

Introduction by Kevin Gao (Work in Progress)

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For a more comprehensive look at the virus, from its Beginning to Inflection Point, Globalization, and Acceleration, check out my **Balaji Srinivasan [Compilation](#) or visit www.balaji2020.com.*

If you think I'm missing any major memos or letter, please email me at "kevin@12mv2.com" with the subject: "Additional Corona Virus Memos/Letters." Thank you!

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For more from me, you can follow me on twitter [@kgao1412](#) or check out my website [here](#).

Venture/Growth Investors Pt. 1

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Sequoia Capital

Coronavirus: The Black Swan of 2020

— 3/5/2020

Coronavirus: The Black Swan of 2020

March 5, 2020

by Sequoia Capital

Here is a note that we sent to Sequoia founders and CEOs today to provide guidance on how to ensure the health of their business while dealing with potential business consequences of the spreading effects of the coronavirus.

Dear Founders & CEOs,

Coronavirus is the black swan of 2020. Some of you (and some of us) have already been personally impacted by the virus. We know the stress you are under and are here to help. With lives at risk, we hope that conditions improve as quickly as possible. In the interim, we should brace ourselves for turbulence and have a prepared mindset for the scenarios that may play out.

All of you have been inundated by suggestions for precautions to take around COVID-19 to protect the health and welfare of you, your employees, and your families. Like many, we have studied the available information and would be happy to share our point of view — please let us know if that is of interest. This note is about something else: ensuring the health of your business while dealing with potential business consequences of the spreading effects of the virus.

Unfortunately, because of Sequoia's presence in many regions around the world, we are gaining first-hand knowledge of coronavirus' effects on global business. As with all crises, there are some businesses that stand to benefit. However, many companies in frontline countries are facing challenges as a result of the virus outbreak, including:

Drop in business activity. Some companies have seen their growth rates drop sharply between December and February. Several companies that were on track are now at risk of missing their Q1–2020 plans as the effects of the virus ripple wider.

- **Supply chain disruptions.** The unprecedented lockdown in China is directly impacting global supply chains. Hardware, direct-to-consumer, and retailing companies may need to find alternative suppliers. Pure software companies are less exposed to supply chain disruptions, but remain at risk due to cascading economic effects.
- **Curtailed travel and canceled meetings.** Many companies have banned all “non-essential” travel and some have banned all international travel. While travel companies are directly impacted, all companies that depend on in-person meetings to conduct sales, business development, or partnership discussions are being affected.

It will take considerable time — perhaps several quarters — before we can be confident that the virus has been contained. It will take even longer for the global economy to recover its footing. Some of you may experience softening demand; some of you may face supply challenges. While The Fed and other central banks can cut interest rates, monetary policy may prove a blunt tool in alleviating the economic ramifications of a global health crisis.

We suggest you question every assumption about your business, including:

1. **Cash runway.** Do you really have as much runway as you think? Could you withstand a few poor quarters if the economy sputters? Have you made contingency plans? Where could you trim expenses without fundamentally hurting the business? Ask these questions now to avoid potentially painful future consequences.
2. **Fundraising.** Private financings could soften significantly, as happened in 2001 and 2009. What would you do if fundraising on attractive terms proves difficult in 2020 and 2021? Could you turn

a challenging situation into an opportunity to set yourself up for enduring success? Many of the most iconic companies were forged and shaped during difficult times. We partnered with Cisco shortly after Black Monday in 1987. Google and PayPal soldiered through the aftermath of the dot-com bust. More recently, Airbnb, Square, and Stripe were founded in the midst of the Global Financial Crisis. Constraints focus the mind and provide fertile ground for creativity.

3. **Sales forecasts.** Even if you don't see any direct or immediate exposure for your company, anticipate that your customers may revise their spending habits. Deals that seemed certain may not close. The key is to not be caught flat-footed.
4. **Marketing.** With softening sales, you might find that your customer lifetime values have declined, in turn suggesting the need to rein in customer acquisition spending to maintain consistent returns on marketing spending. With greater economic and fundraising uncertainty, you might even want to consider raising the bar on ROI for marketing spend.
5. **Headcount.** Given all of the above stress points on your finances, this might be a time to evaluate critically whether you can do more with less and raise productivity.
6. **Capital spending.** Until you have charted a course to financial independence, examine whether your capital spending plans are sensible in a more uncertain environment. Perhaps there is no reason to change plans and, for all you know, changing circumstances may even present opportunities to accelerate. But these are decisions that should be deliberate.

Having weathered every business downturn for nearly fifty years, we've learned an important lesson — nobody ever regrets making fast and decisive adjustments to changing circumstances. In downturns, revenue and cash levels always fall faster than expenses. In some ways, business mirrors biology. As Darwin surmised, those who survive “are not the strongest or the most intelligent, but the most adaptable to change.”

A distinctive feature of enduring companies is the way their leaders react to moments like these. Your employees are all aware of COVID-19 and are wondering how you will react and what it means for them. False optimism can easily lead you astray and prevent you from making contingency plans or taking bold action. Avoid this trap by being clinically realistic and acting decisively as circumstances change. Demonstrate the leadership your team needs during this stressful time.

Here is some perspective from our partner Alfred Lin, who lived through another black swan moment as an operating executive:

“I was serving as the COO/CFO of Zappos when I was summoned to Sequoia's office for the infamous [R.I.P. Good Times presentation](#) in 2008, prior to the financial crisis. We didn't know then, just like we don't know now, how long or how sharp or shallow of a downturn we will face. What I can confirm is that the presentation made our team and our business stronger. Zappos emerged from the financial crisis ready to seize on opportunities after our competitors had been battered and bruised.”

Stay healthy, keep your company healthy, and put a dent in the world.

Best,

Team Sequoia

Lux Capital

Four Flows — 3/13/2020

by Josh Wolfe and Peter Hebert

March 13, 2020

In preview: we have been conservatively prepared to **defensively handle underappreciated risks and offensively prepared to seize on underappreciated opportunities**. We share some observations and philosophical frameworks guiding our thinking that may lead to decisions we make and actions we take. We end with tactical things we are watching for—and doing now.

Four Flows

There are currently four flows, all connected in complex ways, that matter: (1) virus, (2) people, (3) information, (4) capital.

(1) Virus

We wrote in our 2019 year-end letter:

*Every new calendar year brings year-ahead predictions that invariably say more about the predictors than the future. In aggregate, year-end special divinations often rather confirm our collective ignorance about the future typically within the first month of the forecasted year. Indeed, by our account: there were **no accounts that rightly anticipated, let alone registered, the magnitude of a tiny 120-nanometer particle, roughly the wavelength of ultraviolet light, that would ripple and replicate across the globe with virulent ultraviolence**. It is yet to be determined whether the coronavirus will be contained or, conversely and more consequentially, if it becomes China's Chernobyl, crippling commerce and contract manufacturers, showcasing the vulnerability of supply chain and shipping lanes. Attempts to stop the flow of germs might also stanch the flow of goods, geopolitically grinding Xi and the CCP to a halt in a way that no diplomatic negotiations or escalating trade wars may have. **Tiny things have immense impacts—especially when everything and everyone is connected and vulnerable**. We hold a healthy skepticism (as with year-ahead predictions) of China state data, while keeping attuned to what reliable health authorities release in real-time. We have advised many of our Lux family CEOs with business in China to delay travel—even if by weeks—so as to prioritize health and safety of employees.*

As cases mount, as world governments struggle to adapt to the spread of the novel coronavirus, and as reporting emerges of local, city and state efforts to treat and contain it—it **must be reaffirmed that this is most importantly a humanitarian problem before all else**. In times of economic crisis, it is easy to forget the legion of doctors, nurses and healthcare professionals running into uncertainty often without masks—the selflessness and heroism of these people are the reason the rest of us stand a fighting chance.

The coronavirus has accelerated its spread throughout 100 countries in 7 weeks. One way to understand the magnitude of this threat is to invoke Newton: what is the force necessary to stop it? China's massive unilateral response gives us a clue. As of this writing (March 13): now 102 days since its first case, China has imposed movement restrictions on provinces that collectively comprise nearly 1 billion citizens. As draconian as it is well-coordinated: railways, roads and public transport systems have been shut down. People can only leave their homes once a week, and require exit permits to do so. Police wear thermal

goggles to root out fever-stricken citizens. Wide-scale food delivery infrastructure has been built. Only now have new case rates finally slowed down. But given the unreliability of Chinese state data and the inherent unknown-unknowns concerning this novel virus, we cannot yet know if they have truthfully contained the outbreak, or if this is just a temporary reprieve.

Consider another way to stop it. Singapore, now 49 days since its first case, quickly employed systematic technological measures such as widespread surveillance of its citizens, contact tracing, activity maps and an experimental antibody test. Failure to comply with isolation orders carries steep fines or prison. Thus, the city-state has been able to rapidly identify, test and quarantine anyone with close contact to potential vectors—slowing the spread of the outbreak, though it is far from over.

South Korea, now 52 days since its first case, has found some success by mass screening, completing 15,000 free tests a day—more than twice the number of tests that the U.S. has done *in totality* as of this writing. Aided by South Korea's epidemic infrastructure established during the MERS outbreak, rapid statewide responses included drive-through testing centers, and more controversially, GPS-tracking of infected individuals by displaying their locations on a public live map. The state momentarily slowed the rate of new cases, only to have the number spike on March 11.

China, after much misinformation, dropped the public-health-equivalent of a hydrogen bomb on the virus. And the collateral damage is immense—including the further erosion of personal liberties and the economic livelihoods of hundreds of millions of people, there and abroad. Singapore and South Korea, which both took quick coordinated action, show promising signs that the coronavirus can be fought in republics—but only if they are able to effectively coordinate the entire apparatus of government to defeat this threat.

The United States, now 51 days since its first case, is just starting to see the exponential rise in cases. But the politicized, sedate and dysfunctional public health response has revealed glaring vulnerabilities in our healthcare system's ability to handle the load of a full-on pandemic. Strong leadership during a crisis with an abundance of fear and uncertainty demands providing what is scarce: trust, and accurate, honest and timely information. Clear plans of preparedness that can create high confidence. Conversely, attempts to manipulate the public to avoid fear by suppressing information, downplaying or spinning statistics only serves to create distrust, fear and outrage.

(2) People

The virus itself is indifferent and indiscriminate. The *vector* that gives the virus velocity is people. That is why the most effective tactic in restricting the rate of spread of the virus is restricting the flow of people and their ability to interact as carriers—social distancing. Entire towns, regions or countries from New Rochelle to Italy to China are under quarantine, encircled and enforced by police and military. People cannot or do not want to move.

Here is Lux's own internally communicated policy and plan for our people:

On avoiding meetings and travel for Lux, there are two considerations: (1) *health* and (2) *moral*.

The main reason to avoid meetings or travel for *health reasons* is to decrease the risk you are exposed or infected (or a family member—young or old; or a colleague). The risk of contraction for our cohort is

low (though both NYC and Menlo offices have a flow of visitors who are well-connected, highly-networked, high-frequency travelers) and in the event of contraction, the likelihood for our cohort of recovery is high.

The main reason to avoid meetings or travel for *moral reasons* is twofold: (1) to decrease the risk that any of us unintentionally serve as a vector that contributes to amplify the virus's spread. And (2) to decrease the risk that any of us or our immediate network currently healthy become sick and consume scarce healthcare resources (attention or energy of personnel, equipment, medicine, respirators, oxygen) which would otherwise be critical for a greater at-risk population. The greatest risk and greatest fatalities are occurring with the elderly (folks over 60+) and people with pre-existing conditions or immune-compromised.

Out of an abundance of caution, effective immediately, **all firm travel**, domestic or international, is discouraged and should be reconsidered until further notice. We are not putting a ban because we do not have a good answer relatedly if we placed a ban then at what point would we lift the ban.

We do insist that you make us aware of any **personal travel** that you plan on taking so we can assess if a "work from home" period should be enacted on your return.

We also recommend keeping a running log of places you go as in the low probability you end up a node or vector in transmission, health officials and epidemiologists are trying to trace and map networks to help slow and reduce spread. Concerts, conferences, airports, places of worship, schools—everywhere people gather together—are all currently amplifiers of the risk of spread.

Additionally, after this coming Monday meeting out of an abundance of caution for the next week as this all unfolds we are **restricting in-person meetings (including entrepreneurs)** and instead will coordinate these meetings to take place over video (Zoom).

We are not yet asking people to work from home, given the amount of space per person in each of our offices, we feel proximity is still within safe measures.

We continue to assess ongoing risks daily and will adjust future policies as needed.

Halting the virus by halting people also halts economic activity. The "liquidity" of human movement is temporarily freezing—creating twin shocks on the supply side from productivity loss as well as on the demand side from a drop in consumption. Hundreds of millions of people around the world, from employees to customers to tourists, are unable or unwilling to *move*. Travel bans have been widely instituted; while less draconian than China, Italy locked down its entire country of 60 million people a mere 38 days after its first case, and shortly thereafter closed all businesses except for pharmacies and grocers. If people are prohibited by employers or governments from traveling or flying, lowering interest rates does little to induce demand. Airlines are projected to lose over \$100 billion in revenue this year in base case models, which are constantly being revised down; cruise ship stocks have cratered, as have lodging and hospitality names. Businesses have told knowledge workers to work from home, and those without that luxury—70% of America—will continue to commute to work, likely compounding the likelihood of spread. Conferences, concerts, classes from pre-schools to universities, and social gatherings from small to large have been cancelled en masse. Targeted bailouts will be politicized and likely—as will their expectation in markets.

In the wake of the last Global Financial Crisis, the Fed responded with dramatic rate cuts combined with unprecedented asset purchases. Liquidity injections and the like help when you're dealing with a credit crunch and systemic problems with liquidity, underlying collateral and banking failures. But what can they do in the face of a *human* crunch? In contrast to Global Financial Crisis, this biological contagion has caused a reduction less in the flow of *capital*, but more so in the flow of *people*—and a halt of commerce from cessation of spending which can then tip over into individual company working capital and debt default issues. Capital crunches may result which we will address later in this note.

(3) Information

COVID-19 is characterized by *biological* contagion, a process by which agents become infected after single *physical* exposure: it takes in-person contact with respiratory droplets from just one afflicted individual to expose another to the virus. But information—and misinformation—doesn't need physical exposure. It travels faster, through more media, replicating, mutating, catching contagion faster than biology can. When it comes to the health information about what is happening now, we expect information to be collected locally and transmitted to central leaders for factual dissemination to the masses. For everything else, global markets are the main repository for reverberating information which influences expectations which then gets reflected in prices.

It's always better to make observations than predictions. And in times of high uncertainty it is key to make observations of other observers. Both the facts about *fundamentals* that they have access to and the *expectations* they are forming based on that information.

As primates already prone to seeing patterns in clouds or on toast when none exist—things get more serious in times of uncertainty, when as social primates we look to others for a signal they know the way from danger or toward safety. A great psychology experiment—we call it the Case of the Curious Corner—showed that when uncertainty is high, propensity to imitate others is correspondingly high. The experiment had a few people (all were in on the experiment) stand on a corner and point up at a building—but nothing at all of relevance was there. Within minutes, strangers stopped to see what others were looking at and an entire crowd formed, all looking up and pointing and speculating. Information cascades amplify base emotions of fear and unease. Make no mistake: those who calmly waited and reflected while others panicked in our ancestral environment were eaten by tigers. But in markets, dispassionately observing the emotions of others in a crowd—especially when those emotions are based on others' emotions and not new information—is a competitive advantage.

(4) Capital

Widely expected by other observers is the risk of companies and nations on the verge of quarantine-induced recessions. Unsurprisingly, the Fed's emergency 50 basis point rate cut did little to assuage contagion fears, instead wasting what precious little ammunition it has left as we approach the zero lower bound—with a chance the U.S. for the first time joins over \$15 trillion of global negative-yielding debt. Historically, full rate-cut programs have consisted of 500 basis points of reduction. Today we don't even have 100 basis points. And so the Fed will turn to alternative measures: Odyssean guidance that would further test the credibility of those monetary high priests; or yield curve control or further quantitative easing (as signaled on March 12)—either precarious gambits that could risk stagflation in the downside case. Similarly, if the flow of people sufficiently dries up, blunt fiscal stimulus instruments such as a payroll

tax cut won't spur consumption enough to shift the aggregate demand curve outward. More targeted stimulus measures that focus on healthcare infrastructure and directly-affected industries might be more effective, but they could be forestalled due to surging partisan politics in this election year.

Markets may have priced in entire supply chains disrupted, business growth grinding to a halt, global capital flows impaired, and geopolitical games pressuring oil prices to plunge and risk setting off credit defaults for U.S. shale producers. The Dow registered its largest single-day point drop in history, public equities managers who greedily took up gross exposure in January are now unwinding en masse. Remember that during the last financial crisis, earnings actually fell 40% in a year—which means public markets, which previously priced peak margins and healthy growth may have been meaningfully more to “correct”. Markets may be pricing in expectations of central bank bailouts of targeted at-risk industries or markets and lower Fed rates—but less appreciated is the growing chance credit spreads actually widen and rates spike for corporate borrowers aggressively as many investors and companies seek to de-lever, the precise thing often done when taking down risk, all at the same time. High-yield which has been priced closer to historic rates of investment grade may get hit first, inducing buyout funds to have their portfolio companies draw on credit lines all at once. We expect that venture lenders' rates will come in but so will dollar volumes they put out (in aggregate and to individual companies)—likely by half. The top reason may be less related to topline revenue economic performance of the companies (as many have tepid revenue) and more related to subsequent equity financing risk.

Nearly two years ago we took a counter-consensus view (that proved correct) that rates might fall:

A current consensus is interest rates will rise. This is likely. Let's assume the consensus is correct and we see continuous rate rises. What effect might this have on venture capital as an asset class? Many VCs and startup founders may mistake genius for generous central bankers. If rates rise significantly, pension plans that may have sought yield in historically higher yielding (yet illiquid investments) like PE may be able to more closely match their liabilities with more liquid and higher-yielding assets. That might mean a slowing of new commitments to PE funds or even outright withdrawals. Ignorance of macro market forces is no virtue.

But what if rates don't rise? What if rates pause or fall? What if rates actually decline because of a series of unexpected defaults from overindebtedness, a liquidity crisis, a market sell-off, divestitures and resulting asset deflation of both balance sheet items and securities that nudge the Fed to pause raising or actually lowering rates?

With interest rates low (or artificially so), capital and attention have over the past few years moved with great velocity and little friction into companies with high (actual or perceived) growth. Less attention has been focused on industry structure, competition, barriers to entry, business quality, and profits. One-third of the Russell 2000 (an imperfect, albeit more liquid proxy for VC as an asset class—more imperfect given its 1,981 constituents) have no profits, 20% of the index can't cover interest expense out of EBITDA, and half of the debt that Index members have taken on is floating rate. Only with recent dispersion of prices, have profitable businesses within the Index started to outperform.

This seems like a clue to a change, even if an improbable one, with a potentially high magnitude impact. Narratives of growth can quickly shift to alliterative allusions of 'paths to profitability' and calls for 'cash is king'. Attention and cash may flow towards businesses

more singular in nature, with less competition, higher barriers and higher quality business economics.

What's the effect on technology innovation and progress when rates (and cost of capital) are high or low? When rates are high, fewer things get funded, and they tend to be more near-term focused (with a higher assessed chance of paying back). Necessity becomes the mother of invention, and companies become more scrappy, clever and fiscally responsible. On the flip side when rates are low and confidence and cash is abundant, everything gets funded—including speculative far-out far-reaching ideas. As we have written before, cheap capital discounts hyperbolically, 20-year far out ideas become 20-month frenzied projects. Here more things get funded and more things will fail. But the detritus becomes combinatorial fodder for future ventures who pick up the pieces and the people on the cheap and recombine and remix anew.

Per Seneca: our fears are always more numerous than our dangers. Which is why we say: **Failure Comes From A Failure To Imagine Failure. More things can happen than will.**

Today we pose a counter-consensus view: what if even in spite of Fed operations we see rates rise? What if foreign countries sell Treasuries to address their own liquidity needs? What if others de-lever at the same time? What if the cost of capital rises? Consider again the above underlined excerpts.

Over the past decade, low rates have doubled levels of both outstanding high-yield credit (\$1.3 trillion) and investment-grade credit (\$6 trillion). Half of that \$6 trillion is BBB-rated. What if it gets downgraded in a recession scenario, causing investment-grade funds to mechanically sell-off while forcing the high-yield market to absorb additional down-graded paper? Debt markets are arguably riskier than their yield levels suggest, further compounded by the fact that new issuances have been effectively shut off due to uncertainty. Private equity and private credit firms with dry powder may be primed to exploit opportunities here—and elsewhere.

Yale + Yule

Is it fortunate, then, that allocators have shifted record proportions of their portfolios into private equity over the past several years? These GPs may be well-positioned—but only insofar as LPs are able to continue to fund them. In a globally representative survey of 113 LPs taken in December 2019—just as the first signs of outbreak were materializing in China's Hubei province—80% of North American LPs believed they were not ready for a recession, judging that their own portfolios needed modification against the next downturn. A downturn that may have come too fast or too soon. Large ships are slow to turn—especially in frozen waters (i.e. illiquid ones). Limited partners running variations of the Endowment Model that are even more heavily exposed to alternatives could find themselves particularly over-allocated to illiquid assets. Given that many of these LPs are funding substantial operating budgets, or have legally-mandated fixed annual distribution rules, some could find themselves with troubling liquidity and cash issues. While capital call defaults are rare, additional corrections might herald the return of the denominator effect, further exacerbating this liquidity issue, ultimately constricting the future supply of allocator capital to GPs. For historic perspective: in 2009, 66% of LPs had little or no capacity for new fund commitments.

In a coronavirus-induced downturn, a handful of LPs failing to re-up might only cause minor annoyance to most GPs. Liquidity issues are innocuous in isolated cases, but if unknowingly synchronized, however, they could spell disaster for unprepared GPs and LPs at large: a diversity breakdown by outbreak.

Diversity Breakdowns

Diversity breakdowns, whereby previously heterogeneous agents end up inadvertently acting in lock-step, cause bubbles and busts. Consider a physical example of this: on the Millennium Bridge's opening day on June 10, 2000, it was heralded as the pinnacle of engineering prowess. That day, over 2,000 Londoners at a time streamed across the suspension bridge for the first time, until all of them found their footfalls spontaneously coinciding with the bridge's vibrations, inadvertently amplifying its swaying until they were all walking like ice-skaters. On the verge of collapse, the bridge was shut down. Researchers later found that the very act of walking—innocuous when done by itself—had caused a “diversity breakdown” when unknowingly synchronized. It took as little as 160 unsuspecting pedestrians to cause a cascading outbreak of wobbling that forced all 2,000 people to march in dangerous lock-step.

The Yule Distribution

What unappreciated risks might occur? In an inevitable flight to quality, mediocre upstarts will die as their easy-money life support expires. The same company in one venture fund's portfolio, relatively insignificant and about to end-up on a triage list with scarce reserves, may be a critical returner and in another VC's portfolio. Older vintages of VC funds may be cash-strapped with limited reserves causing a Darwinian struggle for resources among their portfolio companies. Zombie funds will increase in frequency, tying up allocator capital from being re-deployed, seeking fund-extensions, seeking to avoid write-downs and limiting the total available pool of limited partner funds. Franchises without consistent performance and clear succession plans might suffer from that same evolutionary struggle for capital facing their portfolio companies—but from the finite universe of LPs.

Historically, similar flights to quality have occurred among GPs in other asset classes, with LPs culling their managers and consolidating their positions, writing larger checks to their best managers. Perhaps this consolidation might best be modelled by a path-dependent phenomenon called the “Yule” distribution, whereby capital allocation decisions accrue to managers according to how much they already have. The Yule distribution describes some of the power law phenomena of how cities form, or how superstars exist even in industries where individuals have relatively equal talent. The Yule distribution explains why Yale has historically been a finishing school for the rich, and why even in the most prosperous time in human history, global economic inequality has only worsened.

It also explains why the top 10 hedge fund managers control about 80% of the AUM of the entire asset class. In the 1990s, the top 60% of active equity managers enjoyed inflows. In the 2000s, the top 30% of managers did. In the 2010s, only the top 10% did. The Yule distribution is even more pronounced among passive equity managers, whereby the top 3 index fund managers manage 82% of all inflows over the past decade.

As asset classes become more professionalized and efficient, assets can converge to a Yule distribution, given the right conditions. Private equity too has followed a similar path, but venture capital is still in the earlier stages of the convergence curve. Today the performance dispersion amongst public market managers is much narrower and lower than in private equity which, in turn is much narrower and lower than venture capital. We venture that the phenomenon we have described in the past of Minnows and Megs will result in a dramatic contraction and consolidation with 50% or more firms ceasing to functionally exist in the next few years.

As we wrote in **Minnows and Megs**:

Late last year we discussed a dichotomy we dubbed the “Minnows and the Megs”. This is what we called the two-sided barbell, with one side having (a growing) large number of small funds and the other side having a small number of very large funds (e.g., Softbank and Softbank-induced super-sized global pools of capital). As a matter of strategy for Lux, the former are a source and supply of investable opportunities and talent, while the latter are a source of later-stage (and potentially) lower cost capital or liquidity.

We expect to see mass consolidation of the Minnows, combining together or being absorbed into larger platforms. Some Minnows will be fine—especially specialist niche focus funds in niches that prove prescient or lucky. Minnows tend to proliferate in boom times (as they have in the past decade) as there is more capital for exploration and niche-finding differentiation—and then decline and trend towards less differentiation out of necessity, especially if their origin sector falls out of favor. Of the nearly 900 funds managing \$100M or less, we expect half to fade away in the next 3 years.

At its pre-crisis peak, the total amount of capital raised by U.S. venture funds larger than \$1 billion was \$8.3 billion. A decade later, the total was \$22.3 billion. Thus, we expect many of the Megs will also be fine and some will get much larger—but with an entirely different LP base (more pensions and retirement plans than savvy endowments or sophisticated family offices), and with size they will have very recognizable respected brands, but more modest returns—the same phenomenon that occurred in private equity and hedge funds. They will expand product offerings into growth, debt and beyond—and they will be chosen more frequently by LPs than by entrepreneurs.

Relatedly, we also expect an amplification of the most important factor in venture: dual-selection. Unlike most other asset classes, where the manager solely has to worry about picking the right security, in venture, the security (the entrepreneurs) also must pick the manager. Positioned in between the “Minnows” and the “Megs”, we expect great performance and a narrowing of the number of true “Partnerships” that are able to maintain low partner turnover, a proven track record of exits, consistent LPs, a generalist platform, and a penchant for both company building and new company creation.

Micro to Macro—and Tactics

We’ve said in the past that security selection in venture (finding the best entrepreneur developing the best technology in the best sector) is like picking the best dish on the best menu in the best neighborhood of the best city of the best state of the best country—the ultimate micro decision. And just as you are about to take a bite—Godzilla steps onto the city. Ignorance to macro forces and complex capital flows is no virtue. Our current portfolio companies are the same as the ones today we owned a month ago. At the atomic level: the entrepreneurs helming these companies remain the same, the technologies haven’t changed, the engineers and scientists are no less competent—but the following risks are ones that we are actively managing:

INVESTMENT PACE

We have been fairly deliberate over the past few years as we’ve publicly expressed concern over valuations and expectations that were running ahead of themselves. We have shared in quarterly letters and at our last several LP meetings (and LP Advisory Board meetings), Lux Ventures V, LP was invested differently from prior funds in that we moved to earlier stages, and focused more on scarce new company formation—where we had higher material ownership and influence for significantly fewer dollars—in response to an abundance of richly priced Series A companies being funded by others. It is all relative, but

we have been in more of a conservative and disciplined (rather than momentum) mindset for at least eight quarters.

CASH MANAGEMENT

All Lux partners have told all our companies and Boards to be prudent with cash; slow unnecessary spending (part of which *naturally* is occurring as travel expenses can be >10% of budget and general daily expenses are shuttered when employees are working from home); secure and draw down lines of credit from venture debt; close financings if they are imminent and don't be greedy; and if they have sufficiently liquidity, to be vigilant about opportunities for key hires or strategic tuck-in "acqui-hires" or acquisitions. Some of our companies are already communicating they are cutting costs—but of course one company's cost is another's revenue—so we also expect there may be two quarter delays or longer for pipeline and critical deals that may have been near closing that will be delayed, or in some cases, disappear—causing hits to growth.

TALENT MANAGEMENT

It is a necessary time for CEOs and founders of our companies to show leadership, be honest about risks and clear-thinking, clear-communicating on strategy and course-setting. It is a time to be a trusted resource for employees and their families, getting them or loved ones information and access to healthcare or assistance if they need it. It will be critical to retaining and attracting top talent. As some companies falter there may be great opportunities to seize on great talent additions.

SUPPLY CHAINS

Many of our pre-revenue technology- or biotechnology-driven companies have had some hiccups in supply chains (for both components in technology or outsourced chemistry in our biotech companies) but have worked very intelligently to find alternatives. The silver lining is other Lux companies who have technologies for remote access, robotics and automation are already seeing renewed interest and demand as other companies assess and rethink their own risks—we await to see if and when the interest converts into orders and cash.

VALUATIONS

Within our portfolio we have *not yet* seen "lower" valuations given market volatility and major correction—a virtue of not being marked-to-market daily. The process of closing financings (and rounding up syndicate members) has taken longer and especially now we ascribe a higher probability to broken financings. But valuations have still not come down to what we would view as a new normalized level as there is some lag period before it materially impacts private markets. We are not expecting any major near-term valuation hits for the portfolio across our funds. We have a handful of companies at risk that we are paying close attention to, largely owing to financing difficulties but also business underperformance, which existed and were known to us before any current events. The majority of Lux companies have stocked up, often at our nudging, with capital over the past 12 months and they have been executing well. We have and will continue to write down or write off our underperforming or weaker companies.

There will surely be surprises—but we have been vigilant for so long now that we feel like the outlier in the boardroom urging preparation, conservatism and risk-thinking.

SPECIAL SITUATIONS

We also expect special situations may arise for us to deploy capital—especially in the later-stage growth segment where momentum has taken prices far beyond fundamentals, as we become aware of funds who

are fighting fires, protecting positions and seeking to avoid major downturns or shutdowns. We find it pernicious the view that only 10 or 15 companies per year matter, and so the price you pay does not matter. The price you pay is the *main* thing that determines future returns. If marginal price-setting capital dries up, we may again see great companies with sound balance sheets and impaired capitalization tables present special situations as they did a decade ago—getting Series C or D stage companies at Series A stage prices. Special situations may also arise among our syndicates so we are also closely watching our VC syndicate partners, cautious of those who have put out capital too rapidly, sought to fundraise too quickly or have large portfolios likely to require harsh zero-sum reserves decisions. Some LPs are likely to have overshot PE/VC allocation targets as many GPs came back to market sooner than expected—and paper marks may have justified incremental allocation. But if liquid public markets continue to correct, the denominator effect may create opportunities for secondary funds to help LPs deal with illiquidity from being over-allocated to privates. We expect corporate LPs and their direct-investing programs will substantially retrench against a market where peak profit margins may see a total reversal.

Please call or email us any time—to share non-obvious intel, views and correct or solicit ours. We appreciate your continued support and partnership.

Peter Hébert + Josh Wolfe

First Round Capital

The Founder's Field Guide for Navigating this Crisis

— 4/9/2020

The Founder's Field Guide for Navigating This Crisis — Advice from Recession-Era Leaders, Investors and CEOs Currently at the Helm

Leading a startup has always been challenging, even under the best conditions. Founders need to quickly master a tremendous range of skills, from building a fantastic product and nailing go-to-market efforts to raising money and managing a board, all while figuring out hiring, culture and compensation. Starting a company is also a lonely endeavor, one that forces founders to make difficult decisions every day with imperfect information. While triaging these challenges, eventually every founder runs headfirst into a problem they haven't seen before, the kind that leaves them unsure of where to start.

Today, we're decidedly not operating in the best of conditions. With a future that's more cloudy than clear, the dynamics founders face are magnified many times over and playing out simultaneously — at warp speed. Whatever tactics and strategies were working in January 2020, chances are they're not as effective now.

These increasingly unmooring circumstances are the ultimate test of a leader's resilience. In our experience, the best safety net is the wisdom of the community and the experience of fellow entrepreneurs. As we've been helping the founders we've backed plot out their careful next steps over the last few weeks, we've been trying to weave together these supportive threads. **Today, we're ready to share that project**

more formally on the Review, with hopes that it will be helpful to the broader tech community.

There's no shortage of content out there right now on how COVID-19 is affecting startups. But amid the explosion of writing on the pandemic and the advice we've all seen scattered across Twitter threads, Substack newsletters and Medium posts, we've found that there are still very few resources that dig deeply into the nitty-gritty "how" of leading and planning during this crisis.

Over the past several weeks, we've been fielding a wide array of questions from First Round-backed founders:

How do we approach planning given COVID-19?

What signals should we be watching before pulling the trigger on alternative spending plans?

How will the bar for fundraising be different in 18-24 months compared to now?

Are there any alternatives to a RIF while still decreasing burn?

How do we market during these times?

As for the answers, we have our own takes, of course. Since our start in 2004, the First Round team has applied a long-range lens through every twist and turn in the market. Partners Josh Kopelman and Bill Trenchard were building companies in the early 2000s, and were on the investing and advising side in 2008, helping companies like Square and Uber navigate choppy waters as the economy recovered from the Great

Recession. We firmly believe, however, that the best company-building advice doesn't always come from venture capitalists. More often, it comes from the peers and practitioners — the ones who've either been in your shoes before or are shoulder-to-shoulder with you in the trenches right now.

That's why we've attempted to crowdsource and curate the lessons we've come across for this guide. Some of the advice we share here will come from the First Round team, some of it from founders who've built in downturns before, and some from resources we've curated. We've done original interviews, culled from previously-unpublished First Round Community guides and surveyed founders on how they're planning to weather the storm. As ever, we'll be highlighting what we find important, overlooked or counterintuitive.

We appear to be in the early innings, so there are no perfect answers or fully-baked playbooks here. But by sharing initial thinking, talking about the challenges everyone is facing and harnessing the helpful advice floating around in private channels, we hope to help you shape — and relentlessly refine — your response as the situation on the ground continues to change quickly.

We're thankful to every startup leader who took the time to generously share their hard-won wisdom — particularly those who have previous experience building in the dot-com era and the Great Recession. **Although we're living in unprecedented times and every path is unique, we've found that some lessons come in handy over and over again.**

You'll hear from many different voices in this guide, as we've purposefully attempted to curate a wide range of perspectives. The current founders, recession-era leaders and full-time investors who shared their thoughts don't always agree with each other — and that's intentional. It's more important than ever to take in different perspectives in search of the best advice for your company. From Zoom and Instacart to StubHub and OpenTable (and all of those startups caught somewhere between these

extremes), it's clear there isn't a one-size-fits all answer for running a business these days.

We've organized this guide into eight parts, outlined below. Fair warning: While we've always had a penchant for long-form here on the Review, today's effort is *seriously* long and perhaps not a read you can knock out over your morning coffee. Instead, we're envisioning this as a resource to bookmark — one that you'll hopefully return to over and over again as challenges crop up.

Use these links to navigate around it more easily:

[Part 1: Making Sense of Macro Conditions and Market Signals](#)

[Part 2: The Case for Responding Quickly and Thinking Through Scenarios](#)

[Part 3: The Nuts & Bolts of Scenario Planning — Our 5-Step Framework and Template](#)

[Part 4: Broader Thoughts on Extending Your Runway](#)

[Part 5: How to Reduce Burn — Strategies for Cutting Costs](#)

[Part 6: How to Bring in More Capital — Tips for Putting More Fuel in the Tank](#)

[Part 7: Supporting Your Team and Leading Through a Crisis](#)

[Part 8: Ending on a High Note — The Upside and the Next Wave](#)

Also, be sure to check out this hub of resources we put together in Notion. It rounds up all of the recommended reads we share below, as well as our brand-new scenario planning template and list of curated job resources (both for candidates who are actively looking and companies that are still hiring).

This guide was last updated on April 9, 2020. We wanted to get this resource into as many people's hands as possible, so we're leaving this free and available to all. But if you found it valuable, we'd appreciate it if you'd consider [subscribing](#) to the First Round Review [newsletter](#) for all the stories and advice still to come.

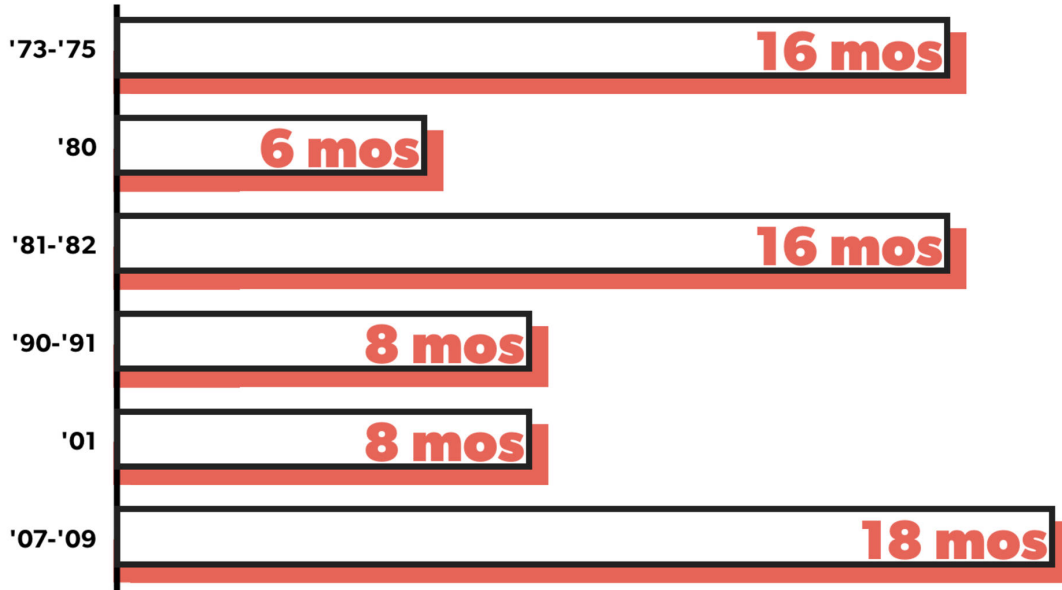
PART 1: MAKING SENSE OF MACRO CONDITIONS AND MARKET SIGNALS

Let's take a look at the broader context founders are operating in — and the case for why they might need to adopt a more conservative stance.

1. Brush up on your history as you make your bet.

“Founders in their early 30s might have been in college during the Great Recession and everything's been up and to the right ever since. So my first impulse is to make sure founders recognize that they are operating in a different environment than they were used to,” says [Josh Kopelman](#), Founding Partner at First Round. “While there may be a fast recovery, I think it's important to assess the probability of that occurring. If one was to look at the [history of the largest recessions](#) over the last 50 years, the average length is about 12 months. And that's not to recovery — that's just till we hit bottom. A quick recovery may be a possibility — but so is a long recession or even a depression. Know what you are betting your company on and force yourself to acknowledge it.”

Peak to trough duration of U.S. recessions (1970-present)



His fellow partner at First Round, [Bill Trenchard](#), agrees. “Those who haven't been through a recession before and are anticipating a quick recovery might be overlooking what happens when people stop spending money. When budgets start coming down and people start maximizing profit over growth, it might be unbelievably hard to sell your product,” he says.

“There are multiple feedback loops of small business destruction, which can destroy a huge percentage of the jobs in the country, which in turn might destroy consumer spending, which could drive the whole economy down. To get more specific, nearly 50% of jobs in this country are with small businesses. Many are not operating, and have less than 30 days of a cash buffer. Consumer spending drives our economy, and the [historic unemployment levels](#) we're seeing could lead to a massive drop in consumer spending,” Trenchard says.

“But the only downturn many of today's founders have experienced was in 2016, which was a stock market valuation change that quickly bounced back the next quarter. So I'm spending a lot of my time these days as an investor walking through the

bigger macro picture, trying to share historical context and my own experiences building in the dot-com bust and investing in 2008.”

