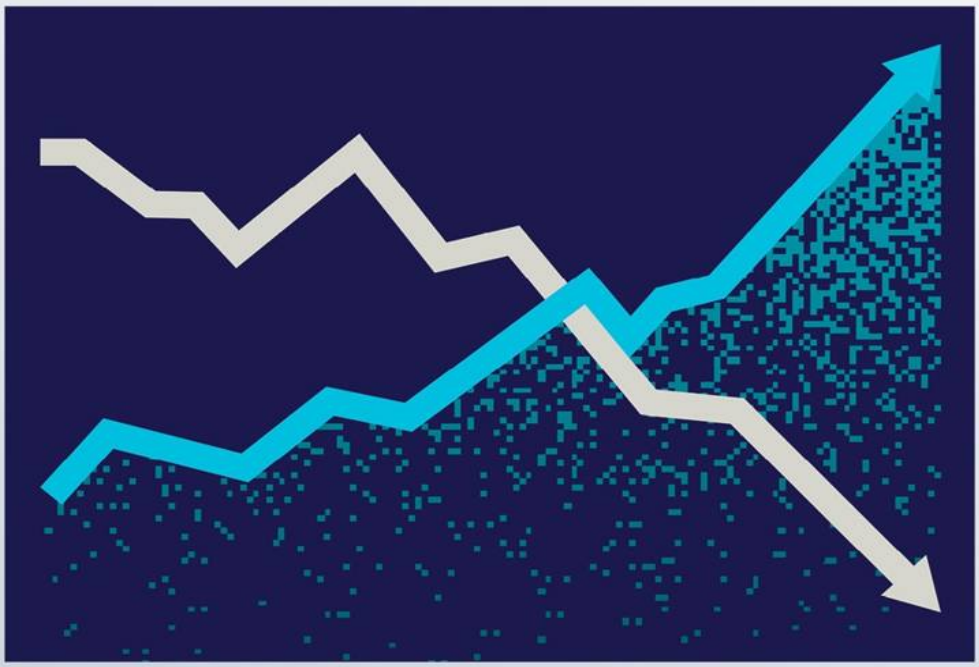
Where the Money Is

VALUE INVESTING IN THE DIGITAL AGE



Adam Seessel

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Value Investing in the Digital Age

ADAM SEESSEL

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To my parents,
Tom and Diane,
Who taught me to love good writing
And appreciate rigorous inquiry

A Note on Terminology

This book contains a fair number of business, financial, and accounting terms. It's a book about investing, after all. However, readers unfamiliar with them should not feel intimidated. Like most engaged in well-paid professions, money managers employ esoteric language to make their job appear more difficult than it is. Such smoke screens, advisors hope, help justify their fees.

As Peter Lynch suggested in his books a generation ago, I believe that investing is too important to be left to the experts. Like Lynch, I also believe that anyone with intelligence, common sense, and their own everyday experience can become a good investor. Indeed, because they are less exposed to short-term pressure, amateurs are often better placed to exploit market opportunities. While the pros fret about their next quarter's performance, amateurs can keep their eyes on the long term, where the real money is made.

That said, accounting is the language of business, and whether you're traveling to a foreign country or the land of commerce, it helps to know the lingo. Here again, don't be afraid. The accounting that investors need to understand is neither mysterious nor terribly complex. At its essence, accounting is just that: it accounts for what a company owns and what it owes, and it helps companies keep track of the money that's coming in and the money that's going out. Accounting is simply a set of rules that businesspeople use to help them keep score, so to speak. As you'll see later in the book, these rules change as economic reality changes. One could argue that, given the rise of the Digital Age, the current system is due for many such alterations.

In the chapters that follow, I do my best to explain in simple terms financial and accounting concepts that might not be intuitive to all. However, if you get stuck, there's a glossary at the end of the book that attempts to define every business and financial term I use. If after consulting the glossary you're still confused, go to Investopedia.com, an excellent, plain-English website that's

free to use. If you want to dig even deeper, I recommend a book called *Understanding Wall Street* by Jeffrey B. Little and Lucien Rhodes. It's a short primer that was one of the first books I read when I left journalism and entered finance, and it helped me a lot.

