



Special Report for Clients

The Long-Term Financial Impact of Covid-19

And What It Means for You



by Ric Edelman

The #1 Independent Financial Advisor in the Nation

as ranked three times by *Barron's*, and

Founder, Edelman Financial Engines

The nation's largest Independent Registered Investment Advisor with \$217 billion in assets under management, serving 1.2 million individuals and families across the country

June 5, 2020



Table of Contents

- 03** Introduction
- 05** Chapter 1: The Right Strategy for Investors Right Now
 - 05 Diversification
 - 06 Maintain a Long-Term Focus
 - 07 Strategic Rebalancing
 - 08 Use Low-Cost, Tax-Efficient Investments
- 09** Chapter 2: The Severity of the Virus
- 11** Chapter 3: The Economy
- 13** Chapter 4: The Impact on Employment
 - 14 How Long Will Unemployment Last?
- 16** Chapter 5: The Impact on Real Estate
- 19** Chapter 6: The Impact on Agribusiness
- 21** Chapter 7: The Impact on the States
- 23** Chapter 8: The Impact on Philanthropy, Charity and Volunteerism
- 25** Chapter 9: The Impact on Higher Education
- 28** Chapter 10: The Impact on Pensions, Annuities, Social Security and Life Insurance
- 33** Chapter 11: The Impact on Retirement
- 34** Chapter 12: The Impact on the Stock Market
 - 39 The Wall Street Money Machine
 - 40 Crooks, Frauds and Con Artists
- 41** Chapter 13: Behavioral Finance Biases
 - 43 The One Word that Could Lead You Astray
- 44** Chapter 14: Our Investment Advice Isn't for Everyone; The Alternative Strategy for Them
- 47** Chapter 15: Financial Planning Strategies to Consider for the Post-Covid Era
 - 48 Dollar Cost Averaging
 - 49 Homeownership and Mortgages
 - 50 College and Career
 - 51 Digital Assets
- 53** Chapter 16: Conclusion

Introduction

The Covid-19 pandemic has created one of the worst financial crises in the last 100 years.

This report shows how the crisis is affecting various aspects of the U.S. economy, and the implications for you – as a parent, student, worker, business owner and entrepreneur, caregiver, donor, volunteer, and, of course, as an investor.

We're publishing this report because many Americans are focused on the daily headlines – or latest tweet – and not considering how society will be changed long after the virus has been defeated.

My colleagues and I at Edelman Financial Engines are not concerned about the long-term prosperity of our nation, or future levels of the stock market. Despite the risk (or in my personal view, likelihood) that major market declines will again occur before this crisis is over, we believe any such declines, regardless of how severe, will be followed by major market increases. Indeed, the stock market has reached new all-time highs after every financial crisis, and this crisis – from a stock market perspective – we think this will be no different. Of course, past performance does not guarantee future results.

But, the stock market aside, there will be fundamental, long-lasting implications for a great many aspects of our nation. Those who hope for a return to “life before Covid” are destined for disappointment. Just as air travel was never the same after 9/11, life will never be the same after Covid-19. In many respects, life will be better. But for many Americans, because of their lack of preparation or unwillingness to adapt to life in a post-Covid world, it will be worse.

And for everyone, life will be ... different.

Our concern is that most people have not accepted this fact. Americans are an optimistic bunch, after all, and our can-do, damn-the-torpedoes-full-speed-ahead, take-no-prisoners attitude accounts for our nation's success over the past 244 years. But optimism is no substitute for honest evaluation; as I've said for years, *hope is not a financial plan*.

Optimism is no substitute for honest evaluation, and **hope is not a financial plan.**

Hope and optimism, in fact, are common psychological errors that cost Americans massive amounts of money. These errors, known as *biases* in the field of behavioral finance, run rampant during periods of crisis. They are often exacerbated by both legitimate and illegitimate third parties serving their own interests at the expense of consumers and investors (we'll talk more about these in Chapters 11 and 12). When Americans who are suffering from behavior finance biases are exploited by external influences, the result can be financial devastation of such great magnitude that many never fully recover.

We want you to avoid this fate. As clients of our firm, you enjoy the guidance of our experienced, dedicated financial planners who are focused on your best interests, and you have the confidence of knowing your investment strategy is correct for your personal situation. Unlike you, millions of Americans don't have access to a financial advisor, or they are relying on advisors who themselves lack the experience or skills to effectively counsel their clients amidst a crisis that is unprecedented in modern American history.

The result, we fear, is that millions of people are not properly preparing for life after Covid-19. Consequently, they stand to lose trillions of dollars through bad investment strategies, poor career choices and inopportune financial decisions.

We are publishing this report in the hopes that it will help you, our client, and millions of other Americans anticipate and adapt to the changes that are coming. There will be a profound impact on virtually every aspect of personal finance, and the sooner you learn and accept this fact, the better off you'll be.

And we'll be with you every step of the way. From here forward.



The Right Strategy for Investors Right Now

Given the ease of transmission of the Covid-19 virus, the fact that no effective treatment, cure or vaccine yet exists and that most companies will continue to experience a decline in profits until most Americans are again employed and feel safe to congregate, we must acknowledge the possibility that stock prices will fall and that declines could be comparable to those experienced in the 2007–2009 credit crisis before prices begin to recover.

Therefore, we urge you to continue to follow the advice we have been providing you. Indeed, the Covid-19 crisis confirms our long-standing investment philosophy and shows why a disciplined investment approach is more important than ever.

Our approach, as you know, is based on these four pillars:

- 1. Own it all, all the time.** This means continually maintaining a properly diversified portfolio – one that features 15 to 17 major asset classes and market sectors, not just U.S. stocks.
- 2. Maintain a long-term focus.** As we've seen, and as history has demonstrated for more than 100 years, market values can swing wildly in short periods (days, weeks, months or even two or three years) – but they have consistently risen over longer periods.
- 3. Engage in strategic rebalancing.** At any given time, some assets in a diversified portfolio will perform better than others – creating “drift” in the desired asset allocation of the overall portfolio. It's easy to solve by rebalancing the portfolio, which restores the allocation back to its original, desired format.
- 4. Use low-cost, tax-efficient investments.** Exchange-traded funds and institutional-grade mutual funds let you keep more of your money in your account, helping to increase your wealth.

As our client, you're very familiar with this approach. As a refresher, let's review each of these pillars in detail.

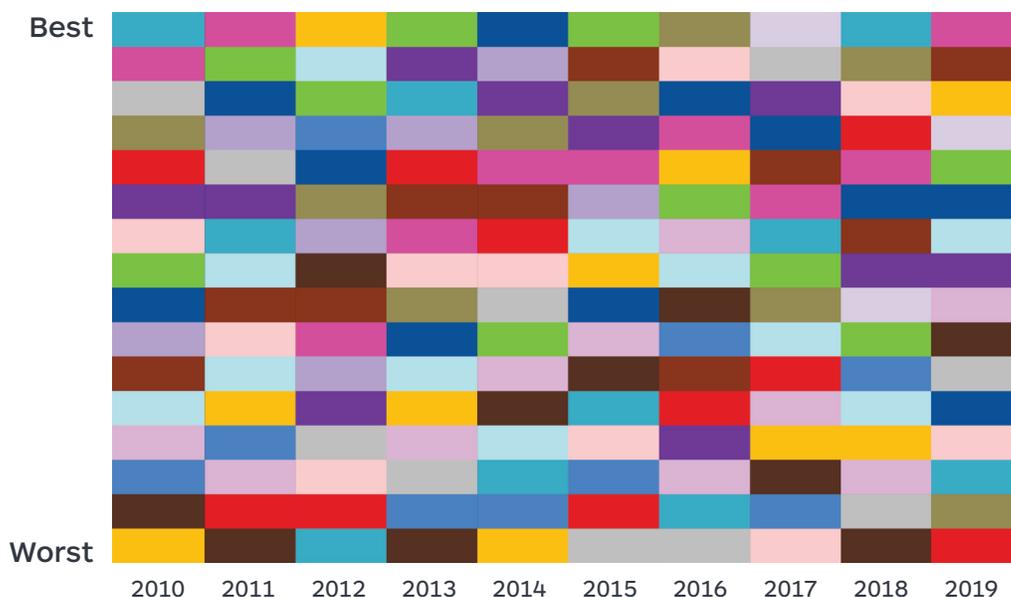
Diversification

Too often, investors wonder if they should “get in” or “get out” of the market. In fact, there's no such thing as “getting out” – simply because getting out of one market means you're getting into another.

Indeed, each of the 16 asset classes performs in its own way during different economic circumstances, and since the circumstances are unpredictable, their returns are, too. This is illustrated by the following chart, which displays the performance of the 16 over the past 10 years.

Asset Class Performance 2010-2019

Source: DFA. An index is a portfolio of specific securities (common examples are the S&P, DJIA, NASDAQ), the performance of which is often used as a benchmark in judging the relative performance of certain asset classes. Indexes are unmanaged portfolios and investors cannot invest directly in an index. Past performance does not guarantee future results.



As you can see, performance is random. Here’s the interesting part: If you had invested in each of these 16 asset classes and market sectors equally over the past 15 years, your return would have been 8 percent per year. But if you had missed the top three each year, your return would have been only 4 percent per year. This is why you should **own it all, all the time**.

Maintain a Long-Term Focus

During the four months of the crisis so far, stock prices have been volatile – massive declines followed by sharp increases. Actually, short-term volatility isn’t unusual.

But most investors don’t realize that the level of volatility shrinks over time. Look at the chart on the next page: The left-side graph shows the monthly performance of the S&P 500 since 1926; the right side shows the returns over rolling 20-year periods.

If you’re planning to sell your stock funds or make large withdrawals (greater than a four or five percent withdrawal rate) from them in a short period, you have to be worried about the stock market’s unpredictable and volatile tendencies. But if you can leave your money invested in those funds for years or decades, you don’t have to be as concerned about the risk of volatility.

Performance of the S&P 500 1926-2019

Source: Ibbotson Associates.
Past performance does not guarantee future results.



Strategic Rebalancing

Whenever you build a diversified portfolio, you naturally place certain amounts of money into some asset classes and market sectors, and other amounts into other ones. The result is that you have a given percentage of your money in each of your investments. The total is called your *asset allocation*.

Because each investment will perform differently over time, your asset allocation will drift. You'll discover that an investment that started out with, say, 10 percent of your money will now have 12 percent or 8 percent because it has grown faster or fallen further than other investments in your portfolio.

As a result of this drift, your portfolio will no longer have the asset allocation that we designed for you. Consequently, your portfolio might be taking greater risks than desired, or is positioned to earn returns that are too low for you to achieve your goals. To correct this problem, we periodically rebalance your portfolio.

We accomplish this for you by selling some of the shares from funds that are now overweighted, and we use that money to buy shares of funds that are currently underweighted.

In other words, we sell the assets that made the most money and we buy the assets that made the least (or lost the most). When people are introduced to this idea, the notion seems counterintuitive. After all, everyone likes to buy winners and sell losers – and rebalancing does the opposite.

On deeper reflection, though, it's easy to understand why rebalancing makes so much sense. Selling winners means selling at a profit, while buying losers means acquiring shares at low prices. In other words: When you rebalance, you buy low, sell high.

The alternative is to keep buying what has already performed well. If you keep doing that, you'll no longer have a properly diversified portfolio. Instead, all your money will be in a single investment – exposing you to great risk of loss if that investment declines in value. Rebalancing thus reduces your *concentration risk*.

Use Low-Cost, Tax-Efficient Investments

You can't control the markets, but you can control your costs of investing in them. At Edelman Financial Engines, we are careful to provide you with low-cost investments so more of your money stays in your account to help your money grow. Average investment costs for our clients' portfolios are 0.22 percent.¹ By comparison, the average mutual fund costs 1.11 percent per year, according to Morningstar.

Taxes are equally important, and that again makes fund selection very important. Most mutual funds engage in high levels of trading, meaning fund managers frequently buy and sell securities throughout the year. The average mutual fund has a 63 percent turnover rate, according to Morningstar, meaning the typical fund sells two out of three of its holdings every year. Every time a fund manager sells a stock, it triggers a tax liability for you – so, the higher the turnover, the more you have to pay in taxes every year. Ironically, high turnover can cause you to incur taxes even in years when the fund itself has lost money!

That's why we try to provide our clients with low-turnover funds. The average turnover rate for our client portfolios is just 47 percent.

The less you pay in an appropriately managed portfolio for fund fees and taxes, the more wealth you can accumulate.

That's all there is to it: Own a diversified portfolio filled with low-cost, tax-efficient investments, maintain a long-term focus and let us engage in strategic rebalancing for you. It's easy to understand, but not always so simple to implement, and that's why we're honored that you allow us to assist you in the design, creation, implementation and ongoing management of your portfolio.

Thanks to your relationship with your financial planner here at Edelman Financial Engines, you know that your investment portfolio is correct for your circumstances. We've been able to confirm that the strategy is in your best interests, taking into account your goals, income and expenses, assets and debts, family circumstances, need for liquidity and your risk tolerance.

But if I was writing this report for someone who's not our client, whose circumstances are unknown to us, we'd be less sanguine about blanketly telling them to hang in there. That's because we couldn't be certain that their financial circumstances or emotional condition would permit them to successfully manage their money the way our strategy requires.

I'd tell such folks to keep reading, as this report offers perspective on how the pandemic could affect not just their investments, but their emotions as well. And they'll find an alternative investment strategy to adopt if they're not confident they can sustain our core recommendations for the duration of this crisis.

¹ Our clients also pay an advisory fee of 1.75% or less.

The Severity of the Virus

Covid-19 is now the #1 cause of death in the country, according to the Centers for Disease Control and Prevention, with more than 100,000 deaths so far, according to Johns Hopkins University. The Institute for Health Metrics and Evaluation at the University of Washington has projected 134,475 deaths by Aug. 4; the Wharton School of Business at the University of Pennsylvania warns there will be 195,000 deaths by July 31 if states fully reopen. The White House's current projection says 200,000 Americans will die.

The high death rate reflects the infection rate. Johns Hopkins University reports 1.6 million confirmed cases in the U.S. to date, and many believe these figures are vastly underreported; recent analysis of CDC data by Elizabeth Blackburn, former president of the Salk Institute for Biological Studies and recipient of the Nobel Prize for Medicine, shows that American fatalities from Covid-19 likely have been occurring since November 2019 – two months before the World Health Organization held its first press briefing on the matter. This supports the exponential nature of the virus's spread; WHO says every infected person infects 2.2 people, meaning, according to Hugh Montgomery, director of the Institute for Human Health and Performance at University College London, if one person with Covid-19 infects three people, and those three people pass it to three more people for 10 cycles, there will be 59,000 infections. By comparison, Montgomery says, a person with a typical flu infects 1.4 people on average; a cycle of 10 results in 14 illnesses – rather than 59,000. The ease of transmission explains, in part, why the CDC says up to 65 percent of Americans will be infected.

Indeed, the problem is the high infection rate – not, for most, the severity of the disease's symptoms. The CDC says as many as half of all infected people develop no symptoms – but they are still able to infect others. Those most likely to become ill from the virus are people older than 60 and those who have other health problems, such as diabetes and heart disease, according to WHO – meaning young, healthy people get harmlessly infected then pass the virus to older, sicker people (including parents, teachers and bosses) who then die.

The disease's ease of transmission is demonstrated by a new paper from the University of Pennsylvania and the National Institute of Diabetes and Digestive and Kidney Diseases. It says ordinary speech can emit droplets that linger in the air for at least eight minutes, and potentially much longer, and that louder speech – such as that emitted by screaming fans at sporting events,

Age

60+

and those with health problems are most likely to become ill.

— *World Health Organization*

concerts and similar venues – produces even more droplets. This helps explain why infections quickly spread among those who are in environments with limited air circulation – such as bars and restaurants, conferences, busses, subways and trains, airports and airplanes, cruise ships, theaters and arenas, and nursing homes.

It is difficult to convince younger, healthy people, who consider themselves immune from the effects of the disease, to stop social gathering. This explains the effort to develop, approve, manufacture and distribute a vaccine: Only by making humans immune from the disease can everyone feel safe to be near others – just as the polio vaccine made it safe for everyone to once again jump into a swimming pool.

There are 160 vaccines under development worldwide, according to the Milken Institute, but many medical researchers are skeptical that any will be approved by the Food and Drug Administration by the January 2021 goal of Operation Warp Speed, President Trump's initiative.

