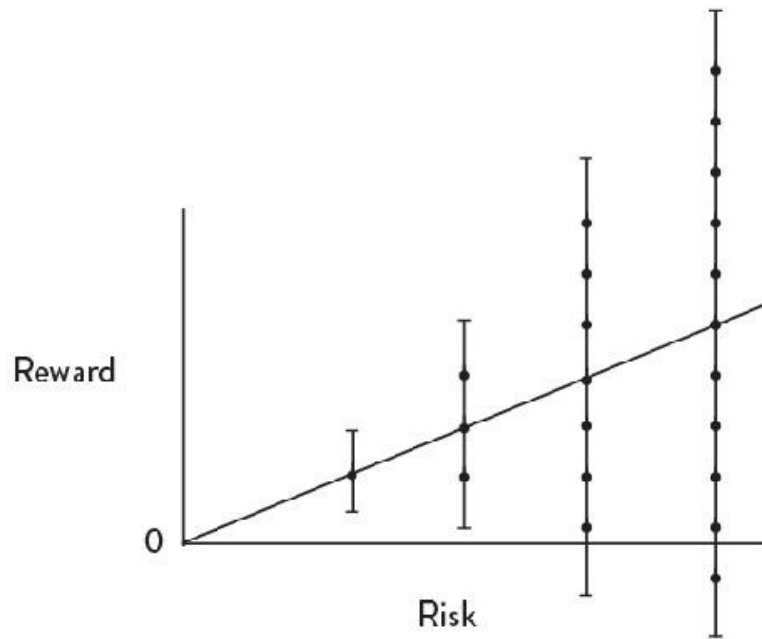
Finally, one additional layer of detail will further refine our expectations for growing capital. To do so, we move from broad “market” outcomes to the results from individual stocks. The stock market is, well, a market of individual stocks, and many investors will own single stocks rather than a broad index fund or an actively managed basket of them (e.g., mutual funds).

This layer starts with an odd investing conundrum:

- The stock market has delivered attractive gains over the long run, well in excess of cash.
- Most stocks don’t outperform cash over the long run.

In other words, most individual stocks perform just so-so to poorly, but stocks *in general* perform well. Research shows that, dating back to 1926, 58% of common stocks have a lifetime return of *less than* a one-month Treasury bill, which is a proxy for cash.¹⁶³ We would certainly expect over the long run, most stocks should beat out cash. That hasn’t been the case.

How could this be? To start, recall one of the key points in Chapter 5: The well-worn notion that taking more risk produces more return is inaccurate. Instead, taking more risk increases the range of potential outcomes:



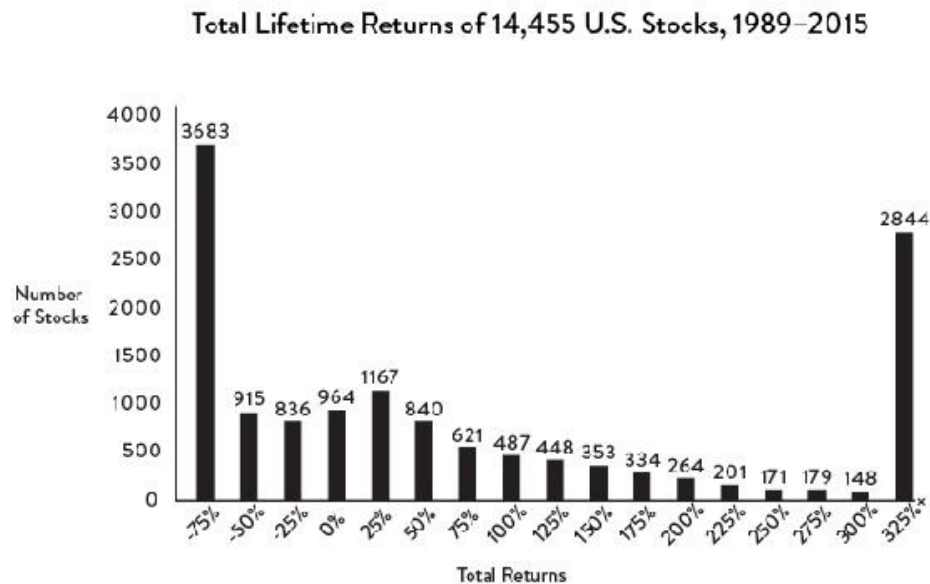
Buying a stock means buying a fractional share of the company's expected future profits. As those profits meet expectations or not, the investor will benefit or lose. The problem is that many companies don't do all that well. The companies that we are most familiar with have already made it (a great example of what is known in statistics as "sample bias"), and we don't see the smaller companies that never climb the ladder.

In fact, over the past 90 years, only 4% of companies explain the net gain for the entire U.S. stock market.¹⁶⁴ The top 86 stocks (out of 26,000) accounted for 50% of the \$32 trillion in wealth creation during this span. I was shocked when I saw these numbers.

To better understand this, we must rely on a somewhat complicated statistical concept: *Skew*. Take this made-up example as an easy first step: My daughter is part of a Girl Scout troop which has an annual cookie sale (that part is not made up). There are ten girls in the troop and nine of them sell only \$50 worth of cookies. My kid sells \$100 of cookies (perhaps with the help of someone who bought a few extra boxes of Samoas). Thus, the troop raised \$550 and the "average" Girl Scout made \$55, meaning that 90% of the girls had "below average" results. Only one-in-ten was "above average." It's a silly example, but it shows skew in action: Extreme outliers create a group average that's not representative of any single member of the group.

The history of individual U.S. stocks features a similar dynamic. As noted, more than half of stocks throughout modern history underperformed cash. But a

handful put up fantastic results. This picture, which is a subset of the entire historical period, captures it well:¹⁶⁵



What's shown is the *opposite* of a bell curve! Most of the events were in the extremes. Here, like with the full historical data set, more than half of the stocks during this time underperformed cash. It reflects the very different emotional experience one can have in the market if relying just on high-level data and simple averages.

Gut Check: Why is any of this relevant?

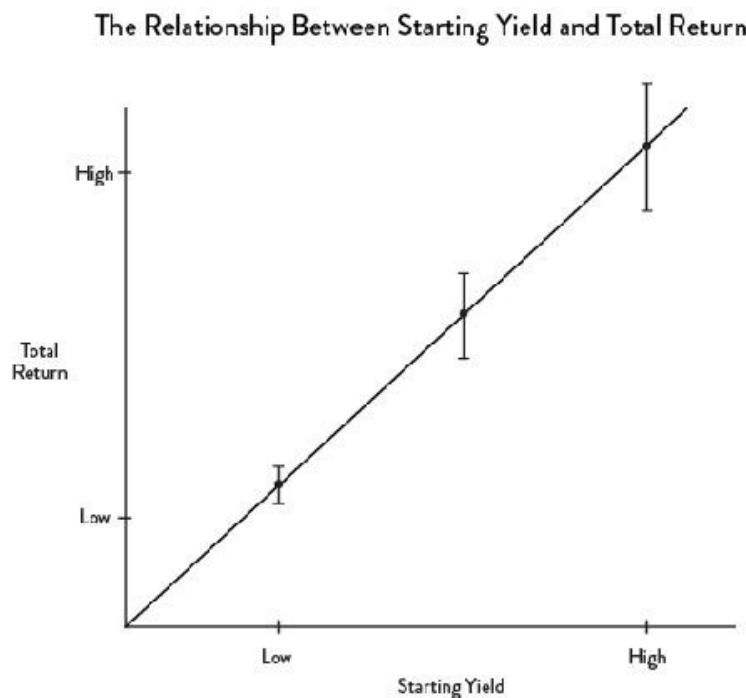
At this point, some readers might feel that we have veered miles off course from our core quest for funded contentment. Let me assure you we're right on track. We're setting clear expectations for how our capital might grow, which is central to our effort at simplification. With the square's focus on a smaller number of more important factors, we can better manage the mental energy necessary for adaptive simplicity, which drives us toward achieving true wealth.

This entire current exercise is about managing expectations. So when we say that stocks make “about 10% per year,” it would be a mistake to assign the

outcome of the entire group to the attributes of any member of the group. This is sometimes called the “ecological fallacy.” Any individual stock can be a dud (e.g., General Electric over the last decade) or a rocket ship (e.g., Amazon over the last decade). Additionally, it points toward the most important tactic investors have for participating in the market: Diversification. We can’t pick only Amazons before they take off, so the best bet is to own a broad swath of the market.