2. Watch out for false bottoms.

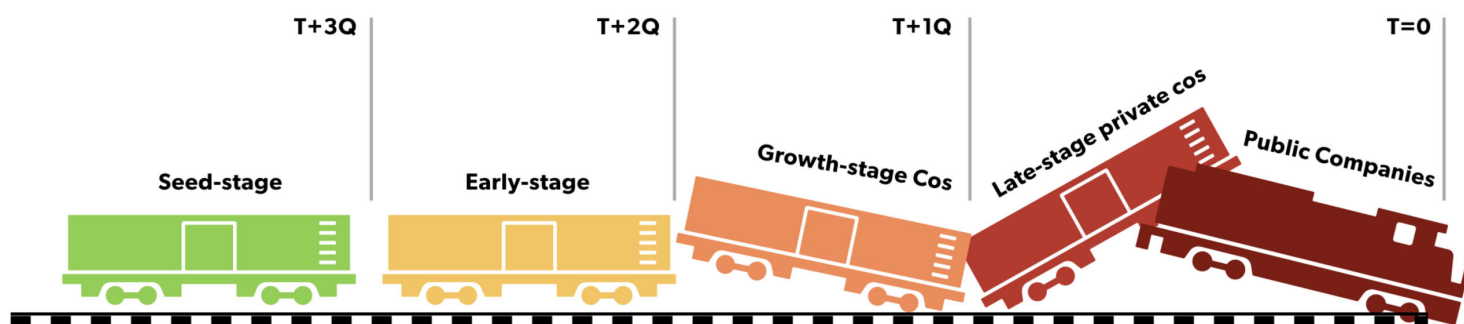
“I founded Half.com in 1999, and we ended up getting acquired and signing our term sheet right as the market was crashing. And then in 2008, I was a few years into building First Round and investing full-time,” says Josh Kopelman. “Here’s what feels similar to me right now: Across all of the downturns I’ve experienced, I’ve seen that people are tempted to underestimate the severity of that drop off in the beginning. **There were a number of false bottoms, both in the dot-com era and in 2008.** But because it would drop and then stabilize, people say, ‘Phew, okay, we’re done now.’ And then 90 days later it would drop another +10%. So in the early days, it’s hard to know the scale of what you’re dealing with. **The human mind is pretty great at taking in the stuff it wants to hear and drowning out the stuff it doesn’t as ‘noise.’**”

A key difference here is that we’re grappling with a pandemic on top of a recession. “In ‘08 we were trying to figure out when the banks would fail. Now, everyone’s wondering, ‘Will the health system fail?’ And whereas government stimulus was the antidote before, now we’re waiting for a literal antidote, in the form of a vaccine or antiviral approach.”

3. Look out for the locomotive effect.

Many seed- and early-stage venture-backed startups might think the turbulence in public markets doesn’t impact their business as sharply, given that any potential IPO is likely many years down the line. “While private markets do move slower — and a 20% dip in the stock market may not directly correspond to a startup’s valuation — there is a **locomotive effect**. As public markets are impacted, those changes cascade slowly throughout the chain, moving in (delayed) lockstep and sometimes playing out across several quarters,” says Trenchard. “Specifically, when public valuations shoot through

the roof, Series A and B prices drift up. When late-stage and public companies hit serious turbulence, seed-stage startups need to take that into consideration as they think about their ability to raise follow-on rounds.”



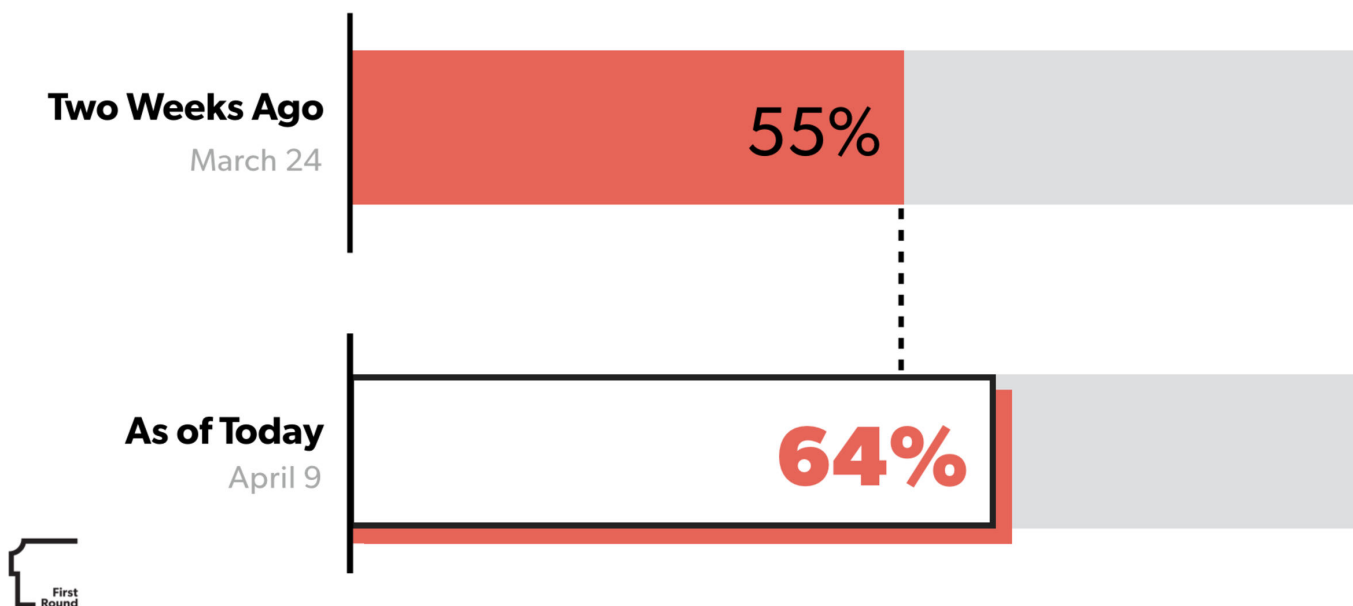
In other words, it's inextricably linked. This lesson is important to carry forward into other areas of your business as well. Though many startups in hard-hit industries are feeling the collision now, cyclical effects with customers also might be easy to dismiss.

“Early-stage founders may not be seeing any churn just yet. Many founders had a pretty good March, and so they think it's going to be a good April as well,” says Trenchard. “They’re thinking, ‘We can continue selling to customers at home, no big deal, things will bounce back.’ **But just because you believe you’re firmly in an unaffected market, that doesn’t mean you will continue to be in the future. Things can change, fast.**”

To illustrate just how quickly the ground game is changing, we embarked on a new effort (inspired by our [State of Startups report](#)) to create a pulse survey on how venture-backed founders are planning to navigate this crisis. We will be sharing a few snippets of initial findings here in this guide, starting with this one: In just two weeks, we found that the percentage of survey respondents who reported being negatively

affected by the pandemic rose from 55% to 64%. (We plan to continue these pulse surveys to track how founder sentiment changes rapidly over time, so more to come.)

Survey respondents negatively affected by the pandemic:



“When a recession starts, nobody knows when it will end or how deep it will cut. This might be the most profound economic decline of my lifetime. We won’t know for a while, but instead of waiting to find out, brace for impact by assuming that these conditions will broadly and harshly impact your customers,” says [Mark Bartels](#), the current CFO of [Invoice2Go](#) and previous CFO of [StumbleUpon](#).

Current Andreessen Horowitz General Partner (and former CEO and co-founder of [TrialPay](#)) [Alex Rampell](#) made a related point on unseen effects: “Lots of companies think their business is counter-cyclical. At [TrialPay](#), we thought that no business could be more counter-cyclical than one giving away stuff for free, right? Well, that was true on the customer demand side, but **the cascading effects are sometimes hard to prognosticate, so don't be arrogant,**” he says.

“As an example, [TrialPay](#) was the number one source of [Washington Mutual](#) new checking account customers in 2008. Haven't heard of [Washington Mutual](#)? That's

because it went insolvent. We were their best channel. They made money on every customer we sent them, but the macro-environment killed them.”

Additional resources on the macro-environment:

Foursquare analyzed foot traffic patterns: [How COVID-19 is Influencing Real-World Behaviors](#)

JPMorgan Chase Institute’s [Cash is King](#) report researched the financial lives of 600,000 small businesses in 2016.

Womply Slide Deck: [2020 Economic Apocalypse: The Effect On America's Small Businesses](#)

London Business School Lecture: [The economics of a pandemic: the case of Covid-19](#)

Divinations newsletter: [Understanding the Covid-19 Recession — What happens when an economy holds its breath?](#)

PART 2: THE CASE FOR RESPONDING QUICKLY AND THINKING THROUGH SCENARIOS

Given these broader conditions, how should founders respond? From springing into action to make conservative cuts to taking a more cautious “wait and see” approach, there are many different paths to consider. Here’s the general consensus we found: Move quickly, but prudently. A “business as usual” response with no alterations to your

pre-pandemic plans is probably not the right approach, nor is an impulsive reflex to drastically slash. This is where the importance of **scenario planning** comes into play.

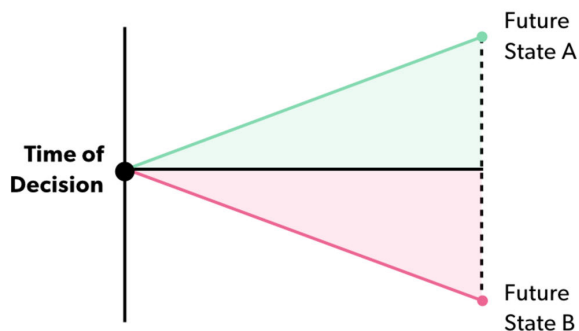
Founders tend to be an optimistic bunch, so it's key to check your biases and challenge your thinking throughout this process. Stay open-minded about the broad range of possibilities and develop several plans for different outcomes so you aren't left scrambling later. Some folks who shared advice with us disagree on how much you'll need to change your plan or how aggressively you should pursue those changes — but all agree that you need to get planning.

1. Account for the widening aperture.

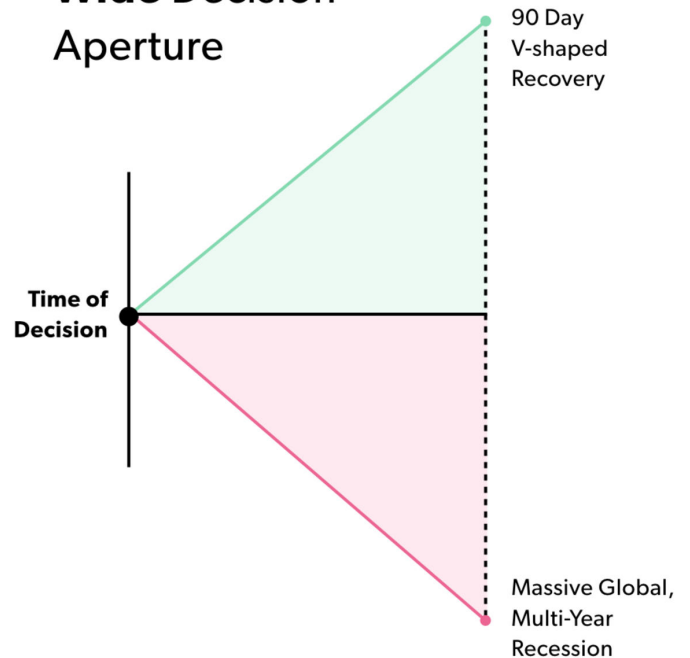
Day in and day out, CEOs are tasked with making decisions about the future based on the information available at present. In other words, you're placing bets on how to allocate your resources. "The job of a founder is always to predict the future. When you're starting a company, it's because you have a prediction of how the world could be different," says First Round's Josh Kopelman.

Under normal conditions, founders assess capital markets, customer demand, competition, distribution and sales velocity to make those bets, assessing the decision aperture between possible future states. Typically, more time yields more data, a smaller aperture and higher accuracy in decision-making. But in black swan conditions, that aperture is wider than ever. "There's so much variance. You could be looking at a 90-day recovery, six months of choppiness and then back to normal, or a massive global, [SEP] multi-year recession," says Kopelman.

Narrow Decision Aperture



Wide Decision Aperture



Here's a quick overview of those potential alphabet-based scenarios you've likely seen referenced before:

V-shaped recovery: A sharp, precipitous drop, followed by a swift rebound as the economy recovers. The 1953 U.S. recession is an oft-cited example.

U-shaped recovery: The bottom is a less-clearly defined curve, as opposed to a pointy trough. (The former chief economist of the IMF once [compared it to a bathtub](#)). Growth does recover, but it takes longer than planned. Think of the 1973-1975 U.S. recession.

L-shaped recovery: A severe recession or depression, where even after recovery, the growth rate can still be lower. Japan's "lost decade" in the 1990s illustrates this shape.

As this [article from Bloomberg](#) points out, economists theorize that other shapes are possible as well.

2. Beware of the dangers of delay and doing nothing.

“When the action you need to take is painful, like austerity measures, there’s a cognitive bias toward delaying until you’re very certain the actions are necessary. The issue is that in a case where the probability of the worst-case outcome realizing increases with time, by the time you are certain about the need to act, it may be too late,” says Kopelman. “In this case, the risk of ruin increases with time. Every day you don't reduce your burn rate is a day that narrows your chances of being able to ride this out if the worst comes to pass.”

People generally prefer to delay painful choices, are overly optimistic about their own fundraising chances and wait far too long to gather certainty that those choices are necessary.

“Oftentimes, when founders opt to do nothing for now, they think they aren’t deciding just yet. **But they are.** This is [omission bias](#) at work. Changing things feels like a decision, whereas staying the course doesn't. But they are both decisions and need to be viewed as such. **Because if you do nothing, you're basically saying the landscape hasn't changed for you.** And while that may be the case for some companies — an early-stage startup that had planned to spend the next year writing code, for example — I find it hard to believe that most startups are not seeing a change of some sort,” he says.

“I'm pushing founders to react so aggressively now because I'm informed by my previous experiences with economic contractions. The companies and the founders that really understood the scope of possible outcomes and put together a scenario plan for the worst outcome — while hoping that the worst outcome didn't

materialize — were the ones that survived. The ones that waited too long struggled,” says Kopelman.

Doing nothing is a decision. It’s the same as actively choosing to stay on the same path. And most founders don't realize that. If the winds are changing, a smart sailor will adjust their sails.

Gina Bianchini agrees. (She’s the current CEO and founder of [Mighty Networks](#), and from 2004 to 2010 was the CEO of [Ning](#), which she co-founded with Marc Andreessen). “Many founders I’ve talked to recently have said variations of ‘It’s only a couple weeks, we’ll be able to wait it out,’ or ‘I just need to move. We’ll show more empathy in our outbound sales sequence, and things will pick up.’ The odds of that all being true for everyone may be low,” she says. “I understand the impulse to project an image of having everything together. People are scared, and things are uncertain. Plus, we can still remember ‘normal’ from three weeks ago, so there’s a lag-time as well. But if you wait too long to act, there’s no amount of optimism or tactical shifts that will save you — everything else might be rearranging deck chairs on the Titanic.”

3. Pick up the tempo.

The speed of your company’s decision-making has always been critical. Couple a fast-changing environment with our tendency to kick the can down the road or be overly optimistic, and it stands to reason that a “wait and see” stance might not be the best approach here.

“Re-work the plan. Immediately. Not in a quarter. Not in a few weeks,” says **Simon Khalaf**, the current SVP and GM for Messaging at [Twilio](#). (Back in 2008, he was the President and CEO of [Flurry Analytics](#).) In other words, you shouldn’t be operating at the same tempo as you were 90 days ago, but it can be tough to go from planning quarterly to planning weekly. “We are at a time of incredible uncertainty. Changes that might have happened in a year are happening in a week. **Macro shifts are happening**

fast, but the micro-level of what's happening in your business — signed contracts, churn and so on — still may be slow," says First Round's Josh Kopelman.

Here's why that's particularly challenging for founders: "Most CEOs also have a tough time thinking about the macro picture. They're so focused on the micro lens of their company, their employees and their customers — that's enough to already have on your cognitive plate. It's not a muscle they're used to exercising," says First Round's Bill Trenchard. "But the best founders are resetting immediately. They're saying, 'Oh my God, I've really got to think about the bigger picture and I don't do this normally. How do I get smart on that? Who do I talk to? What do I plan for?' And then they do all of that scenario planning work, pick what they think is the most likely outcome and then start implementing to take decisive action."

PART 3: THE NUTS & BOLTS OF SCENARIO PLANNING —OUR 5-STEP FRAMEWORK AND TEMPLATE

But how exactly do you prepare for that decisive response to changing conditions? At a minimum, it's crucial to get a firm handle on your company's cash position and runway. Borrowing from [our friends at Sequoia](#), we recommend starting with a simple matrix. We advise **securing at least 24 months of runway (green cells)**, and have advice throughout this guide on how to get there.

Runway Matrix Example

	Plan Revenue	-10% Revenue	-30% Revenue	No Revenue
Plan Opex	22 months	18 months	12 months	8 months
-10% Opex	24 months	22 months	16 months	12 months
-30% Opex	28 months	26 months	22 months	18 months
-50% Opex	32 months	28 months	22 months	22 months

If you've already done this work and are looking to go deeper, below we outline the 5-step framework we recommend for more advanced scenario planning.

Why you need a scenario planning framework:

“Right now, as a leader, your job is to imagine how your company needs to be different. **What are the different future scenarios for the country, for the economy and for your company? And how does your company both survive and thrive in that time?** You need a framework for how to plan,” says Kopelman. “The essentials are converting your observations and assumptions into possible scenarios and then outlining how you would adjust your current, pre-COVID operating plan to respond to those scenarios.”

It's better to have a plan that gives you the best chance of survival under a variety of recovery scenarios. Plan for the worst-case recovery — but hope for and position yourself for the best-case recovery.

This scenario planning exercise is about thinking through your options, he underlines. **“It’s scary when founders have a reflexive impulse to just cut 40% right off the bat.** Maybe that's the right answer. Or maybe it's a 10% cut. Or perhaps cutting isn't the right move at all. Let's understand the impacts of different scenarios that could unfold first,” Kopelman says. “A good plan might say, ‘Let's wait 30 days and if the following things happen, we'll do X, and if the following things happen, we'll do Y.’”

First Round partners have been leaning on these principles as we hold multiple working sessions with all of our founders. But we wanted to dive even deeper and share these resources beyond a high-touch, 1:1 approach, so we've worked to boil it down into a repeatable process for all to use.

If you’re curious how this approach could work in practice, our friends at Notion helped us set up this [Scenario Response Planner template](#) — which includes example responses for a fictional corporate catering service. Duplicate our template to start working on your own company’s plans.

Step 1: Identify your key uncertainties.

To start this process, identify the 6-10 key uncertainties introduced by COVID-19 for the next year to inform your planning.

Will public health response effectively and rapidly control the virus spread? Will economic policy interventions prevent widespread small business closures? Will social distancing policies have a lasting effect on your customer’s buying behavior? Everyone’s list will be different. Focus on what you think will have the most profound impact on your company's prospects and strategies and be sure to include a range, from macroeconomic and epidemiological uncertainties to those concerning your market, customers and other stakeholders.

Step 2: Bucket them into scenarios.

Using combinations of outcomes from your uncertainties list, create three (or more) scenarios: a best case, a worst case, and one that splits the difference. Think carefully about how you assemble each scenario, so each includes a plausible combination of outcomes and captures a useful business case. You might do that based on the potential letter-shaped economic recoveries we discussed earlier. [Patrick O'Shaughnessy](#) offers another [helpful trio-based metaphor](#): blizzard, winter or ice age.

To bring each of them to life, we suggest giving each of your scenarios a name and narrative, so they feel less abstract and more tailored to your company's specific situation. For our fictional corporate catering service, we chose:

No Return (Worst Case): Workers don't fully return to offices until 2021, restaurant closures are widespread, and demand for corporate catering plummets.

Soft Rebound (Middle Case): Workers don't fully return to offices until fall 2020, restaurant closures are significant but contained, and demand for corporate catering is present but reduced.

Old Normal (Best Case): Workers return to offices in summer 2020, widespread restaurant closures are prevented, and demand for corporate catering is largely unaffected.

See the more detailed assumptions that went into these fictional scenarios over in our [Notion template](#).

Step 3: Craft responses to each.

If your scenarios describe where the world might be heading, your responses answer the question, “Now what?” Regardless of which future arrives, one thing’s clear — it will favor the companies that moved fast.

Do so by generating responses for each that can drive specific decisions and actions at a more granular level. Use something like the table below to think through how your overall business game plan will change scenario-by-scenario. Break down the steps you’ll take in terms of revenue targets, product direction, headcount — and the runway and burn rate you’ll see as a result.

	Worst Case	Middle Case	Best Case
Game Plan			
Product Direction			
Headcount			
Revenue Target			
Runway			

See the example we filled out for our fictional startup in more detail [here](#).

Step 4: Look for triggers points.

We believe General Dwight Eisenhower was spot on when he noted that it’s the planning process — not the actual plans themselves — that is indispensable. That said, we find these scenario plans are made more useful (and less abstract) when you’re

monitoring for concrete internal and macro triggers that will help you decide which path to choose. Here are some sample indicators to consider:

Macro: Extensions or changes to shelter-in-place policies, job loss trends, small business closure rate, and so on.

Internal: Customer churn stabilizing or dropping, pick up (or drought) in inbound sales leads, and so on.

You can augment your scenario responses by adding specific trigger points for each. (For example, restaurant closures beating estimates, job losses start to stabilize and a pick up in inbound sales leads could all fall under your best case or “return to normal scenario.”)

Step 5: Revisit, revise and repeat.

Every two to four weeks, archive your old uncertainties, scenarios and responses and copy/paste the builder template into a fresh version. Use these rewrites as a chance to think hard about what's changed, whether your scenarios are still realistic and to alter your course of action in response.

“If today is April 9, then you’re creating version 1.0 today, and then you’ll create version 1.1 on May 9, highlighting what changed in your assumptions and in the world. And then in June, you create 1.2, and so on,” First Round’s Josh Kopelman recommends.

Here’s why this matters: **“Once people decide on a model, there’s a risk of getting entrenched.** Try to come out of this planning process with a list of things that might be true of the world and a list of signals that would tell you that a V, U or L shaped recovery was occurring,” he says. “Write those down and then be vigilant in looking

for those signals. Don't get trapped in your own initial assumptions. This will make you more agile and flexible as the world starts to send you signals, which is especially important when there is a lot of uncertainty.”

Writing out your assumptions in a living doc forces you to recognize what's changing.

First Round’s Bill Trenchard agrees. “One founder I’m working with is planning for a middle scenario recession but hedging that bet. Because he has a round in the bank, he’s keeping an extra salesperson in case he’s wrong and things do come back quickly, so he doesn’t lose out on the onboarding and ramp time. This founder is sending almost weekly updates to the board, with what he’s seeing, what he’s doing and how he’s changing his plan now that we have three to four weeks of data.”

Additional resources on scenario planning:

Dan Hockenmaier’s post on [how to scenario plan for COVID-19](#)

Sequoia’s [Matrix template for COVID-19](#)

HBR 2009 article: [Seize Advantage in a Downturn](#)

Boston Consulting Group’s slides on [COVID-19 dynamics and implications](#)

Howard Marks: [Memo to Oaktree Clients](#)

PART 4: BROADER THOUGHTS ON EXTENDING YOUR RUNWAY

With scenarios in place, if your planning outcomes dictate finding ways to extend your runway, here are some approaches to consider. We'll start with some general thoughts and different perspectives on what's most important to prioritize. Then in the follow-on sections, we'll dive deeper into the specifics of cutting costs (pausing hiring, cutting expenses, reducing headcount) and bringing in more capital (customer funding, fundraising, venture debt).

The advice we're sharing with First Round companies on runway:

Think of your cash as an insurance policy. Insurance was made for unexpected events — and you hope you never have to use it. In other words, you hope your house doesn't burn down, but you buy the fire insurance in case it does. Similarly, if the recovery is quicker than you expected, that doesn't make the decision to have a lot of cash on hand wrong. Don't be afraid that you're overreacting because you hope it turns out you won't need the extra runway. The more uncertainty, the more you need the insurance that you wish you won't need.

Underwrite yourself with +24 months of runway, if you can. The last recession lasted 18 months and given the magnitude of the shutdown, preparing for a 2008 scenario or worse might make sense. If you raised more recently, try to bank 36 months to give yourself even more flexibility.

One of the primary jobs of a CEO is to manage existential threats. And the number one existential threat right now is running out of capital.

If you think about your runway in those terms, then chances are you'll need to get more conservative with your projections. This is particularly true given the sea of unknowns ahead. You might find certain levers that used to be efficient get turned upside down, such as a particular sales motion that's no longer working. Another

reason it pays to play it safe here? **The end-to-end fundraising process has just gotten harder — and therefore longer.**

More fundamentally, you need to refactor all of your assumptions. **“When you raise money as a founder, that money has a job to do.** You were going to use it to build the products, to prove out tech or to figure out go-to-market,” says First Round’s Josh Kopelman.

“Here’s what I’m asking all the founders I work with: You made a bet on an amount of time and an amount of runway to do a job, but now, **what if you assume that 2020 is a lost year?** How does that change things? If you were planning on selling, implementing, deploying or growing, and if you instead assume 2020 is done, what does your runway look like? What does your business look like? Do you have enough runway to then do the job you wanted to do and still have time?”

Advice from recession-era founders on runway:

Here’s a quick hit list of tips from several founders who felt the pain of a shortening runway firsthand in previous downturns:

Get cash early and make it last. “\$1 today is much more valuable than \$1 in two years,” says Alex Rampell (current GP at A16Z, previous CEO/co-founder of TrialPay). “Give discounts for early payments. Survival is everything. Make the money last, last, last. With TrialPay, we didn’t raise a round for another three years. Had we needed to, it would have been very difficult, especially given that valuations tend to reset (a ‘re-rating’) after these massive bumps.”

Get capital by not needing it. “I was meeting with some founders the other day, and I asked them about their cash flow positive scenario. They didn’t have one. Now more than ever, it’s important to control your own destiny,” says Gina Bianchini (of Mighty Networks and Ning). “You know that investors

are going to care about being cash flow positive in a way that they didn't two months ago. Who's going to be able to raise the most amount of money? The people that are already cash flow positive, or have a path to it. Look at [Notion raising \\$50 million](#) last week. Especially in a downturn, **people want to give money to companies that don't need the money.**"

Think about future impact, not just getting through today. "Take the steps you think you should do anyway, even if we have a quick recovery. Use this opportunity to take those actions to make the company stronger in all circumstances," advises [Ken Goldman](#), former CFO of [Yahoo](#) and [Fortinet](#). [Seth Sternberg](#) (who was building [Meebo](#) in 2008) offers a similar piece of counsel: "Make these pivots durable. Think about what you can uniquely do in a time like this that has a lasting impact beyond the moment. Do those things first. **Something that only helps right now is less good than something that'll help your business once we get back to normal.**"

Don't take anything off the table. One more from Sternberg: "In times like these, you can literally reexamine all assumptions. There's a free pass to do things that would normally be taboo or signs of a failing company. So reexamine everything you do. Pricing. Salaries. Team structures. If you haven't cut anything, you probably haven't reexamined enough," he says.

Remember this feeling. "The lessons I learned building TechForward in the last downturn have definitely stayed with me," says [Jade Van Doren](#). "Most recently, when I took the CEO role at [AllTrails](#) in 2015, the company had minimal revenue and a six-figure per month burn rate. Rather than focusing on raising money, we dove into improving the quality of the product, the associated trail data and optimizing the sales funnel. Within six months, the business had turned cash flow positive, and we were able to grow organically without additional capital into a \$75M+ private equity sale in

2018 — with just 14 employees. Perhaps because the events of 2008 burned financial discipline into me, I now prefer running and investing in leaner, more product-led-growth companies, even in economic environments in which others might have turned to dollar-led growth.”

Extend your runway — but make sure it leads somewhere. “I do support rational budget cuts. Conserving cash is a wonderful thing. But the goal needs to be more than just ‘X more months of burn,’” says **Oren Michels**, the CEO and co-founder of **Mashery** during the Great Recession (which was later acquired by Intel and then TIBCO). “If you cut back significantly now, **you might get to a place where you can squeeze out a few more months of burn. But to what end?** On the other side, you’ll be treading water, trying to ramp back up for at least as many months as you saved in burn. There’s something to be said for thinking through scenarios, but waiting to pull the trigger. You can make cuts pretty quickly — it’s the undoing cuts and restarting product development or go-to-market that takes way longer.”

Additional resources on runway:

[Airbase panel recap on Navigating Uncertainty: Extending Your Runway](#)

[First Round Review article: How This Founder Turned Slow Burn Rate into a Big Exit](#)

[Auren Hoffman’s post: Here’s How Your Start-Up Can Not Only Survive the Recession But Actually Come Out Stronger](#)

[Twitter thread from Sahil Lavingia, founder and CEO of Gumroad, about getting to profitability](#)

PART 5: HOW TO REDUCE BURN — STRATEGIES FOR CUTTING COSTS

If you've committed to the path of dramatically reducing your burn rate, we've gathered advice for two common paths: cutting expenses and reducing headcount.

1. Cut expenses:

Try to bring down the burden of rent.

Outside of your team's compensation, rent is likely one of the most significant line items in your budget. While your lawyer should review your contracts first, you may want to consider these strategies:

Rent abatement: Most landlords have developed leases that — when they contain force majeure clauses — still require the payment of rent during emergencies. The best approach to obtaining rent relief is a direct negotiation with your landlord — before they get inundated with requests. Many are open to restructuring a lease to provide for short-term relief. Try negotiating a temporary or permanent discount to your lease rates, or getting a discount in the form of a credit. (As an example, offer to stay current on your payment for the next three months, in exchange for two months tacked on for free at the end of your lease.) In deals known as blend and extend, some landlords are agreeing to no rent or lower rent for a period of time, with the foregone rent being added back and amortized over the monthly payments for the remainder of the lease. In many cases, those deals involve an extension of the lease.

Downsizing: This is applicable particularly for companies who are in modular spaces (WeWork, Knotel, etc.) and can consolidate the space they need. Many of us may be working from home for the next 12-18 months, at least part of the time, in accordance with ongoing quarantines. Do you really need that office space? Can you get by with shared space, part-time space, a WeWork membership?

Clean up by running through this thought experiment.

“Ken Goldman recently shared that this is a great opportunity to tidy things up,” says First Round partner Bill Trenchard. “Since we haven’t been in an era of belt-tightening, many companies have probably gotten a little sloppy, racking up some expenses they don’t absolutely need. This is the time to clean it up. One startup I know cut 25% of their expenses — without cutting a single head. That means you’re taking actions like getting rid of a bunch of perks that no one ever used. That’s a good first step that makes companies leaner and meaner.”

Here’s a thought experiment for every founder: Imagine it’s 18 months from now. Your company has run out of cash. What are the top five things you wish you hadn't spent money on?

Tactics for cutting expenses, recommended by current CEOs in the First Round community:

Here’s a handful of other tactical ideas, sourced from the First Round community:

Be very careful about marketing spend, specifically on the enterprise side. Advertising costs may be cheaper, but you don’t know how the funnel will convert yet in this new environment.

Cancel credit cards and issue new ones so you can zero out expenses quickly. This will end all recurring charges — and force the company to explicitly re-subscribe to all essential services. (Downside here is potentially losing important infrastructure that's tied to cards, so be sure to do a sweep for that first.)

Ask your team to look for savings and give them a percentage of everything that the company saved as a bonus. There is an amazing amount of money that can be saved if you go line by line through every expense you have. In a counterintuitive way, it all adds up.

Look to try to lower the absolute cost of software subscriptions and eliminate seats or licenses that aren't mission-critical.

Reconsider the services you have on retainers, such as PR firms.

2. Take a serious look at headcount:

Once founders have moved beyond reducing expenses and potentially rent, headcount is the next bucket to examine closely. Of course, this isn't about line-items in a spreadsheet. Our single biggest piece of advice is to remember that these decisions will have a profound impact for the humans on your team. Explore all your options before diving straight into layoffs.

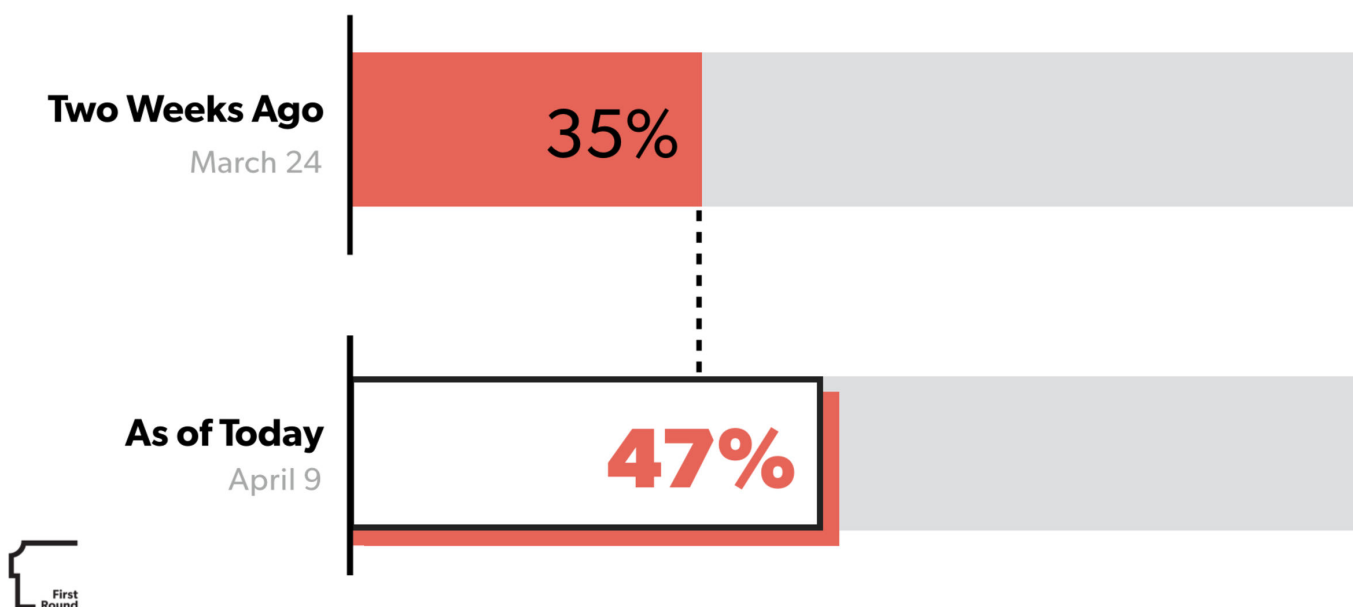
Before we proceed: If you've been affected by layoffs personally, check out these [resources we've curated here](#). Several First Round-backed startups are still hiring, and our talent team is standing by, ready to help get you in front of companies in our community. If you

work at a company that's still actively hiring and would like to get in touch with newly available candidates, we've also collected some helpful resources for you here.

Start by pausing hiring.

What other founders are currently thinking: Many startups have already put this in motion. Two weeks ago, 35% of founders we surveyed reported they'd frozen hiring. As of April 9, that had risen to 47%.

Survey respondents who have frozen hiring

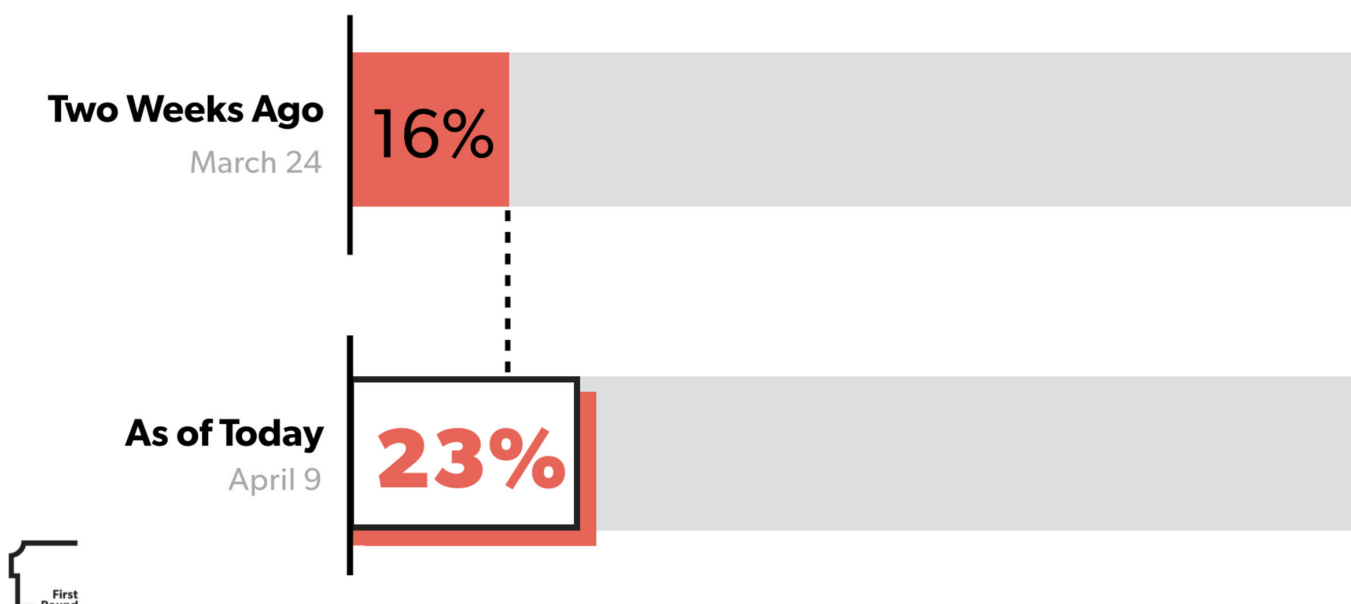


If you have an aggressive hiring plan, especially in sales and marketing, consider pausing or reducing if you haven't yet done so. Unless you're in the segment of companies that will benefit from the current state of affairs, companies and individuals will be buying less. You very likely may have all the team you need to accomplish a reduced revenue plan for the year.

Consider reducing comp.

What other founders are currently thinking: Back on March 24, only 16% of founders surveyed reported they'd made salary cuts. As of April 9, that had risen to 23%.

Survey respondents who have made salary cuts:



If you haven't yet, consider cutting executive salary as a way to show your team that everyone is feeling the pain. You may be able to pay it back in the future when the balance sheet is stronger. You can also think about increasing equity as you look to decrease cash spend. Reducing 401k matching and forgoing bonuses for the rest of the year is also an option.

However, one CEO we know pushed back against this idea: "I don't think salary reductions are the right path. No matter what they say, people never feel good about it, they're always looking to get back to normal and be made whole, which is understandable. Don't promise it's ever coming back, that'll stick in their mind and you'll be boxed in."

Think carefully about a reduction in force.

When layoffs are announced, it will be the hardest day in any young startup's history. It's incredibly difficult to say goodbye to the exceptional individuals you handpicked and hired, the ones who've helped you get the company to where it is — and of course, unimaginably distressing for those who are affected. It's also important to recognize that letting team members go today, in April 2020, is fundamentally different from a layoff under any other circumstances, given uncertain future job prospects.

As First Round's Bill Trenchard notes, there's also the challenge of taking hard questions on this topic. "'Is my job safe? Are you going to lay me off?' Unfortunately, no one can promise absolutely not. That's not true for any situation, in good times or in bad. But you have to know how to deliver that message. You can say, 'We don't expect that. Here's the data we see. Here's how we're looking at it. And if there's any change, you'll be the first to know. We're going to do everything we can not to make it a surprise for anybody,'" he says. "It's like this tiger is lurking behind you — folks want to know that they're not going to get jumped from behind."

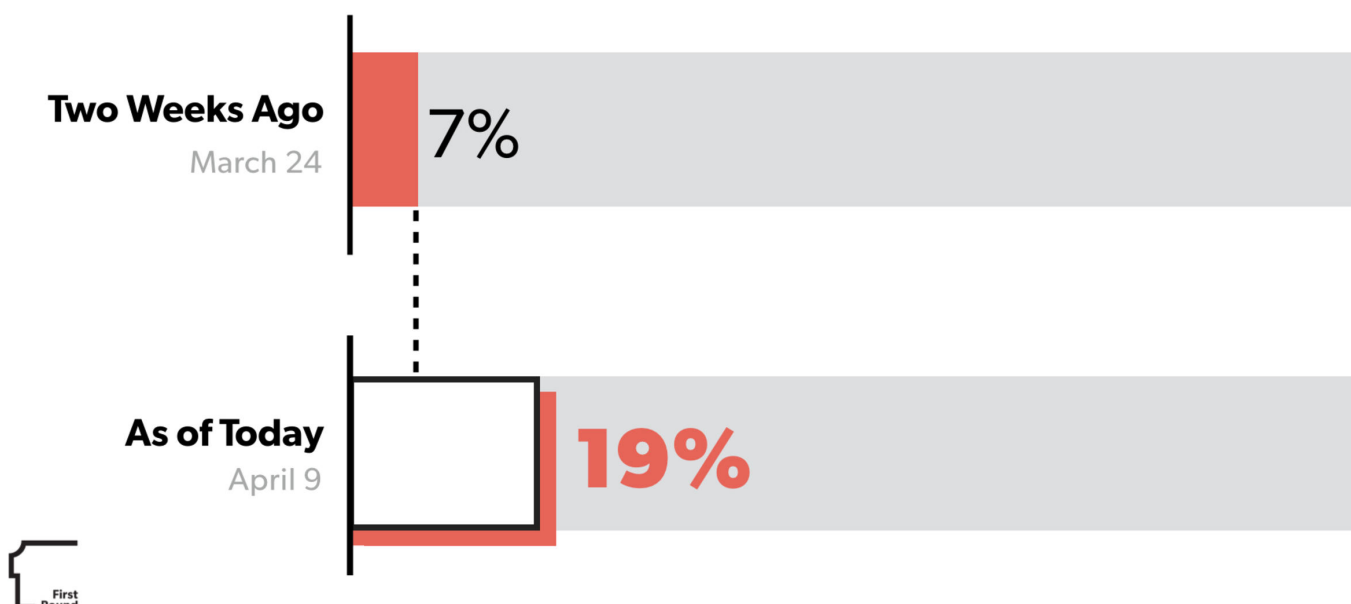
If you do decide on layoffs, try to ensure you don't need to do another round. If possible, you only want to go to that well once, as each round tends to erode morale. Also, consider that furloughing is an option. An employee furlough is a mandatory suspension from work without pay. It may or may not include the continuation of health benefits — if you want to continue them, you need to make sure the terms of your plan allow for that. Furloughed employees are typically entitled to claim unemployment and they are banned from doing any work on behalf of their employer. As a result, furloughed employees typically have their access to work accounts and devices revoked to prevent well-meaning employees from breaking the law and triggering a payment obligation.