Fortunately, the timeline can be radically accelerated – by skipping research, shortening or running concurrent clinical trials, and moving directly to human testing – something the National Academy of Sciences calls moving at “pandemic speed.” But there are risks: rather than preventing dengue fever, for example, some vaccines made that disease more dangerous.

Even if a vaccine manages to get approved by June 2021 – the FDA's current target, six months longer than President Trump's – it could take years more for most Americans to be vaccinated. Manufacturers lack the facilities to produce vaccines on a mass scale; the U.S. makes about 4 million vaccines a year (mostly for babies) but 400 million doses will be needed to vaccinate the entire U.S. population against Covid-19, or 100 times as much. That assumes only one dose is needed per person; scientists might discover that multiple doses are needed – meaning that billions of doses must be produced. And that's just for U.S. residents. Globally, tens of billions of doses could be needed.

It should also be noted that, of the 160 vaccines under development, more than half emanate from foreign companies or governments. How quickly will a vaccine become available to Americans?

This is why there's an equal focus on treatments to Covid-19; if we can't prevent it, perhaps we can minimize the severity of its symptoms. The Milken Institute, in fact, says 228 treatments are being considered worldwide. Treatment combined with testing, quarantining of infected patients, contact tracing and social distancing could help the nation resume its pre-Covid activities. But all these programs are months away from widespread adoption.

Many medical researchers are skeptical that any vaccines will be approved by January 2021.

The Economy

Covid-19 is creating a domino effect not seen since the Great Depression.

The problem with exponential growth curves is that you never see them developing until saturation has already occurred. Recent reports suggest the first infections may have occurred in the U.S. as early as November 2019, but President Trump didn't shut down foreign air travel and the nation's governors didn't begin imposing shelter-in-place orders until four months later. By then, the disease was already rampant in America.

Closing all nonessential businesses and forcing 90 percent of the nation's population to stay at home created a sudden loss of customers that forced hundreds of thousands of businesses – large and small – to lay off or furlough tens of millions of workers.

The Federal Reserve says 110 million Americans entered this crisis with credit card debt, and CreditCards.com says 23 percent of credit card debtors have added to their debt as a direct result of Covid-19. With 40 percent of U.S. households living paycheck to paycheck before the crisis began, according to the Fed, losing their job means they can't pay their rent or mortgage bills – let alone buy clothes, jewelry or cars. Indeed, 31 percent of American households didn't pay their rent in April, according to the National Multifamily Housing Council.

Some argue that people who don't own a home, have no savings and little income can't hurt the economy because they are already economically marginalized. This is incorrect, as revealed by the Bureau of Labor Statistics. BLS data shows that 24 million households (averaging 2.2 people each, or nearly 53 million people) are headed by someone age 55 to 64, and each household lives on an average of \$1,612 per month. That's roughly equal to the U.S. poverty line (\$1,437 per month for a two-person household, according to the Department of Health and Human Services). Two-thirds of these households are white; the rest are African American, Hispanic or of other races. And nearly 50 percent have a college education.

They live in communities filled with people of similar economic status, and their communities are filled with stores and vendors that cater to them, just like every community does.

But the Fed says more than 40 million of them lost their jobs in March and April. The government has provided \$2.2 trillion of support so far in the form of aid checks, unemployment insurance and other support, and Congress is considering further stimulus. And although states have begun letting businesses re-open, only 35 percent of adults say they feel comfortable visiting nonessential

businesses, according to a May survey by Bankrate.com. Those 40 million people will need to return to work or find new jobs, and when they do, their first paychecks likely will be used to pay for necessities and overdue bills, or given to family members who are also struggling financially. Only afterward will consumers be able to afford their prior shopping and entertainment habits.

So, until a vaccine is widely distributed, the economy is not likely to fully recover.

65%

of adults say they don't feel comfortable visiting non-essential businesses, according to a May survey by Bankrate.com

The Impact on Employment

More than 40 million people filed for unemployment from March 1 through May 29, according to the Department of Labor. That's a 17 percent unemployment rate, a level not seen since the 1930s. The Economic Policy Institute says the actual number of people who have lost their jobs is even higher: 55 million, not 39 million, because the DOL counts only those who have filed for unemployment benefits. Millions more, EPI observes, don't file – because their spouse is still working, they have sufficient assets or income from other sources, they were working illegally or they simply don't want a “government handout.” And a great many others, EPI says, have tried to file for benefits but failed, partly because many states have a complicated application process, while other systems are simply overloaded due to demand. As a result, the actual unemployment rate is 23.9 percent, says *Fortune* magazine.

Already, more women are unemployed than any time since the Bureau of Labor Statistics began reporting jobs data by gender in 1948. The high rate for women is because far more women than men work in some of the hardest-hit industries (leisure and hospitality, health care and education).

Minorities, youth and those with little education are also suffering more than national averages. Prior to the crisis, according to the DOL, Hispanic unemployment was 4 percent; it hit 19 percent at the end of April. The unemployment rate for African Americans was 6 percent; it's now 19 percent. More than 17 percent of Asians are unemployed vs. 3 percent earlier. Also, 21 percent of those with no high school diploma are unemployed vs. only 8 percent for those with a college degree.

...the actual
unemployment rate
is **23.9 percent**.

— *Fortune magazine*

At first, 75 percent of all job losses were in the leisure and hospitality industries. But as the crisis has continued, white-collar occupations have suffered job disruption as well – even in sectors like health care. That might seem counterintuitive, but hospitals have curtailed elective surgeries – the source of most of their income – while incurring massive costs in infectious-disease prevention and management. Dental offices and primary care physicians have also seen massive declines in routine office visits as patients stay home. According to the Primary Care Collaborative, 45 percent of primary care providers are reporting layoffs and furloughs, 28 percent have deferred or skipped salaries, and 14 percent remain temporarily closed altogether.

The pandemic is indeed cutting across every part of America's retail sales culture. The Commerce Department reported that consumer spending fell 16.4 percent in April, by far the largest monthly drop on record. (The prior record was just one month earlier, when March experienced an 8.3 percent

decline. The record before that was set in 1959.) Sales at auto parts dealers fell 23 percent. Gasoline stations reported a 35 percent decline. Sporting goods, hobby, musical instrument and book stores had a 49 percent drop. The decline was 59 percent at furniture stores, 61 percent at electronics stores and a whopping 79 percent at clothing stores.

Small wonder, then, that the Federal Reserve says U.S. manufacturing output fell 14 percent in April, the largest monthly decline since it began collecting the data in 1919. Chad Moutray, chief economist for the National Association of Manufacturers, says, “Growth will remain well below pre-recessionary levels likely until at least 2022.”

Surely, Covid-19 is creating a vicious cycle: Unemployed consumers aren’t spending. Lack of revenue forces companies to close, causing more people to become unemployed. And the cycle continues.

How Long Will Unemployment Last?

The Congressional Budget Office says the downturn will last through the end of 2020, with the economy likely 5.6 percent smaller in the last three months of this year than it was a year earlier.

Jay Powell, chair of the Federal Reserve, said in May that the coronavirus crisis could cause a “prolonged recession and weak recovery” that leaves “lasting damage to the productive capacity of the economy.” Just one month earlier, he had said the rebound might be “fairly quick” and “robust” – showing how quickly the crisis has escalated.

“A prolonged recession and weak recovery could also discourage business investment and expansion, further limiting the resurgence of jobs as well as the growth of capital stock and the pace of technological advancement,” he said. “The result could be an extended period of low productivity growth and stagnant incomes.”

“The path ahead is both highly uncertain and subject to significant downside risks,” he added. “There is a sense, a growing sense, that the recovery may come more slowly than we would like.”

Indeed, the CBO projected this month that the pandemic will reduce the economy by nearly \$16 trillion over the next 10 years. But the CBO also said its projection contains “an unusually high degree of uncertainty” – reflecting the fact that, well, nobody really knows the outcome.

One interference for many parents who are trying to get back to work: schools. In an effort to reduce the risk of infection, many school districts are planning to reduce class sizes by 50 percent. Others say students will attend half days or alternate days. This might succeed from the school’s perspective, but it wreaks havoc for parents: How can they go to work if their children are at home every other day or every morning/afternoon?

The problem is going to be worse if a May poll from *USA TODAY* proves true: 20 percent of schoolteachers say they won't return to work in the fall, and 30 percent of parents say they are "very likely" to home-school their children rather than subject them to infection risk. This phenomenon – unthinkable prior to the pandemic – is likely to slow the nation's ability to improve the unemployment rate.

It's worth noting that while the CARES Act provided \$500 to parents for each child under 17, ostensibly to help them with the costs of childcare, the law provided no funds for people who are providing elder care. While families are raising 56 million children under 15, according to the U.S. Census Bureau, 40 million Americans provide unpaid care to elders, according to the National Alliance of Caregivers.

The Impact on Real Estate

Already, 20 percent of the nation's 13.4 million renters aren't paying their rent, says the National Multifamily Housing Council.

Although evictions have been prohibited thus far, those restrictions are expiring. In 2016, when the unemployment rate was 4.7 percent, there were 3.7 million eviction cases in 2016, according to the Georgia Institute of Technology. Federal and state governments are going to unprecedented lengths to help Americans maintain their incomes and prevent them from losing their homes. There has not yet been a dramatic decline in mortgage rates or home values, but with the unemployment rate now four times higher than it was a few months ago, a tidal wave of evictions is certainly possible.

In the end, landlords want rental income, not vacant apartments. Failing to collect rent places landlords in financial jeopardy for they have their own bills to pay – including mortgages and taxes on their properties.

Renters and landlords aren't the only ones at risk. The situation is also dire for homeowners. More than 3.8 million U.S. households did not pay their mortgage in April, or about 7 percent of all home loans, according to the Mortgage Bankers Association. As recently as December, the rate was 3.8 percent, the lowest since 1970s. Fannie Mae, which guarantees 1 million of the mortgages whose payments were missed, said its first quarter income fell 81 percent. The agency also predicts mortgage defaults to double by summer. That would be a delinquency rate twice as high as that of 2008, when delinquencies peaked at 9.5 percent, says mortgage data and technology firm Black Knight. "After a long period of decline, we are likely to see steady waves of delinquencies throughout the rest of 2020 and into 2021," said Frank Martell, president and CEO of CoreLogic. "The next six months will provide important clues on whether public and private sector countermeasures – current and future – will soften the blow and help us avoid the protracted, widespread foreclosures and delinquencies experienced in the Great Recession."

These predictions could be far too low. Already, 41 percent of adults are struggling to pay their rent or mortgage, and a third say they will likely have to skip a payment within the next six months, according to a survey by Freedom Debt Relief. A third of those surveyed by Sallie Mae say they will soon have to spend the money in their children's college savings plans to pay bills.

41%

of adults are struggling to pay their rent or mortgage.

— *Freedom Debt Relief*

Indeed, the numbers are “far above any recession I’ve ever experienced in over four decades in the business,” says David Stevens, former head of the Federal Housing Administration.

Although foreclosures have been suspended by Congress, everyone who falls behind in their payments will eventually have to reckon with their mortgage obligations. Millions of Americans will be forced to sell their homes and, unable to afford housing, will have no choice but to move in with their children or parents. Already, nearly 20 percent of the American population lives in multigenerational housing, says the Pew Research Center. That’s close to the peak reached in 1950.

94%

of companies say their employees will spend more time working remotely after the pandemic is over.

— *CoreNet Global*

In fact, half of Americans will not have enough savings to live independently, says the Center for Retirement Research at Boston College. The AARP Public Policy Institute also warns that “the nation will face a severe shortage in accessible and affordable housing.”

Even though there are millions of families who can afford to stay in their homes, many won’t. Freedom Debt Relief’s survey found that 43 percent of those living in urban areas say they are considering moving to less densely populated areas due to Covid-19. Similarly, a third said the same in a Harris Poll survey.

Millions of simultaneous sellers in the nation’s major cities would cause a crash in real estate prices of unprecedented magnitude. It was problems in the real estate sector in 2008 that led to the

stock market’s meltdown 12 years ago. And it’s not just urban homeowners who are dealing with the dilemma of real estate. Corporate tenants are as well. Barclays, JP Morgan Chase and Morgan Stanley, three of the largest investment banks in America, collectively have 20,000 employees that, prior to the pandemic, were housed in 10 million square feet of office space in New York City – equal to all the office space in Nashville. All three firms are now questioning whether they’ll need that space in the future.

“We have proven we can operate with no footprint,” says Morgan Stanley CEO James Gorman. Jes Staley, CEO of Barclays, says, “The notion of putting 7,000 people in a building may be a thing of the past.” And JP Morgan Chase announced it is reviewing how many of its employees will be allowed to return to offices post-pandemic.

These three companies are not alone. A survey by CoreNet Global found that 94 percent of companies say their employees will spend more time working remotely after the pandemic is over, and 69 percent said they will use less real estate. A similar sentiment was recorded by Upwork, whose survey found that 62 percent of hiring managers plan more remote work for their hires than before the pandemic.

The workers won't mind. More than 75 percent said they'd like to continue working remotely at least occasionally, and more than half want remote work all the time, according to an IBM Institute for Business Value survey in May.

No wonder Facebook CEO Mark Zuckerberg said in late May that within 10 years, half of his company's 45,000 employees will work from home. And after the New York Stock Exchange closed its trading floor on March 23 for two months – forcing it to operate in an all-electronic mode the first time in its 228-year history – a study by New York University and the University of Illinois at Chicago concluded that the closure didn't matter. There was no impact on the market's ability to function, and some observers said the elimination of floor trading led to a smoother trading experience for investors.

Although many companies will choose to curtail their real estate footprints, they'll have to wait for their leases to expire. Meantime, many have discovered they can't afford their office space any longer; 354 apartment and office properties missed their payments on \$7.1 billion in mortgages in April and May, according to Trepp LLC. That figure is “just the start,” says Michael Fay, head of Avison Young's asset-resolution team, who says there will be a rise in mortgage defaults into 2021. “It's going to take years to dig out of what's happening now,” says Mark Edelstein, chair of Morrison & Foerster's global real-estate law practice.

Already, says Moody's Analytics, the commercial vacancy rate is 17 percent – the highest since 1991 – and it will rise to 20 percent by the end of the year. In the past 10 years, investors spent half a trillion dollars to construct office buildings around the country; the market value of the nation's commercial real estate was estimated at \$16 trillion in 2018 by the National Association of Real Estate Investment Trusts. But if businesses nationwide reduce their need for office space, commercial real estate prices will crash – and cause a ripple effect throughout the economy, just as the housing collapse did in 2008.

The Impact on Agribusiness

Aside from occasional shortages of beef or rising prices of eggs, the world's agro-industrial complex has been performing well during the pandemic. That's a huge relief because widespread hunger in industrial societies – where people aren't used to being hungry – can easily lead to riots and a complete breakdown in social order.²

Today, about 80 percent of the planet's 8 billion people eat imported food at a cost of \$1.5 trillion, according to *The Economist*. Getting food from farm to table is far more complicated when that table is on a different continent. Indeed, only about 8 percent of U.S. farms supply food locally, according to the American Farm Bureau Federation.

And Covid-19 has made crossing the ocean very difficult. Fewer ships and aircraft are making the trip because crews are harder to find and passengers are virtually nonexistent. The result, according to the United Nations' Food and Agriculture Organization, is that the number of people suffering from acute hunger could double to 265 million people this year as countries that import almost all their food are unable to get it.

Due to transportation issues, says *The Economist*, fishermen in France are throwing back two-thirds of their catch, while Australia has a glut of avocados. Millions of barrels of beer are going stale because most of it is consumed in bars and sports arenas that are currently closed. The European Union says farmers have lost \$430 million due to undeliverable potatoes.

Developed countries like the U.S. are not immune. Thirty percent of our food is eaten in restaurants, cafés and cafeterias in schools and other institutions – and all those venues have been closed for months; even when they do reopen, patronage will be far less than it was prior to the pandemic.

You might not be eating at a restaurant, but you're still eating. The problem is that you don't spend as much on food at home as you do when dining out. Ben Brown, an expert in agricultural risk management at Ohio State University, says for every \$10 lost at food service establishments, only \$3 is gained by grocery stores.

For every **\$10 lost** at food service establishments, only **\$3 is gained** by grocery stores.

— Ben Brown,
Ohio State University

²Think about Black Friday shopping madness when stores open at midnight on Thanksgiving. If they'll behave that way to get a popular toy, imagine if they're struggling to get a bag of rice.

