For  
My parents, who teach me.  
Gretchen, who guides me.  
Miles and Reese, who inspire me.  
 

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“A genius is the man who can do the average thing when  
everyone else around him is losing his mind.”  
—Napoleon  
   
“The world is full of obvious things which nobody by any  
chance ever observes.”  
—Sherlock Holmes

Ispent my college years working as a valet at a nice hotel in Los Angeles.  
One frequent guest was a technology executive. He was a genius, having designed and  
patented a key component in Wi-Fi routers in his 20s. He had started and sold several  
companies. He was wildly successful.  
He also had a relationship with money I’d describe as a mix of insecurity and childish  
stupidity.  
He carried a stack of hundred dollar bills several inches thick. He showed it to everyone  
who wanted to see it and many who didn’t. He bragged openly and loudly about his wealth,  
often while drunk and always apropos of nothing.  
One day he handed one of my colleagues several thousand dollars of cash and said, “Go to  
the jewelry store down the street and get me a few $1,000 gold coins.”  
An hour later, gold coins in hand, the tech executive and his buddies gathered around by a  
dock overlooking the Paciﬁc Ocean. They then proceeded to throw the coins into the sea,  
skipping them like rocks, cackling as they argued whose went furthest. Just for fun.  
Days later he shattered a lamp in the hotel’s restaurant. A manager told him it was a $500  
lamp and he’d have to replace it.  
“You want ﬁve hundred dollars?” the executive asked incredulously, while pulling a brick of  
cash from his pocket and handing it to the manager. “Here’s ﬁve thousand dollars. Now get  
out of my face. And don’t ever insult me like that again.”  
You may wonder how long this behavior could last, and the answer was “not long.” I learned  
years later that he went broke.  
The premise of this book is that doing well with money has a little to do with how smart you  
are and a lot to do with how you behave. And behavior is hard to teach, even to really smart  
people.

A genius who loses control of their emotions can be a ﬁnancial disaster. The opposite is also  
true. Ordinary folks with no ﬁnancial education can be wealthy if they have a handful of  
behavioral skills that have nothing to do with formal measures of intelligence.  
   
   
My favorite Wikipedia entry begins: “Ronald James Read was an American philanthropist,  
investor, janitor, and gas station attendant.”  
Ronald Read was born in rural Vermont. He was the ﬁrst person in his family to graduate  
high school, made all the more impressive by the fact that he hitchhiked to campus each  
day.  
For those who knew Ronald Read, there wasn’t much else worth mentioning. His life was  
about as low key as they come.  
Read ﬁxed cars at a gas station for 25 years and swept ﬂoors at JCPenney for 17 years. He  
bought a two-bedroom house for $12,000 at age 38 and lived there for the rest of his life.  
He was widowed at age 50 and never remarried. A friend recalled that his main hobby was  
chopping ﬁrewood.  
Read died in 2014, age 92. Which is when the humble rural janitor made international  
headlines.  
2,813,503 Americans died in 2014. Fewer than 4,000 of them had a net worth of over $8  
million when they passed away. Ronald Read was one of them.  
In his will the former janitor left $2 million to his stepkids and more than $6 million to his  
local hospital and library.  
Those who knew Read were baﬄed. Where did he get all that money?  
It turned out there was no secret. There was no lottery win and no inheritance. Read saved  
what little he could and invested it in blue chip stocks. Then he waited, for decades on end,  
as tiny savings compounded into more than $8 million.  
That’s it. From janitor to philanthropist.  
A few months before Ronald Read died, another man named Richard was in the news.  
Richard Fuscone was everything Ronald Read was not. A Harvard-educated Merrill Lynch  
executive with an MBA, Fuscone had such a successful career in ﬁnance that he retired in  
his 40s to become a philanthropist. Former Merrill CEO David Komansky praised Fuscone’s  
“business savvy, leadership skills, sound judgment and personal integrity.”¹ Crain’s  
business magazine once included him in a “40 under 40” list of successful businesspeople.²  
But then—like the gold-coin-skipping tech executive—everything fell apart.  
In the mid-2000s Fuscone borrowed heavily to expand an 18,000-square foot home in  
Greenwich, Connecticut that had 11 bathrooms, two elevators, two pools, seven garages,  
and cost more than $90,000 a month to maintain.  
Then the 2008 ﬁnancial crisis hit.  
The crisis hurt virtually everyone’s ﬁnances. It apparently turned Fuscone’s into dust. High  
debt and illiquid assets left him bankrupt. “I currently have no income,” he allegedly told a

bankruptcy judge in 2008.  
First his Palm Beach house was foreclosed.  
In 2014 it was the Greenwich mansion’s turn.  
Five months before Ronald Read left his fortune to charity, Richard Fuscone’s home—where  
guests recalled the “thrill of dining and dancing atop a see-through covering on the home’s  
indoor swimming pool”—was sold in a foreclosure auction for 75% less than an insurance  
company ﬁgured it was worth.³  
Ronald Read was patient; Richard Fuscone was greedy. That’s all it took to eclipse the  
massive education and experience gap between the two.  
The lesson here is not to be more like Ronald and less like Richard—though that’s not bad  
advice.  
The fascinating thing about these stories is how unique they are to ﬁnance.  
In what other industry does someone with no college degree, no training, no background,  
no formal experience, and no connections massively outperform someone with the best  
education, the best training, and the best connections?  
I struggle to think of any.  
It is impossible to think of a story about Ronald Read performing a heart transplant better  
than a Harvard-trained surgeon. Or designing a skyscraper superior to the best-trained  
architects. There will never be a story of a janitor outperforming the world’s top nuclear  
engineers.  
But these stories do happen in investing.  
The fact that Ronald Read can coexist with Richard Fuscone has two explanations. One,  
ﬁnancial outcomes are driven by luck, independent of intelligence and eﬀort. That’s true to  
some extent, and this book will discuss it in further detail. Or, two (and I think more  
common), that ﬁnancial success is not a hard science. It’s a soft skill, where how you  
behave is more important than what you know.  
I call this soft skill the psychology of money. The aim of this book is to use short stories to  
convince you that soft skills are more important than the technical side of money. I’ll do this  
in a way that will help everyone—from Read to Fuscone and everyone in between—make  
better ﬁnancial decisions.  
These soft skills are, I’ve come to realize, greatly underappreciated.  
Finance is overwhelmingly taught as a math-based ﬁeld, where you put data into a formula  
and the formula tells you what to do, and it’s assumed that you’ll just go do it.  
This is true in personal ﬁnance, where you’re told to have a six-month emergency fund and  
save 10% of your salary.  
It’s true in investing, where we know the exact historical correlations between interest rates  
and valuations.  
And it’s true in corporate ﬁnance, where CFOs can measure the precise cost of capital.

It’s not that any of these things are bad or wrong. It’s that knowing what to do tells you  
nothing about what happens in your head when you try to do it.  
   
   
Two topics impact everyone, whether you are interested in them or not: health and money.  
The health care industry is a triumph of modern science, with rising life expectancy across  
the world. Scientiﬁc discoveries have replaced doctors’ old ideas about how the human  
body works, and virtually everyone is healthier because of it.  
The money industry—investing, personal ﬁnance, business planning—is another story.  
Finance has scooped up the smartest minds coming from top universities over the last two  
decades. Financial Engineering was the most popular major in Princeton’s School of  
Engineering a decade ago. Is there any evidence it has made us better investors?  
I have seen none.  
Through collective trial and error over the years we learned how to become better farmers,  
skilled plumbers, and advanced chemists. But has trial and error taught us to become  
better with our personal ﬁnances? Are we less likely to bury ourselves in debt? More likely  
to save for a rainy day? Prepare for retirement? Have realistic views about what money  
does, and doesn’t do, to our happiness?  
I’ve seen no compelling evidence.  
Most of the reason why, I believe, is that we think about and are taught about money in  
ways that are too much like physics (with rules and laws) and not enough like psychology  
(with emotions and nuance).  
And that, to me, is as fascinating as it is important.  
Money is everywhere, it aﬀects all of us, and confuses most of us. Everyone thinks about it a  
little diﬀerently. It oﬀers lessons on things that apply to many areas of life, like risk,  
conﬁdence, and happiness. Few topics oﬀer a more powerful magnifying glass that helps  
explain why people behave the way they do than money. It is one of the greatest shows on  
Earth.  
My own appreciation for the psychology of money is shaped by more than a decade of  
writing on the topic. I began writing about ﬁnance in early 2008. It was the dawn of a  
ﬁnancial crisis and the worst recession in 80 years.  
To write about what was happening, I wanted to ﬁgure out what was happening. But the  
ﬁrst thing I learned after the ﬁnancial crisis was that no one could accurately explain what  
happened, or why it happened, let alone what should be done about it. For every good  
explanation there was an equally convincing rebuttal.  
Engineers can determine the cause of a bridge collapse because there’s agreement that if a  
certain amount of force is applied to a certain area, that area will break. Physics isn’t  
controversial. It’s guided by laws. Finance is diﬀerent. It’s guided by people’s behaviors.  
And how I behave might make sense to me but look crazy to you.  
The more I studied and wrote about the ﬁnancial crisis, the more I realized that you could  
understand it better through the lenses of psychology and history, not ﬁnance.

To grasp why people bury themselves in debt you don’t need to study interest rates; you  
need to study the history of greed, insecurity, and optimism. To get why investors sell out at  
the bottom of a bear market you don’t need to study the math of expected future returns;  
you need to think about the agony of looking at your family and wondering if your  
investments are imperiling their future.  
I love Voltaire’s observation that “History never repeats itself; man always does.” It applies  
so well to how we behave with money.  
In 2018, I wrote a report outlining 20 of the most important ﬂaws, biases, and causes of  
bad behavior I’ve seen aﬀect people when dealing with money. It was called The Psychology  
of Money, and over one million people have read it. This book is a deeper dive into the  
topic. Some short passages from the report appear unaltered in this book.  
What you’re holding is 20 chapters, each describing what I consider to be the most  
important and often counterintuitive features of the psychology of money. The chapters  
revolve around a common theme, but exist on their own and can be read independently.  
It’s not a long book. You’re welcome. Most readers don’t ﬁnish the books they begin  
because most single topics don’t require 300 pages of explanation. I’d rather make 20 short  
points you ﬁnish than one long one you give up on.  
On we go.

Let me tell you about a problem. It might make you feel better  
about what you do with your money, and less judgmental  
about what other people do with theirs.  
People do some crazy things with money. But no one is crazy.  
Here’s the thing: People from diﬀerent generations, raised by  
diﬀerent parents who earned diﬀerent incomes and held  
diﬀerent values, in diﬀerent parts of the world, born into  
diﬀerent economies, experiencing diﬀerent job markets with  
diﬀerent incentives and diﬀerent degrees of luck, learn very  
diﬀerent lessons.  
Everyone has their own unique experience with how the world  
works. And what you’ve experienced is more compelling than  
what you learn second-hand. So all of us—you, me, everyone—  
go through life anchored to a set of views about how money  
works that vary wildly from person to person. What seems  
crazy to you might make sense to me.  
The person who grew up in poverty thinks about risk and  
reward in ways the child of a wealthy banker cannot fathom if  
he tried.  
The person who grew up when inﬂation was high experienced  
something the person who grew up with stable prices never  
had to.  
The stock broker who lost everything during the Great  
Depression experienced something the tech worker basking in  
the glory of the late 1990s can’t imagine.  
The Australian who hasn’t seen a recession in 30 years has  
experienced something no American ever has.  
On and on. The list of experiences is endless.

You know stuﬀ about money that I don’t, and vice versa. You go  
through life with diﬀerent beliefs, goals, and forecasts, than I  
do. That’s not because one of us is smarter than the other, or  
has better information. It’s because we’ve had diﬀerent lives  
shaped by diﬀerent and equally persuasive experiences.  
Your personal experiences with money make up maybe  
0.00000001% of what’s happened in the world, but maybe  
80% of how you think the world works. So equally smart  
people can disagree about how and why recessions happen,  
how you should invest your money, what you should prioritize,  
how much risk you should take, and so on.  
In his book on 1930s America, Frederick Lewis Allen wrote that  
the Great Depression “marked millions of Americans—inwardly  
—for the rest of their lives.” But there was a range of  
experiences. Twenty-ﬁve years later, as he was running for  
president, John F. Kennedy was asked by a reporter what he  
remembered from the Depression. He remarked:  
   
I have no ﬁrst-hand knowledge of the Depression. My family  
had one of the great fortunes of the world and it was worth  
more than ever then. We had bigger houses, more servants, we  
traveled more. About the only thing that I saw directly was  
when my father hired some extra gardeners just to give them a  
job so they could eat. I really did not learn about the  
Depression until I read about it at Harvard.  
   
This was a major point in the 1960 election. How, people  
thought, could someone with no understanding of the biggest  
economic story of the last generation be put in charge of the  
economy? It was, in many ways, overcome only by JFK’s  
experience in World War II. That was the other most  
widespread emotional experience of the previous generation,

and something his primary opponent, Hubert Humphrey, didn’t  
have.  
The challenge for us is that no amount of studying or open-  
mindedness can genuinely recreate the power of fear and  
uncertainty.  
I can read about what it was like to lose everything during the  
Great Depression. But I don’t have the emotional scars of those  
who actually experienced it. And the person who lived through  
it can’t fathom why someone like me could come across as  
complacent about things like owning stocks. We see the world  
through a diﬀerent lens.  
Spreadsheets can model the historic frequency of big stock  
market declines. But they can’t model the feeling of coming  
home, looking at your kids, and wondering if you’ve made a  
mistake that will impact their lives. Studying history makes you  
feel like you understand something. But until you’ve lived  
through it and personally felt its consequences, you may not  
understand it enough to change your behavior.  
We all think we know how the world works. But we’ve all only  
experienced a tiny sliver of it.  
As investor Michael Batnick says, “some lessons have to be  
experienced before they can be understood.” We are all  
victims, in diﬀerent ways, to that truth.  
   
   
In 2006 economists Ulrike Malmendier and Stefan Nagel from  
the National Bureau of Economic Research dug through 50  
years of the Survey of Consumer Finances—a detailed look at  
what Americans do with their money.⁴  
In theory people should make investment decisions based on  
their goals and the characteristics of the investment options

available to them at the time.  
But that’s not what people do.  
The economists found that people’s lifetime investment  
decisions are heavily anchored to the experiences those  
investors had in their own generation—especially experiences  
early in their adult life.  
If you grew up when inﬂation was high, you invested less of  
your money in bonds later in life compared to those who grew  
up when inﬂation was low. If you happened to grow up when  
the stock market was strong, you invested more of your money  
in stocks later in life compared to those who grew up when  
stocks were weak.  
The economists wrote: “Our ﬁndings suggest that individual  
investors’ willingness to bear risk depends on personal history.”  
Not intelligence, or education, or sophistication. Just the dumb  
luck of when and where you were born.  
The Financial Times interviewed Bill Gross, the famed bond  
manager, in 2019. “Gross admits that he would probably not  
be where he is today if he had been born a decade earlier or  
later,” the piece said. Gross’s career coincided almost perfectly  
with a generational collapse in interest rates that gave bond  
prices a tailwind. That kind of thing doesn’t just aﬀect the  
opportunities you come across; it aﬀects what you think about  
those opportunities when they’re presented to you. To Gross,  
bonds were wealth-generating machines. To his father’s  
generation, who grew up with and endured higher inﬂation,  
they might be seen as wealth incinerators.  
The diﬀerences in how people have experienced money are not  
small, even among those you might think are pretty similar.

Take stocks. If you were born in 1970, the S&P 500 increased  
almost 10-fold, adjusted for inﬂation, during your teens and  
20s. That’s an amazing return. If you were born in 1950, the  
market went literally nowhere in your teens and 20s adjusted  
for inﬂation. Two groups of people, separated by chance of  
their birth year, go through life with a completely diﬀerent  
view on how the stock market works:  
   
   
Or inﬂation. If you were born in 1960s America, inﬂation during  
your teens and 20s—your young, impressionable years when  
you’re developing a base of knowledge about how the  
economy works—sent prices up more than threefold. That’s a  
lot. You remember gas lines and getting paychecks that  
stretched noticeably less far than the ones before them. But if

you were born in 1990, inﬂation has been so low for your whole  
life that it’s probably never crossed your mind.  
   
   
America’s nationwide unemployment in November 2009 was  
around 10%. But the unemployment rate for African American  
males age 16 to 19 without a high school diploma was 49%.  
For Caucasian females over age 45 with a college degree, it  
was 4%.  
Local stock markets in Germany and Japan were wiped out  
during World War II. Entire regions were bombed out. At the  
end of the war German farms only produced enough food to  
provide the country’s citizens with 1,000 calories a day.  
Compare that to the U.S., where the stock market more than

doubled from 1941 through the end of 1945, and the economy  
was the strongest it had been in almost two decades.  
No one should expect members of these groups to go through  
the rest of their lives thinking the same thing about inﬂation.  
Or the stock market. Or unemployment. Or money in general.  
No one should expect them to respond to ﬁnancial information  
the same way. No one should assume they are inﬂuenced by  
the same incentives.  
No one should expect them to trust the same sources of advice.  
No one should expect them to agree on what matters, what’s  
worth it, what’s likely to happen next, and what the best path  
forward is.  
Their view of money was formed in diﬀerent worlds. And when  
that’s the case, a view about money that one group of people  
thinks is outrageous can make perfect sense to another.  
A few years ago, The New York Times did a story on the working  
conditions of Foxconn, the massive Taiwanese electronics  
manufacturer. The conditions are often atrocious. Readers were  
rightly upset. But a fascinating response to the story came  
from the nephew of a Chinese worker, who wrote in the  
comment section:  
   
My aunt worked several years in what Americans call “sweat  
shops.” It was hard work. Long hours, “small” wage, “poor”  
working conditions. Do you know what my aunt did before she  
worked in one of these factories? She was a prostitute.  
The idea of working in a “sweat shop” compared to that old  
lifestyle is an improvement, in my opinion. I know that my aunt  
would rather be “exploited” by an evil capitalist boss for a

couple of dollars than have her body be exploited by several  
men for pennies.  
That is why I am upset by many Americans’ thinking. We do  
not have the same opportunities as the West. Our  
governmental infrastructure is diﬀerent. The country is  
diﬀerent. Yes, factory is hard labor. Could it be better? Yes, but  
only when you compare such to American jobs.  
   
I don’t know what to make of this. Part of me wants to argue,  
ﬁercely. Part of me wants to understand. But mostly it’s an  
example of how diﬀerent experiences can lead to vastly  
diﬀerent views within topics that one side intuitively thinks  
should be black and white.  
Every decision people make with money is justiﬁed by taking  
the information they have at the moment and plugging it into  
their unique mental model of how the world works.  
Those people can be misinformed. They can have incomplete  
information. They can be bad at math. They can be persuaded  
by rotten marketing. They can have no idea what they’re doing.  
They can misjudge the consequences of their actions. Oh, can  
they ever.  
But every ﬁnancial decision a person makes, makes sense to  
them in that moment and checks the boxes they need to  
check. They tell themselves a story about what they’re doing  
and why they’re doing it, and that story has been shaped by  
their own unique experiences.  
Take a simple example: lottery tickets.  
Americans spend more on them than movies, video games,  
music, sporting events, and books combined.  
And who buys them? Mostly poor people.

The lowest-income households in the U.S. on average spend  
$412 a year on lotto tickets, four times the amount of those in  
the highest income groups. Forty percent of Americans cannot  
come up with $400 in an emergency. Which is to say: Those  
buying $400 in lottery tickets are by and large the same people  
who say they couldn’t come up with $400 in an emergency.  
They are blowing their safety nets on something with a one-in-  
millions chance of hitting it big.  
That seems crazy to me. It probably seems crazy to you, too.  
But I’m not in the lowest income group. You’re likely not, either.  
So it’s hard for many of us to intuitively grasp the subconscious  
reasoning of low-income lottery ticket buyers.  
But strain a little, and you can imagine it going something like  
this:  
   
We live paycheck-to-paycheck and saving seems out of reach.  
Our prospects for much higher wages seem out of reach. We  
can’t aﬀord nice vacations, new cars, health insurance, or  
homes in safe neighborhoods. We can’t put our kids through  
college without crippling debt. Much of the stuﬀ you people  
who read ﬁnance books either have now, or have a good  
chance of getting, we don’t. Buying a lottery ticket is the only  
time in our lives we can hold a tangible dream of getting the  
good stuﬀ that you already have and take for granted. We are  
paying for a dream, and you may not understand that because  
you are already living a dream. That’s why we buy more tickets  
than you do.  
   
You don’t have to agree with this reasoning. Buying lotto  
tickets when you’re broke is still a bad idea. But I can kind of  
understand why lotto ticket sales persist.

And that idea—“What you’re doing seems crazy but I kind of  
understand why you’re doing it.”—uncovers the root of many of  
our ﬁnancial decisions.  
Few people make ﬁnancial decisions purely with a  
spreadsheet. They make them at the dinner table, or in a  
company meeting. Places where personal history, your own  
unique view of the world, ego, pride, marketing, and odd  
incentives are scrambled together into a narrative that works  
for you.  
   
   
Another important point that helps explain why money  
decisions are so diﬃcult, and why there is so much  
misbehavior, is to recognize how new this topic is.  
Money has been around a long time. King Alyattes of Lydia,  
now part of Turkey, is thought to have created the ﬁrst oﬃcial  
currency in 600 BC. But the modern foundation of money  
decisions—saving and investing—is based around concepts  
that are practically infants.  
Take retirement. At the end of 2018 there was $27 trillion in  
U.S. retirement accounts, making it the main driver of the  
common investor’s saving and investing decisions.⁵  
But the entire concept of being entitled to retirement is, at  
most, two generations old.  
Before World War II most Americans worked until they died.  
That was the expectation and the reality. The labor force  
participation rate of men age 65 and over was above 50% until  
the 1940s:  
 

Social Security aimed to change this. But its initial beneﬁts  
were nothing close to a proper pension. When Ida May Fuller  
cashed the ﬁrst Social Security check in 1940, it was for  
$22.54, or $416 adjusted for inﬂation. It was not until the  
1980s that the average Social Security check for retirees  
exceeded $1,000 a month adjusted for inﬂation. More than a  
quarter of Americans over age 65 were classiﬁed by the Census  
Bureau as living in poverty until the late 1960s.  
There is a widespread belief along the lines of, “everyone used  
to have a private pension.” But this is wildly exaggerated. The  
Employee Beneﬁt Research Institute explains: “Only a quarter  
of those age 65 or older had pension income in 1975.” Among  
that lucky minority, only 15% of household income came from  
a pension.

The New York Times wrote in 1955 about the growing desire,  
but continued inability, to retire: “To rephrase an old saying:  
everyone talks about retirement, but apparently very few do  
anything about it.”⁶  
It was not until the 1980s that the idea that everyone deserves,  
and should have, a digniﬁed retirement took hold. And the way  
to get that digniﬁed retirement ever since has been an  
expectation that everyone will save and invest their own  
money.  
Let me reiterate how new this idea is: The 401(k)—the  
backbone savings vehicle of American retirement—did not  
exist until 1978. The Roth IRA was not born until 1998. If it  
were a person it would be barely old enough to drink.  
It should surprise no one that many of us are bad at saving and  
investing for retirement. We’re not crazy. We’re all just  
newbies.  
Same goes for college. The share of Americans over age 25  
with a bachelor’s degree has gone from less than 1 in 20 in  
1940 to 1 in 4 by 2015.⁷ The average college tuition over that  
time rose more than fourfold adjusted for inﬂation.⁸ Something  
so big and so important hitting society so fast explains why, for  
example, so many people have made poor decisions with  
student loans over the last 20 years. There is not decades of  
accumulated experience to even attempt to learn from. We’re  
winging it.  
Same for index funds, which are less than 50 years old. And  
hedge funds, which didn’t take oﬀ until the last 25 years. Even  
widespread use of consumer debt—mortgages, credit cards,  
and car loans—did not take oﬀ until after World War II, when  
the GI Bill made it easier for millions of Americans to borrow.  
Dogs were domesticated 10,000 years ago and still retain  
some behaviors of their wild ancestors. Yet here we are, with

between 20 and 50 years of experience in the modern ﬁnancial  
system, hoping to be perfectly acclimated.  
For a topic that is so inﬂuenced by emotion versus fact, this is a  
problem. And it helps explain why we don’t always do what  
we’re supposed to with money.  
We all do crazy stuﬀ with money, because we’re all relatively  
new to this game and what looks crazy to you might make  
sense to me. But no one is crazy—we all make decisions based  
on our own unique experiences that seem to make sense to us  
in a given moment.  
Now let me tell you a story about how Bill Gates got rich.

Luck and risk are siblings. They are both the reality that  
every outcome in life is guided by forces other than  
individual eﬀort.  
NYU professor Scott Galloway has a related idea that is so  
important to remember when judging success—both your  
own and others’: “Nothing is as good or as bad as it seems.”  
   
   
Bill Gates went to one of the only high schools in the world  
that had a computer.  
The story of how Lakeside School, just outside Seattle, even  
got a computer is remarkable.  
Bill Dougall was a World War II navy pilot turned high school  
math and science teacher. “He believed that book study  
wasn’t enough without real-world experience. He also  
realized that we’d need to know something about  
computers when we got to college,” recalled late Microsoft  
co-founder Paul Allen.  
In 1968 Dougall petitioned the Lakeside School Mothers’  
Club to use the proceeds from its annual rummage sale—  
about $3,000—to lease a Teletype Model 30 computer  
hooked up to the General Electric mainframe terminal for  
computer time-sharing. “The whole idea of time-sharing  
only got invented in 1965,” Gates later said. “Someone was  
pretty forwardlooking.” Most university graduate schools did  
not have a computer anywhere near as advanced as Bill  
Gates had access to in eighth grade. And he couldn’t get  
enough of it.

Gates was 13 years old in 1968 when he met classmate Paul  
Allen. Allen was also obsessed with the school’s computer,  
and the two hit it oﬀ.  
Lakeside’s computer wasn’t part of its general curriculum. It  
was an independent study program. Bill and Paul could toy  
away with the thing at their leisure, letting their creativity  
run wild—after school, late into the night, on weekends.  
They quickly became computing experts.  
During one of their late-night sessions, Allen recalled Gates  
showing him a Fortune magazine and saying, “What do you  
think it’s like to run a Fortune 500 company?” Allen said he  
had no idea. “Maybe we’ll have our own computer company  
someday,” Gates said. Microsoft is now worth more than a  
trillion dollars.  
A little quick math.  
In 1968 there were roughly 303 million high-school-age  
people in the world, according to the UN.  
About 18 million of them lived in the United States.  
About 270,000 of them lived in Washington state.  
A little over 100,000 of them lived in the Seattle area.  
And only about 300 of them attended Lakeside School.  
Start with 303 million, end with 300.  
One in a million high-school-age students attended the high  
school that had the combination of cash and foresight to  
buy a computer. Bill Gates happened to be one of them.

Gates is not shy about what this meant. “If there had been  
no Lakeside, there would have been no Microsoft,” he told  
the school’s graduating class in 2005.  
Gates is staggeringly smart, even more hardworking, and as  
a teenager had a vision for computers that even most  
seasoned computer executives couldn’t grasp. He also had a  
one in a million head start by going to school at Lakeside.  
Now let me tell you about Gates’ friend Kent Evans. He  
experienced an equally powerful dose of luck’s close sibling,  
risk.  
Bill Gates and Paul Allen became household names thanks  
to Microsoft’s success. But back at Lakeside there was a  
third member of this gang of high-school computer  
prodigies.  
Kent Evans and Bill Gates became best friends in eighth  
grade. Evans was, by Gates’ own account, the best student  
in the class.  
The two talked “on the phone ridiculous amounts,” Gates  
recalls in the documentary Inside Bill’s Brain. “I still know  
Kent’s phone number,” he says. “525-7851.”  
Evans was as skilled with computers as Gates and Allen.  
Lakeside once struggled to manually put together the  
school’s class schedule—a maze of complexity to get  
hundreds of students the classes they need at times that  
don’t conﬂict with other courses. The school tasked Bill and  
Kent—children, by any measure—to build a computer  
program to solve the problem. It worked.  
And unlike Paul Allen, Kent shared Bill’s business mind and  
endless ambition. “Kent always had the big briefcase, like a  
lawyer’s briefcase,” Gates recalls. “We were always

scheming about what we’d be doing ﬁve or six years in the  
future. Should we go be CEOs? What kind of impact could  
you have? Should we go be generals? Should we go be  
ambassadors?” Whatever it was, Bill and Kent knew they’d  
do it together.  
After reminiscing on his friendship with Kent, Gates trails oﬀ.  
“We would have kept working together. I’m sure we would  
have gone to college together.” Kent could have been a  
founding partner of Microsoft with Gates and Allen.  
But it would never happen. Kent died in a mountaineering  
accident before he graduated high school.  
Every year there are around three dozen mountaineering  
deaths in the United States.⁹ The odds of being killed on a  
mountain in high school are roughly one in a million.  
Bill Gates experienced one in a million luck by ending up at  
Lakeside. Kent Evans experienced one in a million risk by  
never getting to ﬁnish what he and Gates set out to achieve.  
The same force, the same magnitude, working in opposite  
directions.  
Luck and risk are both the reality that every outcome in life  
is guided by forces other than individual eﬀort. They are so  
similar that you can’t believe in one without equally  
respecting the other. They both happen because the world is  
too complex to allow 100% of your actions to dictate 100%  
of your outcomes. They are driven by the same thing: You  
are one person in a game with seven billion other people  
and inﬁnite moving parts. The accidental impact of actions  
outside of your control can be more consequential than the  
ones you consciously take.

But both are so hard to measure, and hard to accept, that  
they too often go overlooked. For every Bill Gates there is a  
Kent Evans who was just as skilled and driven but ended up  
on the other side of life roulette.  
If you give luck and risk their proper respect, you realize that  
when judging people’s ﬁnancial success—both your own  
and others’—it’s never as good or as bad as it seems.  
   
   
Years ago I asked economist Robert Shiller, who won the  
Nobel Prize in economics, “What do you want to know about  
investing that we can’t know?”  
“The exact role of luck in successful outcomes,” he  
answered.  
I love that response, because no one actually thinks luck  
doesn’t play a role in ﬁnancial success. But since it’s hard to  
quantify luck and rude to suggest people’s success is owed  
to it, the default stance is often to implicitly ignore luck as a  
factor of success.  
If I say, “There are a billion investors in the world. By sheer  
chance, would you expect 10 of them to become billionaires  
predominantly oﬀ luck?” You would reply, “Of course.” But  
then if I ask you to name those investors—to their face—you  
will likely back down.  
When judging others, attributing success to luck makes you  
look jealous and mean, even if we know it exists. And when  
judging yourself, attributing success to luck can be too  
demoralizing to accept.

Economist Bhashkar Mazumder has shown that incomes  
among brothers are more correlated than height or weight.  
If you are rich and tall, your brother is more likely to also be  
rich than he is tall. I think most of us intuitively know this is  
true—the quality of your education and the doors that open  
for you are heavily linked to your parents’ socioeconomic  
status. But ﬁnd me two rich brothers and I’ll show you two  
men who do not think this study’s ﬁndings apply to them.  
Failure—which can be anything from bankruptcy to not  
meeting a personal goal—is equally abused.  
Did failed businesses not try hard enough? Were bad  
investments not thought through well enough? Are wayward  
careers due to laziness? Sometimes, yes. Of course.  
But how much? It’s so hard to know. Everything worth  
pursuing has less than 100% odds of succeeding, and risk is  
just what happens when you end up on the unfortunate side  
of that equation. Just as with luck, the story gets too hard,  
too messy, too complex if we try to pick apart how much of  
an outcome was a conscious decision versus a risk.  
Say I buy a stock, and ﬁve years later it’s gone nowhere. It’s  
possible that I made a bad decision by buying it in the ﬁrst  
place. It’s also possible that I made a good decision that had  
an 80% chance of making money, and I just happened to  
end up on the side of the unfortunate 20%. How do I know  
which is which? Did I make a mistake, or did I just  
experience the reality of risk?  
It’s possible to statistically measure whether some decisions  
were wise. But in the real world, day to day, we simply don’t.  
It’s too hard. We prefer simple stories, which are easy but  
often devilishly misleading.

After spending years around investors and business leaders  
I’ve come to realize that someone else’s failure is usually  
attributed to bad decisions, while your own failures are  
usually chalked up to the dark side of risk. When judging  
your failures I’m likely to prefer a clean and simple story of  
cause and eﬀect, because I don’t know what’s going on  
inside your head. “You had a bad outcome so it must have  
been caused by a bad decision” is the story that makes the  
most sense to me. But when judging myself I can make up a  
wild narrative justifying my past decisions and attributing  
bad outcomes to risk.  
The cover of Forbes magazine does not celebrate poor  
investors who made good decisions but happened to  
experience the unfortunate side of risk. But it almost  
certainly celebrates rich investors who made OK or even  
reckless decisions and happened to get lucky. Both ﬂipped  
the same coin that happened to land on a diﬀerent side.  
The dangerous part of this is that we’re all trying to learn  
about what works and what doesn’t with money.  
What investing strategies work? Which ones don’t?  
What business strategies work? Which ones don’t?  
How do you get rich? How do you avoid being poor?  
We tend to seek out these lessons by observing successes  
and failures and saying, “Do what she did, avoid what he  
did.”  
If we had a magic wand we would ﬁnd out exactly what  
proportion of these outcomes were caused by actions that  
are repeatable, versus the role of random risk and luck that  
swayed those actions one way or the other. But we don’t  
have a magic wand. We have brains that prefer easy

answers without much appetite for nuance. So identifying  
the traits we should emulate or avoid can be agonizingly  
hard.  
Let me tell you another story of someone who, like Bill  
Gates, was wildly successful, but whose success is hard to  
pin down as being caused by luck or skill.  
   