Founders: Before conducting a large layoff or any furlough, you'd be well served to speak with your employment counsel as there are a number of issues involved.

What other founders are currently thinking on layoffs:

Two weeks ago, 7% of founders surveyed reported they'd made a reduction in force. As of April 9, that had risen to 19%.

Survey respondents who have done a RIF:



Advice from recession-era founders on layoffs:

Measure twice, cut once. “First, think hard about if you want to cut or not. If you’re in a market where things are still unclear, I don't think the answer is to layoff your entire team right away,” says Gina Bianchini, CEO of Mighty Networks. “And before you cut, spend at least a couple of days looking at revenue before you start eyeing headcount. How else could we market this? Who do we know? *Then* look at how we could reconstruct or reconfigure our team so that we’re not burning as much cash?” she says. “After all that, if you’re in a market that’s not accelerating and you *are* going to cut, cut deep. I don’t say that to be uncaring. It’s actually uncaring to put a team in a situation

where the founder isn't honest about where you're sitting in the market. There's no shame in being in a market that disappeared overnight. And that goes both ways — it's not personal if things *are* working either. But as founders, we often feel, 'I recruited this person, I'm their leader and I've let them down.' You haven't if your market changed overnight," she says.

Consider your stage and bring every bit of EQ. **Matt Sanchez**, who built VideoEgg (now [SAY Media](#)) in the last downturn, thinks layoffs can be necessary in many cases in this environment. "For companies with no revenue, or early in achieving product/market fit, cutting deep and quickly to manage burn is absolutely the way to go, even if it's scary to take that step. For companies with meaningful revenue, cut to a conservatively-forecasted run rate," he says. "Do everything you can to be rational and fact-based in your decision-making, but bring every bit of EQ you can to your leadership and execute with compassion."

Avoid across the board cuts. When it comes to deciding *where* to cut, Simon Khalaf, former CEO of Flurry Analytics, recommends that CEOs shouldn't cut evenly. "**Remember, when you reboot a computer, it doesn't usually reboot to the same state.** Don't feel as though you have to trim equally across eng, ops, sales and marketing," he says.

Keep a sales candle burning while you focus on product. Here's how **Jud Valeski** saw it in the 2008 downturn when he was working on [Gnip](#): "We went heads-down on the product. That product focus resulted in the realization that we were over-staffed to build and support the product we really wanted to build, so we let about a third of the team go," he says. "We kept someone on the sales front in order to keep our fingers on the pulse of how businesses were reacting and adjusting."

You might come out stronger — and with a new tattoo. “After Lehman in 2008, we immediately laid off a third of our company, which was around 60 people. It was hard at first, but the remaining team was amazing, and to my shock, we were able to accomplish a lot more with fewer people,” says **David Hersh**, the founding CEO of **Jive**. “2009 was the best year the company ever had — and we did it while putting cash back in the business. Right after the layoff, I told the company I would get a tattoo of the number 8 if we hit our \$8M goal for Q4. We hit it. I still have it. I like what it represents — though I might recommend lowering the stakes and offering to do karaoke or something instead.”

Additional resources on layoffs:

First Round Review article from Sam Shank: [From Burning Millions to Turning Profitable in Seven Months — How HotelTonight Did It](#)

First Round Review interview with Beth Steinberg: [How to Lead and Rally a Company Through a Layoff](#)

Video from First Round CEO Summit archives: [The Taboo Topic of How To Do a Layoff](#)

Andreessen Horowitz blog post on [Planning and Managing Layoffs](#)

Twitter thread from Alex Miller with a step-by-step guide for doing layoffs remotely.

Carta's CEO [published the candid speech](#) he delivered at an all hands meeting detailing the company's layoffs.

PART 6: HOW TO BRING IN MORE CAPITAL — TIPS FOR PUTTING MORE FUEL IN THE TANK

Here are three strategies for extending your runway through addition, not subtraction. (Note: We've ranked them in order from best to worst options.)

1. Bringing in more revenue from customers:

The advice we're sharing with First Round companies:

When it comes to interacting with prospects and existing customers, every move can feel like it might be the wrong one. Bandwidth and budgets are limited, so you don't want to be a burden, but you also want to shore up certainty in your sales pipeline as you adjust your projections.

There has never been a more critical time not to lose customers. Consider undergoing a complete customer review to understand the health of your customer base. For many enterprise companies, the reaction of customers is all over the place. Some want to deepen partnerships, while others are freezing everything. Bucket each customer by potential risk of churn, and look at this dashboard every week.

Focus on getting paid upfront from your stickiest customers. Especially if you're a SaaS business, ask for pre-paid contracts and give discounts to get them. Push the sales team hard to get pre-payments of 12 or more months, and reward them with bonuses for doing so. This is your cheapest form of funding.

Learn from your customers as much as you can. They're likely focused on their own survival, so understanding how this is affecting them is key. Rework your positioning as much as possible in response. "Start with the person you're selling to. Understand their psychology and fears about survival. The best companies are able to reposition around what their buyers really care about, which is very, very fast ROI and taking costs off of their books, fast," says First Round partner Bill Trenchard.

Advice from recession-era founders on revenue:

Pitch a "buy instead of build" message. As Jud Valeski, formerly of Gnip, alluded to earlier, he saw the 2008 sales crunch as an opportunity to focus on the product. "We got to build the product we needed to build, without a ton of market distraction in the form of prospects telling us to do this and that with the functionality," he says. "When we did emerge after several months of heads-down building, our message to the market certainly included how our product helped them save money. Many of our customers had laid-off engineers of their own, yet their business demands still required the functionality we provided. So, what they were once deciding to build, we were able to easily offer in a 'buy' package. Our pitch was deeply rooted in 'It's a good time for you to buy this stuff rather than take on the headcount expense of building it.'"

Shift your mindset from "dollar-led growth" to "product-led growth," says Jade Van Doren, former CEO of TechForward and AllTrails. "In bull markets, our focus as founders tends to be on growth above all else. Downturns force you to take on the harder challenges of building a more efficient business through product innovations, funnel optimization and organic customer acquisition channels," he says. "While financially-disciplined growth through product and funnel improvement is often slower than throwing money at ads, the value of the business will be higher at any given revenue number because of the increased capital efficiency."

Go for more value over lower prices. “This is no time for business as usual. If you're sending outbound emails in an eight-email sequence, nobody cares. No one wants a 30-minute call with your SDR right now. They already had an excuse to ignore you before, now they really have an excuse,” says Gina Bianchini (of Mighty Networks and Ning). Many startups might focus on attracting new customers with freemium models or discounts, but she disagrees with that approach. “It may feel good at the time, but it can accelerate the death of your startup even faster. You may think you’re locking in value for later on with a free trial, but the conversion rate will likely be much lower than you expect with people who are used to getting something for free,” she says. Instead, think of creative sales and marketing efforts for the network you already have. “How can you restructure your packages to give the folks you already have relationships with a crazy amount of value for a premium price? Take this example: If you’re a hair salon, could you switch to an annual subscription model for haircuts and throw in additional products? **This is the moment to go to anybody you have on the hook right now and make them a deal that they cannot refuse. You want cash upfront, and if you can get creative with what you’ll give for that over time, you might be able to strike a deal that’s a win for everyone (and before you do a massive layoff).** If you come from a place of ‘I am grateful for our relationship. How do we get you more value?’ there will be a subset of your customers who will not just stick with you but fund you. It’s not going to be everybody, but at least spend some time on this effort before you start slashing prices.”

Get customers over the finish line with a “shock and awe” approach to delivering value.

Revenue tactics recommended by current CEOs in First Round community:

Identify the two to three deals for each Account Executive that could close with a deeper discount.

Offer more flexible terms, from a later start date to quarterly payments to opt-out options for a specific time period. It's critical to retain the relationships, even if at a reduced level.

Consider creating a hierarchy of different tiers of customer offerings: three years upfront prepaid contract, three years of annual payment, one year of annual payment, and so on.

Share your company's business continuity plan and how you're mitigating risk with prospects and renewals.

Re-validate all of the basic elements of your engagements, from your customers' priorities, to your solution's impact, to who the buyers are — all of this might have changed.

See if there are any customers you've built good relationships with whom you can go to for advice on how to handle the crisis or restructure your product offering. It may increase the strength of your relationship — and the chance that they'll stick around.

Additional resources on revenue:

Ad performance during COVID-19 analysis from Social Fulcrum

Work-Bench's Enterprise Sales Guide: COVID-19 Edition

Harvard Business Review tips for brand marketing through the coronavirus crisis.

Steven Forth, co-founder of TeamFit, outlines Pricing in a Time of Uncertainty.

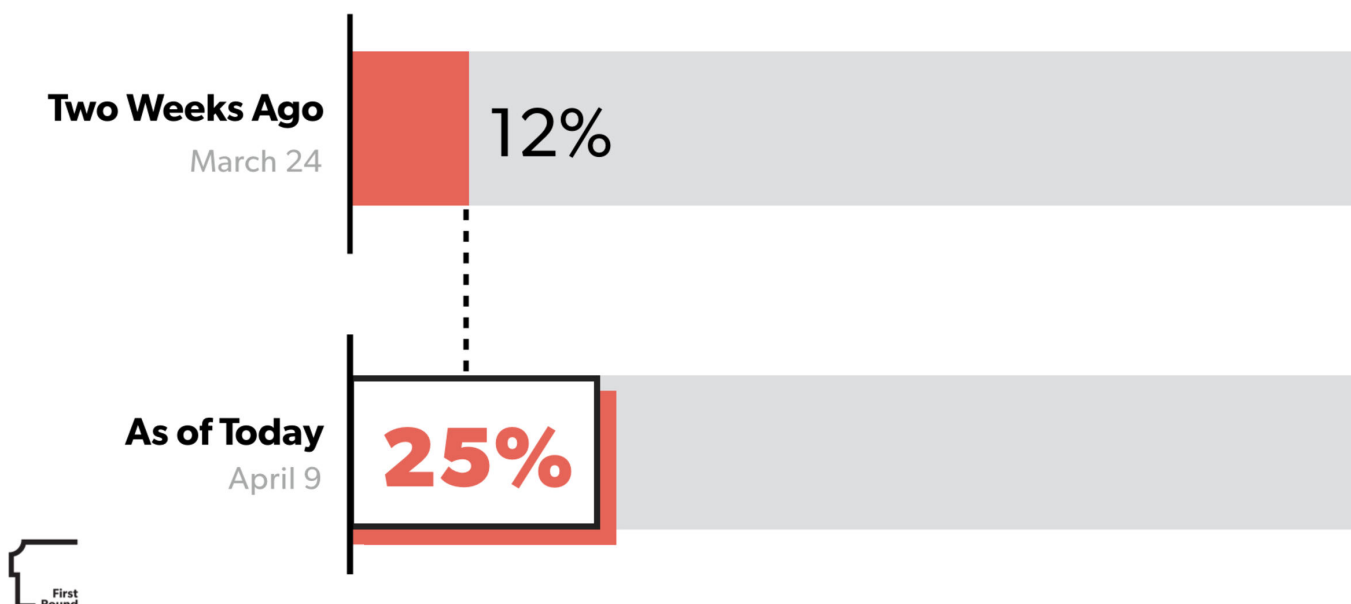
Camelot slide deck: COVID-19 — An Early Look at US Media Implications

2. Fundraise

In this decidedly-less frothy environment, many founders are questioning how rocky their follow-on fundraising path will get in the months ahead — and adjusting expectations accordingly.

In our internal survey, we found that back on March 24, only 12% of the venture-backed founders we surveyed expected to raise less than previously planned in their next round. By April 9, that figure had doubled to 25%.

Survey respondents who will be raising less than originally planned in their next financing:



The advice we're sharing with First Round companies on fundraising:

If you do decide to raise capital in this climate, remember the fundraising process will likely take much longer now. Plan for six months, not the shorter timeline that some startups have enjoyed in recent years. If you have an ability to raise at the same terms as your last round, consider that option (presuming that round was recent and you haven't dramatically outperformed). Raise on a SAFE at the last round price (as appropriate) and close the money quickly. Also, consider circling back to those who missed out. If there are VCs who wanted in on the last round but you couldn't fit them in, reach out to them. You might also consider a top-off from a later-stage fund. While valuation is always important, comparable public valuations may be down by over 25% — so a flat round could be the new 25% up round.

These considerations aside, here's the reality check Josh Kopelman is sharing with all of the founders he works with: **"When you hear VCs saying that they're still 'open for business' and writing checks, take it with a grain of salt.** Pursue fundraising, but

don't stake your business on a round coming together. In 2008, every VC on the planet said that. Yet if you look at [the data](#), it tells a very different story. There was a greater than 50% drop off in overall venture funding from Q1 2008 to Q1 2009," he says.

"In 2008, the average Series A company raised \$4M on a \$28.5M post. In 2009, it was considerably less with an average of \$3.5M on a \$14M post — half the valuation of the year before. And there were 30% fewer Series A rounds overall. So consider this backdrop as you talk to investors. On a daily basis, they aren't just making a binary decision of whether or not to fund your company. There's a third decision which is, 'Do I *wait* to decide?' And I think that we should expect that a lot of investors are going to wait and see."

In addition to funding sources drying up, the bar is also going up. "My experience is that during downturns, the yardstick changes. I explain it using a '**Show me' versus a 'Trust me' scale**," says Kopelman. "In boom times, it's 'Trust me.' A founder says, 'This is what I expect to do, and we're going to launch with bad unit economics, but in the future, it will get better,' and investors will still cut a check — because they are willing to trust that the founder will be able to do that. During recessions, you're going to see far more investors sitting on the 'Show me' side. Founders will need to be able to say, 'This is what I've done, here are my unit economics.'"

Advice from recession-era founders on fundraising:

Many recession-era founders felt fundraising efforts were unlikely to succeed and thus not worth the time. Matt Sanchez (of SAY Media) had a strong point of view here:

"Don't waste time trying to raise money in the face of an economic event. Urgency, time pressure and uncertainty are all working against you," he says.

Ning and Mighty Networks founder Gina Bianchini agrees. "If you assumed you were going to raise in the next few months, you're not. **You can't grind it out and get there with 100 meetings. Right now, investors are a herd. They may take your meetings,**

but they'll waste your time. They'll all chase the markets that are accelerating. Your existing investors might also move the goalposts on you. You might have been trying to go big on a billion-dollar business because that's what they told you to do, but now they'll say they want profit and cash flow. That's why you have to make these decisions as a founder based on your own values and beliefs, which is scary. So many VCs are saying the best businesses are built in recessions. That's true — but what they don't tell you is that it never feels that way when you're in it."

Not all shared this view, though. "We got a round done two days after Lehman 'sold' for \$200M," says Seth Sternberg (of Honor and Meebo). "I was too naive to know that should have been impossible to get done. Crazy things can still happen if you just keep pushing and are willing to hear 'no' a lot."

If you are able to get close to the finish line, do everything you can to get it done. "I had a signed term sheet right before Lehman fell," says Alex Rampell (current GP at A16Z, previous CEO/co-founder of TrialPay). "I recall a heated negotiation with the partner post-term sheet, pre-close where he said 'Why don't we see how much the Dow goes down tomorrow and discuss?' I quickly shut up. **Don't get cute on deals — just get them done.**"

Oren Michels of Mashery offers a similar piece of counsel. "If you let your ego demand a high valuation when times are good, it will be very difficult for you to get funded when times are bad," he says. "**Having been through two of these downturns — I launched my first startup five days before 9/11 — I have seen high valuations kill a lot of companies.** A CEO I know recently received a term sheet and (with the support of their existing investors) actually negotiated to have the pre-money valuation *reduced* by 20% from what the VC firm offered. That is healthy long-term thinking, and I really respect him for it."

Additional resources on fundraising:

Kauffman Fellows blog post: [This is how much harder it is to raise capital during a downturn](#)

PitchBook Q1 2020 Analyst Note assesses what's in store for VC firms in the wake of coronavirus

Dorm Room Fund's [Remote VC Pitch Checklist](#)

3. Look into venture debt options.

In general, most recommend raising equity instead of debt whenever possible. Treating debt like equity has potential negative unintended consequences, particularly in a downturn or if you're a [pre-product/market fit company](#). If you do decide to pull down venture debt, read your material adverse event clause (MAC) and understand it.

Here's what Oren Michels (of Mashery) had to share here: **"If you're not cash flow positive, venture debt usually isn't a great way to extend runway — so don't expect to be anytime soon.** You generally have to take down the money long before you need it, at which time you are using the money you borrowed to pay interest — and then you come out of the economic crisis with a massive monthly principal and interest payment. Should things not recover as quickly as you hope, it's hard to cut back to a cash flow positive budget if you have to make debt payments," says Michels.

Like any other bridge, venture debt should be a bridge to somewhere specific, or else you can wind up giving the keys to your company to the bank.

PART 7: SUPPORTING YOUR TEAM AND LEADING THROUGH A CRISIS

In this section, we share advice for leading through uncertainty, taking care of your team and staying connected amid the shift to remote work:

Leading through uncertainty:

“This is a time where everyone is going to be tested. As a startup leader, you'll be reinventing everything. If you're still hiring, you need to figure out interviewing over video conferences. If you're doing layoffs, you'll be struggling to figure out how to do that empathetically over Zoom. How do you bake culture in? How do you deal with all of this uncertainty? How do you manage a sales team who has an incentive comp plan? There's just so much reinvention that's required,” says First Round's Josh Kopelman.

Clearly articulate the challenges your company faces to your people. [People hate being spun](#), particularly in hard times. **“It's a founder's job to balance transparency and hope,”** Kopelman says. “On the one hand, it's important to be realistic and transparent with your team. You don't want to keep secrets. Founders must maintain their credibility, especially in a crisis. **You can recover from making a lot of mistakes — but you can't recover from a loss of credibility.** You don't want to say everything's going to be fine if it's not. It's okay as a founder to say, ‘I don't know,’ or to say, ‘Here's what I'm concerned about.’ But you also have to recognize that your job is to maintain hope at the same time. You need to be sure to tell them that even if the waters are choppy, the destination will be worth it. If you don't provide both in a crisis, it's a failure of leadership,” he continues.

“So if you're in a market that's affected, it's important to say, ‘There's not going to be much demand for what we have to offer this year.’ That's transparency. But the glimmer of hope could be, ‘But I actually think that when we emerge from this as a national player, we have the strength in the brand to recover and a lot of our smaller regional competitors won't.’”

Here's the hard truth: You're going to be tested in ways you can't even imagine. This is a time to step up and thread the needle of staying transparent while still offering that glimmer of hope.

Howard Katzenberg — who was coming up through the ranks of American Express during 9/11 and **OnDeck** in the Great Recession, respectively — leans on a similar principle. “What I saw in **Ken Chenault**’s leadership after 9/11 was really moving for me, and it has continued to be the guiding force for how I think about leadership in these times,” he says. “Ken always repeated that his job as a leader is to **define reality and give hope**. Defining reality means explaining the situation, even if it’s very harsh. But at the same time, give hope by laying out the vision. Where are you going? What are the strategies and tactics that will help you overcome these challenges? Share why you’re excited about the plan without providing false hope. And then give them metrics by which you'll measure your success.”

Scott Weiss was leading **IronPort** during both the dotcom bust and 2008. Here’s what he had to share on how leaders can meet the moment: “Be extremely visible, engaged and on top of your shit. Everyone is looking for leadership during a crisis. You need to be making sure you’re the first one in, last to leave, making tough decisions and spending the extra time calming nerves and motivating,” says the former Andreessen Horowitz partner. “This is a make-or-break moment — and when the CEO needs to show up. Don’t be afraid to push the team, but compensate them and be there with them for every late night and weekend. This isn’t about doing more with less; this is about survival as a company. At IronPort, we gave out stock grants for 6-12 month pushes based on meeting our goals for shipping code.”

Leadership tactic recommended by current CEO in First Round community:

One way to help build trust with your team is to allow them to dig into the unknowns, the downside and the upside on their own. As a team, do premortems and backcasts. That way, the team has produced the downside and upside scenarios and can come to terms on their own with the uncertainty. You can tell them you don't know and things might be bad. But showing them by letting them work it out for themselves is a good way together. It will also increase the cohesion of the team and increase trust at the same time. Additionally, the data that comes out of it will be useful for getting ahead of how to deal with the uncertainty.

Additional resources:

Harvard Business Review's article asks [Are You Leading Through the Crisis...or Managing the Response?](#)

First Round Review's article: [Crisis Management — From the Man Who Helped Save eBay](#)

Twitter thread from Suhail Doshi, former CEO of Mixpanel, on how to survive a recession as a startup

Twitter thread from Avichal Garg, founder of Electric Capital, shared his lessons on running a startup through 2008

Stewart Butterfield's [Twitter thread](#) on the behind-the-scenes process of moving Slack's 2,000+ global workforce entirely remote

Taking care of your team:

Going through hard stuff brings teams together. It's remarkable what humans are capable of and how resilient teams can be. But don't overlook the toll it's taking. Consider all the ways big and small that you can show how much you care. Don't forget to celebrate your team and show how much you value them.

Finally, don't change your stripes, says Simon Khalaf (currently Twilio, former CEO of Flurry Analytics). **"Maintain the culture of the company. Don't change who you are because the world is changing.** Startups succeed because they want and will change the world, and not because the world changes them."

Tactics recommended by current CEOs in First Round community:

In Zoom meetings, go around the room one by one and get each team member to share an update on how they're doing personally.

One CEO noted that no one on the team is taking any time off, given shelter-in-place guidelines and limited vacation options. Remind your team vacation days are still available and encourage them to put it to use, even if it's just on a few days relaxing and unwinding at home.

One First Round founder shared that his startup hired a freelance writer on Upwork to interview the team members, writing the story of each of their lives and sharing one with the entire company once a week.

Another CEO shared how they're comforting the sales team, which is obviously uneasy as their sales quotas hang in the balance: "I've changed our sliding scale quota attainment program (which started at 50% of quota attainment) by getting rid of the floor. So, salespeople get paid regardless of the percentage of attainment, even if it's only 10% of attainment, they'll still

get paid 10% of the quota. This may or may not matter, but at least it makes them know that we're on their side," says the founder.

Additional resources:

Pulse check how your team is doing with a few questions from [CultureAmp's COVID-19 survey](#)

Harvard Business Review article: [What Your Coworkers Need Right Now is Compassion](#)

LifeLab Learning's [People Leader Resilience Playbook: How to manage anxiety across your organization](#)

HRwired created [A Guide to Navigating Grief and Loss](#)

HBR article: [That Discomfort You're Feeling is Grief](#)

Staying connected amid the shift to remote work:

CEOs are now searching for creative ways to keep their teams connected and strengthen employee relationships amid a sudden shift to 100% remote work. Communication is key to that mission.

"In times of crisis, one of the best things you can do is just to communicate. It's the weekly fireside chats analogy from World War II. The regular cadence of communication to a team that is nervous and scared is really essential, and the best CEOs are laser-focused on increasing communication frequency across their team,"

says First Round partner Bill Trenchard. “Employees want more metrics and more information than ever before. In an uncertain climate, many employees can't get enough of what used to be boring, in-the-weeds updates.”

Advice for keeping your team connected from recession-era founders:

Over-communicate as much as possible, says Matt Sanchez, co-founder and CEO of SAY Media. “Everyone is anxious and the more isolated people feel, the more they shut down emotionally. Even bad news helps ground people in reality and connects them to whatever solution you have to navigate as a company,” he says. “We did weekly open forums with anonymous questions through previous crises and are doing them again now.”

Completely change your cadence. What or how often you communicated should be completely different from a month ago, says Gina Bianchini. “**I’m in every standup meeting right now, even though I don’t have to be.** That’s my time to connect with my team. At Mighty Networks, we’re fortunate to be in a market that’s accelerating, but remember that it may not feel that way to your employees. Remind them that we’re in for pain and stories of failure, even if we are relatively fortunate. Clarify the ways that what you’re doing is important at this moment. For us, I’m focusing on how virtual connections are more important than ever. Communities allow people to do things together they can’t do on their own.”

Be realistic. “My experience is that people don’t want to be sold on the ‘world-changing vision’ so much as they want to trust leadership to steer things in the right direction. War-time changes expectations, so be realistic

about goals while keeping people's attitudes up through lots of interaction," says David Hersh, founding CEO of Jive.

Go beyond the usual suspects. "I always advise people on my team to go two layers down. Don't just check in with your immediate reports, check in with their immediate reports one-on-one as well," says Howard Katzenberg, formerly of OnDeck and American Express. "Ask them how remote work is going for them so far. Reinforce that it's okay to have doubts or anxiety and show some vulnerability by sharing your own."

Communication tactics recommended by current CEOs in First Round community:

Start sending a weekly CEO letter to share your views on what happened last week.

One First Round CEO has moved to daily revenue forecasting in an effort to get "crazy transparent" by sharing every bit of data. "It produced a big change in culture — people are intensely motivated by every drop in revenue," the founder says.

Ramp up the cadence of your standups and All Hands. Some First Round founders have moved to daily standups that go over all the numbers or get deep into the weeds: cash on the balance sheet, securitization and capital markets.

Send out Google surveys before meetings to gather anonymous questions that everyone has, but no one wants to ask out loud.

Script and practice all internal communication. Your words matter more than ever. Get the team focused on the hill you're going to climb and the challenge ahead.

Additional resources:

Remote work:

First Round Review article: [Struggling to Thrive as a Large Team Working Remotely? This Exec Has the Field Guide You Need](#)

GitLab, the world's largest all-remote company, published [The Remote Playbook](#)

HRwired crafted a [guide to navigating distributed work](#)

LifeLabs Learning compiled [tips on remote work for employees, managers, and people ops leaders](#)

Knowable created a [new course on working from home \(during a pandemic\)](#)

Mathilde Collin, co-founder and CEO of Front, wrote a [Medium Post: 25 things we've implemented at Front to keep a great culture while being remote](#)

Julie Zhuo's [newsletter on managing remotely](#)

Internal comms and policies:

LifeLabs Learning ideas, policies and templates for HR & People Ops navigating COVID-19

Internal communication best practices and an example from Abstract

Harvard Business Review article: Communicating Through the Coronavirus Crisis

First Round Review: Staying Connected is Key to Your Startup's Survival — Here's How to Nail Internal Comms

PART 8: ENDING ON A HIGH NOTE — THE UPSIDE AND THE NEXT WAVE

Today's environment can derail even the most well-established self-care practices and mental health habits. Here's a collection of thoughts on how to look for the bright spots that seem hard to find.

Advice from the First Round team:

To shine a light on potential and reframe your mindset, ask yourself: What are the unexpected opportunities that have come out of this chaos already? Look for them everywhere: the market, your customers, your team, your personal life.

Remind yourself that while we may be seeing more uncertainty than ever before, many great companies were built during uncertain times. "Back in 2008, I had just started becoming very active in seed investing," says First Round's Bill Trenchard. "Two

companies really stand out from that period. One is Uber and the other one is Lending Club. In both cases, you had founders who saw structural changes in the economy. The best founders will sort of see where the world is going. And that's not about making infallible predictions, it often just means riding the wave of a big trend, like slack labor markets or the hunger for alternative financial products after the banks collapsed. Every time you have one of these bombs go off in the economy, which seems to happen about every ten years, it resets the table."

As for how things might get shaken up after this particular crisis, Trenchard shares a few guesses: "As I look ahead, I think the government's going to have a bigger role in our lives in the next ten years than it did in the last ten years. Understanding how government as a customer — how it works and what its needs are — might be a valuable place to mine. We're also having a mass dislocation of part-time workers again. Take the time to think through what's going to change as a result of these shifts, how you can get smart on it and what opportunities might be opening up."

These disruptions also cause a significant change in the profile of folks who are willing to take on new company-building challenges. "The risk thermometer changes," says Josh Kopelman. "People are willing to embrace more risk with each year of boom — on both sides of the coin. So on the heels of 10-12 years of boom time, venture investors were willing to fund a lot of risk in 2019. As a result, it was easier for typically risk-averse people to become founders because there was a good chance they would get funded. But risk tolerance shifts very quickly in a recession," he says.

"Now, only the heartiest of founders are likely to start companies, and 'the tourists' or 'hobbyists' will go home. To start a company now, you have to be so passionate in yourself and the idea because you know that it's going to be so much harder. It's the difference between saying, 'I'm going to drive 10 miles in my car' versus 'I'm going to hike 10 miles in Antarctica.' The environment you're taking your trip in impacts the difficulty and odds of success — and the profile of the person setting out on the adventure."

When it comes to who will be starting the next wave of great companies, you'll see far more Arctic explorers than joy riders.

Advice from recession-era founders:

Let's end on some words of inspiration from founders who've weathered downturns and come out stronger on the other side.

"I've experienced my biggest breakouts during recessions," says David Hersh, formerly of Jive. "If you are lean, disciplined and purposeful, you can achieve amazing things with a smaller group of people on a mission, while all the other companies are hunkering down or shutting down."

Specifically, it helps to be on the lookout for secondary and tertiary impacts, says Jade Van Doren, former CEO of TechForward and AllTrails. "Downturns often create unexpected opportunities that are unrelated to the primary impact of the shock. For example, with TechForward in 2008, the real estate bubble bursting created a financial environment where consumer electronics retailers could no longer afford 'business as usual,' and had to be more open to new ideas, which benefited us," he says. "Similarly, some of the most interesting long-term impacts of our situation today may be well outside the fields of healthcare. A secondary impact might be the mandatory remote-work environment that many of us are currently experiencing. Perhaps a tertiary impact could be the unprecedented opportunity to create online communities that foster connections across the world."

And don't forget to play offense. "**Probably 75% of the playbook is playing defense right now — but 25% should be figuring out how you can play offense,**" says former OnDeck CFO Howard Katzenberg. "In 2008 at OnDeck we were competing with the merchant cash advance industry and a bunch of shady operators were getting their leads through the broker channel. And then when the crisis hit, 80% of those providers went away. So we stepped in and tried to treat the brokers really well,

paying them nicely to secure the relationship. When the economy turned around, we were suddenly the first look for a deal.”

Hiring is one space for opportunity. “Keep an eye out for opportunistic hires if you can. Back in the dot-com era, I was able to build an amazing team,” says First Round’s Bill Trenchard. “Lloyd Tabb and Jim Everingham were incredible steals for me back in the dot-com era. A huge benefit from the downturn was that there were just incredible people available. For the past several years, the conventional wisdom was that you couldn’t really pull together teams like that anymore, there was just too much competition for talent. But I think it will be possible again.”

Mighty Works founder Gina Bianchini agrees. “Can you change your business model to support more people? If you can, this is a great moment to raise the bar for the people on your team. You can recruit in a way that you couldn’t recruit three weeks ago,” she says. Scott Weiss, former Andreessen Horowitz partner and IronPort CEO, has an apt metaphor here: “This can serve as the impetus to upgrade your team. Think as though you’re the owner of a successful team in the NFL and six teams suddenly go bankrupt,” he says. “Your starting lineup is about to change.”

Mark Bartels (former CFO of StumbleUpon and current CFO of Invoice2Go) recommends extending this mentality beyond hiring: “Companies may pull back on marketing spend, decreasing bid prices on keywords and search terms. Buy-side M&A opportunities may emerge. Valuations will come down, and there will be chances to buy competitors and consolidate,” he says.

“Finally, be optimistic. **If there’s anything I’ve learned, it’s that you only remember the first day of every downturn. The next day, you get back to work.** The pandemic has not met the full entrepreneurial mindset that the world will bring to the battle. Right now, you just see the numbers getting worse, but not the innovations that are coming on the horizon. You can still grow through the tough times. People will innovate even through a recession. Help them and be there for them when they need us most.”

Additional resources:

Mattermark article: [The 2007-2008 Financial Crisis Was Surprisingly Kind to Tech Startups](#)

Paul Graham's 2008 blog post: [Why to Start a Startup in a Bad Economy](#)

First Round Review interview with Elad Gil on how to spot and build in nonobvious markets

First Round Review interview with Todd Jackson on the advice he always shares with future founders

First Round Review interview with Howard Morgan on the imperative practice of relaxing constraints

Andreessen Horowitz

IT'S TIME TO BUILD — 4/19/2020

by Marc Andreessen

IT'S TIME TO BUILD

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Every Western institution was unprepared for the coronavirus pandemic, despite many prior warnings. This monumental failure of institutional effectiveness will reverberate for the rest of the decade, but it's not too early to ask why, and what we need to do about it.

Many of us would like to pin the cause on one political party or another, on one government or another. But the harsh reality is that it all failed — no Western country, or state, or city was prepared — and despite hard work and often extraordinary sacrifice by many people within these institutions. So the problem runs deeper than your favorite political opponent or your home nation.

Part of the problem is clearly foresight, a failure of imagination. But the other part of the problem is what we didn't **do** in advance, and what we're failing to do now. And that is a failure of action, and specifically our widespread inability to **build**.

We see this today with the things we urgently need but don't have. We don't have enough coronavirus tests, or test materials — including, amazingly, cotton swabs and common reagents. We don't have enough ventilators, negative pressure rooms, and ICU beds. And we don't have enough surgical masks, eye shields, and medical gowns — as I write this, New York City has put out a desperate call for rain ponchos to be used as medical gowns. Rain ponchos! In 2020! In America!

We also don't have therapies or a vaccine — despite, again, years of advance warning about bat-borne coronaviruses. Our scientists will hopefully invent therapies and a vaccine, but then we may not have the manufacturing factories required to scale their production. And even then, we'll see if we can deploy therapies or a vaccine fast enough to matter — it took scientists 5 years to get regulatory testing approval for the new Ebola vaccine after that scourge's 2014 outbreak, at the cost of many lives.

In the U.S., we don't even have the ability to get federal bailout money to the people and businesses that need it. Tens of millions of laid off workers and their families, and many millions of small businesses, are in serious trouble **right now**, and we have no direct method to transfer them money without potentially disastrous delays. A government that collects money from all its citizens and businesses each year has never built a system to distribute money to us when it's needed most.

Why do we not have these things? Medical equipment and financial conduits involve no rocket science whatsoever. At least therapies and vaccines are hard! Making masks and transferring money are not hard. We could have these things but we chose not to — specifically we chose not to have the mechanisms, the factories, the systems to make these things. We chose not to **build**.

You don't just see this smug complacency, this satisfaction with the status quo and the unwillingness to build, in the pandemic, or in healthcare generally. You see it throughout Western life, and specifically throughout American life.

You see it in housing and the physical footprint of our cities. We can't build nearly enough housing in our cities with surging economic potential — which results in crazily skyrocketing housing prices in places like San Francisco, making it nearly impossible for regular people to move in and take the jobs of the future. We also can't build the cities themselves anymore. When the producers of HBO's "Westworld" wanted to portray the American city of the future, they didn't film in Seattle or Los Angeles or Austin —

they went to Singapore. We should have gleaming skyscrapers and spectacular living environments in all our best cities at levels way beyond what we have now; where are they?

You see it in education. We have top-end universities, yes, but with the capacity to teach only a microscopic percentage of the 4 million new 18 year olds in the U.S. each year, or the 120 million new 18 year olds in the world each year. Why not educate every 18 year old? Isn't that the most important thing we can possibly do? Why not build a far larger number of universities, or scale the ones we have way up? The last major innovation in K-12 education was Montessori, which traces back to the 1960s; we've been doing education research that's never reached practical deployment for 50 years since; why not build a lot more great K-12 schools using everything we now know? We know one-to-one tutoring can reliably increase education outcomes by two standard deviations (the Bloom two-sigma effect); we have the internet; why haven't we built systems to match every young learner with an older tutor to dramatically improve student success?

You see it in manufacturing. Contrary to conventional wisdom, American manufacturing output is higher than ever, but why has so much manufacturing been offshored to places with cheaper manual labor? We know how to build highly automated factories. We know the enormous number of higher paying jobs we would create to design and build and operate those factories. We know — and we're experiencing right now! — the strategic problem of relying on offshore manufacturing of key goods. Why aren't we building Elon Musk's "alien dreadnoughts" — giant, gleaming, state of the art factories producing every conceivable kind of product, at the highest possible quality and lowest possible cost — all throughout our country?

You see it in transportation. Where are the supersonic aircraft? Where are the millions of delivery drones? Where are the high speed trains, the soaring monorails, the hyperloops, and yes, the flying cars?

Is the problem money? That seems hard to believe when we have the money to wage endless wars in the Middle East and repeatedly bail out incumbent banks, airlines, and carmakers. The federal government just passed a \$2 trillion coronavirus rescue package in two weeks! Is the problem capitalism? I'm with Nicholas Stern when he says that capitalism is how we take care of people we don't know — all of these fields are highly lucrative already and should be prime stomping grounds for capitalist investment, good both for the investor and the customers who are served. Is the problem technical competence? Clearly not, or we wouldn't have the homes and skyscrapers, schools and hospitals, cars and trains, computers and smartphones, that we already have.

The problem is desire. We need to *want* these things. The problem is inertia. We need to want these things more than we want to prevent these things. The problem is regulatory capture. We need to want new companies to build these things, even if incumbents don't like it, even if only to force the incumbents to build these things. And the problem is will. We need to build these things.

And we need to separate the imperative to build these things from ideology and politics. Both sides need to contribute to building.

The right starts out in a more natural, albeit compromised, place. The right is generally pro production, but is too often corrupted by forces that hold back market-based competition and the building of things. The right must fight hard against crony capitalism, regulatory capture, ossified oligopolies, risk-inducing offshoring, and investor-friendly buybacks in lieu of customer-friendly (and, over a longer period of time, even more investor-friendly) innovation.

It's time for full-throated, unapologetic, uncompromised political support from the right for aggressive investment in new products, in new industries, in new factories, in new science, in big leaps forward.

The left starts out with a stronger bias toward the public sector in many of these areas. To which I say, prove the superior model! Demonstrate that the public sector can build better hospitals, better schools, better transportation, better cities, better housing. Stop trying to protect the old, the entrenched, the irrelevant; commit the public sector fully to the future. Milton Friedman once said the great public sector mistake is to judge policies and programs by their intentions rather than their results. Instead of taking that as an insult, take it as a challenge — build new things and show the results!

Show that new models of public sector healthcare can be inexpensive and effective — how about starting with the VA? When the next coronavirus comes along, blow us away! Even private universities like Harvard are lavished with public funding; why can't 100,000 or 1 million students a year attend Harvard? Why shouldn't regulators and taxpayers demand that Harvard build? Solve the climate crisis by building — energy experts say that all carbon-based electrical power generation on the planet could be replaced by a few thousand new zero-emission nuclear reactors, so let's build those. Maybe we can start with 10 new reactors? Then 100? Then the rest?

In fact, I think building is how we reboot the American dream. The things we build in huge quantities, like computers and TVs, drop rapidly in price. The things we don't, like housing, schools, and hospitals, skyrocket in price. What's the American dream? The opportunity to have a home of your own, and a family you can provide for. We need to break the rapidly escalating price curves for housing, education, and healthcare, to make sure that every American can realize the dream, and the only way to do that is to build.

Building isn't easy, or we'd already be doing all this. We need to demand more of our political leaders, of our CEOs, our entrepreneurs, our investors. We need to demand more of our culture, of our society. And we need to demand more from one another. We're all necessary, and we can all contribute, to building.

Every step of the way, to everyone around us, we should be asking the question, what are you building? What are you building directly, or helping other people to build, or teaching other people to build, or taking care of people who are building? If the work you're doing isn't either leading to something being built or taking care of people directly, we've failed you, and we need to get you into a position, an occupation, a career where you can contribute to building. There are always outstanding people in even the most broken systems — we need to get all the talent we can on the biggest problems we have, and on building the answers to those problems.

I expect this essay to be the target of criticism. Here's a modest proposal to my critics. Instead of attacking my ideas of what to build, conceive your own! What do you think we should build? There's an excellent chance I'll agree with you.

Our nation and our civilization were built on production, on building. Our forefathers and foremothers built roads and trains, farms and factories, then the computer, the microchip, the smartphone, and uncounted thousands of other things that we now take for granted, that are all around us, that define our lives and provide for our well-being. There is only one way to honor their legacy and to create the future we want for our own children and grandchildren, and that's to build.