Bonds

The other segment of a standard portfolio is bonds. Compared to stocks, setting growth expectations here is relatively easy. For a big portion of the conventional bond market, especially standard corporate- and government-issued bonds, starting yield is a reasonable predictor of total return (capital appreciation plus accrued income) at the time of the bond’s maturity. There are many intricacies in bond world, so it’s worth noting that this general relationship is truer for a broadly diversified portfolio of bonds than any single bond.¹⁶⁶ This picture roughly captures the relationship between yield and return:



Never lose sight of what a bond is: It is a loan to another party, usually a government or a corporation. The mathematics behind fixed income are fabulously complicated. That said, the first item of consideration in this area of the capital markets is almost always the creditworthiness of the borrower,

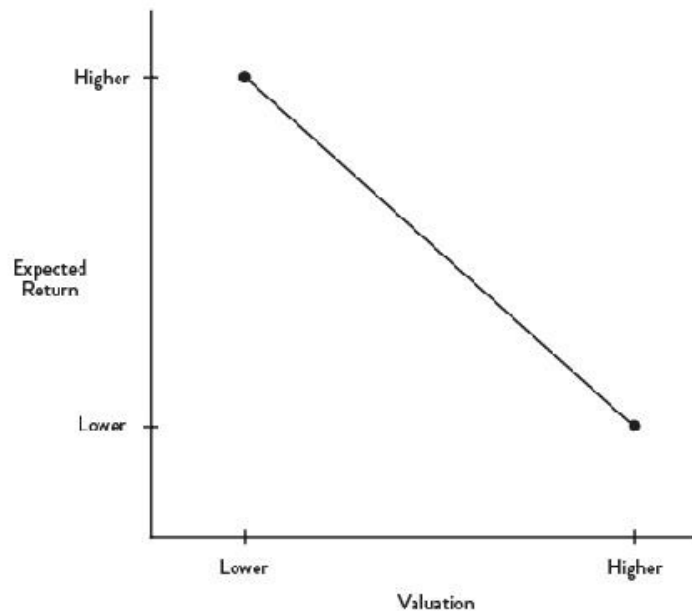
sometimes referred to as “credit risk.” If you lend money to the U.S. or Swiss governments, you will be paid back. Want to lend money to the Venezuelan government or a troubled auto parts manufacturer? The chance that you might not get paid the income and principal you expected explains why in the picture above, the range of potential outcomes expands as the creditworthiness of the borrower declines. As has been a consistent theme, taking on more risk increases the variability of future outcomes, not all of them pleasant.

Big picture on growth

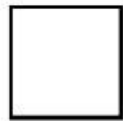
With the growth of financial assets, there’s an overarching rule for managing expectations: The price you pay is a primary determinant of long-term results. Specifically, the more you pay, the less you will get. The less you pay, the more growth you will find.

That experience doesn’t square with most other consumption experiences. Every year I take my kids to the Chicago Auto Show. I’m not much of a car guy, but the kids like running around and some of the vehicles are super cool. To state the obvious, more money buys you a bigger engine, sleeker design, more advanced engineering, and better technology. We make this assumption about price and quality, or at least price and features, in most of our consumption decisions. Yet the purchase of investment products works in the opposite direction: All else equal, the more you pay, the worse the results you’re likely to achieve. While this applies to fees on investments, it’s more relevant for *valuations*: How much value you’re willing to assign to a company’s profits, a bond’s yield, or other measures of intrinsic worth.

The Relationship Between Valuation and Expected Return



The graphic above offers a thumbnail of this basic relationship. As valuations climb higher, expected returns trend down. The conventional wisdom at the time of this writing, as reflected in the McKinsey data presented in Chapter 1, is that both stock and bond markets are richly valued. That suggests a higher probability of a lower return environment in the future. We don't know what the future holds, but setting overall growth expectations based on reasonable probabilities, and not just looking in the historical mirror, is the prudent way to plan.



Maintain reasonable expectations for growing capital.

Pain

The resale price of almost everything you own changes over time. Your cars, books, house, clothes, baseball cards, and Beanie Babies—if brought to market—would likely sell for something different today than they would a month or year from now. This isn't too disconcerting because we don't look to offload our possessions on a frequent basis. Nor is there always transparency into the prices

for most of your stuff. That's changed some with eBay and other online marketplaces, but this isn't how we think about it most of the time.

An exception is investments, whose prices change every day, often many times per day. That's different than saying their value changes every day, but in so recognizing that, we encounter one of money life's most challenging problems: How to emotionally handle that volatility in price, independent of whether the asset's underlying value has changed.

Behind its growth profile, an asset's volatility is its second most prominent feature. Volatility is the jumpiness in the price of those instruments. It's what inspires short-term—and often bad—decision-making. Investors tend to buy high and sell low due to volatility, thus undermining their own financial futures. The “behavior gap” evidence presented elsewhere in the book speaks to this inability to stomach the short-term gyrations in price.

Volatility is the *emotional cost* of achieving the growth we seek. Long-term growth charts of stock and bond markets show remarkable appreciation over time. But such charts don't give any sense of how difficult it is to hold on to our investments during the many rough patches that occur along the way. The ride matters. To properly set expectations, we have to wonder what the ride will be like. How bad might it get? And am I willing to pay that price?

To transcend the potential pain, one thing that we have going for us is that it's easier to set expectations for volatility than it is returns. That's because some asset classes are consistently more volatile than others. Stocks are more volatile than bonds. Smaller-cap stocks are more volatile than bigger-cap stocks. High-yield bonds are more volatile than investment grade bonds. Generally, the road from lending (owning bonds) to profit participation (owning stocks) grows bumpier. Near-term profits are far less predictable than an ability to pay interest on a loan.

Even though volatility is more predictable than returns, that jumpiness (even when known) encourages bad decisions along the cycle of greed (buying high) and fear (selling low). Volatility is the “price of admission” for access to *potential* gains.

Seemingly straightforward, this perspective is at odds with popular wisdom, that “volatility is not the same thing as risk.” Warren Buffett, Howard Marks, and other luminaries have long promulgated this misleading concept. Buffett and Marks are as clear thinkers and writers as the investment world has to offer, so the disconnect here stems from conflicting objectives of market masters and normal people. The market masters aim to exceed some benchmark and/or

maximize profits, while our goal is meet specific life objectives. Of course, “more” sounds great, but hopefully we’ve put that baby to bed by now.

Risk is the chance you won’t meet your financial goals. Defined as such, volatility is one of the most important risks around. When not properly anticipated and prepared for, the jumpiness of your investments bounces you out of the game, which is then hard to get back into. Recall how the average investor responded to the calamity of 2008. He or she sold near the bottom of the market, locked in massive losses, and then didn’t get back into the market for years.

Numerically, volatility is a tough concept, no matter what we call it. (The stock market historically has a “vol” of around 17—a number with no intuitive meaning.) The best way to make jumpiness far more emotionally relatable is to also discuss *drawdown*, a closely related but simpler concept. Drawdown is the depth of the real-world decline in any particular market, asset class, or other investment.

Here are the largest historical drawdowns for four primary asset classes.¹⁶⁷



The real-world experience of stocks is more tumultuous than it is for bonds, as evidenced by the averages. But the range of bad outcomes shows that supposedly more conservative investments are not immune from steep losses. In

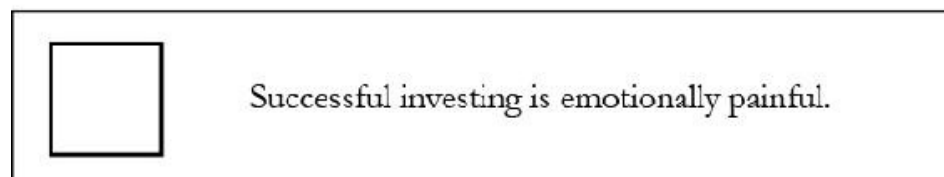
some ways, investors are more comfortable with stock market losses than bond market losses, as bonds are supposed to serve as the ballast to a portfolio. Thus, managing expectations properly is critical.

Drawdowns have a behavioral cost. This next table is hardly scientific, to say the least, but it is based on impressions of how investors deal with losses.

A Gut Check on Risk

Size of the drop	Gut reaction	Likely actions
0 to -5%	"I don't like this, but it's not a big deal."	Pays more attention but does nothing.
-5% to -10%	"This is uncomfortable. Something is wrong."	Takes a closer look at the portfolio. Probably will do nothing, though some will be antsy. Some will feel "brave" for doing nothing.
-10% to -15%	"This is bad."	Takes closer inventory on what's "working" and "not working." Decisions to sell are made for the sake of "doing something." The goal is to dull the pain.
-15% to -20%	"This is really bad."	Explores wholesale changes to the portfolio. Significant trading activity.
> -20%	"I can't handle this."	Panic selling, especially when losses exceed 30%-35%. Most can't handle this pain.

As the losses grow, affect turns increasingly negative and actions grow more extreme. The deeper the drawdown, the more painful the ride.



Fit

I own a lot of fleece jackets. I doubt you care why, but I'll tell you anyway: I find them extremely comfortable in a wide range of weather conditions from

summer evenings to dark Decembers, which helps with Chicago's volatile seasons. I also like the way they look, have cool pockets for my stuff, and easily pack for trips. So I buy a lot of them, many more than I should.

We are all creatures of habit. We like what we like and tend to go back to the same vendors for the same products over and over again. Cars, make-up, clothes, fly reels—you name it. It's sometimes easy to forget that investing is a form of consumption, so many of the same behavior and habits we exhibit with an SUV or eyeliner manifest in our capital markets activity.

We're drawn to a certain style or orientation of investing. We deem ourselves "aggressive" or "conservative." We like particular sectors or themes that feel right to us. We're attracted to what we believe we know better, for which we have a higher comfort level. An important example is owning stock in the company you work for (doubling up the bet on both your financial capital and human capital), or in the type of company you work for. For example, you're employed at a digital media company and tilt your stock market investments to Facebook and Twitter.