Packaging is also a problem. Chefs buy flour in 40-pound bags; home cooks need only a 1-pound bag. Changing package sizes is expensive and time-consuming for manufacturers and suppliers.

\$13B

cattle ranchers will lose this year as a result of coronavirus.

— **National Cattleman's Beef Association**

Covid-19 has thus delivered a two-fisted punch to agribusiness: A third of its customers have been shut down so households are the only remaining major buyer of its products – and with 40 million people out of work and strapped financially, they aren't buying as much food as they used to.

The lack of demand has resulted in a huge decrease in commodity prices. Cattle prices are down 20 percent since the beginning of the year. Coffee is down 26 percent, corn is down 17 percent, soybeans are down 11.5 percent, sugar is down 18.6 percent, wheat is down 8 percent and the USDA forecasts a 20 percent decline in milk prices for 2020.

Dairy farmers in the Midwest have been pouring milk down the drain because they can't distribute it, while growers are letting crops rot and livestock are being euthanized *en masse*. The National Cattleman's Beef Association says cattle ranchers will lose \$13 billion this year as a result of the coronavirus; the National Pork Producers Council says the hog industry will lose \$5 billion.

If farmers are unable to sell the food they've produced, or at prices high enough to cover their costs, many may go broke.

At present, the nation's food supply remains strong, and you'll benefit in the short term by lower food prices. But investors in the agriculture sector may not fare as well.

The Impact on the States

When people lose their jobs, they lose their income, and with no income, there are no income taxes to pay. By not shopping, they stop paying sales taxes, too. Real estate taxes don't get paid, either – mortgage payments include property taxes, so not making the mortgage payment means your town doesn't collect its property tax. And when renters don't pay rent, their landlords can't afford to pay property taxes, either.³

There's something else renters – and everyone else – aren't doing: driving. As a result of the lockdown and massive layoffs, millions of people are staying home; the average driver who spent an average of six hours a week behind the wheel is now driving an average of six minutes weekly, according to carinsurance.org. One in four drivers have stopped driving altogether. Before the crisis, workers were spending an average of \$124 on gas every month; now, the average is just \$27. When you stop buying gasoline, you also stop paying gasoline taxes.

Pennsylvania's Department of Transportation says the state's gas tax revenue fell 30 percent in April – a \$90 million loss. California is losing \$46 million a week, according to INRIX, a traffic data analytics company. In the last recession (2008–2009), says the American Association of State Highway and Transportation Officials, gas tax revenue dropped 30 percent. This time is worse because there was no infection risk during the credit crisis that required (or motivated) people to stay home.

North Carolina gets 64 percent of its revenue from transportation taxes, the highest percentage of any state; North Dakota gets the least (17.5 percent). All told, state governments generate \$48.2 billion and the federal government raises \$36 billion in motor fuel excise tax revenue.

With few drivers on America's roads, much of this income is gone. And if the pandemic leads to a long-term recession as projected, it could be years before gas tax revenues return to pre-Covid levels. In the recession caused by the credit crisis 12 years ago, gas taxes didn't rebound to pre-crisis levels for three years. It could take longer this time.

The sudden drop in income, sales, gasoline and property taxes is hurting state and local governments. Nationwide, Moody's Analytics projects a 20 percent cut in state tax revenue next year and says nearly half the states are "significantly unprepared" for even a mild recession. Many state constitutions require legislatures to produce a balanced budget, so a drop in tax

³ Renters struggling with paying rent aren't just people out of work. Companies are struggling to pay their rent, too. Chipotle, Shake Shack, Ovlo Eats, Dunkin' Donuts, Jack in the Box, Applebee's, Yum Brands, Ruth's Chris Steakhouse and Starbucks are among many big companies that say they can't pay their June rent.

revenue must be matched dollar-for-dollar by a reduction in spending. Support for critical social services, including police and fire departments, hospitals and schools, as well as funding for the poor, elderly and homeless, as well as people with disabilities, will all be sharply curtailed.

The Impact on Philanthropy, Charity and Volunteerism

State and local governments aren't the only entities suffering large declines in revenue. Many charities and nonprofit organizations are hurting, too, because of the crisis.

Those who give money to charity are, by definition, wealthier than others – because they literally have money to give. Since the pandemic began, Americans have once again rallied behind those in need. According to Candid, \$8.3 billion has been given to supporting the coronavirus response – an amount that surpasses records set after past natural disasters. Covid-19 has infected 1.8 million Americans and killed 110,000, and millions of unemployed people need food for themselves and their families. Clearly, charitable resources are needed urgently to help them.

Yet challenges still remain. Of those who are still giving money, 25 percent have shifted their donations to organizations that are fighting Covid-19, according to Artemis Strategy Group. Researchers also report that nearly half of volunteers (47 percent) have decreased or stopped their activities because of shelter-in-place orders or fear of infection.

But, every day, 43 children are diagnosed with cancer, and more than 40,000 kids (average age: 6) undergo treatment annually, according to curesearch.org. There are nearly 600,000 homeless people across the U.S., according to endhomelessness.org, and there are 4 million veterans who have disabilities as a result of their military service, according to the Census Bureau – just to name a few other crises we struggle to resolve every day in America.

None of our other challenges have gone away simply because Covid-19 has arrived. Child and spouse abuse, drug and alcohol addictions, mental illness, suicide prevention, environmental, social and political causes, animal rights – the list is extensive, and all the organizations devoted to helping and protecting those they serve still need as much money and volunteer assistance as ever.

But it's hard to raise money when so many donors are suddenly out of work, and when everyone has to stay home. A survey by Charity Navigator and Reuters found that 75 percent of charities had to cancel a fundraising event in the past three months; 83 percent of them are “suffering financially”

83%

of charities are “suffering financially” with less than three months of cash on hand.

— *Charity Navigator and Reuters*

with less than three months of cash on hand. As a result, 64 percent of the nation's charities and nonprofit organizations have been forced to cut back on programs – despite half of them seeing an increase in demand because of the nation's economic shutdown.

Habitat for Humanity, which raises \$500 million annually, says it may have to close some of its 1,200 chapters. The YMCA, which has 2,600 locations, lost \$400 million in April. The Red Cross had to cancel 6,000 blood drives, losing millions in donations.

According to *The Wall Street Journal*, more than 12 million people work for nonprofits; 27 percent of them have laid off staff – not only reducing their ability to help those in need but adding to the unemployment rolls.

The nation's 100 largest nonprofit organizations have asked Congress for \$60 billion in support of all nonprofits, according to *The Wall Street Journal*, but Congress has not yet provided the funds.

The Impact on Higher Education

Higher education is under attack from Covid-19 as well.

From 2008 to 2017, state funding for public colleges fell \$9 billion, or 16 percent, according to the Center on Budget and Policy Priorities. Yet inflation rose 17 percent during that period. This explains why college tuition rose 37 percent, or twice as much as inflation, over the past decade.

Now, due to Covid-19, states have no choice but to cut even further their funding for higher education. Private colleges are in financial jeopardy, too. More than a third of the 937 private universities examined by Edmit are in “low” financial health, meaning they will run out of money within six years. That’s twice as many “low” scores as a year ago. The National Association of Independent Colleges and Universities has asked the Department of Education to stop publishing its report that identifies colleges at risk of bankruptcy, over fears the information will scare students away and hasten a school’s demise.

Covid-19’s damage to college budgets is conspicuous in two areas: foreign students and football.

Overall, 6 percent of all U.S. college students are from foreign countries, according to the *Chronicle of Higher Education*. At many schools, the figure is far higher. At Yale, for example, 20 percent of the student body comes from outside the U.S. Those foreign students are highly desired because universities generally charge them full rates for tuition – most foreign students get no discounts, grants or scholarships. Covid-19, though, has shut off foreign students’ ability to travel to the U.S. – meaning they can’t attend college in the U.S. this fall. Nationally, this means colleges and universities will be losing 6 percent of their revenue on average (and for Yale, it is 20 percent).

Colleges and universities will lose billions of dollars in revenue this year if sports are cancelled.

The revenue drop could last for four years, not merely a semester. An incoming freshman who was planning to attend Yale and is “forced” to select the University of Oxford instead isn’t likely to transfer from Oxford to Yale in her sophomore year. Yale, therefore, would lose that student permanently. The long-term revenue hit will be substantial for schools across the country.

Colleges and universities will also lose billions of dollars in revenue this year if college sports are cancelled. NCAA’s annual budget exceeds \$18 billion, with most of that flowing to the schools. For many schools, their sports programs account for 60 percent of their budgets. The University

of Michigan, for example, had budgeted \$196.3 million in revenue from its sports program for 2020; that money will be lost if the season is cancelled. Iowa State says it will lose \$70 million if it can't play football in the fall.

No sports on campus is just the start. For millions of students this fall, there will be no campus at all.

California State University, the nation's largest four-year public university system with 480,000 students, has announced that all 23 of its campuses will be closed for the fall semester; students will stay at home, attending classes online. Harvard Medical School and McGill University in Montreal, one of Canada's most prestigious universities, have made the same announcement. Many others are expected to do so as well because sending students to college before a vaccine is developed is an untenable prospect. As Brown University president Christina Paxson wrote in an April 26 op-ed in *The New York Times*, "students and employees [will have to] wear masks on campus ... Imagine athletic events taking place in empty stadiums, recital halls with patrons spaced rows apart and virtual social activities replacing parties." She said large lecture classes may be held online even after campuses open.

44%

of students worry about their ability to enroll or stay enrolled in college.

— *bestcolleges.com*

Having to live at home and stare at a laptop isn't appealing to many college-bound students. Simultaneously, many worry they can no longer afford to attend due to their parents' sudden financial troubles. Indeed, 44 percent of students worry about their ability to enroll or stay enrolled in college, according to *bestcolleges.com*, and 17 percent of high school seniors have decided not to go to college in the fall. Indeed, 42 percent say high school graduates should wait until college campuses reopen before they enroll in college, say respondents to last month's National 2020 College Savings Survey.

Given the choice of attending remotely or not at all, many students are making reasonable decisions to take the year off. As Brown's Paxson write in the *Times*, "Students face financial, practical and psychological barriers as they try to learn remotely." This is especially true, she said, "for lower-income students who may not have reliable internet access or private spaces in which to study."

Although most students will attend college this fall, more than a third (35 percent) say they now want to stay closer to home because of the pandemic; 32 percent now want to go to a cheaper school; and 13 percent now prefer a smaller school or one that's not in a densely populated city.

Fewer students due to Covid-19 means less revenue, adding to the budget pressures facing our nation's colleges and universities. Those same pressures are preventing these institutions from reducing their tuition costs – despite the fact that many are telling their students to stay home.

But maintaining their full tuition rates won't be enough for many schools. The American Council on Education says college enrollment declines of 15 percent this fall will create a \$45 billion drop in tuition revenue nationwide. Some institutions simply won't be able to survive.

Higher education employs 4 million people, according to the Bureau of Labor Statistics. Impending budget cuts could force hundreds of thousands into unemployment this fall. Far more than faculty and staff will lose their incomes – entire towns depend on students being on campus.

Virginia Tech, for example, generates \$1.2 billion annually for the town of Blacksburg, VA, according to Emsi, a labor market analytics firm. Fifty percent of the town's jobs are supported by the university, its students and visitors, and 39 percent of Blacksburg's taxes come from meals, hotels and other sales, according to Blacksburg Town Manager Marc Verniel.

Student housing, for example, has always been considered a safe investment since there's consistent demand for off-campus apartments. Not anymore. Student Housing Solutions, which serves students near three Florida campuses, says it hasn't been able to lease 40 percent of its units for the fall. "We're not pandemic-proof," says CEO Jennifer Pearce.

It's the same situation for hundreds of towns that are anchored by a nearby institution of higher education. If the schools are forced to hold a semester online, keeping students off campus, entire communities face severe financial damage.

The Impact on Pensions, Annuities, Social Security and Life Insurance

When Covid-19 triggered the stock market's fall, the market's decline reduced the value of the nation's pension plans, which heavily invest in stocks. By the end of March, according to Wilshire Consulting, the funding ratio for the nation's public pension plans fell 12.2 percentage points, to their lowest level in the 30 years that Wilshire has been collecting the data. As a result, state pension plans are now 38 percent underfunded – meaning the typical pension has only 62 cents for every \$1 it has promised to current and future retirees.

The nation's public pension plans assume they'll earn annual returns of 7.68 percent, according to the National Association of State Retirement Administrators. That's understandable, since the Bloomberg Barclays U.S. Aggregate Bond Index has returned 7.7 percent annually since 1980, according to Morningstar.

But interest rates are now at unprecedented lows; the 30-year U.S. Treasury is yielding only 1.3 percent. Rental income from real estate is under threat, as discussed in Chapter 5, and stock market returns are highly volatile at present. Lower returns require the states to contribute more to the plans – and that's not likely while they struggle with lower tax revenues due to Covid-19, as described in Chapter 7.

Tens of millions of police officers, firefighters, schoolteachers and other state and municipal employees are relying on these pensions for their financial security. Another 14.6 million union members are promised pensions as well, according to the Bureau of Labor Statistics. But the nation's 1,400 multiemployer pension plans are underfunded by 58 percent – far worse than even the states' plans. And the federal agency responsible for protecting all these pensions, the Pension Benefit Guaranty Corporation, is itself so underfunded that it said in its annual report to Congress last year that if multiemployer pension plans fail, it can pay only about 10 percent of the income that workers have been promised to receive from their employers or unions.

The typical pension has **only 62 cents for every dollar** it has promised to current and future retirees.

There's another form of pension, called a private pension, otherwise known as an annuity. Annuities are produced and sold by insurance companies; you give a large lump sum of money to an insurer and, in return, you receive monthly income for life. The amount you receive is based on interest rates, and as rates have fallen 25 percent since 2005, the income paid by annuities has fallen similarly.

Rates are now so low that annuity products – which we disdain, as you know – are so completely unappealing that sales are plummeting. According to the Life Insurance Marketing and Research Association, sales of fixed annuities are down 21 percent from a year ago. Single premium immediate annuity volume is down 32 percent (the biggest decline in seven years) and sales of fixed-rate deferred annuities are down 35 percent. We're not surprised by the disappointment consumers are showing for these products.

With pensions at risk, and with so many families entering retirement with so little money saved, reliance on income from Social Security is at an all-time high. Half of retiree households get more than half their income from that government program, and 1 in 4 retiree households get 90 percent or more of their income from it, according to the Center for Economic Policy and Research. Yet the average monthly Social Security retirement benefit is just \$1,503, says the Social Security Administration.

If \$1,503 doesn't sound like much, it's actually much less than it was 20 years ago, in real economic terms. A study by the Senior Citizens League shows that Social Security cost-of-living adjustments have not kept pace with inflation. Since 2000, its study shows, Social Security benefits have lost 30 percent of their buying power; although Social Security increased benefits by 53 percent since 2000, the cost of goods and services purchased by typical retirees increased by almost twice as much.

In 2019, for the first time in history, the Social Security Administration collected less in payroll taxes than it was obligated to pay in benefits.

It's bad enough when Social Security checks don't keep up with inflation. Soon, those checks will actually be reduced. That's because in 2019, for the first time in history, the SSA collected less in payroll taxes than it was obligated to pay in benefits. To cover the shortfall, SSA used money in the Social Security Trust Fund. Further withdrawals will cause the trust fund to be depleted by 2035, according to the Trustees of the trust fund. Should that occur, all retirees will incur a 24 percent cut in Social Security retirement benefits unless Congress acts.⁴

The Trustees' report was published just prior to the pandemic. With 39 million Americans unexpectedly unemployed, the Social Security system is suddenly receiving hundreds of billions

⁴ This is why I co-founded the Funding Our Future Coalition with BPC two years ago; now with more than 40 members, including academic and non-profit organizations, major corporation and think-tanks, the coalition is working hard to persuade Congress to develop solutions to the Social Security crisis. We hope reform will be adopted within the next few years.

of dollars less in payroll taxes. That, in turn, is sharply increasing reliance on the trust fund and, as a result, says the Bipartisan Policy Center, the trust fund will now be depleted as early as 2028.

Reducing Social Security retirement benefits by 24 percent will cut the average benefit to \$1,142, close to the federal poverty line of \$1,063. Millions of retirees will become homeless or unable to buy food and medicine.