As a newcomer—uninfluenced by the distorting traditions of the old regime—I could respond readily to the new forces that were beginning to enter the financial scene. I learned to distinguish between what was important and unimportant, dependable and undependable, even what was honest and dishonest, with a clearer eye and better judgment than many of my seniors, whose intelligence had been corrupted by their experience.

—Ben Graham, *The Memoirs of the Dean of Wall Street*

The key to investing is not assessing how much an industry is going to affect society, or how much it will grow, but rather determining the competitive advantage of any given company and, above all, the durability of that advantage.

—Warren Buffett, *Fortune*, 1999

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Introduction: So Big, So Fast

I have a friend from college, Alex, whose wealth accumulation strategy over the last fifteen years has been to own a single stock: Apple. Alex bought Apple in 2007, when the company introduced the iPhone, based on the following logic:

A. *I just got an iPhone, and it's such a revolutionary product that a lot more people are going to get one, too—now and for many years to come.*

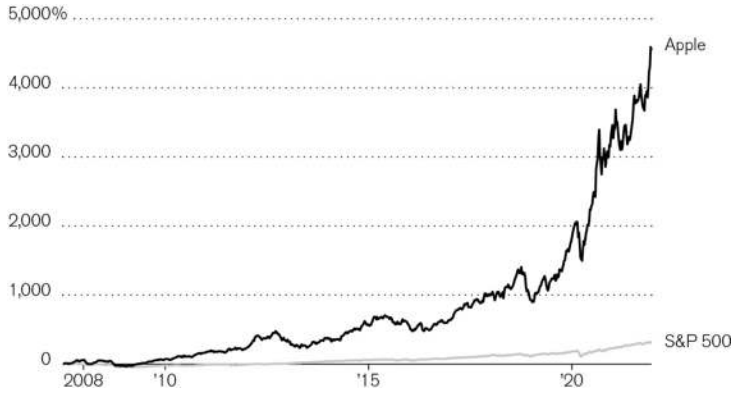
B. *The stock price is going to follow.*

As the chart below shows, Alex ended up absurdly right. The market average, as measured by the S&P 500 index, is up roughly threefold over this period, while Apple is up roughly forty-five fold.

Apple's wonderful ascent, however, obscures the fact that four times over the last fifteen years, Apple's stock lost 30% of its market value. Once every three to four years, Alex saw his life savings decline by almost a third. As anyone who has ever invested in the stock market can tell you, that does not feel good.

But Alex didn't lose his head, or his lunch, or his conviction in the logic for owning Apple, and he has become wealthy simply by identifying a single, superior business and sticking with it. A $10,000 investment in Apple when the iPhone came out is today worth nearly $500,000, about fifteen times what he would have made if he'd invested in the S&P 500 index.

Total return since the iPhone was introduced in 2007



Source: FactSet

Don't get me wrong: the market average represents an excellent return. Despite its wild gyrations and occasional meltdowns, the American stock market has been the best place to build wealth over the last one hundred years. It's no mystery why this is true. Contrary to what many people believe, the market is neither a hall of mirrors nor the Emerald City, where the Wizard of Oz hides behind the curtain pulling the strings. The stock market is nothing more than a collection of American companies whose profits grow over time. As their profits grow, so does their market value. If you believe that the United States will continue to grow and prosper, you should own a piece of that action.

As you'll see below, depending on the index you use and the period you measure, the American stock market has averaged somewhere between 8% and 10% annual appreciation. U.S. real estate, another major way to build long-term wealth, has grown at a materially inferior rate—only 5% a year. In today's interest rate environment, a three-year CD will pay roughly 1% annual interest, while the average commercial checking account pays a pathetic 0.04%.