Furthermore, you gravitate toward a place you think you know: "Home bias" is prevalent investor behavior. Canadians, Australians, British, Americans and others tend to hold a disproportionate amount of stocks based in their home countries. This is a form of availability bias—we are drawn to what's right in front of us and don't consider what's less visible. Aggravating this is the so-called endowment effect, which basically states that we prefer something by virtue of already owning it. The things we're already biased toward become even more so. We tend to like and hold what we already own.

Buying things we don't like is not the most natural thing to do. No time soon am I picking up a denim jacket or a moisture-wicking Lulu Lemon get-up to "balance out" my fleece. Yet with investing, we're supposed to do just that. One of the central principles of investing is to own a lot of different investments which don't resemble each other. In fact, the less they resemble each other, the better. The more uncorrelated our portfolio investments, the more likely the portfolio should prove to be a reliable, all-weather vehicle.

For any investor, including the most sophisticated, correlation is a tough nut to crack. It's a mathematically complex metric which measures the "covariance" of multiple investments. It's the extent to which prices of investments move in sync with each other.

Why bother, then? Because one of the hallmark findings of modern finance—one that's actually practical—is that a smartly-assembled portfolio of lower-

correlated assets provides a leg up to achieve better returns more smoothly. More growth, less pain. So, it's worth understanding how the next investment fits into a larger plan. How does it improve upon what I already have? Is it worth it? Am I taking a distinct risk or merely doubling up on what I already own?

These relationships are not something you can see with the naked eye. Mathematically, correlations range from perfectly positive to perfectly negative. A perfectly positive correlation is one where the price of two assets moves in perfect lock-step. I zig, you zig. With negative correlations, I zig, you zag. There are precise mathematical calculations for correlation, but a lot of art comes with that science. For example, the chosen time frame matters. We can measure correlation across days, weeks, months, or years. It's a somewhat arbitrary decision, but whether something is "uncorrelated" is partly a function of the time frame you choose.

Second, correlations vary over time. They are unstable. The correlations between and within categories of stocks, bonds, real estate, and so forth change depending on circumstances. And here's the rub: Correlations tend to spike higher when markets get jumpy, which is exactly what you don't want. Correlation is a fickle friend, usually showing up for the party, but rarely the funeral.

Here's a snapshot of the average correlations (based on rolling three-year periods, going back roughly four decades) for those same four major asset classes we looked at before.

Average Correlations Among Major Asset Classes

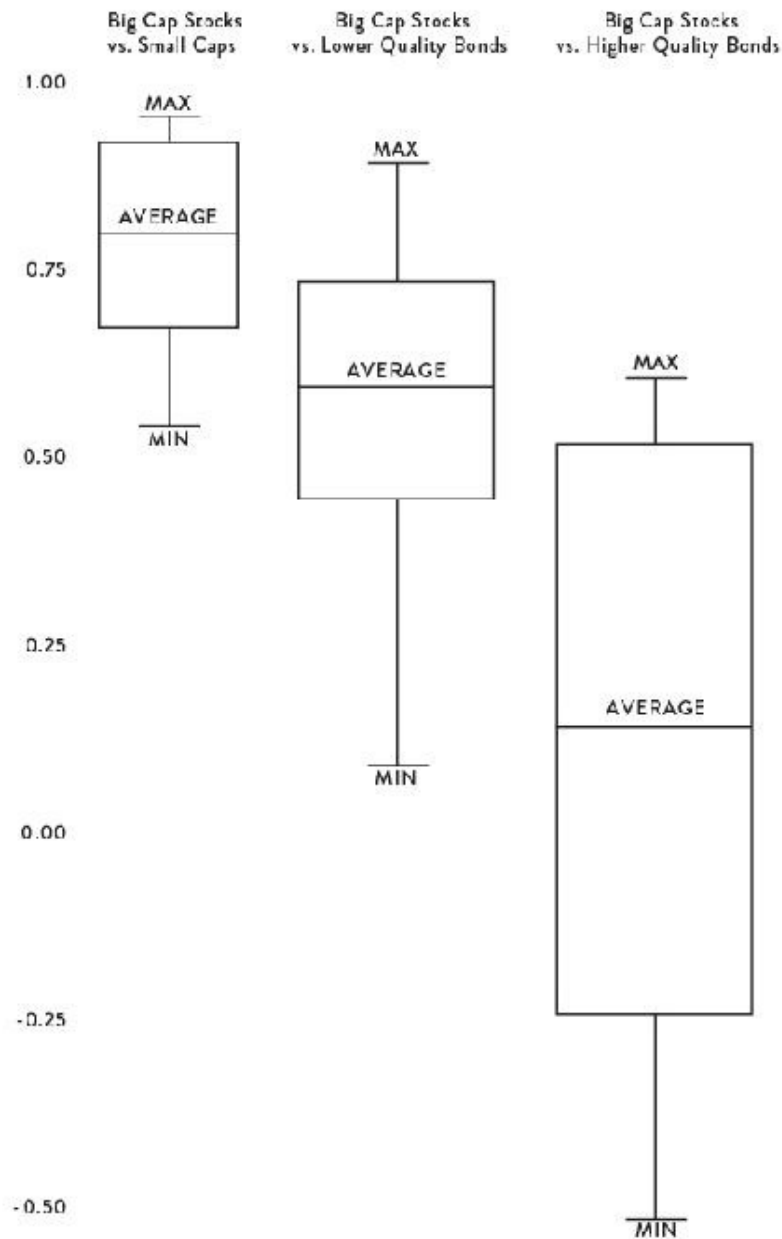
	Big Company Stocks	Small Company Stocks	Lower Quality Bonds	Higher Quality Bonds
Big Company Stocks	1.00			
Small Company Stocks	0.80	1.00		
Lower Quality Bonds	0.57	0.54	1.00	
Higher Quality Bonds	0.12	-0.03	0.33	1.00

A correlation of 1.00 means the prices of two assets move in lockstep with one another. Imagine a tight flock of birds flying in perfect formation. Correlation is zero when the price of two assets have nothing to do with each other. The movements of a squirrel scampering around a meadow are independent of birds' paths above. A hunter can aim for the birds or the squirrel, but not both. Lower correlation is a source of safety in a portfolio.

This snapshot is incomplete as it doesn't capture how things move together in the real world. The following image is a bit more complicated as it shows ranges instead of point estimates. But it's better for helping us manage expectations.

The next graphic shows the range of rolling three-year correlations of big-cap stocks to the three other asset classes. You can see that around the average correlation there is a wide spread of outcomes. The box along each vertical represents two-thirds of all historical outcomes, which is meant to capture the "what happens most of the time" sensibility. The maximum and minimum correlation over rolling three-year periods, going back a few decades, is also illustrated. The range of correlations between big-cap stocks is relatively narrow with small-cap stocks, but expands significantly when measured against lower-quality and especially higher-quality bonds.

Correlation Ranges Among Major Asset Classes



The next graphic rounds out the analysis by showing how these ranges shift through time. You can see right away that correlations are not stable. Most notably, focus on the line for higher-quality bonds: It jumps around in low (but positive) correlation territory in the 1980s and 1990s, but then shifts to a different pattern over the past 15 years or so.

Rolling Three-Year Correlations of Big Company Stocks
to Other Asset Classes



These last two illustrations show that any static image of how one investment relates to another can be unreliable.

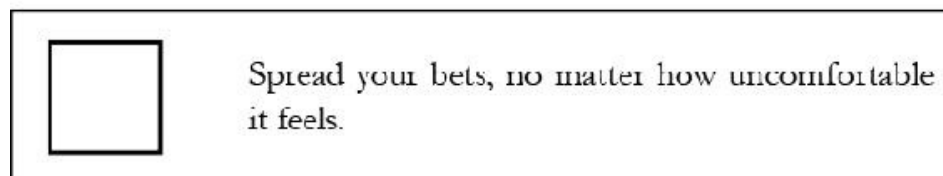
In the context of all these data, which can be confusing, what is it that investors *really* want? It's not the technically purer concept of low correlation, but rather uncorrelated assets during tough times. Our true desire is investments that all go up during the good times, but then play defense well during bad times. Unfortunately, this is something we almost never see and reality tilts more toward the opposite: Correlations among asset classes tend to rise during crisis because liquidity tends to dry up during scarier times and many investors raising cash are indiscriminate sellers. By far the best example of correlation's fickle friendship is 2008, when the prices of most asset and sub-asset classes plummeted in sync.

Finally, owning a basket of investments that fit with each other, meaning they do *not* all move in sync, is emotionally unpleasant. If you own truly lower-correlated investments, it means that something in your portfolio won't be "working" when many other things are.

Correlation drives the magic of diversification, the most sensible tool for building a portfolio. Sensible, yes, but also annoying. Investors have become conditioned to believe that they want to own a diversified portfolio, but they often don't like the reality of diversification. Like vegetables, diversification

sounds healthy but doesn't always taste good. With true diversification, there will always be something in your portfolio that stinks.

Even what appear to be attractive investments don't matter if they don't fit. Unwittingly doubling down on risks we already own and are most comfortable with is a sure way to delude ourselves into thinking our portfolio is more safely positioned than it actually is. Like returns, correlations tend to move up and down, making the fit question difficult to answer. Understanding the range of historical outcomes is about as good we can do.