   
Cornelius Vanderbilt had just ﬁnished a series of business  
deals to expand his railroad empire.  
One of his business advisors leaned in to tell Vanderbilt that  
every transaction he agreed to broke the law.  
“My God, John,” said Vanderbilt, “You don’t suppose you can  
run a railroad in accordance with the statutes of the State of  
New York, do you?”¹⁰  
My ﬁrst thought when reading this was: “That attitude is  
why he was so successful.” Laws didn’t accommodate  
railroads during Vanderbilt’s day. So he said “to hell with it”  
and went ahead anyway.  
Vanderbilt was wildly successful. So it’s tempting to view his  
law-ﬂaunting—which was notorious and vital to his success  
—as sage wisdom. That scrappy visionary let nothing get in  
his way!  
But how dangerous is that analysis? No sane person would  
recommend ﬂagrant crime as an entrepreneurial trait. You  
can easily imagine Vanderbilt’s story turning out much  
diﬀerent—an outlaw whose young company collapsed under  
court order.

So we have a problem here.  
You can praise Vanderbilt for ﬂaunting the law with as much  
passion as you criticize Enron for doing the same. Perhaps  
one got lucky by avoiding the arm of the law while the other  
found itself on the side of risk.  
John D. Rockefeller is similar. His frequent circumventing of  
the law—a judge once called his company “no better than a  
common thief”—is often portrayed by historians as cunning  
business smarts. Maybe it was. But when does the narrative  
shift from, “You didn’t let outdated laws get in the way of  
innovation,” to “You committed a crime?” Or how little  
would the story have to shift for the narrative to have turned  
from “Rockefeller was a genius, try to learn from his  
successes,” to “Rockefeller was a criminal, try to learn from  
his business failures.” Very little.  
“What do I care about the law?” Vanderbilt once said. “Ain’t I  
got the power?”  
He did, and it worked. But it’s easy to imagine those being  
the last words of a story with a very diﬀerent outcome. The  
line between bold and reckless can be thin. When we don’t  
give risk and luck their proper billing it’s often invisible.  
Benjamin Graham is known as one of the greatest investors  
of all time, the father of value investing and the early  
mentor of Warren Buﬀett. But the majority of Benjamin  
Graham’s investing success was due to owning an enormous  
chunk of GEICO stock which, by his own admission, broke  
nearly every diversiﬁcation rule that Graham himself laid out  
in his famous texts. Where does the thin line between bold  
and reckless fall here? I don’t know. Graham wrote about his  
GEICO bonanza: “One lucky break, or one supremely shrewd  
decision—can we tell them apart?” Not easily.

We similarly think Mark Zuckerberg is a genius for turning  
down Yahoo!’s 2006 $1 billion oﬀer to buy his company. He  
saw the future and stuck to his guns. But people criticize  
Yahoo! with as much passion for turning down its own big  
buyout oﬀer from Microsoft—those fools should have cashed  
out while they could! What is the lesson for entrepreneurs  
here? I have no idea, because risk and luck are so hard to  
pin down.  
There are so many examples of this.  
Countless fortunes (and failures) owe their outcome to  
leverage.  
The best (and worst) managers drive their employees as  
hard as they can.  
“The customer is always right” and “customers don’t know  
what they want” are both accepted business wisdom.  
The line between “inspiringly bold” and “foolishly reckless”  
can be a millimeter thick and only visible with hindsight.  
Risk and luck are doppelgangers.  
This is not an easy problem to solve. The diﬃculty in  
identifying what is luck, what is skill, and what is risk is one  
of the biggest problems we face when trying to learn about  
the best way to manage money.  
But two things can point you in a better direction.  
   
Be careful who you praise and admire. Be careful  
who you look down upon and wish to avoid  
becoming.

Or, just be careful when assuming that 100% of outcomes  
can be attributed to eﬀort and decisions. After my son was  
born, I wrote him a letter that said, in part:  
   
Some people are born into families that encourage  
education; others are against it. Some are born into  
ﬂourishing economies encouraging of entrepreneurship;  
others are born into war and destitution. I want you to be  
successful, and I want you to earn it. But realize that not all  
success is due to hard work, and not all poverty is due to  
laziness. Keep this in mind when judging people, including  
yourself.  
   
Therefore, focus less on speciﬁc individuals and case  
studies and more on broad patterns.  
   
Studying a speciﬁc person can be dangerous because we  
tend to study extreme examples—the billionaires, the CEOs,  
or the massive failures that dominate the news—and  
extreme examples are often the least applicable to other  
situations, given their complexity. The more extreme the  
outcome, the less likely you can apply its lessons to your  
own life, because the more likely the outcome was  
inﬂuenced by extreme ends of luck or risk.  
You’ll get closer to actionable takeaways by looking for  
broad patterns of success and failure. The more common the  
pattern, the more applicable it might be to your life. Trying  
to emulate Warren Buﬀett’s investment success is hard,  
because his results are so extreme that the role of luck in his

lifetime performance is very likely high, and luck isn’t  
something you can reliably emulate. But realizing, as we’ll  
see in chapter 7, that people who have control over their  
time tend to be happier in life is a broad and common  
enough observation that you can do something with it.  
My favorite historian, Frederick Lewis Allen, spent his career  
depicting the life of the average, median American—how  
they lived, how they changed, what they did for work, what  
they ate for dinner, etc. There are more relevant lessons to  
take away from this kind of broad observation than there are  
in studying the extreme characters that tend to dominate  
the news.  
   
   
Bill Gates once said, “Success is a lousy teacher. It seduces  
smart people into thinking they can’t lose.”  
When things are going extremely well, realize it’s not as  
good as you think. You are not invincible, and if you  
acknowledge that luck brought you success then you have  
to believe in luck’s cousin, risk, which can turn your story  
around just as quickly.  
But the same is true in the other direction.  
Failure can be a lousy teacher, because it seduces smart  
people into thinking their decisions were terrible when  
sometimes they just reﬂect the unforgiving realities of risk.  
The trick when dealing with failure is arranging your  
ﬁnancial life in a way that a bad investment here and a  
missed ﬁnancial goal there won’t wipe you out so you can  
keep playing until the odds fall in your favor.

But more important is that as much as we recognize the role  
of luck in success, the role of risk means we should forgive  
ourselves and leave room for understanding when judging  
failures.  
Nothing is as good or as bad as it seems.  
Now let’s look at the stories of two men who pushed their  
luck.

John Bogle, the Vanguard founder who passed away in 2019,  
once told a story about money that highlights something we  
don’t think about enough:  
   
At a party given by a billionaire on Shelter Island, Kurt  
Vonnegut informs his pal, Joseph Heller, that their host, a  
hedge fund manager, had made more money in a single day  
than Heller had earned from his wildly popular novel Catch-  
22 over its whole history. Heller responds, “Yes, but I have  
something he will never have … enough.”  
Enough. I was stunned by the simple eloquence of that word  
—stunned for two reasons: ﬁrst, because I have been given  
so much in my own life and, second, because Joseph Heller  
couldn’t have been more accurate.  
For a critical element of our society, including many of the  
wealthiest and most powerful among us, there seems to be  
no limit today on what enough entails.  
   
It’s so smart, and so powerful.  
Let me oﬀer two examples of the dangers of not having  
enough, and what they can teach us.  
   
   
Rajat Gupta was born in Kolkata and orphaned as a  
teenager. People talk about the privileged few who begin life  
on third base. Gupta couldn’t even see the baseball  
stadium.

What he went on to achieve from those beginnings was  
simply phenomenal.  
By his mid 40s Gupta was CEO of McKinsey, the world’s  
most prestigious consulting ﬁrm. He retired in 2007 to take  
on roles with the United Nations and the World Economic  
Forum. He partnered on philanthropic work with Bill Gates.  
He sat on the board of directors of ﬁve public companies.  
From the slums of Kolkata, Gupta had quite literally become  
one of the most successful businessmen alive.  
With his success came enormous wealth. By 2008 Gupta  
was reportedly worth $100 million.¹¹ It’s an unfathomable  
sum of money to most. A ﬁve percent annual return on that  
much money generates almost $600 an hour, 24 hours a  
day.  
He could have done anything he wanted in life.  
And what he wanted, by all accounts, wasn’t to be a mere  
centa-millionaire. Rajat Gupta wanted to be a billionaire.  
And he wanted it badly.  
Gupta sat on the board of directors of Goldman Sachs,  
which surrounded him with some of the wealthiest investors  
in the world. One investor, citing the paydays of private  
equity tycoons, described Gupta like this: “I think he wants  
to be in that circle. That’s a billionaire circle, right? Goldman  
is like the hundreds of millions circle, right?”¹²  
Right. So Gupta found a lucrative side hustle.  
In 2008, as Goldman Sachs stared at the wrath of the  
ﬁnancial crisis, Warren Buﬀett planned to invest $5 billion  
into the bank to help it survive. As a Goldman board  
member Gupta learned of this transaction before the public.  
It was valuable information. Goldman’s survival was in

doubt and Buﬀett’s backing would surely send its stock  
soaring.  
Sixteen seconds after learning of the pending deal Gupta,  
who was dialed into the Goldman board meeting, hung up  
the phone and called a hedge fund manager named Raj  
Rajaratnam. The call wasn’t recorded, but Rajaratnam  
immediately bought 175,000 shares of Goldman Sachs, so  
you can guess what was discussed. The Buﬀett-Goldman  
deal was announced to the public hours later. Goldman  
stock surged. Rajaratnam made a quick $1 million.  
That was just one example of an alleged trend. The SEC  
claims Gupta’s insider tips led to $17 million in proﬁts.  
It was easy money. And, for prosecutors, it was an even  
easier case.  
Gupta and Rajaratnam both went to prison for insider  
trading, their careers and reputations irrevocably ruined.  
Now consider Bernie Madoﬀ. His crime is well known. Madoﬀ  
is the most notorious Ponzi schemer since Charles Ponzi  
himself. Madoﬀ swindled investors for two decades before  
his crime was revealed—ironically just weeks after Gupta’s  
endeavor.  
What’s overlooked is that Madoﬀ, like Gupta, was more than  
a fraudster. Before the Ponzi scheme that made Madoﬀ  
famous he was a wildly successful and legitimate  
businessman.  
Madoﬀ was a market maker, a job that matches buyers and  
sellers of stocks. He was very good at it. Here’s how The Wall  
Street Journal described Madoﬀ’s market-making ﬁrm in  
1992:

He has built a highly proﬁtable securities ﬁrm, Bernard L.  
Madoﬀ Investment Securities, which siphons a huge volume  
of stock trades away from the Big Board. The $740 million  
average daily volume of trades executed electronically by  
the Madoﬀ ﬁrm oﬀ the exchange equals 9% of the New York  
exchange’s. Mr. Madoﬀ’s ﬁrm can execute trades so quickly  
and cheaply that it actually pays other brokerage ﬁrms a  
penny a share to execute their customers’ orders, proﬁting  
from the spread between bid and ask prices that most  
stocks trade for.  
   
This is not a journalist inaccurately describing a fraud yet to  
be uncovered; Madoﬀ’s market-making business was  
legitimate. A former staﬀer said the market-making arm of  
Madoﬀ’s business made between $25 million and $50  
million per year.  
Bernie Madoﬀ’s legitimate, non-fraudulent business was by  
any measure a huge success. It made him hugely—and  
legitimately—wealthy.  
And yet, the fraud.  
The question we should ask of both Gupta and Madoﬀ is why  
someone worth hundreds of millions of dollars would be so  
desperate for more money that they risked everything in  
pursuit of even more.  
Crime committed by those living on the edge of survival is  
one thing. A Nigerian scam artist once told The New York  
Times that he felt guilty for hurting others, but “poverty will  
not make you feel the pain.”¹³

What Gupta and Madoﬀ did is something diﬀerent. They  
already had everything: unimaginable wealth, prestige,  
power, freedom. And they threw it all away because they  
wanted more.  
They had no sense of enough.  
They are extreme examples. But there are non-criminal  
versions of this behavior.  
The hedge fund Long-Term Capital Management was staﬀed  
with traders personally worth tens and hundreds of millions  
of dollars each, with most of their wealth invested in their  
own funds. Then they took so much risk in the quest for  
more that they managed to lose everything—in 1998, in the  
middle of the greatest bull market and strongest economy in  
history. Warren Buﬀett later put it:  
   
To make money they didn’t have and didn’t need, they  
risked what they did have and did need. And that’s foolish. It  
is just plain foolish. If you risk something that is important to  
you for something that is unimportant to you, it just does  
not make any sense.  
   
There is no reason to risk what you have and need for what  
you don’t have and don’t need.  
It’s one of those things that’s as obvious as it is overlooked.  
Few of us will ever have $100 million, as Gupta or Madoﬀ  
did. But a measurable percentage of those reading this book  
will, at some point in their life, earn a salary or have a sum

of money suﬃcient to cover every reasonable thing they  
need and a lot of what they want.  
If you’re one of them, remember a few things.  
   
1. The hardest ﬁnancial skill is getting the goalpost  
to stop moving.  
   
But it’s one of the most important. If expectations rise with  
results there is no logic in striving for more because you’ll  
feel the same after putting in extra eﬀort. It gets dangerous  
when the taste of having more—more money, more power,  
more prestige—increases ambition faster than satisfaction.  
In that case one step forward pushes the goalpost two steps  
ahead. You feel as if you’re falling behind, and the only way  
to catch up is to take greater and greater amounts of risk.  
Modern capitalism is a pro at two things: generating wealth  
and generating envy. Perhaps they go hand in hand; wanting  
to surpass your peers can be the fuel of hard work. But life  
isn’t any fun without a sense of enough. Happiness, as it’s  
said, is just results minus expectations.  
   
2. Social comparison is the problem here.  
   
Consider a rookie baseball player who earns $500,000 a  
year. He is, by any deﬁnition, rich. But say he plays on the  
same team as Mike Trout, who has a 12-year, $430 million  
contract. By comparison, the rookie is broke. But then think  
about Mike Trout. Thirty-six million dollars per year is an

insane amount of money. But to make it on the list of the  
top-ten highest-paid hedge fund managers in 2018 you  
needed to earn at least $340 million in one year.¹⁴ That’s  
who people like Trout might compare their incomes to. And  
the hedge fund manager who makes $340 million per year  
compares himself to the top ﬁve hedge fund managers, who  
earned at least $770 million in 2018. Those top managers  
can look ahead to people like Warren Buﬀett, whose  
personal fortune increased by $3.5 billion in 2018. And  
someone like Buﬀett could look ahead to Jeﬀ Bezos, whose  
net worth increased by $24 billion in 2018—a sum that  
equates to more per hour than the “rich” baseball player  
made in a full year.  
The point is that the ceiling of social comparison is so high  
that virtually no one will ever hit it. Which means it’s a  
battle that can never be won, or that the only way to win is  
to not ﬁght to begin with—to accept that you might have  
enough, even if it’s less than those around you.  
A friend of mine makes an annual pilgrimage to Las Vegas.  
One year he asked a dealer: What games do you play, and  
what casinos do you play in? The dealer, stone-cold serious,  
replied: “The only way to win in a Las Vegas casino is to exit  
as soon as you enter.”  
That’s exactly how the game of trying to keep up with other  
people’s wealth works, too.  
   
3. “Enough” is not too little.  
   
The idea of having “enough” might look like conservatism,  
leaving opportunity and potential on the table.

I don’t think that’s right.  
“Enough” is realizing that the opposite—an insatiable  
appetite for more—will push you to the point of regret.  
The only way to know how much food you can eat is to eat  
until you’re sick. Few try this because vomiting hurts more  
than any meal is good. For some reason the same logic  
doesn’t translate to business and investing, and many will  
only stop reaching for more when they break and are forced  
to. This can be as innocent as burning out at work or a risky  
investment allocation you can’t maintain. On the other end  
there’s Rajat Guptas and Bernie Madoﬀs in the world, who  
resort to stealing because every dollar is worth reaching for  
regardless of consequence.  
Whatever it is, the inability to deny a potential dollar will  
eventually catch up to you.  
   
4. There are many things never worth risking, no  
matter the potential gain.  
   
After he was released from prison Rajat Gupta told The New  
York Times he had learned a lesson:  
   
Don’t get too attached to anything—your reputation, your  
accomplishments or any of it. I think about it now, what  
does it matter? O.K., this thing unjustly destroyed my  
reputation. That’s only troubling if I am so attached to my  
reputation.  
 

This seems like the worst possible takeaway from his  
experience, and what I imagine is the comforting self-  
justiﬁcations of a man who desperately wants his reputation  
back but knows it’s gone.  
   
Reputation is invaluable.  
Freedom and independence are invaluable.  
Family and friends are invaluable.  
Being loved by those who you want to love you is invaluable.  
Happiness is invaluable.  
And your best shot at keeping these things is knowing when  
it’s time to stop taking risks that might harm them. Knowing  
when you have enough.  
The good news is that the most powerful tool for building  
enough is remarkably simple, and doesn’t require taking  
risks that could damage any of these things. That’s the next  
chapter.

Lessons from one ﬁeld can often teach us something  
important about unrelated ﬁelds. Take the billion-year  
history of ice ages, and what they teach us about growing  
your money.  
   
   
Our scientiﬁc knowledge of Earth is younger than you might  
think. Understanding how the world works often involves  
drilling deep below its surface, something we haven’t been  
able to do until fairly recently. Isaac Newton calculated the  
movement of the stars hundreds of years before we  
understood some of the basics of our planet.  
It was not until the 19th century that scientists agreed that  
Earth had, on multiple occasions, been covered in ice.¹⁵  
There was too much evidence to argue otherwise. All over  
the world sat ﬁngerprints of a previously frozen world: huge  
boulders strewn in random locations; rock beds scraped  
down to thin layers. Evidence became clear that there had  
not been one ice age, but ﬁve distinct ones we could  
measure.  
The amount of energy needed to freeze the planet, melt it  
anew, and freeze it over yet again is staggering. What on  
Earth (literally) could be causing these cycles? It must be  
the most powerful force on our planet.  
And it was. Just not in the way anyone expected.  
There were plenty of theories about why ice ages occurred.  
To account for their enormous geological inﬂuence the  
theories were equally grand. The uplifting of mountain  
ranges, it was thought, may have shifted the Earth’s winds  
enough to alter the climate. Others favored the idea that ice

was the natural state, interrupted by massive volcanic  
eruptions that warmed us up.  
But none of these theories could account for the cycle of ice  
ages. The growth of mountain ranges or some massive  
volcano may explain one ice age. It could not explain the  
cyclical repetition of ﬁve.  
In the early 1900s a Serbian scientist named Milutin  
Milanković studied the Earth’s position relative to other  
planets and came up with the theory of ice ages that we  
now know is accurate: The gravitational pull of the sun and  
moon gently aﬀect the Earth’s motion and tilt toward the  
sun. During parts of this cycle—which can last tens of  
thousands of years—each of the Earth’s hemispheres gets a  
little more, or a little less, solar radiation than they’re used  
to.  
And that is where the fun begins.  
Milanković’s theory initially assumed that a tilt of the Earth’s  
hemispheres caused ravenous winters cold enough to turn  
the planet into ice. But a Russian meteorologist named  
Wladimir Köppen dug deeper into Milanković’s work and  
discovered a fascinating nuance.  
Moderately cool summers, not cold winters, were the icy  
culprit.  
It begins when a summer never gets warm enough to melt  
the previous winter’s snow. The leftover ice base makes it  
easier for snow to accumulate the following winter, which  
increases the odds of snow sticking around in the following  
summer, which attracts even more accumulation the  
following winter. Perpetual snow reﬂects more of the sun’s  
rays, which exacerbates cooling, which brings more  
snowfall, and on and on. Within a few hundred years a

seasonal snowpack grows into a continental ice sheet, and  
you’re oﬀ to the races.  
The same thing happens in reverse. An orbital tilt letting  
more sunlight in melts more of the winter snowpack, which  
reﬂects less light the following years, which increases  
temperatures, which prevents more snow the next year, and  
so on. That’s the cycle.  
The amazing thing here is how big something can grow  
from a relatively small change in conditions. You start with a  
thin layer of snow left over from a cool summer that no one  
would think anything of and then, in a geological blink of an  
eye, the entire Earth is covered in miles-thick ice. As  
glaciologist Gwen Schultz put it: “It is not necessarily the  
amount of snow that causes ice sheets but the fact that  
snow, however little, lasts.”  
The big takeaway from ice ages is that you don’t need  
tremendous force to create tremendous results.  
If something compounds—if a little growth serves as the fuel  
for future growth—a small starting base can lead to results  
so extraordinary they seem to defy logic. It can be so logic-  
defying that you underestimate what’s possible, where  
growth comes from, and what it can lead to.  
And so it is with money.  
   
   
More than 2,000 books are dedicated to how Warren Buﬀett  
built his fortune. Many of them are wonderful. But few pay  
enough attention to the simplest fact: Buﬀett’s fortune isn’t  
due to just being a good investor, but being a good investor  
since he was literally a child.

As I write this Warren Buﬀett’s net worth is $84.5 billion. Of  
that, $84.2 billion was accumulated after his 50th birthday.  
$81.5 billion came after he qualiﬁed for Social Security, in  
his mid-60s.  
Warren Buﬀett is a phenomenal investor. But you miss a key  
point if you attach all of his success to investing acumen.  
The real key to his success is that he’s been a phenomenal  
investor for three quarters of a century. Had he started  
investing in his 30s and retired in his 60s, few people would  
have ever heard of him.  
Consider a little thought experiment.  
Buﬀett began serious investing when he was 10 years old.  
By the time he was 30 he had a net worth of $1 million, or  
$9.3 million adjusted for inﬂation.¹⁶  
What if he was a more normal person, spending his teens  
and 20s exploring the world and ﬁnding his passion, and by  
age 30 his net worth was, say, $25,000?  
And let’s say he still went on to earn the extraordinary  
annual investment returns he’s been able to generate (22%  
annually), but quit investing and retired at age 60 to play  
golf and spend time with his grandkids.  
What would a rough estimate of his net worth be today?  
Not $84.5 billion.  
$11.9 million.  
99.9% less than his actual net worth.  
Eﬀectively all of Warren Buﬀett’s ﬁnancial success can be  
tied to the ﬁnancial base he built in his pubescent years and

the longevity he maintained in his geriatric years.  
His skill is investing, but his secret is time.  
That’s how compounding works.  
Think of this another way. Buﬀett is the richest investor of all  
time. But he’s not actually the greatest—at least not when  
measured by average annual returns.  
Jim Simons, head of the hedge fund Renaissance  
Technologies, has compounded money at 66% annually  
since 1988. No one comes close to this record. As we just  
saw, Buﬀett has compounded at roughly 22% annually, a  
third as much.  
Simons’ net worth, as I write, is $21 billion. He is—and I  
know how ridiculous this sounds given the numbers we’re  
dealing with—75% less rich than Buﬀett.  
Why the diﬀerence, if Simons is such a better investor?  
Because Simons did not ﬁnd his investment stride until he  
was 50 years old. He’s had less than half as many years to  
compound as Buﬀett. If James Simons had earned his 66%  
annual returns for the 70-year span Buﬀett has built his  
wealth he would be worth—please hold your breath—sixty-  
three quintillion nine hundred quadrillion seven hundred  
eighty-one trillion seven hundred eighty billion seven  
hundred forty-eight million one hundred sixty thousand  
dollars.  
These are ridiculous, impractical numbers. The point is that  
what seem like small changes in growth assumptions can  
lead to ridiculous, impractical numbers. And so when we are  
studying why something got to become as powerful as it has  
—why an ice age formed, or why Warren Buﬀett is so rich—  
we often overlook the key drivers of success.

I have heard many people say the ﬁrst time they saw a  
compound interest table—or one of those stories about how  
much more you’d have for retirement if you began saving in  
your 20s versus your 30s—changed their life. But it probably  
didn’t. What it likely did was surprise them, because the  
results intuitively didn’t seem right. Linear thinking is so  
much more intuitive than exponential thinking. If I ask you  
to calculate 8+8+8+8+8+8+8+8+8 in your head, you can  
do it in a few seconds (it’s 72). If I ask you to calculate  
8×8×8×8×8×8×8×8×8, your head will explode (it’s  
134,217,728).  
IBM made a 3.5 megabyte hard drive in the 1950s. By the  
1960s things were moving into a few dozen megabytes. By  
the 1970s, IBM’s Winchester drive held 70 megabytes. Then  
drives got exponentially smaller in size with more storage. A  
typical PC in the early 1990s held 200–500 megabytes.  
And then … wham. Things exploded.  
1999—Apple’s iMac comes with a 6 gigabyte hard drive.  
2003—120 gigs on the Power Mac.  
2006—250 gigs on the new iMac.  
2011—ﬁrst 4 terabyte hard drive.  
2017—60 terabyte hard drives.  
2019—100 terabyte hard drives.  
Put that all together: From 1950 to 1990 we gained 296  
megabytes. From 1990 through today we gained 100 million  
megabytes.

If you were a technology optimist in the 1950s you may  
have predicted that practical storage would become 1,000  
times larger. Maybe 10,000 times larger, if you were  
swinging for the fences. Few would have said “30 million  
times larger within my lifetime.” But that’s what happened.  
The counterintuitive nature of compounding leads even the  
smartest of us to overlook its power. In 2004 Bill Gates  
criticized the new Gmail, wondering why anyone would  
need a gigabyte of storage. Author Steven Levy wrote,  
“Despite his currency with cutting-edge technologies, his  
mentality was anchored in the old paradigm of storage  
being a commodity that must be conserved.” You never get  
accustomed to how quickly things can grow.  
The danger here is that when compounding isn’t intuitive  
we often ignore its potential and focus on solving problems  
through other means. Not because we’re overthinking, but  
because we rarely stop to consider compounding potential.  
None of the 2,000 books picking apart Buﬀett’s success are  
titled This Guy Has Been Investing Consistently for Three-  
Quarters of a Century. But we know that’s the key to the  
majority of his success. It’s just hard to wrap your head  
around that math because it’s not intuitive.  
There are books on economic cycles, trading strategies, and  
sector bets. But the most powerful and important book  
should be called Shut Up And Wait. It’s just one page with a  
long-term chart of economic growth.  
The practical takeaway is that the counterintuitiveness of  
compounding may be responsible for the majority of  
disappointing trades, bad strategies, and successful  
investing attempts.

You can’t blame people for devoting all their eﬀort—eﬀort in  
what they learn and what they do—to trying to earn the  
highest investment returns. It intuitively seems like the best  
way to get rich.  
But good investing isn’t necessarily about earning the  
highest returns, because the highest returns tend to be one-  
oﬀ hits that can’t be repeated. It’s about earning pretty good  
returns that you can stick with and which can be repeated  
for the longest period of time. That’s when compounding  
runs wild.  
The opposite of this—earning huge returns that can’t be  
held onto—leads to some tragic stories. We’ll need the next  
chapter to tell them.

There are a million ways to get wealthy, and plenty of books  
on how to do so.  
But there’s only one way to stay wealthy: some combination  
of frugality and paranoia.  
And that’s a topic we don’t discuss enough.  
Let’s begin with a quick story about two investors, neither of  
whom knew the other, but whose paths crossed in an  
interesting way almost a century ago.  
   
   
Jesse Livermore was the greatest stock market trader of his  
day. Born in 1877, he became a professional trader before  
most people knew you could do such a thing. By age 30 he  
was worth the inﬂation-adjusted equivalent of $100 million.  
By 1929 Jesse Livermore was already one of the most well-  
known investors in the world. The stock market crash that  
year that ushered in the Great Depression cemented his  
legacy in history.  
More than a third of the stock market’s value was wiped out  
in an October 1929 week whose days were later named Black  
Monday, Black Tuesday, and Black Thursday.  
Livermore’s wife Dorothy feared the worst when her husband  
returned home on October 29th. Reports of Wall Street  
speculators committing suicide were spreading across New  
York. She and her children greeted Jesse at the door in tears,  
while her mother was so distraught she hid in another room,  
screaming.

Jesse, according to biographer Tom Rubython, stood confused  
for a few moments before realizing what was happening.  
He then broke the news to his family: In a stroke of genius  
and luck, he had been short the market, betting stocks would  
decline.  
“You mean we are not ruined?” Dorothy asked.  
“No darling, I have just had my best ever trading day—we are  
fabulously rich and can do whatever we like,” Jesse said.  
Dorothy ran to her mother and told her to be quiet.  
In one day Jesse Livermore made the equivalent of more than  
$3 billion.  
During one of the worst months in the history of the stock  
market he became one of the richest men in the world.  
As Livermore’s family celebrated their unfathomable success,  
another man wandered the streets of New York in  
desperation.  
Abraham Germansky was a multimillionaire real estate  
developer who made a fortune during the roaring 1920s. As  
the economy boomed, he did what virtually every other  
successful New Yorker did in the late 1920s: bet heavily on  
the surging stock market.  
On October 26th, 1929, The New York Times published an  
article that in two paragraphs portrays a tragic ending:  
   
Bernard H. Sandler, attorney of 225 Broadway, was asked  
yesterday morning by Mrs. Abraham Germansky of Mount  
Vernon to help ﬁnd her husband, missing since Thursday

Morning. Germansky, who is 50 years old and an east side  
real estate operator, was said by Sandler to have invested  
heavily in stocks.  
Sandler said he was told by Mrs. Germansky that a friend saw  
her husband late Thursday on Wall Street near the stock  
exchange. According to her informant, her husband was  
tearing a strip of ticker tape into bits and scattering it on the  
sidewalk as he walked toward Broadway.  
   
And that, as far as we know, was the end of Abraham  
Germansky.  
Here we have a contrast.  
The October 1929 crash made Jesse Livermore one of the  
richest men in the world. It ruined Abraham Germansky,  
perhaps taking his life.  
But fast-forward four years and the stories cross paths again.  
After his 1929 blowout Livermore, overﬂowing with  
conﬁdence, made larger and larger bets. He wound up far  
over his head, in increasing amounts of debt, and eventually  
lost everything in the stock market.  
Broke and ashamed, he disappeared for two days in 1933. His  
wife set out to ﬁnd him. “Jesse L. Livermore, the stock market  
operator, of 1100 Park Avenue missing and has not been seen  
since 3pm yesterday,” The New York Times wrote in 1933.  
He returned, but his path was set. Livermore eventually took  
his own life.  
The timing was diﬀerent, but Germansky and Livermore  
shared a character trait: They were both very good at getting

wealthy, and equally bad at staying wealthy.  
Even if “wealthy” is not a word you’d apply to yourself, the  
lessons from that observation apply to everyone, at all income  
levels.  
Getting money is one thing.  
Keeping it is another.  
   
   
If I had to summarize money success in a single word it would  
be “survival.”  
As we’ll see in chapter 6, 40% of companies successful  
enough to become publicly traded lost eﬀectively all of their  
value over time. The Forbes 400 list of richest Americans has,  
on average, roughly 20% turnover per decade for causes that  
don’t have to do with death or transferring money to another  
family member.¹⁷  
Capitalism is hard. But part of the reason this happens is  
because getting money and keeping money are two diﬀerent  
skills.  
Getting money requires taking risks, being optimistic, and  
putting yourself out there.  
But keeping money requires the opposite of taking risk. It  
requires humility, and fear that what you’ve made can be  
taken away from you just as fast. It requires frugality and an  
acceptance that at least some of what you’ve made is  
attributable to luck, so past success can’t be relied upon to  
repeat indeﬁnitely.

Michael Moritz, the billionaire head of Sequoia Capital, was  
asked by Charlie Rose why Sequoia was so successful. Moritz  
mentioned longevity, noting that some VC ﬁrms succeed for  
ﬁve or ten years, but Sequoia has prospered for four decades.  
Rose asked why that was:  
   
Moritz: I think we’ve always been afraid of going out of  
business.  
   
Rose: Really? So it’s fear? Only the paranoid survive?  
   
Moritz: There’s a lot of truth to that … We assume that  
tomorrow won’t be like yesterday. We can’t aﬀord to rest on  
our laurels. We can’t be complacent. We can’t assume that  
yesterday’s success translates into tomorrow’s good fortune.  
   
Here again, survival.  
Not “growth” or “brains” or “insight.” The ability to stick  
around for a long time, without wiping out or being forced to  
give up, is what makes the biggest diﬀerence. This should be  
the cornerstone of your strategy, whether it’s in investing or  
your career or a business you own.  
There are two reasons why a survival mentality is so key with  
money.  
One is the obvious: few gains are so great that they’re worth  
wiping yourself out over.

The other, as we saw in chapter 4, is the counterintuitive  
math of compounding.  
Compounding only works if you can give an asset years and  
years to grow. It’s like planting oak trees: A year of growth will  
never show much progress, 10 years can make a meaningful  
diﬀerence, and 50 years can create something absolutely  
extraordinary.  
But getting and keeping that extraordinary growth requires  
surviving all the unpredictable ups and downs that everyone  
inevitably experiences over time.  
We can spend years trying to ﬁgure out how Buﬀett achieved  
his investment returns: how he found the best companies,  
the cheapest stocks, the best managers. That’s hard. Less  
hard but equally important is pointing out what he didn’t do.  
He didn’t get carried away with debt.  
He didn’t panic and sell during the 14 recessions he’s lived  
through.  
He didn’t sully his business reputation.  
He didn’t attach himself to one strategy, one world view, or  
one passing trend.  
He didn’t rely on others’ money (managing investments  
through a public company meant investors couldn’t withdraw  
their capital).  
He didn’t burn himself out and quit or retire.  
He survived. Survival gave him longevity. And longevity—  
investing consistently from age 10 to at least age 89—is what  
made compounding work wonders. That single point is what  
matters most when describing his success.