Hedge Fund Managers

Oaktree Capital (Howard Marks)

Nobody Knows II — 3/3/2020
Latest Update — 3/19/2020
Which Way Now? — 3/31/2020
Calibrating — 4/6/2020

Pershing Square Capital (Bill Ackman)

Letter to Investors — 3/25/2020
Letter to Investors — 3/26/2020
Letter to Shareholders (2019 Annual Report) — 4/6/2020

Citadel (Ken Griffin)

Internal Memo — 3/27/2020

Elliott Management (Paul Singer)

Perspectives — 4/16/2020

Oaktree Capital

Nobody Knows II — 3/3/2020

Latest Update — 3/19/2020

Which Way Now? — 3/31/2020

Calibrating — 4/6/2020

by Howard Marks

Memo to: Oaktree Clients
From: Howard Marks
Re: Nobody Knows II

I wrote most of this memo over this past weekend, on the heels of the tumultuous seven-day correction. But I couldn't get it out on Monday, and that day the S&P 500 rallied by 4.5%, or 135 points, for the biggest point gain in its history. I just can't update it daily to take into account every rise or fall (or rate cut). And my real goal – as usual – is to suggest how to think about developments, not to say “buy” or “sell.” **So please read this memo as of Sunday afternoon – whatever the markets have done since – and let me show how I assess the recent events.**

* * *

I last used this memo title on September 19, 2008, two days after Lehman Brothers' bankruptcy filing. This is certainly an appropriate time to recycle it.

Over the last few weeks, I've been asked repeatedly for my view of the coronavirus and its implications for the markets. I've had a ready answer, thanks to something from my January memo, [*You Bet!*](#) As you may remember, I drew heavily on quotations from Annie Duke's book on decision making, *Thinking in Bets*. The one that stayed with me most – and that I've used a lot since the memo was published on January 13 – is this one:

An expert in any field will have an advantage over a rookie. But neither the veteran nor the rookie can be sure what the next flip will look like. **The veteran will just have a better guess.** (Emphasis added)

In other words, if I said anything about the coronavirus, it would be nothing but a guess.

I've written in the past about my reaction when people in China ask for my view of their country's future. “You live there,” I say. “I don't. Why are you asking me?” Not only am I not an expert on China, but I firmly believe the future of a country isn't subject to prediction, especially one that operates under a system that's unique. I furnish my opinion of China's future, but I hasten to point out that it's nothing but a hunch. **People may ask me for my opinion because they think I'm intelligent, think I've been a successful investor, or know I've lived through a lot of history. But none of that should be confused with expertise on subjects of every kind.**

And that leads me back to the coronavirus. No one knows much about it, since this is its first appearance. As Harvard epidemiologist Marc Lipsitch said on a podcast on the subject, there are (a) facts, (b) informed extrapolations from analogies to other viruses and (c) opinion or speculation. **The scientists are trying to make informed inferences. Thus far, I don't think there's enough data regarding the coronavirus to enable them to turn those inferences into facts. And anything a non-scientist says is highly likely to be a guess.**

So, overall, there are facts, inferences and guesses. It's always essential to know which you're dealing with. As for the virus, I don't think anybody knows the answers to the following questions:

- **How does the virus travel from person to person and community to community?** – People have tested positive who had no known contact with other people who had it or who were in countries in which there are known outbreaks.
- **How many people will contract it?** – On February 28, the head of the World Health Organization said it had “increased our assessment of the risk of spread and the risk of impact of COVID-19 to very high at a global level.” According to Dr. Lipsitch, it will affect 40% to 70% of all adult Americans. (I only provide this as an example. I don't assert that it's correct, or that his is the opinion to accept.)
- **Will it recede?** – According to the reported data, the number of new cases in China has declined substantially, from 9 out of 13 days with more than 3,000 the first half of February, to 8 out of 9 with less than 500 at the end of the month. How much of this is a function of the restriction of people's freedom of movement? To what extent can this downtrend be extrapolated to the rest of the world? Some say the virus will recede when the weather turns warm, as happens with other flus. Will that apply in this case?
- **What will its effect be?** – To date, only 20% of those contracting the virus have experienced something described as more than “mild,” and the fatality rate has been only 2-3% of those infected. Will these percentages hold? Will the fatalities continue to be primarily among people who are elderly and/or compromised? 2% of Dr. Lipsitch's 40-70% suggests a **million deaths** in the U.S. On the other hand, according to Dean Jamison, a global health economist and professor emeritus at University of California, San Francisco:

. . . the U.S. has a superior health system to China, where the outbreak is centered, and months of warning. . . . “I think we're unlikely to see a really large outbreak in the U.S. — meaning **thousands of deaths**,” he said. (*The Wall Street Journal*, March 2)

- **What countermeasures will be taken?** – Will schools and offices be closed? Will people be told to stay in their homes? Will food be delivered to homes as in China? Will large public events be canceled? Will a vaccine be invented, and when?
- **What will be the effect on the economy?** – If people are shut in at home and unable to go to work, shop, eat out or travel as usual, how will GDP be impacted? How will a negative wealth effect impact people's propensity to spend? “Zero GDP growth” means the same thing as “same as last year” – is that an optimistic expectation or a realistic one?
- **How will the markets react?** – Since the markets' reaction ultimately will be a function of both economics and emotion, it seems impossible to quantify how far it'll go.

I want to stress that the purpose of the above discussion isn't to give answers or to appear to be complete or authoritative. If anything, it's to indicate the degree of uncertainty. If it's true, as I think, that these things are currently unknown and unknowable, then clearly there can be no such thing as a reliable statement regarding the implications of the virus.

The Economic Impact

In the early days of the disease, when the coronavirus was something that was happening “over there,” the effects likewise were mostly second-hand:

- obviously, a major contraction of the Chinese economy due to factory closures,
- the decline in retail spending in Asia,
- the curtailment of travel to and from Asia, and
- the important impact of shutting down an essential part of the world supply chain.

The supply-chain effects are particularly important. The unavailability of a small Chinese component can cripple the production of a large piece of equipment. And it only takes one, unless there are alternative sources. Relocating sourcing will be a challenge: it’ll take time, and there’s no assurance that the new locations won’t become engulfed in the disease.

More recently, the repercussions have moved beyond Asia and closer to the U.S., and they have grown in scale for the non-Asia world:

Nestlé SA told more than 290,000 employees to suspend international business travel until March 15. Several U.S. airlines are canceling flights to China and waiving change fees for passengers traveling to other affected destinations. U.S. apparel and footwear companies are facing supply-chain delays, which could result in a shortage of spring goods. Toy aisles may be bare as production of Barbies and Nerf guns in China flattened. And containership operators have canceled 40 sailings at the Port of Los Angeles through April 1, mostly for vessels coming from China. (*The Wall Street Journal*, March 2)

The reasons for the economic impact are understandable, but their collective impact can’t be quantified any more than most economic phenomena, and probably less given how much the elements in this situation are in flux. **There are as many forecasts as there are forecasters:**

S&P Global is forecasting the U.S. economy to slow to a 1% annual growth rate in the first quarter from 2.1% pace in the fourth quarter of 2019, with a half-percentage point attributable to the coronavirus. For the full year, the effect would be modest, shaving one or two tenths of a percentage point off growth. But that forecast assumes the impact is mainly overseas. (*The Wall Street Journal*, March 2)

Mr. Jamison [the UCSF emeritus professor introduced above] said such a scenario could still cause U.S. businesses and schools to close, grind transportation networks to a halt, and trim a half percentage point from economic growth for the year. That is enough to slow the economy but not cause a recession, or two straight quarters of economic contraction. He expects any event wouldn’t last longer than several months and be followed by a sharp increase in economic activity. (Ibid.)

“You have all the ingredients for an interruption of economic activity here,” said Carl Tannenbaum, chief economist for Northern Trust. “The impact of what’s going on is being underappreciated,” he added. “I don’t think the presumption of a month ago, that this will blow over, is an appropriate posture at this point.” (Ibid.)

Self-Fulfilling Expectations Pose Real Economic Risks: Consumers increasingly expect the economy to get worse. Morning Consult's Index of Consumer Expectations (ICE) fell 2.5 points since Feb. 24 and currently stands at 112.9. The fear for policymakers is that the slide in consumers' future expectations becomes a self-fulfilling prophecy: As more consumers expect the economy to contract in the coming months, they become more likely to delay discretionary purchases, which in turn drives down aggregate U.S. demand. (Morning Consult, March 1)

Investor Reaction

The markets' decline in the seven trading days February 20-28 certainly represents a very strong negative reaction. The S&P 500, for example, declined by 432 points, or 12.8%. Here are a couple of indications of its magnitude:

The market crash in the past two weeks has been truly historic: its probability of occurrence is ~0.1% since 1896; the velocity of the plunge and of the VIX surge is the fastest on record; and the 10-year [Treasury yield] is at all-time low. (Hao Hong, BOCOM International, a subsidiary of Bank of Communications, March 1)

While we are merely days into it, this stress episode is already among the most substantial of the last 25 years, joining an elite group that includes Asian Contagion (1997), LTCM (1998), the WTC attack (2001), the Accounting Scandals (2002), the Big One (2008-2009), the Flash Crash (2010), the Eurozone Crisis (2011), the China "re-peg" (2015) and the VIX event (2018). (Dean Curnutt, Macro Risk Advisors, March 1)

There's no doubt about the fact that the coronavirus represents a major problem, or that the reaction so far has been severe. **What really matters is whether the price change is proportional to the worsening of fundamentals.**

For most people, the easy thing is to say that (a) the disease is dangerous, (b) it will have a negative impact on business, (c) it has kicked off a major reaction to date, and (d) we have no way of knowing how far the decline will go, so (e) we should sell to avoid further carnage. But none of the above means selling is necessarily the right thing to do.

All these statements reflect a measure of pessimism. However, there's no way to tell whether that pessimism is appropriate, inadequate or excessive. I wrote in *On the Couch*, (January 2016) that "**in the real world, things generally fluctuate between 'pretty good' and 'not so hot.'** **But in the world of investing, perception often swings from 'flawless' to 'hopeless.'**" What I can say is that a month ago, most people thought the macro outlook was uniformly favorable, and they had trouble thinking of a possible negative catalyst with a serious likelihood of materializing. And now the unimaginable catalyst is here and terrifying.

(There are a few important lessons here. First, the catalyst for a recession or correction isn't always foreseeable. Second, it can seemingly appear out of thin air, as this virus seems to have done. And

third, the negative effect of an unforeseeable catalyst is likely greater when it collides with a market that reflects so much optimism that it is “priced for perfection.”)

Before leaving this subject, I want to make mention of some illogicalities that mark the current market reaction, telling me that the market can't be relied on to reflect reason:

- Some people are comparing the coronavirus and its market reaction to the events of 9/11. But that was a one-day event, and there's no reason to consider that an appropriate model for this instance.
- It can be argued that the carnage to date has been indiscriminate. The shares of Amazon and Alphabet (Google) experienced declines in line with that of the overall market. But certainly since they don't rely on visits from customers, they might be expected to be more immune to the effect of the virus than most. And Amazon – featuring e-tail orders and at-home deliveries – could actually find advantages in the current situation.
- Not only were stocks hit over the last week, but so was gold. Since gold is supposed to be the ultimate source of protection in times of dislocation, I can't imagine any reason why it should decline in sympathy with stocks in a market correction.
- In a flight to safety, people have flocked to the 10-year Treasury note, bidding up its price and dropping its yield to 1.1%. If you think about it, this isn't very different from the negative interest rates I complained about in October. How can it be anything but a manifestation of extreme fear to make an investment that guarantees a return of 1.1% a year for the next ten years? And consider that question in the light of the 2% dividend yield on the S&P 500, or perhaps its earnings yield of almost 6% (based on prior earnings forecasts). I'm not a dyed-in-the-wool devotee of equities, but how can buying the 10-year at these yields make better sense.

Finally I want to call your attention to the “elite group of stress episodes” of the last 25 years enumerated just above by Dean Curnutt. Every one of them was gut-wrenching. And they were followed by recoveries that produced significant gains for stalwart investors.

Most investors seem to think in terms of a very simple relationship: bad news → price declines. And certainly we've seen some of that over the last week or so. But I've argued in the past that there's more to the story. The real process is: bad news + decline in psychology → price declines. We've had bad news, and we've had price declines. **But if psychology has declined too much, it might be argued that the price declines have been excessive given the news, as bad as it is.**

Monetary and Fiscal Policy

The good news is that many market participants are counting on the world's central banks and treasuries to help pull us out of any economic slowdown. Here's one example:

[On February 28,] Fed Chairman Powell released a short statement saying, “The fundamentals of the U.S. economy remain strong. However, the coronavirus poses evolving risks to economic activity. The Federal Reserve is closely monitoring developments and their implications for the economic outlook. We will use our tools and act as appropriate to support the economy.” Following Powell's statement,

futures markets moved to fully price in a 50-basis-point rate cut on March 18. (RDQ Economics, February 28)

Market participants seem to think that (a) rate cuts and other stimulus are always a good thing and (b) they'll work. Yet, given that the economic impact of the disease is unknowable, how can investors be sanguine about the ability of the Fed (plus other central banks and treasuries) to counteract it?

Fifty basis points this month may or may not be enough to stem the tide. But investors probably infer from Powell's "we will use our tools and act as appropriate" language that the Fed will "do what it takes." But we must be mindful of the limitations on "ammunition" that exist. In [*On the Other Hand*](#) (August 2019), I supplied a list of "ways in which low rates are undesirable and potentially harmful." The last one was this:

Finally, but very importantly, when interest rates are low, central banks don't have at their disposal as much of their best tool for stimulating economies: the ability to cut rates.

The normal program of rate cuts covers roughly 500 basis points. That's not a very encouraging thought when we think about the fact that the short rate already stands at a mere 150 bps. So the one thing we know is that the Fed doesn't have room for a normal regime of rate-cutting (there's uniform insistence that it won't cut into negative territory).

Further, we have to wonder about the desirability of using 50 bps of the 150 bps the Fed does have at its disposal. Will it be enough? **And what will the Fed be able to do when the economic impact of the virus has been muted but we only have 100 bps or less left with which to fight any recession that appears?**

The facts regarding monetary and fiscal policy are these:

- In 2009, to fight the Global Financial Crisis, the Fed cut short-term rates to zero for the first time.
- Not wanting to derail the subsequent recovery, it hesitated to raise rates before Chair Yellen enacted a series of rate increases in 2015-18 that took the Fed funds rate to 2.25-2.50%.
- When around the end of 2018 interest rates reached levels that investors feared would jeopardize the economic expansion, Chair Powell's Fed reversed course and embarked on a series of three rate cuts.
- Thus today we have the 150 bps I mentioned above – "limited ammunition."
- In addition to rate cuts, the Fed has the ability to pump liquidity into the economy by engaging in quantitative easing through purchases of government securities. But we can't know the long-term impact of expansion of the Fed's balance sheet.
- Finally, looking away from the Fed, we can think about fiscal policy (i.e., increased deficit spending). But this will add even more to our national debt.

Normally, fiscal and monetary stimulus is applied in times of economic weakness. (Even Lord Keynes, whom many people consider the father of deficit spending, advocated running deficits and accumulating debt when the economy grows too slow to create jobs, and then repaying the debt when the stimulus produces surpluses.) Now we have near-zero interest rates and trillion-dollar deficits in

times of prosperity. No one wants a recession, but using up our ammunition preemptively may not have been smart.

The Fed/government's tool for fighting the economic impact of coronavirus are very limited. Thus I believe it's undesirable to be highly sanguine about their powers at this juncture.

What to Do?

These days, people have been asking me whether this is *the time* to buy. My answer is more nuanced: it's probably *a time* to buy. There can be no unique time to buy that we can identify. The only thing we can be sure of today is that stock prices, for example, are a lot lower in the absolute than they were two weeks ago.

Will stocks decline in the coming days, weeks and months? This is the wrong question to ask . . . primarily because it is entirely unanswerable. Since we don't have answers to the questions about the virus listed on page two, there's no way to decide intelligently what the markets will do. We know the market declined by 13% in seven trading days. There can be absolutely no basis on which to conclude that they'll lose another 13% in the weeks ahead – or that they'll rise by a like amount – since the answer will be determined largely by changes in investor psychology. (I say “largely” because it will also be influenced by developments regarding the virus . . . but likewise we have no basis on which to judge how actual developments will compare against the expectations investors already have factored into asset prices.)

Instead, intelligent investing has to be based – as always – on the relationship between price and value. In other words, not “will the collapse go further?” But rather “has the collapse to date caused securities to be priced right; or are they overpriced given the fundamentals; or have they become cheap?” I have no doubt that assessing price relative to value remains the most reliable way to invest for the long term. (It is the thrust of the whole discussion just above that there's nothing that provides reliable help in the short term.)

I want to acknowledge up front that ascertaining intrinsic value is never a simple, cut-and-dried thing. Now – given the possibility that the virus will cause the world of the future to be very different from the world we knew – is value too unascertainable to be relied upon? In short, I don't think so. What I think we do know is that the coronavirus is not a rerun of the Spanish flu pandemic of 1918, “which infected an estimated 500 million people worldwide – about one-third of the planet's population – and killed an estimated 20 million to 50 million victims, including some 675,000 Americans.” (history.com) Rather, it's one more seasonal disease like the flu, something we've had for years, have developed vaccines for, and have learned to deal with. The flu kills about 30,000-60,000 Americans each year, and that's terrible, but it's very different from an unmanageable scourge.

So, especially after we've learned more about the coronavirus and developed a vaccine, **it seems to me that it is unlikely to fundamentally and permanently change life as we know it, make the world of the future unrecognizable, and decimate business or make valuing it impossible.** (Yes, this is a guess: we have to make some of them.)

The U.S. stock market's down about 13% from the top. That's a big decline. It would be a lot to accept that the U.S. business world – and the cash flows it will produce in the future – are worth 13% less today than they were on February 19. That sentence may make it sound like I think the market's undervalued. But that's not the proper interpretation. If it was overvalued on the 19th, rather than being undervalued today, after the decline, it could just be less overvalued. Or it could be fairly valued, or even undervalued, but it isn't necessarily.

I think the stock market was overvalued two weeks ago . . . somewhat. That means I think that today, even with the short-term prospects of business somewhat diminished, it's closer to fairly valued, but not necessarily a giveaway. In the starkest numerical terms, before the rout, the p/e ratio on the S&P 500 was 19 or so, roughly 20% above the post-World War II average (and there are arguments on both sides regarding the current applicability of that average). Thus, after a 13% decline, you'd have to say the p/e ratio is pretty close to fair (unless earnings for the year will be very different from what they previously had been expected to be).

Buy, sell or hold? I think it's okay to do some buying, because things are cheaper. But there's no logical argument for spending all your cash, given that we have no idea how negative future events will be. What I would do is figure out how much you'll want to have invested by the time the bottom is reached – whenever that is – and spend part of it today. **Stocks may turn around and head north, and you'll be glad you bought some. Or they may continue down, in which case you'll have money left (and hopefully the nerve) to buy more. That's life for people who accept that they don't know what the future holds.**

But no one can tell you this is *the* time to buy. Nobody knows.

March 3, 2020

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Memo to: Oaktree Clients Only

From: Howard Marks

Re: Latest Update

I'm going to do all I can to provide information and views throughout this crisis, albeit perhaps without the kind of narrative or literary flourish I usually try for.

Flattening the Curve

The spread of the virus has been described as “exponential.” Most people use this word without understanding precisely what it means. In short, exponential growth is the real-world version of what people in our business refer to as compounding. In other words, there's a growth percentage, and the parameter in question increases by that percentage every period. **Thus the rate of growth is constant, but the magnitude of the increase grows in each period.** For years, we've talked about things on the Internet “going viral.” This is what exponential growth means.

If the number of daily new cases grows at a constant 10% (almost certainly a substantial understatement in the current case), and we start with 100 new cases on day 1, there will be 110 new cases on day 2; 121 on day 3; 133 on day 4; and 146 on day 5. The ultimate potential number of daily new cases is ugly. If the number of new cases continues to grow at 10% per day, there will be 1,745 new cases on day 31. (I'm very sorry to have to write about a number like that.)

Short-term success in fighting the virus isn't described in terms of eliminating the disease but rather “flattening the curve.” In other words, (a) reducing the growth rate will result in a smaller increase in new cases each day (but still an increase), and (b) making the growth rate negative means there will be fewer new cases each day than the day before (but still new cases).

Observers seem to be working under the assumption that, sooner or later, “the curve will be flattened and then bent downward,” meaning the disease will be controlled and perhaps disappear in three to six months. The reasons for optimism in this regard are as follows:

- People will isolate increasingly. The closures of schools, businesses and gathering places will help in this regard.
- Testing will allow us to identify those with the disease and separate them from the healthy population.
- The disease will fade when warm weather sets in (other epidemics that have appeared in recent decades have proved seasonal in this way).
- A preventive vaccine or therapeutic medication will be developed and approved.

Of course, no one knows whether or when these things will happen. But we can hope that the combination will limit the disease to the next three to six months as described above.

Short-Term Response

It's clear that strong actions are essential in order to halt or reverse the rising trend in the number of new coronavirus cases. Things we've seen in other countries include:

- Not suggesting, but ordering people to desist from going out, gathering and socializing.
- Imposing punishment for stepping over the threshold of their homes.
- Prohibiting movement on the part of people who have been diagnosed, and tracking their movement through cell phones.

There seems to be no doubt about the fact that success in flattening the curve comes best from identifying the people who have the disease and preventing them from passing it on to others. Thus the battle against the virus may bring public health considerations into conflict with civil liberties. It's "un-American" to restrict people's movements, but so far the American spirit of independence seems to be allowing some people to justify maintaining their usual behavior. **Rules may be required, not just warnings, suggestions and encouragement.** Restrictions will increase our chances of winning the war. People should not be surprised to see them, although their promulgation may come as a shock.

Likewise, people coming together to do business would prolong and exacerbate the epidemic. The more businesses that close, the more success we're likely to have against the disease. In addition, the fact that closings reduce the spread should alleviate the flow of patients to doctors and hospitals, improving the health system's ability to help sufferers. But, of course, the impact on individuals and the economy will be painful.

Unavoidable Pain

The news in the near term is unlikely to be good; instead it'll probably include:

- Business closures
- Job losses
- Supply-chain disruption
- Shortages of life's necessities, stemming from reduced production and distribution difficulties
- Challenges to the health system

Many businesses have been ordered to close (e.g., restaurants and bars). Some have seen their revenues evaporate (e.g., airlines, hotels and theaters). All of these things will cause job losses, with a particularly heavy impact on lower-income workers.

On March 17, Treasury Secretary Mnuchin warned that failure of the government to take appropriate action could take the U.S. unemployment rate to nearly 20% (by way of comparison, it reached 25% in 1933, during the Great Depression, and hit 10% as a result of the Global Financial Crisis). Regardless of the action taken, it seems sure to rise substantially from the 50-year low of 3.5%.

In recent years observers have made a big thing out of the fact that a large percentage of Americans would be unable to respond to a \$400 emergency. There's some disagreement as to whether it's true, but clearly many people don't have much money in the bank. Where will they get money to buy essentials if they lose their jobs? The government is highly likely to distribute cash, but the speed and adequacy remain to be seen.

In coming weeks we are likely to see over-taxed hospitals; shortages of beds, ventilators and supplies; triage of care based on patients' age and health; infection among health professionals; and rising numbers of fatalities. There's no question that the health system is underprepared; the question is how much preparedness can be improved. I find it hard to believe the short-term news will be good.

In all these ways and more, the early news is bound to be bad. I think that's indisputable. The only good news in this regard would be if it doesn't reach the levels people expect and fear.

Fiscal and Monetary Actions

- The Fed has cut the short-term interest rate to zero – including a record emergency cut of 100 basis points on Sunday, March 15 – but unfortunately the total reduction has been only 150 basis points, whereas past rate-cut programs have amounted to roughly 500 basis points.
- The Fed and Treasury have taken other extraordinary actions to aid market functioning and financial system liquidity. The commercial paper market will be supported. Tax holidays and asset purchases are possible.
- Banks are likely to be hard-hit as a result of borrowers' defaults or moratoria on customers' payments. Thus we're highly likely to see steps designed to bolster the solvency of financial institutions and the availability of credit. Since banks need equity, dividends could be prohibited/discouraged.

Economists and forecasters are still plentiful – the challenging environment hasn't created a shortage there – and each one has an opinion. I never know which ones are right, but I find myself drawn to the views of Conrad DeQuadros of Brean Capital:

In addition to Sunday's actions [cutting rates and initiating asset purchases], the alphabet soup of liquidity facilities is back with the relaunch of the Commercial Paper Funding Facility and the Primary Dealer Credit Facility yesterday. With the PDCF, dealers can even pledge equities to the Fed, with only a 16% haircut, and receive a 90-day loan at 0.25%. Non-investment grade corporate debt gets a 20% haircut.

We also have continued actions by the Fed to encourage discount window loans. A key difference between now and 2008 is the speed with which the Fed is launching these facilities. In 2008, the PDCF was rolled out in March, the CPFF in October, and the first round of Large-Scale Asset Purchases in November. In this episode, we have rates slashed to the zero-lower bound, massive asset purchases, discount window actions (including regulatory guidance), the CPFF, the PDCF—all in a

matter of days. The speed with which COVID-19 events are unfolding is astonishing, but so is the speed of the Fed's response to financial strains.

The Fed is in "whatever it takes" mode. Fiscal authorities will likely follow suit (especially when next week's unemployment claims reading is a multiple of the highest reading we have ever seen in the past). The ECB joined the parade tonight.

All these are appropriate actions. Hopefully we'll see benefits from them and more. The Fed and Treasury will do everything they think might help. Clearly there's little interest in abstaining simply because expenditures will add to the national deficit and debt.

However, it's unfortunate that there was no appetite for refraining from stimulus and restocking the tool kit during the period of prosperity that prevailed in recent years. No one knows whether that failure will inhibit the monetary and fiscal response. But I wish (for example) that we were cutting short rates from 5.0%, not 1.5%.

Market Behavior

A few observations regarding the markets:

It's easy to say that something approaching panic is present in the markets. We've seen record percentage declines several times within the last month (exceeded since 1940 only by Black Monday – October 19, 1987 – when the S&P 500 declined by 20.4% in a day). This week and last included down days as follows: -7.6%, -9.5%, -12.0% and -5.2% yesterday. These are enormous losses.

However, it's worth noting that every one of those declines was followed by similar gains: +4.9%, +9.3% and +6.0% (before a small gain today). Given that almost all of the biggest down days in the last 80 years were followed by up days, so far the strategy of "buy the dips" has continued to be in favor. That's fine as far as it goes, but it has nothing to do with fundamental improvement. **What this tells me is that optimism still hasn't been entirely eradicated and replaced by capitulation. Typically, the bottom is reached only when optimism is nowhere to be found.**

On the other hand, there has been a rush to cash. Both long positions and short positions have been closed out – a sure sign of chaos and uncertainty. Cash in money market funds has increased substantially. This doesn't tell us anything about fundamentals, but the outlook for eventual market performance is improved:

- the more people have sold,
- the less they have left to sell, and
- the more cash they have with which to buy when they turn less pessimistic.

This is a good time to point out that, thus far in this episode, there's additional evidence that there's no such thing in the investment world as a sure thing, magic potion or silver bullet:

- I find it interesting that the price of gold – historically considered the greatest source of protection against tough times – has declined several percent over the last month. Here's the

headline of a story from a gold site: “Gold prices sharply down as dread pervasive in marketplace.” It wasn’t supposed to work that way.

- Bitcoin, which partisans had said would serve as a safe harbor in times of crisis, may be down more than any other “asset class.” (I apply that term to Bitcoin advisedly.) It’s lost 47.6% over the last month, from \$10,188 to \$5,337.
- Risk-parity funds, which were designed to do well in most environments, experienced double-digit losses in February.
- Even the world’s greatest algorithmic fund – which sports a fabulous long-term record – is reported to have suffered a loss of several percent last month.

Of course this is a short, chaotic period, but we can say that so far, the evidence of a miracle investment is lacking. Nothing new here.

To wrap up, I’ll share some color from Justin Quaglia, one of our debt traders:

After two days of a basically stalled, but stressed market, we “finally had the rubber band snap.” Forced sellers (needing to sell for immediate cash flow needs) brought the market lower in a hurry. We opened 3-5 points lower, and the Street was again hesitant to take risk (from their couch/kitchen table/living room/weekend house) so risk only transferred into a bid from another market participant. Clearing levels quickly became 6-8 points lower.

One of the brokers said it was flat-out mayhem . . . and he was working from home! Imagine what an actual trading floor would have been like. It basically became “duck and cover” if you were a market maker, as their risk-taking abilities are being hindered by the C-suite. Beside immediate needs, investors sold to prepare for quarter-end redemptions, FX movements, and to fund margin calls. Short settlements were rampant, and larger blocks cleared in high-quality BB credits. Most people don’t even want to guess what the mark is on CCC risk. This ultimately ended up being the first real day of panic we have seen in a long time.

We’re never happy to have the events that bring on chaos, and especially not the ones that are underway today. But it’s sentiment like Justin describes above that fuels the emotional selling that allows us to access the greatest bargains.

Oaktree Asset Classes

To give you an indication of what has happened to date in U.S. credit, I’m going to provide data on prices, yields and performance as of yesterday’s close. This information will be to be out of date by the time it reaches you, but hopefully it will still be useful.

(As of the close, March 18)	Average Price	Average Yield	Average Yield Spread	Performance Feb 19-Mar 18
High Yield Bonds ex-energy	88.42	8.9%	787 bps	(13.9)%
High Yield Bonds with energy	83.06	10.0	901	(17.2)
Senior Loans	81.57	9.6	874	(15.1)
BB CLOs	74.24	12.4	1,135	(20.7)

Yields and yield spreads have increased significantly (which is another way of saying there's been a lot of damage done). The price declines have been substantial, but the increase in yield for each point of price decline tends to put on the brakes. A yield of 9%, 10% or 12% is impressive in a world of 1% Treasuries, and thus tends to slow the fall. Declines to date of 15-20% for the bond and loan indices have brought substantial losses to holders, but also vastly improved opportunities for new investment.

* * *

What do we know? Not much other than the fact that asset prices are well down, asset holders' ability to hold coolly is evaporating, and motivated selling is picking up. I'll sum up my views simply – since there's nothing sophisticated to say:

- **“The bottom” is the day before the recovery begins. Thus it's absolutely impossible to know when the bottom has been reached . . . ever. Oaktree explicitly rejects the notion of waiting for the bottom; we buy when we can access value cheap.**
- **Even though there's no way to say the bottom is at hand, the conditions that make bargains available certainly are materializing.**
- **Given the price drops and selling we've seen so far, I believe this is a good time to invest, although of course it may prove not have been the best time.**
- **No one can argue that you should spend all your money today . . . but equally, no one can argue that you shouldn't spend any.**
- **The more you want to garner potential gains and don't mind mark-to-market losses, the more you should invest here. On the other hand, the more you care about protecting against interim markdowns and are able to live with missing opportunities for profit, the less you should invest.**

But is there really an argument for not investing at all? In my opinion, the fact that we're not necessarily at “the bottom” isn't such an argument.

March 19, 2020

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The indices referenced herein are represented by: ICE BofA US High Yield Index, ICE BofA US High Yield Excluding Energy, Metals & Mining Index, Credit Suisse Leveraged Loan Index and J.P. Morgan CLO BB Post-Crisis Index.

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Memo to: Oaktree Clients
From: Howard Marks
Re: Which Way Now?

In the last six weeks the markets have seen the best of times and the worst of times:

- From February 19 to March 23, the U.S. stock market saw the quickest meltdown in history, for a loss of 33.9% on the S&P 500. Then its 17.5% gain from Tuesday through Thursday of last week made for the best three-day stretch since the 1930s.
- Of the 21 trading days between February 27 and March 27, a total of 18 days saw moves in the S&P 500 of more than 2%: eleven down and seven up. They included the biggest daily percentage gain since 1933 and the second-biggest percentage loss since 1940 (exceeded only by Black Monday in 1987).
- From March 9 through March 20, issuing a new investment grade bond seemed inconceivable. Then, as our trader Justin Quaglia points out, last week's news of the government's rescue package enabled 49 companies to issue \$107 billion of IG bonds. That made it the biggest week for issuance on record; part of the biggest month on record (\$213 billion from 106 issuers); and part of the biggest quarter on record (\$473 billion, up 40% from the first quarter of 2019). In fact, there was more issuance **last week** than in nine of the 12 **months** in 2019.
- Finally, on March 26, Justin wrote, "**It's hard to believe I used the words 'panic' and 'FOMO' within two weeks of each other.**"

Looking at the above, it's important to note the degree to which people (and thus markets) seem to think long-term phenomena can change in the short run.

It's common knowledge that the coronavirus is still gaining ground in the U.S. and elsewhere; the economy is destined for a serious recession; leveraged entities have to worry about their sources of loans and liquidity; and the price of oil is among the very lowest since the 1973 OPEC embargo. But the prices of financial assets have moved down as well: appropriately, too much or too little? In other words, **we have to consider the outlook and the appropriateness of value, in the context of unprecedented uncertainty and the total absence of guidance from analogies to the past.**

There's no doubt about the ability of the government's and the Fed's massive cash injections to make things better in the short run, and certainly the market has treated them as sure winners. But I think it's important to take time out for a serious discussion of possible scenarios. Are this past week's remedies certain to work? Are the prior week's negatives really erased? **Which will win in the short and intermediate term: the disease, economic ramifications or Fed/Treasury actions?** To try to think about these things in a responsible way, I've decided to try cataloging the optimistic and pessimistic elements.

The Positive Case

No one thinks things are good right now, but the optimist's view is built around the early cessation of bad news and the arrival of better news in the not-too-distant future. Here are the components. (As you know, I usually avoid using macro forecasts and never make my own. I will borrow from others for the purposes of exposition in this memo, but not because I have reason to believe they're correct):

- The earliest countries to contract the virus have shown good progress. The reported data on their new cases has flattened, and in South Korea, more people are being released from the hospitals than are entering. Hermann Dambach, head of our Frankfurt office, reports that the numbers are improving in Italy, Germany and Austria.
- Every forecast I've seen assumes **the virus will be brought under control within three months or so**. The curve is flattened and then turned downward. The virus is contained and then eliminated.
 - Testing identifies those infected, and isolation/quarantine keeps them from infecting others.
 - Herd immunity develops, reducing the number of people capable of transmitting the disease.
 - Warmer weather causes the disease to recede.
 - Treatments are found that aid recovery.
 - A vaccine is developed.
- **The negative impact of the disease on the economy will be sharp but brief.** The term "V-shaped" dominates most forecasts, both between Q2 and H2 and between 2020 and 2021. Thus, for example, one forecaster who has the earnings of the S&P 500 companies down 120% in Q2 thinks they may rise roughly 80+% in Q3 on a quarter-over-quarter basis (that is, to down just 20% from 2019) and then rise by a further 50% in Q4. And after a decline of 33% in 2020, earnings will rise by 55% in 2021 and exceed what they were in 2019.
- Telling people to stay home – and thus causing businesses to close – is the economic equivalent of putting a patient into a coma to facilitate curing a serious disease. **The government will provide life support to the economy during the coma and bring the patient out of the coma after the cure has been effected.**

The economic recovery will be abetted by better news about the disease, but the improvement will mainly be the result of the success of the Fed/Treasury package of rescue and stimulus. These organizations have announced unprecedented expenditures and have indicated that they'll do whatever else it takes. Actions that were taken after months of deliberation in the Global Financial Crisis have been rolled out in the early weeks of the current episode. Further steps are likely to include everything anyone can think of and be unconstrained as to amount.

- The banks are much less vulnerable than they were during the Global Financial Crisis, with only a third of the leverage. Thus concerns for the health of the overall financial system are greatly reduced.

- The U.S.’s effective private sector will supplement the public health efforts of government, producing massive amounts of supplies and equipment, and developing testing, treatments and vaccines.
- The price declines of securities will draw in buyers, and ample capital is available in the form of dry powder in funds.

When I read the more positive views regarding the current episode, I can’t help but think back to my favorite newspaper headline, which included the phrase “**Bankers Optimistic.**” Usually the case, perhaps, but it’s worth noting that the story in question was published on October 30, 1929, reporting on the prior day’s stock market crash. On that day of optimism, the Great Depression still had eleven years to run.

The Negative Case

I always say we have to be aware of and open about our biases. I admit to mine: I’m more of a worrier than a dreamer. Maybe that’s what made me a better credit analyst than equity analyst. On average I may have been more defensive than was necessary (although somehow I was able to shift to aggressive action when crisis lows were reached during my career). Thus it shouldn’t come as a surprise today that my list of cons is longer than my pros (and I will elaborate on them at greater length).

- **I’m very worried about the outlook for the disease, especially in the U.S.** For a long time, the response consisted of suggestions or advice, not orders and rules. I was particularly troubled last weekend by pictures of college kids on the beach during spring break, from which they would return to their communities. The success of other countries in slowing the disease has been a function of widespread social distancing, testing and temperature-taking to identify those who are infected, and quarantining them from everyone else. The U.S. is behind in all these regards. Testing is rarely available, mass temperature-taking is non-existent, and people wonder whether large-scale quarantining is legal.
 - The total number of cases in the U.S. has surpassed both China’s and Italy’s and is still rising rapidly (and is likely understated due to under-testing).
 - The number of deaths doubled from 1,000 to 2,000 between Thursday and Saturday.
 - From a recent tweet by Scott Gottlieb, MD, former commissioner of the FDA: “I’m worried about emerging situations in New Orleans, Dallas, Atlanta, Miami, Detroit, Chicago, Philadelphia, among others. In China no province outside Hubei ever had more than 1,500 cases. In U.S. 11 states already hit that total. Our epidemic is likely to be national in scope.”
 - The U.S. is under-equipped to respond in terms of hospitals, beds, ventilators and supplies. Under-protected doctors, nurses and first responders are at risk.

I’m concerned that the number of cases and deaths will continue to rise as long as we fail to emulate the successful countries’ actions. The health system will be overwhelmed. Triage decisions – including who lives and who dies – will have to be made. There will be a point where there doesn’t seem to be an end in sight. **I’m afraid the headlines are going to get much uglier in this regard.**

- **The economy will contract at a record rate.** Many millions will be thrown out of work. People will be unable to patronize businesses. Not only will workers miss paychecks and businesses miss revenues, but businesses' physical output will tail off, meaning essentials like food may run short. Last week, 3.3 million new unemployment claims were filed, versus the previous week's 282,000 and the weekly record of 695,000. Prior to the government's actions, expectations included the following:
 - unemployment would return to 8-10%, and citizens would soon run short of cash;
 - businesses would close;
 - second-quarter GDP would decline from the year-ago level by 15-30% (versus a decline of 10% in the first quarter of 1958, the worst quarter in history);
 - some forecasters said the combined earnings of the S&P 500 companies would decline 10% in the second quarter, but that seems like a ridiculously small decline. **At the other end of the spectrum, I've seen a prediction that S&P earnings would decline by 120% (that's right: in total, the 500 companies would shift from profits to losses).**

Government payments plus augmented unemployment insurance will replace paychecks for many workers, and aid to businesses will replace some of their lost revenues. But how long will it take to get these funds to recipients? How many should-be recipients will be missed? For how long will the aid continue? (\$3,400 to a family of four won't last long.) What will it take to bring the economy back to life after it's been in a deep freeze? How fast will it recover? **In other words, is a V-shaped recovery a realistic expectation?**

- **It will be very challenging to resolve the conflict between social isolation and economic recovery.** How will we know whether the disease merits the cure? The longer people remain at home, the more difficult it will be to bring the economy back to life. But the sooner they return to work and other activities, the harder it will be to get the disease under control.

First, the growth in the number of new cases each day has to be reduced. Next, the number of new cases has to begin to decline from one day to the next (that is, the growth rate has to turn negative). Then new cases have to stop appearing each day. (Of course, we'll need increased testing and mandatory quarantining for these things to occur.) As long as there are new cases each day, there are people who are infectious. If we send them back into the world and into contact with others, the disease will persist and spread. **And if we seize the opportunity provided by a decline in the number of new cases to resume economic activity, we risk a rebound in the rate of infection.**

- For the most part, we have companies whose revenues are down and companies whose revenues are gone. They can reduce their expenses, but because many of them are fixed (like rent), they can't reduce expenses as fast as revenues decline. That's why second-quarter profits will shrink, dry up or turn negative. Revenues may come back relatively soon for some industries (like entertainment), but less rapidly for others (like cruise lines).
- Many companies went into this episode highly leveraged. Managements took advantage of the low interest rates and generous capital market to issue debt, and some did stock buybacks,

reducing their share count and increasing their earnings per share (and perhaps their executive compensation). The result of either or both is to increase the ratio of debt to equity. The more debt a company has relative to its equity, the higher the return on equity will be in good times . . . but also the lower the return on equity (or the larger the losses) in bad times, and the less likely it is to survive tough times. Corporate leverage complicates the issue of lost revenues and profits. Thus we expect to see rising defaults in the months ahead.

- Likewise, in recent years, the generous capital market conditions and the search for return in a low-interest-rate world caused the formation of leveraged investment entities. As with leveraged companies, debt increased their expected returns but also their vulnerability. **Thus I believe we're likely to see defaults on the part of leveraged entities, based on price markdowns, ratings downgrades and perhaps defaults on their portfolio assets; increased "haircuts" on the part of lenders (i.e., reduced amounts loaned against a dollar of collateral); and margin calls, portfolio liquidations and forced selling.**

In the Global Financial Crisis, leveraged investment vehicles like Collateralized Mortgage Obligations and Collateralized Debt Obligations melted down, bringing losses to the banks that held their junior debt and equity. The systemic importance of the banks necessitated their bailouts (the resentment of which contributed greatly to today's populism). This time, leveraged securitizations are less pervasive in the financial system, and their risk capital wasn't supplied by banks (thanks to the Volcker Rule), but mostly by non-bank lenders and funds. Thus I feel government bailouts are unlikely to be made available to them. (As an aside, it's not that the people who structured these leveraged entities erred. They merely failed to include an episode like the current one among the scenarios they modeled. How could they? If every business decision had to be made in contemplation of a pandemic, few deals would take place.)