Flexibility

The fourth and final element of investing is liquidity. Narrowly understood, this is the ease or difficulty by which you can buy or sell something. If I go to Amazon, I can instantaneously choose an Elmore Leonard classic, pay for it, and have it shipped for next-day delivery. If I wanted to sell my house today, I couldn't. If my wife and I wanted to adopt a child, we would need to go through an arduous, lengthy process. If we wanted some groceries for tonight's dinner, we could get them immediately, without problem. The market for *Get Shorty* and groceries is liquid; the market for houses and babies is not.

The prominence of one-click online brokerages (think Schwab, Fidelity, or eTrade) gives the impression that investing is always cheap and seamless. Not so. Depending on the type of investment, it can range from effortless to difficult. For technicians, this is the world of bid-ask spreads, market makers, and supercomputers. Securities become more or less liquid depending on a wide array of inputs.

For normal people, however, liquidity is a question of flexibility. It is a proxy for the ability to change one's mind. If I want to pivot, can I? Will I be stuck? If so, is that a bad thing?

Being able to pivot toward a different direction lies at the center of our survival instinct. That ability is a proxy for control, something each of us values deeply. Both freedom from constraint and the freedom to chart our own course are powerful motivators. Few crave limits.

Indeed, the principle of adaptive simplicity is premised on an ability to change one's mind. The entire section on the circle was based on the need, opportunity, and ability to respond to change. At the same time, adaptive simplicity also requires us to stick to a plan. Hence there's a balancing act between flexibility and discipline that is hard to get right.

One way of correctly addressing the merits of flexibility is to ask whether you are being compensated for relinquishing it. When you sacrifice something you value, what are you getting back in return? In traditional terms of liquidity, this question is one asked every day by sophisticated investors who deal in private equity, real estate, energy partnerships, and the like. What those guys in the pinstripes are doing is figuring out whether giving someone their capital for many years will produce a return far in excess of what they could potentially earn in fully liquid markets. In other words, they are assigning a value to optionality, or opportunity costs.

That's the stuff of regular finance, but I'd stress a second, more relevant question about the *behavioral* compensation for inflexibility. Think back to the Chapter 7 example of the two Vanguard mutual funds—identical in portfolio holdings, but different in structure. In one case, the fund was owned in discretionary accounts where people could come and go every day without difficulty. In the other case, the fund was owned in retirement accounts, which are more cumbersome to tinker with and include an auto-invest (or “set it and forget it”) toggle. That slight difference in design has produced wildly different behavioral outcomes. Those with less flexibility achieved better outcomes.

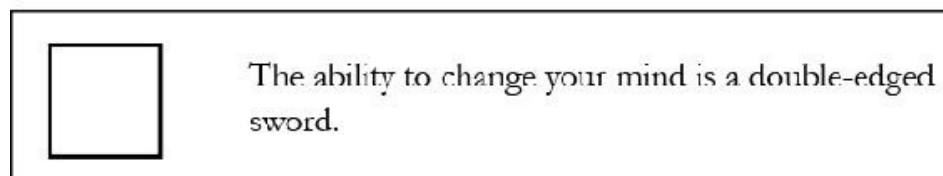
Imagine a scenario in which at age 25 you invested a chunk of money which then couldn't be touched until retirement at age 65. Short of Armageddon, your capital over that 40 years should compound at a high rate of return. You would likely accumulate one of the best track records around, beating even those seasoned money managers who are trying to navigate the market's near-term ups and downs.

The issue at this corner of the square is how much one is willing to forsake control in order to allow their assets to grow unimpeded. There are distinct “decision protocols” we can employ to get us toward good long-term outcomes. The first is the Ulysses scenario: Tie yourself to the mast as you know ahead of time you can't resist the call of the sirens. In the markets, this means that you know volatility spooks you, so you want to pre-commit to a strategy to stay the course. You eliminate your own discretion. At the other end of the spectrum is retaining full flexibility and accepting that you'll need to be patient and

disciplined. The upside in this protocol is that you can change and adapt as you see fit.

All modern investors serious about their long-term outcomes should consider the various forms of available pre-commitment strategies. Significant evidence shows that investors who avail themselves of auto-investment strategies in their workplace retirement programs tend to save more and do better over time.¹⁶⁸ The routine is particularly useful during bear markets, when you're automatically investing as the market becomes cheaper. Another set of solutions are so-called "target date" funds, wherein you target the year you want to retire (say, 2040) and the fund operates as a fully automated multi-decade investment program. Over time, those portfolios will shift from an emphasis on stocks to an emphasis on bonds, which means rebalancing and dynamic asset allocation are built in.

In sum, while it's hard to make an *a priori* judgement call that either "stay the course" or "be nimble" is better advice, investors put themselves in good stead by appreciating the trade-offs.



~

The corners of the square allow us to capably manage investment expectations. Equipped with some insight on categories and probabilities, we can now ask the right questions at the right levels of abstraction:

- What are reasonable growth expectations for my money?
 - Top level: Be prepared to ask about the ranges of historical outcomes.
 - Deeper level: Understand that inflation-adjusted, or "real," numbers are more important to knowing what you "get" from the market in terms of purchasing power.
- Will I be able to enjoy those gains, or will the emotional discomfort of the investments' jumpiness compel me to sell?
 - Top level: Be prepared to ask about the history of drawdowns.

- Deeper level: Understand how the volatility of an asset class has changed over time.
- As I think about building a portfolio made from several investments, have I built a truly diversified mix of assets, one that necessarily includes pieces that are lagging or appear to be “not working”?
 - Top level: Be prepared to ask about how correlations might increase during market crises.
 - Deeper level: Understand the implications of how different investment styles move in and out of favor for the performance of your overall portfolio.
- How easy or difficult is it for me to change my mind about my individual investments and the composition of the portfolio?
 - Top level: Be prepared to appreciate that discretion is a double-edged sword.
 - Deeper level: Don’t bother—this topic is incredibly technical, so focus on understanding your own inclinations rather than the technicals of liquidity.

The financial concepts of returns, volatility, correlation, and liquidity—let alone more complex ones—are potential sinkholes for an investor’s limited mental energy. Thus, a focus on fewer key ideas exemplifies the use of adaptive simplicity at this later stage of the push toward funded contentment.

Into the center

When viewed in relief, the vast majority of the square’s footprint is empty space. That’s an apt visual as we head into the final stretch.

For as much as I hope the previous detail on the square proves to be a solid tool to set and manage portfolio expectations, especially during rocky times, an intellectual and emotional understanding of those elements is an incomplete recipe for success.

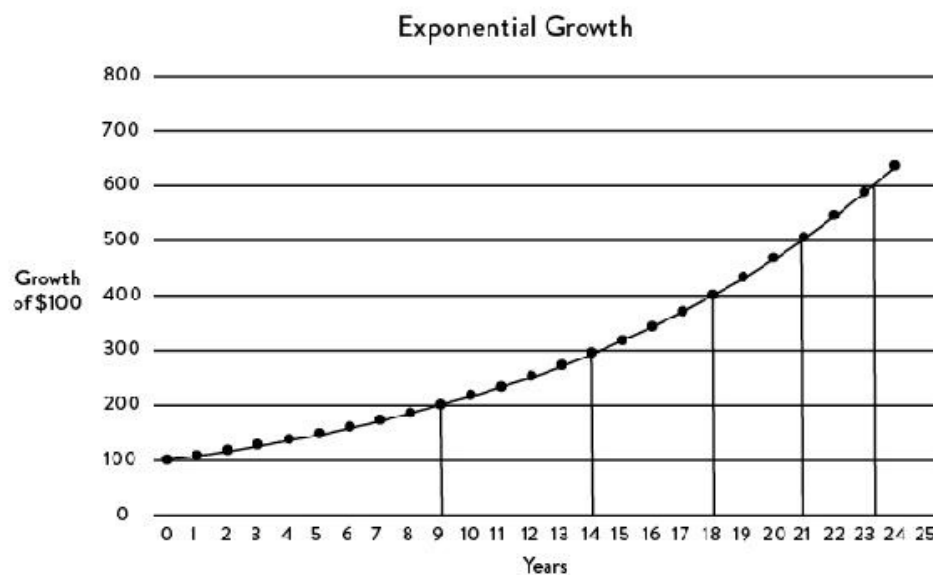
It also requires grappling with the concept that after a reasonable plan is in place, *do nothing*. Or as close to nothing as is practically feasible. By doing nothing, we let compounding do its work.

Compounding is the quiet protagonist in more tales of progress than nearly any of us has considered. Einstein supposedly called it the most powerful force in the universe and Geoffrey West’s blockbuster treatise, *Scale*, details how any type of complex system—cities, companies, our bodies, plants, financial markets—can

be understood through the lenses of compounding, exponential growth, and non-linearity.¹⁶⁹ (If you thought probability was a hoot, you'll love non-linearity.)

Compounding is the basic mathematical principle that over time something will grow exponentially if left to its own momentum. Charlie Munger explained: "The first rule of compounding: Never interrupt it unnecessarily." That applies to the things we like, such as money. And to those we don't, like debt, when interrupting toxic compounding is the top priority.