To show you what I mean, you have to hear the story of Rick  
Guerin.  
You’ve likely heard of the investing duo of Warren Buﬀett and  
Charlie Munger. But 40 years ago there was a third member  
of the group, Rick Guerin.  
Warren, Charlie, and Rick made investments together and  
interviewed business managers together. Then Rick kind of  
disappeared, at least relative to Buﬀett and Munger’s success.  
Investor Mohnish Pabrai once asked Buﬀett what happened to  
Rick. Mohnish recalled:  
   
[Warren said] “Charlie and I always knew that we would  
become incredibly wealthy. We were not in a hurry to get  
wealthy; we knew it would happen. Rick was just as smart as  
us, but he was in a hurry.”  
What happened was that in the 1973–1974 downturn, Rick  
was levered with margin loans. And the stock market went  
down almost 70% in those two years, so he got margin calls.  
He sold his Berkshire stock to Warren—Warren actually said “I  
bought Rick’s Berkshire stock”—at under $40 a piece. Rick  
was forced to sell because he was levered.¹⁸  
   
Charlie, Warren, and Rick were equally skilled at getting  
wealthy. But Warren and Charlie had the added skill of  
staying wealthy. Which, over time, is the skill that matters  
most.  
Nassim Taleb put it this way: “Having an ‘edge’ and surviving  
are two diﬀerent things: the ﬁrst requires the second. You  
need to avoid ruin. At all costs.”

   
Applying the survival mindset to the real world comes down  
to appreciating three things.  
   
1. More than I want big returns, I want to be  
ﬁnancially unbreakable. And if I’m unbreakable I  
actually think I’ll get the biggest returns, because I’ll  
be able to stick around long enough for compounding  
to work wonders.  
   
No one wants to hold cash during a bull market. They want to  
own assets that go up a lot. You look and feel conservative  
holding cash during a bull market, because you become  
acutely aware of how much return you’re giving up by not  
owning the good stuﬀ. Say cash earns 1% and stocks return  
10% a year. That 9% gap will gnaw at you every day.  
But if that cash prevents you from having to sell your stocks  
during a bear market, the actual return you earned on that  
cash is not 1% a year—it could be many multiples of that,  
because preventing one desperate, ill-timed stock sale can do  
more for your lifetime returns than picking dozens of big-time  
winners.  
Compounding doesn’t rely on earning big returns. Merely  
good returns sustained uninterrupted for the longest period  
of time—especially in times of chaos and havoc—will always  
win.  
 

2. Planning is important, but the most important part  
of every plan is to plan on the plan not going  
according to plan.  
   
What’s the saying? You plan, God laughs. Financial and  
investment planning are critical, because they let you know  
whether your current actions are within the realm of  
reasonable. But few plans of any kind survive their ﬁrst  
encounter with the real world. If you’re projecting your  
income, savings rate, and market returns over the next 20  
years, think about all the big stuﬀ that’s happened in the last  
20 years that no one could have foreseen: September 11th, a  
housing boom and bust that caused nearly 10 million  
Americans to lose their homes, a ﬁnancial crisis that caused  
almost nine million to lose their jobs, a record-breaking stock-  
market rally that ensued, and a coronavirus that shakes the  
world as I write this.  
A plan is only useful if it can survive reality. And a future ﬁlled  
with unknowns is everyone’s reality.  
A good plan doesn’t pretend this weren’t true; it embraces it  
and emphasizes room for error. The more you need speciﬁc  
elements of a plan to be true, the more fragile your ﬁnancial  
life becomes. If there’s enough room for error in your savings  
rate that you can say, “It’d be great if the market returns 8%  
a year over the next 30 years, but if it only does 4% a year I’ll  
still be OK,” the more valuable your plan becomes.  
Many bets fail not because they were wrong, but because  
they were mostly right in a situation that required things to  
be exactly right. Room for error—often called margin of safety  
—is one of the most underappreciated forces in ﬁnance. It  
comes in many forms: A frugal budget, ﬂexible thinking, and

a loose timeline—anything that lets you live happily with a  
range of outcomes.  
It’s diﬀerent from being conservative. Conservative is  
avoiding a certain level of risk. Margin of safety is raising the  
odds of success at a given level of risk by increasing your  
chances of survival. Its magic is that the higher your margin  
of safety, the smaller your edge needs to be to have a  
favorable outcome.  
   
3. A barbelled personality—optimistic about the  
future, but paranoid about what will prevent you from  
getting to the future—is vital.  
   
Optimism is usually deﬁned as a belief that things will go  
well. But that’s incomplete. Sensible optimism is a belief that  
the odds are in your favor, and over time things will balance  
out to a good outcome even if what happens in between is  
ﬁlled with misery. And in fact you know it will be ﬁlled with  
misery. You can be optimistic that the long-term growth  
trajectory is up and to the right, but equally sure that the  
road between now and then is ﬁlled with landmines, and  
always will be. Those two things are not mutually exclusive.  
The idea that something can gain over the long run while  
being a basketcase in the short run is not intuitive, but it’s  
how a lot of things work in life. By age 20 the average person  
can lose roughly half the synaptic connections they had in  
their brain at age two, as ineﬃcient and redundant neural  
pathways are cleared out. But the average 20-year-old is  
much smarter than the average two-year-old. Destruction in  
the face of progress is not only possible, but an eﬃcient way  
to get rid of excess.

Imagine if you were a parent and could see inside your child’s  
brain. Every morning you notice fewer synaptic connections  
in your kid’s head. You would panic! You would say, “This  
can’t be right, there’s loss and destruction here. We need an  
intervention. We need to see a doctor!” But you don’t. What  
you are witnessing is the normal path of progress.  
Economies, markets, and careers often follow a similar path—  
growth amid loss.  
Here’s how the U.S. economy performed over the last 170  
years:  
   
 

But do you know what happened during this period? Where  
do we begin ...  
   
   
1.3 million Americans died while ﬁghting nine major wars.  
   
Roughly 99.9% of all companies that were created went out  
of business.  
   
Four U.S. presidents were assassinated.  
   
675,000 Americans died in a single year from a ﬂu pandemic.  
   
30 separate natural disasters killed at least 400 Americans  
each.  
   
33 recessions lasted a cumulative 48 years.  
   
The number of forecasters who predicted any of those  
recessions rounds to zero.  
   
The stock market fell more than 10% from a recent high at  
least 102 times.  
 

Stocks lost a third of their value at least 12 times.  
   
Annual inﬂation exceeded 7% in 20 separate years.  
   
The words “economic pessimism” appeared in newspapers at  
least 29,000 times, according to Google.  
   
Our standard of living increased 20-fold in these 170 years,  
but barely a day went by that lacked tangible reasons for  
pessimism.  
A mindset that can be paranoid and optimistic at the same  
time is hard to maintain, because seeing things as black or  
white takes less eﬀort than accepting nuance. But you need  
short-term paranoia to keep you alive long enough to exploit  
long-term optimism.  
Jesse Livermore ﬁgured this out the hard way.  
He associated good times with the end of bad times. Getting  
wealthy made him feel like staying wealthy was inevitable,  
and that he was invincible. After losing nearly everything he  
reﬂected:  
   
I sometimes think that no price is too high for a speculator to  
pay to learn that which will keep him from getting the  
swelled head. A great many smashes by brilliant men can be  
traced directly to the swelled head.  
 

“It’s an expensive disease,” he said, “everywhere to  
everybody.”  
Next, we’ll look at another way growth in the face of adversity  
can be so hard to wrap your head around.

“I’ve been banging away at this thing for 30 years. I think the  
simple math is, some projects work and some don’t. There’s no  
reason to belabor either one. Just get on to the next.”  
   
—Brad Pitt accepting a Screen Actors Guild Award  
   
Heinz Berggruen ﬂed Nazi Germany in 1936. He settled in  
America, where he studied literature at U.C. Berkeley.  
By most accounts he did not show particular promise in his  
youth. But by the 1990s Berggruen was, by any measure, one  
of the most successful art dealers of all time.  
In 2000 Berggruen sold part of his massive collection of  
Picassos, Braques, Klees, and Matisses to the German  
government for more than 100 million euros. It was such a  
bargain that the Germans eﬀectively considered it a donation.  
The private market value of the collection was well over a $1  
billion.  
That one person can collect huge quantities of masterpieces is  
astounding. Art is as subjective as it gets. How could anyone  
have foreseen, early in life, what were to become the most  
sought-after works of the century?  
You could say “skill.”  
You could say “luck.”  
The investment ﬁrm Horizon Research has a third explanation.  
And it’s very relevant to investors.  
“The great investors bought vast quantities of art,” the ﬁrm  
writes.¹⁹ “A subset of the collections turned out to be great  
investments, and they were held for a suﬃciently long period of

time to allow the portfolio return to converge upon the return of  
the best elements in the portfolio. That’s all that happens.”  
The great art dealers operated like index funds. They bought  
everything they could. And they bought it in portfolios, not  
individual pieces they happened to like. Then they sat and  
waited for a few winners to emerge.  
That’s all that happens.  
Perhaps 99% of the works someone like Berggruen acquired in  
his life turned out to be of little value. But that doesn’t  
particularly matter if the other 1% turn out to be the work of  
someone like Picasso. Berggruen could be wrong most of the  
time and still end up stupendously right.  
A lot of things in business and investing work this way. Long  
tails—the farthest ends of a distribution of outcomes—have  
tremendous inﬂuence in ﬁnance, where a small number of  
events can account for the majority of outcomes.  
That can be hard to deal with, even if you understand the math.  
It is not intuitive that an investor can be wrong half the time  
and still make a fortune. It means we underestimate how  
normal it is for a lot of things to fail. Which causes us to  
overreact when they do.  
   
   
Steamboat Willie put Walt Disney on the map as an animator.  
Business success was another story. Disney’s ﬁrst studio went  
bankrupt. His ﬁlms were monstrously expensive to produce,  
and ﬁnanced at outrageous terms. By the mid-1930s Disney  
had produced more than 400 cartoons. Most of them were  
short, most of them were beloved by viewers, and most of them  
lost a fortune.  
Snow White and the Seven Dwarfs changed everything.

The $8 million it earned in the ﬁrst six months of 1938 was an  
order of magnitude higher than anything the company earned  
previously. It transformed Disney Studios. All company debts  
were paid oﬀ. Key employees got retention bonuses. The  
company purchased a new state-of-the-art studio in Burbank,  
where it remains today. An Oscar turned Walt from famous to  
full-blown celebrity. By 1938 he had produced several hundred  
hours of ﬁlm. But in business terms, the 83 minutes of Snow  
White were all that mattered.  
Anything that is huge, proﬁtable, famous, or inﬂuential is the  
result of a tail event—an outlying one-in-thousands or millions  
event. And most of our attention goes to things that are huge,  
proﬁtable, famous, or inﬂuential. When most of what we pay  
attention to is the result of a tail, it’s easy to underestimate  
how rare and powerful they are.  
Some tail-driven industries are obvious. Take venture capital. If  
a VC makes 50 investments they likely expect half of them to  
fail, 10 to do pretty well, and one or two to be bonanzas that  
drive 100% of the fund’s returns. Investment ﬁrm Correlation  
Ventures once crunched the numbers.²⁰ Out of more than  
21,000 venture ﬁnancings from 2004 to 2014:  
65% lost money.  
Two and a half percent of investments made 10x–20x.  
One percent made more than a 20x return.  
Half a percent—about 100 companies out of 21,000—earned  
50x or more. That’s where the majority of the industry’s returns  
come from.  
This, you might think, is what makes venture capital so risky.  
And everyone investing in VC knows it’s risky. Most startups fail  
and the world is only kind enough to allow a few mega  
successes.

If you want safer, predictable, and more stable returns, you  
invest in large public companies.  
Or so you might think.  
Remember, tails drive everything.  
The distribution of success among large public stocks over time  
is not much diﬀerent than it is in venture capital.  
Most public companies are duds, a few do well, and a handful  
become extraordinary winners that account for the majority of  
the stock market’s returns.  
J.P. Morgan Asset Management once published the distribution  
of returns for the Russell 3000 Index—a big, broad, collection of  
public companies—since 1980.²¹  
Forty percent of all Russell 3000 stock components lost at least  
70% of their value and never recovered over this period.  
Eﬀectively all of the index’s overall returns came from 7% of  
component companies that outperformed by at least two  
standard deviations.  
That’s the kind of thing you’d expect from venture capital. But  
it’s what happened inside a boring, diversiﬁed index.  
This thumping of most public companies spares no industry.  
More than half of all public technology and telecom companies  
lose most of their value and never recover. Even among public  
utilities the failure rate is more than 1 in 10:  
 

The interesting thing here is that you have to have achieved a  
certain level of success to become a public company and a  
member of the Russell 3000. These are established  
corporations, not ﬂy-by-night startups. Even still, most have  
lifespans measured in years, not generations.  
Take an example one of these companies: Carolco, a former  
member of the Russell 3000 Index.  
It produced some of the biggest ﬁlms of the 1980s and 1990s,  
including the ﬁrst three Rambo ﬁlms, Terminator 2, Basic  
Instinct, and Total Recall.  
Carolco went public in 1987. It was a huge success, churning  
out hit after hit. It did half a billion dollars in revenue in 1991,

commanding a market cap of $400 million—big money back  
then, especially for a ﬁlm studio.  
And then it failed.  
The blockbusters stopped, a few big-budget projects ﬂopped,  
and by the mid-1990s Carolco was history. It went bankrupt in  
1996. Stock goes to zero, have a nice day. A catastrophic loss.  
And one that 4 in 10 public companies experience over time.  
Carolco’s story is not worth telling because it’s unique, but  
because it’s common.  
Here’s the most important part of this story: The Russell 3000  
has increased more than 73-fold since 1980. That is a  
spectacular return. That is success.  
Forty percent of the companies in the index were eﬀectively  
failures. But the 7% of components that performed extremely  
well were more than enough to oﬀset the duds. Just like Heinz  
Berggruen, but with Microsoft and Walmart instead of Picasso  
and Matisse.  
Not only do a few companies account for most of the market’s  
return, but within those companies are even more tail events.  
In 2018, Amazon drove 6% of the S&P 500’s returns. And  
Amazon’s growth is almost entirely due to Prime and Amazon  
Web Services, which itself are tail events in a company that has  
experimented with hundreds of products, from the Fire Phone  
to travel agencies.  
Apple was responsible for almost 7% of the index’s returns in  
2018. And it is driven overwhelmingly by the iPhone, which in  
the world of tech products is as tail-y as tails get.  
And who’s working at these companies? Google’s hiring  
acceptance rate is 0.2%.²² Facebook’s is 0.1%.²³ Apple’s is  
about 2%.²⁴ So the people working on these tail projects that  
drive tail returns have tail careers.

The idea that a few things account for most results is not just  
true for companies in your investment portfolio. It’s also an  
important part of your own behavior as an investor.  
Napoleon’s deﬁnition of a military genius was, “The man who  
can do the average thing when all those around him are going  
crazy.”  
It’s the same in investing.  
Most ﬁnancial advice is about today. What should you do right  
now, and what stocks look like good buys today?  
But most of the time today is not that important. Over the  
course of your lifetime as an investor the decisions that you  
make today or tomorrow or next week will not matter nearly as  
much as what you do during the small number of days—likely  
1% of the time or less—when everyone else around you is going  
crazy.  
Consider what would happen if you saved $1 every month from  
1900 to 2019.  
You could invest that $1 into the U.S. stock market every  
month, rain or shine. It doesn’t matter if economists are  
screaming about a looming recession or new bear market. You  
just keep investing. Let’s call an investor who does this Sue.  
But maybe investing during a recession is too scary. So perhaps  
you invest your $1 in the stock market when the economy is  
not in a recession, sell everything when it’s in a recession and  
save your monthly dollar in cash, and invest everything back  
into the stock market when the recession ends. We’ll call this  
investor Jim.  
Or perhaps it takes a few months for a recession to scare you  
out, and then it takes a while to regain conﬁdence before you  
get back in the market. You invest $1 in stocks when there’s no

recession, sell six months after a recession begins, and invest  
back in six months after a recession ends. We’ll call you Tom.  
How much money would these three investors end up with over  
time?  
Sue ends up with $435,551.  
Jim has $257,386.  
Tom $234,476.  
Sue wins by a mile.  
There were 1,428 months between 1900 and 2019. Just over  
300 of them were during a recession. So by keeping her cool  
during just the 22% of the time the economy was in or near a  
recession, Sue ends up with almost three-quarters more money  
than Jim or Tom.  
To give a more recent example: How you behaved as an  
investor during a few months in late 2008 and early 2009 will  
likely have more impact on your lifetime returns than  
everything you did from 2000 to 2008.  
There is the old pilot quip that their jobs are “hours and hours  
of boredom punctuated by moments of sheer terror.” It’s the  
same in investing. Your success as an investor will be  
determined by how you respond to punctuated moments of  
terror, not the years spent on cruise control.  
A good deﬁnition of an investing genius is the man or woman  
who can do the average thing when all those around them are  
going crazy.  
Tails drive everything.  
   
 

When you accept that tails drive everything in business,  
investing, and ﬁnance you realize that it’s normal for lots of  
things to go wrong, break, fail, and fall.  
If you’re a good stock picker you’ll be right maybe half the time.  
If you’re a good business leader maybe half of your product and  
strategy ideas will work.  
If you’re a good investor most years will be just OK, and plenty  
will be bad.  
If you’re a good worker you’ll ﬁnd the right company in the  
right ﬁeld after several attempts and trials.  
And that’s if you’re good.  
Peter Lynch is one of the best investors of our time. “If you’re  
terriﬁc in this business, you’re right six times out of 10,” he  
once said.  
There are ﬁelds where you must be perfect every time. Flying a  
plane, for example. Then there are ﬁelds where you want to be  
at least pretty good nearly all the time. A restaurant chef, let’s  
say.  
Investing, business, and ﬁnance are just not like these ﬁelds.  
Something I’ve learned from both investors and entrepreneurs  
is that no one makes good decisions all the time. The most  
impressive people are packed full of horrendous ideas that are  
often acted upon.  
Take Amazon. It’s not intuitive to think a failed product launch  
at a major company would be normal and ﬁne. Intuitively,  
you’d think the CEO should apologize to shareholders. But CEO  
Jeﬀ Bezos said shortly after the disastrous launch of the  
company’s Fire Phone:

If you think that’s a big failure, we’re working on much bigger  
failures right now. I am not kidding. Some of them are going to  
make the Fire Phone look like a tiny little blip.  
   
It’s OK for Amazon to lose a lot of money on the Fire Phone  
because it will be oﬀset by something like Amazon Web  
Services that earns tens of billions of dollars. Tails to the rescue.  
Netﬂix CEO Reed Hastings once announced his company was  
canceling several big-budget productions. He responded:  
   
Our hit ratio is way too high right now. I’m always pushing the  
content team. We have to take more risk. You have to try more  
crazy things, because we should have a higher cancel rate  
overall.  
   
These are not delusions or failures of responsibility. They are a  
smart acknowledgement of how tails drive success. For every  
Amazon Prime or Orange is The New Black you know, with  
certainty, that you’ll have some duds.  
Part of why this isn’t intuitive is because in most ﬁelds we only  
see the ﬁnished product, not the losses incurred that led to the  
tail-success product.  
The Chris Rock I see on TV is hilarious, ﬂawless. The Chris Rock  
that performs in dozens of small clubs each year is just OK.  
That is by design. No comedic genius is smart enough to  
preemptively know what jokes will land well. Every big  
comedian tests their material in small clubs before using it in  
big venues. Rock was once asked if he missed small clubs. He  
responded:

When I start a tour, it’s not like I start out in arenas. Before this  
last tour I performed in this place in New Brunswick called the  
Stress Factory. I did about 40 or 50 shows getting ready for the  
tour.  
   
One newspaper proﬁled these small-club sessions. It described  
Rock thumbing through pages of notes and fumbling with  
material. “I’m going to have to cut some of these jokes,” he  
says mid-skit. The good jokes I see on Netﬂix are the tails that  
stuck out of a universe of hundreds of attempts.  
A similar thing happens in investing. It’s easy to ﬁnd Warren  
Buﬀett’s net worth, or his average annual returns. Or even his  
best, most notable investments. They’re right there in the open,  
and they’re what people talk about.  
It’s much harder to piece together every investment he’s made  
over his career. No one talks about the dud picks, the ugly  
businesses, the poor acquisitions. But they’re a big part of  
Buﬀett’s story. They are the other side of tail-driven returns.  
At the Berkshire Hathaway shareholder meeting in 2013  
Warren Buﬀett said he’s owned 400 to 500 stocks during his  
life and made most of his money on 10 of them. Charlie Munger  
followed up: “If you remove just a few of Berkshire’s top  
investments, its long-term track record is pretty average.”  
When we pay special attention to a role model’s successes we  
overlook that their gains came from a small percent of their  
actions. That makes our own failures, losses, and setbacks feel  
like we’re doing something wrong. But it’s possible we are  
wrong, or just sort of right, just as often as the masters are.  
They may have been more right when they were right, but they  
could have been wrong just as often as you.

“It’s not whether you’re right or wrong that’s important,”  
George Soros once said, “but how much money you make when  
you’re right and how much you lose when you’re wrong.” You  
can be wrong half the time and still make a fortune.  
   
   
There are 100 billion planets in our galaxy and only one, as far  
as we know, with intelligent life.  
The fact that you are reading this book is the result of the  
longest tail you can imagine.  
That’s something to be happy about. Next, let’s look at how  
money can make you even happier.

The highest form of wealth is the ability to wake up every  
morning and say, “I can do whatever I want today.”  
People want to become wealthier to make them happier.  
Happiness is a complicated subject because everyone’s  
diﬀerent. But if there’s a common denominator in happiness  
—a universal fuel of joy—it’s that people want to control  
their lives.  
The ability to do what you want, when you want, with who  
you want, for as long as you want, is priceless. It is the  
highest dividend money pays.  
   
   
Angus Campbell was a psychologist at the University of  
Michigan. Born in 1910, his research took place during an  
age when psychology was overwhelmingly focused on  
disorders that brought people down—things like depression,  
anxiety, schizophrenia.  
Campbell wanted to know what made people happy. His  
1981 book, The Sense of Wellbeing in America, starts by  
pointing out that people are generally happier than many  
psychologists assumed. But some were clearly doing better  
than others. And you couldn’t necessarily group them by  
income, or geography, or education, because so many in  
each of those categories end up chronically unhappy.  
The most powerful common denominator of happiness was  
simple. Campbell summed it up:  
 

Having a strong sense of controlling one’s life is a more  
dependable predictor of positive feelings of wellbeing than  
any of the objective conditions of life we have considered.  
   
More than your salary. More than the size of your house.  
More than the prestige of your job. Control over doing what  
you want, when you want to, with the people you want to, is  
the broadest lifestyle variable that makes people happy.  
Money’s greatest intrinsic value—and this can’t be  
overstated—is its ability to give you control over your time.  
To obtain, bit by bit, a level of independence and autonomy  
that comes from unspent assets that give you greater  
control over what you can do and when you can do it.  
A small amount of wealth means the ability to take a few  
days oﬀ work when you’re sick without breaking the bank.  
Gaining that ability is huge if you don’t have it.  
A bit more means waiting for a good job to come around  
after you get laid oﬀ, rather than having to take the ﬁrst one  
you ﬁnd. That can be life changing.  
Six months’ emergency expenses means not being terriﬁed  
of your boss, because you know you won’t be ruined if you  
have to take some time oﬀ to ﬁnd a new job.  
More still means the ability to take a job with lower pay but  
ﬂexible hours. Maybe one with a shorter commute. Or being  
able to deal with a medical emergency without the added  
burden of worrying about how you’ll pay for it.  
Then there’s retiring when you want to, instead of when you  
need to.

Using your money to buy time and options has a lifestyle  
beneﬁt few luxury goods can compete with.  
Throughout college I wanted to be an investment banker.  
There was only one reason why: they made a lot of money.  
That was the only drive, and one I was 100% positive would  
make me happier once I got it. I scored a summer internship  
at an investment bank in Los Angeles in my junior year, and  
thought I won the career lottery. This is all I ever wanted.  
On my ﬁrst day I realized why investment bankers make a  
lot of money: They work longer and more controlled hours  
than I knew humans could handle. Actually, most can’t  
handle it. Going home before midnight was considered a  
luxury, and there was a saying in the oﬃce: “If you don’t  
come to work on Saturday, don’t bother coming back on  
Sunday.” The job was intellectually stimulating, paid well,  
and made me feel important. But every waking second of  
my time became a slave to my boss’s demands, which was  
enough to turn it into one of the most miserable experiences  
of my life. It was a four-month internship. I lasted a month.  
The hardest thing about this was that I loved the work. And I  
wanted to work hard. But doing something you love on a  
schedule you can’t control can feel the same as doing  
something you hate.  
There is a name for this feeling. Psychologists call it  
reactance. Jonah Berger, a marketing professor at the  
University of Pennsylvania, summed it up well:  
   
People like to feel like they’re in control—in the drivers’ seat.  
When we try to get them to do something, they feel  
disempowered. Rather than feeling like they made the  
choice, they feel like we made it for them. So they say no or

do something else, even when they might have originally  
been happy to go along.²⁵  
   
When you accept how true that statement is, you realize  
that aligning money towards a life that lets you do what you  
want, when you want, with who you want, where you want,  
for as long as you want, has incredible return.  
Derek Sivers, a successful entrepreneur, once wrote about a  
friend who asked him to tell the story about how he got rich:  
   
I had a day job in midtown Manhattan paying $20  
k  
per year—about minimum wage ... I never ate out, and  
never took a taxi. My cost of living was about $1000/month,  
and I was earning $1800/month. I did this for two years, and  
saved up $12,000. I was 22 years old.  
Once I had $12,000 I could quit my job and become a full-  
time musician. I knew I could get a few gigs per month to  
pay my cost of living. So I was free. I quit my job a month  
later, and never had a job again.  
When I ﬁnished telling my friend this story, he asked for  
more. I said no, that was it. He said, “No, what about when  
you sold your company?”  
I said no, that didn’t make a big diﬀerence in my life. That  
was just more money in the bank. The diﬀerence happened  
when I was 22.²⁶  
 

The United States is the richest nation in the history of the  
world. But there is little evidence that its citizens are, on  
average, happier today than they were in the 1950s, when  
wealth and income were much lower—even at the median  
level and adjusted for inﬂation. A 2019 Gallup poll of  
150,000 people in 140 countries found that about 45% of  
Americans said they felt “a lot of worry” the previous day.²⁷  
The global average was 39%. Fifty-ﬁve percent of Americans  
said they felt “a lot of stress” the previous day. For the rest of  
the world, 35% said the same.  
Part of what’s happened here is that we’ve used our greater  
wealth to buy bigger and better stuﬀ. But we’ve  
simultaneously given up more control over our time. At best,  
those things cancel each other out.  
Median family income adjusted for inﬂation was $29,000 in  
1955.²⁸ In 2019 it was just over $62,000. We’ve used that  
wealth to live a life hardly conceivable to the 1950s  
American, even for a median family. The median American  
home increased from 983 square feet in 1950 to 2,436  
square feet in 2018. The average new American home now  
has more bathrooms than occupants. Our cars are faster and  
more eﬃcient, our TVs are cheaper and sharper.  
What’s happened to our time, on the other hand, barely  
looks like progress. And a lot of the reason has to do with  
the kind of jobs more of us now have.  
John D. Rockefeller was one of the most successful  
businessmen of all time. He was also a recluse, spending  
most of his time by himself. He rarely spoke, deliberately  
making himself inaccessible and staying quiet when you  
caught his attention.

A reﬁnery worker who occasionally had Rockefeller’s ear  
once remarked: “He lets everybody else talk, while he sits  
back and says nothing.”  
When asked about his silence during meetings, Rockefeller  
often recited a poem:  
   
A wise old owl lived in an oak,  
The more he saw the less he spoke,  
The less he spoke, the more he heard,  
Why aren’t we all like that wise old bird?  
   
Rockefeller was a strange guy. But he ﬁgured out something  
that now applies to tens of millions of workers.  
Rockefeller’s job wasn’t to drill wells, load trains, or move  
barrels. It was to think and make good decisions.  
Rockefeller’s product—his deliverable—wasn’t what he did  
with his hands, or even his words. It was what he ﬁgured out  
inside his head. So that’s where he spent most of his time  
and energy. Despite sitting quietly most of the day in what  
might have looked like free time or leisure hours to most  
people, he was constantly working in his mind, thinking  
problems through.  
This was unique in his day. Almost all jobs during  
Rockefeller’s time required doing things with your hands. In  
1870, 46% of jobs were in agriculture, and 35% were in  
crafts or manufacturing, according to economist Robert  
Gordon. Few professions relied on a worker’s brain. You

didn’t think; you labored, without interruption, and your  
work was visible and tangible.  
Today, that’s ﬂipped.  
Thirty-eight percent of jobs are now designated as  
“managers, oﬃcials, and professionals.” These are decision-  
making jobs. Another 41% are service jobs that often rely on  
your thoughts as much as your actions.  
More of us have jobs that look closer to Rockefeller than a  
typical 1950s manufacturing worker, which means our days  
don’t end when we clock out and leave the factory. We’re  
constantly working in our heads, which means it feels like  
work never ends.  
If your job is to build cars, there is little you can do when  
you’re not on the assembly line. You detach from work and  
leave your tools in the factory. But if your job is to create a  
marketing campaign—a thought-based and decision job—  
your tool is your head, which never leaves you. You might be  
thinking about your project during your commute, as you’re  
making dinner, while you put your kids to sleep, and when  
you wake up stressed at three in the morning. You might be  
on the clock for fewer hours than you would in 1950. But it  
feels like you’re working 24/7.  
Derek Thompson of The Atlantic once described it like this:  
   
If the operating equipment of the 21st century is a portable  
device, this means the modern factory is not a place at all. It  
is the day itself. The computer age has liberated the tools of  
productivity from the oﬃce. Most knowledge workers, whose  
laptops and smartphones are portable all-purpose media-  
making machines, can theoretically be as productive at 2

p.m. in the main oﬃce as at 2 a.m. in a Tokyo WeWork or at  
midnight on the couch.²⁹  
   
Compared to generations prior, control over your time has  
diminished. And since controlling your time is such a key  
happiness inﬂuencer, we shouldn’t be surprised that people  
don’t feel much happier even though we are, on average,  
richer than ever.  
What do we do about that?  
It’s not an easy problem to solve, because everyone’s  
diﬀerent. The ﬁrst step is merely acknowledging what does,  
and does not, make almost everyone happy.  
In his book 30 Lessons for Living, gerontologist Karl Pillemer  
interviewed a thousand elderly Americans looking for the  
most important lessons they learned from decades of life  
experience. He wrote:  
   
No one—not a single person out of a thousand—said that to  
be happy you should try to work as hard as you can to make  
money to buy the things you want.  
No one—not a single person—said it’s important to be at  
least as wealthy as the people around you, and if you have  
more than they do it’s real success.  
No one—not a single person—said you should choose your  
work based on your desired future earning power.  
 

What they did value were things like quality friendships,  
being part of something bigger than themselves, and  
spending quality, unstructured time with their children.  
“Your kids don’t want your money (or what your money  
buys) anywhere near as much as they want you. Speciﬁcally,  
they want you with them,” Pillemer writes.  
Take it from those who have lived through everything:  
Controlling your time is the highest dividend money pays.  
Now, a short chapter on one of the lowest dividends money  
pays.

The best part of being a valet is getting to drive some of the  
coolest cars to ever touch pavement. Guests came in driving  
Ferraris, Lamborghinis, Rolls-Royces—the whole aristocratic  
ﬂeet.  
It was my dream to have one of these cars of my own,  
because (I thought) they sent such a strong signal to others  
that you made it. You’re smart. You’re rich. You have taste.  
You’re important. Look at me.  
The irony is that I rarely if ever looked at them, the drivers.  
When you see someone driving a nice car, you rarely think,  
“Wow, the guy driving that car is cool.” Instead, you think,  
“Wow, if I had that car people would think I’m cool.”  
Subconscious or not, this is how people think.  
There is a paradox here: people tend to want wealth to  
signal to others that they should be liked and admired. But  
in reality those other people often bypass admiring you, not  
because they don’t think wealth is admirable, but because  
they use your wealth as a benchmark for their own desire to  
be liked and admired.  
The letter I wrote after my son was born said, “You might  
think you want an expensive car, a fancy watch, and a huge  
house. But I’m telling you, you don’t. What you want is  
respect and admiration from other people, and you think  
having expensive stuﬀ will bring it. It almost never does—  
especially from the people you want to respect and admire  
you.”  
I learned that as a valet, when I began thinking about all the  
people driving up to the hotel in their Ferraris, watching me  
gawk. People must gawk everywhere they went, and I’m  
sure they loved it. I’m sure they felt admired.