The situation is even more dire for those born in 1960. Social Security retirement benefits are determined through a complex calculation that is based, in part, on average wages in the nation, and the index used by SSA caps the wage calculation at age 60. Ordinarily, wages rise annually, but because of massive unemployment this year, the average national wage has dropped for the first time in Social Security history. According to a working paper released by the Wharton School of Business in May, average wages will be 15 percent less than what the SSA had projected. Those who are age 60 this year will, therefore, be entitled to Social Security retirement benefits that are 13.5 percent less than if there had not been a pandemic. A 60-year-old who earned \$50,000 last year will thus receive about \$4,000 less from Social Security – every year, for life.

Even if average wages drop only half as much as the paper projects, says coauthor Andrew Biggs of the Economic Policy Institute, the retiree who had earned \$50,000 will incur a \$2,000 cut in annual benefits. So, while all retirees must plan for a 24 percent reduction in retirement income from Social Security, those born in 1960 must plan for a 37.5 percent reduction.

The only way Social Security's problems can be solved is for Congress to change the law. Without massive reform, most of the nearly 4 million Americans who retire annually will not be financially ready to do so. The nation can add lack of retirement readiness to the list of crises it is contending with. If the virus didn't cause this particular problem, it is certainly making it worse.

The only way Social Security's problems can be solved is for Congress to change the law.

One solace people have is knowing that, when they pass away, their survivors will receive death benefits from their life insurance policies. Thanks to the work your Edelman Financial Engines financial planner has done for you, you likely have the coverage you need. That's fortunate because Covid-19 has made it harder to buy life insurance.

Indeed, the pandemic has forced life insurance companies to reject more applications and eliminate the sales of certain kinds of policies. This is not a problem if you already own a policy, but it is a problem if you want to buy more protection.

Surprisingly, it's not because Covid-19 is killing so many people. The fatality rate of the disease is low, and most of its casualties have been people age 60 or older and those who had preexisting health

conditions, such as respiratory illness, heart problems or diabetes. These populations weren't likely to be insured, and if they were, their policies were priced accordingly, assuming their conditions existed at the time they applied for coverage.

So, it's not mortality that's caused insurers to stop selling certain policies and increase prices for others. It's because of falling interest rates.

Say you want to buy a \$1 million policy. The insurance company uses actuarial tables and information about your health and lifestyle to decide how long you'll live; let's say they estimate you'll live for 25 years. Assuming the company wants to earn a 10 percent profit (ignoring its costs and the time value of money, to keep this example simple), it would need to charge you \$1.1 million: When you die, it would pay your heirs \$1 million and it would keep \$100,000. Since you're going to live for 25 years, you'd pay \$44,000 per year for the policy.

But what I've described wouldn't produce a mere \$100,000 profit after 25 years. Instead, the insurer's profit would be \$1 million, or 10 times as much. That's because the company would invest the money you pay in premiums. Indeed, investing \$44,000 per year for 25 years, assuming an annual return of 7.68 percent (as mentioned above), would produce \$2.1 million. To keep the profit at \$100,000, the insurance company would need to charge you just \$15,663 per year, or 65 percent less!

My example is overly simplistic, but you get the point: Insurance companies care a great deal about interest rates. They invest the bulk of their money into bonds and other assets affected by interest rates, such as real estate. And today's investment landscape is making insurance companies very nervous – which is why they are raising prices for new policies and eliminating the sales of certain types of policies that are particularly sensitive to interest rates.

For example, the nation's biggest life insurer, Prudential, has increased rates 12 percent for some of its policies. It has also suspended sales of 30-year term life policies and reduced its projections for interest income on universal life policies – meaning consumers must now pay more for those policies.

Similar actions have been taken by AIG, Nationwide, New York Life, Pacific Life, Massachusetts Mutual and Northwestern Mutual. In its announcement recently, Nationwide said its pricing and product adjustments were caused by “extremely low interest rates and market volatility, and Covid-19.”

Note the order of those three causes.

Indeed, interest rate risk is one of the most important challenges investors face. That's because bond values and interest rates are directly related; when one moves, so does the other – in the opposite direction. If rates go up, bonds fall in value – and vice versa.

For the past 40 years, interest rates have been steadily declining. As rates have come down, bond prices have gone up. This helps to explain why the Barclays Aggregate Bond Index's average annual

return since 1980 was 7.7 percent. Entire generations of Americans have never lived in a world of rising interest rates – and they don't realize that rates can rise, and that when they do, bond values fall.

But rising rates is exactly what might come in the future, now that rates are at all-time lows. The 30-year U.S. Treasury currently pays 2 percent in interest. If rates rise just one percentage point, the bond's market value will fall 23 percent. A two-point rise would reduce the bond's value by 46 percent, according to moneyeducation.com.

Fortunately, the losses wouldn't be as severe for shorter-term debt securities. A one-point rise in rates would result in a 5 percent drop for a 5-yr Treasury. In other words, the longer the maturity date of the bond, the greater its sensitivities to interest rate movements.

(And, the pendulum swings both ways; a one-point drop in rates would cause bonds to rise to the same degree as increases would cause them to fall.)

There's a companion risk to bond investors: credit risk. U.S. Treasuries are considered the safest investment in the world, and are thus rated AAA. Investors believe there is absolutely no risk that the federal government would default on an interest payment, or fail to return principal upon maturity.

If interest rates
go up, bonds fall
in value.

Having a printing press helps investors feel confident about U.S. government securities. But state and local governments can't print money. But they can tax it – and that's why municipal bonds are generally considered to be fairly safe (although investors doubt financial stability of some state and local governments).

Further down the safety list are bonds issued by corporations. Since they are the sole guarantors of interest and principal payments, investors must decide if the company will honor its obligations. It can't if it goes broke.

For that reason, investors pay attention to bond ratings. Standard and Poor, Fitch and Moody's all rate corporate bonds, to help investors decide how safe a security is. AAA is the gold standard, but anything BBB and above is considered "investment grade." Below that is "speculative grade" – otherwise known as junk bonds, and D bonds are in default.

The problem is that ratings change along with a corporation's financial status. U.S. Corporate AA bonds are currently yielding 1.66 percent, while A bonds are paying 2.06 percent. You might prefer the higher yield of the A bond, but you're taking a higher risk to get it. And if a company's rating gets cut, the market value of its bonds falls.

Investors who buy bonds are often unaware of interest-rate risk and credit risk.

The Impact on Retirement

Covid-19 has exacerbated what was already a deep and growing national crisis: America's lack of retirement readiness.

Prior to Covid-19, the amount of money saved for retirement by U.S. households was \$3.7 trillion less than what is needed for them to avoid running out of money in retirement, according to the Employee Benefit Research Institute. American families aren't saving sufficiently for retirement because they don't earn enough money to do so: Although the median U.S. household income is \$61,372, up 14 percent since 1990, health-care costs since then are up 51 percent, housing prices are up 290 percent and college costs are up 311 percent, according to *The Wall Street Journal*. Because the costs of living have risen so much faster than incomes, 4 in 10 Americans don't even have the cash to pay an unexpected expense of \$400, reports the Federal Reserve. As a result, millions of Americans don't save for retirement even when employers offer them free money as an inducement to do so: More than half (56 percent) of those earning less than \$50,000 don't participate in their workplace retirement plan, says Vanguard, and 26 percent of all U.S. households have no retirement savings whatsoever, according to gobankingrates.com.

Also, nearly a third (32 percent) of private sector employees work for employers that don't offer a retirement plan, according to the DOL. That effectively prevents people from saving for retirement because people with access to workplace retirement plans are 12 times more likely to save for retirement than those who don't have access, says usaretirement.org. But even those who have managed to save for retirement haven't saved very much: The average 401(k) balance for Americans nearing retirement is \$357,000, according to Fidelity Investments, a figure so low that it can generate only about \$1,000 per month, based on withdrawal rates commonly recommended by financial planners – even though the average monthly preretirement income for such households is \$5,625, says AARP, or 5.6 times more.

Covid-19 is making this situation much worse. The Employee Benefit Research Institute calculates that investment losses and behavioral changes resulting from the pandemic (including suspension of employer contributions to 401(k) plans, reduced employee contributions, increases in withdrawals, and decreases in ability to save due to unemployment) could increase the shortfall by more than 11 percent, or \$413 billion. That's assuming stock market losses are no worse than those of 2007–2009.

It is unlikely that the savings gap will be closed. All Americans want to save for their future, but Covid-19 is making that difficult, if not impossible. Thirty percent of Americans have experienced a decline in their household income since the pandemic started, according to Bankrate.com, and 1 in 4 households had no emergency savings heading into the pandemic, while 19 percent of those who did have savings have since been forced to spend at least some of it. Another 16 percent have taken on more debt.

The Impact on the Stock Market

Investors want to know what stock prices will do next, and they are turning to pandemic and economic data for guidance. That information, unfortunately, is not directly helpful, and it can easily cause investors to reach incorrect conclusions.

That's because stock prices are not based on infection and death rates, nor their trend lines. Nor are stock prices based on economic data. Rather, stock prices are based solely on *investor expectations of future corporate profits*.

Employers generally don't hire people until they are already generating revenues, and they typically engage in layoffs only after business falters. But investors need not wait; they can buy or sell shares immediately, with a click of a computer's mouse.

Being able to trade before companies can act is a key element of stock investing and explains why many neophyte investors get it wrong. They often believe that today's corporate news is all that matters; in fact, investors must anticipate the news so they can buy or sell beforehand. The fact that investors do act in advance is illustrated by comparing stock prices to recessions: in the 12 recessions the U.S. has experienced since 1948, the stock market fell, on average, five months before each recession began, and then rose four months, on average, before the recessions ended.

Consider what happened earlier this year. The nation entered 2020 in excellent economic condition; inflation, unemployment and interest rates were at or near all-time lows. Housing and auto sales were strong, and every economic indicator suggested that the U.S. would enjoy continuing growth this year. The stock market reflected this optimism; the S&P 500, which had gained more than 30 percent in 2019, kept rising as 2020 got underway. By Feb. 19, in fact, the S&P 500 reached another all-time high.

Then news of Covid-19 hit. Investors concluded that infections and deaths would lead to job losses and massive declines in corporate profits – and caused the S&P 500 to fall 35 percent in just five weeks, even though most companies weren't yet experiencing any losses. Airlines were still operating at full capacity, cruise ships were still sailing, theaters and sports arenas were still packed with fans, and bars and restaurants were doing business as usual. Nevertheless, stock prices collapsed in the fastest decline in U.S. history. Clearly, investors were fearful that businesses would soon be suffering a decline in revenue.

Many investors now believe the worst of the crisis is over. They point to the fact that the states have loosened social-distancing rules, and nonessential businesses have reopened. They also note that the S&P 500 has jumped 36 percent from the March 23 low. Investor trading volume is up 35 to 50 percent at every online brokerage firm.

It appears that many of these investors are unfamiliar with what’s called a bear market rally – a phenomenon that occurs when stock prices rise in the midst of a major decline. As the chart below shows, all 20 of the biggest daily percentage increases for the Dow Jones Industrial Average occurred during major bear markets or crashes. Note that three of the 20 best days in stock market history have occurred during the current pandemic.

Increase	Date	Market Cycle
15.3%	3/15/1933	Great Depression
14.9%	10/6/1931	Great Depression
12.3%	10/30/1929	Great Depression
11.4%	3/24/2020	Covid-19
11.4%	9/21/1932	Great Depression
11.1%	10/13/2008	Credit Crisis
10.9%	10/28/2008	Credit Crisis
10.2%	10/21/1987	Crash of '87
9.5%	8/3/1932	Great Depression
9.5%	2/11/1932	Great Depression
9.4%	3/13/2020	Covid-19
9.4%	11/14/1929	Great Depression
9.4%	12/18/1931	Great Depression
9.2%	2/13/1932	Great Depression
9.1%	5/6/1932	Great Depression
9.0%	4/19/1933	Great Depression
8.7%	10/8/1931	Great Depression
8.0%	6/10/1932	Great Depression
7.7%	4/6/2020	Covid-19
7.3%	9/5/1939	Great Depression

As this report has shown, the economy in this crisis may fare worse than it did during the credit crisis 12 years ago. It may even be worse than the crisis our nation experienced in the 1930s. Already, corporate bankruptcy filings have increased 26 percent from a year earlier, according to Epiq Global, with many more filings to come, as FactSet reports that corporate earnings are down 13.7 percent compared to last year.

Even companies that are faring well during the pandemic are struggling to profit. Amazon reported a 26 percent increase in sales in the first quarter but noted that profits fell 29 percent because it cost more to meet demand. Amazon CEO Jeff Bezos said in May that profits may continue to fall.

To survive, companies are cutting costs. Payroll is the largest expense for most businesses, which explains why furloughs and layoffs are rampant. But companies are going further, cutting salaries for remaining employees and suspending dividends. The latter should be of crucial concern to investors.

Yet, the S&P 500 is trading at 22 times projected earnings – meaning investors are behaving not only as though the crisis is over, and they expect the decrease in earnings to be temporary. The price-to-earnings ratio is a key measurement of the affordability of stocks; the lower the figure, the cheaper stocks are. The average Forward P/E Ratio is about 15, and it hasn't reached 21 since just after the dot-com bubble of 2001 – until now, according to Dow Jones Market Data.

The fact is that no one truly knows what will happen next in the stock market; although it's easy to say with confidence that prices will be higher 20 years from now, the short-term is far more difficult to predict accurately.

Indeed, many factors support the recent rise in the stock market:

- 1. Congress has provided unprecedented amounts of fiscal stimulus.** The CARES Act injected \$2.2 trillion into the economy, equal to nearly 9 percent of our GDP, and a bill in Congress would inject \$3 trillion more. Together, Congress and the president have an unlimited ability to inject endless amounts of money into the economy – to keep the nation's biggest industries (manufacturing, airlines, banking, agriculture and more) from closing, and to prevent insolvency by the states, pension plans, hospitals/health-care providers and institutions of higher education, as well as individuals, families and small business owners.

The administration is revising federal regulations, including delaying or eliminating a variety of tax deadlines and obligations.

The Federal Reserve has provided more than \$3 trillion in asset purchases and loan guarantees, has reduced its overnight interest rate to zero, promised to guarantee money market funds and assure liquidity for exchange-traded funds. Indeed, Fed Chair Jay Powell has said “nothing is out of the question” when it comes to providing fiscal stimulus to prevent the nation from experiencing an economic collapse, and added that the Fed has not exhausted

all the tools available to help it combat the economic fallout caused by the virus.⁵

- 2. Governments around the world have acted similarly,** with large fiscal and monetary stimulus efforts of their own, ranging from 2 percent to 10 percent of their GDP. All this simultaneous stimulus deployed across the globe is further supporting investor confidence.
- 3. Interest rates are at or near all-time lows.** The 10-year Treasury's yield is 0.65 percent; it was 2.22 percent a year ago. Low interest rates imply that inflation will remain very low, keeping the cost of living affordable. And the president has proposed lowering tax rates to further boost economic recovery. (Presumed Democratic presidential nominee Joe Biden also announced that, if elected, he will not raise taxes on households earning less than \$400,000.) The trifacta is presumed to help consumers spend more, and since consumer spending accounts for 70 percent of our GDP, that should lead to improvements in the economy. Indeed, the University of Michigan Consumer Sentiment Index rose in May from April's level, with similar improvements seen in European and Asian economies. Although the indices are still sharply down from levels earlier in the year, increases in these indices have given investors confidence to raise stock prices today.
- 4. Investors are also cheering recent news reports about vaccines for the virus.** Hundreds of studies across the globe are testing new and existing therapeutics, and news reports have conveyed optimism that treatments will be widely available in coming months. The economic crisis was caused by the virus, so goes the view of investors, so its elimination will allow the economy to return to its prior standing.⁶
- 5. Most of the country has relaxed shelter-in-place policies, allowing businesses to re-open.** And there are early signs that the unemployment rate may be stabilizing. This is causing investors to be hopeful that corporate profits will return to prior levels.⁷

It is thus understandable why investors are optimistic about the stock market, even though this paper has explained why investors should dampen their enthusiasm for the short term.

Indeed, nobody knows what the stock market will do next. That's why the only forecast we can confidently make is that there will continue to be high levels of volatility for the foreseeable future.

But millions of investors think they do know – and they are investing accordingly. This is why stock prices have risen so sharply in the past two months: Investors have convinced themselves that the worst of the pandemic is over and that America's corporations will soon be earning as much money as they were before the crisis began.