The following image has two important takeaways. I took \$100 and compounded it annually by 8%. The first lesson is that even single digit growth rates produce huge gains over time. In this case, after 25 years, our \$100 has grown almost seven-fold. An easy trick to intuitively understand this is the "Rule of 72," which tells us how long it will take an investment to double given a fixed annual rate of compounding. By dividing 72 by the rate of return, you can get a rough estimate for how long a double will take. Thus, at 8% ($72 \div 8$), it takes about nine years.



The second point is even more interesting: The rate at which something scales *accelerates* as growth proceeds. I drew vertical lines on the graph to mark when our investment had doubled from the previous point of doubling. See that at each doubling interval, the time period shrinks. At each next stage of its growth trajectory, a larger number is being multiplied, so organic growth accelerates. This is the exponential function. This is non-linearity.

Literally thousands of books have been written about how Warren Buffett built his fortune. Some of them are quite interesting, but blogging savant Morgan Housel makes the very clever point that nearly all of them missed what's likely the most transportable lesson of the Buffett story: He started very young and compounded his wealth from there.¹⁷⁰ Housel heralds the relevance of the “freakishly small base,” the fact that almost everything very big in life started out as something very small.

Very few of us started investing in grade school. Or high school. Or college. Or in our 20s. But there are few surer ways to achieve growth than starting early. It provides a remarkable advantage over others. Nor is it ever too late to start. There's an old Chinese adage that the best time to plant a tree was 20 years ago, and the second-best time is now.

There is some friction in this narrative, however. Understanding the dynamic of compounding is difficult. “The greatest shortcoming of the human race is our inability to understand the exponential function,” physicist Albert Bartlett once said. Exponential growth might sound straightforward, but it's hard to intuit because early-stage growth is so slow moving that's it barely observable, misleading us into thinking we're not making progress. Humans are linear thinkers, making it hard to imagine that a “freakishly small base” can grow fabulously large.¹⁷¹ It's only when we arrive in those later years, when things have accelerated, that we viscerally realize how it works.

Even assuming a perfect intellectual understanding of compounding, we still find ways to avoid its benefits. Along the way, we watch, get involved, learn more, tinker, obstruct. We thus get in our own way and in turn inhibit the change we seek. There is an impulse to do *something*—something to make things better, or something just because we can't sit still. Jason Zweig notes that “Approximately 99% of the time, the single most important thing investors should do is absolutely nothing.”¹⁷² Doing that means giving up control, which we don't do lightly.

One of the greatest skills in investing is patience, the Stoic ability *to do nothing deliberately*. In our money lives and well beyond, those who have mastered the art of delayed gratification are more likely to excel.

A wonderful series of studies by Walter Mischel, a Stanford professor of early childhood development, have demonstrated that some children are disposed toward self-control, while others are impatient. Mischel offered them a treat—a “marshmallow test”—and allowed them to eat one now or enjoy two later. Some kids sat stalwart, waiting for an extra treat, while others gobbled up the one

marshmallow as soon as it was permitted. Mischel and his colleagues then monitored the development of these children for the next several decades. They observed that those with a natural sense of self-control fared much better throughout childhood and adulthood. They “had a lower body mass index and a better sense of self-worth, pursued their goals more effectively, and coped more adaptively with frustration and stress” when they grew into adults.¹⁷³

Patience matters, but it has always been a challenge for mankind. The first human story in the Bible is one about temptation in which Adam and Eve didn’t fare so well. In our age of endless information and distraction, things have grown considerably worse; the ancient apple has been replaced by the modern iPhone.

Even when Dr. Seuss’ Great Places are visible in the distance, it’s often unclear how we get from here to there. Having the right mindset is critical, but achieving that can be taxing. We’re torn: We feel compelled to take control, to lean in. But at the same time we know there is wisdom in letting go, allowing well-made plans to run their course. We would love to do nothing, but oddly it takes a great deal of foresight and willpower to do so. Doing nothing is denying the alluring power of now.



The Geometry of Wealth concludes in the next chapter by addressing this tension between doing nothing and doing something. I think most books with a practical angle, especially in finance, aim to wrap things up in a nicely tied bow. They offer tight checklists or worksheets the reader can use down the road.

Let’s buck convention, go in the opposite direction, embrace the messiness of reality, and deal with things as they are. On that path we’ll finally acknowledge that throughout this journey, there’s been a gremlin nipping at our ankles, making progress harder than we’d like. He has darted in and out many times; perhaps you noticed him. That gremlin is time.

Our relationship to time—better put, to temporality—implicates some of the most mind-bending and exciting conversations in philosophy, psychology, economics, and neuroscience. Humans have a unique ability to mentally zip through time, moving back and forth through the past (memory), the now, and the future (imagination). We are time travelers, of a sort, ones that must navigate the relationship between the current and future versions of one’s self. Recognizing this tension, and then striking a balance between its various

manifestations—more versus enough, progress versus presence, and becoming versus being—is the final stop on the path to wealth.

159. There are important qualitative issues, especially around the broad topic of trust. I cover that extensively in *The Investor's Paradox* and focus here on this sort of quantitative evaluation.

160. The other primary product is income. I am not going to address that in this book.

161. See, for example, Elroy Dimson, Paul Marsh, and Mike Staunton, *Triumph of the optimists: 101 years of global investment returns* (Princeton University Press, 2002); John C. Bogle and Michael W. Nolan Jr. (2015), "Occam's razor redux: Establishing reasonable expectations for financial market returns," *Journal of Portfolio Management* 42(1); Brian D. Singer and Kevin Terhaar, *Economic foundations of capital market returns*, Research Foundation of the Institute of Chartered Financial Analysts, 1997; State Street Global Advisors, Long-term asset class forecasts (released quarterly). Jeremy J. Siegel, *Stocks for the long run: The definitive guide to financial market returns and long-term investment strategies* (McGraw-Hill Education, 2014).

162. Market data for the graphics in this chapter have been sourced from: Morningstar, Ned Davis Research, Robert Shiller's online database (www.econ.yale.edu/~shiller/data.htm), and portfoliovisualizer.com.

163. Hendrik Bessembinder, "Do Stocks Outperform Treasury Bills?" *Journal of Financial Economics*, forthcoming; working draft, 21 November 2017, bit.ly/2kYSl3K.

164. Bessembinder, "Do Stocks Outperform Treasury Bills?"

165. The data is sourced from a working paper from J. B. Heaton et al., "Why Indexing Works" (May 2017), which was cited in Ben Carlson's blog, awealthofcommonsense.com.

166. More accurately, yield-to-worst is the better predictor of total return for an individual bond, or yield-to-maturity for non-callable bonds.

167. Big company stocks refer to the S&P 500 Index. Small company stocks refer to the Russell 2000 Index. Higher quality bonds refer to the Bloomberg Barclays U.S. Aggregate Bond Index. Lower quality bonds refer to the Barclays U.S. Corporate High-Yield Bond Index.

168. Richard Thaler and Shlomo Benartzi, "Save More Tomorrow: Using Behavioral Economics to Increase Employee Savings" (2004), *Journal of*

Political Economy 112(1): S164–S187.

169. Geoffrey West, *Scale: The Universal Laws of Growth, Innovation, Sustainability, and the Pace of Life in Organisms, Cities, Economies, and Companies* (Penguin, 2017).

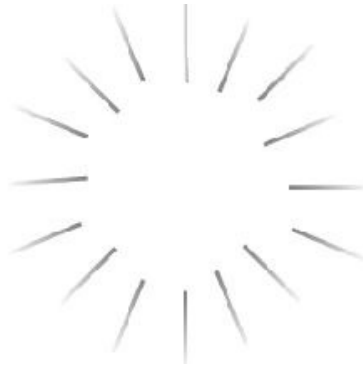
170. Morgan Housel, “The Freakishly Small Base,” bit.ly/2A1VMON.

171. Housel, “The Freakishly Small Base.”

172. Jason Zweig, “Saving Investors From Themselves,” *Wall Street Journal*, 28 June 2013.

173. Walter Mischel, *The Marshmallow Test: Why Self Control is the Engine of Success* (Back Bay Books, 2015), p. 5.

SHAPELESS



A brief finale

10. You Are Here

“Nothing is enough for the man to whom enough is too little.”

– Epictetus

“The miracle of mindfulness is, first of all, that you are here.”

– Thich Nhat Hanh

Float or swim?

THE AWARD-WINNING MOVIE *Wall Street* is an infamous tale of avarice best known for the line, “Greed is good.” Spoken to a crowd of hundreds by the financier Gordon Gekko, the sentiment holds both bombast and meaning. The bombast is obvious. The deeper meaning comes from Gekko’s qualification that all the good things in life—not just money, but art, love, and knowledge—come from an insatiable quest for more, for pushing the boundaries of what we already possess. (The executives at Teldar Paper did not seem enlightened.)

That famous line is bookended by a lesser-known, but equally important, moment in the film. It occurs during a heated exchange between Gekko and his protégé, Bud Fox. Having just learned that his own naïveté positioned Gekko to make a fortune at the expense of Fox’s family, Fox harangues his former mentor:

FOX: How much is enough, Gordon? When does it all end, huh? How many yachts can you water-ski behind? How much is enough?