- Finally, in addition to the disease and its economic repercussions, we have one more important element: oil. **Due to a confluence of reduced consumption and a price war between Saudi Arabia and Russia, the price of oil has fallen from \$61 per barrel at year-end to \$19 today.** The price of oil was only slightly lower immediately before the OPEC embargo in 1973, and in the 47 years since then it has only been lower on two brief occasions. While many consumers, companies and countries benefit from lower oil prices, there are serious repercussions for others:
 - Big losses for oil-producing companies and countries.
 - Job losses: the oil and gas industry directly provides more than 5% of American jobs (and more indirectly), and it contributed greatly to the decline of unemployment since the GFC.
 - A significant decline in the industry's capital investment, which recently has accounted for a meaningful share of the U.S.'s total.
 - Production cuts, since consumption is down and crude/product storage capacity is running out.
 - The damage to oil reservoirs that results when production is reduced or halted.
 - A reduction in American oil independence.

As recounted above, the negative case encompasses rising numbers of infections and deaths, unbearable strain on the healthcare system, job losses in the many millions, widespread business losses and mounting defaults. If these things arise, investors are likely to shift from the optimism of last week to the pessimism that was prevalent in the rest of March. Contributing factors may include:

- negative psychology surrounding the combination of threats to the economy and life itself,
- fear of more, and
- a very negative wealth effect that depresses spending and investing.

The Government Programs

Last week the government enacted the CARES (Coronavirus Aid, Relief, and Economic Security) Act, with roughly \$2 trillion of rescue and support. At the same time, the Fed will spend several trillion more to provide liquidity and buttress the financial system, and it has “committed to using its full range of tools.” I will dispense with listing all the provisions of the CARES Act, and merely note that J.P. Morgan’s description runs to eight pages. And as mentioned above, the list of ingredients and their magnitude are likely to grow.

I’ll share a useful description of the economic situation and the government response from Conrad DeQuadros of Brean Capital, an economist I’ve taken to quoting:

The CARES Act should not be thought of as fiscal stimulus but as an economic stabilization package. The collapse of economic activity in March 2020 is not a normal cyclical recession but is the result of a mandated “time out” of individuals and businesses by the government. Many of the provisions of the Act are designed to prevent the private sector from unraveling so that when the containment of the virus permits shutdowns to be lifted, activity can bounce back. . . .

There is no avoiding recession because the output of airlines, hotels, restaurants, movie theaters, etc. is lost. However, these programs will support businesses so that when the virus permits the resumption of activity, we can see a sharp rebound in activity. Skilled labor was a scarce resource just one month ago and the key is to keep that labor and businesses connected. The support for businesses is really support for labor because if companies cannot pay workers from cash flows, the layoff figures will dwarf the numbers suggested by the latest jobless claims data.

How effective will the measures be? In the latest quarter, labor compensation was \$2.9 trillion (actual, non-annualized) and, to consider a purely illustrative number, a 20% (actual) drop in labor incomes amounts to \$577 billion, which is about the magnitude of direct income support to households without considering the impact of support for businesses, which will head off a steeper decline in labor incomes. The fiscal package will unlock upward of \$4 trillion of capital market support programs from the Fed. In addition there are the funds to help combat the spread of the virus and the sooner the virus can be contained, the more lives will be saved and the sooner America can get back to work. After a few months of being housebound, we suspect there will be plenty of pent up demand. The fiscal deficit in 2020 could be of the magnitude of \$2.5 trillion but if the package fails, the recession would be longer and

deeper and the fiscal cost would be greater.

As always, I don't know which economists are right, but I'm happy to go with Conrad's summation.

Moving on from understanding the actions to date, I want to talk about the outlook for this effort. The government seems able, as Conrad says, to support and stabilize the economy. **In my simplistic view, I imagine it can print enough checks to replace every American worker's lost wages and every business's lost revenues. In other words, it can "simulate" the effect of the economy on incomes. But I have two questions: is that okay, and is it enough?**

First of all, as I mentioned above, we actually need the output of workers and businesses. If all businesses shut down, we won't have the things we need. These days, for example, people are counting on grocery deliveries and take-out food. But does anyone wonder where food comes from and how it reaches us? **The Treasury can make up for people's lost wages, but people need the things wages buy. So replacing lost wages and revenues will not be enough for long: the economy has to produce goods and services.**

Second, let's assume the government writes checks to replace wages and revenues forever, and that the economy continues to produce at a minimal but sufficient level, so the things we need materialize. What will be the long-term effect? **As with oil reservoirs, what will be the impact of long-term inactivity on the ability of the economy to produce? How long will it take to restart the economy and bring it back to its previous level of functioning?**

Lastly, what would be the effect of the Treasury continuing to add trillions of dollars each quarter to the deficit (which was running at \$1 trillion even before the virus hit) and of the Fed continuing to pump trillions more into the monetary system? Last June, in my memo [This Time It's Different](#), I discussed Modern Monetary Theory, which – to simplify – says federal deficits and debt don't matter. It's no longer just a theory; we have to deal with its implications now:

- What would be the effect of the above on the value of the dollar, and thus on the dollar's status as the world's reserve currency? (Of course, in this environment, other countries are likely to behave much the same as we do, meaning **the dollar may not be debased relative to other currencies.**)
- Might a reduction of the dollar's reserve-currency status make it harder for us to finance our deficits and raise the interest rates we have to pay to do so?
- Might money-printing to that degree bring on an increase in inflation?
- **Might a supply shock stemming from reduced global output of raw materials and finished goods add to the increase in inflation?** The factors that create inflation are truly mysterious, but these certainly seem like reasonable candidates, especially when combined.

Possibly without serious vetting and a conscious decision to adopt it, Modern Monetary Theory is here. Whether we like it or not, we'll get to see its impact much quicker than I had thought. (And remember, 100% of the "top scholars" polled by The University of Chicago Booth School of Business disagreed with some of MMT's claims).

Summing Up

Rather than reinvent the wheel – and to show you how others are viewing the situation (albeit in ways that parallel my view) – I’m going to share the workload by recycling the conclusion from a note I received from Jason Klein, CIO of Memorial Sloan Kettering:

The bull case from here seems to be that monetary policy will work, fiscal policy will kick-in, valuations have reset, society will follow effective healthcare policies (e.g., social distancing) that will be effective, the real economy will adapt, and geopolitics will remain subdued. The bear market seems to be the flip side of each issue, and has the potential to be much darker as the prospects of a hot war with China, or even Iran, seem rather ominous. Across all recent events, I find it in some ways most interesting that Saudi Arabia chose to instigate a supply shock targeting U.S. shale at a moment when the demand for U.S. energy was already reeling from the demand-side shock from COVID-19 restrictions. It highlights the unpredictability of events. As you’ve said, nobody knows.

Richard Masson, my Oaktree co-founder and resident scold, might say Twitter isn’t a worthy source, but nevertheless I want to include a concise summary tweeted by @yourMTLbroker:

Bull case: everything opens in 6 weeks. The unemployed can go back to old jobs or as true Americans, bootstrap. Economy back to normal within 6 months. 2T \$ in PE dry powder, low gas prices and 0% interest rates pour fuel onto on the economy. The roaring 20’s mean the 2020's now.

Bear case: Unemployment goes to 20%+. Everything does NOT go back to normal before at least a year or two, and in the meantime, there is a huge demand shock. The effects of the lockdown on businesses as well as the oil shock create depression-like conditions.

In the Global Financial Crisis, I worried about a downward cascade of financial news, and about the implications for the economy of serial bankruptcies among financial institutions. But everyday life was unchanged from what it had been, and there was no obvious threat to life and limb.

Today the range of negative outcomes seems much wider, as described above. **Social isolation, disease and death, economic contraction, enormous reliance on government action, and uncertainty about the long-term effects are all with us, and the main questions surround how far they will go.**

Nevertheless, the market prices of assets have responded to the events and outlook (in a very micro sense, I feel last week’s bounce reflected too much optimism, but that’s me). I would say assets were priced fairly on Friday for the optimistic case but didn’t give enough scope for the possibility of worsening news. Thus my reaction to all the above is to expect asset prices to decline. **You may or may not feel there’s still time to increase defensiveness ahead of potentially negative developments. But the most important thing is to be ready to respond to and take advantage of declines.**

The world will be back to normal someday, although today it seems unlikely to end up unchanged. **What matters most – in terms of both health and finances – is how we do in the interim. Stay safe!**

March 31, 2020

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Memo to: Oaktree Clients
From: Howard Marks
Re: Calibrating

I set a personal record by writing four memos in the month of March, responding to the rapidly unfolding coronavirus crisis. The task was made easier by the dearth of available data, meaning I was able to proceed without doing much research, mostly providing personal views.

In the first of the four memos, *Nobody Knows II*, I described the distinction made by Harvard epidemiologist Marc Lipsitch. He said there are (a) facts, (b) informed extrapolations from analogies to other viruses and (c) opinion or speculation. At that point, I thought the scientists were trying to make informed inferences, and there wasn't enough data regarding the novel coronavirus to enable them to turn those inferences into facts. I also noted that anything a non-scientist said was highly likely to be a guess. In that vein, I wrote the following to an Oaktree colleague last week: **“These days everyone has the same data regarding the present and the same ignorance regarding the future.”** That pretty much sums up the state of affairs.

Most of what we have today is opinion, and much of it tilts either optimistic or pessimistic. The gulf in between is massive: if you read just the optimistic pieces, you'd think the virus will soon be eradicated and the economy brought back to health, and if you read just the negative ones, you'd think we're all done for.

In my opinion, the difference between most people's positive and negative views is likely to stem largely from their innate biases, and thus the data points they choose to overweight. Future scenarios comprise a large number of variables: today even more than usual. It's relatively easy to build a spreadsheet listing the many things that will contribute to the future and rate them as likely to turn out well or poorly. **But merely toting up the plusses and minuses won't tell you whether the future will be favorable or unfavorable. The essential element is figuring out which ones will be most influential. That's often where optimistic or pessimistic biases come in.** The optimist takes cheer from the favorable outlook for the positive data points, and the pessimist is depressed by the unpleasant possibilities for the negative ones . . . even if they're both working from the same underlying spreadsheet in terms of elements and ratings.

There's rarely such a thing as “knowing the future.” But usually the future will be mostly like the past. This time, I think we can agree that the near-term future isn't likely to look much like it did a year ago. As I wrote last week in *Which Way Now?*, **we have to consider our situation “in the context of unprecedented uncertainty and the total absence of guidance from analogies to the past.”**

Whereas the future is always uncertain, today the uncertainty is much greater than usual: the probability distribution governing future events is much wider and the tails much fatter. In fact, there are potential negatives (and perhaps positives) that few living people have faced before. Most of what we have is subjective opinion and interpretation.

I don't think I'm likely to have superior knowledge regarding the outlook for the virus, its impact on the economy, the success of Fed/government actions or the direction of oil prices. I organized and discussed the possibilities for each of these things in the March memos, but I'm unlikely to be a better predictor than anyone else.

I do, however, hope to help by discussing how you might think about your behavior in the current context. That's my subject today. But before I end with the conclusion I've reached, I want to summarize the relevant statements from the March memos. (As you'll see, I wrote two memos in mid-March that only went to Oaktree clients, although one was made available on our website a few days later.) Here we go (emphasis in the originals):

Nobody Knows II – March 3

We were still early in the crisis at this time, with just a handful of cases of the disease reported in North America. We were also early in the process of economic decline and market reaction. In fact, the S&P 500 was only down 13% from its level on February 19. In this first memo of the crisis, I struck a number of themes I would return to in the following weeks:

These days, people have been asking me whether this is *the time* to buy. My answer is more nuanced: it's probably *a time* to buy. There can be no unique time to buy that we can identify. The only thing we can be sure of today is that stock prices, for example, are a lot lower in the absolute than they were two weeks ago.

Buy, sell or hold? I think it's okay to do some buying, because things are cheaper. But there's no logical argument for spending all your cash, given that we have no idea how negative future events will be. What I would do is figure out how much you'll want to have invested by the time the bottom is reached – whenever that is – and spend part of it today. **Stocks may turn around and head north, and you'll be glad you bought some. Or they may continue down, in which case you'll have money left (and hopefully the nerve) to buy more. That's life for people who accept that they don't know what the future holds.**

But no one can tell you this is *the time* to buy. Nobody knows.

An Update – March 12 (to Oaktree clients only)

A week and a half later, after we cancelled the Oaktree client conference and livestreamed instead, after Nancy and I had begun the social distancing that is still going on full-bore, and with the S&P 500 down 29%, I emphasized a contrarian theme, concluding that the damage done had created pronounced opportunities.

As always, it's important to be conscious of the investment environment and behave like a contrarian. For years, investors thought conditions were good, and we at Oaktree believed that consequently, prices were high and markets were characterized by risky behavior. That's what made us cautious. Now the "flawless decade" is certainly over, and asset prices have been cut. The great contrarian, Warren Buffett is

famous for saying he likes hamburgers, and when hamburgers go on sale, he eats more hamburgers.

My roughly quarterly memos pale when compared to the output of Doug Kass, who writes at least daily. His March 11 note had a terrific title: “When the Time Comes to Buy, You Won’t Want To.” The best time to buy generally comes when nobody else will; other people’s unwillingness to buy tends to make securities cheap. But the factors that render others averse to buying will affect you, too. The contrarian may push through those feelings and buy anyway, even though it’s not easy. **As I put it, “All great investments begin in discomfort.” One thing we know is that there’s great discomfort today.**

[Latest Update](#) – to clients March 19, on website March 24

This memo was issued with the S&P 500 down 29% and within a few days of the low (down 34%) that would be reached on March 23. The panic we were observing, and the great purchases we made that week, convinced me to take a firmer tone in arguing for buying. I took the position that it would be a mistake to wait for an ascertainable bottom before doing so.

What do we know? Not much other than the fact that asset prices are well down, asset holders’ ability to hold coolly is evaporating, and motivated selling is picking up. I’ll sum up my views simply – since there’s nothing sophisticated to say:

- “The bottom” is the day before the recovery begins. Thus it’s absolutely impossible to know when the bottom has been reached . . . ever. Oaktree explicitly rejects the notion of waiting for the bottom; we buy when we can access value cheap.
- Even though there’s no way to say the bottom is at hand, the conditions that make bargains available certainly are materializing.
- Given the price drops and selling we’ve seen so far, I believe this is a good time to invest, although of course it may prove not to have been the best time.
- No one can argue that you should spend all your money today . . . but equally, no one can argue that you shouldn’t spend any.
- The more you want to garner potential gains and don’t mind mark-to-market losses, the more you should invest here. On the other hand, the more you care about protecting against interim markdowns and are able to live with missing opportunities for profit, the less you should invest.

But is there really an argument for not investing at all? In my opinion, the fact that we’re not necessarily at “the bottom” isn’t such an argument.

[Which Way Now?](#) – March 31

Word of the Fed/Treasury response to the economic difficulty emerged on March 24 and was immediately accepted as likely to succeed. By the time the program was enacted, the stock market

had experienced a rally on March 24-26 that delivered the best three-day gain since the 1930s, leaving the S&P 500 down just 24%.

. . . the market prices of assets have responded to the events and outlook (in a very micro sense, I feel last week's bounce reflected too much optimism, but that's me). I would say assets were priced fairly on Friday [March 27] for the optimistic case but didn't give enough scope for the possibility of worsening news. Thus my reaction to all the above is to expect asset prices to decline. **You may or may not feel there's still time to increase defensiveness ahead of potentially negative developments. But the most important thing is to be ready to respond to and take advantage of declines.**

My message wasn't uniform across the four memos, but there were some common threads.

- My observations waxed and waned, in particular as security prices did.
- I never urged selling, as I thought a fair bit of the damage had been done. In other words, it was probably too late to make portfolios less risky.
- I talked about the reasonableness of buying – to varying degrees – primarily in response to the extent securities had cheapened.
- I never said it was *the* time to buy (or that it wasn't). I urged an incremental approach, not all-in or all-out.
- **The most consistent observation was probably that not buying anything at the new low prices would be a mistake.**

The vagueness and variation of the message summarized above make it less than concrete and perhaps less than satisfying for someone who's looking for unequivocal advice. **In my opinion, however, there's simply no room for certainty in investing, and today more so than usual.**

Portfolio Positioning

One of the benefits I derive from writing my memos is that the more I work on a memo about something, the more it comes into focus. Thus the four March memos gave me a great opportunity to ponder what the events imply for investment behavior. I'm glad to say I've reached a conclusion on that subject. I feel strongly that it's right . . . and I fully expect to amend it in the future. (To set the scene, the next few paragraphs will be repeat things I've said in the past.)

In recent years I've become more and more convinced that the fund manager's most important job for the intermediate term isn't to decide the allocation of capital between stocks versus bonds; U.S. versus foreign; developed markets versus emerging; large-cap versus small-cap; high-quality versus low-quality; or growth versus value. And it isn't choosing among strategies, funds and managers. **The most important job is to strike the appropriate balance between offense and defense.** Those other things won't help much if you get offense/defense wrong. And if you get offense/defense right, those other things will take care of themselves.

One way to think about the balance between offense and defense is to consider the “twin risks” investors face every day: the risk of losing money and the risk of missing opportunity. At least in theory, you can eliminate either one but not both. Moreover, eliminating one exposes you entirely to the other. Thus we tend to compromise or balance the two risks, and every individual investor or institution should develop a view as to what their normal balance between the two should be.

Next, investors might consider trying to calibrate their balance over time in response to conditions in the environment – thus the title of this memo:

- The more propitious the environment – the more prudently other investors are behaving, the better the outlook for earnings, and the lower security prices are relative to intrinsic value or “fundamentals” – the more an investor might want to shift toward offense.
- On the other hand, the more precarious the environment – the more others are embracing risk, the more headwinds to profits there are, and the higher valuations are – the more an investor might choose to emphasize defense.

In recent years, it’s been my view that the investment world was marked by the following characteristics:

- more uncertainty than usual,
- extremely low prospective returns,
- full to high asset prices, and
- pro-risk behavior on the part of investors reaching for higher returns.

These things told me the world was a risky, low-return place, and for that reason Oaktree’s mantra has been “move forward, but with caution.” We’ve generally been fully invested, but with even more than our usual caution. We made a decision to overweight defense, and there were years in which higher risk produced higher returns, and we paid a price for being cautious. We had no idea what the catalyst would be that turned the risk into loss, and there were no obvious candidates. But we felt the world was a risky place, exposed to negative developments. Now we know the catalyst, and now portfolio risk has produced loss. That’s the background.

As described above, I felt the uncertain, low-return environment called for defense to be overweighted relative to offense. Now, however, as opposed to the conditions of 2, 6, 12 or 24 months ago:

- the risks in the environment are recognized and largely understood,
- prospective returns have turned from paltry to attractive (for example, the average yield on high yield bonds ex. energy has gone from 3½% to almost 9%),
- security prices have declined, and
- investors have been chastened, causing risk-taking to dry up.

Given these new conditions, I no longer feel defense should be favored. Yes, the fundamentals have deteriorated and may deteriorate further, and the disease makes for risk (remember, I’m the one who leans toward the negative case). **But there’s a big difference between a market where no one can find a flaw and one where people have given up on risk-taking. And there’s a big difference between one that’s priced for perfection and one that allows for bad outcomes.**

Cautious positioning in recent years has served its purpose. Investors who favored defense over offense have experienced smaller losses this year, have the satisfaction that comes from relative outperformance, and are able to spend more of their time looking for bargains than dealing with legacy problems. **Thus, I feel it's a time when previously cautious investors can reduce their overemphasis on defense and begin to move toward a more neutral position or even toward offense** (depending on how sure they want to be of grasping early opportunities).

I'm not saying the outlook is positive. I'm saying conditions have changed such that caution is no longer as imperative. With part of the crisis-related losses having already taken place, I'm somewhat less worried about losing money and somewhat more interested in making sure our clients participate in gains. **My 2018 book, *Mastering the Market Cycle*, carries the subtitle *Getting the Odds on Your Side*. In that vein, I now feel the odds are more in investors' favor or, at a minimum, somewhat less against them. Portfolios should be calibrated accordingly.**

Looking for the Bottom

Before I close, just a word on market bottoms. Some of the most interesting questions in investing are especially appropriate today: **"Since you expect more bad news and feel the markets may fall further, isn't it premature to do any buying? Shouldn't you wait for the bottom?"**

To me, the answer clearly is "no." As mentioned earlier, we never know when we're at the bottom. A bottom can only be recognized in retrospect: it was the day before the market started to go up. **By definition, we can't know today whether it's been reached, since that's a function of what will happen tomorrow. Thus, "I'm going to wait for the bottom" is an irrational statement.**

If you want, you might choose to say, "I'm going to wait until the bottom has been passed and the market has started upward." That's more rational. However, number one, you're saying you're willing to miss the bottom. And number two, one of the reasons for a market to start to rise is that the sellers' sense of urgency has abated, and along with it the selling pressure. That, in turn, means (a) the supply for sale shrinks and (b) the buyers' very buying forces the market upward, as it's now they who are highly motivated. These are the things that make markets rise. **So if investors want to buy, they should buy on the way down. That's when the sellers are feeling the most urgency and the buyers' buying won't arrest the downward cascade of security prices.**

Back in 2008, on the heels of Lehman Brothers' September 15 bankruptcy filing, Bruce Karsh and his team embarked on an unprecedented program to buy the debt of companies in distress. They invested an average of roughly \$450 million per week over the last 15 weeks of the year, for a total of nearly \$7 billion. Debt prices collapsed throughout that period, and they continued to fall in the first quarter of 2009 (along with the stock market). But because the hedge funds facing withdrawals had been gated – and because the leveraged, securitized vehicles that would melt down had all been liquidated – large amounts ceased to be for sale after year-end. In short, if we hadn't bought in the fourth quarter, we would have missed our chance.

The old saying goes, "The perfect is the enemy of the good." Likewise, waiting for the bottom can keep investors from making good purchases. **The investor's goal should be to make a large number of good buys, not just a few perfect ones.** Think about your normal behavior. Before

every purchase, do you insist on being sure the thing in question will never be available lower? That is, that you're buying at the bottom? I doubt it. You probably buy because you think you're getting a good asset at an attractive price. Isn't that enough? And I trust you sell because you think the selling price is adequate or more, not because you're convinced the price can never go higher. **To insist on buying only at bottoms and selling only at tops would be paralyzing.**

On the contrary, I gave this memo the title *Calibrating* because of my view that a portfolio's positioning should change over time in response to what's going on in the environment. As the environment becomes more precarious (with prices high, risk aversion low and fear lacking), a portfolio's defensiveness should be increased. And as the environment becomes more propitious (with prices low, risk aversion high and fear prevalent), its aggressiveness should be ramped up. **Clearly, this process is one of gradual readjustment, not a matter of all-or-nothing. It shouldn't be the goal to do this only at bottoms and tops.**

So it's my view that waiting for the bottom is folly. What, then, should be the investor's criteria? **The answer's simple: if something's cheap – based on the relationship between price and intrinsic value – you should buy, and if it cheapens further, you should buy more.**

I don't want to give the impression that it's easy to buy while prices are tumbling. It isn't, and in 2008, Bruce and I spent a lot of time supporting each other and debating whether we were buying too fast (or too slow). The news was terrible, and for a good while it seemed as if the vicious circle of financial institution meltdowns would continue unchecked. **Terrible news makes it hard to buy and causes many people to say, "I'm not going to try to catch a falling knife." But it's also what pushes prices to absurdly low levels.** That's why I so like the headline from Doug Kass that I referred to above: "When the Time Comes to Buy, You Won't Want To." **It's not easy to buy when the news is terrible, prices are collapsing and it's impossible to have an idea where the bottom lies. But doing so should be the investor's greatest aspiration.**

As for the current episode, here's some data from Gavekal Research's Monthly Strategy piece for April, bearing on the question of whether the bottom was passed in March:

. . . markets rarely clear after one massive decline. In 15 bear markets since 1950, only one did not see the initial major low tested within three months . . . In all other cases, the bottom has been tested once or twice. Since news-flow in this crisis will likely worsen before it improves, a repeat seems likely.

And here's some data from my son Andrew regarding the movements of the S&P 500 index around the time of the last two big crises. The first and second declines were followed by substantial rallies . . . which then gave way to even bigger declines:

9/1/00 - 4/4/01	-27%
4/4/01 - 5/21/01	+19%
5/21/01 - 9/21/01	-26%
9/21/01 - 3/19/02	+22%
3/19/02 - 10/9/02	-33%

10/9/07 - 3/10/08	-18%
3/10/08 - 5/19/08	+12%
5/19/08 - 11/20/08	-47%
11/20/08 - 1/6/09	+25%
1/6/09 - 3/9/09	-27%

Gavekal's and Andrew's data tell us markets rarely rally in a straight line. Rather, their movements represent a continuous tug-of-war between the bulls and the bears, and the result rarely goes in just one direction. After the optimistic buyers of the initial dips have responded to the low prices and bought, the pessimists find the new, higher prices unsustainable and engage in another round of selling. And so it goes for a while. Thus, as Oaktree's Wayne Dahl points out, it took until mid-May 2007, or almost seven years, for the stock market to regain the September 2000 highs, and it took until mid-March 2013, or five and a half years, to regain the highs of October 2007.

The bottom line for me is that I'm not at all troubled saying (a) markets may well be considerably lower sometime in the coming months and (b) we're buying today when we find good value. I don't find these statements inconsistent.

April 6, 2020

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Pershing Square Capital

Letter to Investors — 3/25/2020

Letter to Investors — 3/26/2020

Letter to Shareholders (2019 Annual Report) — 4/6/2020

by Bill Ackman

Pershing Square Capital Management, L.P. Releases Letter to Investors

London, 25 March 2020 //- Pershing Square Capital Management, L.P. today released the following letter to investors:

Dear Pershing Square Investor,

On March 3, 2020, we disclosed that we had acquired large notional hedges which have asymmetric payoff characteristics; that is, the risk of loss from these hedges was limited, while their potential upside was many multiples of our capital at risk. We did so because of our concern about the negative effect of the coronavirus on the U.S. and global economies, and on equity and credit markets. Below, we summarize the events that have taken place since the initiation of the hedges that have led us to unwind them using the proceeds to increase our exposure to existing and new investments.

Since our purchase of the hedges, U.S. and global equity and credit markets have declined dramatically while our hedges have increased substantially in value. Furthermore, beginning last week various U.S. state governments have aggressively confronted the health and economic risks of the coronavirus through unprecedented state-led, non-essential business closures and shelter-in-place/stay-at-home implementations or “lockdowns,” (a word we don’t love, but we haven’t found a better one).

As the virus has worked its way west, the only method that has proven successful to stop the rise in infections, sickness, and death is a strong-form lockdown, first implemented in Wuhan, on Monday night in the U.K., and Tuesday in India. In the United States, California and New York went into lockdown first, and were followed by Connecticut, Delaware, Illinois, Indiana, Hawaii, Louisiana, Massachusetts, Michigan, Nevada, New Jersey, New Mexico, Ohio, Oregon, Washington, West Virginia, Wisconsin, with more likely to come soon. Others like Florida, Missouri, Pennsylvania, and Texas have initiated weaker-form lockdowns in parts of their states.

We believe it is inevitable that in order to halt the advance of the virus and preserve the ability of local, city, and state healthcare systems to deal with the volume of critical care patients, nearly all states will eventually initiate strong-form, non-essential business closures and stay-at-home regulations.

Some have argued that we should fully reopen the economy now, as the coronavirus kills mostly the old and immune-compromised, and a relatively small percentage of those infected. Beyond the ethical considerations of such an approach, it has become increasingly clear that the high percentage of younger U.S. citizens with co-morbidities – including obesity, diabetes, and hypertension, as well as those who take medications for other conditions that reduce immunity, and/or who smoke or vape – will have a substantially higher death rate than has been experienced in other countries. Furthermore, overwhelming the healthcare system will not only increase the death rate from the coronavirus, it will also magnify the loss of life from heart attacks, strokes, and automobile accidents as these trauma patients also lose access to overcrowded ICU beds and emergency rooms.

Because states cannot close their borders, a rolling program of state-led lockdowns is highly suboptimal as states in lockdown can be re-infected by visitors, and their exiting residents can infect other states when they depart in advance of the lockdown. When the Chinese government announced the lockdown of Wuhan, millions of Wuhan residents left in advance of the curfew, spreading the virus throughout

China and the rest of the world. As each U.S. state has announced its own lockdown, many of its residents have left, spreading the virus around the country.

Even though California and New York went first, they will not be able to safely reopen their states for business until approximately three to four weeks after the last state initiates its shutdown, as they would risk reinfection by residents entering from non-lockdown states. For this reason, we believe that the federal government will soon initiate a total-US shutdown with a defined reopening date about 30 days later. If the federal government does not impose such a lockdown, we believe it is likely that effectively all fifty states will do so eventually, with the additional delay costing many thousands of more lives, and much greater economic destruction.

You don't need to be a virologist, immunologist, or epidemiologist to understand why a 30-day nationwide lockdown makes sense. The coronavirus cannot live outside its host, the human body, for more than four or five days, and then, only if the virus is on plastic or metal. If we minimize human interaction for two weeks or so beyond the infection and viral shedding period of approximately two weeks, we can, therefore, vastly reduce, and eventually cap the growth in cases.

A 30-day, countrywide lockdown will have the additional benefit of helping the healthcare system and its supply chain catch up to the growing case load in order to meet the immediate needs of our hospitals and their patients. State governors like NY Governor Andrew Cuomo, with the support of the federal government, are heroically working to address this problem on behalf of our citizens. As New Yorkers, we are incredibly grateful for Governor Cuomo's leadership which will save many lives.

It is critical to have a defined lockdown period for the entire country. Most businesses can afford to, and will choose to retain their employees if they know that their business can reopen in a short, defined period of time as it is extremely time consuming, expensive and difficult to rehire high quality, trusted talent. This is even more true when the federal government provides financial support to these businesses during the lockdown. Unfortunately, the large job losses that we are seeing today are due to the indeterminate nature of the shutdowns that have been announced. It is the rare business that can afford to pay its employees for months without a date certain that they can reopen.

Upon completion of an enforced lockdown, the country can be reopened carefully as China has so far successfully done. The key to a successful reopening beyond the maintenance of social distancing, hand washing, mask use and other related practices is a broad-based testing regime and tracing program. This will enable the inevitable viral breakouts to be identified early and minimized with localized quarantines, reducing the impact on the overall U.S. economy and the need for future shutdowns. Until there is a vaccine, however, seniors and other at-risk members of the population will need to exercise a high-level of caution.

It has been extraordinarily challenging to fight the invisible enemy. We can fix this by using antibody blood tests to determine (1) who has been infected, is thereby immune and can return to work, (2) who is actively infected and needs to be quarantined, and (3) who is uninfected. Broad-based antibody-based screening will also give us an accurate estimate of what percentage of the population is actually infected allowing us to better estimate the percentage who become critically ill from the virus, who have limited if any symptoms, and a more accurate estimate of the death rate. Antibody blood screening tests have the advantage of being able to accurately and rapidly identify not only infected patients, but also those who have previously been exposed to the virus, but were not known to be

infected, either because they never developed symptoms, or had symptoms that were never correctly diagnosed.

Antibody tests can be deployed in a much more cost-effective manner to detect community spread, and with much greater accuracy and scalability than the current drive-thru, nasal swab PCR test. They require only a simple blood test and can yield results in hours rather than days and can be administered by Quest Diagnostics or Labcorp much like a traditional blood test. Imagine how differently and effectively we could have managed this crisis if we actually knew who was infected.

The Pershing Square Foundation just invested capital to help scale the manufacture of antibody testing kits produced by Covaxx, a newly formed subsidiary of United Biomedical Inc., a company with decades of experience in the development, registration, manufacture and distribution of viral testing kits and vaccines. Covaxx has already deployed over 100,000 COVID-19 antibody tests across China (Hubei, Beijing, Shanghai) and in the U.S. Covaxx is currently deploying its COVID-19 tests across San Miguel County, Colorado ([article link](#).) Covaxx believes it can scale its COVID-19 test to hundreds of millions of tests in relative short order. To learn more, please contact Mei Mei Hu at mhu@unitedbiomedical.com

The federal government and the U.S. Treasury have intervened in financial markets in an unprecedented fashion, and the Congress is on the brink of passing legislation which will help bridge the economy and our country's workforce and citizens during what we believe to be a temporary but massive economic shock. We are encouraged by the Treasury Secretary's and Administration's all-in approach to mitigating the damage to the capital markets, and for keeping financial markets functioning and open, which are critical for our economy and capitalism to work.

For all of the above reasons, we became increasingly positive on equity and credit markets last week, and began the process of unwinding our hedges and redeploying our capital in companies we love at bargain prices that are built to withstand this crisis, and which we believe will flourish long term.

On March 23rd, we completed the exit of our hedges generating proceeds of \$2.6 billion for the Pershing Square funds (\$2.1 billion for PSH), compared with premiums paid and commissions totaling \$27 million, which offset the mark-to-market losses in our equity portfolio. Our hedges were in the form of purchases of credit protection on various global investment grade and high yield credit indices. Because we were able to purchase these instruments at near-all-time tight levels of credit spreads, the risk of loss from this investment was minimal at the time of purchase.

We have redeployed substantially all of the net proceeds from our hedges by adding to our investments in Agilent, Berkshire Hathaway, Hilton, Lowe's, and Restaurant Brands. We have also purchased several new investments including reestablishing our investment in Starbucks which we sold in January. The proceeds of the hedges have enabled us to become a substantially larger shareholder of a number of our portfolio companies, and to add some new investments, all at deeply discounted prices. Even after these additional investments, we maintain a cash position of about 17% of the portfolio.

We continue to expect that markets (and our performance) will remain volatile, and therefore, new opportunities may present themselves that are superior to investments we currently own. This may lead us to sell certain of our existing holdings including investments we recently purchased. We may also choose to reestablish similar or different forms of hedges or raise more cash based on developments with the coronavirus and other market factors. In other words, we are more likely to have higher portfolio turnover in this environment.

We are in one of the most challenging periods of time for our country, and for the world. Thousands of people have or will soon become severely sick, and many will die. This is a tragedy that could have been prevented with better long-term planning, which should have begun more than a decade ago. I have always said that experience is making mistakes and learning from them. And learn from this we must.

Sincerely,

William A. Ackman

About Pershing Square Capital Management, L.P.

Pershing Square Capital Management, L.P. ("Pershing Square"), based in New York City, is a SEC-registered investment advisor to investment funds.

Media Contact

Pershing Square Capital Management, L.P.

Fran McGill, 212-909-2455

McGill@persq.com

Dear Pershing Square Investor,

A number of press reports have raised questions about my appearance on CNBC last Wednesday, and some have even questioned whether my appearance was intended to drive down the market so that we could profit on hedges we had previously entered into. I thought you would find greater transparency into our investment positioning over the last few weeks helpful in responding to those who have expressed concerns.

As you know, we have been extremely alarmed about both the health risks of the coronavirus and its economic impact since earlier this year. While we are a long-term investor, we view our principal responsibility as preserving capital and protecting our investors from losses. In light of our concerns, we had two choices: we could either sell all of our investments or hedge our portfolio. We chose to hedge coronavirus risk rather than sell because we are long-term investor, and we believe that all of our companies would eventually recover, and create substantial value over the long term.

As a result, in February, the Pershing Square funds purchased credit default swaps (CDS) on various investment grade and high yield credit default swap indices, namely the CDX IG, CDX HY, and ITRX EUR. At the time of purchase, the IG or investment grade indices were trading near all-time tight levels of about 50 basis points per annum. The high yield index, the CDX HY, was also trading near its lowest spread ever. When one adjusts for the fact that a number of companies in the high yield index were on the brink of default (and these near-default companies' spreads were in the thousands of basis points), the spreads on the rest of the companies in the index were actually well below the 2006-2007 all-time lows.ⁱ

Because we believed that the coronavirus could only be stopped in Europe and the U.S. with an unprecedented economic shutdown, based on what we learned from China, we were confident that U.S. and European credit spreads would likely widen substantially from their near-all-time lows. We believed that global shutdowns would also affect all of our portfolio companies negatively to varying degrees, causing their stock prices to decline substantially. We believed, however, that our hedging program would likely be an effective one because as the spreads on the indexes widened, our CDS would become much more valuable.

Based on this analysis and to protect our investors from these potential losses, we purchased a very large notional amount of CDS. We disclosed that we had done so in a press release issued by Pershing Square Holdings, Ltd. on March 3rd, 2020:

“Dear PSH Shareholder,

During the past ten days, we have taken steps to protect the portfolio from downward market volatility. We have done so because we believe that efforts to contain the coronavirus are likely to have a substantial negative impact on the U.S. and global economies, and on equity and credit markets. Our approach to address this concern has been to acquire large notional hedges which have asymmetric payoff characteristics; that is, the risk of loss from these hedges is limited, while their potential upside is many multiples of our capital at risk. These hedges will likely mitigate portfolio losses in severe market declines, while also somewhat reduce the portfolio's upside potential if there is minimal economic or market impact from the virus.”

On March 9th, we issued another press release which disclosed the following:

“Dear PSH Shareholder,

We are reporting our NAV today so that shareholders are informed of the materially positive impact on NAV of various hedges that we previously acquired to protect the portfolio from downward market volatility. As we explained in our March 3, 2020 communication, we have acquired large notional hedges with asymmetric payoff characteristics which will help to mitigate portfolio losses in severe market declines, while reducing the portfolio’s upside potential if markets recover. While recent market declines have caused the market values of our portfolio companies to decline substantially, the increased value of our hedges has more than compensated for these losses as you will note from today’s reported results.”

At the time of the March 9th press release, our CDS contracts had increased in market value from zero to approximately \$1.8 billion because of spread widening.

By March 12th, our CDS contracts had increased in value to \$2.75 billion, and we began selling. We sold because the risk-reward ratio of holding the contracts at 140 basis points was not nearly as compelling as when spreads were at 50 basis points. Also, our CDS position had become a very large percentage of our portfolio, approaching 40% of our capital as our companies’ stock prices declined.

Furthermore, the deterioration in markets greatly increased the opportunity cost of our owning CDS. In order to make a meaningfully greater profit on CDS, spreads would have to widen further to approximately the levels they briefly achieved during the financial crisis. Had we had been able to sell our entire CDS position on March 12th, we would likely have done so, but because of the very large size of the position, it would take us more time to exit.

At the time, the administration and various city and state governments were beginning to take the risk of the virus more seriously. The President began holding daily press conferences with his coronavirus team, various cities were going into lockdown, and a number of state governors, most notably Governors Cuomo and Newsom, were showing strong leadership in addressing the growing crisis. Meanwhile stocks continued to decline, which made the opportunity cost of owning CDS at their then-trading levels of 130 -150 basis points even less attractive. Beginning on March 12th, we began unwinding our hedge, and continued to do so every day thereafter until we completed our exit on the morning of March 23rd.

On the morning of Wednesday, March 18th I sent out four tweets:



Bill Ackman ✓ @BillAckman · Mar 18

Mr. President, the only answer is to shut down the country for the next 30 days and close the borders. Tell all Americans that you are putting us on an extended Spring Break at home with family. Keep only essential services open. The government pays wages until we reopen.

605

2K

7.4K



Bill Ackman ✓ @BillAckman · Mar 18

Replying to @BillAckman

No one defaults, no one forecloses. A 30-day rent, interest and tax holiday for all. The shutdown is inevitable as it is already happening, but not in a controlled fashion which is extending the economic pain and amplifying the spread of the virus.

55

248

1.2K



Bill Ackman ✓ @BillAckman · Mar 18

With exponential compounding, every day we postpone the shutdown costs thousands, and soon hundreds of thousands, and then millions of lives, and destroys the economy.

54

323

1.4K



Bill Ackman ✓ @BillAckman · Mar 18

Please send everyone home now. With your leadership, we can end this now. The rest of the world will follow your lead. A global Spring Break will save us all.

109

299

1.5K



Later that morning Scott Wapner asked me to come on his midday CNBC show, and I agreed. This was my first appearance on television in more than two years.

By Wednesday, March 18th at 12:30pm, when I appeared on CNBC, we had already sold slightly more than half of the notional amount of our CDS, realizing a gain of more than \$1.3 billion, with the unrealized portion of our hedge having a market value at that time of \$1.3 billion for a total of \$2.6 billion. When my interview with Scott Wapner began, the S&P index was already down 6.5%.

I went on CNBC to further explicate my tweets, and to explain why I had gone from being very bearish to bullish, with a caveat. In sum, I explained to Scott that I believed that the best approach to killing off the virus was for the entire country to close the borders and shut down for 30 days, other than for essential businesses, government, and services. Then, carefully, the country could be reopened with testing of all Americans, social distancing, higher mask usage, and other mitigation practices. I also explained that

the alternative of an 18-month period of rolling shutdowns would likely bankrupt almost every business, even dominant, well-capitalized ones. Because the consequences of a rolling shut down of the country that occurred over 18 months were so dire, I explained that I was confident that the administration would choose instead to shut down the entire country at once for 30 days.