But did they know I did not care about them, or even notice  
them? Did they know I was only gawking at the car, and  
imagining myself in the driver’s seat?  
Did they buy a Ferrari thinking it would bring them  
admiration without realizing that I—and likely most others—  
who are impressed with the car didn’t actually give them,  
the driver, a moment’s thought?  
Does this same idea apply to those living in big homes?  
Almost certainly.  
Jewelry and clothes? Yep.  
My point here is not to abandon the pursuit of wealth. Or  
even fancy cars. I like both.  
It’s a subtle recognition that people generally aspire to be  
respected and admired by others, and using money to buy  
fancy things may bring less of it than you imagine. If respect  
and admiration are your goal, be careful how you seek it.  
Humility, kindness, and empathy will bring you more  
respect than horsepower ever will.  
We’re not done talking about Ferraris. Another story about  
the paradox of fast cars in the next chapter.

Money has many ironies. Here’s an important one: Wealth is  
what you don’t see.  
My time as a valet was in the mid-2000s in Los Angeles,  
when material appearance took precedence over everything  
but oxygen.  
If you see a Ferrari driving around, you might intuitively  
assume the owner of the car is rich—even if you’re not  
paying much attention to them. But as I got to know some  
of these people I realized that wasn’t always the case. Many  
were mediocre successes who spent a huge percentage of  
their paycheck on a car.  
I remember a fellow we’ll call Roger. He was about my age. I  
had no idea what Roger did. But he drove a Porsche, which  
was enough for people to draw assumptions.  
Then one day Roger arrived in an old Honda. Same the next  
week, and the next.  
“What happened to your Porsche?” I asked. It was  
repossessed after defaulting on his car loan, he said. There  
was not a morsel of shame. He responded like he was telling  
the next play in the game. Every assumption you might have  
had about him was wrong. Los Angeles is full of Rogers.  
Someone driving a $100,000 car might be wealthy. But the  
only data point you have about their wealth is that they  
have $100,000 less than they did before they bought the car  
(or $100,000 more in debt). That’s all you know about them.  
We tend to judge wealth by what we see, because that’s the  
information we have in front of us. We can’t see people’s  
bank accounts or brokerage statements. So we rely on

outward appearances to gauge ﬁnancial success. Cars.  
Homes. Instagram photos.  
Modern capitalism makes helping people fake it until they  
make it a cherished industry.  
But the truth is that wealth is what you don’t see.  
Wealth is the nice cars not purchased. The diamonds not  
bought. The watches not worn, the clothes forgone and the  
ﬁrst-class upgrade declined. Wealth is ﬁnancial assets that  
haven’t yet been converted into the stuﬀ you see.  
That’s not how we think about wealth, because you can’t  
contextualize what you can’t see.  
Singer Rihanna nearly went bankrupt after overspending  
and sued her ﬁnancial advisor. The advisor responded: “Was  
it really necessary to tell her that if you spend money on  
things, you will end up with the things and not the  
money?”³⁰  
You can laugh, and please do. But the answer is, yes, people  
do need to be told that. When most people say they want to  
be a millionaire, what they might actually mean is “I’d like  
to spend a million dollars.” And that is literally the opposite  
of being a millionaire.  
Investor Bill Mann once wrote: “There is no faster way to feel  
rich than to spend lots of money on really nice things. But  
the way to be rich is to spend money you have, and to not  
spend money you don’t have. It’s really that simple.”³¹  
It is excellent advice, but it may not go far enough. The only  
way to be wealthy is to not spend the money that you do  
have. It’s not just the only way to accumulate wealth; it’s  
the very deﬁnition of wealth.

We should be careful to deﬁne the diﬀerence between  
wealthy and rich. It is more than semantics. Not knowing  
the diﬀerence is a source of countless poor money decisions.  
Rich is a current income. Someone driving a $100,000 car is  
almost certainly rich, because even if they purchased the  
car with debt you need a certain level of income to aﬀord  
the monthly payment. Same with those who live in big  
homes. It’s not hard to spot rich people. They often go out of  
their way to make themselves known.  
But wealth is hidden. It’s income not spent. Wealth is an  
option not yet taken to buy something later. Its value lies in  
oﬀering you options, ﬂexibility, and growth to one day  
purchase more stuﬀ than you could right now.  
Diet and exercise oﬀer a useful analogy. Losing weight is  
notoriously hard, even among those putting in the work of  
vigorous exercise. In his book The Body, Bill Bryson explains  
why:  
   
One study in America found that people overestimate the  
number of calories they burned in a workout by a factor of  
four. They also then consumed, on average, about twice as  
many calories as they had just burned oﬀ … the fact is, you  
can quickly undo a lot of exercise by eating a lot of food, and  
most of us do.  
   
Exercise is like being rich. You think, “I did the work and I  
now deserve to treat myself to a big meal.” Wealth is turning  
down that treat meal and actually burning net calories. It’s  
hard, and requires self-control. But it creates a gap between

what you could do and what you choose to do that accrues  
to you over time.  
The problem for many of us is that it is easy to ﬁnd rich role  
models. It’s harder to ﬁnd wealthy ones because by  
deﬁnition their success is more hidden.  
There are, of course, wealthy people who also spend a lot of  
money on stuﬀ. But even in those cases what we see is their  
richness, not their wealth. We see the cars they chose to buy  
and perhaps the school they choose to send their kids to. We  
don’t see the savings, retirement accounts, or investment  
portfolios. We see the homes they bought, not the homes  
they could have bought had they stretched themselves thin.  
The danger here is that I think most people, deep down,  
want to be wealthy. They want freedom and ﬂexibility, which  
is what ﬁnancial assets not yet spent can give you. But it is  
so ingrained in us that to have money is to spend money  
that we don’t get to see the restraint it takes to actually be  
wealthy. And since we can’t see it, it’s hard to learn about it.  
People are good at learning by imitation. But the hidden  
nature of wealth makes it hard to imitate others and learn  
from their ways. After he died, Ronald Read became many  
people’s ﬁnancial role model. He was lionized in the media  
and cherished on social media. But he was nobody’s  
ﬁnancial role model while he was living because every  
penny of his wealth was hidden, even to those who knew  
him.  
Imagine how hard it would be to learn how to write if you  
couldn’t read the works of great authors. Who would be your  
inspiration? Who would you admire? Whose nuanced tricks  
and tips would you follow? It would make something that is  
already hard even harder. It’s diﬃcult to learn from what you

can’t see. Which helps explain why it’s so hard for many to  
build wealth.  
The world is ﬁlled with people who look modest but are  
actually wealthy and people who look rich who live at the  
razor’s edge of insolvency. Keep this in mind when quickly  
judging others’ success and setting your own goals.  
   
   
If wealth is what you don’t spend, what good is it? Well, let  
me convince you to save money.

Let me convince you to save money.  
It won’t take long.  
But it’s an odd task, isn’t it?  
Do people need to be convinced to save money?  
My observation is that, yes, many do.  
Past a certain level of income people fall into three groups:  
Those who save, those who don’t think they can save, and  
those who don’t think they need to save.  
This is for the latter two.  
   
   
The ﬁrst idea—simple, but easy to overlook—is that  
building wealth has little to do with your income or  
investment returns, and lots to do with your savings  
rate.  
   
A quick story about the power of eﬃciency.  
In the 1970s the world looked like it was running out of oil.  
The calculation wasn’t hard: The global economy used a lot  
of oil, the global economy was growing, and the amount of  
oil we could drill couldn’t keep up.  
We didn’t run out of oil, thank goodness. But that wasn’t just  
because we found more oil, or even got better at taking it  
out of the ground.

The biggest reason we overcame the oil crisis is because we  
started building cars, factories, and homes that are more  
energy eﬃcient than they used to be. The United States  
uses 60% less energy per dollar of GDP today than it did in  
1950.³² The average miles per gallon of all vehicles on the  
road has doubled since 1975. A 1989 Ford Taurus (sedan)  
averaged 18.0 MPG. A 2019 Chevy Suburban (absurdly large  
SUV) averages 18.1 MPG.  
The world grew its “energy wealth” not by increasing the  
energy it had, but by decreasing the energy it needed. U.S.  
oil and gas production has increased 65% since 1975, while  
conservation and eﬃciency has more than doubled what we  
can do with that energy. So it’s easy to see which has  
mattered more.  
The important thing here is that ﬁnding more energy is  
largely out of our control and shrouded in uncertainty,  
because it relies on a slippery mix of having the right  
geology, geography, weather, and geopolitics. But becoming  
more eﬃcient with the energy we use is largely in our  
control. The decision to buy a lighter car or ride a bike is up  
to you and has a 100% chance of improving eﬃciency.  
The same is true with our money.  
Investment returns can make you rich. But whether an  
investing strategy will work, and how long it will work for,  
and whether markets will cooperate, is always in doubt.  
Results are shrouded in uncertainty.  
Personal savings and frugality—ﬁnance’s conservation and  
eﬃciency—are parts of the money equation that are more in  
your control and have a 100% chance of being as eﬀective  
in the future as they are today.

If you view building wealth as something that will require  
more money or big investment returns, you may become as  
pessimistic as the energy doomers were in the 1970s. The  
path forward looks hard and out of your control.  
If you view it as powered by your own frugality and  
eﬃciency, the destiny is clearer.  
Wealth is just the accumulated leftovers after you spend  
what you take in. And since you can build wealth without a  
high income, but have no chance of building wealth without  
a high savings rate, it’s clear which one matters more.  
   
More importantly, the value of wealth is relative to  
what you need.  
   
Say you and I have the same net worth.  
And say you’re a better investor than me. I can earn 8%  
annual returns and you can earn 12% annual returns.  
But I’m more eﬃcient with my money. Let’s say I need half  
as much money to be happy while your lifestyle compounds  
as fast as your assets.  
I’m better oﬀ than you are, despite being a worse investor.  
I’m getting more beneﬁt from my investments despite lower  
returns.  
The same is true for incomes. Learning to be happy with less  
money creates a gap between what you have and what you  
want—similar to the gap you get from growing your  
paycheck, but easier and more in your control.

A high savings rate means having lower expenses than you  
otherwise could, and having lower expenses means your  
savings go farther than they would if you spent more.  
Think about this in the context of how much time and eﬀort  
goes into achieving 0.1% of annual investment  
outperformance—millions of hours of research, tens of  
billions of dollars of eﬀort from professionals—and it’s easy  
to see what’s potentially more important or worth chasing.  
There are professional investors who grind 80 hours a week  
to add a tenth of a percentage point to their returns when  
there are two or three full percentage points of lifestyle  
bloat in their ﬁnances that can be exploited with less eﬀort.  
Big investment returns and fat paychecks are amazing when  
they can be achieved, and some can achieve them. But the  
fact that there’s so much eﬀort put into one side of the  
ﬁnance equation and so little put into the other is an  
opportunity for most people.  
   
Past a certain level of income, what you need is just  
what sits below your ego.  
   
Everyone needs the basics. Once they’re covered there’s  
another level of comfortable basics, and past that there’s  
basics that are both comfortable, entertaining, and  
enlightening.  
But spending beyond a pretty low level of materialism is  
mostly a reﬂection of ego approaching income, a way to  
spend money to show people that you have (or had) money.

Think of it like this, and one of the most powerful ways to  
increase your savings isn’t to raise your income. It’s to raise  
your humility.  
When you deﬁne savings as the gap between your ego and  
your income you realize why many people with decent  
incomes save so little. It’s a daily struggle against instincts  
to extend your peacock feathers to their outermost limits  
and keep up with others doing the same.  
People with enduring personal ﬁnance success—not  
necessarily those with high incomes—tend to have a  
propensity to not give a damn what others think about  
them.  
   
So people’s ability to save is more in their control  
than they might think.  
   
Savings can be created by spending less.  
You can spend less if you desire less.  
And you will desire less if you care less about what others  
think of you.  
As I argue often in this book, money relies more on  
psychology than ﬁnance.  
   
And you don’t need a speciﬁc reason to save.  
 

Some people save money for a downpayment on a house, or  
a new car, or for retirement.  
That’s great, of course.  
But saving does not require a goal of purchasing something  
speciﬁc.  
You can save just for saving’s sake. And indeed you should.  
Everyone should.  
Only saving for a speciﬁc goal makes sense in a predictable  
world. But ours isn’t. Saving is a hedge against life’s  
inevitable ability to surprise the hell out of you at the worst  
possible moment.  
Another beneﬁt of savings that isn’t attached to a spending  
goal is what we discussed in chapter 7: gaining control over  
your time.  
Everyone knows the tangible stuﬀ money buys. The  
intangible stuﬀ is harder to wrap your head around, so it  
tends to go unnoticed. But the intangible beneﬁts of money  
can be far more valuable and capable of increasing your  
happiness than the tangible things that are obvious targets  
of our savings.  
Savings without a spending goal gives you options and  
ﬂexibility, the ability to wait and the opportunity to pounce.  
It gives you time to think. It lets you change course on your  
own terms.  
Every bit of savings is like taking a point in the future that  
would have been owned by someone else and giving it back  
to yourself.  
 

That ﬂexibility and control over your time is an  
unseen return on wealth.  
   
What is the return on cash in the bank that gives you the  
option of changing careers, or retiring early, or freedom from  
worry?  
I’d say it’s incalculable.  
It’s incalculable in two ways. It’s so large and important that  
we can’t put a price on it. But it’s also literally incalculable—  
we can’t measure it like we can measure interest rates—and  
what we can’t measure we tend to overlook.  
When you don’t have control over your time, you’re forced to  
accept whatever bad luck is thrown your way. But if you  
have ﬂexibility you have the time to wait for no-brainer  
opportunities to fall in your lap. This is a hidden return on  
your savings.  
Savings in the bank that earn 0% interest might actually  
generate an extraordinary return if they give you the  
ﬂexibility to take a job with a lower salary but more purpose,  
or wait for investment opportunities that come when those  
without ﬂexibility turn desperate.  
   
And that hidden return is becoming more important.  
   
The world used to be hyper-local. Just over 100 years ago  
75% of Americans had neither telephones nor regular mail  
service, according to historian Robert Gordon. That made  
competition hyper-local. A worker with just average

intelligence might be the best in their town, and they got  
treated like the best because they didn’t have to compete  
with the smarter worker in another town.  
That’s now changed.  
A hyper-connected world means the talent pool you  
compete in has gone from hundreds or thousands spanning  
your town to millions or billions spanning the globe. This is  
especially true for jobs that rely on working with your head  
versus your muscles: teaching, marketing, analysis,  
consulting, accounting, programming, journalism, and even  
medicine increasingly compete in global talent pools. More  
ﬁelds will fall into this category as digitization erases global  
boundaries—as “software eats the world,” as venture  
capitalist Marc Andreesen puts it.  
A question you should ask as the range of your competition  
expands is, “How do I stand out?”  
“I’m smart” is increasingly a bad answer to that question,  
because there are a lot of smart people in the world. Almost  
600 people ace the SATs each year. Another 7,000 come  
within a handful of points. In a winner-take-all and  
globalized world these kinds of people are increasingly your  
direct competitors.  
Intelligence is not a reliable advantage in a world that’s  
become as connected as ours has.  
But ﬂexibility is.  
In a world where intelligence is hyper-competitive and many  
previous technical skills have become automated,  
competitive advantages tilt toward nuanced and soft skills—  
like communication, empathy, and, perhaps most of all,  
ﬂexibility.

If you have ﬂexibility you can wait for good opportunities,  
both in your career and for your investments. You’ll have a  
better chance of being able to learn a new skill when it’s  
necessary. You’ll feel less urgency to chase competitors who  
can do things you can’t, and have more leeway to ﬁnd your  
passion and your niche at your own pace. You can ﬁnd a new  
routine, a slower pace, and think about life with a diﬀerent  
set of assumptions. The ability to do those things when most  
others can’t is one of the few things that will set you apart in  
a world where intelligence is no longer a sustainable  
advantage.  
Having more control over your time and options is becoming  
one of the most valuable currencies in the world.  
That’s why more people can, and more people should, save  
money.  
You know what else they should do? Stop trying to be so  
rational. Let me tell you why.

You’re not a spreadsheet. You’re a person. A screwed up,  
emotional person.  
It took me a while to ﬁgure this out, but once it clicked I  
realized it’s one of the most important parts of ﬁnance.  
With it comes something that often goes overlooked: Do not  
aim to be coldly rational when making ﬁnancial decisions.  
Aim to just be pretty reasonable. Reasonable is more  
realistic and you have a better chance of sticking with it for  
the long run, which is what matters most when managing  
money.  
To show you what I mean, let me tell you the story of a guy  
who tried to cure syphilis with malaria.  
   
   
Julius Wagner-Jauregg was a 19th-century psychiatrist with  
two unique skills: He was good at recognizing patterns, and  
what others saw as “crazy” he found merely “bold.”  
His specialty was patients with severe neurosyphilis—then a  
fatal diagnosis with no known treatment. He began noticing  
a pattern: syphilis patients tended to recover if they had the  
added misfortune of having prolonged fevers from an  
unrelated ailment.  
Wagner-Jauregg assumed this was due to a hunch that had  
been around for centuries but doctors didn’t understand  
well: fevers play a role in helping the body ﬁght infection.  
So he jumped to the logical conclusion.

In the early 1900s Wagner-Jauregg began injecting patients  
with low-end strains of typhoid, malaria, and smallpox to  
trigger fevers strong enough to kill oﬀ their syphilis. This  
was as dangerous as it sounds. Some of his patients died  
from the treatment. He eventually settled on a weak version  
of malaria, since it could be eﬀectively countered with  
quinine after a few days of bone-rattling fevers.  
After some tragic trial and error his experiment worked.  
Wagner-Jauregg reported that 6 in 10 syphilis patients  
treated with “malariotherapy” recovered, compared to  
around 3 in 10 patients left alone. He won the Nobel Prize in  
medicine in 1927. The organization today notes: “The main  
work that concerned Wagner-Jauregg throughout his  
working life was the endeavour to cure mental disease by  
inducing a fever.”³³  
Penicillin eventually made malariotherapy for syphilis  
patients obsolete, thank goodness. But Wagner-Jauregg is  
one of the only doctors in history who not only recognized  
fever’s role in ﬁghting infection, but also prescribed it as a  
treatment.  
Fevers have always been as feared as they are mysterious.  
Ancient Romans worshiped Febris, the Goddess who  
protected people from fevers. Amulets were left at temples  
to placate her, hoping to stave oﬀ the next round of shivers.  
But Wagner-Jauregg was onto something. Fevers are not  
accidental nuisances. They do play a role in the body’s road  
to recovery. We now have better, more scientiﬁc evidence of  
fever’s usefulness in ﬁghting infection. A one-degree  
increase in body temperature has been shown to slow the  
replication rate of some viruses by a factor of 200.  
“Numerous investigators have identiﬁed a better outcome  
among patients who displayed fever,” one NIH paper

writes.³⁴ The Seattle Children’s Hospital includes a section  
on its website to educate parents who may panic at the  
slightest rise in their child’s temperature: “Fevers turn on  
the body’s immune system. They help the body ﬁght  
infection. Normal fevers between 100° and 104° f are good  
for sick children.”³⁵  
But that’s where the science ends and reality takes over.  
Fever is almost universally seen as a bad thing. They’re  
treated with drugs like Tylenol to reduce them as quickly as  
they appear. Despite millions of years of evolution as a  
defense mechanism, no parent, no patient, few doctors, and  
certainly no drug company views fever as anything but a  
misfortune that should be eliminated.  
These views do not match the known science. One study  
was blunt: “Treatment of fever is common in the ICU setting  
and likely related to standard dogma rather than evidence-  
based practice.”³⁶ Howard Markel, director of the Center for  
the History of Medicine, once said of fever phobia: “These  
are cultural practices that spread just as widely as the  
infectious diseases that are behind them.”³⁷  
Why does this happen? If fevers are beneﬁcial, why do we  
ﬁght them so universally?  
I don’t think it’s complicated: Fevers hurt. And people don’t  
want to hurt.  
That’s it.  
A doctor’s goal is not just to cure disease. It’s to cure disease  
within the conﬁnes of what’s reasonable and tolerable to the  
patient. Fevers can have marginal beneﬁts in ﬁghting  
infection, but they hurt. And I go to the doctor to stop  
hurting. I don’t care about double-blind studies when I’m

shivering under a blanket. If you have a pill that can make a  
fever stop, give it to me now.  
It may be rational to want a fever if you have an infection.  
But it’s not reasonable.  
That philosophy—aiming to be reasonable instead of  
rational—is one more people should consider when making  
decisions with their money.  
   
   
Academic ﬁnance is devoted to ﬁnding the mathematically  
optimal investment strategies. My own theory is that, in the  
real world, people do not want the mathematically optimal  
strategy. They want the strategy that maximizes for how  
well they sleep at night.  
Harry Markowitz won the Nobel Prize for exploring the  
mathematical tradeoﬀ between risk and return. He was once  
asked how he invested his own money, and described his  
portfolio allocation in the 1950s, when his models were ﬁrst  
developed:  
   
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. My intention was to minimize my future regret. So I split  
my contributions 50/50 between bonds and equities.  
   
Markowitz eventually changed his investment strategy,  
diversifying the mix. But two things here are important.

One is that “minimizing future regret” is hard to rationalize  
on paper but easy to justify in real life. A rational investor  
makes decisions based on numeric facts. A reasonable  
investor makes them in a conference room surrounded by  
co-workers you want to think highly of you, with a spouse  
you don’t want to let down, or judged against the silly but  
realistic competitors that are your brother-in-law, your  
neighbor, and your own personal doubts. Investing has a  
social component that’s often ignored when viewed through  
a strictly ﬁnancial lens.  
The second is that this is ﬁne. Jason Zweig, who conducted  
the interview when Markowitz described how he invested,  
later reﬂected:  
   
My own view is that people are neither rational nor  
irrational. We are human. We don’t like to think harder than  
we need to, and we have unceasing demands on our  
attention. Seen in that light, there’s nothing surprising  
about the fact that the pioneer of modern portfolio theory  
built his initial portfolio with so little regard for his own  
research. Nor is it surprising that he adjusted it later.³⁸  
   
Markowitz is neither rational or irrational. He’s reasonable.  
What’s often overlooked in ﬁnance is that something can be  
technically true but contextually nonsense.  
In 2008 a pair of researchers from Yale published a study  
arguing young savers should supercharge their retirement  
accounts using two-to-one margin (two dollars of debt for  
every dollar of their own money) when buying stocks. It  
suggests investors taper that leverage as they age, which

lets a saver take more risk when they’re young and can  
handle a magniﬁed market rollercoaster, and less when  
they’re older.  
Even if using leverage left you wiped out when you were  
young (if you use two-to-one margin a 50% market drop  
leaves you with nothing) the researchers showed savers  
would still be better oﬀ in the long run so long as they  
picked themselves back up, followed the plan, and kept  
saving in a two-to-one leveraged account the day after being  
wiped out.  
The math works on paper. It’s a rational strategy.  
But it’s almost absurdly unreasonable.  
No normal person could watch 100% of their retirement  
account evaporate and be so unphased that they carry on  
with the strategy undeterred. They’d quit, look for a  
diﬀerent option, and perhaps sue their ﬁnancial advisor.  
The researchers argued that when using their strategy “the  
expected retirement wealth is 90% higher compared to life-  
cycle funds.” It is also 100% less reasonable.  
   
   
There is, in fact, a rational reason to favor what look like  
irrational decisions.  
Here’s one: Let me suggest that you love your investments.  
This is not traditional advice. It’s almost a badge of honor for  
investors to claim they’re emotionless about their  
investments, because it seems rational.

But if lacking emotions about your strategy or the stocks you  
own increases the odds you’ll walk away from them when  
they become diﬃcult, what looks like rational thinking  
becomes a liability. The reasonable investors who love their  
technically imperfect strategies have an edge, because  
they’re more likely to stick with those strategies.  
There are few ﬁnancial variables more correlated to  
performance than commitment to a strategy during its lean  
years—both the amount of performance and the odds of  
capturing it over a given period of time. The historical odds  
of making money in U.S. markets are 50/50 over one-day  
periods, 68% in one-year periods, 88% in 10-year periods,  
and (so far) 100% in 20-year periods. Anything that keeps  
you in the game has a quantiﬁable advantage.  
If you view “do what you love” as a guide to a happier life, it  
sounds like empty fortune cookie advice. If you view it as the  
thing providing the endurance necessary to put the  
quantiﬁable odds of success in your favor, you realize it  
should be the most important part of any ﬁnancial strategy.  
Invest in a promising company you don’t care about, and  
you might enjoy it when everything’s going well. But when  
the tide inevitably turns you’re suddenly losing money on  
something you’re not interested in. It’s a double burden, and  
the path of least resistance is to move onto something else.  
If you’re passionate about the company to begin with—you  
love the mission, the product, the team, the science,  
whatever—the inevitable down times when you’re losing  
money or the company needs help are blunted by the fact  
that at least you feel like you’re part of something  
meaningful. That can be the necessary motivation that  
prevents you from giving up and moving on.

There are several other times when it’s ﬁne to be reasonable  
instead of rational with money.  
There’s a well-documented “home bias,” where people  
prefer to invest in companies from the country they live in  
while ignoring the other 95%+ of the planet. It’s not  
rational, until you consider that investing is eﬀectively  
giving money to strangers. If familiarity helps you take the  
leap of faith required to remain backing those strangers, it’s  
reasonable.  
Day trading and picking individual stocks is not rational for  
most investors—the odds are heavily against your success.  
But they’re both reasonable in small amounts if they scratch  
an itch hard enough to leave the rest of your more  
diversiﬁed investments alone. Investor Josh Brown, who  
advocates and mostly owns diversiﬁed funds, once  
explained why he also owns a smattering of individual  
stocks: “I’m not buying individual stocks because I think I’m  
going to generate alpha [outperformance]. I just love stocks  
and have ever since I was 20 years old. And it’s my money, I  
get to do whatever.” Quite reasonable.  
Most forecasts about where the economy and the stock  
market are heading next are terrible, but making forecasts is  
reasonable. It’s hard to wake up in the morning telling  
yourself you have no clue what the future holds, even if it’s  
true. Acting on investment forecasts is dangerous. But I get  
why people try to predict what will happen next year. It’s  
human nature. It’s reasonable.  
Jack Bogle, the late founder of Vanguard, spent his career on  
a crusade to promote low-cost passive index investing. Many  
thought it interesting that his son found a career as an  
active, high-fee hedge fund and mutual fund manager.  
Bogle—the man who said high-fee funds violate “the

humble rules of arithmetic”—invested some of his own  
money in his son’s funds. What’s the explanation?  
“We do some things for family reasons,” Bogle told The Wall  
Street Journal. “If it’s not consistent, well, life isn’t always  
consistent.”³⁹  
Indeed, it rarely is.

Stanford professor Scott Sagan once said something  
everyone who follows the economy or investment markets  
should hang on their wall: “Things that have never  
happened before happen all the time.”  
History is mostly the study of surprising events. But it is  
often used by investors and economists as an unassailable  
guide to the future.  
Do you see the irony?  
Do you see the problem?  
It is smart to have a deep appreciation for economic and  
investing history. History helps us calibrate our expectations,  
study where people tend to go wrong, and oﬀers a rough  
guide of what tends to work. But it is not, in any way, a map  
of the future.  
A trap many investors fall into is what I call “historians as  
prophets” fallacy: An overreliance on past data as a signal to  
future conditions in a ﬁeld where innovation and change are  
the lifeblood of progress.  
You can’t blame investors for doing this. If you view  
investing as a hard science, history should be a perfect  
guide to the future. Geologists can look at a billion years of  
historical data and form models of how the earth behaves.  
So can meteorologists. And doctors—kidneys operate the  
same way in 2020 as they did in 1020.  
But investing is not a hard science. It’s a massive group of  
people making imperfect decisions with limited information  
about things that will have a massive impact on their  
wellbeing, which can make even smart people nervous,  
greedy and paranoid.

Richard Feynman, the great physicist, once said, “Imagine  
how much harder physics would be if electrons had  
feelings.” Well, investors have feelings. Quite a few of them.  
That’s why it’s hard to predict what they’ll do next based  
solely on what they did in the past.  
The cornerstone of economics is that things change over  
time, because the invisible hand hates anything staying too  
good or too bad indeﬁnitely. Investor Bill Bonner once  
described how Mr. Market works: “He’s got a ‘Capitalism at  
Work’ T-shirt on and a sledgehammer in his hand.” Few  
things stay the same for very long, which means we can’t  
treat historians as prophets.  
The most important driver of anything tied to money is the  
stories people tell themselves and the preferences they have  
for goods and services. Those things don’t tend to sit still.  
They change with culture and generation. They’re always  
changing and always will.  
The mental trick we play on ourselves here is an over-  
admiration of people who have been there, done that, when  
it comes to money. Experiencing speciﬁc events does not  
necessarily qualify you to know what will happen next. In  
fact it rarely does, because experience leads to  
overconﬁdence more than forecasting ability.  
Investor Michael Batnick once explained this well.  
Confronted with the argument that few investors are  
prepared for rising interest rates because they’ve never  
experienced them—the last big period of rising interest  
rates occurred almost 40 years ago—he argued that it didn’t  
matter, because experiencing or even studying what  
happened in the past might not serve as any guide to what  
will happen when rates rise in the future:

So what? Will the current rate hike look like the last one, or  
the one before that? Will diﬀerent asset classes behave  
similarly, the same, or the exact opposite?  
On the one hand, people that have been investing through  
the events of 1987, 2000 and 2008 have experienced a lot  
of diﬀerent markets. On the other hand, isn’t it possible that  
this experience can lead to overconﬁdence? Failing to admit  
you’re wrong? Anchoring to previous outcomes?  
   
Two dangerous things happen when you rely too heavily on  
investment history as a guide to what’s going to happen  
next.  
   
1. You’ll likely miss the outlier events that move the  
needle the most.  
   
The most important events in historical data are the big  
outliers, the record-breaking events. They are what move  
the needle in the economy and the stock market. The Great  
Depression. World War II. The dot-com bubble. September  
11th. The housing crash of the mid-2000s. A handful of  
outlier events play an enormous role because they inﬂuence  
so many unrelated events in their wake.  
Fifteen billion people were born in the 19th and 20th  
centuries. But try to imagine how diﬀerent the global  
economy—and the whole world—would be today if just  
seven of them never existed:

   
Adolf Hitler  
   
Joseph Stalin  
   
Mao Zedong  
   
Gavrilo Princip  
   
Thomas Edison  
   
Bill Gates  
   
Martin Luther King  
   
I’m not even sure that’s the most meaningful list. But almost  
everything about the world today—from borders to  
technology to social norms—would be diﬀerent if these  
seven people hadn’t left their mark. Another way to put this  
is that 0.00000000004% of people were responsible for  
perhaps the majority of the world’s direction over the last  
century.

The same goes for projects, innovations, and events.  
Imagine the last century without:  
   
   
The Great Depression  
   
World War II  
   
The Manhattan Project  
   
Vaccines  
   
Antibiotics  
   
ARPANET  
   
September 11th  
   
The fall of the Soviet Union  
   
How many projects and events occurred in the 20th  
century? Billions, trillions—who knows. But those eight

alone impacted the world orders upon orders of magnitude  
more than others.  
The thing that makes tail events easy to underappreciate is  
how easy it is to underestimate how things compound. How,  
for example, 9/11 prompted the Federal Reserve to cut  
interest rates, which helped drive the housing bubble, which  
led to the ﬁnancial crisis, which led to a poor jobs market,  
which led tens of millions to seek a college education, which  
led to $1.6 trillion in student loans with a 10.8% default  
rate. It’s not intuitive to link 19 hijackers to the current  
weight of student loans, but that’s what happens in a world  
driven by a few outlier tail events.  
The majority of what’s happening at any given moment in  
the global economy can be tied back to a handful of past  
events that were nearly impossible to predict.  
The most common plot of economic history is the role of  
surprises. The reason surprises occur is not because our  
models are wrong or our intelligence is low. It’s because the  
odds that Adolf Hitler’s parents argued on the evening nine  
months before he was born were the same as them  
conceiving a child. Technology is hard to predict because Bill  
Gates may have died from polio if Jonas Salk got cranky and  
gave up on his quest to ﬁnd a vaccine. The reason we  
couldn’t predict the student loan growth is because an  
airport security guard may have conﬁscated a hijacker’s  
knife on 9/11. That’s all there is to it.  
The problem is that we often use events like the Great  
Depression and World War II to guide our views of things like  
worst-case scenarios when thinking about future investment  
returns. But those record-setting events had no precedent  
when they occurred. So the forecaster who assumes the  
worst (and best) events of the past will match the worst

(and best) events of the future is not following history;  
they’re accidentally assuming that the history of  
unprecedented events doesn’t apply to the future.  
Nassim Taleb writes in his book Fooled By Randomness:  
   
In Pharaonic Egypt … scribes tracked the high-water mark of  
the Nile and used it as an estimate for a future worst-case  
scenario. The same can be seen in the Fukushima nuclear  
reactor, which experienced a catastrophic failure in 2011  
when a tsunami struck. It had been built to withstand the  
worst past historical earthquake, with the builders not  
imagining much worse—and not thinking that the worst  
past event had to be a surprise, as it had no precedent.  
   
This is not a failure of analysis. It’s a failure of imagination.  
Realizing the future might not look anything like the past is  
a special kind of skill that is not generally looked highly  
upon by the ﬁnancial forecasting community.  
At a 2017 dinner I attended in New York, Daniel Kahneman  
was asked how investors should respond when our forecasts  
are wrong. He said:  
   
Whenever we are surprised by something, even if we admit  
that we made a mistake, we say, ‘Oh I’ll never make that  
mistake again.’ But, in fact, what you should learn when you  
make a mistake because you did not anticipate something is  
that the world is diﬃcult to anticipate. That’s the correct  
lesson to learn from surprises: that the world is surprising.  
 