GEKKO: It’s not a question of enough, pal. It’s a zero-sum game—somebody wins, somebody loses. Money itself isn’t lost or made, it’s simply transferred—from one perception to another. Like magic.

Together, these two scenes crystallize not only the tension in the movie, but in money life generally: Wanting more versus having enough.

Gekko is an extreme case of craving more. A titan of Wall Street, his “zero sum” message is that money merely keeps track of wins and losses. Gekko relishes the hedonic treadmill (he literally walks on a treadmill in one scene, which I’ll chalk up to coincidence), and he’s comfortable with short bursts of pleasure or pain. Granted, he is not alone in valuing money for money’s sake. We’re all that way, at least a little bit. Money will always inform our sense of

self-worth and place in the world. Having more—especially more than others—is psychologically meaningful. To think otherwise would be naïve.¹⁷⁴

That said, few of us are like Gekko. Most of us are like Bud Fox: Aspirational but torn between pushing for more versus valuing what one already has—not just material possessions, but the love of family, community, and other sources of contentment. Bud Fox breaking his father’s heart was the saddest moment of his life, far more impactful than whatever joy he earned from his playboy lifestyle.

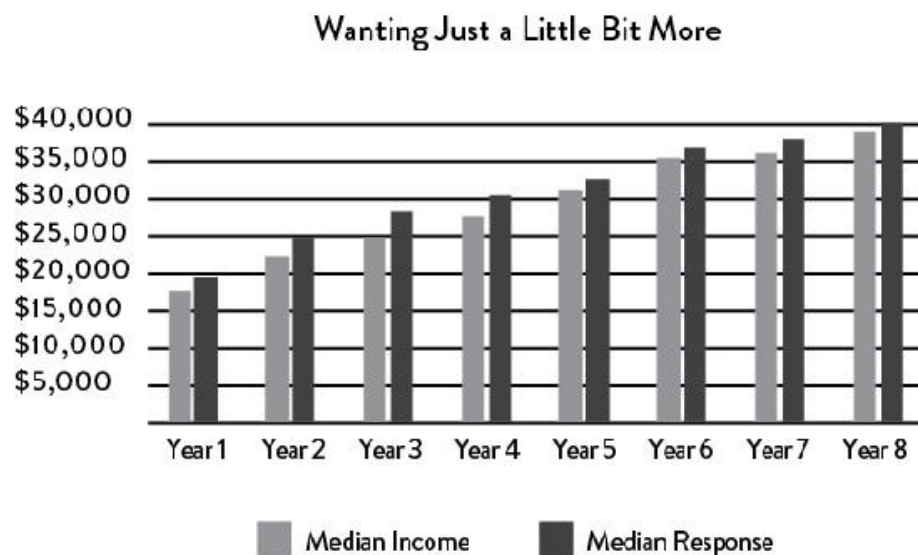
Throughout our narrative, we have defined wealth as funded contentment, the ability to underwrite a meaningful life. This has been, by and large, a story about enough. Aristotle’s *eudaimonia*, the Dalai Lama’s joy, and the highest rungs of the Cantril Ladder are found in the sources of deep contentment—connection, control, competence, and context. These are contemplative pursuits which involve an appreciation for what one has versus what one has yet to achieve.

Enough *sounds* great. “He is a wise man who does not grieve for the things which he has not, but rejoices for those which he has,” said Epictetus. “Be content with what you have. Rejoice in the way things are. When you realize there is nothing lacking, the whole world belongs to you,” Lao Tzu remarked. And, of course, Oprah: “Be thankful for what you have; you’ll end up having more. If you concentrate on what you don’t have, you will never, ever have enough.” Indeed, each of us can recall a time, especially on the back of disappointment, when we “count our blessings”—to consider all of what we have, versus what we don’t. These can be warm, fulfilling moments.

Yet enough is *hard*. It is harder than more. More is a deeply wired evolutionary instinct for survival. Humans have not only survived but dominated all other species in part because of our aspirational nature. We survive not just by fending off dangers, but by seizing opportunity. Enough—deeply important and the wellspring of reflective happiness—can be uncomfortable because it feels like we’re shutting down an important part of ourselves. Which we are.

This emotion is intensely felt by those at the end of their working lives. The shift from employment to retirement, from accumulation to decumulation, is hardly just the next stage of financial planning. It is also an existential reorientation, one in which people are confronted with a change in purpose. Motivations like competing, winning, and control yield to settling and accepting. Retirement parties and gold watches notwithstanding, this is a time in life which research has shown is fraught with sadness.¹⁷⁵ This shows that we are programmed to strive for more, not to sit quietly and enjoy what we have.

Most of the time most people, at every stage of life, want just a little bit more. We're *almost* there. Take a look at data from the 1970s through the 1990s reported in Juliet Schor's *The Overspent American*. They reflect answers to the question: "In order to live in reasonable comfort around here, how much income per year do you think a family of four needs today?" It's striking that over these two decades, people consistently wanted slightly more than they already earned. More recent surveys have corroborated that very few people believe that they can achieve happiness with the amount of money they already have.¹⁷⁶



At any moment in life we have to decide whether we want, as Hunter S. Thompson once framed it, "to float with the tide, or to swim for a goal."¹⁷⁷ We harbor an urge to do both, to appreciate the moment, to cherish where we are, but then also to push out for that next thing, to get to that next Great Place.

Striking an ongoing balance between more and enough—between progress and presence, swimming and floating—sits at the core of enjoying a wealthy life. How, then, do we find that balance? It's not easy, because this is where the gremlin of time grows more irksome. Indeed, what we realize is that as weighty as the question of more versus enough seems to be, it is actually just a skirmish on the edge of a much bigger battlefield.

Time pilots

The tug-and-pull between enough and more speaks to the rhythms of the relationship between our current and future selves. The adaptive self has been our protagonist all along and is shaped by a conversation between now and later,

between who we believe ourselves to be today and who we might be in the future. Yes, money bewilders because it is analytically complex and emotionally charged. But it also overwhelms because it acts, in a sense, as an involuntary time machine which rockets us to and from different versions of ourselves. This isn't terribly comfortable.

We are mental time travelers. The happiness we feel—both experienced and reflective—is driven by where we situate ourselves when thinking forwards and backwards. In Abraham Heschel's beautiful words: "The authentic individual is neither an end nor a beginning but a link between ages, both memory and expectation. Every moment is a new beginning within a continuum of history. It is fallacious to segregate a moment and not to sense its involvement in both past and future."¹⁷⁸ *We become*.

This facility with time—navigating back and forth between memory and imagination—sets us apart from the other species. All animals in the wild have an instinct for danger or opportunity: The cheetah senses the presence of its prey and lies in wait for the perfect moment to sprint toward the kill; the gazelle also senses the presence of the cat and bolts at the first sign of danger. The human power of prospection allows us to think well beyond an immediate context. The scope and complexity of our mental time travel is far beyond any other animal. As a group of eminent psychologists have suggested, we are not only *Homo sapiens* (wise humans), we are also, equally importantly, *Homo prospectus* (prospective humans).¹⁷⁹

Mental time travel creates a distinct, powerful ability to plan. Dan Falk bluntly observes that "without an imagined picture of the future, our civilization would not exist."¹⁸⁰ Indeed, our skill with time facilitates social cooperation. In Chapter 4, we discussed at length the importance of connection to the human psyche. One distinctly human element of our sociality, facilitated by language, is the ability to make plans far in the future. My friend and I can agree to meet downtown next Tuesday at 10:00am. It sounds trivial, but no other animal can remotely coordinate their efforts like so.

The subject of time is trippy. But in the world of money, it is hardly a "left field" topic, a narrative indulgence at the end of a carefully charted journey. In fact, we are unwittingly caught in the middle of an implicit squabble between the two primary disciplines that define our daily engagement with money—finance and psychology—which employ not only different but *incompatible* assumptions about the nature and impact of time.

Finance posits a linear conception of time. A day is a day is a day. One five-year period is precisely the same duration as another five-year period. Episodes of time are uniform and we experience them unidirectionally, from present to future. Psychology disagrees: The human experience with time is non-linear and lumpy. The duration of those seconds and decades expand and contract. Time is elastic. It slows down during traumatic accidents and speeds up as we grow older. There's an old line in the world of parenting that "the days are long but the years are short." That's mind time at play and mind time is what matters in the pursuit of wealth as funded contentment.

The blocking-and-tackling of conventional financial planning works with a linear concept of time. We plan for "goals" which are X number of years in the future. We make decisions today about desired but uncertain future outcomes. When we achieve those goals—usually something quantitative that can be measured—we're supposed to be happy. We've learned that it doesn't work this way.

By far the most powerful trope in the straight time of finance is "the long term." We build portfolios for the "long run." We "buy and hold" or "stay the course." We remain patient—sacrificing now for later. Here's the problem: In mind time, the long term is fuzzy at best. Practically speaking, it might not exist. All we have, really, is an infinite series of short terms stapled together by circumstance and choice. While the future's shadow is cast across nearly all of money life, we are not entirely equipped to deal with it. We are time pilots, but not always good ones.

Now and later

The ability to mentally zip back and forth through time is one of our great advantages, but the act of doing so has mixed consequences for our state of contentment. This simple matrix shows both the good and bad actions associated with mental time travel.