I also told Scott Wapner that I was sufficiently bullish that we were buying stocks in the market:

“And I’ve been super bearish, but I got bullish. Okay. And the reason why I got bullish, and I’ve been aggressively buying stocks, including Hilton, today, okay, and I’ve been buying all the way down: Hilton, Restaurant Brands, Starbucks, you know, walk your way through our – the only stocks I’m not buying are companies we’re on the board and are restricted. But the reason why, is the only answer for the world is to shut the world for 30 days.”

Shortly after the show, I heard that some had interpreted my remarks as being very bearish on the market. In fact, later that day, some commentators claimed that I was responsible for the market finishing the day down more than 10%, almost 4% lower from the time I started speaking on CNBC at 12:30pm that day.

At 2:55pm that day, I issued the following tweets clarifying my remarks:



My bullish posture and my statements on CNBC and Twitter were strongly supportive of the markets. I made those statements at the time we were buying stocks and reducing our short in the credit markets. My statements were therefore totally consistent with how we were trading. We had turned bullish and we were in the process of investing about \$2.5 billion in equities. On the show, I made it very clear we were actively buying stocks in the market.

Importantly, **our hedge had already paid off prior to my going on CNBC**. In fact, we had sold more than half the hedge prior to the show, and the balance over the next three trading days. Our actual realized proceeds of \$2.6 billion was equal to the total realized and unrealized profit we had already achieved prior to my going on CNBC. The hedge did not increase in value during or after I went on CNBC. It stayed at approximately the same value until we exited.

In fact, if you believe we move markets – a highly dubious assertion – one could argue that had I not told the world that we were bullish and were buying stocks, both equity and credit markets would have declined even more than they did, and we would have made more money on the hedges.

The idea that my appearance pushed the market down an additional 4% that day is absurd. This is particularly so in light of my disclosure on the show that we were actively buying hotel and restaurant stocks – companies that have been most impacted by the virus – in addition to other companies in our portfolio.

On CNBC, I disclosed my beliefs to the best of my ability. Yes, I got somewhat emotional as I talked about protecting my immune-compromised father from the ravages of the virus. But, I had become bullish because of my belief that the entire country would soon go into lockdown, and that would be the fastest and best way to minimize the impact of the virus. And that was why I explained that we were buying stocks. I also wanted to shout from the rooftops about the importance of taking the virus seriously so that we would build a consensus to lockdown the country as soon as possible.

The day after, Thursday, Governor Newsom announced that California was going into lockdown. On Friday morning, two days after my appearance on CNBC, Governor Cuomo announced that New York State was going into lockdown. Over the past week, another 19 states have followed California and New York's lead and initiated lockdowns. Another 14 states have also begun lockdown orders in parts of their states. Markets have soared in response to this news as there is now much greater visibility on an end date for the virus' impact on the economy.

The bottom line is that our hedging strategy worked. While we incurred mark-to-market losses on our portfolio equal to \$2.6 billion, we made the same amount on the hedges. Notably, as of our last public report released yesterday, we were flat for the year.

By selling the hedge, we generated \$2.6 billion of proceeds, the substantial majority of which we invested in both new and existing investments, which we believe will payoff as markets recover.

Sincerely,

William A. Ackman

ⁱ A brief primer on CDS: in simplified form, when you purchase CDS, you are committing to pay a fixed spread on a quarterly basis for a fixed period of time (for the most liquid, on-the-run contracts, the term is five years) times the notional amount of the contract. If spreads widen, the CDS you purchased becomes more valuable as you can sell it and receive the difference between the wider spread – let say 150 basis points per annum for five years – and the spread you committed to pay – let's say 50 basis points, for the remaining life of the contract. On the other hand, if spreads narrow to 25 basis points, you will lose money because you will be required to pay the difference: $50 - 25 = 25$ basis points, times the notional amount of the contract for the remaining life of the contract – to your counterparty when unwind the contract.

This is best understood by a somewhat simplified example: assume you purchase \$1 billion notional of CDS on the IG index for 50 basis points. In summary terms, you are committing to pay 50 bps times \$1 billion, or \$5 million of premium per annum for five years. Assuming you sell the CDS a month after purchase at a spread of 150 basis points, you would receive approximately the present value of the spread, in this case 100 basis points per annum, times the \$1 billion notional amount of the contract for the remaining 4 years and 11 months of the contract's life.

The present value of 100 bps for 4 years and 11 months is a number which is slightly less than the present value factor times 4.92 years times 100 basis points times \$1 billion, or approximately \$45 million. Since the contract in this example was only outstanding for one month, the total premium paid would be $1/12^{\text{th}}$ of the annual payment of \$5 million or approximately \$417,000. Therefore, for a total outlay of \$417,000, you would make \$45 million. This understates your actual risk, however, because if spreads were to narrow during that month, you would lose substantially more than the premium. That said, if you were confident that spreads would either stay the same over the next month or widen, you would only be risking the premium of \$417,000.



Investment Manager's Report

LETTER TO SHAREHOLDERS

To the Shareholders of Pershing Square Holdings, Ltd.:

2019 was an extraordinary year for PSH. We generated our best NAV returns in Pershing Square Capital Management, L.P.'s 16-year history with a total NAV return including dividends of 58.1%, and a total stock price return of 51.2%.⁵ 2019 was also an excellent year for our portfolio companies as their operating and business progress largely kept pace with their stock price returns. We made two new investments, Agilent and Berkshire Hathaway, and exited three positions. We incurred no mark-to-market or realized losses on any of our holdings in 2019, a first for Pershing Square.

We continued to make progress after the turn of the year. In advance of recent market declines, in January we sold our stake in Starbucks as it approached our estimate of intrinsic value. In February, we sold a third of our stake in Chipotle in order to reduce what had become an outsized position. At the time of sale, Chipotle represented more than 20% of the portfolio due to the company's substantial business progress and strong share price appreciation.

Earlier this year, we were sufficiently concerned about the health and economic implications of the coronavirus that we considered, for the first time ever, liquidating the portfolio in its entirety because we believed it was likely that markets would decline materially. After a careful review of the portfolio, we concluded that a hedging strategy was more consistent with our long-term ownership philosophy, and would likely lead to a better long-term outcome than selling off all of our assets. To mitigate coronavirus risk, in late February, we entered into a series of large hedging transactions in the credit default swap market that have offset the substantial stock price declines of our investment holdings in the recent market downdraft.

After the initial market decline, we unwound our credit hedges and redeployed a substantial majority of capital by adding to existing investments including Restaurant Brands, Lowe's, Hilton, and Berkshire Hathaway, and by investing \$500 million (\$432 million from PSH) in a secondary share offering by Howard Hughes. We also re-established a position in Starbucks. PSH has approximately 18% of the portfolio in free cash, and we are continuing to look for only the most extraordinary opportunities.

We believe that our success in 2019 was driven by a series of organizational and investment-related changes we implemented in late 2017. In sum, we focused our investment strategy on the core principles that have driven our high rates of return since the inception of Pershing Square, and restructured the organization to an investment-centric operation without the attendant requirements to continually raise capital. Today, 85% of our total assets – approximately \$7.2 billion out of \$8.5 billion – is represented by Pershing Square Holdings.⁶ Our competition is principally comprised of passive investors, and active investors with impermanent capital. Our greater capital stability is an important structural competitive advantage for our long-term investment strategy that should enable us to generate high risk-adjusted returns over the long term.

While we continue to manage two private funds for long-term investors of the firm, we are no longer actively raising capital for these vehicles. As a result, we are now able to operate with greater focus and substantially improved productivity. In addition, we moved last May from hedge-fund central in midtown Manhattan to our new office at 787 Eleventh Avenue, on the far west side in a neighborhood known as Hell's Kitchen. Without marketing or investor relations responsibilities, the investment team's resources are now entirely dedicated to investment analysis, selection, monitoring, and portfolio management.



During the year, PSH engaged in a series of corporate transactions including the initiation of a quarterly ten-cent dividend, the launch of a series of buyback programs totaling \$300 million, and the issuance of a 20-year bond (callable beginning in year 10 and at par by year 15). Since the inception of PSH's buyback program on May 2, 2017, PSH has acquired \$650 million of its shares representing 17.7% of initial shares outstanding.⁷ We continue to believe that PSH is undervalued at current market prices and NAV discount levels, and we have substantial available free cash. We have therefore continued to opportunistically buy back shares.

During 2019 and after year end, affiliates of the Investment Manager continued to acquire additional shares of PSH. Unlike many other closed ended funds where the investment manager has only a *de minimis* investment, in PSH, the manager is by far the largest investor. We now own more than 22% of the fully diluted shares outstanding, representing \$1.28 billion of PSH's equity.⁸ Our large ownership stake in PSH materially improves the manager's alignment of interests with other shareholders, particularly when compared with other investment funds.

As a result of the incentive fee, we receive a larger percentage of the profits than other shareholders to compensate us for managing the portfolio. Many critics of incentive fees argue that they give investment managers an incentive to take excessive risk because if a fund is profitable, the manager receives a fee, but if the fund loses money, the manager can walk away without personal losses. In other words, if the manager does not have a substantial ownership stake in the fund, the incentive fee can be considered a free, or nearly free, option which increases the incentive to take risk because options become more valuable with increased volatility.

At PSH, the fact that affiliates of the manager own more than 22% of shares outstanding minimizes the incentive for the manager to take excessive risks, as losses are borne proportionately by the manager with other investors. In other words, the risk of loss and opportunity for gain of our large shareholding overwhelm the option value of the incentive fee. Furthermore, in our case, our PSH ownership is a disproportionately larger percentage of our net worths than for nearly all of our unaffiliated shareholders, so our principal incentive is to protect PSH from permanent losses, and then to maximize long-term profits.

Coronavirus

It would be inappropriate to write about the investment implications of the coronavirus without first acknowledging the severe health implications and tragic loss of life that we are all experiencing in our own neighborhoods, nations, and around the globe. It was in fact our initial focus on the health risks of the virus that led to our decision to deploy a hedging strategy to protect PSH's investment portfolio. Health and wealth are highly correlated, and we therefore must solve this global health crisis in order for global GDP to grow, and for job and wealth creation to occur.

We have previously summarized our thoughts on the coronavirus and our hedging strategy in a series of communications beginning on March 3rd ([Link](#)) when we disclosed that we had entered into hedging transactions, on March 9th ([Link](#)) when we disclosed the positive effect of the hedges on NAV, and on March 25th ([Link](#)) and March 26th ([Link](#)) when we provided detailed information about the unwinding of our hedges, and the reinvestment of capital in our portfolio and in certain new investments. Rather than repeat our coronavirus analysis in detail again here, I provide a short summary and then elaborate on the portfolio-specific implications of the virus.

On March 3, 2020, we disclosed in a press release that we had acquired large notional hedges which had asymmetric payoff characteristics. We did so because of our concern about the likely negative effect of the coronavirus on the U.S. and global economy, and on equity and credit markets. Our hedges were in the form of the purchase of credit default swaps (CDS) on the U.S. investment grade and high yield credit indices, and the European investment grade credit index.



After we purchased these hedges, U.S. and global equity and credit markets declined dramatically, and our hedges increased in value from zero to a peak of \$2.7 billion (in PSH \$2.3 billion).⁹ At this value, our hedges were worth approximately 40% of our total capital as our equity investments declined substantially over the same period.

The risk of remaining short credit versus the potential rewards became less attractive as the hedges increased in value. Furthermore, the opportunity cost of this capital increased as the proceeds from the hedges could be reinvested in our portfolio companies and other new opportunities at highly discounted valuations.

As various U.S. state, city and local governments began to aggressively confront the health and economic risks of the coronavirus through unprecedented non-essential business closures and shelter-in-place/stay-at-home implementations or “lockdowns,” we believed that our worst case fears would not be realized.

The U.S. federal government and the U.S. Treasury have also intervened in financial markets in an unprecedented fashion, and Congress has passed legislation which will help bridge the economy and our country’s workforce and citizens during what we believe to be a temporary but massive and extremely painful economic shock. We have been encouraged by the Treasury Secretary’s and the Administration’s all-in approach to mitigating the damage to the capital markets, and for keeping financial markets functioning and open, which are critical for our economy and capitalism to work.

For all of the above reasons, as we became increasingly positive on equity and credit markets, beginning on March 12th and entirely on March 23rd, we completed the exit of our hedges which generated total proceeds of \$2.6 billion for the Pershing Square funds (\$2.1 billion for PSH), compared with premiums paid and commissions totaling \$27 million. These gains offset a similar amount of mark-to-market losses in our equity portfolio.

We have redeployed the substantial majority of our net proceeds from these hedges by adding to our investments in Agilent, Berkshire Hathaway, Hilton, Lowe’s, Howard Hughes, Restaurant Brands, and by repurchasing our stake in Starbucks. We have done so at deeply discounted prices and now own substantially larger stakes in each company. Even after these additional investments, we maintain a cash position of about 18% of the portfolio.

In summary, as a result of the reinvestment of the proceeds from our hedging transactions, we have four percentage points more cash (free cash before the decline was equal to 14% of the portfolio), and we have increased our stakes in Agilent by 16%, Berkshire Hathaway by 39%, Hilton by 34%, Howard Hughes by 158%, Lowe’s by 46%, and Restaurant Brands by 26%. We have also reestablished a 10% of capital position in Starbucks. If our portfolio companies grow in value and their stock prices increase over the long term as we expect, the long-term returns for PSH will be substantially greater than before as a result of the reinvestment of the proceeds from the hedging transactions.

You might ask whether it was prudent for us to have unwound hedges and reinvested capital without knowing whether equity markets had bottomed. We of course do not know whether the recent lows that have been achieved will be breached by further market declines. Our decision to unwind our hedges was driven by the less favorable risk-reward ratio offered by our credit hedges as spreads widened, and the much more favorable risk-reward ratio presented by the then-trading values of companies in which we bought shares. At the prices paid and based on our estimates of the long-term cash flows these businesses will generate, we believe our recent acquisitions will generate very high rates of return over a multi-year holding period. If stock prices decline further, the returns we could have earned by waiting to invest capital would be even higher. We have kept substantial cash on hand to allow us to buy more at lower prices if markets decline further.



In our experience, it is difficult for a large investor to buy stocks while markets are recovering as liquidity is generally limited when markets rise rapidly. It would not be a surprise to see a rapid recovery in the stock market when investors have greater confidence that the risks of the virus are largely behind us. We have therefore chosen to be a substantial buyer as markets have declined. While it is difficult to predict when markets will make a full recovery, we believe that the factors for a stock market recovery are coming into view. Namely, nearly the entire country and much of the world are essentially in lockdown, which implies that the number of cases and resulting deaths should peak over the next several months. This combined with the availability of cheaper and faster testing will enable many employees to go back to work allowing the U.S. and other countries to begin an economic recovery.

We are not, however, predicting a V-shaped recovery as it will be sometime before the virus' impact can be eliminated, and the required social distancing and other virus-safe behavioral requirements will somewhat restrain the global economy. Furthermore, the psychological and financial impact of the economic shock we are currently experiencing will likely cause many consumers to be hesitant about opening their wallets until the passage of time heals memories of this challenging time, and corporate and consumer balance sheets are repaired.

To share a note of optimism, the enormous economic and reputational incentives to discover therapeutic cures, more accurate, faster and cheaper testing, and a vaccine are driving scientists, technologists, corporations, governments and academic and research institutions around the globe to work toward a solution to our global malaise. This increases the likelihood that we may be positively surprised with a faster than expected cure or other mitigants to the virus and its negative health and economic effects.

It is important to be reminded that the value of a business is the present value of the cash it generates over its life. While many investors and market commentators use the heuristic of assigning a price-earnings multiple to analyst estimates of next year's earnings, this simplistic approach is not valid for the current environment, as the next 12 months of earnings are not representative of the true long-term earnings power of most companies.

The revenues and earnings for the majority of businesses over the next year or so will be extremely poor, and in some cases disastrous, but for companies with strong balance sheets, dominant market positions, and which do not need access to capital, the virus will likely only disrupt the next 12 to 24 months of cash flows. In a discounted cash flow valuation of a company, the loss or disruption of the first, and possibly second, year of cash flows, does not generally destroy more than 5% to 10% of the value of the business. The fact that many stocks have declined by 30% to 60% or more from levels that did not appear to be overvalued suggests that there are many compelling bargains in the equity markets. We discuss some of these opportunities in our portfolio below.

The Impact of Coronavirus on our Portfolio Companies

The important question is what impact will the virus have on our portfolio companies? We are fortunate to own businesses that are designed to withstand the test of time. Our strategy of investing in simple, predictable, free-cash-flow-generative, conservatively financed companies with limited exposure to extrinsic factors we cannot control should serve us well in the current, highly stressed environment. Importantly, our portfolio companies are generally considered essential businesses, and for the most part will remain open to the extent possible during a state and/or a national shutdown. All of our portfolio companies, however, will be affected to varying degrees in the short term by the virus' impact on the global economy. Below, we share a few observations on the short- and long-term impact of the crisis on each of our companies.



As a provider of testing equipment for labs around the globe, **Agilent** is well positioned to benefit from increasing investments in healthcare, safety-related testing, pharmaceuticals, and other industries where highly accurate testing is essential for environmental, safety, product design, quality control, and other reasons. In the short term, Agilent will be affected somewhat by the recent closure of university labs, generally lower global business activity, and the impact of lower energy prices on a small portion of the company's customer base. In sum, we believe the net impact of the virus on Agilent's long-term intrinsic value to be minimal.

Berkshire Hathaway was built by Warren Buffett to withstand a global economic shock like this one. With more than \$120 billion of free cash available for investment, Berkshire is well positioned to deploy capital opportunistically. Pandemics are generally excluded from insurance policies, and we believe that Berkshire's insurance operations have limited exposure to the coronavirus. Berkshire is also highly advantaged in being able to invest its insurance company capital in equities when compared with other insurers who are generally limited to fixed income investments where there is little yield to be found.

Berkshire's privately owned portfolio of industrial and other businesses will absorb some short-term economic impact from the virus. In light of Berkshire's extraordinarily strong financial position and the nature of the portfolio companies it owns, we believe that Berkshire will not be materially negatively impacted as a result of the crisis. Rather, we believe that Berkshire will emerge from this crisis as a more valuable enterprise as the market decline will enable it to invest a substantial portion of its cash in investments which will accelerate its long-term growth in intrinsic value.

We believe that restaurants that have easy-to-use digital ordering, delivery, and drive-thru will emerge stronger from this crisis, as their customers will become more accustomed to ordering home delivery on the company's mobile apps, and using the drive-thru or digital order ahead for takeout orders (including Chipotlanes). While we expect that **Chipotle** – the **Restaurant Brands** concepts of Burger King, Popeye's and Tim Horton's – as well as **Starbucks** will lose a substantial amount of sales during shutdowns, they will likely gain digital and delivery market share during this period, and will thereby emerge stronger from the crisis.

Chipotle's burrito and bowl offerings are ideally suited for delivery, and offer families a healthy alternative to cooking at home. We expect Chipotle's superb digital delivery offering should benefit as its customers order home delivery of the company's low-priced, healthy, high quality food. For Restaurant Brands' concepts, drive-thru, pickup and delivery represent about two-thirds of sales suggesting that they are well positioned to provide low-cost food in the current environment. Starbucks' superb digital offering, delivery, and no-touch pick up are well adapted to service its consumers' global coffee habit, particularly when compared with competitors who have not built digital and delivery offerings.

Lowe's should also emerge stronger following the crisis as it has the capital structure and cash flows to withstand any short-term negative impact on its business. As consumers spend more time in their homes, they have historically shown a greater propensity to do repair and other home-related upgrades for which Lowe's will be a beneficiary. As a provider of cleaning supplies, masks, goggles, protective equipment and clothing, and appliances, Lowe's is also an important supplier of crisis-related items. We expect Lowe's to emerge a stronger, more dominant and more profitable company after the crisis.

Fannie Mae and **Freddie Mac** have already proven themselves essential to the U.S. housing finance system, which is a critically important bulwark for the U.S. economy. The current disarray in the non-agency residential and rental housing mortgage market, which has recently occurred as a result of the crisis, will remind the Congress and the American people



of the critically important function that Fannie and Freddie perform during periods of economic stress. The crisis has also made manifestly clear the need to recapitalize Fannie and Freddie so that the private sector becomes the first loss capital in the housing finance system, which should provide even greater urgency for a recapitalization and privatization of the two companies. While we wait for the necessary steps for this to occur, both companies are quickly rebuilding needed capital through retained earnings. For these reasons, we believe that Fannie and Freddie will emerge as even stronger and more essential enterprises after the crisis.

The Howard Hughes Corporation has significant short-term exposure to the crisis. In particular, the decline in oil prices will negatively impact Houston, the location of the Woodlands and Bridgelands, two of HHC's master-planned communities. HHC's Summerlin master plan community will also be affected by the virus' impact on the casino and conference business in Las Vegas. The company's other assets will also be impacted to varying degrees. In order to mitigate these risks, on Friday, March 27th, HHC completed a \$600 million equity offering, the first such equity offering of any company since the crisis began. HHC was able to complete the offering as a result of a \$500 million investment from Pershing Square (\$432 million from PSH) and \$100 million from other long-term oriented shareholders.

The independent directors of HHC made a decision to raise capital to ensure the company would maintain a fortress balance sheet, now with more than \$1 billion of cash, in light of the potential short- to intermediate-term impact of the crisis on the company's business. We believe that HHC will continue to create substantial long-term value for its shareholders, and that its portfolio of small cities with large population inflows will remain highly desirable places to live and work. We therefore viewed the opportunity to increase our investment to approximately 30% of the company to be highly attractive at the current share price.¹⁰ While there is more short-term risk to HHC's business, we believe that this risk is more than compensated for by the opportunity to invest capital at the current valuation.

The hotel industry and **Hilton** have been highly impacted by the crisis as many hotels have closed or are experiencing very large declines in occupancy. As a result, we expect Hilton's revenues to decline over the next several or more quarters, and to begin to recover with increases in economic activity as the global economy reopens. After adjusting Hilton's intrinsic value for the impact on our valuation from reduced revenues and cash flows, we continue to believe that Hilton stock is highly attractive at current valuations. We also believe that the crisis will cause independent hotels to seek an affiliation with global brands like Hilton, which will contribute to the company's long-term growth. Hilton is well positioned to succeed because it has the best management team in the industry, a portfolio of great brands, a dominant market position, a capital-light economic model, and a strong balance sheet.

In all of our portfolio companies, we are fortunate in their being led by superb management teams who have the skills, leadership qualities, and adaptability to manage through these challenging times. We are extraordinarily grateful for their leadership.

We continue to expect that markets (and our performance) will remain volatile, and therefore, new opportunities may present themselves that are superior to investments we currently own. This may lead us to sell certain of our existing holdings including investments we recently purchased. We may also choose to reestablish similar or different forms of hedges or raise or deploy more cash based on developments with the coronavirus and other market factors. In other words, we are more likely to change our investment positioning and/or have higher portfolio turnover in this environment than we typically do.



We are in one of the most challenging periods of time for our country, and for the world. Tens of thousands of people have or will soon become severely sick, and many will die. Millions will lose jobs and struggle to regain employment. This is a global tragedy that could have been prevented with better long-term planning, which should have begun more than a decade ago. I have always said that experience is making mistakes and learning from them. And learn from this we must.

We are all incredibly fortunate to work alongside a superb team of talented, motivated, extremely high-quality human beings at Pershing Square. The recent market turmoil when combined with our transition to working from home would be a challenge to any company. I am proud to say that every team at Pershing Square rose to the challenge enabling us to flawlessly execute during this challenging period.

Thank you for your long-term commitment to Pershing Square. We are honored and fortunate to manage capital on behalf of investors who have committed to us for the long term.

Sincerely,

William A. Ackman

Citadel

Internal Memo — 3/27/2020

by Ken Griffin

Citadel Memo

3/27/2020

Dear Colleagues,

In recent months, we have all been impacted by the coronavirus pandemic. We are in an unprecedented moment of global distress as the entire world faces this common invisible threat. And when the chaos settles, we will be measured by the character we exhibit in our work and in our communities.

In the blink of an eye, we now find ourselves juggling countless new demands on our time, mental capacity and emotional energy. Amid great uncertainty, it is natural to feel thrust into a tailspin. Few of us have ever faced this level of uncertainty in our lifetimes, and the weight of a myriad of new demands will impact each of us differently. We will all have our moments.

From the outset, we have actively engaged with community leaders, policy makers and political leaders – all the way up to the highest levels of government – to provide assistance during this crisis. We were one of the first firms to mobilize significant on-the-ground aid and provided early funding for vaccine research. As the effects of the pandemic have since stretched far and wide, we have continued to engage in our communities to help our neighbors in need, from combating food insecurity and promoting the safety of our first responders, to advancing testing and treatment methods.

Now let me make this distinctly personal. We are in the midst of a global health crisis. Take time to make sure your parents – and if you are fortunate enough, your grandparents – and those most at-risk in your lives are well cared for. Likewise, as the effects of this situation persist in our communities, look for opportunities to support local businesses and to help those who are struggling. Treat others with respect, and go out of your way to show kindness to your neighbors. This has always been core to our culture.

This must be a moment we look back on with pride – a moment when we looked out for each other and put the interests of our community and our team first. This is what it means to be part of Team Citadel. Let us go forward with character, integrity and compassion – now is when it matters most.

Sincerely,

Ken

Elliot Management

Perspectives — 4/16/2020

by Paul Singer

PERSPECTIVES

The December 2018 downturn of between 15%-20% in global equity markets did not challenge the near-universal thesis of investors that policymakers, particularly central bankers, “have their backs,” and that nothing really stressful would be “allowed” to happen to their hard-earned (actually not) persistent one-way returns in stock and bond markets. Actually, December 2018 was a kind of Perils of Pauline (look it up) moment, where a downturn in overpriced and overleveraged stock and bond prices, purportedly triggered by modest rises in very low short-term interest rates, was quickly reversed when the head of the Fed, bowing and scraping, basically promised never to do such a dastardly thing (raising interest rates) again. No recession or financial crisis ensued, and a resumption of the stock and bond market levitation left the “new era of low risk and inexorable returns” belief intact.

In contrast, the financial market swoon from February 20th to March 23rd this year has provided a heavy bookend to 12 years of basically nonstop positive returns in global stocks, bonds and real estate. It has also provided a persuasive retort to the “stocks can’t go down, and if they do, then buying the dips will always work” mantra. We would say that minus 36% top to bottom (so far) in the S&P 500 (and similar declines in other global stock markets) in a little more than four weeks provides a decent platform for 5, 10, 15, and 20-year performance comparison analyses among different investment asset classes and money managers. These periods now include at least one “full cycle,” and also provide at least a cautionary subtlety to the previous certainty that stocks either could be bought at any price without fear or that a 20% downturn delivers good-old-fashioned proper bargains. But markets do not kowtow to anyone’s script (except sometimes to those of the Fed Chair or POTUS), and so after blowing through the minus 20% bargain basement last month, they went straight through to minus 36%, then straight up 21% eight days later to the end of the month. Let’s put it this way: Six trading days before the end of March, the S&P was down 26%, but it closed the month down only 13%. As this report is written, the U.S. stock market has rallied 31% from the March 23 low, which still leaves it down 16% from the high of February 19 and down 12% year-to-date.

What is truly interesting about long term performance comparisons at present is two bits of data: (1) the 20-year performance of stocks is notable because the return for the first 10 of those 20 years was *negative*; stockholders *lost money* for the period 4/1/00 to 4/1/10; and (2) in those 20 years, bonds made a higher return than stocks.

While it is near-universally believed that the global, particularly the American, economy was humming on all cylinders before being slugged flat by the virus, we believed that the pre-virus financial assets landscape was toward the high end of the riskiness scale. The record-high global leverage, the record-low government-manipulated interest rates, the \$20 trillion of purchased bonds and stocks still on the books of the major central banks from the non-stop emergency policies pursued for 10 years after the emergency was over, presented a highly risky and unsound picture. It is on that terrain that the virus landed.

The global economy is currently experiencing the deepest and quickest downturn in history (including the 1930s). Among the most surprising aspects of this situation is that most investors, Wall Street economists and strategists, business executives and governments were exceedingly

slow in identifying that a deep recession and vast economic shutdown was underway. The path to restarting the global economy will be a labyrinth, with no clear guidelines, and with different localities opening on different schedules based on different data, theories and policy approaches. A great deal of damage, some of it irreparable, is being done to the global economy. More below on all of these topics.

As this is written, there is no way of telling whether the minus 36% stock market waterfall decline is “enough,” and whether the subsequent sharp rally signals “*fini*” to the crash (the decline was sharp enough, with several days comparable to the 1929 crash, to justify the “crash” label). Since the actual economic downturn is exceeding in depth and impact – and probably will exceed in length – the 2008 experience, our gut tells us that a 50% or deeper decline from the February top might be the ultimate path of global stock markets. However, public policy has been marshalled with all its strength to do battle with a resumption of the market decline. Our job, and style, is not to pick tops and bottoms with precision (actually, not to pick them at all), but to have a portfolio that can make some money in normal times and *keep it* when the music stops for any reason, the timing of which is always a surprise even if you keep a sharp eye on the disc jockey.

Many investors feel that a surfeit of bargains has already emerged in the downturn, and they are busily deploying capital into these (perceived) bargain stocks and bonds. We certainly observe the price concessions, as well as the kind of illiquidity that enhances the ability of buyers to buy at what they consider to be sufficient discounts. But here is one measure of “value” which is pretty sobering: The price/sales ratio of the S&P 500 at the end of September 2007 was 1.64. At the end of March 2009, it was 0.82. At the end of March 2020, it was 1.86, down from 2.32 at the end of December 2019!

Perhaps in assessing the opportunity set we are too influenced by the 2008 decline and by our belief that bargains must exceed in attractiveness the wild underpricing of stocks and bonds that existed in late November and December 2008. However, there does yet not appear to be serious undervaluation (by our definition) in any meaningful size, and we recall (vividly) that *after* prices in 2008 got to *ridiculous* levels, *they proceeded to further collapse to insanely low levels* (and that is before taking into account the probability that the current recession significantly exceeds, in severity and possibly in length and impact, the 2008-2009 episode).

The potential opportunity set is primarily in credit. Of course, equities that have fallen 20%, 30% or 50% in a very short time can provide substantial upside, but in periods like this one, we prefer the additional downside protection of carefully researched debt. The Holy Grail (which presented itself in size in 2008) is to have credit positions in which we have so much confidence and which have so much convexity (asymmetric return profiles; much more upside than downside) that hedges are either not needed or can be relatively small. A great example was auto finance unsecured debt in 2008, which at the bottom was trading at levels that anticipated many more defaults than at any time in history. Such credit positions fell in price to many points below our “scientifically derived” bedrock-bottom prices, but we had a lot of confidence in the ultimate repayment of the debt.

In contrast, currently, despite the massive stimulus moves around the world and the unimaginably large new rounds of money printing, there is substantial uncertainty about the future viability of a

large range of businesses. Which businesses will eventually emerge stronger than ever, which will come back more or less as they were, and which will require very substantial changes to their business model in order to maintain some profitability (or even to survive)? It is very difficult to make a careful and realistic assessment of the timing and shape of the restoration of the global economy, the future financial condition of the companies whose securities appear to be bargains and the possible further downside of those securities. We are currently in the process of sorting through it.

THE VIRUS

First, and before all else, we must recognize that this calamity has brought about ongoing widespread misery and tragedy and imposed a heavy psychological toll on humanity. Many people around the world are suddenly without jobs and any means of support, and are experiencing or witnessing sickness and death from the disease the understanding of which is just being painfully learned. It is within this highly fragile new reality that everyone is living – and, crucially, in which decision-makers must choose and shape the path out of this dark situation.

In terms of markets, we have said, more than once, that there are consequences, and not just positive ones, that come with the increasing complexity and interconnectivity of the world. Rising debt and gigantic amounts of derivatives, which are contracts referencing and betting on the prices of assets; the global transportation system; the internet; the electric grid; and the supply chain, have all become more interconnected and complex. Each has its own set of implications of the first order, and then cascades of second-order, third-order and deeper effects.

For example, advances in air transportation have opened up the world to most of the global population for travel, business and networking, but they have also ensured that something like the current pandemic can spread across the globe in hours, not months, and outrun efforts to contain it.

Another example is the electric grid, which has literally created modern society but which is highly vulnerable. Perhaps its most dangerous vulnerability is to EMP, or electromagnetic pulse, which could be caused naturally or by humans. In 1859, an EMP episode (called the Carrington Event) caused by a solar flare caused disruptions to the global electric grid, but that grid was very rudimentary at the time, so there was not much disruption to global life. If that exact event (which is by no means at the outer limits of the potential severity of such events) recurred today, the impact would be extremely painful, as the world's functioning depends upon a working electric system.

Serious interference with the proper operation of the internet, either accidentally or intentionally by a hostile power, would have unimaginably negative consequences.

Just-in-time inventory practices work perfectly when things ... work perfectly, but stumble in periods like the present, during which supply chains are distorted and breaking. Disruptions are cascading around the world, and their impact is accentuated by the lack of cushion and inventory. Also, supply chains for many items necessary for our national military or health security have become concentrated and risky, as for example the world's reliance on China for pharmaceuticals

and rare metals. These factors will lead to significant re-thinking by many businesses and governments about their supply chains when the current crisis ends.

Health care systems throughout the developed world are hampered by the lack of redundancy and spare capacity, because those emergency preparations have been deemed too expensive as well as unnecessary. The world has been lulled into complacency by extended periods of normal or close-to-normal functioning, notwithstanding that serious health emergencies have emerged regularly throughout history and have periodically exacted an enormous cost from society.

The points are that complexity and interconnectivity cause brittleness, and people have short memories. Long-term vision is rare, and decades of smooth functioning encourage people to reduce cushion, eliminate spare capacity, increase leverage, rely on unsound and fragile structures (both physical and organizational), and neglect preparation for real adversity and volatility.

The virus pandemic is essentially shutting down the global economy. Policy responses across the world – both those oriented toward limiting the spread of the virus and those intended to mitigate the economic effects – have been spotty, highly variant, largely panicked and only partially effective. They are large, but at this point nobody can know whether they are large enough. “Whatever it takes” is quite a brazen statement, but it is partly a demonstration of power and partly a bluff. Even more obscured from view are the second- and third-order effects of the policy actions.

While there is much that is still not known about the virus, what seems clear is that it spreads easily from person to person, that it is contagious from people who have no or limited symptoms and that it has a significantly higher death rate than “regular” flu. It is said that outcomes are worse for old people and those with pre-existing conditions. Unfortunately, many young people, reading about the enhanced vulnerability of people more than 60 years old, interpret that as a “get out of jail free card” for younger people and an excuse to go about their lives in a pre-virus manner.

There is evidence that the virus may not like the extra ultraviolet light present in longer daylight hours and may diminish in the spring and summer, but spring in the northern latitudes is autumn in the southern. Until effective therapeutics are developed (hopefully in a few months) and/or a vaccine is developed (probably no less than 18 months), the virus will likely go coursing around the world for at least a couple of seasonal cycles until the world’s population develops something like “herd immunity.” The Spanish flu, which killed an estimated 50 million people worldwide, went through three definable cycles starting in the spring of 1918. While everyone – policymakers, citizens and investors – is looking for guidance on the science and on the data, one of the key factors in this situation is that the data (like everything else nowadays) is highly politicized. It is hard to separate the politics from the “truth” with regard to any particular expert, any particular slant on the situation and any particular recommended policy response.

There is substantial disagreement over whether the global economy should be shut down for a period of months in order to bring down the death rates and keep the global health care system from being overwhelmed (with the drawback of delaying the development of herd immunity by critical masses of people), or whether only more modest precautions (e.g., encouraging “social distancing” and other precautionary measures) are called for in an effort to keep the global economy functioning and allow herd immunity to develop somewhat faster. The second course

implies more near-term deaths (potentially at catastrophic levels), but possibly a shorter time to the end of the critical phases of the crisis. Only when targeted therapeutics and vaccines are developed and distributed will the crisis will be on a path to ending. Until then, it will be stop/start, where declines from peak numbers of cases give people hope, but then partial re-openings start new waves of disease before immunity is widespread enough to allow the disease to peter out.

One of the major questions that is impossible to answer at this point is how the social-distancing policies that have been put into place will unwind. Our guess is that restarting the global economy will be a patchwork of actions and edicts, occurring on timelines that elicit endless controversy, by policymakers and by the judgment of employers and workers, based on the evolving situation on the ground in different locations. Supply chains will probably come back much more slowly (and in an altered form) than anticipated because of the different policies of governments throughout the world. Our further guess is that the recovery (in the economy, not necessarily in financial markets) will not be steep and sharp, and may take many months or even years to get the wheels turning to a “new normal.”

ECONOMIC POLICY RESPONSES

Millions of Americans, and hundreds of millions of people globally, are suddenly out of work through no fault of their own. Most of them have little or no reserves and need immediate cash aid. Some governments are understanding that, and are quickly shoveling out cash. Regardless of the economic system (capitalism, socialism, authoritarianism, whateverism), this need is an urgent priority.

In addition to simply writing out checks to people who have been losing their jobs, other policies aim to alleviate cash burdens. These policies include moratoria on some mortgage payments and loans, and formal or informal forbearance policies on some rent or utility payments.

These policies are quite a bit more complicated than simply sending people money, the risks of which are diffuse, and will likely have many unanticipated consequences. By telling people they don't have to make mortgage, utility or rent payments, policymakers are reducing the revenues of mortgage servicers and lenders, landlords, electric utilities and other consumer-facing businesses. Most large providers of such services can lobby for government loans, guarantees or grants, but many medium and small businesses cannot.

In addition to the budgetary impact of grant programs (the amounts involved are simply gargantuan), there is also the issue of cronyism and governments picking winners and losers in the various forbearance permission programs. The immediate effect of the aid policy programs will seem helpful, but in the medium term there will be significant political impact as fights develop about inconsistencies and windfall gains and losses.

In the case of small landlords, mortgage servicers and lenders, and utilities, forbearance may turn into financial distress and bankruptcy as revenues are capped or truncated but costs march inexorably onward. Which brings us to the hundreds of thousands of small businesses (such as restaurants, bars, hair salons, shops) that temporarily will go out of business as revenues disappear in the lockdown periods. Some such businesses will be saved by policy moves, but many will

disappear. These are truly uncharted waters, but our judgment is that the widespread notion of a V-shaped recovery is highly fanciful. It seems more likely to be a \mathcal{G} -shaped recovery.

This is the first modern, truly global and interconnected crisis since World War II (surpassing even the 2008 crisis in scope), and although there is no blueprint to help guide our understanding of it, we tentatively wonder whether it would be useful to think of the economic and financial policy responses to this crisis as if they were occurring within the paradigm of a “planned economy” (Soviet Russia in the 1950s and 1960s? Mao’s Great Leap Forward?) that suddenly runs into unexpected conditions, with all the resulting disruption, waste, poverty, corruption and misallocation of resources that such conditions entail. Furthermore, when the immediate effects of this crisis are over and the global economy is more or less working again, how quickly will the political classes be eager to extend parts of the new stimulus package(s) with the encouragement of newly created special interest groups? Every new special interest (especially corporate interests) that is created by the various stimulus programs will represent a new vein of ore for politicians to mine for gold and silver.

One thing is for sure: The global economy coming out of the virus situation will be more indebted and more dependent than ever before upon “free money,” QE/MMT (Quantitative Easing and Modern Monetary Theory, meaning massive asset-buying by central banks and unlimited fiscal spending financed by central banks in their own currencies, respectively) and higher deficits in order to function.

WAITING FOR GOOD-DOUGH

In the play “Waiting for Godot” by Samuel Beckett, which premiered in 1953, two characters wait for the arrival of someone named Godot, who never arrives. In our version, Good-Dough is sound money, and its chance of arriving is just about as slim.

The reason that we have been harping on the failure of central banks to normalize monetary policy these past 10 years is that we were highly concerned about entering the next financial crisis/bear market/recession (whenever it might arrive) without the fluff, detritus and litter of the previous crisis having been cleaned up and scrubbed clear. To have the curtain go up for the “next show” on a stage where the stagehands are caught in the floodlights holding \$20 trillion dollars of bonds and stocks purchased under the one-size-fits-all monetary flood period, with interest rates at, near, and most significantly below, zero, is to start the next thrilling show deeply unprepared. The world’s major central banks continued emergency policies for 10 years after the emergency was over, with no theoretical or empirical support for doing so. Those policies resulted in a gradual slow-growth recovery coupled with dramatically rising securities and asset prices.