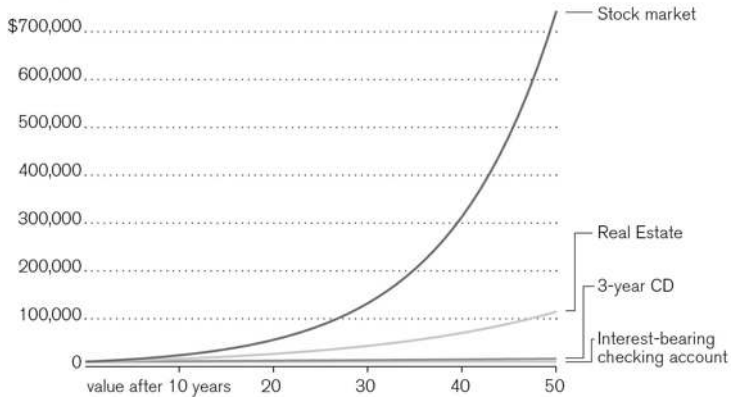
These numbers sound rather abstract until you grasp the power of compounding. Compounding refers to how something grows—computing power, the profits of a business, the value of a stock—and specifically how growth builds upon itself, gathering momentum and size like a snowball rolling downhill. Because 5% annual appreciation is decent, putting $10,000 to work in the American real estate market over fifty years will net you slightly more than $100,000. But investing that same amount at the average stock market return will generate more than $700,000.

The graphic below illustrates why Albert Einstein called compound interest the eighth wonder of the world. It also shows why you should be invested in

the stock market. The younger you are, the more this statement applies, simply because you have more time to allow the market to go through its gyrations and, over time, earn its average return. Even if you're, say, forty years old, I believe you shouldn't have much at all in bonds, which barely pay more than a three-year CD. Some so-called 2045 target date funds have as much as 15% bond exposure in them, which is 15% too much for me. With more than twenty years ahead of you to smooth out returns, you should be letting the growth of American business work for you.

How stocks beat other asset classes

Change in value of a $10,000 investment, by average annual return*



* Based on the following rates of return: Interest-bearing checking account (0.04%); 3-year CD (1%); Real Estate (5%); Stock market (9%)

Investing in the stock market can take either a general or a specific form. Those unfamiliar or intimidated by "the market" prefer a passive approach; they buy an index fund that merely mirrors the stock market average. Other, slightly more adventuresome investors buy exchange-traded funds, or ETFs, which track individual sectors of the economy that they believe will outperform. As for me, I invest in specific stocks. Like Alex with his Apple, I want to find businesses that are going to do better than the market's average of roughly 9% annual growth. In this book, I am going to suggest that you do the same, and I'm going to give you techniques to do so.

Finding a market-beating idea when millions of others are trying to do the same is a real test. It's like solving a complicated puzzle or going on a treasure hunt, and you shouldn't accept this challenge if you're not serious about it. There are plenty of puzzles you can solve and plenty of treasure hunts you can

undertake that don't involve your life savings. However, if you apply yourself to identifying, purchasing, and holding above-average stocks, like Alex you can build real long-term wealth. The magic of compounding will see to that: $10,000 invested at the market average of 9% will give you more than $700,000 after fifty years, but that same amount invested at a 12% rate will give you almost $3 million.

Once again, a picture is more powerful than any words I can write on the subject: just see the graphic opposite.

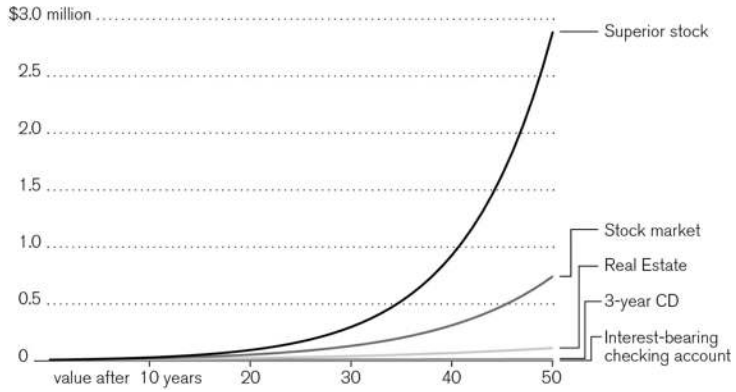
A generation ago, Peter Lynch made a similar argument in a series of bestselling investment books, the most famous of which was called *One Up on Wall Street: How to Use What You Already Know to Make Money in the Market*. Lynch, who had put together a long record of market-beating success as manager of the Fidelity Magellan mutual fund, made an elegant three-point argument that amateur investors can and should build wealth through individual stock picking:

1. **Use your own everyday experience and common sense to identify above-average businesses.**
2. **Invest in them.**
3. **Sit back and let the magic of compounding do its work.**

"In the end," Lynch wrote in *One Up on Wall Street*, "superior companies will succeed and mediocre companies will fail, and investors in each will be rewarded accordingly."