The Good and Bad of Now and Later

	Now	Later
Good	Presence	Progress
Bad	Impulse	Treadmill

How we deliberately navigate this matrix sits at the deepest core of achieving funded contentment.

Now

In the short term, impulse is our enemy. The “marshmallow test” substantiates what we all likely already know to be true: We struggle to resist quick gratification. Self-control and patience are elusive. In money life, that becomes a problem because of the temporal gap between decision and outcome, between consumption and enjoyment. You bite into that juicy cheeseburger and the flavor hits your senses in ... 30 years.

As a result, money life doesn’t have much of a flow. There is the drudgery of earning a paycheck, the boredom of saving, and the anxiety of “long-term” investing. With one exception: Spending. In that domain, unlike the others, the feedback is immediate. Cash, swipe, or chip: Spending happens right now. And consumer research shows that “retail therapy” is literally that. A purchase will release dopamine in the brain, providing a temporary high.¹⁸¹ It feels good to shop.

Our ability to think through time and see our future selves has limitations. Most profoundly, we discount the future: we value today more than tomorrow. Time discounting is an evolutionary instinct. We didn’t pass on killing the small animal right in front of us in hopes of maintaining our energy to attack a larger herd of fatter animals that may or may not come later.¹⁸² We tend to live in the now because it seems the safer thing to do.

It’s not just that we value the future slightly less than the present. One of the most important empirical findings among those who study inter-temporal choice is that we discount the future *hyperbolically*.¹⁸³ We prefer a tiny bit now to a lot

tomorrow. The perceived value of what we will get later declines extremely quickly, which is why impulse can feel quite comfortable.

Furthermore, hyperbolic discounting—the weight of now—is a key factor in making us poor predictors of what makes us happy in the future. We “stumble on happiness,” using Harvard psychologist Dan Gilbert’s phrase, because we don’t know where to look for it.¹⁸⁴ Sometimes we find it, other times not. Humans are poor at what is known as “affective forecasting,” the ability to accurately predict our emotional reaction to future events. That’s because the imagination is not particularly powerful. The brain tends to forecast only a vague sense of the future.

As a result, we tend to be quite wrong about the duration and intensity of our future emotions. You can probably guess correctly which will be more fun, a good friend’s birthday party or attending a coworker’s funeral. That said, many presumably life-changing events, including getting married, having children, or becoming ill, usually don’t have the impact we think they will.¹⁸⁵ Almost no matter what happens, good or bad, we get used to it. The pleasure (sorrow) in getting what we desire (fear) fades quickly.

If the downside of now is impulse, then its upside is presence, being *here*. The subject of presence has taken on new life in today’s cacophony of information and distraction.¹⁸⁶ Somewhere situated between before and later there is a now, delicate and elusive, to be cultivated. Even to a casual observer, it should come as no surprise that the arts of meditation and mindfulness have found growing currency in Western societies. The need for mental quiet has scaled in sympathy to the spike in how much information we choose and/or are forced to absorb.

In our financial lives, presence and patience are closely related. Patience is a stillness where we find moments of deliberate inaction. Doing nothing haphazardly is merely complacency. We span from complacency to patience via preparation. True patience involves explicit recognition that you are both right here and right now. Such mindfulness can be discomfiting. It can also prove to be liberating. Throughout *The Geometry of Wealth*, we’ve been building a prepared mind based on the principle of adaptive simplicity.

Later

Delayed gratification and resisting temptation are hallmarks of the blessed present, but they have a dark side as well. Looking toward the future can *undermine* the quest for wealth. Psychologist Sonja Lyubomirsky frames the “myth of happiness” as the false promise that “I’ll be happy when ____.” Fill

in the blank with anything you'd like: Rich, beautiful, married, successful, and so forth. The problem of "when" courses throughout our money lives. The hedonic treadmill, discussed at length in Chapter 5, best captures this problem's never-ending dynamic.

Some pursue their money lives fixated on the "number"—some specific amount of savings they need to stop doing what they don't enjoy (presumably working) and start doing what they want and be happy. Living in this skinny future is ungratifying. Even the mundane use of "goals" quietly stokes the problem of when, given the natural but unremarked tension between the way we financially plan for our futures and what our brains are wired to accommodate.

Over-planning, obsessing about goals and the "right" decisions, and thinking that sprinting on the treadmill gets you closer to your destination, are unfortunate instances of the unhappy later. This is where the pathos of more and later coincide. A paradox of wealth is that we are indeed wired to want more, but getting more doesn't make us happier.

We can deal with the future more constructively, however. Buried in the focus on later are the seeds of self-realization, the making of the adaptive self, and progress. Humans have an "innate developmental tendency," meaning they have a conscious and deliberate urge to grow.¹⁸⁷ Jonathan Haidt describes the "progress principle" in which "pleasure comes more from making progress toward goals than from achieving them," that "we surround ourselves with goals, hopes, and expectations, and then feel pleasure and pain in relation to our progress."¹⁸⁸ Much of experienced joy is in the getting there—it's in the ride, not the destination.¹⁸⁹

How the self changes, and what control one has over that process, is controversial. The 19th century philosopher Friedrich Nietzsche threw down the hammer when he bluntly proclaimed that "Being is an empty fiction." He scoffs at "the lie of thinghood, of substance, of permanence."¹⁹⁰ It is a philosopher's indulgence to paint such bold strokes, but the fact remains that the pursuit of a better version of one's self and to see upside in impermanence is a legitimate and even involuntary instinct. Somewhat calmer than Nietzsche, Winston Churchill notes that "To improve is to change; to be perfect is to change often."

Engaging change forces an evaluation of the conversation between the current and future self. Combining brain science, psychology, and consumer research, the work of Hal Hershfield and his colleagues has been particularly enlightening on this topic. For example, they have uncovered that some care more about their future selves, while others see that person as a stranger. Differences in

discounting have significant behavioral consequences.¹⁹¹ In one set of studies, Herschfield took a photo of an individual and then used digital imaging technologies to “age” him or her by decades.¹⁹² Those who were able to see that senior image registered a stronger connection with their future self and in turn demonstrated better savings behavior. How much you reward the future you instead of your current self stems from how well you want to care for him or her in the future. A number of other studies validate that a more vivid sense of the future results in better behaviors, not only in savings but also with crime, truancy, smoking, and other “suboptimal” activities.¹⁹³ To care about you in the future is more of a deliberate action than we might think.

We can also improve the relationship between now and later by thinking more constructively about future rewards. Numerous studies show that anticipation increases happiness.¹⁹⁴ We not only live in an age of distraction, we also enjoy a world of unprecedented convenience. Just like Veruca Salt in *Willy Wonka* “wants it all and wants it now,” many of us have easy access to, well, everything. The problem is that one of the subtle joys in life comes from anticipation, but we’re Amazon Prime-ing that away. There are emotional benefits of delayed consumption, including the pleasure of mild uncertainty (the power of surprise) and better decision-making on impetuous unhealthy actions such as with food, drink, or drugs. One tack for realizing the upside of managed anticipation is to pay now but consume later.¹⁹⁵ There’s something stodgy-sounding about the “layaway” plans of yesteryear, but that pay now/consume later is a better recipe for happiness than the consume now/pay later regime of the modern credit card.

Keeping the pace

Imagine trying this: Jump into a swimming pool. Now start treading water. Then kick into a backstroke across the pool—but continue to dogpaddle in place. Floating or swimming is a choice that seems mutually exclusive. To be simultaneously still and moving forward is a tough ask. So is pursuing both presence and progress.

A few thousand years of philosophy hasn’t resolved the deepest ontological tension between being and becoming. I think the resolution, or at least as far as we can get, is to understand it on our own terms and perhaps find some kind of rhythm along the way—to manage the dialogue. This book, I hope, has provided some of the vocabulary to have that chat, not just in your own head, but with your friends, parents, partners, and children.

In one of his fabulous TED Talks, Harvard psychologist Daniel Gilbert observed, “Human beings are works in progress that mistakenly think they’re finished.”¹⁹⁶ How true. An honest rendition of the adaptive self will accept that at times we are strangers to ourselves who subsequently find joy in discovery and redefinition.

It’s remarkable—even disconcerting—to think how much money seeps into the pores of this rock we’re climbing. If you recall from nearly the first page, the most prevalent question I encounter with people I meet is: *Am I going to be okay?* That’s such a dangerous question: It renders vulnerable even the toughest souls, which is why there seem to be countless proxies for that question, both in word and gesture. But it’s right there, inescapable. I’m guessing that you—just as I—default to answering the question by focusing on what it means to be “okay.” The path from circle to triangle to square has been explicitly about a process of underwriting meaning—utilizing money to achieve happiness. Hopefully you’ve found some perspectives and tools and tricks along the way to be useful.

But following the advice of Charlie Munger, what if we invert the question and make it about understanding “I” instead of “okay”? This is where we bring the full force of time—where we can co-opt that pesky gremlin for our own purposes, not his—to reframe the question of how money figures into a happy life, of what it means to be wealthy, and how to get there. Here, with the gremlin on a leash we can connect who you believe yourself to be now with who you’d prefer to be in the future. Toto, we’re not in the conventional land of finance anymore.