The correct lesson to learn from surprises is that the world is  
surprising. Not that we should use past surprises as a guide  
to future boundaries; that we should use past surprises as  
an admission that we have no idea what might happen next.  
The most important economic events of the future—things  
that will move the needle the most—are things that history  
gives us little to no guide about. They will be unprecedented  
events. Their unprecedented nature means we won’t be  
prepared for them, which is part of what makes them so  
impactful. This is true for both scary events like recessions  
and wars, and great events like innovation.  
I’m conﬁdent in that prediction because surprises moving  
the needle the most is the one forecast that’s been accurate  
at virtually every point in history.  
   
2. History can be a misleading guide to the future of  
the economy and stock market because it doesn’t  
account for structural changes that are relevant to  
today’s world.  
   
Consider a few big ones.  
The 401(k) is 42 years old. The Roth IRA is younger, created  
in the 1990s. So personal ﬁnancial advice and analysis  
about how Americans save for retirement today is not  
directly comparable to what made sense just a generation  
ago. We have new options. Things changed.  
Or take venture capital. It barely existed 25 years ago. There  
are single venture capital funds today that are larger than  
the entire industry was a generation ago.⁴⁰ In his memoir,

Nike founder Phil Knight wrote about his early days in  
business:  
   
There was no such thing as venture capital. An aspiring  
young entrepreneur had very few places to turn, and those  
places were all guarded by risk-averse gatekeepers with  
zero imagination. In other words, bankers.  
   
What this means, in eﬀect, is that all historical data going  
back just a few decades about how startups are ﬁnanced is  
out of date. What we know about investment cycles and  
startup failure rates is not a deep base of history to learn  
from, because the way companies are funded today is such  
a new historical paradigm.  
Or take public markets. The S&P 500 did not include  
ﬁnancial stocks until 1976; today, ﬁnancials make up 16%  
of the index. Technology stocks were virtually nonexistent 50  
years ago. Today, they’re more than a ﬁfth of the index.  
Accounting rules have changed over time. So have  
disclosures, auditing, and the amount of market liquidity.  
Things changed.  
The time between U.S. recessions has changed dramatically  
over the last 150 years:  
 

The average time between recessions has grown from about  
two years in the late 1800s to ﬁve years in the early 20th  
century to eight years over the last half-century.  
As I write this it looks like we’re going into recession—12  
years since the last recession began in December 2007.  
That’s the longest gap between recessions since before the  
Civil War.  
There are plenty of theories on why recessions have become  
less frequent. One is that the Fed is better at managing the  
business cycle, or at least extending it. Another is that heavy  
industry is more prone to boom-and-bust overproduction  
than the service industries that dominated the last 50 years.

The pessimistic view is that we now have fewer recessions,  
but when they occur they are more powerful than before.  
For our argument it doesn’t particularly matter what caused  
the change. What matters is that things clearly changed.  
To show how these historic changes should aﬀect investing  
decisions, consider the work of a man many believe to be  
one of the greatest investment minds of all time: Benjamin  
Graham.  
Graham’s classic book, The Intelligent Investor, is more than  
theory. It gives practical directions like formulas investors  
can use to make smart investing decisions.  
I read Graham’s book when I was a teenager, learning about  
investing for the ﬁrst time. The formulas presented in the  
book were appealing to me, because they were literally  
step-by-step instructions on how to get rich. Just follow the  
instructions. It seemed so easy.  
But something becomes clear when you try applying some  
of these formulas: few of them actually work.  
Graham advocated purchasing stocks trading for less than  
their net working assets—basically cash in the bank minus  
all debts. This sounds great, but few stocks actually trade  
that cheaply anymore—other than, say, a penny stock  
accused of accounting fraud.  
One of Graham’s criteria instructs conservative investors to  
avoid stocks trading for more than 1.5 times book value. If  
you followed this rule over the last decade you would have  
owned almost nothing but insurance and bank stocks. There  
is no world where that is OK.  
The Intelligent Investor is one of the greatest investing  
books of all time. But I don’t know a single investor who has

done well implementing Graham’s published formulas. The  
book is full of wisdom—perhaps more than any other  
investment book ever published. But as a how-to guide, it’s  
questionable at best.  
What happened? Was Graham a showman who sounded  
good but whose advice didn’t work? Not at all. He was a  
wildly successful investor himself.  
But he was practical. And he was a true contrarian. He  
wasn’t so wedded to investing ideas that he’d stick with  
them when too many other investors caught onto those  
theories, making them so popular as to render their  
potential useless. Jason Zweig—who annotated a later  
version of Graham’s book—once wrote:  
   
Graham was constantly experimenting and retesting his  
assumptions and seeking out what works—not what worked  
yesterday but what works today. In each revised edition of  
The Intelligent Investor, Graham discarded the formulas he  
presented in the previous edition and replaced them with  
new ones, declaring, in a sense, that “those do not work  
anymore, or they do not work as well as they used to; these  
are the formulas that seem to work better now.”  
One of the common criticisms made of Graham is that all  
the formulas in the 1972 edition are antiquated. The only  
proper response to this criticism is to say: “Of course they  
are! They are the ones he used to replace the formulas in  
the 1965 edition, which replaced the formulas in the 1954  
edition, which, in turn, replaced the ones from the 1949  
edition, which were used to augment the original formulas  
that he presented in Security Analysis in 1934.”  
 

Graham died in 1976. If the formulas he advocated were  
discarded and updated ﬁve times between 1934 and 1972,  
how relevant do you think they are in 2020? Or will be in  
2050?  
Just before he died Graham was asked whether detailed  
analysis of individual stocks—a tactic he became famous for  
—remained a strategy he favored. He answered:  
   
In general, no. I am no longer an advocate of elaborate  
techniques of security analysis in order to ﬁnd superior value  
opportunities. This was a rewarding activity, say, 40 years  
ago, when our textbook was ﬁrst published. But the  
situation has changed a great deal since then.⁴¹  
   
What changed was: Competition grew as opportunities  
became well known; technology made information more  
accessible; and industries changed as the economy shifted  
from industrial to technology sectors, which have diﬀerent  
business cycles and capital uses.  
Things changed.  
An interesting quirk of investing history is that the further  
back you look, the more likely you are to be examining a  
world that no longer applies to today. Many investors and  
economists take comfort in knowing their forecasts are  
backed up by decades, even centuries, of data. But since  
economies evolve, recent history is often the best guide to  
the future, because it’s more likely to include important  
conditions that are relevant to the future.

There’s a common phrase in investing, usually used  
mockingly, that “It’s diﬀerent this time.” If you need to rebut  
someone who’s predicting the future won’t perfectly mirror  
the past, say, “Oh, so you think it’s diﬀerent this time?” and  
drop the mic. It comes from investor John Templeton’s view  
that “The four most dangerous words in investing are, ‘it’s  
diﬀerent this time.’”  
Templeton, though, admitted that it is diﬀerent at least 20%  
of the time. The world changes. Of course it does. And those  
changes are what matter most over time. Michael Batnick  
put it: “The twelve most dangerous words in investing are,  
‘The four most dangerous words in investing are, ‘it’s  
diﬀerent this time.’”  
That doesn’t mean we should ignore history when thinking  
about money. But there’s an important nuance: The further  
back in history you look, the more general your takeaways  
should be. General things like people’s relationship to greed  
and fear, how they behave under stress, and how they  
respond to incentives tend to be stable in time. The history  
of money is useful for that kind of stuﬀ.  
But speciﬁc trends, speciﬁc trades, speciﬁc sectors, speciﬁc  
causal relationships about markets, and what people should  
do with their money are always an example of evolution in  
progress. Historians are not prophets.  
The question, then, is how should we think about and plan  
for the future? Let’s take a look in the next chapter.

Some of the best examples of smart ﬁnancial behavior can  
be found in an unlikely place: Las Vegas casinos.  
Not among all players, of course. But a tiny group of  
blackjack players who practice card counting can teach  
ordinary people something extraordinarily important about  
managing money: the importance of room for error.  
   
   
The fundamentals of blackjack card counting are simple:  
   
   
No one can know with certainty what card the dealer will  
draw next.  
   
But by tracking what cards have already been dealt you can  
calculate what cards remain in the deck.  
   
Doing so can tell you the odds of a particular card being  
drawn by the dealer.  
   
As a player, you bet more when the odds of getting a card  
you want are in your favor and less when they are against  
you.  
The mechanics of how this is done don’t matter here. What  
matters is that a blackjack card counter knows they are  
playing a game of odds, not certainties. In any particular

hand they think they have a good chance of being right, but  
know there’s a decent chance they’re wrong. It might sound  
strange given their profession, but their strategy relies  
entirely on humility—humility that they don’t know, and  
cannot know exactly what’s going to happen next, so play  
their hand accordingly. The card counting system works  
because it tilts the odds ever so slightly from the house to  
the player. But bet too heavily even when the odds seem in  
your favor and, if you’re wrong, you might lose so much that  
you don’t have enough money to keep playing.  
There is never a moment when you’re so right that you can  
bet every chip in front of you. The world isn’t that kind to  
anyone—not consistently, anyways. You have to give yourself  
room for error. You have to plan on your plan not going  
according to plan.  
Kevin Lewis, a successful card counter portrayed in the book  
Bringing Down the House, wrote more about this  
philosophy:  
   
Although card counting is statistically proven to work, it  
does not guarantee you will win every hand—let alone every  
trip you make to the casino. We must make sure that we  
have enough money to withstand any swings of bad luck.  
Let’s assume you have roughly a 2 percent edge over the  
casino. That still means the casino will win 49 percent of the  
time. Therefore, you need to have enough money to  
withstand any variant swings against you. A rule of thumb is  
that you should have at least a hundred basic units.  
Assuming you start with ten thousand dollars, you could  
comfortably play a hundred-dollar unit.  
 

History is littered with good ideas taken too far, which are  
indistinguishable from bad ideas. The wisdom in having  
room for error is acknowledging that uncertainty,  
randomness, and chance—“unknowns”—are an ever-present  
part of life. The only way to deal with them is by increasing  
the gap between what you think will happen and what can  
happen while still leaving you capable of ﬁghting another  
day.  
   
   
Benjamin Graham is known for his concept of margin of  
safety. He wrote about it extensively and in mathematical  
detail. But my favorite summary of the theory came when he  
mentioned in an interview that “the purpose of the margin  
of safety is to render the forecast unnecessary.”  
It’s hard to overstate how much power lies in that simple  
statement.  
Margin of safety—you can also call it room for error or  
redundancy—is the only eﬀective way to safely navigate a  
world that is governed by odds, not certainties. And almost  
everything related to money exists in that kind of world.  
Forecasting with precision is hard. This is obvious to the card  
counter, because no one could possibly know where a  
particular card lies in a shuﬄed deck. It’s less obvious to  
someone asking, “What will the average annual return of  
the stock market be over the next 10 years?” or “On what  
date will I be able to retire?” But they are fundamentally the  
same. The best we can do is think about odds.  
Graham’s margin of safety is a simple suggestion that we  
don’t need to view the world in front of us as black or white,  
predictable or a crapshoot. The grey area—pursuing things

where a range of potential outcomes are acceptable—is the  
smart way to proceed.  
But people underestimate the need for room for error in  
almost everything they do that involves money. Stock  
analysts give their clients price targets, not price ranges.  
Economic forecasters predict things with precise ﬁgures;  
rarely broad probabilities. The pundit who speaks in  
unshakable certainties will gain a larger following than the  
one who says “We can’t know for sure,” and speaks in  
probabilities.⁴²  
We do this in all kinds of ﬁnancial endeavors, especially  
those related to our own decisions. Harvard psychologist  
Max Bazerman once showed that when analyzing other  
people’s home renovation plans, most people estimate the  
project will run between 25% and 50% over budget.⁴³ But  
when it comes to their own projects, people estimate that  
renovations will be completed on time and at budget. Oh,  
the eventual disappointment.  
Two things cause us to avoid room for error. One is the idea  
that somebody must know what the future holds, driven by  
the uncomfortable feeling that comes from admitting the  
opposite. The second is that you’re therefore doing yourself  
harm by not taking actions that fully exploit an accurate  
view of that future coming true.  
But room for error is underappreciated and misunderstood.  
It’s often viewed as a conservative hedge, used by those  
who don’t want to take much risk or aren’t conﬁdent in their  
views. But when used appropriately, it’s quite the opposite.  
Room for error lets you endure a range of potential  
outcomes, and endurance lets you stick around long enough  
to let the odds of beneﬁting from a low-probability outcome

fall in your favor. The biggest gains occur infrequently, either  
because they don’t happen often or because they take time  
to compound. So the person with enough room for error in  
part of their strategy (cash) to let them endure hardship in  
another (stocks) has an edge over the person who gets  
wiped out, game over, insert more tokens, when they’re  
wrong.  
Bill Gates understood this well. When Microsoft was a young  
company, he said he “came up with this incredibly  
conservative approach that I wanted to have enough money  
in the bank to pay a year’s worth of payroll even if we didn’t  
get any payments coming in.” Warren Buﬀett expressed a  
similar idea when he told Berkshire Hathaway shareholders  
in 2008: “I have pledged—to you, the rating agencies and  
myself—to always run Berkshire with more than ample cash  
... When forced to choose, I will not trade even a night’s  
sleep for the chance of extra proﬁts.”⁴⁴  
There are a few speciﬁc places for investors to think about  
room for error.  
One is volatility. Can you survive your assets declining by  
30%? On a spreadsheet, maybe yes—in terms of actually  
paying your bills and staying cash-ﬂow positive. But what  
about mentally? It is easy to underestimate what a 30%  
decline does to your psyche. Your conﬁdence may become  
shot at the very moment opportunity is at its highest. You—  
or your spouse—may decide it’s time for a new plan, or new  
career. I know several investors who quit after losses  
because they were exhausted. Physically exhausted.  
Spreadsheets are good at telling you when the numbers do  
or don’t add up. They’re not good at modeling how you’ll  
feel when you tuck your kids in at night wondering if the  
investment decisions you’ve made were a mistake that will  
hurt their future. Having a gap between what you can

technically endure versus what’s emotionally possible is an  
overlooked version of room for error.  
Another is saving for retirement. We can look at history and  
see, for example, that the U.S. stock market has returned an  
annual average of 6.8% after inﬂation since the 1870s. It’s a  
reasonable ﬁrst approximation to use that as an estimate of  
what to expect on your own diversiﬁed portfolio when saving  
for retirement. You can use those return assumptions to  
back into the amount of money you’ll need to save each  
month to achieve your target nestegg.  
But what if future returns are lower? Or what if long-term  
history is a good estimate of the long-term future, but your  
target retirement date ends up falling in the middle of a  
brutal bear market, like 2009? What if a future bear market  
scares you out of stocks and you end up missing a future  
bull market, so the returns you actually earn are less than  
the market average? What if you need to cash out your  
retirement accounts in your 30s to pay for a medical  
mishap?  
The answer to those what ifs is, “You won’t be able to retire  
like you once predicted.” Which can be a disaster.  
The solution is simple: Use room for error when estimating  
your future returns. This is more art than science. For my  
own investments, which I’ll describe more in chapter 20, I  
assume the future returns I’ll earn in my lifetime will be ⅓  
lower than the historic average. So I save more than I would  
if I assumed the future will resemble the past. It’s my  
margin of safety. The future may be worse than ⅓ lower  
than the past, but no margin of safety oﬀers a 100%  
guarantee. A one-third buﬀer is enough to allow me to sleep  
well at night. And if the future does resemble the past, I’ll be

pleasantly surprised. “The best way to achieve felicity is to  
aim low,” says Charlie Munger. Wonderful.  
   
   
An important cousin of room for error is what I call optimism  
bias in risk-taking, or “Russian roulette should statistically  
work” syndrome: An attachment to favorable odds when the  
downside is unacceptable in any circumstances.  
Nassim Taleb says, “You can be risk loving and yet  
completely averse to ruin.” And indeed, you should.  
The idea is that you have to take risk to get ahead, but no  
risk that can wipe you out is ever worth taking. The odds are  
in your favor when playing Russian roulette. But the  
downside is not worth the potential upside. There is no  
margin of safety that can compensate for the risk.  
Same with money. The odds of many lucrative things are in  
your favor. Real estate prices go up most years, and during  
most years you’ll get a paycheck every other week. But if  
something has 95% odds of being right, the 5% odds of  
being wrong means you will almost certainly experience the  
downside at some point in your life. And if the cost of the  
downside is ruin, the upside the other 95% of the time likely  
isn’t worth the risk, no matter how appealing it looks.  
Leverage is the devil here. Leverage—taking on debt to  
make your money go further—pushes routine risks into  
something capable of producing ruin. The danger is that  
rational optimism most of the time masks the odds of ruin  
some of the time. The result is we systematically  
underestimate risk. Housing prices fell 30% last decade. A  
few companies defaulted on their debt. That’s capitalism. It  
happens. But those with high leverage had a double

wipeout: Not only were they left broke, but being wiped out  
erased every opportunity to get back in the game at the very  
moment opportunity was ripe. A homeowner wiped out in  
2009 had no chance of taking advantage of cheap mortgage  
rates in 2010. Lehman Brothers had no chance of investing  
in cheap debt in 2009. They were done.  
To get around this, I think of my own money as barbelled. I  
take risks with one portion and am terriﬁed with the other.  
This is not inconsistent, but the psychology of money would  
lead you to believe that it is. I just want to ensure I can  
remain standing long enough for my risks to pay oﬀ. You  
have to survive to succeed. To repeat a point we’ve made a  
few times in this book: The ability to do what you want,  
when you want, for as long as you want, has an inﬁnite ROI.  
   
   
Room for error does more than just widen the target around  
what you think might happen. It also helps protect you from  
things you’d never imagine, which can be the most  
troublesome events we face.  
The Battle of Stalingrad during World War II was the largest  
battle in history. With it came equally staggering stories of  
how people dealt with risk.  
One came in late 1942, when a German tank unit sat in  
reserve on grasslands outside the city. When tanks were  
desperately needed on the front lines, something happened  
that surprised everyone: Almost none of them worked.  
Out of 104 tanks in the unit, fewer than 20 were operable.  
Engineers quickly found the issue. Historian William Craig  
writes: “During the weeks of inactivity behind the front lines,

ﬁeld mice had nested inside the vehicles and eaten away  
insulation covering the electrical systems.”  
The Germans had the most sophisticated equipment in the  
world. Yet there they were, defeated by mice.  
You can imagine their disbelief. This almost certainly never  
crossed their minds. What kind of tank designer thinks  
about mouse protection? Not a reasonable one. And not one  
who studied tank history.  
But these kinds of things happen all the time. You can plan  
for every risk except the things that are too crazy to cross  
your mind. And those crazy things can do the most harm,  
because they happen more often than you think and you  
have no plan for how to deal with them.  
In 2006 Warren Buﬀett announced a search for his eventual  
replacement. He said he needed someone “genetically  
programmed to recognize and avoid serious risks, including  
those never before encountered.”⁴⁵  
I have seen this skill at work with startups my ﬁrm,  
Collaborative Fund, has backed. Ask a founder to list the  
biggest risks they face, and the usual suspects are  
mentioned. But beyond the predictable struggles of running  
a startup, here are a few issues we’ve dealt with among our  
portfolio companies:  
   
   
Water pipes broke, ﬂooding and ruining a company’s oﬃce.  
   
A company’s oﬃce was broken into three times.

A company was kicked out of its manufacturing plant.  
   
A store was shut down after a customer called the health  
department because she didn’t like that another customer  
brought a dog inside.  
   
A CEO’s email was spoofed in the middle of a fundraise that  
required all of his attention.  
   
A founder had a mental breakdown.  
   
Several of these events were existential to the company’s  
future. But none were foreseeable, because none had  
previously happened to the CEOs dealing with these  
problems—or anyone else they knew, for that matter. It was  
unchartered territory.  
Avoiding these kinds of unknown risks is, almost by  
deﬁnition, impossible. You can’t prepare for what you can’t  
envision.  
If there’s one way to guard against their damage, it’s  
avoiding single points of failure.  
A good rule of thumb for a lot of things in life is that  
everything that can break will eventually break. So if many  
things rely on one thing working, and that thing breaks, you

are counting the days to catastrophe. That’s a single point of  
failure.  
Some people are remarkably good at avoiding single points  
of failure. Most critical systems on airplanes have backups,  
and the backups often have backups. Modern jets have four  
redundant electrical systems. You can ﬂy with one engine  
and technically land with none, as every jet must be capable  
of stopping on a runway with its brakes alone, without thrust  
reverse from its engines. Suspension bridges can similarly  
lose many of their cables without falling.  
The biggest single point of failure with money is a sole  
reliance on a paycheck to fund short-term spending needs,  
with no savings to create a gap between what you think  
your expenses are and what they might be in the future.  
The trick that often goes overlooked—even by the wealthiest  
—is what we saw in chapter 10: realizing that you don’t  
need a speciﬁc reason to save. It’s ﬁne to save for a car, or a  
home, or for retirement. But it’s equally important to save  
for things you can’t possibly predict or even comprehend—  
the ﬁnancial equivalent of ﬁeld mice.  
Predicting what you’ll use your savings for assumes you live  
in a world where you know exactly what your future  
expenses will be, which no one does. I save a lot, and I have  
no idea what I’ll use the savings for in the future. Few  
ﬁnancial plans that only prepare for known risks have  
enough margin of safety to survive the real world.  
In fact, the most important part of every plan is planning on  
your plan not going according to plan.  
Now, let me show you how this applies to you.

Igrew up with a friend who came from neither privilege nor  
natural intellect, but was the hardest-working guy I knew.  
These people have a lot to teach because they have an  
unﬁltered understanding of every inch of the road to  
success.  
His life’s mission and dream as a teenager was to be a  
doctor. To say the odds were stacked against him is being  
charitable. No reasonable person at the time would consider  
it a possibility.  
But he pushed. And—a decade older than his classmates—  
he eventually became a doctor.  
How much fulﬁllment comes from starting from nothing,  
bulldozing your way to the top of medical school, and  
achieving one of the most noble professions against all  
odds?  
I spoke to him a few years ago. The conversation went like  
this:  
   
Me: “Long time no talk! How you doi—”  
   
Him: “Awful career.”  
   
Me: “Haha, well—”  
   
Him: “Awful career, man.”

This went on for 10 minutes. The stress and hours had worn  
him into the ground. He seemed as disappointed in where  
he is today as he was driven toward where he wanted to be  
15 years ago.  
An underpinning of psychology is that people are poor  
forecasters of their future selves.  
Imagining a goal is easy and fun. Imagining a goal in the  
context of the realistic life stresses that grow with  
competitive pursuits is something entirely diﬀerent.  
This has a big impact on our ability to plan for future  
ﬁnancial goals.  
   
   
Every ﬁve-year-old boy wants to drive a tractor when they  
grow up. Few jobs look better in the eyes of a young boy  
whose idea of a good job begins and ends with “Vroom  
vroom, beep beep, big tractor, here I come!”  
Then many grow up and realize that driving a tractor maybe  
isn’t the best career. Maybe they want something more  
prestigious or lucrative.  
So as a teenager they dream of being a lawyer. Now they  
think—they know—their plan is set. Law school and its costs,  
here we come.  
Then, as a lawyer, they face such long working hours that  
they rarely see their families.  
So perhaps they take a lower-paying job with ﬂexible hours.  
Then they realize that childcare is so expensive that it

consumes most of their paycheck, and they opt to be a stay-  
at-home parent. This, they conclude, is ﬁnally the right  
choice.  
Then, at age 70, they realize that a lifetime of staying home  
means they’re unprepared to aﬀord retirement.  
Many of us wind through life on a similar trajectory. Only  
27% of college grads have a job related to their major,  
according to the Federal Reserve.⁴⁶ Twenty-nine percent of  
stay-at-home parents have a college degree.⁴⁷ Few likely  
regret their education, of course. But we should  
acknowledge that a new parent in their 30s may think about  
life goals in a way their 18-year-old self making career goals  
would never imagine.  
Long-term ﬁnancial planning is essential. But things change  
—both the world around you, and your own goals and  
desires. It is one thing to say, “We don’t know what the  
future holds.” It’s another to admit that you, yourself, don’t  
know today what you will even want in the future. And the  
truth is, few of us do. It’s hard to make enduring long-term  
decisions when your view of what you’ll want in the future is  
likely to shift.  
The End of History Illusion is what psychologists call the  
tendency for people to be keenly aware of how much they’ve  
changed in the past, but to underestimate how much their  
personalities, desires, and goals are likely to change in the  
future. Harvard psychologist Daniel Gilbert once said:  
   
At every stage of our lives we make decisions that will  
profoundly inﬂuence the lives of the people we’re going to  
become, and then when we become those people, we’re not  
always thrilled with the decisions we made. So young

people pay good money to get tattoos removed that  
teenagers paid good money to get. Middle-aged people  
rushed to divorce people who young adults rushed to marry.  
Older adults work hard to lose what middle-aged adults  
worked hard to gain. On and on and on.⁴⁸  
   
“All of us,” he said, “are walking around with an illusion—an  
illusion that history, our personal history, has just come to  
an end, that we have just recently become the people that  
we were always meant to be and will be for the rest of our  
lives.” We tend to never learn this lesson. Gilbert’s research  
shows people from age 18 to 68 underestimate how much  
they will change in the future.  
You can see how this can impact a long-term ﬁnancial plan.  
Charlie Munger says the ﬁrst rule of compounding is to  
never interrupt it unnecessarily. But how do you not  
interrupt a money plan—careers, investments, spending,  
budgeting, whatever—when what you want out of life  
changes? It’s hard. Part of the reason people like Ronald  
Read—the wealthy janitor we met earlier in the book—and  
Warren Buﬀett become so successful is because they kept  
doing the same thing for decades on end, letting  
compounding run wild. But many of us evolve so much over  
a lifetime that we don’t want to keep doing the same thing  
for decades on end. Or anything close to it. So rather than  
one 80-something-year lifespan, our money has perhaps  
four distinct 20-year blocks.  
I know young people who purposefully live austere lives with  
little income, and they’re perfectly happy with it. Then there  
are those who work their tails oﬀ to pay for a life of luxury,  
and they’re perfectly happy with that. Both have risks—the  
former risks being unprepared to raise a family or fund

retirement, the latter risks regret that you spent your  
youthful and healthy years in a cubicle.  
There is no easy solution to this problem. Tell a ﬁve-year-old  
boy he should be a lawyer instead of a tractor driver and he  
will disagree with every cell in his body.  
But there are two things to keep in mind when making what  
you think are long-term decisions.  
We should avoid the extreme ends of ﬁnancial  
planning. Assuming you’ll be happy with a very low  
income, or choosing to work endless hours in pursuit  
of a high one, increases the odds that you’ll one day  
ﬁnd yourself at a point of regret. The fuel of the End  
of History Illusion is that people adapt to most  
circumstances, so the beneﬁts of an extreme plan—  
the simplicity of having hardly anything, or the thrill  
of having almost everything—wear oﬀ. But the  
downsides of those extremes—not being able to  
aﬀord retirement, or looking back at a life spent  
devoted to chasing dollars—become enduring  
regrets. Regrets are especially painful when you  
abandon a previous plan and feel like you have to  
run in the other direction twice as fast to make up  
for lost time.  
Compounding works best when you can give a plan years or  
decades to grow. This is true for not only savings but careers  
and relationships. Endurance is key. And when you consider  
our tendency to change who we are over time, balance at  
every point in your life becomes a strategy to avoid future  
regret and encourage endurance.  
Aiming, at every point in your working life, to have moderate  
annual savings, moderate free time, no more than a

moderate commute, and at least moderate time with your  
family, increases the odds of being able to stick with a plan  
and avoid regret than if any one of those things fall to the  
extreme sides of the spectrum.  
We should also come to accept the reality of  
changing our minds. Some of the most miserable  
workers I’ve met are people who stay loyal to a  
career only because it’s the ﬁeld they picked when  
deciding on a college major at age 18. When you  
accept the End of History Illusion, you realize that  
the odds of picking a job when you’re not old enough  
to drink that you will still enjoy when you’re old  
enough to qualify for Social Security are low.  
The trick is to accept the reality of change and move on as  
soon as possible.  
Jason Zweig, the Wall Street Journal investment columnist,  
worked with psychologist Daniel Kahneman on writing  
Kahneman’s book Thinking, Fast and Slow. Zweig once told  
a story about a personality quirk of Kahneman’s that served  
him well: “Nothing amazed me more about Danny than his  
ability to detonate what we had just done,” Zweig wrote. He  
and Kahneman could work endlessly on a chapter, but:  
   
The next thing you know, [Kahneman] sends a version so  
utterly transformed that it is unrecognizable: It begins  
diﬀerently, it ends diﬀerently, it incorporates anecdotes and  
evidence you never would have thought of, it draws on  
research that you’ve never heard of.  
 

“When I asked Danny how he could start again as if we had  
never written an earlier draft,” Zweig continued, “he said  
the words I’ve never forgotten: ‘I have no sunk costs.’”⁴⁹  
Sunk costs—anchoring decisions to past eﬀorts that can’t be  
refunded—are a devil in a world where people change over  
time. They make our future selves prisoners to our past,  
diﬀerent, selves. It’s the equivalent of a stranger making  
major life decisions for you.  
Embracing the idea that ﬁnancial goals made when you  
were a diﬀerent person should be abandoned without mercy  
versus put on life support and dragged on can be a good  
strategy to minimize future regret.  
The quicker it’s done, the sooner you can get back to  
compounding.  
Next, let’s talk about compounding’s price of admission.

Everything has a price, and the key to a lot of things with  
money is just ﬁguring out what that price is and being  
willing to pay it.  
The problem is that the price of a lot of things is not obvious  
until you’ve experienced them ﬁrsthand, when the bill is  
overdue.  
   
   
General Electric was the largest company in the world in  
2004, worth a third of a trillion dollars. It had either been  
ﬁrst or second each year for the previous decade,  
capitalism’s shining example of corporate aristocracy.  
Then everything fell to pieces.  
The 2008 ﬁnancial crisis sent GE’s ﬁnancing division—which  
supplied more than half the company’s proﬁts—into chaos.  
It was eventually sold for scrap. Subsequent bets in oil and  
energy were disasters, resulting in billions in writeoﬀs. GE  
stock fell from $40 in 2007 to $7 by 2018.  
Blame placed on CEO Jeﬀ Immelt—who ran the company  
since 2001—was immediate and harsh. He was criticized for  
his leadership, his acquisitions, cutting the dividend, laying  
oﬀ workers and—of course—the plunging stock price.  
Rightly so: those rewarded with dynastic wealth when times  
are good hold the burden of responsibility when the tide  
goes out. He stepped down in 2017.  
But Immelt said something insightful on his way out.  
Responding to critics who said his actions were wrong and  
what he should have done was obvious, Immelt told his

successor, “Every job looks easy when you’re not the one  
doing it.”  
Every job looks easy when you’re not the one doing it  
because the challenges faced by someone in the arena are  
often invisible to those in the crowd.  
Dealing with the conﬂicting demands of sprawling bloat,  
short-term investors, regulators, unions, and entrenched  
bureaucracy is not only hard to do, but it’s hard to even  
recognize the severity of the problems until you’re the one  
dealing with them. Immelt’s successor, who lasted 14  
months, learned this as well.  
Most things are harder in practice than they are in theory.  
Sometimes this is because we’re overconﬁdent. More often  
it’s because we’re not good at identifying what the price of  
success is, which prevents us from being able to pay it.  
   
   
The S&P 500 increased 119-fold in the 50 years ending  
2018. All you had to do was sit back and let your money  
compound. But, of course, successful investing looks easy  
when you’re not the one doing it.  
“Hold stocks for the long run,” you’ll hear. It’s good advice.  
But do you know how hard it is to maintain a long-term  
outlook when stocks are collapsing?  
Like everything else worthwhile, successful investing  
demands a price. But its currency is not dollars and cents.  
It’s volatility, fear, doubt, uncertainty, and regret—all of  
which are easy to overlook until you’re dealing with them in  
real time.

The inability to recognize that investing has a price can  
tempt us to try to get something for nothing. Which, like  
shoplifting, rarely ends well.  
Say you want a new car. It costs $30,000. You have three  
options: 1) Pay $30,000 for it, 2) ﬁnd a cheaper used one, or  
3) steal it. In this case, 99% of people know to avoid the  
third option, because the consequences of stealing a car  
outweigh the upside.  
But say you want to earn an 11% annual return over the  
next 30 years so you can retire in peace. Does this reward  
come free? Of course not. The world is never that nice.  
There’s a price tag, a bill that must be paid. In this case it’s  
a never-ending taunt from the market, which gives big  
returns and takes them away just as fast. Including  
dividends the Dow Jones Industrial Average returned about  
11% per year from 1950 to 2019, which is great. But the  
price of success during this period was dreadfully high. The  
shaded lines in the chart show when it was at least 5%  
below its previous all-time high.  
 