How superior stocks beat the market

Change in value of a $10,000 investment, by average annual return*

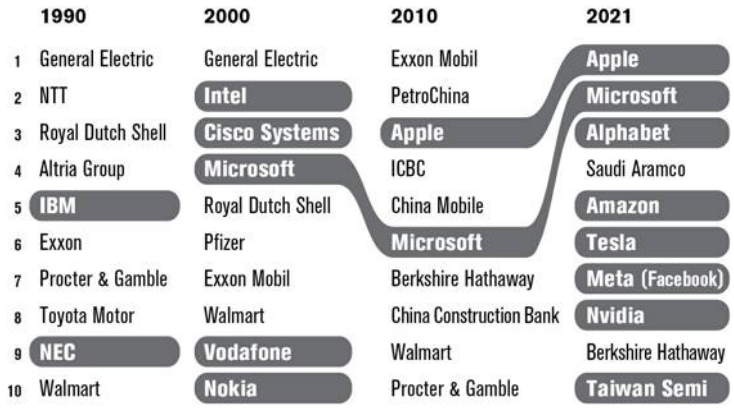


* Based on the following rates of return: Interest-bearing checking account (0.04%); 3-year CD (1%); Real Estate (5%); Stock market (9%); Superior stock (12%)

Lynch's words remain as true as ever, but the problem is that over the last generation technological change has altered the economy so much that the nature and character of what constitutes a superior business has also dramatically changed. The internet, the cell phone, and social media didn't exist when Lynch wrote. Many of the everyday examples that he used to illustrate superior businesses—Toys "R" Us, Subaru, and Hanes, the maker of L'eggs pantyhose—are now laughably out of date. That's no knock on Peter Lynch—the world changes—but we must acknowledge that the same common sense that led him to those stocks now tells us to go nowhere near them. The internal-combustion automobile today faces threats from both driverless and electric cars; most women stopped wearing pantyhose a long time ago; and as for Toys "R" Us, squeezed between the giant pincers of Walmart and e-commerce, it filed for bankruptcy protection in 2017.

Powered by continued improvements in computing power and related technologies, digital companies have transformed our daily lives, the world economy, and—most importantly for purposes of this book—the stock market. Roughly half of the US market's gains since 2011 have come from the information technology and related sectors; since 2016, roughly two-thirds of the market's appreciation has come from these sectors. A decade ago, only two of the world's ten most valuable publicly traded companies not controlled by a government were digital enterprises. Today, as the chart below shows, eight of the top ten are.

World's largest companies by market value



Source: FactSet

As the graphic suggests, the Digital Age has come upon us so quickly that we haven't had time to step back and parse what it means. While it's obvious to everyone that something dramatic and lasting has occurred, most investors seem befuddled by it. As a result, most haven't learned the language and the dynamics of a sector whose principal output consists of zeros and ones. To say that this is unfortunate would be an understatement. Companies built on a digital foundation—"tech," in the shorthand of Wall Street—are creating most of the incremental wealth in the world today.