⁵ Investors are expecting further support from the government and believe that the support will prevent the economy from weakening further. If the support isn't forthcoming, or if it doesn't support the economy as expected, investor sentiment could shift.

⁶ Investor sentiment will shift if the vaccine doesn't arrive as quickly as investors hope, if distribution is delayed or large numbers of people refuse to be vaccinated, and in a May 28 survey by the National Opinion Research Center and the Associated Press, 20 percent of those polled said they would refuse to be vaccinated.

⁷ Just because people can leave their homes doesn't necessarily mean they will resume prior spending habits. Investor expectations might not be fulfilled.

Unfortunately, investors are terrible market timers. Even though the S&P 500 rose an average of 10 percent per year over the past 30 years (from 1990 through 2019), the average investor of stock funds earned only 5.04 percent per year, according to Dalbar's Quantitative Analysis of Investor Behavior. In other words, the average investor missed 59 percent of the profits earned by the stock market over the past three decades.

How could this be? Simple. Mutual funds report their returns on a calendar basis – from Jan. 1 to Dec. 31. But investors don't buy shares on the first day of the year and sell on the last day. Instead, they buy and sell throughout the year. Although people sometimes buy simply because they have money to invest, and they sometimes sell merely because they need cash, investors far too often buy because they think prices are about to rise and they sell because they think prices are about to fall.

Yet, as Dalbar's data shows, an investor who placed \$100,000 into a fund mimicking the S&P 500 on Jan. 1, 1990, would have had an account value of \$1.75 million by Dec. 31, 2019.⁸ By contrast, the typical stock fund investor over that period, due to poorly timed trading, would have gotten less than \$334,000.

The data is even worse for those who try to predict bond prices: Although the Bloomberg Barclays U.S. Aggregate Bond Index has averaged 6.1 percent per year for the past 30 years, investors of bond funds earned an average annual return of just 0.26 percent. They missed 96 percent of the returns!

Mutual fund managers are no better than ordinary investors, either. The SPIVA Scorecard shows that 70 percent of actively managed U.S. stock funds failed to beat the S&P 500 last year. They post the same dismal performance over longer periods, too:

- 72 percent failed to beat the market over the last 3 years
- 83 percent failed to beat the market over the last 5 years
- 89 percent failed to beat the market over the last 10 years
- 89 percent failed to beat the market over the last 15 years

Bond fund managers are even worse: Only 2 percent of them generated higher returns last year than the Bloomberg Barclays U.S. Aggregate Bond Index; the other 98 percent failed to beat the market. It's the same for longer periods, too. Of all the long-term U.S. government bond funds:

- 98 percent failed to beat the market over the last 3 years
- 100 percent failed to beat the market over the last 5 years

⁸ This is a hypothetical illustration meant to demonstrate the principle of compound growth and is not representative of past or future returns of any specific investment vehicle. It does not include consideration of the investment fees or expenses. Past performance does not guarantee future results.

- 99 percent failed to beat the market over the last 10 years
- 98 percent failed to beat the market over the last 15 years

This data shows the folly of frequent trading and market-timing.

The Wall Street Money Machine

Why, then, do so many individual investors try to time the market and trade so often? Partly because they are encouraged to do so.

During this pandemic, for example, online brokerage firms have been encouraging investors to trade by making it easier than ever for them. One now offers fractional share trading, which lets consumers invest just \$5 for a piece of any stock in the S&P 500; it lets you buy up to 10 stocks in a single transaction. Another has launched “thematic screens” that let you buy a block of stocks with a single click. Themes include Playing Defense, Hedging with Gold, Undervalued Large Firms, Up and Comers, Emerging Economies and Technology Pacesetters. Several firms offer “toast notifications” – messages that pop up on your screen when your trades are executed.

Interactive Brokers, for example, has added to its platform 25,000 funds from around the world, including 8,400 that can be bought or sold commission-free. In fact, free trading is now standard across the industry. Brokerages can afford to do this because they receive fees from stock exchanges and market makers for steering transactions to them. SogoTrade is now rebating some of those fees to its customers – essentially paying you to trade!

And investors aren’t harmed solely by brokerage firms’ enticement of frequent trading, which, while lamentable, isn’t outright fraudulent. Other business practices are, however. Too often, brokerage and advisory firms and their representatives promote products or engage in sales practices that are false and misleading, leading to billions of dollars in investor losses.

In 2019, the U.S. Securities and Exchange Commission brought 862 enforcement actions against brokerage and investment advisory firms, barred or suspended 600 individuals and collected \$4.3 billion in disgorgement and penalties – returning \$1.2 billion to harmed investors.

Also in 2019, the Financial Industry Regulatory Authority levied \$39.5 million in fines, ordered \$27.9 million in restitution to harmed investors, barred 348 individuals and suspended another 348, and expelled or suspended 27 firms. FINRA also referred 827 fraud and insider trading cases to the Justice Department for prosecution.

Meanwhile, state securities regulators launched 5,320 investigations in 2019, according to the North American State Securities Association, resulting in 1,640 administrative, 218 criminal, 146 civil and

63 other enforcement actions. More than \$558 million was ordered returned to investors; another \$490 million were assessed in fines and penalties, \$11.6 million for costs and \$10.5 million for investor education. State regulators revoked, barred or suspended more than 230 individuals and firms, and denied licenses to more than 760 others. Another 4,500 licenses were withdrawn as a result of state action or attention, and wrongdoers were sentenced to a total of 1,048 years in prison and 705 years of probation.

Don't assume that all those firms and reps were promoting Ponzi or other get-rich-quick schemes. More than half of the states' actions, in fact, were against firms, brokers and advisors for improper sales practices pertaining to traditional securities, variable annuities and equity indexed annuities.

And all this happened at "legitimate" firms. Investors fare even worse when they encounter outright crooks.

Crooks, Frauds and Con Artists

The Federal Trade Commission, FBI, IRS, Treasury Department, U.S. Securities and Exchange Commission, FINRA and the North American Securities Administrators Association (representing securities regulators from the 50 states, Canada and Mexico) are all warning consumers that crooks are exploiting the pandemic to steal investor money and personal information, including their identities. The FTC has received 18,000 reports of fraud and says victims have lost \$13 million since the pandemic began.

Regulators and consumer protection organizations say crooks are sending billions of emails and texts featuring such messages as:

- **Guaranteed high returns** – no risk!
- **There's a shortage** – get in before it's too late!
- **This is an offshore investment** – tax free!
- **You can profit like the experts** – get the secrets to success!
- **Secret markets**
- **Great investment opportunity** – your friends can't be wrong!
- **You can trust me** – I have credentials and extensive experience.

What causes people to fall victim to slick sales pitches and outright cons, and why do investors believe they are smarter than every other investor? The answer lies in psychology.

Behavioral Finance Biases

One explanation for errant investor behavior relates to psychology: Humans are simply predisposed to make bad investment decisions. Nobel prize-winning research has identified dozens of biases that influence investor behavior, any one of which can cause you a great amount of financial harm. It's essential, therefore, that you honestly and objectively evaluate your tendency to fall victim to these biases.

Do any of these biases apply to you?

- 1. Anchoring Bias.** The tendency to be influenced by random circumstances. Did you invest 60 percent of the money in your workplace retirement plan into stocks merely because 60 percent of the funds offered in your plan are stock funds? Don't let randomness influence your asset allocation.
- 2. Availability Bias.** The tendency to reach conclusions based on information you have, which might be incomplete or skewed. Example: An annuity offering a 6 percent interest rate might sound good, but you might not know that the rate falls to 1 percent after 12 months – or that you must pay a 10 percent surrender fee if you cancel.
- 3. Compartmentalizing Bias.** The tendency to make isolated decisions without considering their broader implications on your personal finances. Example: An investor contributes to a college savings account even though he has a large credit card balance.
- 4. Confirmation Bias.** The tendency to accept information that agrees with your preconceived notions, and to reject information that conflicts with your views. Example: A politically conservative investor gets news from Fox, while a politically liberal investor gets news from MSNBC; neither is willing to consider information provided by the other network.
- 5. Endowment Bias.** The tendency to maintain a current strategy or investment even when doing so is incorrect. Example: A son inherits stock tax-free from his father. He keeps the stocks out of loyalty, whereas the father hadn't sold it merely to avoid paying taxes on the gain.
- 6. Framing Bias.** The tendency to evaluate investment decisions in a manner that is most appealing. Are you focusing on a given investment's chances of success instead of its chances of failure?
- 7. Herd Mentality Bias.** The tendency to follow the pack. Are you tempted to buy or sell investments merely because that's what everyone else is doing?
- 8. Hindsight Bias.** The tendency to criticize yourself for not making smarter decisions in the past because "it's obvious this was going to happen" and being convinced you'll make the right decision next time. You didn't sell in February even though, in hindsight, it's now obvious that

stocks were going to fall in value – tempting you to believe you’ll “get it right” the next time.

- 9. Illusion of Attention Bias.** The tendency to believe you are paying attention, when you are focusing on the wrong information. Perhaps you’re excited that businesses are re-opening, but you’re ignoring the fact that most consumers lack ability or desire to patronize them.
- 10. Illusion of Control Bias.** The tendency to believe that your actions will dictate future results. Example: You believe that a stock will rise merely because you decide to buy it.
- 11. Intuition Bias.** The tendency to make investment decisions based on gut instinct. As Malcolm Forbes said, “If everyone was right, everyone would be rich.” Remember that for every buyer of a stock, there is a seller. Both of you can’t be right.
- 12. Mental Accounting Bias.** The tendency to rationalize your decisions, so they appear better than they are. Example: You brag about the money you saved at a half-off sale when, really, you spent a lot of money.
- 13. Optimism Bias.** The tendency to be confident that your investment decisions will be correct, despite the absence of evidence to support your view.
- 14. Overconfidence Bias.** The tendency to believe you are better than you are. Example: 80 percent of adults believe they are above-average drivers. So are you really as good a market-timer as you think you are?
- 15. Pattern Recognition Bias.** The tendency to see trading patterns that don’t exist. Example: You believe growth stocks will make more money than value stocks in the future merely because they have in the past.
- 16. Proud Papa Bias.** The tendency to favor investments you already own, merely because you already own them.
- 17. Recency Bias.** The tendency to focus on the most recent events, ignoring or dismissing longer-term history or future trends. Example: You believe the stock market will keep rising merely because it has been rising.
- 18. Regret Aversion Bias.** The tendency to make investment decisions that are focused primarily out of a desire not to feel regretful in the future, even though the decisions are incorrect. This is also known as FOMO – the fear of missing out. Example: You invest money in stock funds so you won’t feel bad if stocks rise.
- 19. Small Sample-Size Bias.** The tendency to reach conclusions based on small amounts of information, disregarding larger sets of data. Example: Your friend concludes that the virus fears are overblown because no one he knows has been infected.
- 20. Status Quo Bias.** The tendency to leave things as they are, despite compelling information to the contrary. Example: You ignore fundamental changes in the economy due to the pandemic and stick with your old strategy, even though it might no longer be what’s best for you.

The One Word That Could Lead You Astray

Did you dismiss these biases as not being applicable to you? Be careful, because you might be setting yourself up for failure.

The reason: **denial**.

Tens of millions of U.S. investors are in denial about the severity of the Covid-19 virus, about the long-term economic impact of the pandemic, about the declines that the U.S. stock market may be about to face, about the adverse influences that are trying to harm you financially and about your emotional and psychological inability to remain invested while stock prices are down.

As a result, despite protestations to the contrary, tens of millions of investors who currently have much (and often a majority) of their investable assets in stocks will panic and sell when prices are at or near their market lows. Then, after selling, they will remain in cash, missing the market's subsequent recovery – effectively locking in their losses forever.

It doesn't have to be this way. All it takes is a willingness for you to acknowledge:

1. The severity of the virus.
2. The harm the crisis is causing to the U.S. economy.
3. The dangers facing the stock market.
4. The conflicts of interest that put Wall Street at odds with you.
5. The likelihood you will encounter scam artists, often without you realizing it.
6. That your emotions, which are both unpredictable and uncontrollable during periods of duress, will work against you, causing you to make the wrong investment decisions at precisely the wrong moment.

If you're willing to acknowledge these facts, we can help you confirm that your investment strategy is the one that's best for you as we progress through this crisis.

Our Investment Advice Isn't for Everyone; The Alternative Strategy for Them

The investment advice we provide you and all our clients is the result of our extensive experience, training and education over the past 35 years.

However, we must acknowledge that while we regard our investment strategy to be the best that's available, it's not for everyone – especially during an environment as uncertain and difficult as the current pandemic. As I mentioned earlier, thanks to your relationship with your financial planner here at Edelman Financial Engines, you know that your investment portfolio is correct for your circumstances. We've been able to confirm that the strategy is in your best interests, taking into account your goals, income and expenses, assets and debts, family circumstances, need for liquidity and your risk tolerance.

But if I was writing this report for someone who's not our client, whose circumstances are unknown to us, we'd be less sanguine about blanketly telling them to hang in there. That's because we couldn't be certain that their financial circumstances or emotional condition would permit them to successfully manage their money the way our strategy requires.

I'd tell such folks that they should implement the prior chapter's investment strategy only if they are highly confident that they can maintain the full strategy – all four pillars, not just one or two of them – for the full duration of the Covid-19 crisis. If they start it but are unable to sustain it, they could subject themselves to significant – and perhaps unrecoverable – investment losses.⁹

So before I'd encourage folks I've never met to proceed with implementing our investment strategy, we'd ask them to answer 10 questions. The questions aren't terribly relevant to you, because you're a client of our firm. You'd likely answer “yes” to them all, but I'm not so sure that others would answer the same way.

Take our quiz on the next page.



⁹Unrecoverable? That'd be because of their behavior, not the markets. Through my radio and television shows and our live events during and after the 2007–2009 credit crisis, my colleagues and I met hundreds of people who told us that they sold at or near the market's lows and that they've remained in cash ever since. Even though the stock market recovered – by 2019, it tripled in value from its March 2009 lows – fear had frozen their accounts at 2009 levels. Thus, they never recovered from their losses.

Test your investment readiness

1. Have you confirmed with an independent third party that your portfolio is properly diversified based on your personal circumstances?

Yes No
2. Do you have sufficient financial resources, so that you will not have to sell or liquidate any portion of your portfolio to pay bills or maintain your lifestyle for the duration of the Covid-19 crisis?

Yes No
3. If your financial resources include income from a job, could you maintain an acceptable standard of living if your employment income was reduced by 50 percent during the Covid-19 crisis? Can you also say this if your income is eliminated?

Yes No
4. If you are age 65 or older and your spouse receives a pension, would your lifestyle and financial security remain intact even if your spouse passes away?

Yes No
5. Would you be able to avoid selling or liquidating any portion of your portfolio even if you suddenly need to provide significant and ongoing financial support to members of your family, who themselves may incur major financial disruption due to the pandemic? Are you aware of the financial status of your parents, children and siblings, including in-laws, step-families and exes, so that you can effectively evaluate the likelihood that you might need to provide financial support, how much support you might need to provide, and how long you might need to provide it?

Yes No
6. During the credit crisis of 2007–2009, did you maintain, or increase, the portion of your portfolio that was allocated to stocks, and did you continue to contribute to your workplace retirement plan at the same rate, or more, than you were doing prior to that crisis?

Yes No

7. Do you realize that your risk tolerance and willingness to invest, and remain invested, throughout the credit crisis of 2007-2009 might not be the same as today, considering that you are now 12 years older than you were then – and thus you are 12 years closer to retirement or already in retirement – and are you *certain* that your current portfolio’s asset allocation reflects your current risk tolerance, and is not merely based on the level of risk tolerance you had when your portfolio was created? Yes No
8. Would your lifestyle and financial security remain intact even if some of your investments decline 30 to 50 percent in value? Yes No
9. Are you *certain* that fear, panic or concern about further losses would not cause you to sell any of your investments even if any of them were to fall 30 to 50 percent in value? Yes No
10. Have you *honestly and objectively* considered the risk that you might fall victim to any of the behavioral finance biases described in this paper? Have you asked a trusted person (such as your spouse or partner) to *honestly and objectively* confirm that you are immune from these biases? If you have a spouse or partner, have they *honestly and objectively* answered these questions as well? Yes No

If you answered “no” to two or more of these questions, you might be at risk of selling your investments during the Covid-19 crisis, while stocks are down in value. Therefore, you may want to consider:

- A. **Increase your cash reserves to at least two years’ worth of spending**, based on April and May spending levels, which are likely lower than what you were spending before the lockdown. (The less reliable your sources and amounts of income, the more you should have in cash reserves.)
- B. **Reduce your portfolio’s allocation to stocks and stock funds.** Most of your portfolio should be held in short- and intermediate-term government bonds.