The reason this is important is that QE, ZIRP and NIRP are deeply unsound policies, and rely for their magical-seeming efficacy on naïve faith by citizens, investors and businesses that paper money is trustworthy no matter how much of it is whisked into being, and no matter what the return (or literal cost in the case of NIRP!) is from holding claims on it. Like any compelling “serial” on TV, we will start with a reprise of the highlights from the previous exciting episode: 2008. Too much debt, unsound financial institutions, oblivious corporate executives, and arrogant and clueless central bankers brought the world to the brink of financial extinction in 2008. Then,

so the story goes, these same central bankers morphed into heroes and saved the world with their monetary fire hose on “full crowd control” and “confetti” settings. That tsunami of newly printed free money lifted securities prices, deepened inequality and unleashed the political testiness that comes along with such a novel and distorted recovery, and it tested and kept testing the willingness of people to accept cotton-candy money at full value.

Sadly, when people (including those who should know better) do something stupid and reckless and are not punished, it is human nature that, far from thinking that they were lucky to have gotten away with something, they are encouraged to keep doing the stupid thing, keep believing the unbelievable and keep assuming that they were just plain wrong to be concerned about “old-fashioned” restraints (like sound money: Good-Dough). As we have pointed out *ad nauseam et beyondum*, doubling down on unsound policy just raises the stakes and the intensity of the future “payback.”

Inflation is generally rising price levels. Inflation can be caused by supply issues or blockages, excess demand, wars or various versions of money printing. It is normally hard to convince people to accept paper money (backed by nothing) that is being debased, and human history is full of examples of currencies that were debased and then fell precipitously in value. Debasement is not novel; it is a timeless way for sovereigns to attempt to pay less, or far less, on the obligations they have incurred. Usually it does not “work,” in the sense of permanently fooling people, because at some point people front-run the debasement, which turns into a tail-chasing episode that can, and frequently does, destroy people’s savings and make them really angry, in contrast to the desired result of fooling people into passively accepting the erasure of their assets (the governments’ obligations).

In the case of the post-2008 debasement, a combination of technological change, globalization and the use of the newly printed money to buy bonds has kept reported consumer price inflation in bounds and fed the narrative that monetary radicalism is really a panacea without risks and side effects. The inflation instead has gone into stock, bond, real estate and art prices and has exacerbated inequality. It actually has created more financial engineering than economic growth, but the sheer size of it (\$20 trillion of bond and stock purchases and zero percent and below interest rates) brought the global economy close to appearing to return to normal after 2009, albeit growing more slowly than before.

But the failure to normalize monetary policy prior to the next crisis (which is now hard upon us) ensured that the next crisis would bring the unsound (and experimental) monetary policy to even greater uncharted heights (depths?) of unsoundness. Prior to 2008, central bank balance sheets were clean and interest rates were sort of low but normal. In contrast, just prior to the virus a couple of months ago, \$20 trillion of purchased stocks and bonds were still on central bank balance sheets, and Japan, Europe and Switzerland had policy interest rates below zero.

One can only imagine what is going to happen to central bank balance sheets and global interest rates now, given that the global economy is screeching to a halt. Is the \$20 trillion of central bank securities holdings going to rise to \$30 trillion? Almost assuredly yes. How about \$40 trillion? \$50 trillion? Who knows? Are short-term policy rates going to be negative everywhere? Is all this going to matter? Will there be a serious deflationary period that will cause governments to pour

even more fuel on the fire? Following a brief deflationary period, is the even-more-radical monetary flood going to create a tipping point following after which fiat money is rejected and hyperinflation begins, a process which could be self-reinforcing and serve to wipe out the real value of global savings and send consumer prices, commodity prices and real estate prices to the moon?

Even if that is the path that governments are following (wipeout of savings, attempted wipeout of debt), and you try to align your businesses and assets on that path, things will be much more complicated than you think. Take real estate, for example. Of course it is “real,” and you might think that it is a slam-dunk to preserve value in a serious inflation. But commercial real estate is a peculiar asset. It looks real because kicking it can break your toes, but it is generally highly leveraged and depends upon the relationship between rents and costs. If there are rent controls or moratoria, formal or forced by circumstances, and no controls on costs, commercial real estate can produce rapid insolvencies. A little thought will reveal many more examples of the complexities involved in a period of monetary destruction such as the one that is possible in the near future.

In addition to the monetary excesses, almost all developed countries are growing their debt and their unfunded future promises (retirement, health care and other obligations) to record amounts. Currently, to fight the deepening recession, not only are central banks restarting QE without limit, they are also cutting already-low rates, and their governments are cranking up massive deficit-spending plans.

There are many times in a long investing career that one hears, “Where will this all end?” We never thought that was a good question, because there is no “end,” just a succession of real-world events and market actions stimulating policy reactions. Politicians love markets going up, and if there are no countervailing considerations, like rapid consumer price inflation, then they will try to keep markets high and rising and interest rates low forever.

The world is currently in a deep recession from which it will be complicated to recover. Emergency policy is appropriate. Deficit spending and massive monetary expansion are called for to prevent total collapse. Holes in people’s basic ability to feed themselves must be filled with alacrity. However, the new fiscal and monetary policies currently underway are the largest peacetime policies of their type ever enacted, and when piled on top of the existing, pre-virus, central bank policies, the top of the pile of debt will likely reach the heavens. We have a hard time imagining what will occur in policymakers’ minds post-COVID-19 to make them responsible stewards of monetary soundness, but monetary soundness is the key to financial system soundness, confidence in economic stewardship and fiat money, and the inauguration of a new period of sound, non-inflationary growth.

They got away with unsound policy for 12 years. Now they think they have the magic formula, the one-size-fits-all nostrum that enables them to control the yield curve and to promise and deliver unlimited amounts of money without cost and without risk. They are wrong. They are just as wrong as when they said that recessions and financial crises are things of the past.

The new element in the equation of the forces which will shape inflation and deflation in the near future is supply-chain blockages. Prior to the virus, sluggish growth plus globalization and

technological change, together with bond-buying by central banks, kept producer and consumer prices calm. It gradually led to a widespread (crazy) belief that inflation is an historical artifact, not a modern possibility. In the current situation, the global economy is plunging in activity, and this would normally be sharply deflationary in terms of producer and consumer prices. However, several factors might change the equation, probably when the economy bottoms but possibly prior to that time. One factor would be very significant supply blockages all through the global supply chain. Additionally, the global supply chain is likely to undergo dramatic changes (as companies and governments recognize the national security as well as economic risks of sole-source or limited-source critical products and services) that will generally increase the cost of goods to the consumer. Other very important factors are that the existing already-radical monetary policies have been dramatically ramped up, and fiscal policies have now gone full MMT with the new huge stimulus bills (which passed without even a discussion of how to “pay” for it). “Paying” for things with “real” money is now a quaint, outdated concept.

Money is going to hell. Good-Dough is not coming. As usual, timing and shape TBD. Stay tuned for the next exciting chapters in this serial.

MEMORIES

Human memory is interesting. In times like these, the shortness of our memories becomes readily apparent. The events and patterns of the past glitter with many important analogues and lessons, but most people, including people in positions of influence or power, don’t care to mine the collective memory. Below are some illustrative nuggets on this topic.

The Carrington Event was in 1859. The Spanish Flu was in 1918-1920, causing about 50 million global deaths. World War II ended in 1945. Krakatoa blew up in 1883, with tremendous global effects on the climate. Another volcano, Tambora, erupted in 1815, causing 1816 to be the “year without a summer.” These were all highly impactful events at the time, but similar events now would be so much more impactful due to the increased interconnectedness of the modern world.

The above events occurred a long time ago, but the Global Financial Crisis (GFC) occurred in 2008, only 12 years ago, and the only fix that has taken place to avoid a recurrence is the improved capitalization of global banks. It is good that the big banks are much sounder than before, but in just about every other respect, the highly accessible historical lessons of markets, debt, money, inflation and economic systems have been stubbornly ignored post-GFC. The GFC-style fixes (free money and massive money printing) are firmly currently underway in much larger size than the policies which addressed the GFC, with policymakers projecting the aura (real or feigned) that these policies will “work” as they purportedly did post-GFC, with no discernible “side effects,” because policymakers think the GFC fixes performed well. There is no way of telling when a massive amount of unjustified confidence in something will break. However, we do believe that when it breaks, it will happen all at once, and the consequences will be significant.

INFLATION

An important part of the policy response to the virus is asset-buying by central banks (with newly printed money). It is not only government bonds, but also corporate bonds and equities that are

being purchased in very large size in Japan, the U.S. (so far not buying equities, but reportedly buying junk bonds) and Europe. This asset-buying and associated yield curve control is known as financial repression. Despite all the central bank buying, bonds will not hold up near 0% yield if inflation starts accelerating and rises from 2% to 3% to 4% or higher. Most readers will say, “How can inflation possibly move up? It is a depression out there.” As a first-order effect, we mostly agree with that, but there are aspects of this peculiar crisis that could produce upside inflation surprises. There are significant disruptions in the global food supply chain, and those disruptions (which could include or produce export controls, labor disputes and outages, border issues preventing labor workers from harvesting crops and other disruptions) could cause significant pockets of high food price inflation and limited availability, which in turn could cause social unrest and further disruption. Nobody is prepared for this kind of inflation, and if it develops, financial repression is not going to hold bond prices up at the stupid yields currently prevailing.

Under such conditions, people may not want to hold money, and the system could go towards barter. This would be very inefficient, because you would have to find somebody to do a deal with. Extreme monetary policy is the correct move today in the midst of the emergency, but it will not be the correct move a year or two from now. Ten years ago, policymakers liked monetary extremism so much that they kept going with it and even accelerated it after the emergency. The result last time was not hyperinflation, obviously. But hyperinflation, a rejection of fake money and fake-knowledgeable central bankers, is possibly lurking just out of sight.

Central banks have been very focused on preventing credit collapse and deflation these last 12 years. We never thought that deflation was a realistic possibility, and we railed against the continuation, long after the emergency was over, of emergency monetary policy. Now there is a new emergency, and at this moment, emergency monetary policy is completely appropriate. But we want to remind people of a few truths. On form, we think it is very unlikely that central bankers will move to normalize monetary policy after the current emergency is over. They did not normalize last time, and the world has moved demonstrably closer to a tipping point after which money printing, prices and the growth of debt are in an upward spiral that the monetary authorities realize cannot be broken except at the cost of a deep recession and credit collapse. The point worth making is that credit collapse, although terrible, is not as terrible as hyperinflation in terms of destruction wrought upon societies. Capitalism, which is economic freedom, can survive a credit crisis. We don't think it can survive hyperinflation. We think that there are a number of really good reasons to stringently try to protect the purchasing power and trustworthiness of fiat money, especially the primary reserve currency: the almighty dollar. But chief among those reasons is to keep a good distance away from the tipping point in which confidence is destroyed.

GOLD

This is a perfect environment for gold to take center stage. Fanatical debasement of money by all of the world's central banks, super-low interest rates and gold mine operation and extraction issues (to a large extent related to the pandemic) should create a fertile ground for this most basic of all money and stores of value to reach its fair value, which we believe is literally multiples of its current price. In recent months, gold has gone up in price to some degree, but we think that it is one of the most undervalued investable assets existing today. There is nothing else that has its historical and fundamental characteristics, and we think that it is only beginning its inexorable, but

impossible to time and place boundaries around, uptrend. The fact that it is so under-owned by institutional investors is astonishing to us in light of the obsessively inflationary policies being pursued by central banks around the world.

From the world Gold Council: “Gold is the only reserve asset that bears no political or credit risk, nor can it be devalued by the printing presses or extraordinary monetary policy measures. The yellow metal is insulated from income inequality, polarization of political parties, trade disputes, deteriorating government budgets, rapidly aging populations, massive growth in unfunded liabilities and counterparty risk.”

Emerging and developing economies hold only 5% of their total reserves in gold, compared to a 16% share held by the developed world. The share of gold in total global reserves has fallen from 13.5% to 10.6% over the last 20 years. Institutional investors around the world own basically zero gold.

Gold today, despite its modest run up in recent months, is the answer to the question: Is there an asset or asset class which is undervalued, underowned, would preserve its value in a severe inflation, and is not adversely affected by COVID-19 or the destruction of business value that is being caused by the virus?

CHINA

In a breathtakingly short period of time, the global perception of China has morphed to a significant degree. Just a few months ago, concerns about China centered on bad debt, corruption, IP theft, a slowdown in its rate of growth, and unfair trade practices. The U.S. had engaged in a kind of trade war with China, and the sporadic and evolving nature of that “war” created waves of optimistic and then pessimistic views in the West about the medium- and long-term relationship with China, the terms of trade, and China’s long-term geopolitical ambitions.

In just the last few weeks, these concerns have shifted to add an entirely new set of concerns, principally about the truth concerning the scope of the virus in China, the prospects of China re-opening parts of its economy, and the shape of the relationship between China and the rest of the world post-virus.

Whether or not a significant number of Chinese factories and businesses will come back on line in the next few weeks, a major question faces every non-Chinese business that has done business with China, has located in China, is supplied with cheap goods from China, or relies on China for part of or a significant part of its supply chain: Should we go back to China, build plants in China, depend on China as primary or sole supplier? The answer to these questions is not straightforward and may depend on governmental actions in the West and on the risk assessments of Western businessfolks. Questions about partnering with or doing business with China were seriously debated before the virus, and they are even more relevant in light of the virus and the damage it is causing. The virus and the questions about doing business with China could do to international trade what tariffs could only have dreamed of doing.

THIS IS MONEY MANAGEMENT?

We will repeat our prior expressed view that index investing is not managing money at all. Failing to select particular assets, companies and managements, and delegating all decisions to the index constructors and unaccountable academics rather than to money managers, is something that “investors” get away with as long as the asset classes rise obediently (and higher and faster than pitiable “actively-selected” assets) on their tether to central bankers.

So who is “managing” your money? Can investors please commit to remembering this period (as well as the period just a few days before quarter-end when the stock markets were down 33% YTD, not 20%) when they are thinking about whether they need to be broadening their focus beyond the comforting assumptions of the halcyon days of the Fed-fueled pre-virus period these last 10 years?

When you are managing money that way, you are heavily exposed to the periods when correlations go to 1.000 and diversification disappears. What other realm of human life has such a gigantic amount of income, salaries, money flow – and so little value – as herded and benchmarked money management in times of crisis? What is the value of all of the parts of the money-management ecosystem when the value of portfolios plunge 20%, or 36%, or another bigger number?

The virus was “unpredictable” and would have caused serious damage even to a low leverage economic system with conservative management by moderately competent policymakers. However, when an economic system piles together kindling, combustible materials (record leverage), very high asset values, careless investors and uninformed politicians, and then a spark is lit, is the enormous economic damage that follows really “unpredictable?” We think not.

This needs to be savored: In a *March 26th* interview on NBC’s “Today” show, current Fed Chair Powell said, “We may well be in a recession,” but “there’s nothing fundamentally wrong with our economy,” he added. “People are being asked to step back from economic activity ... so in principle if we get the virus spread under control fairly quickly then economic activity can resume.” On March 26, we “*may well be*” in a recession??

The fact is that the steepest and deepest recession since the 1930s is underway, and because of cascading destructive effects, the global economy will take months if not years to restart and return to anything like a “new” normal. The Fed and other central bankers are just pouring liquidity on the compost heap, hoping it will work. Whether it works or not, they will (on form) claim victory if financial markets go up for a while.

There is “active” money management, and a bunch of that is sticking close enough to the indices that “underperformance” won’t prod impatient investors to “save the fees” by going “full Monty index.” Then there is “*really* active money management” which actually represents trying to make money in a different way, by attempts at clever combinations of securities, by influencing outcomes, by combining disparate bodies of knowledge, by manual efforts. Isn’t it a precious resource to be attempting to create value in a different way rather than being at the mercy of market changes, rule changes and the whims and fears of central bankers? Shouldn’t such efforts be

applauded, nurtured, placed into portfolios like heirloom objects in contrast to “regular,” indexed, benchmarked, tightly competitive, running-scared investing? Our answer is yes.

OBLIVIOUS

How did the world’s financial markets miss the slowest-moving black swan in history? Mid-February was really, really late to be bulling stock markets up to the highest prices (and close to the highest valuations) in history. This thing (the virus and attendant disruption) was coming down the pike hard and fast, even if its ultimate shape was not in sight. We have made plenty of mistakes, including in the last few months, but we think we are right to use the word “oblivious” to describe this lack of awareness. Markets have been seemingly shortening their prediction cycles to the period just right in front of investors’ noses. Most investors seem to have said (in their portfolio allocations) that as long as the Fed has our backs, everything will be fine. The virus was ignored for quite a while after it was obviously a mega-event. What has happened in the last 20 years to cause markets to lose predictive value? Maybe at least a partial answer is the rise of benchmarking and tight short-term performance requirements. When the clients define the shortfall of hedge fund performance below the performance of a runaway 12-year stock bull market as “poor performance,” you know that the table has been set for counterproductive portfolio construction in different kinds of market environments.

Twenty or thirty years ago, most investors thought a lot about the future prospects of individual companies and businesses, with some thinking about macro conditions as well. Had those investor attitudes existed today, it is likely that many investors would have understood in December or early January that the virus was going to have major effects on the prices of their holdings, and the general market would probably have quickly reacted negatively to the developments in China, and certainly would have done so sooner than the end of February. But now everything is an asset class, a theory, an algorithm. Companies in China, Argentina, and South Africa are inserted into mainstream indices, without any regard to the rule of law and the nature of ownership in these places, and voila, millions of investors have to buy them regardless of whether they want to or not!

Is the only time that good hedge funds (that make money in a different way, with lower variability of return) are appreciated is when global stock markets are beating investors down?

Imagine a hypothetical hedge fund on December 31, 2019 that has a good chance, through whatever combination of strategies, of making “only” a 6% forward net annualized rate of return over full cycles, with 1/3 the volatility of the stock market. We think that is actually pretty good (although at our particular fund we hope to do a bunch better than that), but our guess is that such a profile would be waved off as inadequate. Yet what do institutions think the forward rate of return in stocks will be from current levels? Can it actually be more than 6%-8% compounded? Unlikely, in our view. Thus, the 6% return with 1/3 of the volatility of the stock market to be generated by our hypothetical hedge fund example sounds pretty good, particularly with the high-quality fixed income alternatives yielding a whopping 1% annually. It is a good time in the capital markets cycle to be closely examining investment goals, assumptions, practicalities and the choices available to investors. We surmise that the overwhelming bulk of investors have basically the same portfolio: long positions in global leveraged (or heavily leveraged, or double leveraged by margin debt or private equity capital structures) equities, listed and to-be-listed.

SURPRISE

Should it be a surprise that stocks go straight up and then crash straight down? Which part of “record prices, record valuations, record leverage, record derivatives trading and record complexity” should investors be excused from understanding? Any outright long investor who is not waking up in the middle of the night sweating and worrying whether there will be a next leg of the bear market (despite the desperate and gigantic policy moves) is either Cool Hand Luke or oblivious.

We are not in the business of calling market turns. Why did most managers, economists, strategists and policymakers miss it? Certainly as the virus was getting underway, advisors should have been incorporating it into their thinking. Certainly as the global economy started shutting down, advisors should not have been upgrading their recession probability forecasts “from 20% to 25%” and modestly downgrading their Chinese growth forecasts “from 6.1% to 5.6%.” Maybe investors DIDN’T miss it. Maybe they actually thought that no matter what happens, the authorities want stocks to go up, and that is all you need to know.

The central bankers, particularly at the Fed, should be ashamed of themselves for fostering that belief, and for allowing the policy mix to be so skewed toward free and (overly) plentiful money. The solution is now pouring unlimited money into the boiling cauldron. MMT has come along just in time to justify everything. Not in productive ways, not in the building of useful infrastructure, not doing a better job of educating our workforce so we can grow like crazy, but just to save the screwed-up system that we have, just to hold things together. Helicopter money has made the job of active investing harder, and the suppression of interest rates by central bankers lowers the forward rates of return for everyone. You might say, “But it has enhanced the to-date rate of return.” We would retort, “That is true, but despite the artificially enhanced to-date rates of return in bonds and stocks, net debt has skyrocketed, pension plans are universally underfunded and developed world infrastructure is oriented toward political pet projects and is inadequate to support needed economic growth going forward.”

April 16, 2020

Operators

JP Morgan (Jamie Dimon)

Letter to Shareholders (2019 Annual Report) — 4/5/2020

Amazon (Jeff Bezos)

Letter to Shareholders (2019 Annual Report) — 4/15/2020

Netflix

Letter to Shareholders (2020 Q1 Earnings) — 4/21/2020

Pinduoduo (Colin Zheng)

Letter to Shareholders (2019 Annual Report) — 4/25/2020

JP Morgan

Shareholder Letter (2019 Annual Report) — 4/5/2020

by Jamie Dimon

Dear Fellow Shareholders,



Jamie Dimon,
Chairman and
Chief Executive Officer

As we prepare this year's annual letter to shareholders, the world is confronting one of the greatest health threats of a generation, one that profoundly impacts the global economy and all of its citizens. Our thoughts remain with the communities and individuals, including healthcare workers and first responders, most deeply hit by the COVID-19 crisis.

Throughout our history, JPMorgan Chase has built its reputation on being there for clients, customers and communities in the most critical times. This unprecedented environment is no different. Our actions during this global crisis are essential to keeping the global economy going and will be remembered for years to come.

In these annual letters, I usually cover a range of topics, including a review of JPMorgan Chase's principles, priorities and performance, as well as the broader geopolitical issues facing our company and the most critical public policy issues

affecting our country. When the time is right and the future is clearer, I will provide a more complete and current view on how this crisis might change our strategies around how we run the company, work with our clients and governments, and develop public policy solutions. However, right now, as we deal with the spiraling effects of this pandemic, I want to focus on what we as a bank can do to remain strong, resilient and well-positioned to support our colleagues, clients, customers and communities across the globe.

Looking back on the last two decades – starting from my time as CEO of Bank One in 2000 – the firm has weathered some unprecedented challenges, as we will with this current pandemic, but they did not stop us from accomplishing some extraordinary things. Once again, you should know how grateful and proud I am of our more than 200,000 employees around the world. I also want to thank Daniel Pinto, Gordon Smith, our Operating Committee, our Board of Directors and our senior leaders for the exceptional leadership they have shown under the most difficult of circumstances.

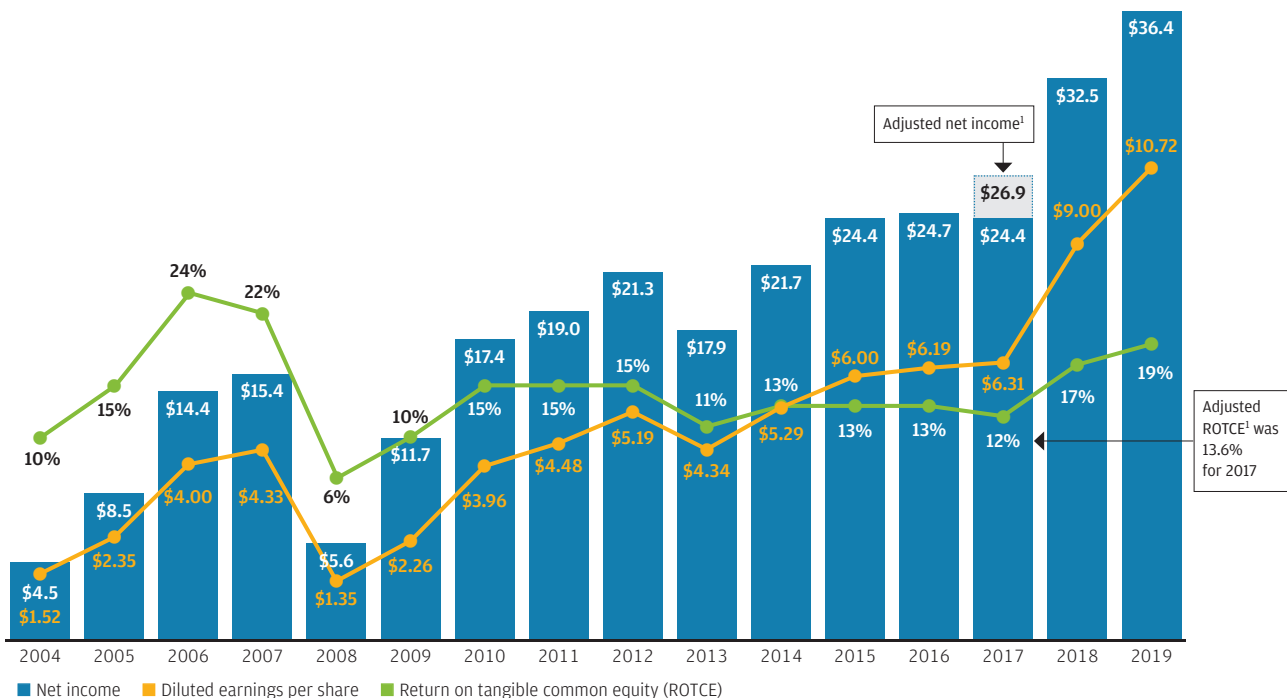
We entered this crisis in a position of strength. 2019 was another strong year for JPMorgan Chase, with the firm generating record revenue and net income, as well as setting numerous other records across our lines of business. We earned \$36.4 billion in net income on revenue¹ of \$118.7 billion, reflecting strong underlying performance across our businesses. We now have delivered record results in nine of the last 10 years² and are confident we will continue to do so in the future, though it should be expected that our earnings will be down meaningfully in 2020. Our largest businesses grew revenue and net income for the year, while the firm continued to make significant investments in products, people and technology. We grew core loans by 2%, increased deposits overall by 5% and generally broadened market share across our businesses, all while maintaining credit discipline and a fortress balance sheet. In total, we extended credit and raised capital of \$2.3 trillion for businesses, institutional clients and U.S. customers.

¹ Represents managed revenue.

² Adjusted net income, a non-GAAP financial measure, excludes \$2.4 billion from net income in 2017 as a result of the enactment of the Tax Cuts and Jobs Act.

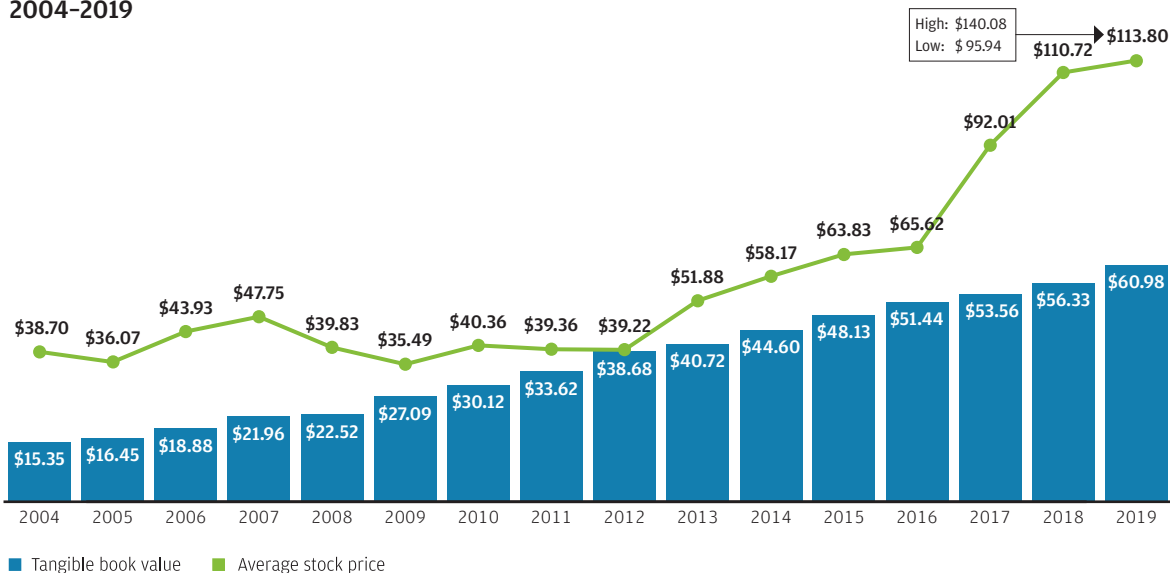
Earnings, Diluted Earnings per Share and Return on Tangible Common Equity 2004-2019

(\$ in billions, except per share and ratio data)



¹ Adjusted net income, a non-GAAP financial measure, excludes \$2.4 billion from net income in 2017 as a result of the enactment of the Tax Cuts and Jobs Act.

Tangible Book Value and Average Stock Price per Share 2004-2019



JPMorgan Chase stock is owned by large institutions, pension plans, mutual funds and directly by individual investors. However, it is important to remember that in almost all cases, the ultimate beneficiaries are individuals in our communities. Approximately 100 million people in the United States own stock, and a large percentage of these individuals, in one way or another, own JPMorgan Chase stock. Many of these people are veterans, teachers, police officers, firefighters, retirees, or those saving for a home, school or retirement. Your management team goes to work every day recognizing the enormous responsibility that we have to perform for our shareholders.

While we don't run the company worrying about the stock price in the short run, in the **long run** our stock price is a measure of the progress we have made over the years. This progress is a function of *continual* investments, in good and bad times, to build our capabilities – our people, systems and products. These important investments drive the future prospects of our company and position it to grow and prosper for decades. Whether looking back over five years, 10 years or since the JPMorgan Chase and Bank One merger (15 years ago), our stock has significantly outperformed the Standard & Poor's 500 Index and the Standard & Poor's Financials Index.

Bank One/JPMorgan Chase & Co. tangible book value per share performance vs. S&P 500 Index			
	Bank One (A)	S&P 500 Index (B)	Relative Results (A) – (B)
Performance since becoming CEO of Bank One (3/27/2000–12/31/2019)¹			
Compounded annual gain	11.5%	5.9%	5.6%
Overall gain	688.3%	210.8%	477.5%
	JPMorgan Chase & Co. (A)	S&P 500 Index (B)	Relative Results (A) – (B)
Performance since the Bank One and JPMorgan Chase & Co. merger (7/1/2004–12/31/2019)			
Compounded annual gain	12.2%	9.2%	3.0%
Overall gain	499.2%	290.2%	209.0%
Tangible book value over time captures the company's use of capital, balance sheet and profitability. In this chart, we are looking at heritage Bank One shareholders and JPMorgan Chase & Co. shareholders. The chart shows the increase in tangible book value per share; it is an after-tax number that assumes all dividends were retained vs. the Standard & Poor's 500 Index (S&P 500 Index), which is a pretax number that includes reinvested dividends.			
¹ On March 27, 2000, Jamie Dimon was hired as CEO of Bank One.			

Stock total return analysis

	Bank One	S&P 500 Index	S&P Financials Index
Performance since becoming CEO of Bank One (3/27/2000–12/31/2019)¹			
Compounded annual gain	12.8%	5.9%	4.4%
Overall gain	988.2%	210.8%	132.9%
Performance since the Bank One and JPMorgan Chase & Co. merger (7/1/2004–12/31/2019)			
Compounded annual gain	11.5%	9.2%	4.1%
Overall gain	441.9%	290.2%	85.6%
Performance for the period ended December 31, 2019			
Compounded annual gain			
One year	47.3%	31.5%	32.1%
Five years	20.5%	11.7%	11.1%
Ten years	15.6%	13.6%	12.2%

These charts show actual returns of the stock, with dividends reinvested, for heritage shareholders of Bank One and JPMorgan Chase & Co. vs. the Standard & Poor's 500 Index (S&P 500 Index) and the Standard & Poor's Financials Index (S&P Financials Index).

¹ On March 27, 2000, Jamie Dimon was hired as CEO of Bank One.

The results shown above use our stock price as of December 31, 2019. If you compare that with our stock price as of March 31, 2020, you would see a dramatic change. For example, the overall stock price gain from the date of the JPMorgan Chase and Bank One merger was 442% at the end of last year, but it dropped to 252% three months later. While that's still far better than many companies' performance, it illustrates the volatility of returns.

Unlike past letters, the placement of charts about the performance of our lines of business and our fortress balance sheet is different – they can be found in an appendix following this letter to peruse at your leisure. Instead, I am going to focus my comments in the rest of this letter on issues that relate to our current crisis. And while I enjoy sharing my opinion on many other matters, I will avoid doing so this year.

Within this letter, I discuss the following:

Dealing With an Extraordinary Crisis

1. We go to extraordinary lengths to help our customers – consumers, small businesses, midsize companies, large corporations, and state and local governments.
2. We take excellent care of our employees.
3. We make extraordinary efforts to lift up our communities, especially in challenging times.
4. We are transparent with our shareholders: What they should expect regarding our financial and operating performance in 2020.
5. We are working closely with all levels of government during this crisis – and while we will participate in government programs to address the severe economic challenges, we will not request any regulatory relief for ourselves.
6. We need a plan to get safely back to work.
7. We need to come together: My fervent hope for America.

DEALING WITH AN EXTRAORDINARY CRISIS

A corporation – essentially any institution – is a living, breathing organism made up of people, technology, institutional knowledge and relationships and is generally organized around mission and purpose. Entering into a crisis is not the time to figure out what you want to be. You must already be a well-functioning organization prepared to rapidly mobilize your resources, take your losses and survive another day for the good of all your stakeholders.

No matter the challenge, we manage our company consistently with principles that have stood the test of time. I have written about these inviolable principles often – the need for extremely talented and motivated employees; a fortress balance sheet that allows us to invest in good times and in bad times; clear, comprehensive and accurate financial, risk and operating reporting to

let us make quick and accurate decisions; a devotion to our customers and communities; and continuous investing in technology to better serve both our employees and our customers. (These principles also underlie an organization’s preparedness for tough competition – I was going to write this year that the *competition is back* in all of its facets. There’ll be more to come on that next year.)

We are there for our customers, employees and communities in good and bad times – we are a port in the storm. It is in the toughest of times that we need to use our capital and liquidity to help clients – large and small. COVID-19 is one of those extraordinary times. Below are some of the things we are doing to help our company and our customers during this global crisis.

1. We go to extraordinary lengths to help our customers – consumers, small businesses, midsize companies, large corporations, and state and local governments.

First and foremost, we have to be prepared to operate under extremely adverse circumstances.

The significant economic fallout from this crisis reinforces the critical need to keep the global financial system fully functioning – and we recognize that our firm is an important part of the global economy.

Therefore, we incorporate plans for resilience in everything we do – resilience for hurricanes, data center failures, cyber attacks and other issues. And while we had not envisioned the effects of a pandemic like this one, all of this preparation has paid off – and we have been able to accomplish far more and far more quickly than we originally thought possible. It is absolutely essential that we be up and functioning for all of our customers *each and every day*.

How else would we process \$6 trillion in payments or buy and sell approximately \$2 trillion in securities and foreign exchange transactions for our clients on a daily basis? And how else would we raise more than \$2 trillion of credit and capital for our clients each year? Our branches, collectively, have 1 million customer visits each day, and our combined credit card and debit card transaction volume totals \$1.1 trillion a year.

During this crisis, we have been utilizing our disaster recovery sites and implementing alternative work arrangements globally. We now have more than 180,000 employees working from home (and quite effectively), including traders, bankers, portfolio managers,

and operations and call center teams across the globe. We are ensuring they continue to operate at the highest standards with the proper technological tools and access so they can serve their clients safely and seamlessly. Over the past few weeks, we have had nearly 150,000 concurrent virtual sessions – nearly five times our pre-pandemic average – and we have capacity in reserve to support significantly more demand if necessary.

We're taking significant steps to help our consumer customers.

After Superstorm Sandy, Hurricane Harvey and other devastating natural disasters around the globe, after wildfires ravaged California towns and after a number of other tragic events, we stepped up for our customers. Today, we are doing the same *across the country* as we work individually with customers facing COVID-19-related hardships.

We have been helping our customers, who tell us about their financial struggles as a result of the crisis, and are offering relief measures such as:

- Providing a 90-day grace period for mortgage and auto loan/lease payments and waiving any associated late fees.
- Removing minimum payment requirements on credit cards and waiving associated late fees.
- Not reporting payment deferrals such as late payments to credit bureaus for up-to-date clients.
- Continuing to responsibly lend to qualified consumers.
- Waiving or refunding some fees, including early withdrawal fees on certificates of deposit.

You can learn more about our customer response at: www.chase.com/stayconnected.

Of our approximately 5,000 Chase branches, we have managed to keep three-quarters of them open – and safe – for our customers who need our services. In every one of our markets, almost all of our 2,300 branches with drive-up windows have remained open for business, allowing people to maintain a safe distance. Our 17,000 bankers have continued to take appointments and proactively reach out to customers – helping them manage their finances and use our digital tools – often letting customers stay home. In addition, the vast majority of our 16,850 ATMs are well-stocked and still functioning to provide needed cash to our customers. Our call centers have not fared as well; many of them have been effectively shut down by local restrictions. As the volume of calls has increased from customers seeking assistance, hold times have also increased. We have mobilized quickly to address this issue, reminding customers that our digital self-service capabilities are always available for them to check balances, deposit checks or make payments. Additionally, we have built new tools – digital and electronic – to allow customers to request relief without waiting for a specialist. And we are making it possible for our displaced phone specialists to work from home.

We are also taking significant action to support businesses – small, midsize and large – and state and local governments.

Clearly, some clients may be much more vulnerable than others – for example, transportation companies, hospitality enterprises, hospitals, utilities and, in particular, small businesses that do not have enough capital to withstand sudden and sustained downturns in income. JPMorgan Chase Institute research reveals that 50% of small businesses have less than 15 cash buffer days, reinforcing why small businesses are being heavily disrupted by the current crisis and

will feel the effects for a significant period of time – even as more capital from the recent federal stimulus program reaches them.

To support businesses during this current crisis, we are doing the following:

- Prudently extending credit to businesses of all sizes for working capital and general corporate purposes. For example, in the past 60 days alone, we have extended \$950 million in new loans to small businesses.
- Waiving and refunding fees for those businesses in need and finding ways to help more small businesses through resources available at the Small Business Administration.
- Servicing clients with additional credit through revolving facilities, when appropriate, and stepping in to try to help with credit when others can't or won't.
- Continuing in the ordinary course of business to sustain consumers, businesses and communities with about \$500 billion of credit and capital raised *every quarter*.
- Continuing to maintain undrawn revolving commitments in our wholesale businesses, which totaled approximately \$295 billion as of the close of business on March 31, 2020. Companies have *already drawn down more than \$50 billion* of their revolvers to prepare themselves for the crisis (this already dramatically exceeds what happened in the global financial crisis). Many others have requested additional credit, which we have been offering judiciously – *more than \$25 billion of new credit extensions* were approved in the month of March alone.
- Continuing the issuance of bonds for highly rated companies (\$85 billion) – it may surprise you that the first quarter of 2020 will be *our largest quarter for investment grade issuance*, led by J.P. Morgan.

- Continuing to support vital institutions to keep our communities strong: Increased funding in March included, for example, \$1.9 billion for hospitals and healthcare companies, \$270 million for educational institutions, \$360 million for nonprofits, and \$240 million for state and local governments.
- Continuing to fund construction projects essential to our communities (affordable housing, food banks and grocery stores) through our \$5 billion commitment.

Recognizing the extraordinary extension of new credit, mentioned above, and knowing there will be a major recession mean that we are exposing ourselves to billions of dollars of additional credit losses as we help both consumer and business customers through these difficult times. (We will provide more detail on these actions later in this letter.) Of course, we are in continual contact with our regulators about our actions and efforts.

We stand ready to assist the government in implementing stimulus package benefits to support the economy.

We applaud the speed with which the federal government and the Federal Reserve (the Fed), as well as other central banks around the world, put together a stimulus package and other funding benefits to help individuals, businesses, and state and local entities across the United States and beyond. Much remains to be done to assure these resources can be quickly and effectively rolled out. We hope to be at the forefront of using this assistance *to help our customers* get through what is certain to be a difficult next few months. We will not use this relief funding for ourselves.

2. We take excellent care of our employees.

Times like these reinforce that our employees are our most important asset – they are fundamental to the vibrancy and success of our company. Excellence in everything we do – from operations and technology to service and reputation – depends upon the abilities and character of our employees. Our vast and diverse team of people serves our customers and communities, builds the technology, makes the strategic decisions, manages the risks, determines our investments and drives innovation. Setting aside differing views of our complex world and the risks and opportunities ahead, it is inarguable that having such an extraordinary team – people with guts, brains and enormous capabilities who can navigate whatever circumstances bring – is what ensures our future prosperity.

In last year's letter, I wrote about the many ways we take excellent care of our employees: competitive wages and compensation, 401(k) retirement benefits, health benefits and wellness programs, extensive training programs, volunteer and employee engagement opportunities, generous parental leave policies and much more.

During this pandemic, we have also taken extensive steps to protect and support our employees and their families. For example:

- We continue to pay employees who are at home because they have had potential exposure to the virus or whose health is higher risk. Additionally, we provide paid medical leave to employees who are unwell.
- We have clinical staff internally to support our employees through this difficult time, whether it is fielding general inquiries related to COVID-19 or locating testing or other medical facilities.
- All employees are receiving five additional paid days off to help manage personal needs, which may include dependent care, child care or other issues.

- A special payment of up to \$1,000 has been granted to full- and part-time employees whose job requires them to continue working on-site and generally whose annual cash compensation is less than \$60,000.
- All branch employees are being paid for their regularly scheduled hours even if those hours are reduced or their branch is temporarily closed.
- For those who must go to work on-site, we are reinforcing both basic and enhanced personal and office hygiene measures to keep them, their colleagues and their clients safe. We have modified business operations, staggered shifts, changed seating arrangements, closed buildings to nonessential visitors and provided additional equipment where possible. We have also intensified nightly and daily cleaning of all offices and branches worldwide that remain open.