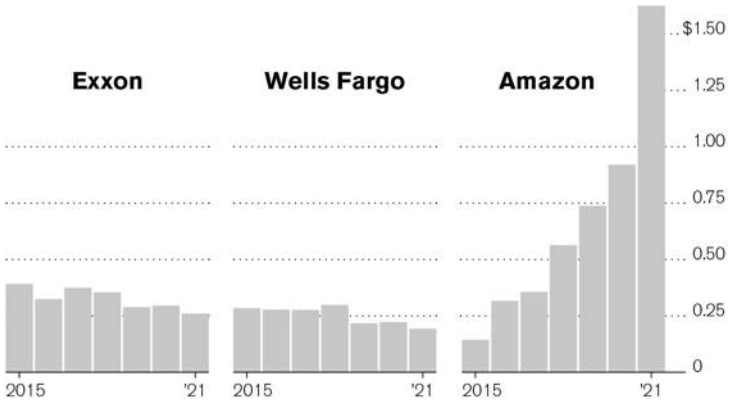
Tech dominates our daily lives so thoroughly that it's natural to think the digital revolution is largely complete, but that's not true. In many ways, it's just beginning. Even after a generation of growth, Amazon's annual retail sales volume only now matches Walmart's. Cloud computing, which today accounts for roughly 10% to 15% of all spending on information technology, will one day likely account for more than two-thirds. Intuit, the world's leading provider of small-business accounting software, reaches only 1% to 2% of its ultimate addressable market. The list goes on, and as computing power compounds, the list gets longer every year.

As tech creates new industries and new wealth, it is simultaneously hollowing out large parts of the legacy economy. Tech's dramatic rise has been accompanied by an astonishing fall in the old economy's market value. Over the last decade, the fossil fuel sector has shrunk from 13% of the U.S. stock market's value to less than 3%. During the same period, the financial services industry has shrunk from 15% of the market to 10%. As recently as 2015, Exxon Mobil and Wells Fargo, two reliable blue-chip investments for generations, were each two to three times more valuable than Amazon. Today,

as the chart below shows, Amazon is four times more valuable than Exxon Mobil and Wells Fargo combined.

Big tech gets most of the headlines, but hundreds of smaller, lesser-known tech companies have also continued to appreciate. Adobe in document productivity and digital marketing; Ansys in design-simulation software; and Autodesk in digital construction tools are only a few examples, and I've not yet exhausted the list of companies beginning with the letter *A*. Most people know Adobe because of its PDF functionality; fewer know that in 2020 Adobe earned roughly $3.5 billion, about the same as Kraft Heinz, whose brands like Oscar Mayer hot dogs and Philadelphia cream cheese have been around since the 1800s.

Market capitalization, in trillions



Source: FactSet

While the tech revolution began in and remains centered in the United States, its ascent is a global phenomenon. In China, Alibaba and Tencent dominate their digital marketplaces, and SoftBank is one of Japan's ten biggest companies by market capitalization. Germany's most valuable company is database provider SAP, and vibrant start-up cultures exist in nations as varied as India (Flipkart, Reliance Jio), Israel (Wix, Elbit Systems), and Australia (Xero, Altium).

Given all this, if we are serious about building wealth in the Digital Age, we must make a deep and rational inquiry into how we should invest in it. We must understand how tech companies function as businesses, and we must understand the source of their competitive advantage, some of which are old and some of which are new. We also need to learn how to value them, because a

tech company's income statement looks quite different from the income statement of an old-economy company. Perhaps most important, we must acknowledge the unspoken central tension facing investors today: confronted with the rise of the digital economy, many of the tools and intellectual constructs that we've relied on for generations no longer work.

Since they began to trade on the open market, companies such as Amazon and Alphabet have looked expensive, and thus unappealing, using traditional metrics. Yet Amazon has appreciated more than 2,300 times since its IPO in 1997, beating the market average by a factor of almost 300. Alphabet is up close to seventyfold since it came public in 2004, beating the market average by a factor of fifteen. Such facts can be explained in only one of two ways: either the market is wrong and we're in for another tech wreck, or many of the traditional yardsticks for measuring value are broken.

Some say that the former is true. Tech's rise, they argue, is nothing more than the second coming of the dot-com bubble, the period in the late 1990s when investors poured money into dozens of tech-related companies as it became clear that online commerce would become a reality. Any enterprise with a "dot-com" at the end of its name rushed to raise money from an enthusiastic public. It was a good party while it lasted—the tech-heavy NASDAQ index quintupled in less than five years—but the hangover was grim. From the bubble's peak in 2000 to its trough eighteen months later, technology stocks lost 80% of their value.