Most likely, this asset management strategy isn’t pertinent for you or any of our clients (if it was, we’d have already provided you with that advice). It reflects and reinforces, therefore, our fundamental view about this pandemic from an investment management perspective: Long term, we’re not worried about the stock market. We’re worried that many people who are investing in it shouldn’t be because of their financial or psychological circumstances.

The right strategy implemented by the wrong person is the wrong strategy.

Financial Planning Strategies to Consider for the Post-Covid Era

This pandemic will lead to fundamental changes in consumer and business behavior. Many old priorities will vanish, and new ones will emerge. Products and services that were popular prior to the virus will never come back, and others are only gone temporarily, while still others are yet to be invented.

Dining out, for example, will be a different experience. Existing restaurants will offer half the seats to accommodate social distancing, while new ones will be twice as big. Limiting the number of diners at a time will cause restaurants to expand their hours, and you'll have to make reservations due to limited seating. The meal will be quicker, too, as restaurateurs will seek to flip their tables more often in order to serve as many meals as before with only half the tables. Forget about the old pace (talking, followed by placing your drink order, then getting menus, then ordering dinner, first receiving an appetizer, then salad, then first course, then second course, then dessert and coffee). Instead, you'll order within minutes, and the meal will be served as fast as possible. You won't get a germ-laden menu – chalkboards hanging on walls will tell you what's available. Forget about salt and pepper shakers – too many germs on them, too. Plates, utensils and glassware will arrive in sanitary wrapping, and either will be thrown out or sanitized (not merely washed) before their next use. And when you're done eating, you'll be expected to promptly leave so the next diners can be seated.

Yes, many aspects of life will be different – sometimes in minor ways, like having to plan ahead for dinner – but often in profound ways, too. The pandemic is still new, so it's difficult to determine which trends will remain with us after the virus is defeated. But one trend is certain: the accelerated adoption of exponential technologies.

Before Covid-19, massive innovation in an array of new fields was underway. I described them in my 2017 *New York Times* bestseller, *The Truth About Your Future*. Now, thanks to the pandemic, adoption of these technologies will be accelerated.

It's difficult to determine which trends will remain after the virus is defeated.

Can't travel? Virtual reality will let you explore the entire world from your home.

Want to assess your health? Big Data will collect massive amounts of information from your body and transmit vital stats to your health-care provider in real time. Your data will be analyzed by artificial intelligence, allowing your doctor to prescribe medication that will be delivered by your

pharmacist via drone – until you install a 3D printer in your home that will enable you to print your own meds.

Worried about beef shortages due to supply chain interruptions caused by Covid-19?

It won't be a problem in the future: Plant-based alternatives – already on the market – will reduce the need and desire for animal protein. Fruits and vegetables will be grown in vertical farms – high-rises in city centers using hydroponic and aeroponic technology that eliminate the biggest cost associated with agriculture: transportation.

Factories shut down because workers can't operate at a distance from each other?

Not in the factory of the future. Robots will replace humans, and self-driving vehicles will deliver goods from manufacturers to stores to customers.

Fearful of packed auditoriums or stadiums? Arenas of the future will feature giant screens outside the stadiums, allowing fans to relax on lawns far apart from each other. Fans will be able to connect with coaches during the game, altering plays. Forget about merely betting on games; fans can already invest in specific players and teams – giving you a true interest in the outcome of entire seasons and careers, not just games and specific plays.

Will safety and security be of utmost priority? Just as airports are dramatically safer than they were before 9/11, all of society will be transformed – with technology helping to gauge the quality of our air, clothing, furniture, food and even our bodies.

All these innovations will come faster than ever – offering huge investment opportunities. That's why we inspired the creation in 2015 of the first exponential technologies ETF, and why this theme is a focus for our clients' portfolios.

In the past month, we've provided you with new strategies for your auto insurance and estate planning – all because of Covid-19. In months to come, we'll give you more financial planning strategies, as trends become clear and opportunities available. For now, here are four ideas for you to consider:

1. Dollar Cost Averaging

Volatility is highest when investor uncertainty is greatest. So, should you invest available money today or not?

This report has already provided you with one way to reduce the risk of investing the day before a market crash – by diversifying (so that you don't invest all your money into stocks). But there's an additional way to protect you from volatility, and even help you exploit it.

It's called dollar cost averaging, and it's remarkably simple to understand and just as easy to implement.

Say you have \$100,000 to invest. Instead of investing all that money today, in a lump sum, consider investing it over time – say, \$10,000 per month for 10 months. When dollar cost averaging, the amount and interval don't matter; what matters is that you are consistent.¹⁰

If you're still working, you're probably engaging in dollar cost averaging without even realizing it – thanks to your retirement plan at work. You get paid at regular intervals. Each paycheck is the same, and your contribution to your retirement account is therefore the same. That's dollar cost averaging!

This is why you should continue to contribute to your retirement plan throughout this crisis, for years afterward and really, for as long as you're earning a paycheck. You should also consider dollar cost averaging all the money you have yet to invest, to help reduce your investment risks.

2. Homeownership and Mortgages

Fundamental shifts are coming to residential real estate. Many urban residents say they want to move to less congested areas, and indeed many New Yorkers who left the city after 9/11 never returned. It's uncertain whether similar behavior will persist after there's a vaccine for Covid-19. In the meantime, though, other trends are likely, including:

- **A preference for lower-density housing.** High-rise, congested apartment buildings are falling out of favor, as people don't want to be dependent on crammed elevators filled with others who might be infectious. Single-family property values might rise as a result of new demand.
- **A redesign of home floor plans.** Buyers will demand architecture that gives every family member excellent workspace, supported by high-speed internet connections. Multi-car garages will be less important, partly because more people will be working from home, and partly because ride-sharing services eliminate the need for automobile ownership. That garage space will be converted to home-office space. If your house doesn't offer these features, its value will decline, so consider this when you start your next remodeling project.

Thirty years ago, we started encouraging homeowners to get a big, long mortgage and never pay it off. This advice was heretical when we first espoused it – conventional wisdom was to own your home outright – but over the decades, many in our field have changed their views.

The pandemic will only accelerate this shift: Millions of Americans are suddenly and surprisingly out of work, and a great many of them entered unemployment with no savings – but also no mortgage. It might appear that the absence of that large bill would improve their situation, but the opposite

¹⁰ You may recall us recommending this idea in a letter we sent you a couple of months ago.

is true. A paid-off house doesn't help you buy food and medicine. Indeed, being "house-rich/cash-poor" is exacerbating the plight of many unemployed households.

Ironically, that home equity is out of reach for many because unemployed homeowners don't qualify for home equity loans. As a result, the only way they can access their equity is to sell the house – a distasteful course of action, and a financially challenging one, since home prices are down in most parts of the country due to the economic crisis.

Unemployed homeowners who opted to make a small down payment were able to keep their cash instead of giving it to the seller – and that cash (assuming they didn't spend it elsewhere) is proving to be invaluable now that their incomes have been interrupted. The lesson: Instead of fretting about the size of the mortgage, focus on the size of your savings and investment accounts.

3. College and Career

Few aspects of life will be impacted as much as college. After all, every college campus is a microworld unto itself – with all the challenges affecting the rest of society.

And the problem for institutions of higher education is that parents and students alike are discovering the raw deal they're getting. At too many institutions, the degree's cost has no relationship to its value. Overpriced tuition and fees are under new scrutiny – and that skepticism won't end when this crisis does.

Students need to decide if they will attend college in the fall. If they attend remotely but pay full tuition, are they getting what they paid for? If they are allowed onto the campus, are they at risk of getting sick, or of becoming infected and getting their parents sick when they return home?

More importantly, students must decide if the major they planned to pursue is still worth pursuing in a post-Covid world. Prior to the pandemic, I explained in *The Truth About Your Future* that 171 occupations will disappear by 2035. The virus is accelerating that timeline and expanding the list because my book was referring only to careers that will be eliminated by technology. Now, due to Covid-19, additional careers will be destroyed by lack of consumer demand for once-popular (pre-Covid) products and services that are no longer in favor.

Before your child spends \$200,000 and six years to obtain a degree, make sure that degree is worth obtaining. Is it possible the student is getting a degree for a job that won't exist a decade from now?

It's not just students who are confronted with this question. You are, too. If you want to be gainfully employed a decade from now, you need to reevaluate the stability – both of your career (will you be viable in the marketplace, so you can get and hold a job?) and of your employer (will its' industry

survive, and will it remain competitive and able to remain in business?). A lawyer might consider herself in a secure occupation, but if that lawyer works for Toys ‘R Us, that lawyer is out of work anyway.

In fact, corporate instability – rather than worker obsolescence – will lead to another trend: the rise of the gig worker. Increasingly, Americans will create their own businesses and engage in self-employment activities to earn an income. Many will earn income from a variety of concurrent part-time activities; instead of receiving a single W-2, many will earn multiple 1099s. This will result in higher overall incomes, flexible work schedules, variety in activities, lower taxes and higher retirement savings (thanks to tax laws that favor business owners and the self-employed) as well as more secure income, thanks to multiple sources instead of just one employer.¹¹

23%

don't believe they will return to the same job they had before the crisis.

— *Washington Post*

Should you engage in the gig economy? The question is worthy of your consideration.

And you may already be asking it, if you're among the 23 percent of those who've been laid off who told *The Washington Post* that they don't believe they will return to the same job they had before the crisis.

This is why we devote so much attention to your career – after all, for lots of people, the amount of money you'll earn over your career is more than you'll accumulate in assets – making your career choice your most important investment!

4. Digital Assets

One of the most impactful exponential technologies is the blockchain, which some regard as one of the most important innovations ever, on par with fire, the wheel and the internet.

To understand the power of the blockchain, consider our efforts to prevent the spread of germs. Despite this focus, people aren't giving thought to one of the dirtiest products we all frequently touch: money.

Tossing coins into tip jars, inserting dollar bills into vending machines – it's all rather gross. A 2017 study from New York University found that the typical dollar bill has more than 100 strains of bacteria on it – including *Propionibacterium acnes*, which causes acne. Eighty percent of the bills analyzed had traces of cocaine, and many also contained morphine, heroin, methamphetamine and amphetamine. *Salmonella* and *E.coli* were found on coins, too.

That study was released before Covid-19 heightened everyone's sensitivities.

¹¹ We recommend that you diversify your investments; why not diversify your employment income, too?

The result: Expect acceleration in the movement toward digital currencies and electronic assets. China says it will launch an online version of the yuan, its currency, later this year, and Sweden's economy is already almost entirely digital; printed currency there is used in less than 7 percent of all transactions, and banks charge customers a fee if they want cash. All of these innovations are made possible by blockchain technology.

You're already engaging in digital transactions, thanks to credit cards, debit cards, airline miles and payment services like PayPal and Venmo. In April, mobile banking activity rose 85 percent, says Teleperformance, and 60 percent of bank customers say they'll never again do business the old way. And blockchain tech will let these services operate faster, cheaper and safer.

In the not-too-distant future, like, maybe tomorrow, you'll recoil when someone tries to hand you a dollar bill. Ever see someone lick their thumb when counting cash?¹²

As the crisis continues and trends emerge, we'll be able to modify and expand this list, and we'll continue to advise you accordingly.

¹²Yuk!

Conclusion

Covid-19's impact is unprecedented. It is, therefore, essential that you consider the many ways it may be altering your life, and be willing to adjust your investment management and personal finance strategies accordingly.

That's why we're issuing this Special Report today. It is our sincere desire that you do not place yourself in a situation similar to what so many Americans experienced 12 years ago. During the 2007–2009 credit crisis, millions of investors lost their jobs (and it took 10 years for the unemployment rate to return to pre-2008 levels), and millions more sold their investments during the lowest periods of that era, sustaining massive losses from which many never recovered.

We don't want that to happen to you, and that's why we hope you will remain fully invested with the properly diversified portfolio we gave you, for that is the best way to achieve your financial goals over long periods. But if you are concerned that you might have to sell some of your investments or make withdrawals from your portfolio while stock prices are at substantially lower prices than they are today, please talk soon with your Edelman Financial Engines financial planner.

During crises like this one, there is no need for you to proceed alone. And indeed, you're not alone. My colleagues and I at Edelman Financial Engines are here to help you.

From here forward.

References

Chapter 1

1. Ghose, T. (2020, April 7). How are people being infected with COVID-19? Live Science.
2. WebMD. How Does Coronavirus Spread?
3. U.S. Food & Drug Administration. (2020, April 29). Beware of Fraudulent Coronavirus Tests, Vaccines and Treatments.
4. Jensen, G., Schiller, A., Cofsky, L., Miles, E., Fedel, N., Davis, G. (2020, March 19). The Coronavirus's \$4 Trillion Hit to US Corporations. Bridgewater.
5. Merle, R. (2018, September 10). A guide to the financial crisis — 10 years later. The Washington Post.
6. StockCharts.com. Historical Chart Gallery of Market Indexes.
7. Jaconetti, C. M., Kinniry Jr., F. M., & Zilbering, Y. (2010, July). Best practices for portfolio rebalancing. Vanguard.
8. Adamczyk, A. (2019, September 19). Index funds are more popular than ever—here's why they're a smart investment. CNBC.
9. Ung, D., & Abburu, S. (2019, September). Asset Performance and the Business Cycle: A US Case Study. State Street Global Advisors.
10. Morningstar Direct.
11. Dimensional Fund Advisors.
12. U.S. Securities and Exchange Commission. Beginners' Guide to Asset Allocation, Diversification, and Rebalancing.
13. Chen, J. (2020, April 22). Style Drift. Investopedia.
14. Zilbering, Y., Jaconetti, C. M., & Kinniry Jr., F. M. (2015, November). Best practices for portfolio rebalancing. Vanguard.
15. Charles Schwab. (2020, February 28). Rebalancing to Help Reduce Risk.
16. Barber, B. M., & Odean, T. (2013). The Behavior of Individual Investors. Haas School of Business, University of California, Berkeley.
17. FINRA. Concentrate on Concentration Risk.
18. Morningstar. (2019, April 30). Morningstar's Annual Fee Study Finds That in 2018 Investors Paid Less to Own Funds Than Ever Before.
19. Merrill: A Bank of America Company. Mutual funds and taxes: A primer to help lighten the load.
20. Abraham, S. A. (2020, January 17). Turnover ratios and fund quality. Investopedia.
21. The University of Texas at Austin. (2020, April 15). Mutual Funds With Lower Tax Burdens Have Higher Returns.
22. U.S. Securities and Exchange Commission: Office of Investor Education and Advocacy. INVESTOR BULLETIN: How Fees and Expenses Affect Your Investment Portfolio.

Chapter 2

1. Centers for Disease Control and Prevention: National Center for Health Statistics. (2020, June 3). Daily Updates of Totals by Week and State: Provisional Death Counts for Coronavirus Disease (COVID-19).
2. Johns Hopkins University & Medicine: Coronavirus Resource Center. COVID-19 United States Cases by County.
3. Institute for Health Metrics and Evaluation. (2020, May 4). New IHME Forecast Projects Nearly 135,000 COVID-19 Deaths in US.
4. The Wharton School, The University of Pennsylvania. (2020, May 1). Penn Wharton Budget Model Projects Effects of Reopening States: Reopening Could Cause up to 233,000 Extra Deaths by June 30 but Save up to 18,000,000 Jobs.
5. The New York Times. (2020, May 4). Models Project Sharp Rise in Deaths as States Reopen.
6. Fauci, A. S., Lane, H. C., & Redfield, R. R. (2020, March 26). Covid-19 — Navigating the Uncharted. The New England Journal of Medicine.
7. Twitter. (2020, March 22). Channel 4 Dispatches.
8. Fink, S. (2020, March 13). Worst-Case Estimates for U.S. Coronavirus Deaths. The New York Times.
9. The New York Times. (2020, April 6). White House Adviser Warned of Risks of Pandemic; Trump Misleads on Testing.
10. Garg, S. et al. (2020, April 17). Hospitalization Rates and Characteristics of Patients Hospitalized with Laboratory-Confirmed Coronavirus Disease 2019 — COVID-NET, 14 States, March 1–30, 2020. Centers for Disease Control and Prevention.
11. Stadnytskyi, V., Bax, C. E., Bax, A., & Anfinrud, P. (2020, June 2). The airborne lifetime of small speech droplets and their potential importance in SARS-CoV-2 transmission. Proceedings of the National Academy of Sciences of the United States of America.
12. Milken Institute. Mobilizing for Action in the Time of COVID-19.