This is the price of market returns. The fee. It is the cost of  
admission. And it hurts.  
Like most products, the bigger the returns, the higher the  
price. Netﬂix stock returned more than 35,000% from 2002  
to 2018, but traded below its previous all-time high on 94%  
of days. Monster Beverage returned 319,000% from 1995 to  
2018—among the highest returns in history—but traded  
below its previous high 95% of the time during that period.  
Now here’s the important part. Like the car, you have a few  
options: You can pay this price, accepting volatility and  
upheaval. Or you can ﬁnd an asset with less uncertainty and  
a lower payoﬀ, the equivalent of a used car. Or you can

attempt the equivalent of grand-theft auto: Try to get the  
return while avoiding the volatility that comes along with it.  
Many people in investing choose the third option. Like a car  
thief—though well-meaning and law-abiding—they form  
tricks and strategies to get the return without paying the  
price. They trade in and out. They attempt to sell before the  
next recession and buy before the next boom. Most investors  
with even a little experience know that volatility is real and  
common. Many then take what seems like the next logical  
step: trying to avoid it.  
But the Money Gods do not look highly upon those who seek  
a reward without paying the price. Some car thieves will get  
away with it. Many more will be caught and punished.  
Same thing with investing.  
Morningstar once looked at the performance of tactical  
mutual funds, whose strategy is to switch between stocks  
and bonds at opportune times, capturing market returns  
with lower downside risk.⁵⁰ They want the returns without  
paying the price. The study focused on the mid-2010  
through late 2011 period, when U.S. stock markets went  
wild on fears of a new recession and the S&P 500 declined  
more than 20%. This is the exact kind of environment the  
tactical funds are supposed to work in. It was their moment  
to shine.  
There were, by Morningstar’s count, 112 tactical mutual  
funds during this period. Only nine had better risk-adjusted  
returns than a simple 60/40 stock-bond fund. Less than a  
quarter of the tactical funds had smaller maximum  
drawdowns than the leave-it-alone index. Morningstar  
wrote: “With a few exceptions, [tactical funds] gained less,

were more volatile, or were subject to just as much  
downside risk” as the hands-oﬀ fund.  
Individual investors fall for this when making their own  
investments, too. The average equity fund investor  
underperformed the funds they invested in by half a percent  
per year, according to Morningstar—the result of buying and  
selling when they should have just bought and held.⁵¹  
The irony is that by trying to avoid the price, investors end  
up paying double.  
Back to GE. One of its many faults stems from an era under  
former CEO Jack Welch. Welch became famous for ensuring  
quarterly earnings per share beat Wall Street estimates. He  
was the grandmaster. If Wall Street analysts expected $0.25  
per share, Jack would deliver $0.26 no matter the state of  
business or the economy. He’d do that by massaging the  
numbers—that description is charitable—often pulling gains  
from future quarters into the current quarter to make the  
obedient numbers salute their master.  
Forbes reported one of dozens of examples: “[General  
Electric] for two years in a row ‘sold’ locomotives to  
unnamed ﬁnancial partners instead of end users in  
transactions that left most of the risks of ownership with  
GE.”⁵²  
Welch never denied this game. He wrote in his book Straight  
From the Gut:  
   
The response of our business leaders to the crises was  
typical of the GE culture. Even though the books had closed  
on the quarter, many immediately oﬀered to pitch in to  
cover the [earnings] gap. Some said they could ﬁnd an extra

$10 million, $20 million, and even $30 million from their  
business to oﬀset the surprise.  
   
The result was that under Welch’s leadership, stockholders  
didn’t have to pay the price. They got consistency and  
predictability—a stock that surged year after year without  
the surprises of uncertainty. Then the bill came due, like it  
always does. GE shareholders have suﬀered through a  
decade of mammoth losses that were previously shielded by  
accounting maneuvers. The penny gains of Welch’s era  
became dime losses today.  
The strangest example of this comes from failed mortgage  
giants Freddie Mac and Fannie Mae, which in the early  
2000s were caught under-reporting current earnings by  
billions of dollars with the intention of spreading those gains  
out over future periods to give investors the illusion of  
smoothness and predictability.⁵³ The illusion of not having to  
pay the price.  
   
   
The question is: Why do so many people who are willing to  
pay the price of cars, houses, food, and vacations try so hard  
to avoid paying the price of good investment returns?  
The answer is simple: The price of investing success is not  
immediately obvious. It’s not a price tag you can see, so  
when the bill comes due it doesn’t feel like a fee for getting  
something good. It feels like a ﬁne for doing something  
wrong. And while people are generally ﬁne with paying fees,  
ﬁnes are supposed to be avoided. You’re supposed to make  
decisions that preempt and avoid ﬁnes. Traﬃc ﬁnes and IRS  
ﬁnes mean you did something wrong and deserve to be

punished. The natural response for anyone who watches  
their wealth decline and views that drop as a ﬁne is to avoid  
future ﬁnes.  
It sounds trivial, but thinking of market volatility as a fee  
rather than a ﬁne is an important part of developing the  
kind of mindset that lets you stick around long enough for  
investing gains to work in your favor.  
Few investors have the disposition to say, “I’m actually ﬁne  
if I lose 20% of my money.” This is doubly true for new  
investors who have never experienced a 20% decline.  
But if you view volatility as a fee, things look diﬀerent.  
Disneyland tickets cost $100. But you get an awesome day  
with your kids you’ll never forget. Last year more than 18  
million people thought that fee was worth paying. Few felt  
the $100 was a punishment or a ﬁne. The worthwhile  
tradeoﬀ of fees is obvious when it’s clear you’re paying one.  
Same with investing, where volatility is almost always a fee,  
not a ﬁne.  
Market returns are never free and never will be. They  
demand you pay a price, like any other product. You’re not  
forced to pay this fee, just like you’re not forced to go to  
Disneyland. You can go to the local county fair where tickets  
might be $10, or stay home for free. You might still have a  
good time. But you’ll usually get what you pay for. Same  
with markets. The volatility/uncertainty fee—the price of  
returns—is the cost of admission to get returns greater than  
low-fee parks like cash and bonds.  
The trick is convincing yourself that the market’s fee is  
worth it. That’s the only way to properly deal with volatility

and uncertainty—not just putting up with it, but realizing  
that it’s an admission fee worth paying.  
There’s no guarantee that it will be. Sometimes it rains at  
Disneyland.  
But if you view the admission fee as a ﬁne, you’ll never enjoy  
the magic.  
Find the price, then pay it.

The implosion of the dot-com bubble in the early 2000s  
reduced household wealth by $6.2 trillion.  
The end of the housing bubble cut away more than $8  
trillion.  
It’s hard to overstate how socially devastating ﬁnancial  
bubbles can be. They ruin lives.  
Why do these things happen?  
And why do they keep happening?  
Why can’t we learn our lessons?  
The common answer here is that people are greedy, and  
greed is an indelible feature of human nature.  
That may be true, and it’s a good enough answer for most.  
But remember from chapter 1: no one is crazy. People make  
ﬁnancial decisions they regret, and they often do so with  
scarce information and without logic. But the decisions  
made sense to them when they were made. Blaming  
bubbles on greed and stopping there misses important  
lessons about how and why people rationalize what in  
hindsight look like greedy decisions.  
Part of why bubbles are hard to learn from is that they are  
not like cancer, where a biopsy gives us a clear warning and  
diagnosis. They are closer to the rise and fall of a political  
party, where the outcome is known in hindsight but the  
cause and blame are never agreed upon.  
Competition for investment returns is ﬁerce, and someone  
has to own every asset at every point in time. That means  
the mere idea of bubbles will always be controversial,

because no one wants to think they own an overvalued  
asset. In hindsight we’re more likely to point cynical ﬁngers  
than to learn lessons.  
I don’t think we’ll ever be able to fully explain why bubbles  
occur. It’s like asking why wars occur—there are almost  
always several reasons, many of them conﬂicting, all of  
them controversial.  
It’s too complicated a subject for simple answers.  
But let me propose one reason they happen that both goes  
overlooked and applies to you personally: Investors often  
innocently take cues from other investors who are playing a  
diﬀerent game than they are.  
   
   
An idea exists in ﬁnance that seems innocent but has done  
incalculable damage.  
It’s the notion that assets have one rational price in a world  
where investors have diﬀerent goals and time horizons.  
Ask yourself: How much should you pay for Google stock  
today?  
The answer depends on who “you” are.  
Do you have a 30-year time horizon? Then the smart price to  
pay involves a sober analysis of Google’s discounted cash  
ﬂows over the next 30 years.  
Are you looking to cash out within 10 years? Then the price  
to pay can be ﬁgured out by an analysis of the tech

industry’s potential over the next decade and whether  
Google management can execute on its vision.  
Are you looking to sell within a year? Then pay attention to  
Google’s current product sales cycles and whether we’ll  
have a bear market.  
Are you a day trader? Then the smart price to pay is “who  
cares?” because you’re just trying to squeeze a few bucks  
out of whatever happens between now and lunchtime,  
which can be accomplished at any price.  
When investors have diﬀerent goals and time horizons—and  
they do in every asset class—prices that look ridiculous to  
one person can make sense to another, because the factors  
those investors pay attention to are diﬀerent.  
Take the dot-com bubble in the 1990s.  
People can look at Yahoo! stock in 1999 and say “That was  
crazy! A zillion times revenue! The valuation made no  
sense!”  
But many investors who owned Yahoo! stock in 1999 had  
time horizons so short that it made sense for them to pay a  
ridiculous price. A day trader could accomplish what they  
need whether Yahoo! was at $5 a share or $500 a share as  
long as it moved in the right direction that day. And it did,  
for years.  
An iron rule of ﬁnance is that money chases returns to the  
greatest extent that it can. If an asset has momentum—it’s  
been moving consistently up for a period of time—it’s not  
crazy for a group of short-term traders to assume it will keep  
moving up. Not indeﬁnitely; just for the short period of time  
they need it to. Momentum attracts short-term traders in a  
reasonable way.

Then it’s oﬀ to the races.  
Bubbles form when the momentum of short-term returns  
attracts enough money that the makeup of investors shifts  
from mostly long term to mostly short term.  
That process feeds on itself. As traders push up short-term  
returns, they attract even more traders. Before long—and it  
often doesn’t take long—the dominant market price-setters  
with the most authority are those with shorter time  
horizons.  
Bubbles aren’t so much about valuations rising. That’s just a  
symptom of something else: time horizons shrinking as  
more short-term traders enter the playing ﬁeld.  
It’s common to say the dot-com bubble was a time of  
irrational optimism about the future. But one of the most  
common headlines of that era was announcing record  
trading volume, which is what happens when investors are  
buying and selling in a single day. Investors—particularly the  
ones setting prices—were not thinking about the next 20  
years. The average mutual fund had 120% annual turnover  
in 1999, meaning they were, at most, thinking about the  
next eight months. So were the individual investors who  
bought those mutual funds. Maggie Mahar wrote in her book  
Bull!:  
   
By the mid-nineties, the press had replaced annual  
scorecards with reports that appeared every three months.  
The change spurred investors to chase performance, rushing  
to buy the funds at the top of the charts, just when they  
were most expensive.  
 

This was the era of day trading, short-term option contracts,  
and up-to-the minute market commentary. It’s not the kind  
of thing you’d associate with long-term views.  
The same thing happened during the housing bubble of the  
mid-2000s.  
It’s hard to justify paying $700,000 for a two-bedroom  
Florida track home to raise your family in for the next 10  
years. But it makes perfect sense if you plan on ﬂipping the  
home in a few months into a market with rising prices to  
make a quick proﬁt. Which is exactly what many people  
were doing during the bubble.  
Data from Attom, a company that tracks real estate  
transactions, shows the number of houses in America that  
sold more than once in a 12-month period—they were  
ﬂipped—rose ﬁvefold during the bubble, from 20,000 in the  
ﬁrst quarter of 2000 to over 100,000 in the ﬁrst quarter of  
2004.⁵⁴ Flipping plunged after the bubble to less than  
40,000 per quarter, where it’s roughly remained since.  
Do you think these ﬂippers cared about long-term price-to-  
rent ratios? Or whether the prices they paid were backed up  
by long-term income growth? Of course not. Those numbers  
weren’t relevant to their game. The only thing that mattered  
to ﬂippers was that the price of the home would be more  
next month than it was this month. And for many years, it  
was.  
You can say a lot about these investors. You can call them  
speculators. You can call them irresponsible. You can shake  
your head at their willingness to take huge risks.  
But I don’t think you can call all of them irrational.

The formation of bubbles isn’t so much about people  
irrationally participating in long-term investing. They’re  
about people somewhat rationally moving toward short-  
term trading to capture momentum that had been feeding  
on itself.  
What do you expect people to do when momentum creates  
a big short-term return potential? Sit and watch patiently?  
Never. That’s not how the world works. Proﬁts will always be  
chased. And short-term traders operate in an area where the  
rules governing long-term investing—particularly around  
valuation—are ignored, because they’re irrelevant to the  
game being played.  
That’s where things get interesting, and where the problems  
begin.  
Bubbles do their damage when long-term investors playing  
one game start taking their cues from those short-term  
traders playing another.  
Cisco stock rose 300% in 1999 to $60 per share. At that  
price the company was valued at $600 billion, which is  
insane. Few actually thought it was worth that much; the  
day-traders were just having their fun. Economist Burton  
Malkiel once pointed out that Cisco’s implied growth rate at  
that valuation meant it would become larger than the entire  
U.S. economy within 20 years.  
But if you were a long-term investor in 1999, $60 was the  
only price available to buy. And many people were buying it  
at that price. So you may have looked around and said to  
yourself, “Wow, maybe these other investors know  
something I don’t.” Maybe you went along with it. You even  
felt smart about it.

What you don’t realize is that the traders who were setting  
the marginal price of the stock were playing a diﬀerent  
game than you were. Sixty dollars a share was a reasonable  
price for the traders, because they planned on selling the  
stock before the end of the day, when its price would  
probably be higher. But sixty dollars was a disaster in the  
making for you, because you planned on holding shares for  
the long run.  
These two investors rarely even know that each other exist.  
But they’re on the same ﬁeld, running toward each other.  
When their paths blindly collide, someone gets hurt. Many  
ﬁnance and investment decisions are rooted in watching  
what other people do and either copying them or betting  
against them. But when you don’t know why someone  
behaves like they do you won’t know how long they’ll  
continue acting that way, what will make them change their  
mind, or whether they’ll ever learn their lesson.  
When a commentator on CNBC says, “You should buy this  
stock,” keep in mind that they do not know who you are. Are  
you a teenager trading for fun? An elderly widow on a  
limited budget? A hedge fund manager trying to shore up  
your books before the quarter ends? Are we supposed to  
think those three people have the same priorities, and that  
whatever level a particular stock is trading at is right for all  
three of them?  
It’s crazy.  
It’s hard to grasp that other investors have diﬀerent goals  
than we do, because an anchor of psychology is not realizing  
that rational people can see the world through a diﬀerent  
lens than your own. Rising prices persuade all investors in  
ways the best marketers envy. They are a drug that can turn  
value-conscious investors into dewy-eyed optimists,

detached from their own reality by the actions of someone  
playing a diﬀerent game than they are.  
Being swayed by people playing a diﬀerent game can also  
throw oﬀ how you think you’re supposed to spend your  
money. So much consumer spending, particularly in  
developed countries, is socially driven: subtly inﬂuenced by  
people you admire, and done because you subtly want  
people to admire you.  
But while we can see how much money other people spend  
on cars, homes, clothes, and vacations, we don’t get to see  
their goals, worries, and aspirations. A young lawyer aiming  
to be a partner at a prestigious law ﬁrm might need to  
maintain an appearance that I, a writer who can work in  
sweatpants, have no need for. But when his purchases set  
my own expectations, I’m wandering down a path of  
potential disappointment because I’m spending the money  
without the career boost he’s getting. We might not even  
have diﬀerent styles. We’re just playing a diﬀerent game. It  
took me years to ﬁgure this out.  
A takeaway here is that few things matter more with money  
than understanding your own time horizon and not being  
persuaded by the actions and behaviors of people playing  
diﬀerent games than you are.  
The main thing I can recommend is going out of your way to  
identify what game you’re playing.  
It’s surprising how few of us do. We call everyone investing  
money “investors” like they’re basketball players, all playing  
the same game with the same rules. When you realize how  
wrong that notion is you see how vital it is to simply identify  
what game you’re playing. How I invest my own money is  
detailed in chapter 20, but years ago I wrote out “I am a

passive investor optimistic in the world’s ability to generate  
real economic growth and I’m conﬁdent that over the next  
30 years that growth will accrue to my investments.”  
This might seem quaint, but once you write that mission  
statement down you realize everything that’s unrelated to it  
—what the market did this year, or whether we’ll have a  
recession next year—is part of a game I’m not playing. So I  
don’t pay attention to it, and am in no danger of being  
persuaded by it.  
Next, let’s talk about pessimism.

“For reasons I have never understood, people like to hear  
that the world is going to hell.”  
   
—Historian Deirdre McCloskey  
   
Optimism is the best bet for most people because the world  
tends to get better for most people most of the time.  
But pessimism holds a special place in our hearts.  
Pessimism isn’t just more common than optimism. It also  
sounds smarter. It’s intellectually captivating, and it’s paid  
more attention than optimism, which is often viewed as  
being oblivious to risk.  
Before we go further we should deﬁne what optimism is.  
Real optimists don’t believe that everything will be great.  
That’s complacency. Optimism is a belief that the odds of a  
good outcome are in your favor over time, even when there  
will be setbacks along the way. The simple idea that most  
people wake up in the morning trying to make things a little  
better and more productive than wake up looking to cause  
trouble is the foundation of optimism. It’s not complicated.  
It’s not guaranteed, either. It’s just the most reasonable bet  
for most people, most of the time. The late statistician Hans  
Rosling put it diﬀerently: “I am not an optimist. I am a very  
serious possibilist.”  
Now we can discuss optimism’s more compelling sibling:  
pessimism.  
   
 

December 29th, 2008.  
The worst year for the economy in modern history is about  
to close. Stock markets around the world had collapsed. The  
global ﬁnancial system was on day-to-day life support.  
Unemployment was surging.  
As things looked like they couldn’t get worse, The Wall  
Street Journal published a story arguing that we hadn’t seen  
anything yet. It ran a front-page article on the outlook of a  
Russian professor named Igor Panarin whose economic  
views rival the ﬂair of science ﬁction writers.  
The Journal wrote:  
   
Around the end of June 2010, or early July, [Panarin] says,  
the U.S. will break into six pieces—with Alaska reverting to  
Russian control ... California will form the nucleus of what he  
calls “The Californian Republic,” and will be part of China or  
under Chinese inﬂuence. Texas will be the heart of “The  
Texas Republic,” a cluster of states that will go to Mexico or  
fall under Mexican inﬂuence. Washington, D.C., and New  
York will be part of an “Atlantic America” that may join the  
European Union. Canada will grab a group of Northern  
states Prof. Panarin calls “The Central North American  
Republic.” Hawaii, he suggests, will be a protectorate of  
Japan or China, and Alaska will be subsumed into Russia.⁵⁵  
   
This was not the ramblings of a backroom blog or tinfoil-hat  
newsletter. This was on the front page of the most  
prestigious ﬁnancial newspaper in the world.

It is ﬁne to be pessimistic about the economy. It’s even OK to  
be apocalyptic. History is full of examples of countries  
experiencing not just recessions, but disintegrations.  
The interesting thing about Panarin-type stories is that their  
polar opposite—forecasts of outrageous optimism—are  
rarely taken as seriously as prophets of doom.  
Take Japan in the late 1940s. The nation was gutted by  
defeat from World War II in every way—economically,  
industrially, culturally, socially. A brutal winter in 1946  
caused a famine that limited food to less than 800 calories  
per person per day.⁵⁶  
Imagine if a Japanese academic had written a newspaper  
article during this time that said:  
   
Chin up, everyone. Within our lifetime our economy will  
grow to almost 15 times the size it was before the end of the  
war. Our life expectancy will nearly double. Our stock market  
will produce returns like any country in history has rarely  
seen. We will go more than 40 years without ever seeing  
unemployment top 6%. We will become a world leader in  
electronic innovation and corporate managerial systems.  
Before long we will be so rich that we will own some of the  
most prized real estate in the United States. Americans, by  
the way, will be our closest ally and will try to copy our  
economic insights.  
   
They would have been summarily laughed out of the room  
and asked to seek a medical evaluation.

Keep in mind the description above is what actually  
happened in Japan in the generation after the war. But the  
mirror opposite of Panarin looks absurd in a way a forecast  
of doom doesn’t.  
Pessimism just sounds smarter and more plausible than  
optimism.  
Tell someone that everything will be great and they’re likely  
to either shrug you oﬀ or oﬀer a skeptical eye. Tell someone  
they’re in danger and you have their undivided attention.  
If a smart person tells me they have a stock pick that’s going  
to rise 10-fold in the next year, I will immediately write them  
oﬀ as full of nonsense.  
If someone who’s full of nonsense tells me that a stock I own  
is about to collapse because it’s an accounting fraud, I will  
clear my calendar and listen to their every word.  
Say we’ll have a big recession and newspapers will call you.  
Say we’re headed for average growth and no one  
particularly cares. Say we’re nearing the next Great  
Depression and you’ll get on TV. But mention that good  
times are ahead, or markets have room to run, or that a  
company has huge potential, and a common reaction from  
commentators and spectators alike is that you are either a  
salesman or comically aloof of risks.  
The investing newsletter industry has known this for years,  
and is now populated by prophets of doom despite  
operating in an environment where the stock market has  
gone up 17,000-fold in the last century (including  
dividends).  
This is true beyond ﬁnance. Matt Ridley wrote in his book  
The Rational Optimist:

A constant drumbeat of pessimism usually drowns out any  
triumphalist song ... If you say the world has been getting  
better you may get away with being called naïve and  
insensitive. If you say the world is going to go on getting  
better, you are considered embarrassingly mad. If, on the  
other hand, you say catastrophe is imminent, you may  
expect a McArthur genius award or even the Nobel Peace  
Prize. In my own adult lifetime ... the fashionable reasons for  
pessimism changed, but the pessimism was constant.  
   
“Every group of people I ask thinks the world is more  
frightening, more violent, and more hopeless—in short,  
more dramatic—than it really is,” Hans Rosling wrote in his  
book Factfulness.  
When you realize how much progress humans can make  
during a lifetime in everything from economic growth to  
medical breakthroughs to stock market gains to social  
equality, you would think optimism would gain more  
attention than pessimism. And yet.  
The intellectual allure of pessimism has been known for  
ages. John Stuart Mill wrote in the 1840s: “I have observed  
that not the man who hopes when others despair, but the  
man who despairs when others hope, is admired by a large  
class of persons as a sage.”  
The question is, why? And how does it impact how we think  
about money?  
   
 

Let’s repeat the premise that no one is crazy.  
There are valid reasons why pessimism is seductive when  
dealing with money. It just helps to know what they are to  
ensure we don’t take them too far.  
Part of it is instinctual and unavoidable. Kahneman says the  
asymmetric aversion to loss is an evolutionary shield. He  
writes:  
   
When directly compared or weighted against each other,  
losses loom larger than gains. This asymmetry between the  
power of positive and negative expectations or experiences  
has an evolutionary history. Organisms that treat threats as  
more urgent than opportunities have a better chance to  
survive and reproduce.  
   
But a few other things make ﬁnancial pessimism easy,  
common, and more persuasive than optimism.  
   
One is that money is ubiquitous, so something bad  
happening tends to aﬀect everyone and captures  
everyone’s attention.  
   
That isn’t true of, say, weather. A hurricane barreling down  
on Florida poses no direct risk to 92% of Americans. But a  
recession barreling down on the economy could impact  
every single person—including you, so pay attention.

This goes for something as speciﬁc as the stock market.  
More than half of all American households directly own  
stocks.⁵⁷ Even among those that don’t, the stock market’s  
gyrations are promoted so heavily in the media that the Dow  
Jones Industrial Average might be the stock-less household’s  
most-watched economic barometer.  
Stocks rising 1% might be brieﬂy mentioned in the evening  
news. But a 1% fall will be reported in bold, all-caps letters  
usually written in blood red. The asymmetry is hard to avoid.  
And while few question or try to explain why the market  
went up—isn’t it supposed to go up?—there is almost always  
an attempt to explain why it went down.  
Are investors worried about economic growth?  
Did the Fed screw things up again?  
Are politicians making bad decisions?  
Is there another shoe to drop?  
Narratives about why a decline occurred make them easier  
to talk about, worry about, and frame a story around what  
you think will happen next—usually, more of the same.  
Even if you don’t own stocks, those kind of things will grab  
your attention. Only 2.5% of Americans owned stocks on the  
eve of the great crash of 1929 that sparked the Great  
Depression. But the majority of Americans—if not the world  
—watched in amazement as the market collapsed,  
wondering what it signaled about their own fate. This was  
true whether you were a lawyer or a farmer or a car  
mechanic.  
Historian Eric Rauchway writes:

This fall in value immediately aﬄicted only a few Americans.  
But so closely had the others watched the market and  
regarded it as an index of their fates that they suddenly  
stopped much of their economic activity. As the economist  
Joseph Schumpeter later wrote, “people felt that the ground  
under their feet was giving way.”⁵⁸  
   
There are two topics that will aﬀect your life whether you  
are interested in them or not: money and health. While  
health issues tend to be individual, money issues are more  
systemic. In a connected system where one person’s  
decisions can aﬀect everyone else, it’s understandable why  
ﬁnancial risks gain a spotlight and capture attention in a  
way few other topics can.  
   
Another is that pessimists often extrapolate present  
trends without accounting for how markets adapt.  
   
In 2008 environmentalist Lester Brown wrote: “By 2030  
China would need 98 million barrels of oil a day. The world is  
currently producing 85 million barrels a day and may never  
produce much more than that. There go the world’s oil  
reserves.”⁵⁹  
He’s right. The world would run out of oil in that scenario.  
But that’s not how markets work.  
There is an iron law in economics: extremely good and  
extremely bad circumstances rarely stay that way for long

because supply and demand adapt in hard-to-predict ways.  
Consider what happened to oil immediately after Brown’s  
prediction.  
Oil prices surged in 2008 as growing global demand—much  
of it from China—crept up to potential output. A barrel of oil  
sold for $20 in 2001 and $138 by 2008.⁶⁰  
The new price meant drilling oil was like pulling gold out of  
the ground. The incentives for oil producers changed  
dramatically. Hard-to-tap oil supplies that weren’t worth the  
ﬁght at $20 a barrel—the cost of drilling didn’t oﬀset the  
price you could sell it for—became the bonanza of a lifetime  
now that you could sell a barrel for $138.  
That sparked a surge of new fracking and horizontal drilling  
technologies.  
The Earth has had roughly the same amount of oil reserves  
for all of human history. And we’ve known where the big oil  
deposits are for some time. What changes is the technology  
we have that lets us economically pull the stuﬀ out of the  
ground. Oil historian Daniel Yergin writes: “86% of oil  
reserves in the United States are the result not of what is  
estimated at time of discovery but of the revisions” that  
come when our technology improves.  
That’s what happened as fracking took oﬀ in 2008. In the  
United States alone oil production went from roughly ﬁve  
million barrels per day in 2008 to 13 million by 2019.⁶¹  
World oil production is now over 100 million barrels per day  
—some 20% above what Brown assumed was the high  
mark.  
To a pessimist extrapolating oil trends in 2008, of course  
things looked bad. To a realist who understood that

necessity is the mother of all invention, it was far less scary.  
Assuming that something ugly will stay ugly is an easy  
forecast to make. And it’s persuasive, because it doesn’t  
require imagining the world changing. But problems correct  
and people adapt. Threats incentivize solutions in equal  
magnitude. That’s a common plot of economic history that  
is too easily forgotten by pessimists who forecast in straight  
lines.  
   
A third is that progress happens too slowly to notice,  
but setbacks happen too quickly to ignore.  
   
There are lots of overnight tragedies. There are rarely  
overnight miracles.  
On January 5th, 1889, the Detroit Free Press pushed back  
against the long-held dream that man could one day ﬂy like  
a bird. Airplanes, the paper wrote, “appear impossible”:  
   
The smallest possible weight of a ﬂying machine, with the  
necessary fuel and engineer, could not be less than 300 or  
400 pounds … but there is a low limit of weight, certainly  
not much beyond ﬁfty pounds, beyond which it is impossible  
for an animal to ﬂy. Nature has reached this limit, and with  
her utmost eﬀort has failed to pass it.  
   
Six months later, Orville Wright dropped out of high school  
to help his brother, Wilbur, tinker in their backyard shed to

build a printing press. It was the brothers’ ﬁrst joint  
invention. It would not be their last.  
If you had to make a list of the most important inventions of  
the 20th century, the airplane would be at least top ﬁve, if  
not number one. The airplane changed everything. It started  
world wars, it ended world wars. It connected the world,  
bridging gaps between cities and rural communities; oceans  
and countries.  
But the story of the Wright Brothers’ quest to build the ﬁrst  
plane has a fascinating twist.  
After they conquered ﬂight, no one seemed to notice.  
Nobody seemed to care.  
In his 1952 book on American history, Frederick Lewis Allen  
wrote:  
   
Several years went by before the public grasped what the  
Wrights were doing; people were so convinced that ﬂying  
was impossible that most of those who saw them ﬂying  
about Dayton [Ohio] in 1905 decided that what they had  
seen must be some trick without signiﬁcance—somewhat as  
most people today would regard a demonstration of, say,  
telepathy. It was not until May, 1908—nearly four and a half  
years after the Wright’s ﬁrst ﬂight—that experienced  
reporters were sent to observe what they were doing,  
experienced editors gave full credence to these reporters’  
excited dispatches, and the world at last woke up to the fact  
that human ﬂight had been successfully accomplished.  
 

Even after people caught on to the plane’s wonder, they  
underestimated it for years.  
First it was seen mainly as a military weapon. Then a rich  
person’s toy. Then, perhaps, used to transport a few people.  
The Washington Post wrote in 1909: “There will never be  
such a thing as commercial aerial freighters. Freight will  
continue to drag its slow weight across the patient earth.”  
The ﬁrst cargo plane took oﬀ ﬁve months later.  
Now compare that slow, years-long awakening to becoming  
optimistic about the airplane to how quickly people pay  
attention to drivers of pessimism, like a corporate  
bankruptcy.  
Or a major war.  
Or a plane crash. Some of the ﬁrst mentions of the Wright’s  
plane came in 1908 when an Army Lieutenant named  
Thomas Selfridge was killed during a demonstration ﬂight.⁶²  
Growth is driven by compounding, which always takes time.  
Destruction is driven by single points of failure, which can  
happen in seconds, and loss of conﬁdence, which can  
happen in an instant.  
It’s easier to create a narrative around pessimism because  
the story pieces tend to be fresher and more recent.  
Optimistic narratives require looking at a long stretch of  
history and developments, which people tend to forget and  
take more eﬀort to piece together.  
Consider the progress of medicine. Looking at the last year  
will do you little good. Any single decade won’t do much  
better. But looking at the last 50 years will show something  
extraordinary. For example, the age-adjusted death rate per

capita from heart disease has declined more than 70% since  
1965, according to the National Institute of Health.⁶³ A 70%  
decline in heart-disease death is enough to save something  
like half a million American lives per year. Picture the  
population of Atlanta saved every year. But since that  
progress happened so slowly, it captures less attention than  
quick, sudden losses like terrorism, plane crashes, or natural  
disasters. We could have a Hurricane Katrina ﬁve times a  
week, every week—imagine how much attention that would  
receive—and it would not oﬀset the number of annual lives  
saved by the decline in heart disease in the last 50 years.  
This same thing applies to business, where it takes years to  
realize how important a product or company is, but failures  
can happen overnight.  
And in stock markets, where a 40% decline that takes place  
in six months will draw congressional investigations, but a  
140% gain that takes place over six years can go virtually  
unnoticed.  
And in careers, where reputations take a lifetime to build  
and a single email to destroy.  
The short sting of pessimism prevails while the powerful pull  
of optimism goes unnoticed.  
This underscores an important point made previously in this  
book: In investing you must identify the price of success—  
volatility and loss amid the long backdrop of growth—and  
be willing to pay it.  
   
   
In 2004 The New York Times interviewed Stephen Hawking,  
the scientist whose incurable motor-neuron disease left him

paralyzed and unable to talk at age 21.  
Through his computer, Hawking told the interviewer how  
excited he was to sell books to lay people.  
“Are you always this cheerful?” the Times asked.  
“My expectations were reduced to zero when I was 21.  
Everything since then has been a bonus,” he replied.  
Expecting things to be great means a best-case scenario  
that feels ﬂat. Pessimism reduces expectations, narrowing  
the gap between possible outcomes and outcomes you feel  
great about.  
Maybe that’s why it’s so seductive. Expecting things to be  
bad is the best way to be pleasantly surprised when they’re  
not.  
Which, ironically, is something to be optimistic about.  
Now, a short story about stories.

Imagine an alien dispatched to Earth. His job is to keep tabs  
on our economy.  
He circles above New York City, trying to size up the  
economy and how it changed between 2007 and 2009.  
On New Year’s Eve 2007 he hovers over Times Square. He  
sees tens of thousands of happy partygoers surrounded by  
bright lights, monstrous billboards, ﬁreworks, and TV  
cameras.  
He comes back to Times Square on New Year’s Eve 2009. He  
sees tens of thousands of happy partygoers surrounded by  
bright lights, monstrous billboards, ﬁreworks, and TV  
cameras.  
It looks about the same. He cannot see much diﬀerence.  
He sees roughly the same number of New Yorkers hustling  
around the city. Those people are surrounded by the same  
number of oﬃce buildings, which house the same number  
of desks with the same number of computers, hooked up to  
the same number of internet connections.  
Outside the city he sees the same number of factories and  
warehouses, connected by the same highways, carrying the  
same number of trucks.  
He gets a little closer to the ground and sees the same  
universities teaching the same topics and handing out the  
same degrees to the same number of people.  
He sees the same number of patents protecting the same  
groundbreaking ideas.