Pessimists are wrong, however, to suggest that we're in for another bust. Today's tech companies have put down powerful and profitable roots in ways that the first wave of dot-com companies never did. Two decades ago, businesses such as Pets.com IPO'd at multi-hundred-million-dollar valuations on the dubious proposition that they were somehow valuable because they attracted lots of "eyeballs." At its peak, however, Pets.com never turned a profit and never generated more than $50 million a year in sales despite spending more than twice that in marketing. Today's online companies don't look anything like Pets.com. Adobe's annual revenues are nearly $16 billion, from which it makes $5 billion in profit. Facebook has 3.5 billion users, and its annual earnings approach $40 billion, which is roughly four times what Disney makes.

Some also believe that, given all the concern over big tech's sudden influence over our lives, government intervention will soon check tech's power and, with it, its ability to generate wealth for shareholders. Governments may well move to curb the influence of the digital giants. They may even succeed in breaking them up altogether—but it's impossible for regulation or legislation to undo a generation of daily, habit-forming usage of the world's largest tech applications. How is any government going to regulate away the fact that, every day, people around the world search on Google 5.5 billion times? Are politicians going to outlaw Facebook from serving its billions of regular monthly users? These companies' applications are woven into the fabric of daily life around the world, and every year the weave gets tighter and stronger. As such, companies like Google and Facebook can rightly be regarded as the Coca-Cola and the General Motors of our generation.

How did tech get so big so fast, and how should we respond as investors? Answering the second question is the subject of this book. Answering the first question provides the context we'll need to answer the second question, so I'll address it here.

The primary reason tech got so big so fast has to do with computing power and the compounding effect of technological change. Computing power has doubled roughly every twenty months since engineers first commercialized silicon transistors in the late 1950s. The cost per unit of computing power was also halved over each of those same twenty-month periods. More power for less money meant that computers and related functionalities like broadband access became exponentially both cheaper and more powerful. When technologists introduced the field-effect transistor, a basic semiconductor that's become the most manufactured artifact in human history, it could hold only a single chip and it cost more than $1. Today, each field-effect transistor contains millions of chips and costs $0.000000001, or one billionth of a dollar.

This price/performance explosion became known as Moore's law, and it's been in force now for more than sixty years. Engineers have been predicting the death of Moore's law for at least a decade, but so far it hasn't happened. Meanwhile, computing's record of delivering more for less has so far been astonishing. From 1959 until 2000, silicon chips became 30 million times more

powerful while costing roughly the same. This was a huge advance, but it wasn't powerful enough to drive the massive technological change we see around us today. At the turn of the millennium, only 1% of the world's population had a broadband internet connection, as the venture capitalist Marc Andreessen pointed out in a seminal essay a decade ago. Cell phones were so expensive then that only 15% of the world's population owned one. Such facts help explain why the dot-com boom busted: the technological backbone wasn't strong enough yet to support it.[I]

In the last decade or so, however, computing power and related functionalities hit a tipping point that enabled the revolution we see today. Today, more than half the world's population has both broadband access and a powerful smartphone. As a result, much of the world searches, shops, chats, banks, and performs many other everyday activities online.

Why do we do so? Because it's better than the old way of doing things! The Olympic motto is "*Citius, Altius, Fortius*"—"Faster, Higher, Stronger." Tech's motto, if it had one, would be "*Citius, Parvius, Melior*"—"Faster, Cheaper, Better." Digital applications save us time, save us money, and make our lives easier and better in multitudes of big and little ways. Before Google Search, you had to go to the library or invest in a set of encyclopedias, which were bulky, went quickly out of date, and were hardly interactive. Before digital maps, you needed paper maps, which often ripped, never folded properly, and didn't give you alternate routes or reports on traffic accidents along the way. Before Facebook and Pinterest, groups relied on actual bulletin boards rather than digital ones.