13. U.S. Department of Health & Human Services. (2020, May 15). Trump Administration Announces Framework and Leadership for 'Operation Warp Speed.'
14. Milken Institute. (2020, May 21). COVID-19 Treatment and Vaccine Tracker.
15. Brown, B. (2020, May 5). A "MYSTERY" SIGNAL OF US DEATHS. BLOG 2020: TALKING 'RONA.

Chapter 3

1. Monahan, J. (2020, April 7). Did COVID-19 come to the U.S. as early as November or December? Boston 25 News.
2. Wong, E. (2020, March 19). As Pandemic Grows, U.S. Warns Americans Not to Travel Abroad. The New York Times.
3. Mervosh, S., Lu, D., & Swales, V. (2020, April 20). See Which States and Cities Have Told Residents to Stay at Home. The New York Times.
4. Shamlian, J. (2020, April 3). 90% of Americans are under stay-at-home orders. CBS News.
5. Segal, B. (2020, May 4). Poll: 23% of consumers added to their card debt during the pandemic. CreditCards.com.
6. O'Brien, S. (2018, May 22). Fed survey shows 40 percent of adults still can't cover a \$400 emergency expense. CNBC.
7. Brooks, K. J. (2020, April 8). A third of U.S. renters didn't pay the rent on time this month. CBS News.
8. National Multifamily Housing Council. NMHC Rent Payment Tracker.
9. Paying for Senior Care. (2020, April 21). 2020 Health & Human Services Poverty Guidelines / Federal Poverty Levels.
10. Luhby, T. (2020, May 15). Nearly 40% of low-income workers lost their jobs in March. CNN Business.
11. Board of Governors of the Federal Reserve System. (2020, May). Report on the Economic Well-Being of U.S. Households in 2019, Featuring Supplemental Data from April 2020.
12. Abramson, A. & Elliott, P. (2020, March 27). President Trump Signs \$2.2 Trillion Coronavirus Stimulus Package Into Law. Here's What's in It. TIME.
13. Mohsin, S. & Bloomberg. (2020, May 21). More stimulus? Mnuchin says there is 'strong likelihood we will need another bill.' FORTUNE.
14. Foster, S. (2020, May 18). Survey: Majority of Americans believe it's too soon to reopen local businesses after coronavirus. Bankrate.

Chapter 4

1. U.S. Department of Labor. News Release.
2. Lambert, L. (2020, May 7). 17% of unemployed workers aren't looking for work—and that's warping the official unemployment rate. FORTUNE.
3. Gould, E. (2020, May 8). A waking nightmare: Today's jobs report shows 20.5 million jobs lost in April. Economic Policy Institute.
4. Shierholz, H. (2020, April 21). The extreme jobless numbers will lead to a jump in the unemployment rate, but that won't tell the whole story. Economic Policy Institute.
5. Lambert, L. (2020, May 28). Over 40 million Americans have filed for unemployment during the pandemic—real jobless rate over 23.9%. FORTUNE.
6. Bureau of Labor Statistics. THE EMPLOYMENT SITUATION — APRIL 2020.
7. O'Connell, L. (2020, May 18). Year over year monthly retail sales comparison of the impact of coronavirus (COVID-19) in the United States from 2019 to 2020, by retail sector. Statista.
8. Franck, T. (2020, May 8). Hardest-hit industries: Nearly half the leisure and hospitality jobs were lost in April. CNBC.
9. Primary Care Collaborative. (2020, May 27). Primary Care & COVID-19: Week 11 Surveys.
10. Reinicke, C. (2020, May 29). US consumer spending plunged the most ever last month as savings spiked to a record high. Business Insider.
11. Board of Governors of the Federal Reserve System. (2020, May 15). Industrial Production and Capacity Utilization - G.17.
12. Torry, H. & DeBarros, A. (2020, May 13). WSJ Survey: Coronavirus to Cause 17% Unemployment in June — Update. Morningstar.
13. Swagel, P. (2020, April 24). CBO's Current Projections of Output, Employment, and Interest Rates and a Preliminary Look at Federal Deficits for 2020 and 2021. Congressional Budget Office.
14. Powell, J. H. (2020, May 13). Current Economic Issues. Board of Governors of the Federal Reserve System.
15. Cox, J. (2020, April 9). Powell says the economic recovery can be 'robust' after the coronavirus is contained. CNBC.
16. Page, S. (2020, May 26). Back to school? 1 in 5 teachers are unlikely to return to reopened classrooms this fall, poll says. USA Today.
17. The Annie E. Casey Foundation: Kids Count Data Center. (2019, August). Child population by age group in the United States.
18. AARP Public Policy Institute. (2015, June). 2015 Report: Caregiving in the U.S.
19. Schmidt, S. (2020, May 9). Female unemployment: Women have lost more jobs than men from the pandemic. Washington Post.

20. Seigel, R. & Bhattarai, A. (2020, May 15). Retail sales plunged 16.4 percent in April, a record drop. Washington Post.
21. Smialek, J., Tankersley, J., Cochrane, E. (2020, May 13). Fed Chair Warns the Economy May Need More as Congress Hesitates. The New York Times.
22. Cochrane, E. (2020, June 1). Coronavirus to Shave Trillions From the Economy Over 10 Years. The New York Times.
23. Singletary, M. (2020, May 12). One child, two stimulus payments: The weird way divorced families are double dipping without even trying. The Washington Post.

Chapter 5

1. National Multifamily Housing Council. (2020, April 8). NMHC Rent Payment Tracker Finds 12 Percentage Point Decrease in Share of Apartment Households that Paid Rent by April 5.
2. Mervosh, S. (2020, May 27). An 'avalanche of evictions' could be bearing down on America's renters. The Baltimore Sun.
3. The Eviction Lab, Princeton University. (2018, May 11). National Estimates: Eviction in America.
4. Desmond, M. (2020, January 14). "On the Brink of Homelessness: How the Affordable Housing Crisis and the Gentrification of America Is Leaving Families Vulnerable." United States House of Representatives Committee on Financial Services.
5. Chen, C. (2020, June 1). Zumper National Rent Report: June 2020. Zumper.
6. Mortgage Bankers Association. MBA's Weekly Forbearance and Call Volume Survey.
7. Ackerman, A. (2020, May 1). Fannie Mae Income Drops as More Homeowners Suspend Mortgage Payments. The Wall Street Journal.
8. Fannie Mae. (2020, May 1). Fannie Mae Reports Net Income of \$461 Million for First Quarter 2020.
9. Faria-e-Castro, M. (2020, March 24). Back-of-the-Envelope Estimates of Next Quarter's Unemployment Rate. Federal Reserve Bank of St. Louis.
10. PR Newswire. (2020, April 13). Black Knight: COVID-19 Unemployment Spike Triggering Surge in Mortgage Forbearance Requests; Principal and Interest Advances Will Lead to Servicer Liquidity Challenges.
11. Micheletti, M. (2020, April 2). COVID-19 Pandemic Strikes at American's Financial Health. Freedom Debt Relief.
12. Ackerman, A. (2020, May 1). Fannie Mae Income Drops as More Homeowners Suspend Mortgage Payments. The Wall Street Journal.
13. Cohn, D. & Passel, J. (2018, April 5). A record 64 million Americans live in multigenerational households. Pew Research Center.
14. Center for Retirement Research at Boston College. NATIONAL RETIREMENT RISK INDEX.
15. Guzman, S. (2019, June 17). Affordable Supportive Housing Fills Gap for Older Adults and People with Disabilities. AARP Public Policy Institute.
16. Menton, J. (2020, May 1). Get me out of here! Americans flee crowded cities amid COVID-19, consider permanent moves. USA Today.
17. The Harris Poll. (2020, April 28). COVID-19 Tracker.
18. Haag, M. (2020, May 13). Manhattan faces a reckoning if working from home becomes the norm. The New York Times.
19. Business Facilities. (2020, May 5). Will The Corporate Footprint Shrink Due To COVID-19?
20. CoreNet Global. (2020, April). CORPORATE REAL ESTATE RESPONSE TO COVID-19-KEY FINDINGS FROM A WORLDWIDE MEMBER SURVEY - PART IV.
21. Ozimek, A. The Future of Remote Work. Upwork.
22. Torry, H. (2020, May 27). As Coronavirus Lockdown Rules Ease, Some Want to Keep Working From Home. The Wall Street Journal.
23. IBM. (2020, May 1). IBM Study: COVID-19 Is Significantly Altering U.S. Consumer Behavior and Plans Post-Crisis.
24. Lerman, R. & Dwoskin, E. (2020, May 21). Facebook will now let some employees work from anywhere, but their paychecks could get cut. Boston Globe Media Partners.
25. Horwitz, J. (2020, May 21). Facebook to Shift Permanently Toward More Remote Work After Coronavirus. The Wall Street Journal.
26. Osipovich, A. (2020, May 21). Coronavirus Shutdown Casts Doubt on Value of Exchange Trading Floors. The Wall Street Journal.
27. Putzier, K. (2020, May 19). Commercial Real Estate's Havens Suddenly Not So Safe. The Wall Street Journal.
28. Hu, E. & Murphy, D. (2020, May 28). Vestigial Tails: Floor Brokers at the Close in Modern Electronic Markets. SSRN.
29. Calanog, V. (2020, May 14). Multifamily and Commercial Real Estate Performance Metrics. MOODY'S ANALYTICS.
30. Nareit. Estimating the Size of the Commercial Real Estate Market in the U.S.

Chapter 6

1. Thiesse, K. (2020, January 24). USDA raises corn yield numbers. Agweek.
2. Global Commodity Prices: Agriculture.
3. Cornell, J. (2020, April 6). US dairy farmers dumping milk due to coronavirus situation. DAIRYreporter.com.

4. National Pork Producers Council. (2020, April 14). HOG FARMERS FACE COVID-19 FINANCIAL CRISIS.
5. The Economist. (2020, May 9). The world's food system has so far weathered the challenge of covid-19.
6. American Farm Bureau Federation. Fast Facts About Agriculture & Food.
7. World Food Programme. (2020, April 21). COVID-19 will double number of people facing food crises unless swift action is taken.
8. Farge, E. (2020, April 21). Global hunger could double due to COVID-19 blow: U.N. Reuters.
9. Meyer, Z. (2020, June 1). One-third of small independent farms could go bankrupt in 2020 due to COVID-19. Fast Company.
10. National Cattlemen's Beef Association. (2020, April 14). Coronavirus-Related Cattle Industry Losses Estimated at \$13.6 Billion.

Chapter 7

11. Routhier, S. (2020, May 1). Driving During COVID-19. CarInsurance.org.
12. Shortell, T. (2020, May 8). With gas tax revenue plunging during coronavirus pandemic, Pa. looks to Congress to bail out transportation projects. The Morning Call.
13. Lightman, D. & Ashton, A. (2020, May 1). Stay-home order could cost California \$370 million in gas tax for road fixes: 'A heavy hit.' THE SACRAMENTO BEE.
14. McKenna, P. K. & Tymon, J. (2020, April 6). AASHTO Letter to Congress on COVID-19. American Association of State Highway and Transportation Officials.
15. Boesen, U. (2020, March 31). Gas Tax Revenue to Decline as Traffic Drops 38 Percent. Tax Foundation.
16. Braga, M. (2020, May 13). State budget hits due to coronavirus are trickling in and it's not pretty. USA Today.
17. Bernstein, L. (2020, May 15). Coronavirus decimates state budgets, federal funding uncertain. WJLA.
18. Leachman, M. & Sullivan, J. (2020, March 20). Some States Much Better Prepared Than Others for Recession. Center on Budget and Policy Priorities.
19. Carey, K. (2020, May 5). The 'Public' in Public College Could Be Endangered. The New York Times.

Chapter 8

1. FitzGerald, K., Weinstein, M., & Kumar, S. (2020, May 6). Attaining corporate and philanthropic support during COVID-19. Candid.
2. Centers for Disease Control and Prevention. (2020, June 4). Cases in the U.S.
3. Fidelity Charitable. COVID-19 and Philanthropy: How Giving Behaviors are Shifting Amid Pandemic.
4. CureSearch for Children's Cancer. CHILDHOOD CANCER STATISTICS.
5. United States Census Bureau. (2017, October 12). Veterans Day 2017: Nov. 11.
6. Charity Navigator. (2020, April 17). Impact of the Pandemic & Economic Shutdown on the Nonprofit Sector.
7. Lovett, I. & Lazo, A. (2020, March 30). Nonprofits Struggle to Survive as Revenue Plummets Amid Coronavirus. The Wall Street Journal.
8. Bureau of Labor Statistics, U.S. Department of Labor. (2018, August 31). The Economics Daily, Nonprofits account for 12.3 million jobs, 10.2 percent of private sector employment, in 2016.
9. Strub, C. (2020, May 25). Survey: 44% Of Nonprofits Anticipate Further Staff Cuts Due To Coronavirus. Forbes.

Chapter 9

1. The California State University. Introduction.
2. Hubler, S. (2020, May 13). Fearing a second wave, Cal State will keep classes online in the fall. New York Times.
3. Ma V. L. (2020, May 14). Harvard Medical School Moves Fall Semester Online for First-Year Students. The Harvard Crimson.
4. Manfredi, C. P. (2020). Fall 2020 semester. Office of the Provost and Vice-Principal (Academic), McGill University.
5. Paxson, C. (2020, April 26). College Campuses Must Reopen in the Fall. Here's How We Do It. The New York Times.
6. Johnson, R. (2020, April 20). Students Stressed Out Due to Coronavirus, New Survey Finds. BestColleges.
7. Carey, K. (2020, May 26). Risky Strategy by Many Private Colleges Leaves Them Exposed. The New York Times.
8. Mitchell, M., Leachman, M., & Masterson, K. (2017, August 23). A Lost Decade in Higher Education Funding. Center on Budget and Policy Priorities.
9. Thys, F. (2020, May 8). One Third Of Private 4-Year Colleges Are At High Risk Financially, Model Predicts. WBUR.
10. Baumgardner, N. (2019, June 20). Michigan athletics projects \$196.3 million in revenue for 2020 fiscal year. Detroit Free Press.
11. Yale University International Student Report. College Factual.

12. NCAA Research. Finances of Intercollegiate Athletics.
13. Hess, A. (2019, December 13). The cost of college increased by more than 25% in the last 10 years—here's why. CNBC.
14. Ketz, J. (2019, September 11). Iowa vs. Iowa State football: Which team pulls in more profit for the school. WQAD8.
15. Peterson, R. (2020, May 1). Peterson: Iowa State football affects Ames to the tune of \$63 million. Des Moines Register.
16. Caron, P. (2020, May 4). Colleges Face 15%-20% Drop In Enrollment; S&P Lowers Credit Rating Of 25% Of Colleges. Law Professor Blog Network, TaxProf Blog.
17. Verougstraete, R. (2020, May 27). 3 Ways Campus Closures Impact College Towns. Emsi.
18. Ebene Magazine. (2020, May 19). Coronavirus Updates: Walmart's Sales Surge; Powell, Mnuchin Questioned on Stimulus Loans – WSJ.com.
19. IIE. (2019, Nov. 18). Number of International Students in the United States Hits All-Time High.