The entire narrative of *The Geometry of Wealth* has been, of sorts, a Stoic playbook for navigating money life, moving from perception to action to will. Self-awareness and self-control have been key principles along the way. Aiming to incorporate both mindset and action, adaptive simplicity was engineered as the rudder for each of our boats. Adaptive simplicity embraces the tensions and contradictions in presence versus progress. In fact, it gains energy from them.

This world of ours is filled with wonder and sadness, delight and suffering. Acceptance of this condition brings comprehension, with comprehension comes control, and with control comes balance and rhythm. Our darting gremlin nips and dodges, but we are ultimately its master. The book’s epigraph from Goethe speaks not to the substance of each day, but its flow: “Do not hurry. Do not rest.”

Keep the pace. And enjoy.

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The Geometry of Wealth: Recap

Our world of infinite content has created a pressing need for useful summaries. This book has covered a lot of ground, so this brief section tries to do just that, at different levels of specificity.

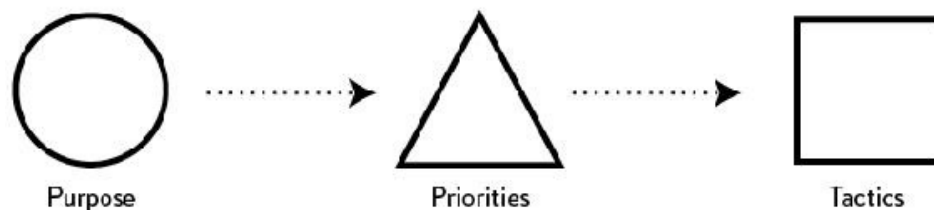
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True wealth is funded contentment. Anyone with the right mindset and the right plan can afford a meaningful life.

Cocktail party summary

Does money buy happiness? The answer to this timeless question hinges on the distinction between being rich and being wealthy. One is the quest for more money, the other is funded contentment. Both modern neuroscience and ancient philosophy demonstrate that the quest for more is an unsatisfying treadmill. Meanwhile, the ability to underwrite a meaningful life is achievable for anyone who combines the right mindset and the right plan. *The Geometry of Wealth* shows the three steps to doing so, centering on adaptation, prioritization, simplification: Flexibly defining one's purpose, employing the right strategy, and focusing on the right decisions. Three basic shapes—a circle, triangle, and square—simplify the details of these three steps.

Graphic summary



Section/Chapter summaries

Introduction: A Story About Three Shapes

How does money figure into a happy life? Oddly, but accurately, the answer is captured by three basic shapes: A circle, triangle, and square. Each represents a step along a three-part journey from defining one's purpose, to setting the right priorities, to making the right decisions. Ultimately, wealth is achievable for

many, including those who despair that it is out of reach, but only in the context of a life in which purpose and practice are thoughtfully calibrated. In isolation, neither deep thoughts nor long checklists are up to the task.

TAKING SHAPE: The part where we set the framework for understanding how to grow and remain wealthy.

Chapter 1: Alone Together

Money life—earning, spending, saving, and investing—is fraught with complexity. It is both intellectually intimidating and emotionally unpleasant. People are confronted by three challenges currently. First, the demise of classic pensions and rise of do-it-yourself investing has put an increasing burden on individuals to control more dimensions of their money lives, despite widespread financial illiteracy. Second, the human brain is hardwired with an array of cognitive and emotional biases that impede good financial decisions. Third, a dim outlook for long-term capital market returns and the rapidly changing nature of employment suggest that there is less room for error than in previous generations.

Chapter 2: Adaptive Simplicity

Humans are extraordinary problem solvers, thanks in no small measure to the two-part brain which combines the powers of intuition and reasoning. Highlighting those powers, this chapter tees up the right mindset for overcoming the challenges discussed in Chapter 1. It articulates the principle of “adaptive simplicity,” which serves as the engine that moves us along the path from circle to triangle to square. Embracing adaptive simplicity is essential for achieving wealth, as it combines the right attitude and right plan for success. The good news is that even though our innate dispositions and life circumstances weigh on the chances of success, we retain a substantial amount of control over the outcomes—if we prepare appropriately.

CIRCLE: The part where we articulate how an adaptive approach to defining one’s purpose is a critical step in connecting money and happiness.

Chapter 3: The Places You Might Go

Ancient and modern thinkers share the same dualistic understanding of happiness. On the one hand, experienced happiness considers the day-to-day, even moment-by-moment, affect or mood. Given how the brain is wired, this is the dominant manifestation of human happiness. On the other, reflective

happiness, or what the ancient Greeks called *eudaimonia*, engages a broader sense of whether one is living a “good” or “meaningful” life. Understanding how to shape a life of money and meaning is impossible without this distinction.

Chapter 4: What Matters

A meaningful life—the stuff of funded contentment—has four touchstones, which I call the “Four C’s.” The first is *connection*. Humans are social animals with an unwavering need to belong. The second is *control*, which is the deep-seated drive for self-determination and self-definition. Third, *competence* refers to the joy associated with engaging in a meaningful vocation or craft. Finally, *context* is the need to find purpose in life beyond one’s self. There is no general recipe for figuring out what each of us should or can attach meaning to. However, the process by which we navigate life’s inevitable ups and downs is shared. The circle speaks to that adaptive dynamic.

Chapter 5: Yes, Not Really, It Depends

Does money buy happiness? Yes and no. Our daily mood is largely unrelated to money past a threshold income level, but our quest for *eudaimonia* appears to benefit from more. This answer reflects three underlying brain dynamics. First, we become quickly accustomed to most of the comforts in our life. Each of us is stuck, to some extent, on what psychologists call the “hedonic treadmill.” Second, money is more effective at alleviating sadness than priming happiness, which explains why the rich might be less sad but not happier than others. Finally, when allocated wisely, money can underwrite the Four C’s. We can “buy” meaning if we’re prepared to do so.

TRIANGLE: The part where we set priorities to organize our money lives.

Chapter 6: Setting Priorities

Crossing from mission to method, from purpose to practice, the triangle establishes the major priorities for navigating our money lives. Having a clear-cut hierarchy of goals quickly allows us to distinguish more important tasks and put aside distractions. Priority one is to protect ourselves from the potential for loss, even catastrophe. We want to maintain a “less wrong” mindset. Second, we map what we own and what we owe. By making sure those are in balance, our money life is likely to be stable. Once achieved, the final priority is to engage in more aspirational pursuits, recognizing that gratitude and generosity are proven sources of contentment.

Chapter 7: Making Decisions

A triangle also illuminates the three factors involved with achieving good investment outcomes. The first is our own behavior, by far the most important of the three. The human brain is prone to make poor financial decisions, the impact of which can be very large. The classic example is when the market tanks and investors sell in a panic, locking in losses and then later missing the rebound. The second factor is the holistic shape of one's portfolio, best expressed by being allocated to the appropriate segments of the market. The specific stocks, bonds, and funds which grab the eye and quicken the pulse of investors are the third, and less important, drivers of financial success.

SQUARE: The part where we simplify to achieve decent investment outcomes.

Chapter 8: Gray Matter

In order to transcend certain built-in biases and establish the right decision-making mindset, this chapter tackles two fundamental issues with how we perceive and navigate the world: Categories and probabilities. The investment business is a linguistic minefield, filled with labels and jargon that rarely clarify. "What is this?" sounds like a basic question, but it's not, especially with complex things and ideas. Meanwhile, the human brain prefers certainty, which creates great difficulty for thinking in probabilistic terms. Regardless, doing so gives one a big leg up in properly managing expectations. There is skill in asking "What are the chances?" While esoteric-sounding, a frank discussion of labels and chances is essential to pursue adaptive simplicity.

Chapter 9: Four Corners

The square sets reasonable expectations for the outcomes of your investment decisions. Because the human mind is wired to avoid losses more than it is to achieve gains, the theme here is one of minimizing regret, versus maximizing upside. There are four primary considerations. The first is the growth we hope to achieve. Next is the emotional pain of achieving that growth. The third element is how any additional investment fits (or not) with what is already owned. Finally, flexibility reflects the ability to change one's mind about any particular decision. The four corners of the square should drive the conversation about any investment decision.

SHAPELESS: The part where we navigate time as a deep source of enduring wealth.

Chapter 10: You Are Here

The human ability to think through time via memory and imagination is one of our species' most important advantages. While that ability creates enormous opportunity, it also has some less desirable side effects. One of those is the difficulty to find presence (being in the now, versus later or before), which is a demonstrable source of joy. In our money lives, this challenge manifests itself in the enduring tension between two distinct states of mind: Desiring more versus having enough. Both are legitimate and useful motivations for human survival. But at any moment, they are incompatible. Striking an ongoing balance between more and enough—between progress and presence—sits at the deep core of enjoying a wealthy life.

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The experience of writing a book is a funny thing. Over the years of scribbling that go into the final product, there are countless hours of alone time, heads-down grinding on a project you're convinced half the time makes no sense and the other half that no one will care about anyway. But when you then reflect upon the experience at its culmination, the mind quickly goes in a different direction toward all the supportive and caring people around you. Indeed, having now written a book about the recipe for a good life, I better appreciate the importance of others in even what appears to be a solo pursuit and the joy that comes from expressing gratitude.

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