Such improvements are the second reason tech got so big, so fast: tech makes better mousetraps. Rocket Mortgage can secure you a cost-competitive home loan online in half the time that a brick-and-mortar bank can. Intuit offers its small-business customers an everyday cash balance interest rate of 1%, which is twenty-five times higher than the average legacy commercial bank. Amazon recently estimated that it saves an average Prime customer seventy-five hours a year in trips to physical stores. Multiply that by 200 million Prime subscribers, assign a $10-an-hour value to their time, and even after deducting the Prime membership fee you get $125 billion of "time is money" savings. This faster/better/cheaper dynamic holds true for businesses as well. A digital ad on Google or Facebook is not only cheaper than a comparable one on

prime-time television, it's also much more targeted and effective, because its impact can be tracked.

Society is now focused on the threats that the big tech platforms pose across a whole spectrum of issues, and rightly so. It's important that we strike the proper balance between privacy and the flow of information, freedom of speech, and undue political influence. As investors, however, we should not forget why people adopted these technologies in the first place. They either improve our lives, reduce our costs, or both. A recent MIT study led by Erik Brynjolfsson quantified how much consumers value their everyday tech applications. He and his team asked consumers how much money it would take to get them to forsake their accounts at Facebook, Google, and others. On average, the study found, it would take $550 in annual payments to make a Facebook user quit Facebook. The number was much higher, nearly ten times so, for WhatsApp. Almost unbelievably, the study found that to go without Google, the average user would require a $17,500 annual payment. That's almost one-third the average American citizen's income.

Couple this utility with what might be called "digital economics" and you have the third and final piece of the puzzle explaining tech's rapid rise in the market. The world has never witnessed such powerful business models. A mature software company operating at scale carries profit margins that are three to four times higher than the average American corporation. Even ambitious tech companies that spend aggressively to grow their business are more profitable than old-economy businesses with high margins. Intuit, the small-business software provider, has profit margins twice that of Campbell's, the soup maker, even though Intuit spends roughly four times as much in marketing, sales, and research and development.

How can that be? Campbell's raw materials are tomatoes and chicken and noodles, which cost a lot; Intuit's raw materials are nonphysical and therefore cost almost nothing. Moreover, software-based enterprises like Intuit have no major capital or manufacturing needs. When Campbell's wants to make more soup, it must build a new production line or a new plant. Even Coca-Cola, which sells sugar water, must have its subsidiaries build a bottling plant and invest in trucks and vending machines to expand. Software companies don't require factories or production lines; they require laptops manned by intelligent engineers. When a software company wants to enter a new

geographic market, its engineers write new code, hit "deploy," and their software is available around the globe, instantaneously and with almost no incremental costs. Even a software company's major capital requirement, giant servers that process and store data, can now be rented rather than bought. That's the essence of cloud computing.

Higher profitability + lower asset intensity = the highest return on capital businesses ever seen. When Ford wants to grow its business, it must invest $10 in assets to generate $1 in profit. Coke requires roughly $6. Facebook, only $2.

Like most revolutions, the digital revolution has not been orderly. Technology has not only given us ubiquitous consumer applications, it's also given us entirely new asset classes and new ways of trading existing ones. It took human beings millennia to agree on gold as a medium of exchange; bitcoin gained traction in less than a decade. Stock market speculators have always been with us, but they now can place their bets wherever they have cell reception. Recently, they banded together on social media and used new trading platforms to cripple professional short sellers.

Given such turbulence and confusion, an inexperienced investor might reasonably ask: Why should we invest in the stock market at all?

The answer is not complicated. We invest our money because, while it would be nice to spend all of it today, we know that we'll require some down the road. We will need money to put our kids through college, to help our parents get long-term care, and to make sure we ourselves can live comfortably during retirement. We forgo the pleasure of spending $1 in the present to transform that $1 into $5 and then $10 to use at some time in the future. And as I laid out earlier, for the last one hundred years the U.S. stock market has been the best place to do that.

Given the rise of the digital economy, however, we're going to need to modify both our worldview and our toolkit if we're to invest well in the early twenty-first century. Peter Lynch told us to "invest in what you know," and this is generally good advice. Like hunters, investors do best when they understand the terrain. Many older investors, however, today find themselves in an unfamiliar landscape. What do companies with nonsensical names such as Chegg, Splunk, and Pinduoduo do, anyway? And how can we trust the