He notices that technology has improved. Everyone in 2009  
carries smartphones that didn’t exist in 2007. Computers  
are now faster. Medicine is better. Cars get better gas  
mileage. Solar and fracking technology has advanced. Social  
media has grown exponentially.  
As he ﬂies around the country he sees the same. Around the  
globe, more of the same.  
The economy is in about the same shape, maybe even  
better, in 2009 as it was in 2007, he concludes.  
Then he looks at the numbers.  
He’s shocked that U.S. households are $16 trillion poorer in  
2009 than they were in 2007.  
He’s dumbfounded that 10 million more Americans are  
unemployed.  
He’s in disbelief when he learns the stock market is worth  
half of what it was two years before.  
He can’t believe that people’s forecast of their economic  
potential has plunged.  
“I don’t get it,” he says. “I’ve seen the cities. I’ve looked at  
the factories. You guys have the same knowledge, the same  
tools, the same ideas. Nothing has changed! Why are you  
poorer? Why are you more pessimistic?”  
There was one change the alien couldn’t see between 2007  
and 2009: The stories we told ourselves about the economy.  
In 2007, we told a story about the stability of housing prices,  
the prudence of bankers, and the ability of ﬁnancial markets  
to accurately price risk.

In 2009 we stopped believing that story.  
That’s the only thing that changed. But it made all the  
diﬀerence in the world.  
Once the narrative that home prices will keep rising broke,  
mortgage defaults rose, then banks lost money, then they  
reduced lending to other businesses, which led to layoﬀs,  
which led to less spending, which led to more layoﬀs, and  
on and on.  
Other than clinging to a new narrative, we had an identical  
—if not greater—capacity for wealth and growth in 2009 as  
we did in 2007. Yet the economy suﬀered its worst hit in 80  
years.  
This is diﬀerent from, say, Germany in 1945, whose  
manufacturing base had been obliterated. Or Japan in the  
2000s, whose working-age population was shrinking. That’s  
tangible economic damage. In 2009 we inﬂicted narrative  
damage on ourselves, and it was vicious. It’s one of the most  
potent economic forces that exists.  
When we think about the growth of economies, businesses,  
investments and careers, we tend to think about tangible  
things—how much stuﬀ do we have and what are we  
capable of?  
But stories are, by far, the most powerful force in the  
economy. They are the fuel that can let the tangible parts of  
the economy work, or the brake that holds our capabilities  
back.  
At the personal level, there are two things to keep in mind  
about a story-driven world when managing your money.  
 

1. The more you want something to be true, the  
more likely you are to believe a story that  
overestimates the odds of it being true.  
   
What was the happiest day of your life?  
The documentary How to Live Forever asks that innocent  
question to a centenarian who oﬀered an amazing response.  
“Armistice Day,” she said, referring to the 1918 agreement  
that ended World War I.  
“Why?” the producer asks.  
“Because we knew there would be no more wars ever  
again,” she says.  
World War II began 21 years later, killing 75 million people.  
There are many things in life that we think are true because  
we desperately want them to be true.  
I call these things “appealing ﬁctions.” They have a big  
impact on how we think about money—particularly  
investments and the economy.  
An appealing ﬁction happens when you are smart, you want  
to ﬁnd solutions, but face a combination of limited control  
and high stakes.  
They are extremely powerful. They can make you believe  
just about anything.  
Take a short example.

Ali Hajaji’s son was sick. Elders in his Yemeni village  
proposed a folk remedy: shove the tip of a burning stick  
through his son’s chest to drain the sickness from his body.  
After the procedure, Hajaji told The New York Times: “When  
you have no money, and your son is sick, you’ll believe  
anything.”⁶⁴  
Medicine predates useful medicine by thousands of years.  
Before the scientiﬁc method and the discovery of germs  
there was blood-letting, starvation therapy, cutting holes in  
your body to let the evils out, and other treatments that did  
nothing but hasten your demise.  
It seems crazy. But if you desperately need a solution and a  
good one isn’t known or readily available to you, the path of  
least resistance is toward Hajaji’s reasoning: willing to  
believe anything. Not just try anything, but believe it.  
Chronicling the Great Plague of London, Daniel Defoe wrote  
in 1722:  
   
The people were more addicted to prophecies and  
astrological conjurations, dreams, and old wives’ tales than  
ever they were before or since … almanacs frighted them  
terribly … the posts of houses and corners of streets were  
plastered over with doctors’ bills and papers of ignorant  
fellows, quacking and inviting the people to come to them  
for remedies, which was generally set oﬀ with such  
ﬂourishes as these: ‘Infallible preventive pills against the  
plague.’ ‘Neverfailing preservatives against the infection.’  
‘Sovereign cordials against the corruption of the air.’  
 

The plague killed a quarter of Londoners in 18 months. You’ll  
believe just about anything when the stakes are that high.  
Now think about how the same set of limited information  
and high stakes impact our ﬁnancial decisions.  
Why do people listen to TV investment commentary that has  
little track record of success? Partly because the stakes are  
so high in investing. Get a few stock picks right and you can  
become rich without much eﬀort. If there’s a 1% chance  
that someone’s prediction will come true, and it coming true  
will change your life, it’s not crazy to pay attention—just in  
case.  
And there are so many ﬁnancial opinions that once you pick  
a strategy or side, you become invested in them both  
ﬁnancially and mentally. If you want a certain stock to rise  
10-fold, that’s your tribe. If you think a certain economic  
policy will spark hyperinﬂation, that’s your side.  
These may be low-probability bets. The problem is that  
viewers can’t, or don’t, calibrate low odds, like a 1% chance.  
Many default to a ﬁrm belief that what they want to be true  
is unequivocally true. But they’re only doing that because  
the possibility of a huge outcome exists.  
Investing is one of the only ﬁelds that oﬀers daily  
opportunities for extreme rewards. People believe in  
ﬁnancial quackery in a way they never would for, say,  
weather quackery because the rewards for correctly  
predicting what the stock market will do next week are in a  
diﬀerent universe than the rewards for predicting whether it  
will be sunny or rainy next week.  
Consider that 85% of active mutual funds underperformed  
their benchmark over the 10 years ending 2018.⁶⁵ That  
ﬁgure has been fairly stable for generations. You would think

an industry with such poor performance would be a niche  
service and have a hard time staying in business. But there’s  
almost ﬁve trillion dollars invested in these funds.⁶⁶ Give  
someone the chance of investing alongside “the next  
Warren Buﬀett” and they’ll believe with such faith that  
millions of people will put their life savings behind it.  
Or take Bernie Madoﬀ. In hindsight his Ponzi scheme should  
have been obvious. He reported returns that never varied,  
they were audited by a relatively unknown accounting ﬁrm,  
and he refused to release much information on how the  
returns were achieved. Yet Madoﬀ raised billions of dollars  
from some of the most sophisticated investors in the world.  
He told a good story, and people wanted to believe it.  
This is a big part of why room for error, ﬂexibility, and  
ﬁnancial independence—important themes discussed in  
previous chapters—are indispensable.  
The bigger the gap between what you want to be true and  
what you need to be true to have an acceptable outcome,  
the more you are protecting yourself from falling victim to  
an appealing ﬁnancial ﬁction.  
When thinking about room for error in a forecast it is  
tempting to think that potential outcomes range from you  
being just right enough to you being very, very right. But the  
biggest risk is that you want something to be true so badly  
that the range of your forecast isn’t even in the same  
ballpark as reality.  
In its last 2007 meeting the Federal Reserve predicted what  
economic growth would be in 2008 and 2009.⁶⁷ Already  
weary of a weakening economy, it was not optimistic. It  
predicted a range of potential growth—1.6% growth on the  
low end, 2.8% on the high end. That was its margin of

safety, its room for error. In reality the economy contracted  
by more than 2%, meaning the Fed’s low-end estimate was  
oﬀ by almost threefold.  
It’s hard for a policymaker to predict an outright recession,  
because a recession will make their careers complicated. So  
even worst-case projections rarely expect anything worse  
than just “slow-ish” growth. It’s an appealing ﬁction, and it’s  
easy to believe because expecting anything worse is too  
painful to consider.  
Policymakers are easy targets for criticism, but all of us do  
this to some extent. And we do it in both directions. If you  
think a recession is coming and you cash out your stocks in  
anticipation, your view of the economy is suddenly going to  
be warped by what you want to happen. Every blip, every  
anecdote, will look like a sign that doom has arrived—maybe  
not because it has, but because you want it to.  
Incentives are a powerful motivator, and we should always  
remember how they inﬂuence our own ﬁnancial goals and  
outlooks. It can’t be overstated: there is no greater force in  
ﬁnance than room for error, and the higher the stakes, the  
wider it should be.  
   
2. Everyone has an incomplete view of the world. But  
we form a complete narrative to ﬁll in the gaps.  
   
My daughter is about a year old as I write this. She’s curious  
about everything and learns so fast.  
But sometimes I think about all the stuﬀ she can’t  
comprehend.

She has no idea why her dad goes to work every morning.  
The concept of bills, budgets, careers, promotions, and  
saving for retirement are completely foreign to her.  
Imagine trying to explain the Federal Reserve, credit  
derivatives, or NAFTA to her. Impossible.  
But her world isn’t dark. She does not wander around in  
confusion.  
Even at a year old, she’s written her own internal narrative  
of how everything works. Blankets keep you warm, mom  
snuggles keep you safe, and dates taste good.  
Everything she comes across ﬁts into one of a few dozen  
mental models she’s learned. When I go to work she doesn’t  
stop in confusion, wondering what salary and bills are. She  
has a crystal clear explanation of the situation: Dad isn’t  
playing with me, and I wanted him to play with me, so I’m  
sad.  
Even though she knows little, she doesn’t realize it, because  
she tells herself a coherent story about what’s going on  
based on the little she does know.  
All of us, no matter our age, do the same thing.  
Just like my daughter, I don’t know what I don’t know. So I  
am just as susceptible to explaining the world through the  
limited set of mental models I have at my disposal.  
Like her, I look for the most understandable causes in  
everything I come across. And, like her, I’m wrong about a  
lot of them, because I know a lot less about how the world  
works than I think I do.

This is true for the most fact-based of subjects.  
Take history. It’s just the recounting of stuﬀ that already  
happened. It should be clear and objective. But as B. H.  
Liddell Hart writes in the book Why Don’t We Learn From  
History?:  
   
[History] cannot be interpreted without the aid of  
imagination and intuition. The sheer quantity of evidence is  
so overwhelming that selection is inevitable. Where there is  
selection there is art. Those who read history tend to look for  
what proves them right and conﬁrms their personal  
opinions. They defend loyalties. They read with a purpose to  
aﬃrm or to attack. They resist inconvenient truth since  
everyone wants to be on the side of the angels. Just as we  
start wars to end all wars.  
   
Daniel Kahneman once told me about the stories people tell  
themselves to make sense of the past. He said:  
   
Hindsight, the ability to explain the past, gives us the  
illusion that the world is understandable. It gives us the  
illusion that the world makes sense, even when it doesn’t  
make sense. That’s a big deal in producing mistakes in  
many ﬁelds.  
   
Most people, when confronted with something they don’t  
understand, do not realize they don’t understand it because  
they’re able to come up with an explanation that makes  
sense based on their own unique perspective and

experiences in the world, however limited those experiences  
are. We all want the complicated world we live in to make  
sense. So we tell ourselves stories to ﬁll in the gaps of what  
are eﬀectively blind spots.  
What these stories do to us ﬁnancially can be both  
fascinating and terrifying.  
When I’m blind to parts of how the world works I might  
completely misunderstand why the stock market is  
behaving like it is, in a way that gives me too much  
conﬁdence in my ability to know what it might do next. Part  
of the reason forecasting the stock market and the economy  
is so hard is because you are the only person in the world  
who thinks the world operates the way you do. When you  
make decisions for reasons that I can’t even comprehend, I  
might follow you blindly into a decision that’s right for you  
and disastrous to me. This, as we saw in chapter 16, is how  
bubbles form.  
Coming to terms with how much you don’t know means  
coming to terms with how much of what happens in the  
world is out of your control. And that can be hard to accept.  
Think about market forecasts. We’re very, very bad at them.  
I once calculated that if you just assume that the market  
goes up every year by its historic average, your accuracy is  
better than if you follow the average annual forecasts of the  
top 20 market strategists from large Wall Street banks. Our  
ability to predict recessions isn’t much better. And since big  
events come out of nowhere, forecasts may do more harm  
than good, giving the illusion of predictability in a world  
where unforeseen events control most outcomes. Carl  
Richards writes: “Risk is what’s left over when you think  
you’ve thought of everything.”

People know this. I have not met an investor who genuinely  
thinks market forecasts as a whole are accurate or useful.  
But there’s still tremendous demand for forecasts, in both  
the media and from ﬁnancial advisors.  
Why?  
Psychologist Philip Tetlock once wrote: “We need to believe  
we live in a predictable, controllable world, so we turn to  
authoritative-sounding people who promise to satisfy that  
need.”  
Satisfying that need is a great way to put it. Wanting to  
believe we are in control is an emotional itch that needs to  
be scratched, rather than an analytical problem to be  
calculated and solved. The illusion of control is more  
persuasive than the reality of uncertainty. So we cling to  
stories about outcomes being in our control.  
Part of this has to do with confusing ﬁelds of precision with  
ﬁelds of uncertainty.  
NASA’s New Horizons spacecraft passed by Pluto two years  
ago. It was a three-billion mile trip that took nine and a half  
years. According to NASA, the trip “took about one minute  
less than predicted when the craft was launched in January  
2006.”⁶⁸  
Think about that. In an untested, decade-long journey,  
NASA’s forecast was 99.99998% accurate. That’s like  
forecasting a trip from New York to Boston and being  
accurate to within four millionths of a second.  
But astrophysics is a ﬁeld of precession. It isn’t impacted by  
the vagaries of human behavior and emotions, like ﬁnance  
is. Business, economics, and investing, are ﬁelds of  
uncertainty, overwhelmingly driven by decisions that can’t

easily be explained with clean formulas, like a trip to Pluto  
can. But we desperately want it to be like a trip to Pluto,  
because the idea of a NASA engineer being in 99.99998%  
control of an outcome is beautiful and comforting. It’s so  
comforting that we’re tempted to tell ourselves stories about  
how much control we have in other parts of our life, like  
money.  
Kahneman once laid out the path these stories take:  
   
   
When planning we focus on what we want to do and can do,  
neglecting the plans and skills of others whose decisions  
might aﬀect our outcomes.  
   
Both in explaining the past and in predicting the future, we  
focus on the causal role of skill and neglect the role of luck.  
   
We focus on what we know and neglect what we do not  
know, which makes us overly conﬁdent in our beliefs.  
   
He described how this impacts businesses:  
   
I have had several occasions to ask founders and  
participants in innovative start-ups a question: To what  
extent will the outcome of your eﬀort depend on what you  
do in your ﬁrm? This is evidently an easy question; the  
answer comes quickly and it has never been less than 80%.

Even when they are not sure they will succeed, these bold  
people think their fate is almost entirely in their own hands.  
They are surely wrong: the outcome of a start-up depends as  
much on the achievements of its competitors and on  
changes in the market as on its own eﬀorts. However,  
entrepreneurs naturally focus on what they know best—their  
plans and actions and the most immediate threats and  
opportunities, such as the availability of funding. They know  
less about their competitors and therefore ﬁnd it natural to  
imagine a future in which the competition plays little part.  
   
We all do this to some extent.  
And like my daughter, it doesn’t bother us a bit.  
We don’t wander around blind and confused. We have to  
think the world we operate in makes sense based on what  
we happen to know. It’d be too hard to get out of bed in the  
morning if you felt otherwise.  
But the alien circling over Earth?  
The one who’s conﬁdent he knows what’s happening based  
on what he sees but turns out to be completely wrong  
because he can’t know the stories going on inside everyone  
else’s head?  
He’s all of us.

Congratulations, you’re still reading.  
It’s time to tie together a few things we’ve learned.  
This chapter is a bit of a summary; a few short and  
actionable lessons that can help you make better ﬁnancial  
decisions.  
First, let me tell you a story about a dentist appointment  
gone horribly awry. It teaches us something vital about the  
dangers of giving advice about what to do with your money.  
   
   
Clarence Hughes went to the dentist in 1931. His mouth was  
radiating pain. His dentist put him under crude anesthesia  
to ease the pain. When Clarence awoke hours later he had  
16 fewer teeth and his tonsils removed.  
And then everything went wrong. Clarence died a week later  
from his surgery’s complications.  
His wife sued the dentist, but not because the surgery went  
awry. Every surgery risked death in 1931.  
Clarence, she said, never consented to the procedures in the  
ﬁrst place, and wouldn’t if he were asked.  
The case wove through courts, but went nowhere. Consent  
between doctor and patient wasn’t black and white in 1931.  
One court summed up the idea that doctors require freedom  
to make the best medical decisions: “Without such, we  
could not enjoy the advancement of science.”  
For most of history the ethos of medicine was that the  
doctor’s job was to ﬁx the patient, and what the patient

thought about the doctor’s treatment plans wasn’t relevant.  
Dr. Jay Katz wrote about the philosophy in his book The  
Silent World Between Doctor and Patient:  
   
Doctors felt that in order to accomplish that objective they  
were obligated to attend to their patients’ physical and  
emotional needs and to do so on their own authority,  
without consulting with their patients about the decisions  
that needed to be made. The idea that patients may also be  
entitled to sharing the burdens of decisions with their  
doctors was never part of the ethos of medicine.  
   
This wasn’t ego or malice. It was a belief in two points:  
   
   
Every patient wants to be cured.  
   
There is a universal and right way to cure them.  
   
Not requiring patient consent in treatment plans makes  
sense if you believe in those two points.  
But that’s not how medicine works.  
In the last 50 years medical schools subtly shifted teaching  
away from treating disease and toward treating patients.  
That meant laying out the options of treatment plans, and  
then letting the patient decide the best path forward.

This trend was partly driven by patient-protection laws,  
partly by Katz’s inﬂuential book, which argued that patients  
have wildly diﬀerent views about what’s worth it in  
medicine, so their beliefs have to be taken into  
consideration. Katz wrote:  
   
It is dangerous nonsense to assert that in the practice of  
their art and science physicians can rely on their benevolent  
intentions, their abilities to judge what is the right thing to  
do ... It is not that easy. Medicine is a complex profession  
and the interactions between physicians and patients are  
also complex.  
   
That last line is important. “Medicine is a complex profession  
and the interactions between physicians and patients are  
also complex.”  
You know what profession is the same? Financial advice.  
I can’t tell you what to do with your money, because I don’t  
know you.  
I don’t know what you want. I don’t know when you want it.  
I don’t know why you want it.  
So I’m not going to tell you what to do with your money. I  
don’t want to treat you like a dentist treated Clarence  
Hughes.  
But doctors and dentists aren’t useless, obviously. They have  
knowledge. They know the odds. They know what tends to  
work, even if patients come to diﬀerent conclusions about  
what kind of treatment is right for them.

Financial advisors are the same. There are universal truths in  
money, even if people come to diﬀerent conclusions about  
how they want to apply those truths to their own ﬁnances.  
With that caveat in place, let’s look at a few short  
recommendations that can help you make better decisions  
with your money.  
   
   
Go out of your way to ﬁnd humility when things are  
going right and forgiveness/compassion when they  
go wrong. Because it’s never as good or as bad as it  
looks. The world is big and complex. Luck and risk  
are both real and hard to identify. Do so when  
judging both yourself and others. Respect the power  
of luck and risk and you’ll have a better chance of  
focusing on things you can actually control. You’ll  
also have a better chance of ﬁnding the right role  
models.  
Less ego, more wealth. Saving money is the gap  
between your ego and your income, and wealth is  
what you don’t see. So wealth is created by  
suppressing what you could buy today in order to  
have more stuﬀ or more options in the future. No  
matter how much you earn, you will never build  
wealth unless you can put a lid on how much fun you  
can have with your money right now, today.  
Manage your money in a way that helps you sleep at  
night. That’s diﬀerent from saying you should aim to  
earn the highest returns or save a speciﬁc  
percentage of your income. Some people won’t sleep  
well unless they’re earning the highest returns;  
others will only get a good rest if they’re

conservatively invested. To each their own. But the  
foundation of, “does this help me sleep at night?” is  
the best universal guidepost for all ﬁnancial  
decisions.  
If you want to do better as an investor, the single  
most powerful thing you can do is increase your time  
horizon. Time is the most powerful force in  
investing. It makes little things grow big and big  
mistakes fade away. It can’t neutralize luck and risk,  
but it pushes results closer towards what people  
deserve.  
Become OK with a lot of things going wrong. You can  
be wrong half the time and still make a fortune,  
because a small minority of things account for the  
majority of outcomes. No matter what you’re doing  
with your money you should be comfortable with a  
lot of stuﬀ not working. That’s just how the world is.  
So you should always measure how you’ve done by  
looking at your full portfolio, rather than individual  
investments. It is ﬁne to have a large chunk of poor  
investments and a few outstanding ones. That’s  
usually the best-case scenario. Judging how you’ve  
done by focusing on individual investments makes  
winners look more brilliant than they were, and  
losers appear more regrettable than they should.  
Use money to gain control over your time, because  
not having control of your time is such a powerful  
and universal drag on happiness. The ability to do  
what you want, when you want, with who you want,  
for as long as you want to, pays the highest dividend  
that exists in ﬁnance.

Be nicer and less ﬂashy. No one is impressed with  
your possessions as much as you are. You might  
think you want a fancy car or a nice watch. But what  
you probably want is respect and admiration. And  
you’re more likely to gain those things through  
kindness and humility than horsepower and chrome.  
Save. Just save. You don’t need a speciﬁc reason to  
save. It’s great to save for a car, or a downpayment,  
or a medical emergency. But saving for things that  
are impossible to predict or deﬁne is one of the best  
reasons to save. Everyone’s life is a continuous  
chain of surprises. Savings that aren’t earmarked for  
anything in particular is a hedge against life’s  
inevitable ability to surprise the hell out of you at  
the worst possible moment.  
Deﬁne the cost of success and be ready to pay it.  
Because nothing worthwhile is free. And remember  
that most ﬁnancial costs don’t have visible price  
tags. Uncertainty, doubt, and regret are common  
costs in the ﬁnance world. They’re often worth  
paying. But you have to view them as fees (a price  
worth paying to get something nice in exchange)  
rather than ﬁnes (a penalty you should avoid).  
Worship room for error. A gap between what could  
happen in the future and what you need to happen in  
the future in order to do well is what gives you  
endurance, and endurance is what makes  
compounding magic over time. Room for error often  
looks like a conservative hedge, but if it keeps you in  
the game it can pay for itself many times over.  
Avoid the extreme ends of ﬁnancial decisions.  
Everyone’s goals and desires will change over time,

and the more extreme your past decisions were the  
more you may regret them as you evolve.  
You should like risk because it pays oﬀ over time. But  
you should be paranoid of ruinous risk because it  
prevents you from taking future risks that will pay  
oﬀ over time.  
Deﬁne the game you’re playing, and make sure your  
actions are not being inﬂuenced by people playing a  
diﬀerent game.  
Respect the mess. Smart, informed, and reasonable  
people can disagree in ﬁnance, because people have  
vastly diﬀerent goals and desires. There is no single  
right answer; just the answer that works for you.  
Now let me tell you what works for me.

Sandy Gottesman, a billionaire investor who founded the  
consulting group First Manhattan, is said to ask one question  
when interviewing candidates for his investment team:  
“What do you own, and why?”  
Not, “What stocks do you think are cheap?” or “What  
economy is about to have a recession?”  
Just show me what you do with your own money.  
I love this question because it highlights what can often be a  
mile-wide gap between what makes sense—which is what  
people suggest you do—and what feels right to them—  
which is what they actually do.  
   
   
Half of all U.S. mutual fund portfolio managers do not invest  
a cent of their own money in their funds, according to  
Morningstar.⁶⁹ This might seem atrocious, and surely the  
statistic uncovers some hypocrisy.  
But this kind of stuﬀ is more common than you’d think. Ken  
Murray, a professor of medicine at USC, wrote an essay in  
2011 titled “How Doctors Die” that showed the degree to  
which doctors choose diﬀerent end-of-life treatments for  
themselves than they recommend for their patients.⁷⁰  
“[Doctors] don’t die like the rest of us,” he wrote. “What’s  
unusual about them is not how much treatment they get  
compared to most Americans, but how little. For all the time  
they spend fending oﬀ the deaths of others, they tend to be  
fairly serene when faced with death themselves. They know  
exactly what is going to happen, they know the choices, and  
they generally have access to any sort of medical care they

could want. But they go gently.” A doctor may throw the  
kitchen sink at her patient’s cancer, but choose palliative  
care for herself.  
The diﬀerence between what someone suggests you do and  
what they do for themselves isn’t always a bad thing. It just  
underscores that when dealing with complicated and  
emotional issues that aﬀect you and your family, there is no  
one right answer. There is no universal truth. There’s only  
what works for you and your family, checking the boxes you  
want checked in a way that leaves you comfortable and  
sleeping well at night.  
There are basic principles that must be adhered to—this is  
true in ﬁnance and in medicine—but important ﬁnancial  
decisions are not made in spreadsheets or in textbooks.  
They are made at the dinner table. They often aren’t made  
with the intention of maximizing returns, but minimizing  
the chance of disappointing a spouse or child. Those kinds  
of things are diﬃcult to summarize in charts or formulas,  
and they vary widely from person to person. What works for  
one person may not work for another.  
You have to ﬁnd what works for you. Here’s what works for  
me.  
   
How my family thinks about savings  
   
Charlie Munger once said “I did not intend to get rich. I just  
wanted to get independent.”  
We can leave aside rich, but independence has always been  
my personal ﬁnancial goal. Chasing the highest returns or

leveraging my assets to live the most luxurious life has little  
interest to me. Both look like games people do to impress  
their friends, and both have hidden risks. I mostly just want  
to wake up every day knowing my family and I can do  
whatever we want to do on our own terms. Every ﬁnancial  
decision we make revolves around that goal.  
My parents lived their adult years in two stages: dirt poor  
and moderately well oﬀ. My father became a doctor when he  
was 40 and already had three kids. Earning a doctor’s salary  
did not oﬀset the frugal mentality that is forced when  
supporting three hungry kids while in medical school, and  
my parents spent the good years living well below their  
means with a high savings rate. This gave them a degree of  
independence. My father was an Emergency Room doctor,  
one of the highest-stress professions I can imagine and one  
that requires a painful toggling of circadian rhythms  
between night and day shifts. After two decades he decided  
he’d had enough, so he stopped. Just quit. Moved onto the  
next phase of his life.  
That stuck with me. Being able to wake up one morning and  
change what you’re doing, on your own terms, whenever  
you’re ready, seems like the grandmother of all ﬁnancial  
goals. Independence, to me, doesn’t mean you’ll stop  
working. It means you only do the work you like with people  
you like at the times you want for as long as you want.  
And achieving some level of independence does not rely on  
earning a doctor’s income. It’s mostly a matter of keeping  
your expectations in check and living below your means.  
Independence, at any income level, is driven by your savings  
rate. And past a certain level of income your savings rate is  
driven by your ability to keep your lifestyle expectations  
from running away.

My wife and I met in college and moved in with each other  
years before we got married. After school we both had entry-  
level jobs with entry-level pay, and settled into a moderate  
lifestyle. All lifestyles exist on a spectrum, and what is  
decent to one person can feel like royalty or poverty to  
another. But at our incomes we got what we considered a  
decent apartment, a decent car, decent clothes, decent  
food. Comfortable, but nothing close to fancy.  
Despite more than a decade of rising incomes—myself in  
ﬁnance, my wife in health care—we’ve more or less stayed  
at that lifestyle ever since. That’s pushed our savings rate  
continuously higher. Virtually every dollar of raise has  
accrued to savings—our “independence fund.” We now live  
considerably below our means, which tells you little about  
our income and more about our decision to maintain a  
lifestyle that we established in our 20s.  
If there’s a part of our household ﬁnancial plan I’m proud of  
it’s that we got the goalpost of lifestyle desires to stop  
moving at a young age. Our savings rate is fairly high, but  
we rarely feel like we’re repressively frugal because our  
aspirations for more stuﬀ haven’t moved much. It’s not that  
our aspirations are nonexistent—we like nice stuﬀ and live  
comfortably. We just got the goalpost to stop moving.  
This would not work for everyone, and it only works for us  
because we both agree to it equally—neither of us are  
compromising for the other. Most of what we get pleasure  
from—going for walks, reading, podcasts—costs little, so we  
rarely feel like we’re missing out. On the rare occasion when  
I question our savings rate I think of the independence my  
parents earned from years of high savings, and I quickly  
come back. Independence is our top goal. A secondary  
beneﬁt of maintaining a lifestyle below what you can aﬀord  
is avoiding the psychological treadmill of keeping up with

the Joneses. Comfortably living below what you can aﬀord,  
without much desire for more, removes a tremendous  
amount of social pressure that many people in the modern  
ﬁrst world subject themselves to. Nassim Taleb explained:  
“True success is exiting some rat race to modulate one’s  
activities for peace of mind.” I like that.  
We’re so far committed to the independence camp that  
we’ve done things that make little sense on paper. We own  
our house without a mortgage, which is the worst ﬁnancial  
decision we’ve ever made but the best money decision  
we’ve ever made. Mortgage interest rates were absurdly low  
when we bought our house. Any rational advisor would  
recommend taking advantage of cheap money and  
investing extra savings in higher-return assets, like stocks.  
But our goal isn’t to be coldly rational; just psychologically  
reasonable.  
The independent feeling I get from owning our house  
outright far exceeds the known ﬁnancial gain I’d get from  
leveraging our assets with a cheap mortgage. Eliminating  
the monthly payment feels better than maximizing the long-  
term value of our assets. It makes me feel independent.  
I don’t try to defend this decision to those pointing out its  
ﬂaws, or those who would never do the same. On paper it’s  
defenseless. But it works for us. We like it. That’s what  
matters. Good decisions aren’t always rational. At some  
point you have to choose between being happy or being  
“right.”  
We also keep a higher percentage of our assets in cash than  
most ﬁnancial advisors would recommend—something  
around 20% of our assets outside the value of our house.  
This is also close to indefensible on paper, and I’m not  
recommending it to others. It’s just what works for us.

We do it because cash is the oxygen of independence, and—  
more importantly—we never want to be forced to sell the  
stocks we own. We want the probability of facing a huge  
expense and needing to liquidate stocks to cover it to be as  
close to zero as possible. Perhaps we just have a lower risk  
tolerance than others.  
But everything I’ve learned about personal ﬁnance tells me  
that everyone—without exception—will eventually face a  
huge expense they did not expect—and they don’t plan for  
these expenses speciﬁcally because they did not expect  
them. The few people who know the details of our ﬁnances  
ask, “What are you saving for? A house? A boat? A new car?”  
No, none of those. I’m saving for a world where curveballs  
are more common than we expect. Not being forced to sell  
stocks to cover an expense also means we’re increasing the  
odds of letting the stocks we own compound for the longest  
period of time. Charlie Munger put it well: “The ﬁrst rule of  
compounding is to never interrupt it unnecessarily.”  
   
How my family thinks about investing  
   
I started my career as a stock picker. At the time we only  
owned individual stocks, mostly large companies like  
Berkshire Hathaway and Procter & Gamble, mixed with  
smaller stocks I considered deep value investments. Go back  
to my 20s and at any given point I held something like 25  
individual stocks.  
I don’t know how I did as a stock picker. Did I beat the  
market? I’m not sure. Like most who try, I didn’t keep a good  
score. Either way, I’ve shifted my views and now every stock  
we own is a low-cost index fund.

I don’t have anything against actively picking stocks, either  
on your own or through giving your money to an active fund  
manager. I think some people can outperform the market  
averages—it’s just very hard, and harder than most people  
think.  
If I had to summarize my views on investing, it’s this: Every  
investor should pick a strategy that has the highest odds of  
successfully meeting their goals. And I think for most  
investors, dollar-cost averaging into a low-cost index fund  
will provide the highest odds of long-term success.  
That doesn’t mean index investing will always work. It  
doesn’t mean it’s for everyone. And it doesn’t mean active  
stock picking is doomed to fail. In general, this industry has  
become too entrenched on one side or the other—  
particularly those vehemently against active investing.  
Beating the market should be hard; the odds of success  
should be low. If they weren’t, everyone would do it, and if  
everyone did it there would be no opportunity. So no one  
should be surprised that the majority of those trying to beat  
the market fail to do so. (The statistics show 85% of large-  
cap active managers didn’t beat the S&P 500 over the  
decade ending 2019.)⁷¹  
I know people who think it’s insane to try to beat the market  
but encourage their kids to reach for the stars and try to  
become professional athletes. To each their own. Life is  
about playing the odds, and we all think about odds a little  
diﬀerently.  
Over the years I came around to the view that we’ll have a  
high chance of meeting all of our family’s ﬁnancial goals if  
we consistently invest money into a low-cost index fund for  
decades on end, leaving the money alone to compound. A

lot of this view comes from our lifestyle of frugal spending. If  
you can meet all your goals without having to take the  
added risk that comes from trying to outperform the market,  
then what’s the point of even trying? I can aﬀord to not be  
the greatest investor in the world, but I can’t aﬀord to be a  
bad one. When I think of it that way, the choice to buy the  
index and hold on is a no-brainer for us. I know not everyone  
will agree with that logic, especially my friends whose job it  
is to beat the market. I respect what they do. But this is  
what works for us.  
We invest money from every paycheck into these index  
funds—a combination of U.S. and international stocks.  
There’s no set goal—it’s just whatever is leftover after we  
spend. We max out retirement accounts in the same funds,  
and contribute to our kids’ 529 college savings plans.  
And that’s about it. Eﬀectively all of our net worth is a  
house, a checking account, and some Vanguard index funds.  
It doesn’t need to be more complicated than that for us. I  
like it simple. One of my deeply held investing beliefs is that  
there is little correlation between investment eﬀort and  
investment results. The reason is because the world is  
driven by tails—a few variables account for the majority of  
returns. No matter how hard you try at investing you won’t  
do well if you miss the two or three things that move the  
needle in your strategy. The reverse is true. Simple  
investment strategies can work great as long as they  
capture the few things that are important to that strategy’s  
success. My investing strategy doesn’t rely on picking the  
right sector, or timing the next recession. It relies on a high  
savings rate, patience, and optimism that the global  
economy will create value over the next several decades. I  
spend virtually all of my investing eﬀort thinking about

those three things—especially the ﬁrst two, which I can  
control.  
I’ve changed my investment strategy in the past. So of  
course there’s a chance I’ll change it in the future.  
No matter how we save or invest I’m sure we’ll always have  
the goal of independence, and we’ll always do whatever  
maximizes for sleeping well at night.  
We think it’s the ultimate goal; the mastery of the  
psychology of money.  
But to each their own. No one is crazy.