Chapter 10

1. Glass, M. (2020, April 17). The next covid-19 victim? Public pension funds. Washington Post.
2. Biggs, A. (2015, Sept. 8). Public Pensions Lower Return Assumptions, But Taking More Risk. Forbes.
3. Office of Debt Management. Daily Treasury Yield Curve Rates. U.S. Department of the Treasury.
4. InsuranceNewsNet.com. (2020, April 22). Fixed Annuity Sales Fall, VAs Rise In First Virus-Affected Sales Data.
5. Edelman, R. (2019). The T.R.U.S.T. Fund for America: A Proposal to Provide Guaranteed Lifetime Income to Every Future Generation. Edelman Financial Engines.
6. Social Security Administration. SSA Fact Sheet.
7. National Reverse Mortgage Lenders Association. (2020, May 29). Social Security Benefits Lose 30 Percent of Buying Power Since 2000.
8. ssa.gov. Research, Statistics & Policy Analysis. Social Security Administration.
9. Gladstone, N. & Akabas, S. (2020, April 22). COVID-19 May Deplete Social Security Trust Funds This Decade. Bipartisan Policy Center.
10. Biggs, A., guest blogger. (2020, April 7). Coronavirus Recession Could Cut Social Security Benefits for Near-Retirees. Pension Research Council, the Wharton School, the University of Pennsylvania.
11. Biggs, A. (2020, May 11). If You Were Born in 1960, You Pay Extra for Covid-19. The Wall Street Journal.
12. Committee for a Responsible Federal Budget. (2020, April 22). Analysis of the 2020 Social Security Trustees' Report.
13. Vandenbroucke, G. (2019, May 30). How Many People Will Be Retiring in the Years to Come? On the Economy Blog. Federal Reserve Bank of St. Louis.
14. Danise, A. (2020, March 30). Door May Be Closing On Life Insurance Buyers Amid COVID-19. Forbes.
15. CDC COVID-19 Response Team. (2020, March 27). Severe Outcomes Among Patients with Coronavirus Disease 2019 (COVID-19) — United States, February 12–March 16, 2020. Centers for Disease Control and Prevention.
16. The Center for Insurance Policy and Research. (2020, Jan. 16). Low Interest Rates. National Association of Insurance Commissioners.
17. Scism, L. (2020, May 10). Life insurers turning away customers amid pandemic. MarketWatch.
18. Del Negro, M., Giannone, D., Giannoni, M., Tambalotti, A. (2018, September). Global Trends in Interest Rates. Federal Reserve Bank of New York.
19. Bogleheads.org. Bloomberg Barclays US Aggregate Bond Index. Wikipedia.
20. Google Sheets. Bloomberg Barclays U.S. Aggregate Bond Index Returns.
21. Kenny, T. (2020, May 18). Aggregate Bond Index Returns vs. Stocks '80-'18. The Balance.
22. Y Charts. (2020, June 2). US Corporate AA Effective Yield.
23. Biggs, A. (2020, May 11). If You Were Born in 1960, You Pay Extra for Covid-19. The Wall Street Journal.
24. ssa.gov. If you were born in 1960 your full retirement age is 67. Social Security Administration.
25. YCharts. (2020, June 3). Moody's Seasoned Aaa Corporate Bond Yield.
26. YCharts. (2020, June 3). US Corporate A Effective Yield.

Chapter 11

1. Andriotis, A., Brown, K., & Shifflett, S. (2019, August 1). Families Go Deep in Debt to Stay in the Middle Class. The Wall Street Journal.
2. VanDerhei, J. (2020, April 21). Impact of the COVID-19 Pandemic on Retirement Income Adequacy: Evidence From EBRI's Retirement Security Projection Model®. Employee Benefit Research Institute.
3. Board of Governors of the Federal Reserve System. (2019, May). Report on the Economic Well-Being of U.S. Households in 2018 - May 2019.

4. Utkus, S. & Young, J. (2019, June). How America Saves 2019. Vanguard.
5. Adamczyk, A. (2019, May 24). 25% of US adults have no retirement savings. CNBC make it.
6. Huddleston, C. (2019, Dec. 16). Survey: 69% of Americans Have Less Than \$1,000 in Savings. GoBankingRates.
7. TED: The Economics Daily. (2018, Oct. 2). 51 percent of private industry workers had access to only defined contribution retirement plans. U.S. Bureau of Labor Statistics.
8. Max, S. (2020, Jan. 31). Many Small Businesses Don't Offer Retirement Plans. Some States Are Trying to Fix That. Barron's.
9. American Retirement Association. (2019, July 24). Millions of American Workers Still Lack Access to 401(k).
10. Fidelity Investments. (2019, May 9). Fidelity Q1 2019 Retirement Analysis: Account Balances Rebound From Dip In Q4, While Savings Rates Hit Record Levels.
11. Kiger, P. (2018, Jan. 2). Federal data shows an average spending of \$61,204, led by housing costs. AARP.
12. VanDerhei, J. (2020, April 21). Impact of the COVID-19 Pandemic on Retirement Income Adequacy: Evidence From EBRI's Retirement Security Projection Model®. Employee Benefit Research Institute.
13. Royal, J. (2020, May 13). Survey: Nearly one-third of Americans dealing with lower income due to coronavirus outbreak. Bankrate.
14. Finra.org
15. National Bureau of Economic Research. (2010, Sept. 20). US Business Cycle Expansions and Contractions.
16. Carey, T. (2020, May 14). Online Brokers See Record Activity Through Volatility. Investopedia.
17. Lahart, J. (2020, Jun 1). It's No Optical Illusion – U.S. Stocks Really Are Expensive. The Wall Street Journal.

Chapter 12

1. Edelman, R. (2019, Aug. 1). You're making big financial mistakes – and it's your brain's fault. CNBC.
2. Fonda, D. (2020, Jan. 23). If You Still Own Actively Managed Stock Funds, Get Ready for Some Bad News. Barron's.
3. Liu, B. (2020, April 8). SPIVA U.S. Year-End 2019 Scorecard: Active Funds Continued to Lag. S&P Global.
4. Fidelity.com. Picking stocks with a thematic approach. Fidelity.
5. Robbins, C. (2020, May 19). Interactive Brokers Launches Massive Mutual Fund Marketplace. Financial Advisor.
6. U.S. Securities and Exchange Commission. (2019, Nov. 6). SEC Division of Enforcement Publishes Annual Report for Fiscal Year 2019.
7. Sergeant, J. (2020, March 4). Fines Doled Out By Finra Decrease 28% In 2019. Financial Advisor.
8. North American Securities Administrators Association. (2019). 2019 NASAA Enforcement Report Highlights.
9. Witt, P. (2020, April 15). COVID-19 scam reports, by the numbers. Federal Trade Commission.
10. National Bureau of Economic Research. (2010, Sept. 20). US Business Cycle Expansions and Contractions.
11. Edelman, R. (2010, Dec.). The Truth About Money, 4th Edition. Harper Business.
12. Torry, H. (2020, Jan. 30). U.S. Economy Heads Into 2020 With Steady Growth. Wall Street Journal.
13. P.K. (2019, Dec. 31). 2019 S&P 500 Return. DQYDJ Blog.
14. Imbert, F. (2020, Feb. 19). S&P 500 and Nasdaq jump to record highs, Dow climbs more than 100 points. CNBC.
15. Parnell, E. (2020, March 26). You Have One Week To Decide. Seeking Alpha.
16. Carey, T. (2020, May 14). Online Brokers See Record Activity Through Volatility. Investopedia.
17. Dividend University. (2019, Oct. 17). Inside the 10 Best Days of the Dow. Dividend.com.
18. Associated Press. (1987, Oct. 30). Biggest Daily Percentage Gains for Dow Industrials With AM-Stocks-Markets Bjt. AP News.
19. Watts, W. & Wiltermuth, J. (2020, March 13). U.S. stocks score biggest one-day gain since 2008 after Trump declares national emergency over coronavirus. MarketWatch.
20. Osipovich, A., Ostroff, C., Chiu, J. (2020, March 24). Dow Soars More Than 11% In Biggest One-Day Jump Since 1933. The Wall Street Journal.
21. Manskar, N. (2020, April 6). Dow ends up 1,627 points, or 7.7%, as coronavirus deaths slow in hotspots. New York Post.
22. Schneider, H. & Simao, P. (2020, May 5). U.S. bankruptcies fall in April, but commercial Chapter 11 filings rise. Reuters.
23. Butters, J. (2020, May 1). Earnings Insight. FactSet Research Systems Inc.
24. Weise, K. (2020, April 30). Amazon Sells More, but Warns of Much Higher Costs Ahead. The New York Times.
25. Vigna, P. (2020, April 20). Companies Are Suspending Dividends at Fastest Pace in Years. The Wall Street Journal.
26. Lahart, J. (2020, June 1). It's No Optical Illusion—U.S. Stocks Really Are Expensive. The Wall Street Journal.
27. Butters, J. (2020, May 8). Earnings Insight. FactSet Research Systems Inc.

28. McKenna, L. (2020, March 27). Understanding the CARES Act: The \$2.2 Trillion Stimulus Package. Fox Rothschild LLP.
29. Russell, L. (2020, May 15). House passes \$3 trillion HEROES Act relief legislation. FCW.
30. Delevingne, L. & Schneider, H. ANALYSIS-U.S. stimulus package is biggest ever, but may not be big enough. Reuters, Nasdaq.
31. Cox, J. (2020, March 29). 'Nothing is out of the question': What it would take for the Fed to start buying stocks. CNBC.
32. International Monetary Fund. (2020, May 29.) Policy Responses to COVID-19.
33. CNBC. (2020, June 4).
34. U.S. 10 Year Treasury (US10Y:U.S.).
35. Zeballos-Roig, J. (2020, May 22). Joe Biden promises he won't raise taxes for people earning under \$400,000 if elected. Business Insider.
36. Amadeo, K. (2020, April 24). Components of GDP Explained. The Balance.
37. Curtin, R. (2020, May). Surveys of Consumers. University of Michigan.
38. Cox, J. (2020, March 29). 'Nothing is out of the question': What it would take for the Fed to start buying stocks. CNBC.
39. Robb, G. (2020, May 29). UMich consumer sentiment rises to 72.3 in May from 71.8 in prior month. MarketWatch.
40. Trading Economics. Euro Area Consumer Confidence.
41. International Monetary Fund. (2020, May 29.) Policy Responses to COVID-19.

Chapter 15

1. Long, E. (2020, May 7). Over 33 million Americans lost their job during the pandemic. 77 percent believe they'll get it back, Post-Ipsos poll finds. Washington Post.
2. Hotz, R. (2014, April 18). Why You Shouldn't Put Your Money Where Your Mouth Is. The Wall Street Journal.
3. Huang, R. (2020, May 25). China Will Use Its Digital Currency To Compete With The USD. Forbes.
4. Fulton, C. (2020, Feb. 20). Sweden starts testing world's first central bank digital currency. Reuters.
5. Koetsier, J. (2020, April 15). Banking On Mobile Up 35-85% Thanks To Coronavirus (After 1 Trillion App Opens In 2019). Forbes.
6. Srinivas, V. & Wadhvani, R. (2019, Feb. 13). Recognizing the value of bank branches in a digital world. Deloitte.

Chapter 16

1. Goodman, C. & Mance, S. (2011, April). Employment loss and the 2007–09 recession: an overview. U.S. Bureau of Labor Statistics.
2. Cunningham, E. (2018, April). Great Recession, great recovery? Trends from the Current Population Survey. U.S. Bureau of Labor Statistics.
3. Picchi, A. (2018, Sept. 14). 5 groups still recovering from the financial crisis. CBS News.
4. Schneyer, F. (2009, Nov. 12). Mutual Fund Outflows from Equities Going to Fixed Income. PLANSPONSOR.

About Ric Edelman

Ric is a financial advisor and has been recognized as one of the most influential people in the financial planning and investment management profession by three leading trade publications: *Investment Advisor*¹, *RIABiz*² and *InvestmentNews*³. Three times he has been ranked as the nation's #1 Independent Financial Advisor by *Barron's*⁴. In 2004, he was inducted into *Research* magazine's Financial Advisor Hall of Fame⁵ and in 2019, the *Barron's* Hall of Fame⁶. In 2017, he received the IARFC's Lifetime Achievement Award⁷. Ric is also a Distinguished Lecturer at Rowan University, an award-winning host of one of the longest-running radio show on personal finance in the country, a producer of award-winning specials for Public Television, and a #1 *New York Times* bestselling author who has written 10 books on personal finance.

About Edelman Financial Engines

Since 1986, Edelman Financial Engines has been committed to always acting in the best interest of our clients. We were founded on the belief that all American investors – not just the wealthy – deserve access to personalized, comprehensive financial planning and investment advice. Today, we are America's top independent financial planning and investment advisor, recognized by both *InvestmentNews*⁸ and *Barron's*⁹ with 170 planner offices across the country and entrusted by more than 1.2 million clients to manage more than \$217 billion in assets¹⁰. Our unique approach to serving clients combines our advanced methodology and proprietary technology with the attention of a dedicated personal financial planner. Every client's situation and goals are unique, and the powerful fusion of high-tech and high-touch allows Edelman Financial Engines to deliver the personal plan and financial confidence that everyone deserves.

¹ The *Investment Advisor* magazine listing of the *Investment Advisor* 25 is based on readers' opinions and highlights those who are ahead of the pack with their insights, innovation and disruption. Advisors and other industry participants cast about 12,000 total votes for leaders in the following six categories: RIA/Advisory; Independent Broker-Dealers; Custody & Clearing; Portfolio, Investing & the Markets; Politics/Regulation/Compliance; and Fintech/IA/AI. Investor experience/returns were not considered as part of this ranking.

² The *RIABiz* listing of the 10 most influential figures in the Registered Investment Advisor industry is in recognition of notable, driven and influential executives who are advancing their firms and are considered influential in the RIA business. Investor experience/returns were not considered as part of this ranking.

³ Based on the opinions of the editors of *InvestmentNews* using the following definition as a guidepost: Those who have conceived new ideas and tools that have propelled the industry forward. Investor experience/returns were not considered.

⁴ According to *Barron's*, "The formula [used] to rank advisors has three major components: assets managed, revenue produced and quality of the advisor's practice. Investment returns are not a component of the rankings because an advisor's returns are dictated largely by each client's risk tolerance. The quality-of-practice component includes an evaluation of each advisor's regulatory record." The rankings are based on the universe of applications submitted to *Barron's*. The selection process begins with a nomination and application provided to *Barron's*. Principals of Edelman Financial Services, LLC self-nominated the firm and submitted quantitative and qualitative information to *Barron's* as requested. *Barron's* reviewed and considered this information, which resulted in the rankings on Aug. 27, 2012/Aug. 28, 2010/Aug. 31, 2009.

⁵ *Research* magazine cover story "Advisor Hall of Fame," December 2004 (based on serving a minimum of 15 years in the industry, having acquired substantial assets under management, demonstrating superior client service and having earned recognition from peers and the broader community for how they reflect on their profession). Investor experience/returns were not considered as part of this ranking.

⁶ *Barron's* Hall of Fame advisers have been ranked for 10 or more years on the *Barron's* Top 100 Financial Advisors list. *Barron's* listings are based on data compiled by many of the nation's most productive advisers, which has been submitted to and judged by *Barron's*. Key factors

and criteria for each award include assets under management, revenue produce for the firm, regulatory and compliance record, and years of professional experience. This award is not indicative of this advisor's future performance.

⁷ Presented by the International Association of Registered Financial Consultants (IARFC). Candidates must hold a professional designation and must have disseminated their comments on financial topics by having them widely published in articles, journals, books, etc. They must have provided outstanding personal service or leadership in the financial services industry. Nominees must have participated in some aspect of financial education to the public or to other members of the profession. Investor experience/returns were not considered.

⁸ Ranking and status for 2019. For independence methodology and ranking, see *InvestmentNews* Center (<http://data.investmentnews.com/ria/>).

⁹ The 2019 Top 50 Independent Advisory Firm Ranking issued by *Barron's* is qualitative and quantitative, including assets managed, the size and experience of teams, and the regulatory records of the advisers and firms. Firms elect to participate, but do not pay to be included in the ranking. Investor returns/experience are not considered.

¹⁰ As of May 31, 2020.

This report has been prepared without regard to the individual financial circumstances and objectives of persons who see it. You should independently evaluate particular investments and strategies and seek the advice of a financial adviser. The appropriateness of a particular investment or strategy will depend on your individual circumstances and objectives. The securities, instruments or strategies discussed may not be suitable for all investors.

Investing strategies, such as asset allocation, diversification or rebalancing, do not assure or guarantee better performance and cannot eliminate the risk of investment losses. All investments have inherent risks, including loss of principal. There are no guarantees that a portfolio employing these or any other strategy will outperform a portfolio that does not engage in such strategies. Past performance does not guarantee future results.

Dollar cost averaging does not assure a profit or protect against a loss in a declining market. For the strategy to be effective, you must continue to purchase shares in both up and down markets. As such, an investor needs to consider his/her financial ability to continuously invest through periods of low price levels.

© 2020 Edelman Financial Engines, LLC. Edelman Financial Engines® is a registered trademark of Edelman Financial Engines, LLC. All advisory services offered through Financial Engines Advisors L.L.C. (FEA), a federally registered investment advisor. Results are not guaranteed.

AM1204333