To understand the psychology of the modern consumer and to grasp where they might be  
heading next, you have to know how they got here.  
How we all got here.  
If you fell asleep in 1945 and woke up in 2020 you would not recognize the world around  
you.  
The amount of economic growth that took place during that period is virtually  
unprecedented. If you saw the level of wealth in New York and San Francisco, you’d be  
shocked. If you compared it to the poverty of Detroit, you’d be shocked. If you saw the price  
of homes, college tuition, and health care, you’d be shocked. If you saw how average  
Americans think about savings and spending in general, you’d be shocked. And if you tried  
to think of a reasonable narrative of how it all happened, my guess is you’d be totally  
wrong. Because it isn’t intuitive, and it wasn’t foreseeable.  
What happened in America since the end of World War II is the story of the American  
consumer. It’s a story that helps explain why people think about money the way they do  
today.  
The short story is this: Things were very uncertain, then they were very good, then pretty  
bad, then really good, then really bad, and now here we are. And there is, I think, a  
narrative that links all those events together. Not a detailed account. But a story of how  
things ﬁt together.  
Since this is an attempt to link the big events together, it leaves out many details of what  
happened during this period. I’m likely to agree with anyone who points out what I’ve  
missed. The goal here is not to describe every play; it’s to look at how one game inﬂuenced  
the next.  
Here’s how the modern consumer got here.  
 

1. August, 1945. World War II ends.  
   
Japan surrendering was “The Happiest Day in American History,” The New York Times wrote.  
But there’s the saying, “History is just one damn thing after another.”  
The joy of the war ending was quickly met with the question, “What happens now?”  
Sixteen million Americans—11% of the population—served in the war. About eight million  
were overseas at the end. Their average age was 23. Within 18 months all but 1.5 million of  
them would be home and out of uniform.  
And then what?  
What were they going to do next?  
Where were they going to work?  
Where were they going to live?  
Those were the most important questions of the day, for two reasons. One, no one knew the  
answers. Two, if they couldn’t be answered quickly, the most likely scenario—in the eyes of  
many economists—was that the economy would slip back into the depths of the Great  
Depression.  
Three forces had built up during the war:  
   
   
Housing construction ground to a halt, as virtually all production capacity was shifted to  
building war supplies. Fewer than 12,000 homes per month were built in 1943, equivalent  
to less than one new home per American city. Returning soldiers faced a severe housing  
shortage.  
   
The speciﬁc jobs created during the war—building ships, tanks, and planes—were very  
suddenly not necessary after it, stopping with a speed and magnitude rarely seen in private  
business. It was unclear where soldiers could work.  
   
The marriage rate spiked during and immediately after the war. Soldiers didn’t want to  
return to their mother’s basement. They wanted to start a family, in their own home, with a  
good job, right away.  
   
This worried policymakers, especially since the Great Depression was still a recent memory,  
having ended just ﬁve years prior.  
In 1946 the Council of Economic Advisors delivered a report to President Truman warning of  
“a full-scale depression some time in the next one to four years.”

They wrote in a separate 1947 memo, summarizing a meeting with Truman:  
   
We might be in some sort of recession period where we should have to be very sure of our  
ground as to whether recessionary forces might be in danger of getting out of hand …  
There is a substantial prospect which should not be overlooked that a further decline may  
increase the danger of a downward spiral into depression conditions.  
   
This fear was exacerbated by the fact that exports couldn’t be immediately relied upon for  
growth, as two of the largest economies—Europe and Japan—sat in ruins dealing with  
humanitarian crises. And America itself was buried in more debt than ever before, limiting  
direct government stimulus.  
So we did something about it.  
   
2. Low interest rates and the intentional birth of the American consumer.  
   
The ﬁrst thing we did to keep the economy aﬂoat after the war was keep interest rates low.  
This wasn’t an easy decision, because when soldiers came home to a shortage of  
everything from clothes to cars it temporarily sent inﬂation into double digits.  
The Federal Reserve was not politically independent before 1951.⁷² The president and the  
Fed could coordinate policy. In 1942 the Fed announced it would keep short-term rates at  
0.38% to help ﬁnance the war. Rates didn’t budge a single basis point for the next seven  
years. Three-month Treasury yields stayed below 2% until the mid-1950s.  
The explicit reason for keeping rates down was to keep the cost of ﬁnancing the equivalent  
of the $6 trillion we spent on the war low.  
But low rates also did something else for all the returning GIs. It made borrowing to buy  
homes, cars, gadgets, and toys really cheap.  
Which, from a paranoid policymaker’s perspective, was great. Consumption became an  
explicit economic strategy in the years after World War II.  
An era of encouraging thrift and saving to fund the war quickly turned into an era of  
actively promoting spending. Princeton historian Sheldon Garon writes:  
   
After 1945, America again diverged from patterns of savings promotion in Europe and East  
Asia … Politicians, businessmen and labor leaders all encouraged Americans to spend to  
foster economic growth.⁷³  
   
Two things fueled this push.  
One was the GI Bill, which oﬀered unprecedented mortgage opportunities. Sixteen million  
veterans could buy a home often with no money down, no interest in the ﬁrst year, and  
ﬁxed rates so low that monthly mortgage payments could be lower than a rental.

The second was an explosion of consumer credit, enabled by the loosening of Depression-  
era regulations. The ﬁrst credit card was introduced in 1950. Store credit, installment  
credit, personal loans, payday loans—everything took oﬀ. And interest on all debt, including  
credit cards, was tax deductible at the time.  
It tasted delicious. So we ate a lot of it. A simple story in a simple table:  
   
   
Household debt in the 1950s grew 1.5 times faster than it did during the 2000s debt  
splurge.  
   
3. Pent-up demand for stuﬀ fed by a credit boom and a hidden 1930s  
productivity boom led to an economic boom.  
   
The 1930s were the hardest economic decade in American history. But there was a silver  
lining that took two decades to notice: By necessity, the Great Depression had  
supercharged resourcefulness, productivity, and innovation.  
We didn’t pay that much attention to the productivity boom in the ’30s, because everyone  
was focused on how bad the economy was. We didn’t pay attention to it in the ’40s,  
because everyone was focused on the war.  
Then the 1950s came around and we suddenly realized, “Wow, we have some amazing  
new inventions. And we’re really good at making them.”  
Appliances, cars, phones, air conditioning, electricity.  
It was nearly impossible to buy many household goods during the war, because factories  
were converted to make guns and ships. That created pent-up demand from GIs for stuﬀ

after the war ended. Married, eager to get on with life, and emboldened with new cheap  
consumer credit, they went on a buying spree like the country had never seen.  
Frederick Lewis Allen writes in his book The Big Change:  
   
During these postwar years the farmer bought a new tractor, a corn picker, an electric  
milking machine; in fact he and his neighbors, between them, assembled a formidable  
array of farm machinery for their joint use. The farmer’s wife got the shining white electric  
refrigerator she had always longed for and never during the Great Depression had been  
able to aﬀord, and an up-to-date washing machine, and a deep-freeze unit. The suburban  
family installed a dishwashing machine and invested in a power lawnmower. The city  
family became customers of a laundromat and acquired a television set for the living room.  
The husband’s oﬃce was air-conditioned. And so on endlessly.  
   
It’s hard to overstate how big this surge was.  
Commercial car and truck manufacturing virtually ceased from 1942 to 1945. Then 21  
million cars were sold from 1945 to 1949. Another 37 million were sold by 1955.  
Just under two million homes were built from 1940 to 1945. Then seven million were built  
from 1945 to 1950. Another eight million were built by 1955.  
Pent-up demand for stuﬀ, and our newfound ability to make stuﬀ, created the jobs that put  
returning GIs back to work. And they were good jobs, too. Mix that with consumer credit,  
and America’s capacity for spending exploded.  
The Federal Reserve wrote to President Truman in 1951: “By 1950, total consumer  
expenditures, together with residential construction, amounted to about 203 billion dollars,  
or in the neighborhood of 40 percent above the 1944 level.”⁷⁴  
The answer to the question, “What are all these GIs going to do after the war?” was now  
obvious. They were going to buy stuﬀ, with money earned from their jobs making new stuﬀ,  
helped by cheap borrowed money to buy even more stuﬀ.  
   
4. Gains are shared more equally than ever before.  
   
The deﬁning characteristic of economics in the 1950s is that the country got rich by  
making the poor less poor.  
Average wages doubled from 1940 to 1948, then doubled again by 1963.  
And those gains focused on those who had been left behind for decades before. The gap  
between rich and poor narrowed by an extraordinary amount.  
Lewis Allen wrote in 1955:  
   
The enormous lead of the well-to-do in the economic race has been considerably reduced.

It is the industrial workers who as a group have done best—people such as a steelworker’s  
family who used to live on $2,500 and now are getting $4,500, or the highly skilled  
machine-tool operator’s family who used to have $3,000 and now can spend an annual  
$5,500 or more.  
As for the top one percent, the really well-to-do and the rich, whom we might classify very  
roughly indeed as the $16,000-and-over group, their share of the total national income,  
after taxes, had come down by 1945 from 13 percent to 7 percent.  
   
This was not a short-term trend. Real income for the bottom 20% of wage-earners grew by  
a nearly identical amount as the top 5% from 1950 to 1980.  
The equality went beyond wages.  
Women held jobs outside the home in record numbers. Their labor force participation rate  
went from 31% after the war to 37% by 1955, and to 40% by 1965.  
Minorities gained, too. After the 1945 inauguration Eleanor Roosevelt wrote about an  
African American reporter who told her:  
   
Do you realize what twelve years have done? If at the 1933 reception a number of colored  
people had gone down the line and mixed with everyone else in the way they did today,  
every paper in the country would have reported it. We do not even think it is news and none  
of us will mention it.  
   
Women and minority rights were still a fraction of what they are today. But the progress  
toward equality in the late ’40s and ’50s was extraordinary.  
The leveling out of classes meant a leveling out of lifestyles. Normal people drove Chevys.  
Rich people drove Cadillacs. TV and radio equalized the entertainment and culture people  
enjoyed regardless of class. Mail-order catalogs equalized the clothes people wore and the  
goods they bought regardless of where they lived. Harper’s Magazine noted in 1957:  
   
The rich man smokes the same sort of cigarettes as the poor man, shaves with the same  
sort of razor, uses the same sort of telephone, vacuum cleaner, radio, and TV set, has the  
same sort of lighting and heating equipment in his house, and so on indeﬁnitely. The  
diﬀerences between his automobile and the poor man’s are minor. Essentially they have  
similar engines, similar ﬁttings. In the early years of the century there was a hierarchy of  
automobiles.  
   
Paul Graham wrote in 2016 about what something as simple as there only being three TV  
stations did to equalize culture:  
   
It’s diﬃcult to imagine now, but every night tens of millions of families would sit down  
together in front of their TV set watching the same show, at the same time, as their next

door neighbors. What happens now with the Super Bowl used to happen every night. We  
were literally in sync.⁷⁵  
   
This was important. People measure their well-being against their peers. And for most of  
the 1945–1980 period, people had a lot of what looked like peers to compare themselves  
to. Many people—most people—lived lives that were either equal or at least fathomable to  
those around them. The idea that people’s lives equalized as much as their incomes is an  
important point of this story we’ll come back to.  
   
5. Debt rose tremendously. But so did incomes, so the impact wasn’t a big deal.  
   
Household debt increased ﬁvefold from 1947 to 1957 due to the combination of the new  
consumption culture, new debt products, and interest rates subsidized by government  
programs, and held low by the Federal Reserve.  
But income growth was so strong during this period that the impact on households wasn’t  
severe. And household debt was so low to begin with after the war. The Great Depression  
wiped out a lot of it, and household spending was so curtailed during the war that debt  
accumulation was restricted. So the growth in household debt-to-income from 1947–1957  
was manageable.  
Household debt-to-income today is just over 100%. Even after rising in the 1950s, 1960s,  
and 1970s, it stayed below 60%.  
Driving a lot of this debt boom was a surge in home ownership.  
The homeownership rate in 1900 was 47%. It stayed right about there for the next four  
decades. Then it took oﬀ, hitting 53% by 1945 and 62% by 1970. A substantial portion of  
the population was now using debt that previous generations would not—could not—have  
accessed. And they were mostly OK with it.  
David Halberstam writes in his book The Fifties:  
   
They were conﬁdent in themselves and their futures in a way that [those] growing up in  
harder times found striking. They did not fear debt as their parents had … They diﬀered  
from their parents not just in how much they made and what they owned but in their belief  
that the future had already arrived. As the ﬁrst homeowners in their families, they brought  
a new excitement and pride with them to the store as they bought furniture or appliances—  
in other times young couples might have exhibited such feelings as they bought clothes for  
their ﬁrst baby. It was as if the very accomplishment of owning a home reﬂected such an  
immense breakthrough that nothing was too good to buy for it.  
   
Now’s a good time to connect a few things, as they’ll become increasingly important:  
   
   
America is booming.

It’s booming together like never before.  
   
It’s booming with debt that isn’t a big deal at the time because it’s still low relative to  
income and there’s a cultural acceptance that debt isn’t a scary thing.  
   
6. Things start cracking.  
   
1973 was the ﬁrst year where it became clear the economy was walking down a new path.  
The recession that began that year brought unemployment to the highest it had been since  
the 1930s.  
Inﬂation surged. But unlike the post-war spikes, it stayed high.  
Short-term interest rates hit 8% in 1973, up from 2.5% a decade earlier.  
And you have to put all of that in the context of how much fear there was between  
Vietnam, riots, and the assassinations of Martin Luther King, and John and Bobby Kennedy.  
It got bleak.  
America dominated the world economy in the two decades after the war. Many of the  
largest countries had their manufacturing capacity bombed into rubble. But as the 1970s  
emerged, that changed. Japan was booming. China’s economy was opening up. The Middle  
East was ﬂexing its oil muscles.  
A combination of lucky economic advantages and a culture shared by the Greatest  
Generation—hardened by the Depression and anchored in systematic cooperation from the  
war—shifted when Baby Boomers began coming of age. A new generation that had a  
diﬀerent view of what’s normal hit at the same time a lot of the economic tailwinds of the  
previous two decades ended.  
Everything in ﬁnance is data within the context of expectations. One of the biggest shifts of  
the last century happened when the economic winds began blowing in a diﬀerent, uneven  
direction, but people’s expectations were still rooted in a post-war culture of equality. Not  
necessarily equality of income, although there was that. But equality in lifestyle and  
consumption expectations; the idea that someone earning a 50th percentile income  
shouldn’t live a life dramatically diﬀerent than someone in the 80th or 90th percentile. And  
that someone in the 99th percentile lived a better life, but still a life that someone in the  
50th percentile could comprehend. That’s how America worked for most of the 1945–1980  
period. It doesn’t matter whether you think that’s morally right or wrong. It just matters  
that it happened.  
Expectations always move slower than facts. And the economic facts of the years between  
the early 1970s through the early 2000s were that growth continued, but became more  
uneven, yet people’s expectations of how their lifestyle should compare to their peers did  
not change.  
 

7. The boom resumes, but it’s diﬀerent than before.  
   
Ronald Reagan’s 1984 “Morning in America” ad declared:  
   
It’s morning again in America. Today more men and women will go to work than ever  
before in our country’s history. With interest rates at about half the record highs of 1980,  
nearly 2,000 families today will buy new homes, more than at any time in the past four  
years. This afternoon 6,500 young men and women will be married, and with inﬂation at  
less than half of what it was just four years ago, they can look forward with conﬁdence to  
the future.  
   
That wasn’t hyperbole. GDP growth was the highest it had been since the 1950s. By 1989  
there were six million fewer unemployed Americans than there were seven years before.  
The S&P 500 rose almost fourfold between 1982 and 1990. Total real GDP growth in the  
1990s was roughly equal to that of the 1950s—40% vs. 42%.  
President Clinton boasted in his 2000 State of the Union speech:  
   
We begin the new century with over 20 million new jobs; the fastest economic growth in  
more than 30 years; the lowest unemployment rates in 30 years; the lowest poverty rates in  
20 years; the lowest African-American and Hispanic unemployment rates on record; the  
ﬁrst back-to-back surpluses in 42 years; and next month, America will achieve the longest  
period of economic growth in our entire history. We have built a new economy.  
   
His last sentence was important. It was a new economy. The biggest diﬀerence between the  
economy of the 1945–1973 period and that of the 1982–2000 period was that the same  
amount of growth found its way into totally diﬀerent pockets.  
You’ve probably heard these numbers but they’re worth rehashing. The Atlantic writes:  
   
Between 1993 and 2012, the top 1 percent saw their incomes grow 86.1 percent, while the  
bottom 99 percent saw just 6.6 percent growth.  
   
Joseph Stiglitz in 2011:  
   
While the top 1 percent have seen their incomes rise 18 percent over the past decade,  
those in the middle have actually seen their incomes fall. For men with only high-school  
degrees, the decline has been precipitous—12 percent in the last quarter-century alone.  
   
It was nearly the opposite of the ﬂattening that occurred after the war.

Why this happened is one of the nastiest debates in economics, topped only by the debate  
over what we should do about it. Lucky for the purpose of this discussion, neither matters.  
All that matters is that sharp inequality became a force over the last 35 years, and it  
happened during a period where, culturally, Americans held onto two ideas rooted in the  
post-WW2 economy: That you should live a lifestyle similar to most other Americans, and  
that taking on debt to ﬁnance that lifestyle is acceptable.  
   
8. The big stretch.  
   
Rising incomes among a small group of Americans led to that group breaking away in  
lifestyle.  
They bought bigger homes, nicer cars, went to expensive schools, and took fancy vacations.  
And everyone else was watching—fueled by Madison Avenue in the ’80s and ’90s, and the  
internet after that.  
The lifestyles of a small portion of legitimately rich Americans inﬂated the aspirations of the  
majority of Americans, whose incomes weren’t rising.  
A culture of equality and togetherness that came out of the 1950s–1970s innocently  
morphs into a Keeping Up With The Joneses eﬀect.  
Now you can see the problem.  
Joe, an investment banker making $900,000 a year, buys a 4,000 square foot house with  
two Mercedes and sends three of his kids to Pepperdine. He can aﬀord it.  
Peter, a bank branch manager making $80,000 a year, sees Joe and feels a subconscious  
sense of entitlement to live a similar lifestyle, because Peter’s parents believed—and  
instilled in him—that Americans’ lifestyles weren’t that diﬀerent even if they had diﬀerent  
jobs. His parents were right during their era, because incomes fell into a tight distribution.  
But that was then. Peter lives in a diﬀerent world. But his expectations haven’t changed  
much from his parents’, even if the facts have.  
So what does Peter do?  
He takes out a huge mortgage. He has $45,000 of credit card debt. He leases two cars. His  
kids will graduate with heavy student loans. He can’t aﬀord the stuﬀ Joe can, but he’s  
pushed to stretch for the same lifestyle. It is a big stretch.  
This would have seemed preposterous to someone in the 1930s. But we’ve spent 75 years  
since the end of the war fostering a cultural acceptance of household debt.  
During a time when median wages were ﬂat, the median new American home grew 50%  
larger.  
 

The average new American home now has more bathrooms than occupants. Nearly half  
have four or more bedrooms, up from 18% in 1983.  
The average car loan adjusted for inﬂation more than doubled between 1975 and 2003,  
from $12,300 to $27,900.  
And you know what happened to college costs and student loans.  
Household debt-to-income stayed about ﬂat from 1963 to 1973. Then it climbed, and  
climbed, and climbed, from around 60% in 1973 to more than 130% by 2007.  
Even as interest rates plunged from the early 1980s through 2020, the percentage of  
income going to debt service payments rose. And it skewed toward lower-income groups.  
The share of income going toward debt and lease payments is just over 8% for the highest  
income groups—those with the biggest income gains—but over 21% for those below the  
50th percentile.  
The diﬀerence between this climbing debt and the debt increase that took place during the  
1950s and ’60s is that the recent jump started from a high base.  
Economist Hyman Minsky described the beginning of debt crises: The moment when  
people take on more debt than they can service. It’s an ugly, painful moment. It’s like Wile  
E. Coyote looking down, realizing he’s screwed, and falling precipitously.  
Which, of course, is what happened in 2008.  
   
9. Once a paradigm is in place it is very hard to turn it around.  
   
A lot of debt was shed after 2008. And then interest rates plunged. Household debt  
payments as a percentage of income are now at the lowest levels in 35 years.

But the response to 2008, necessary as it may have been, perpetuated some of the trends  
that got us here.  
Quantitative easing both prevented economic collapse and boosted asset prices, a boon for  
those who owned them—mostly rich people.  
The Fed backstopped corporate debt in 2008. That helped those who owned that debt—  
mostly rich people.  
Tax cuts over the last 20 years have predominantly gone to those with higher incomes.  
People with higher incomes send their kids to the best colleges. Those kids can go on to  
earn higher incomes and invest in corporate debt that will be backstopped by the Fed, own  
stocks that will be supported by various government policies, and so on.  
None of these things are problems in and of themselves, which is why they stay in place.  
But they’re symptomatic of the bigger thing that’s happened since the early 1980s: The  
economy works better for some people than others. Success isn’t as meritocratic as it used  
to be and, when success is granted, it’s rewarded with higher gains than in previous eras.  
You don’t have to think that’s morally right or wrong.  
And, again, in this story it doesn’t matter why it happened.  
It just matters that it did happen, and it caused the economy to shift away from people’s  
expectations that were set after the war: That there’s a broad middle class without  
systematic inequality, where your neighbors next door and a few miles down the road live a  
life that’s pretty similar to yours.  
Part of the reason these expectations have stuck around for 35 years after they shifted away  
from reality is because they felt so good for so many people when they were valid.  
Something that good—or at least the impression that it was that good—isn’t easy to let go  
of.  
So people haven’t let go of it. They want it back.  
   
10. The Tea Party, Occupy Wall Street, Brexit, and Donald Trump each  
represents a group shouting, “Stop the ride, I want oﬀ.”  
   
The details of their shouting are diﬀerent, but they’re all shouting—at least in part—  
because stuﬀ isn’t working for them within the context of the post-war expectation that  
stuﬀ should work roughly the same for roughly everyone.  
You can scoﬀ at linking the rise of Trump to income inequality alone. And you should. These  
things are always layers of complexity deep. But it’s a key part of what drives people to  
think, “I don’t live in the world I expected. That pisses me oﬀ. So screw this. And screw you!  
I’m going to ﬁght for something totally diﬀerent, because this—whatever it is—isn’t  
working.”  
Take that mentality and raise it to the power of Facebook, Instagram, and cable news—  
where people are more keenly aware of how other people live than ever before. It’s gasoline  
on a ﬂame. Benedict Evans says, “The more the Internet exposes people to new points of  
view, the angrier people get that diﬀerent views exist.” That’s a big shift from the post-war

economy where the range of economic opinions were smaller, both because the actual  
range of outcomes was lower and because it wasn’t as easy to see and learn what other  
people thought and how they lived.  
I’m not pessimistic. Economics is the story of cycles. Things come, things go.  
The unemployment rate is now the lowest it’s been in decades. Wages are now actually  
growing faster for low-income workers than the rich.⁷⁶ College costs by and large stopped  
growing once grants are factored in.⁷⁷ If everyone studied advances in health care,  
communication, transportation, and civil rights since the Glorious 1950s, my guess is most  
wouldn’t want to go back.  
But a central theme of this story is that expectations move slower than reality on the  
ground. That was true when people clung to 1950s expectations as the economy changed  
over the next 35 years. And even if a middle-class boom began today, expectations that the  
odds are stacked against everyone but those at the top may stick around.  
So the era of “This isn’t working” may stick around.  
And the era of “We need something radically new, right now, whatever it is” may stick  
around.  
Which, in a way, is part of what starts events that led to things like World War II, where this  
story began.  
History is just one damned thing after another.

1 J. Pressler, “Former Merrill Lynch Executive Forced to Declare Bankruptcy Just to Keep a  
$14 Million Roof Over His Head,” New York magazine (April 9, 2010).  
   
2 Ibid.  
   
3 L. Thomas Jr., “The Tale of the $8 Million ‘Bargain’ House in Greenwich,” The New York  
Times (January 25, 2014).  
   
4 U. Malmendier, S. Nagel, “Depression Babies: Do Macroeconomic Experiences Aﬀect Risk-  
Taking?” (August 2007).  
   
5 “How large are 401(k)s?” Investment Company Institute (December 2019).  
   
6 R. Butler, “Retirement Pay Often Is Scanty,” The New York Times (August 14, 1955).  
   
7 “Higher education in the United States,” Wikipedia.  
   
8 K. Bancalari, “Private college tuition is rising faster than inﬂation .... again,” USA Today  
(June 9, 2017).  
 

9 “How Many People Die Rock Climbing?” The Rockulus.  
   
10 A. T. Vanderbilt II, Fortune’s Children: The Fall of the House of Vanderbilt (William  
Morrow Paperbacks, 2012).  
   
11 D. McDonald, “Rajat Gupta: Touched by scandal,” Fortune (October 1, 2010).  
   
12 “Did millionaire Rajat Gupta suﬀer from billionaire envy?” The Economic Times (March  
27, 2011).  
   
13 J. Nicas, “Facebook Connected Her to a Tattooed Soldier in Iraq. Or So She Thought,” The  
New York Times (July 28, 2019).  
   
14 T. Maloney, “The Best-Paid Hedge Fund Managers Made $7.7 Billion in 2018,” Bloomberg  
(February 15, 2019).  
   
15 S. Weart, “The Discovery of Global Warming,” history.aip.org/climate/cycles.htm (January  
2020). (January 2020).  
   
16 S. Langlois, “From $6,000 to $73 billion: Warren Buﬀett’s wealth through the ages,”  
MarketWatch (January 6, 2017).  
   
17 D. Boudreaux, “Turnover in the Forbes 400, 2008–2013,” Cafe Hayek (May 16, 2014).  
   
18 M. Pabrai, www.youtube.com/watch?time\_continue=200&v=YmmIbrKDYbw..  
   
19 “Art Dealers: The Other Vincent van Gogh,” Horizon Research Group (June 2010).  
   
20 www.collaborativefund.com/uploads/venture-returns.png  
   
21 “The Agony and the Ecstasy: The Risks and Rewards of a Concentrated Stock Position,”  
Eye on the Market, J.P. Morgan (2014).  
 

22 L. Eadicicco, “Here’s Why You Probably Won’t Get Hired At Google,” Business Insider  
(October 23, 2014).  
   
23 “What is the oﬀer acceptance rate for Facebook software engineering positions?”  
Quora.com..  
   
24 W. Fulton, “If You Want to Build a Great Team, Hire Apple Employees,” Forbes (June 22,  
2012).  
   
25 J. Berger, “How to Change Anyone’s Mind,” The Wall Street Journal (February 21, 2020).  
   
26 D. Sivers, “How I got rich on the other hand,” sivers.org (October 30, 2019). (October 30,  
2019).  
   
27 N. Chokshi, “Americans Are Among the Most Stressed People in the World, Poll Finds,”  
The New York Times (April 25, 2019).  
   
28 Russell Sage Foundation—Chartbook of Social Inequality.  
   
29 D. Thompson, “Why White-Collar Workers Spend All Day at the Oﬃce,” The Atlantic  
(December 4, 2019).  
   
30 “Rihanna’s ex-accountant ﬁres back,” News24 (March 24, 2014).  
   
31 B. Mann, “Want to Get Rich and Stay Rich?” The Motley Fool (March 7, 2017).  
   
32 “U.S. energy intensity projected to continue its steady decline through 2040,” U.S.  
Energy Information Administration (March 1, 2013).  
   
33 Julius Wagner-Jauregg—Biographical, nobelprize.org..  
   
34 J. M. Cavaillon, “Good and bad fever,” Critical Care 16:2 (2012).  
   
35 “Fever—Myths Versus Facts,” Seattle Children’s.

36 J. J. Ray, and C. I. Schulman, “Fever: suppress or let it ride?” Journal of Thoracic Disease  
7:12 (2015).  
   
37 A. LaFrance, “A Cultural History of the Fever,” The Atlantic (September 16, 2015).  
   
38 J. Zweig, “What Harry Markowitz Meant,” jasonzweig.com (October 2, 2017). (October 2,  
2017).  
   
39 L. Pleven, “In Bogle Family, It’s Either Passive or Aggressive,” The Wall Street Journal  
(November 28, 2013).  
   
40 C. Shapiro and M. Housel, “Disrupting Investors’ Own Game,” The Collaborative Fund.  
   
41 www.bylo.org  
   
42 Washington State University, “For pundits, it’s better to be conﬁdent than correct,”  
ScienceDaily (May 28, 2013).  
   
43 “Daniel Kahneman’s Favorite Approach For Making Better Decisions,” Farnham Street  
(January 2014).  
   
44 W. Buﬀett, Letter to the Shareholders of Berkshire Hathaway Inc. (2008).  
   
45 W. Buﬀett, Letter to the Shareholders of Berkshire Hathaway Inc. (2006).  
   
46 B. Plumer, “Only 27 percent of college grads have a job related to their major,” The  
Washington Post (May 20, 2013).  
   
47 G. Livingston, “Stay-at-home moms and dads account for about one-in-ﬁve U.S.  
parents,” Pew Research Center (September 24, 2018).  
   
48 D. Gilbert, “The psychology of your future self,” TED2014.  
 

49 J. Zweig, “What I Learned From Daniel Kahneman,” jasonzweig.com (March 30, 2014).  
(March 30, 2014).  
   
50 J. Ptak “Tactical Funds Miss Their Chance,” Morningstar (February 2, 2012).  
   
51 R. Kinnel, “Mind the Gap 2019,” Morningstar (August 15, 2019).  
   
52 M. Desmond. “Accounting Tricks Catch Up With GE,” Forbes (August 4, 2009).  
   
53 A. Berenson, “Freddie Mac Says It Understated Proﬁts by Up to $6.9 Billion,” The New  
York Times (June 25, 2003).  
   
54 “U.S. Home Flipping Rate Reaches a Nine-Year High in Q1 2019,” Attom Data Solutions  
(June 4, 2019).  
   
55 A. Osborn, “As if Things Weren’t Bad Enough, Russian Professor Predicts End of U.S.,”  
The Wall Street Journal (December 29, 2008).  
   
56 “Food in the Occupation of Japan,” Wikipedia.  
   
57 J. M. Jones, “U.S. Stock Ownership Down Among All but Older, Higher-Income,” Gallup  
(May 27, 2017).  
   
58 E. Rauchway, The Great Depression and the New Deal: A Very Short Introduction (Oxford  
University Press, 2008).  
   
59 L. R. Brown, Plan B 3.0: Mobilizing to Save Civilization (W. W. Norton & Company, 2008).  
   
60 FRED, Federal Reserve Bank of St. Louis.  
   
61 “U.S. Crude Oil Production—Historical Chart,” Macro Trends.  
   
62 “Thomas Selfridge,” Wikipedia.

63 www.nhlbi.nih.gov  
   
64 D. Walsh, “The Tragedy of Saudi Arabia’s War,” The New York Times (October 26, 2018).  
   
65 B. Pisani, “Active fund managers trail the S&P 500 for the ninth year in a row in triumph  
for indexing,” CNBC (March 15, 2019).  
   
66 2019 Investment Company Factbook, Investment Company Institute.  
   
67 “Minutes of the Federal Open Market Committee,” Federal Reserve (October 30–31,  
2007).  
   
68 www.nasa.gov  
   
69 A. Ram, “Portfolio managers shun investing in own funds,” Financial Times (September  
18, 2016).  
   
70 K. Murray “How Doctors Die,” Zócalo Public Square (November 30, 2011).  
   
71 B. Pisani, “Active fund managers trail the S&P 500 for the ninth year in a row in triumph  
for indexing,” CNBC (March 15, 2019).  
   
72 “Treasury-Fed Accord,” federalreservehistory.org..  
   
73 S. Garon, “Beyond Our Means: Why America Spends While the World Saves,” Federal  
Reserve Bank of St. Louis (July 1, 2012).  
   
74 “Economic Report of the President,” FRASER, St. Louis Federal Reserve (1951).  
   
75 P. Graham, “The Refragmentation,” paulgraham.com (2016). (2016).  
 

76 P. Davidson, “Jobs in high-wage industries are growing fastest,” USA Today (December  
14, 2019).  
   
77 R. Channick, “Average college costs ﬂat nationwide, at just under $15K, as universities  
increase grants,” Chicago Tribune (October 16, 2018).

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