It's amazing how quickly we have mobilized and implemented work-from-home and other resiliency measures – in weeks instead of months or years. There are great lessons to be learned from this experience.

While conditions may sometimes be unusual and difficult, we are functioning smoothly. In fact, over the last month in certain parts of our company, we've had the highest volume and transaction totals we have ever seen.

Needless to say, this success would be impossible without our exceptional employees, and we recognize our responsibility to support both their professional and personal lives now more than ever.

A DIVERSE AND INCLUSIVE COMPANY IS A STRONGER COMPANY

While the health crisis we are facing supersedes all other topics in this year's letter, the subject of diversity and inclusion is such an important one that I feel compelled to include it. As a firm, we have an unwavering commitment to integrity, fairness and responsibility. That's why any instances of racist behavior and discrimination are so deeply unsettling.

Recently, Daniel Pinto and Gordon Smith, our Co-Presidents and Chief Operating Officers, sent a note to employees about steps we're taking to ensure our values reach all corners of our company.

Dear colleagues,

We are managing through uncertain times right now and recognize many of you are focusing much of your day on responding to the ongoing spread of the COVID-19 coronavirus. While this is a top priority for all of us, we want to make sure you know we haven't lost sight of our commitment to keeping you informed about our ongoing efforts to strengthen our culture. Now, more than ever, we need the best of everyone because only together will we get through these unprecedented times.

As you know, after the media reported on alleged discrimination in our firm last year, Jamie asked Gordon to lead an internal team to take a hard look at how we do business so that we could gain a deeper understanding of what more we can do to root out racism and discrimination anywhere it exists.

Challenging our people to be clear-eyed and open to change, we tasked many of our senior leaders from across the firm, from multiple lines of business and control functions, to evaluate our policies, procedures and programs firmwide, to ensure they are fair for all employees and customers. To be clear, we are looking across the whole firm and at everything we do.

As a result, we've identified a number of areas that, with enhanced, scaled or new programming or processes, would serve to improve our culture in important ways. For example, we focused on employee and customer complaints – examining common themes, where they originated and where opportunity exists to improve.

We also looked at how employee discretion may affect product accessibility across lines of business. We found opportunities to increase awareness about the firm's Diversity & Inclusion strategy, and we identified a need to expand our diversity recruitment efforts to help us hire more diverse talent, and to implement mandatory firmwide training.

While this work is ongoing, here are five initial areas where work is now underway, including:

Enhancing our employee feedback process

We are looking hard at how we treat an employee complaint when it comes in. We are already working to simplify escalation channels so employees are clear on where to submit complaints, in addition to further building out our capabilities across complaints to better understand the full scope of the individual's experience. Feedback suggests that employees are not always clear on where to submit complaints, so we are working to identify where improvements are needed.

Employees are encouraged to use existing channels to report inappropriate conduct or discrimination. We will continue to strengthen these "listening posts" and reporting channels in an effort to make sure every one of us feels safe and confident identifying and reporting inappropriate behavior.

Making it easier for customers to access products and services

We regularly review the products and services we offer to customers, and we are looking for ways to boost customer connectivity across our full spectrum of consumer products. To start, we are focusing on:

- Enhancing ease of navigating and guiding customers through our full range of products and services available across our entire branch network; and
- Re-evaluating the qualification requirements for new product features and benefits.

We will improve product parameters and strengthen monitoring tools to ensure the exercise of discretion works as intended.

Bolstering our hiring systems to build a more robust pipeline of diverse talent

Attracting the best talent can only be achieved through a dedicated focus on inclusive recruiting, so we are recommitting ourselves to this effort. We have made progress in this area, with programs such as Advancing Black Leaders, a program

focused specifically on increased hiring, retention and development of talent from within the black community. Over the past four years, we have increased the number of black professionals in our most senior ranks, with the number of black managing directors and executive directors up by more than 50 percent.

In addition, we are expanding our specialized team dedicated to conducting more targeted outreach to recruit diverse talent. We will expand on our program to hold hiring managers and recruiters at the highest levels of the company accountable for hiring a diverse group of professionals.

Instituting required firmwide Diversity & Inclusion Training

In order to drive more diverse and inclusive behaviors amongst our leaders, managers, employees and customers, we are requiring diversity and inclusion training for all employees at various points throughout an employee lifecycle, including at the time of hire, and periodically thereafter. We expect all employees to fulfill these requirements.

Because the role of the manager is arguably the most critical role in promoting our culture deep into the organization, we will make additional manager training mandatory at the time of promotion to a people-manager role, and at the time of promotion to a senior leader role, in addition to other developmental moments for managers. We already have training in many parts of the organization, including programs like “Journey to Inclusive Teams” and the required unconscious bias training for branch managers. We will continue to enhance and embed this required training throughout the manager’s career.

We know that it is essential for managers to be inclusive leaders and we will focus on helping them recognize ways they can be intentional about inclusion as they recruit, hire, retain and develop diverse talent.

Increasing the diversity of the businesses we partner with firmwide

We are fully committed to a fair, equitable and inclusive company for our customers, our employees, our partners and our suppliers. This is part of every manager’s job, and they will be held accountable.

The diversity of the businesses we partner with across the firm is just as important as our employee diversity – from the small businesses to which we provide access to capital, to our asset managers, to our suppliers and to the companies we assist in bringing public.

We intend to increase diverse representation through structural process improvements in how we select partners and build our pipeline.

The firm will also continue to use data and research to further inform the development of products, services, employee programs and community investments that help address racial disparities in wealth building.

This all goes to say our work described above is representative of our deep commitment and is ongoing. It is not a “one and done” event. We will remain steadfast, continue to work now and in the future, and remain ever-vigilant in our effort to maintain a culture where racism cannot live or thrive. Over the next 30 days, each business will review their current strategies and contribute a plan to bring this to life and each business will be held accountable.

Let us say again, we are all the keepers of our culture and we are committed to ensuring that ours is one where all employees and customers are treated equally and fairly, and where all of us receive the opportunity and mutual respect we deserve.

The image shows two handwritten signatures in black ink. The signature on the left is 'Gordon' and the signature on the right is 'Janney'.

I can assure *you*, it did not take one particular story to make us realize that a diverse and inclusive culture is important.

We know that too many people are being left behind – particularly in the black community. *The Civil War ended more than 150 years ago, and we still have not come even close to parity.* We need to do more as a nation, and we have more to do as a firm.

3. We make extraordinary efforts to lift up our communities, especially in challenging times.

I believe that our shareholders know we make extraordinary efforts to lift up our communities, both at a local level – supporting schools and work skills training, for example – and at the national level, helping to formulate policies that are good for countries. These policies affect healthcare, infrastructure, education and employment, including initiatives such as those that help people with a criminal background get a second chance.

We know that crises like COVID-19 create further inequities in society so it is even more important that we be present for those communities hit hard by the pandemic. JPMorgan Chase made a \$50 million commitment to help address the immediate humanitarian crisis, as well as the long-term economic challenges people face. Funding will be deployed over time with particular focus on the most vulnerable people and communities, including:

- Immediate healthcare, food and other humanitarian relief globally;
- Help for existing nonprofit partners around the world that are responding to the crisis in their communities;
- Assistance to small businesses vulnerable to significant economic hardships in the United States, China and Europe.

There is a tremendous amount we do day to day – in addition to traditional banking – to help the communities in which we operate, including the following, some of which you might be surprised to know:

- We finance more than \$5.5 billion in affordable housing each year (including residential and commercial lending and mortgages in low- and moderate-income communities).

- We provide small business loans in low- and moderate-income neighborhoods.
- We design products and services to promote the financial health of lower-income individuals.
- We support a number of employee- and community-based initiatives and philanthropic activities, including:
 - *Office of Military and Veterans Affairs*, which sponsors mentorship, development and recognition programs to support the military and veterans working at the firm;
 - *Women on the Move*, our global firmwide effort that empowers female employees, clients and consumers;
 - *The Service Corps*, which mobilizes employee volunteers to help nonprofit organizations around the world;
 - *Advancing Black Pathways*, a comprehensive program focused on providing more opportunities for black people and black-owned businesses because we know that opportunity is not always created equally;
 - *Entrepreneurs of Color Fund*, which is expanding and provides minority entrepreneurs with access to capital, education and other resources.
- We expect to finance more than \$100 billion in transactions aimed at supporting development in emerging market countries – in infrastructure, education, healthcare, agribusiness and industry, among other investments – to promote the United Nations’ Sustainable Development Goals.

- We are huge supporters of regional and community banks, which are critical to many cities and small towns around the country. We bank approximately 500 of America's 5,000 regional and community banks. In 2019, we lent or raised a total of \$2.6 billion in capital for them. In addition, we provide payment-processing services for them, we finance some of their mortgage activities, we advise on acquisitions, and we buy and sell securities for these banks. We also supply interest rate swaps and foreign exchange both for themselves – to help them hedge some of their exposures – and for their clients. For

example, while many community banks were seeking more liquidity to serve their local communities amidst COVID-19 fears, we were able to help approximately 100 community banks secure \$775 million in increased cash availability over a three-week period in March, delivering \$1.9 billion of cash to support their branches and ATMs. This is not only a win for our clients but also for the communities in which they operate.

4. We are transparent with our shareholders: What they should expect regarding our financial and operating performance in 2020.

Of course, we do not know how this crisis will ultimately end, including how long it will last, how much economic damage it will do, or how fast or slow the recovery will be. We have always been serious about stress testing and run an enormous number of tests per week so that we are prepared for most crises. But as is often the case, this “actual new crisis” – while it shares attributes with what is being stress tested – is dramatically different from the expected.

We stopped buying back our stock: We have always held the position that the highest and best use of our equity is to reinvest it in our own business and, of course, to be able to withstand tough times. Halting buybacks was simply a very prudent action – we don't know exactly what the future will hold – but at a minimum, we assume that it will include a bad recession combined with some kind of financial stress similar to the global financial crisis of 2008. Our bank *cannot be immune* to the effects of this kind of stress.

We will share in detail our latest thinking on the impact this crisis will have on our financials in our first quarter earnings release in mid-April; however, to put it in context, here is how our shareholders can think broadly about a reasonable range of outcomes.

Our 2019 pretax earnings were \$48 billion¹ – a huge and powerful earnings stream that enables us to absorb the loss of revenues and the higher credit costs that inevitably follow a crisis. For comparison, the Comprehensive Capital Analysis and Review (CCAR) results for 2020 that we submitted to the Federal Reserve in 2019 (which assumed outcomes like U.S. unemployment peaking at 10% and the stock market falling 50%) showed a decline in revenue of almost 20% and credit costs of approximately \$20 billion more than what we experienced in 2019. We believe we would perform better than this if the Fed's scenario were to actually occur. But even in the Fed's scenario, we would be profitable in every quarter.² These stress test results also show that following such a meaningful reduction in our revenue (and assuming we continue to pay dividends), our common equity Tier 1 (CET1) ratio would likely hold at a very strong 10%, and we would have in excess of \$500 billion of liquid assets.

Additionally, we have run an *extremely adverse scenario* that assumes an even deeper contraction of gross domestic product, down as much as 35% in the second quarter and lasting through the end

¹ Represents managed pretax income.

² We are adjusting these CCAR results for the global market shock trading losses and operational losses – and there have been none in this crisis.

of the year, and with U.S. unemployment continuing to increase, peaking at 14% in the fourth quarter. Even under this scenario, the company would still end the year with strong liquidity and a CET1 ratio of approximately 9.5% (common equity Tier 1 capital would still total \$170 billion). This scenario is quite severe and, we hope, unlikely. If it were to play out, the Board would likely consider suspending the dividend even though it is a rather small claim on our equity capital base. If the Board suspended the dividend, it would be out of extreme prudence and based upon continued uncertainty over what the next few years will bring.

It is also important to be aware that in both our central case scenario for 2020 results and in our extremely adverse scenario, we are lending – currently or plan to do so – an additional \$150 billion for our clients’

needs. Despite this, our capital resources and liquidity are very strong in both models. We have over \$500 billion in total liquid assets and an incremental \$300+ billion borrowing capacity at the Federal Reserve and Federal Home Loan Banks, if needed, to support these loans, as well as meet our liquidity requirements (these numbers do not include the potential use of some of the Fed’s newly created facilities). We could, of course, make our capital and liquidity buffer better by restricting our activities, but we do not intend to do that – our clients need us.

I would like to point out that, as we get closer to the extremely adverse scenario, current regulatory constraints will limit additional actions we can take to help clients – in spite of the extraordinary amount of capital and liquidity we could deploy.

5. We are working closely with all levels of government during this crisis – and while we will participate in government programs to address the severe economic challenges, we will not request any regulatory relief for ourselves.

We are just beginning to analyze and work with the government on all of their various programs. For the most part, these initiatives will need the deep involvement of the private sector to be properly executed. We intend to do everything we can – and as soon as possible – to ensure that government support is reaching the people who need it most.

We applaud and support the recent actions the U.S. Department of the Treasury and the Federal Reserve have taken to try to mitigate the economic impact of the COVID-19 turmoil. The Fed’s overwhelming actions have already dramatically reduced the financial stress in the system, and there is still more they could do if they need to. For example, balance sheet expansion, additional lending facilities, and changes to capital and liquidity requirements are steps designed to ensure that more capital will flow through the system, which will ultimately allow us to help more families and small businesses. These actions would bolster the U.S. economy with

no impact on safety, soundness or regulatory oversight. We are working with the government to make sure such crisis-relief measures are structured to work effectively – there are a significant number of details that need to be resolved, which I will not go into here.

While we will aggressively help our customers take advantage of these new programs (though we must take action to protect ourselves from ongoing – and, more important, future – litigation risk), we want our shareholders to know that we have not requested any regulatory relief for ourselves. Saying that we will not ask for regulatory relief does not mean the government shouldn’t change some rules and regulations, however. For example, some rules can improperly prevent healthy, well-capitalized banks from lending freely in times of stress. This can hurt customers as the crisis deepens. Leaving high-quality, available liquidity undeployed in times of need is an opportunity forever lost.

I have written in detail in past letters that the regulatory system is in need of both reform and recalibration – not because we want it to happen but because it would be good for a deepening and widening of the financial system – something that would benefit all Americans. While a lot of the rules were constructive and made the financial system stronger, we are now seeing the impact of poorly coordinated, poorly calibrated and poorly organized rulemaking.

After the crisis subsides (and it will), our country should thoroughly review all aspects of our preparedness and response. And we should use the opportunity to closely review the economic response and determine whether any additional regulatory changes are warranted to improve our financial and economic system. There will be a time and place for that – but not now.

6. We need a plan to get safely back to work.

It is hoped that the number of new COVID-19 cases will decrease soon and – coupled with greatly enhanced medical capabilities (more beds, proper equipment where it is needed, adequate testing) – the healthcare system is equipped to take care of all Americans, both minimizing their suffering and maximizing their chance of living. Once this occurs, people can carefully start going back to work, of course with proper social distancing, vigilant hygiene, proper testing and other precautions. There are many jobs that can be safely done; however, employees in certain companies should return to business as usual only if the Centers for Disease Control and Prevention (CDC) and other government entities deem it safe to do so.

In addition, this “return to work” process could be accelerated if federal, state and local governments make tests widely available that allow people to certify that they have contracted and recovered from the disease, have the necessary antibodies to prevent them from getting sick again and are not infectious to anyone. Initially, we need a buffer period of days or weeks for people

to be tested, and then for those who test negative for the virus, we need to discover whether virus antibodies appear through serology testing. Both the CDC and private companies are scrambling to produce such tests: The U.K. has ordered 3.5 million of them, Germany will use them to issue immunity certificates to COVID-19 survivors, and China and Singapore already are using tests to determine how extensively the virus spread in large populations in order to measure the true infection rate. In the United States, the Food and Drug Administration is allowing doctors to use these serology tests to identify recovered patients whose antibodies could treat emergency cases of the disease.

The country was not adequately prepared for this pandemic – however, we can and should be more prepared for what comes next. Done right, a disciplined transition would maximize the health of Americans and minimize the time, extent and suffering caused by the economic downturn.

7. We need to come together: My fervent hope for America.

Sometimes extraordinary events in history can cause a change in the body politic. As a nation, we were clearly not equipped for this global pandemic, and the consequences have been devastating. But it is forcing us to work together, and it is improving civility and reminding us that we all live on one planet. *E Pluribus Unum.*

I am hoping that civility, humanity, empathy and the goal of improving America will break through.

We have the resources to emerge from this crisis as a stronger country. America is still the most prosperous nation the world has ever seen. We are blessed with the natural gifts of land; all the food, water and energy we need; the Atlantic and Pacific oceans as natural borders; and wonderful neighbors in Canada and Mexico. And we are blessed with the extraordinary gifts from our Founding Fathers, which are still unequaled: freedom of speech, freedom of religion, freedom of enterprise, and the promise of equality and opportunity. These gifts have led to the most dynamic economy the world has ever seen – one that nurtures vibrant businesses large and small, exceptional universities, and a welcoming environment for innovation, science and technology. America was an idea borne on principles, not based upon historical relationships and tribal politics. It has and will continue to be a beacon of hope for the world and a magnet for the world's best and brightest.

Of course, America has always had its flaws. The current pandemic is only one example of the bad planning and management that have hurt our country: Our inner city schools don't graduate half of their students and don't give our children an education that leads to a livelihood; our healthcare system is increasingly costly with many of our citizens lacking any access; and nutrition and personal health aren't even being taught at many schools. Obesity has become a national scourge. We have a litigation and regulatory

system that cripples small businesses with red tape and bureaucracy; ineffective infrastructure planning and investment; and huge waste and inefficiency at both the state and federal levels. We have failed to put proper immigration policies in place; our social safety nets are poorly designed; and the share of wages for the bottom 30% of Americans has effectively been going down. We need to **acknowledge** these problems and the damage they have done if we are ever going to fix them.

There should have been a pandemic play-book. Likewise, every problem I noted above should have detailed and nonpartisan solutions. As we have seen in past crises of this magnitude, there will come a time when we will look back and it will be clear how we – at all levels of society, government, business, healthcare systems, and civic and humanitarian organizations – could have been and will be better prepared to face emergencies of this scale. While the inclination of some will be to finger-point and look for blame, I hope we can avoid that. I also hope we can avoid people using times of crisis to argue for what they already believe. We need to demand more of ourselves and our leaders if we want to prevent or mitigate these disasters. This can be a moment when we all come together and recognize our shared responsibility, acting in a way that reflects the best of all of us. As President Kennedy historically said, "Ask not what your country can do for you – ask what you can do for your country."

My fervent hope is that America rolls up its sleeves and starts to attack these problems. Fixing them would better prepare us for future catastrophes, create better economic outcomes for everyone (with policies that aim to maximize economic growth, driving the best potential outcomes), improve income inequality, protect the most vulnerable and foster economic growth that is more resilient, which would also strengthen America's role in the world. We must never

forget that America's economic prosperity is a necessary foundation for our military capability, which keeps us free and strong and is essential to world peace. These issues could all be tackled while preserving the freedoms ascribed by our Founding Fathers: life, liberty and the pursuit of happiness, freedom of speech, freedom of religion and freedom of enterprise, which means the free movement of capital and labor (meaning you

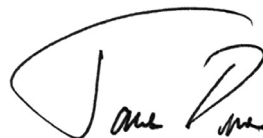
can work where you want and for whom you want). At the end of the day, the pursuit of happiness, our freedoms and free enterprise are inseparable.

If we acknowledge our problems and work together, we can lift up those who need help and society as a whole. Business and government collaborating together can conquer our biggest challenges.

IN CLOSING

While I have a deep and abiding faith in the United States of America and its extraordinary resiliency and capabilities, we do not have a divine right to success. Our challenges are significant, and we should not assume they will take care of themselves. Let us all do what we can to strengthen our exceptional union.

I would like to express my deep gratitude and appreciation for the employees of JPMorgan Chase, and I'd also like to thank all of you who shared your good wishes with me while I was recuperating from my recent heart surgery. From this letter, I hope shareholders and all readers gain an appreciation for the tremendous character and capabilities of our people and how they have helped communities around the world. They have faced these times of adversity with grace and fortitude. I hope you are as proud of them as I am. Finally, the countries and citizens of the global community will get through this unprecedented situation, undoubtedly stronger for it. Together, we will rise to the challenge.



Jamie Dimon
Chairman and Chief Executive Officer

April 6, 2020

APPENDIX

Client Franchises Built Over the Long Term

	2006	2018	2019		
Consumer & Community Banking	Deposits market share ¹	3.6%	9.3%	9.3%	<ul style="list-style-type: none"> ■ Serve ~63 million U.S. households, including 4.3 million small businesses⁵ ■ 52 million active digital customers⁶, including 37 million active mobile customers⁷ ■ #1 primary bank within Chase footprint⁸ ■ #1 U.S. credit card issuer based on sales and outstandings⁹ ■ #2 mortgage servicer¹⁰ ■ #3 bank auto lender¹¹ ■ All-time high Net Promoter Score¹²
	# of top 50 Chase markets where we are #1 (top 3)	11 (25)	14 (40)	13 (40)	
	Average deposits growth rate	8%	5%	3%	
	Active mobile customers growth rate	NM	11%	12%	
	Credit card sales market share ²	16%	22%	23%	
	Merchant processing volume ³ (\$B)	\$661	\$1,366	\$1,512	
	# of branches	3,079	5,036	4,976	
	Client investment assets (\$B)	<\$80	\$282	\$358	
	Business Banking primary market share ⁴	5.1%	8.8%	9.4%	
Corporate & Investment Bank	Global investment banking fees ¹³	#2	#1	#1	<ul style="list-style-type: none"> ■ >80% of Fortune 500 companies do business with us ■ Presence in over 100 markets globally ■ #1 in 16 businesses – compared with 8 in 2014¹⁵ ■ #1 in global investment banking fees for the 11th consecutive year¹³ ■ Consistently ranked #1 in Markets revenue since 2012¹⁴ ■ #1 in USD payments volume¹⁶ ■ #2 custodian globally¹⁷
	Market share ¹³	8.7%	8.6%	9.0%	
	Total Markets revenue ¹⁴	#8	#1	#1	
	Market share ¹⁴	6.3%	11.5%	12.0%	
	FICC ¹⁴	#7	#1	#1	
	Market share ¹⁴	7.0%	11.8%	12.3%	
	Equities ¹⁴	#8	co-#1	co-#1	
Market share ¹⁴	5.0%	11.0%	11.3%		
Assets under custody (\$T)	\$13.9	\$23.2	\$26.8		
Commercial Banking	# of top 50 MSAs with dedicated teams	26	50	50	<ul style="list-style-type: none"> ■ 142 locations across the U.S. and 30 international locations ■ Credit, banking, and treasury services to ~18K Commercial & Industrial clients and ~34K real estate owners and investors ■ 17 specialized industry coverage teams ■ #1 traditional Middle Market Bookrunner in the U.S.²⁰ ■ 26,000 affordable housing units financed in 2019
	Bankers	1,203	1,922	2,101	
	New relationships (gross)	NA	1,232	1,706	
	Average loans (\$B)	\$53.6	\$205.5	\$207.9	
	Average deposits (\$B)	\$73.6	\$170.9	\$172.7	
	Gross investment banking revenue (\$B) ¹⁸	\$0.7	\$2.5	\$2.7	
Multifamily lending ¹⁹	#28	#1	#1		
Asset & Wealth Management	Ranking of 5-year cumulative net client asset flows ²¹	NA	#2	#2	<ul style="list-style-type: none"> ■ Serve clients across the entire wealth spectrum ■ Clients include 59% of the world's largest pension funds, sovereign wealth funds and central banks ■ Serves as a fiduciary across all asset classes ■ 88% of Asset Management's 10-year long-term mutual fund AUM performed above peer median²⁵ ■ Revenue and long-term AUM grew more than 90% since 2006
	U.S. Private Bank (<i>Euromoney</i>)	#1	#1	#1	
	Client assets (\$T)	\$1.3	\$2.7	\$3.2	
	Active AUM market share ²²	1.8%	2.4%	2.5%	
	North America Private Bank client assets market share ²³	3%	4%	4%	
	Average loans (\$B)	\$26.5	\$138.6	\$149.7	
# of Wealth Management client advisors	1,506	2,865	2,890		

Refer to the 2020 Investor Day presentations for footnoted information, which is available on JPMorgan Chase & Co.'s website under the heading Investor Relations, Events & Presentations, JPMorgan Chase 2020 Investor Day (www.jpmorganchase.com/corporate/investor-relations/event-calendar.htm), and on Form 8-K as furnished to the U.S. Securities and Exchange Commission (SEC) on February 25, 2020, which is available on the SEC's website (www.sec.gov), as follows: Refer to Firm Overview slide 3 for footnotes 1, 5, 9, 16, 17, 18, 22 and 25; refer to Consumer & Community Banking slides 22, 3, 3, 2, 9, 9 and 7 for footnotes 2, 6, 7, 8, 10, 11 and 12, respectively; refer to Corporate & Investment Bank slides 5 and 4 for footnotes 13 and 15, respectively; and refer to Asset & Wealth Management slide 3 for footnote 22.

Note: 2018 deposits market share and # of top 50 Chase markets where we are #1 (top 3) have been revised to conform with the 2019 methodology.

³ 2006 reflects First Data joint venture.

⁴ Barlow Research Associates, Primary Bank Market Share Database as of 4Q19. Rolling 8-quarter average of small businesses with revenues of \$100,000 - <\$25 million.

¹⁴ Coalition, preliminary 2019 rank and market share analysis reflects JPMorgan Chase's share of the global industry revenue pool and is based on JPMorgan Chase's business structure. 2006 rank analysis is based on JPMorgan Chase analysis.

¹⁹ S&P Global Market Intelligence as of December 31, 2019.

²⁰ Refinitiv LPC, 2019.

²¹ Source: Company filings and JPMorgan Chase estimates. Rankings reflect financial information publically reported by the following peers: Allianz Group, Bank of America Corporation, Bank of New York Mellon Corporation, BlackRock, Inc., Credit Suisse Group AG, DWS Group, Franklin Resources, Inc., The Goldman Sachs Group, Inc., Invesco Ltd., Morgan Stanley, State Street Corporation, T. Rowe Price Group, Inc. and UBS Group AG. JPMorgan Chase's ranking reflects AWM client assets, Chase Wealth Management investments and new-to-the-firm Chase Private Client deposits.

²³ Source: Capgemini World Wealth Report 2019. Market share estimated based on 2018 data (latest available).

NM = Not meaningful

B = Billions

NA = Not available

T = Trillions

FICC = Fixed Income, Currencies and Commodities

K = Thousands

MSAs = Metropolitan statistical areas

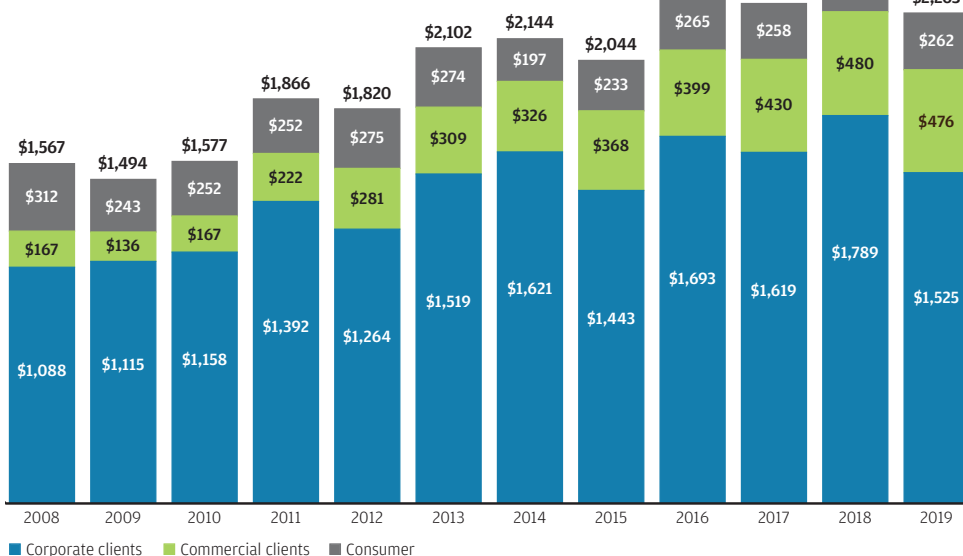
AUM = Assets under management

USD = U.S. dollar

New and Renewed Credit and Capital for Our Clients

2008-2019

(\$ in billions)

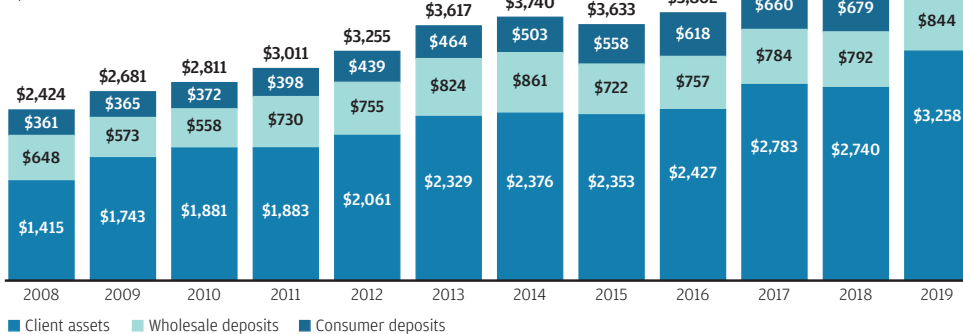


Assets Entrusted to Us by Our Clients

at December 31,

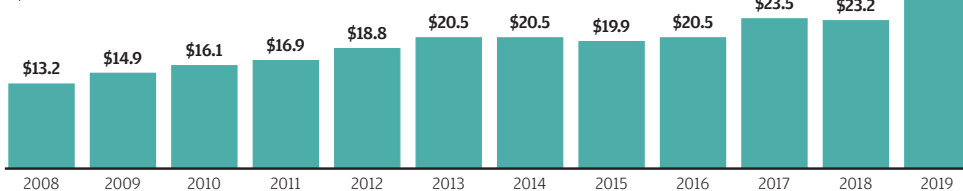
Deposits and client assets¹

(\$ in billions)



Assets under custody²

(\$ in trillions)



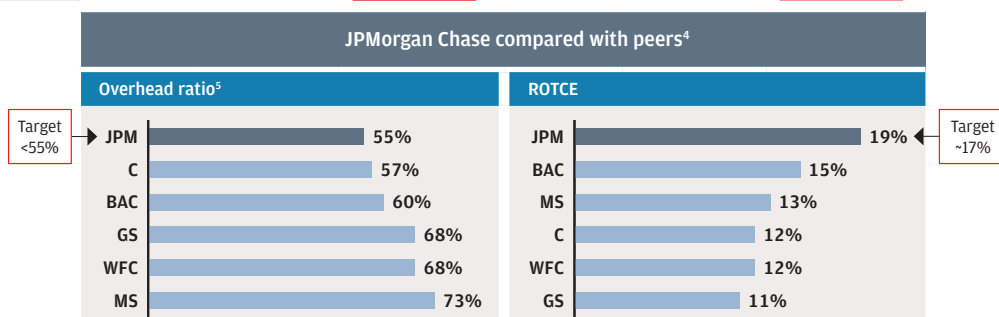
¹ Represents assets under management, as well as custody, brokerage, administration and deposit accounts.

² Represents activities associated with the safekeeping and servicing of assets.

While we never expect to be best in class every year in every business, we normally compare well with our best-in-class peers. The chart below shows our performance generally, by business, versus our competitors in terms of efficiency and returns.

JPMorgan Chase Is in Line with Best-in-Class Peers in Both Efficiency and Returns

	Efficiency			Returns		
	JPM 2019 overhead ratio	Best-in-class peer overhead ratio ¹	JPM medium-term target overhead ratio	JPM 2019 ROTCE	Best-in-class peer ROTCE ^{2,3}	JPM medium-term target ROTCE
Consumer & Community Banking	52%	46% BAC-CB	50%+/-	31%	35% BAC-CB	25%+
Corporate & Investment Bank	56%	54% BAC-GB & GM	54%+/-	14%	15% BAC-GB & GM	~16%
Commercial Banking	39%	43% USB-C & CB	40%+/-	17%	17% FITB	~18%
Asset & Wealth Management	73%	56% CS-PB & GS-AM	<75%	26%	37% MS-WM & MS-IM	25%+



Achievement of medium-term targets may take time and require more normalized GDP, unemployment and interest rates.

¹ Best-in-class peer overhead ratio represents the comparable business segments of JPMorgan Chase (JPM) peers: Bank of America Consumer Banking (BAC-CB), Bank of America Global Banking and Global Markets (BAC-GB & GM), US Bancorp Corporate and Commercial Banking (USB-C & CB), Credit Suisse Private Banking (CS-PB) and Goldman Sachs Asset Management (GS-AM).

² Best-in-class peer ROTCE represents implied net income minus preferred stock dividends of the comparable business segments of JPM peers when available or of JPM peers on a firmwide basis when there is no comparable business segment: BAC-CB, BAC-GB & GM, Fifth Third Bancorp (FITB), Morgan Stanley Wealth Management (MS-WM) and Morgan Stanley Investment Management (MS-IM).

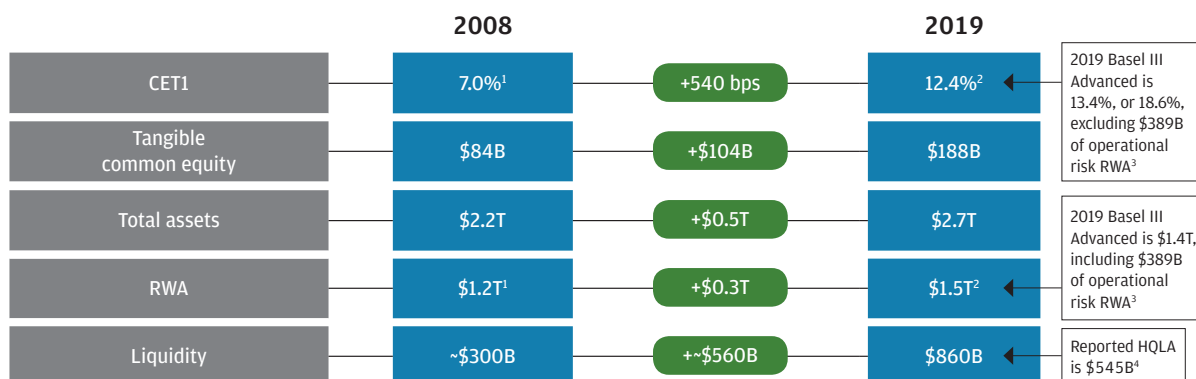
³ Comparisons are at the applicable business segment level, when available; the allocation methodologies of peers may not be consistent with JPM's.

⁴ Bank of America Corporation (BAC), Citigroup Inc. (C), The Goldman Sachs Group, Inc. (GS), Morgan Stanley (MS), Wells Fargo & Company (WFC).

⁵ Managed overhead ratio = total noninterest expense/managed revenue; revenue for GS and MS is reflected on a reported basis.

ROTCE = Return on tangible common equity
GDP = Gross domestic product

Our Fortress Balance Sheet at December 31,



¹ CET1 reflects the Tier 1 common ratio under the Basel I measure.

² Reflects the Basel III Standardized measure, which is the firm's current binding constraint.

³ Operational risk RWA is a component of RWA under the Basel III Advanced measure.

⁴ Represents quarterly average HQLA included in the liquidity coverage ratio. Refer to Liquidity Coverage Ratio on page 94 for additional information.

B = Billions

T = Trillions

bps = basis points

CET1 = Common equity Tier 1 ratio. Refer to Regulatory capital on pages 86-90 for additional information

RWA = Risk-weighted assets

Liquidity = HQLA plus unencumbered marketable securities, which includes excess liquidity at JPMorgan Chase Bank, N.A.

HQLA = High quality liquid assets include cash on deposit at central banks and highly liquid securities (predominantly U.S. Treasuries, U.S. government-sponsored enterprises and U.S. government agency mortgage-backed securities, and sovereign bonds)

LCR = Liquidity coverage ratio

Amazon

Shareholder Letter (2019 Annual Report) — 4/15/2020

by Jeff Bezos



To our shareowners:

One thing we've learned from the COVID-19 crisis is how important Amazon has become to our customers. We want you to know we take this responsibility seriously, and we're proud of the work our teams are doing to help customers through this difficult time.

Amazonians are working around the clock to get necessary supplies delivered directly to the doorsteps of people who need them. The demand we are seeing for essential products has been and remains high. But unlike a predictable holiday surge, this spike occurred with little warning, creating major challenges for our suppliers and delivery network. We quickly prioritized the stocking and delivery of essential household staples, medical supplies, and other critical products.

Our Whole Foods Market stores have remained open, providing fresh food and other vital goods for customers. We are taking steps to help those most vulnerable to the virus, setting aside the first hour of shopping at Whole Foods each day for seniors. We have temporarily closed Amazon Books, Amazon 4-star, and Amazon Pop Up stores because they don't sell essential products, and we offered associates from those closed stores the opportunity to continue working in other parts of Amazon.

Crucially, while providing these essential services, we are focused on the safety of our employees and contractors around the world—we are deeply grateful for their heroic work and are committed to their health and well-being. Consulting closely with medical experts and health authorities, we've made over 150 significant process changes in our operations network and Whole Foods Market stores to help teams stay healthy, and we conduct daily audits of the measures we've put into place. We've distributed face masks and implemented temperature checks at sites around the world to help protect employees and support staff. We regularly sanitize door handles, stairway handrails, lockers, elevator buttons, and touch screens, and disinfectant wipes and hand sanitizer are standard across our network.

We've also introduced extensive social distancing measures to help protect our associates. We have eliminated stand-up meetings during shifts, moved information sharing to bulletin boards, staggered break times, and spread out chairs in breakrooms. While training new hires is challenging with new distancing requirements, we continue to ensure that every new employee gets six hours of safety training. We've shifted training protocols so we don't have employees gathering in one spot, and we've adjusted our hiring processes to allow for social distancing.

A next step in protecting our employees might be regular testing of all Amazonians, including those showing no symptoms. Regular testing on a global scale, across all industries, would both help keep people safe and help get the economy back up and running. For this to work, we as a society would need vastly more testing capacity than is currently available. If every person could be tested regularly, it would make a huge difference in how we fight this virus. Those who test positive could be quarantined and cared for, and everyone who tests negative could re-enter the economy with confidence.

We've begun the work of building incremental testing capacity. A team of Amazonians—from research scientists and program managers to procurement specialists and software engineers—moved from their normal day jobs onto a dedicated team to work on this initiative. We have begun assembling the equipment we need to build our first lab and hope to start testing small numbers of our frontline employees soon. We are not sure how far we will get in the relevant timeframe, but we think it's worth trying, and we stand ready to share anything we learn.

While we explore longer-term solutions, we are also committed to helping support employees now. We increased our minimum wage through the end of April by \$2 per hour in the U.S., \$2 per hour in Canada, £2 per hour in the UK, and €2 per hour in many European countries. And we are paying associates double our regular rate for any overtime worked—a minimum of \$34 an hour—an increase from time and a half. These wage increases will cost more than \$500 million, just through the end of April, and likely more than that over time. While we recognize this is expensive, we believe it's the right thing to do under the circumstances. We also established the Amazon Relief Fund—with an initial \$25 million in funding—to support our independent delivery service partners and their drivers, Amazon Flex participants, and temporary employees under financial distress.

In March, we opened 100,000 new positions across our fulfillment and delivery network. Earlier this week, after successfully filling those roles, we announced we were creating another 75,000 jobs to respond to customer demand. These new hires are helping customers who depend on us to meet their critical needs. We know that many people around the world have suffered financially as jobs are lost or furloughed. We are happy to have them on our teams until things return to normal and either their former employer can bring them back or new jobs become available. We've welcomed Joe Duffy, who joined after losing his job as a mechanic at Newark airport and learned about an opening from a friend who is an Amazon operations analyst. Dallas preschool teacher Darby Griffin joined after her school closed on March 9th and now helps manage new inventory. We're happy to have Darby with us until she can return to the classroom.

Amazon is acting aggressively to protect our customers from bad actors looking to exploit the crisis. We've removed over half a million offers from our stores due to COVID-based price gouging, and we've suspended more than 6,000 selling accounts globally for violating our fair-pricing policies. Amazon turned over information about sellers we suspect engaged in price gouging of products related to COVID-19 to 42 state attorneys general offices. To accelerate our response to price-gouging incidents, we created a special communication channel for state attorneys general to quickly and easily escalate consumer complaints to us.

Amazon Web Services is also playing an important role in this crisis. The ability for organizations to access scalable, dependable, and highly secure computing power—whether for vital healthcare work, to help students continue learning, or to keep unprecedented numbers of employees online and productive from home—is critical in this situation. Hospital networks, pharmaceutical companies, and research labs are using AWS to care for patients, explore treatments, and mitigate the impacts of COVID-19 in many other ways. Academic institutions around the world are transitioning from in-person to virtual classrooms and are running on AWS to help ensure continuity of learning. And governments are leveraging AWS as a secure platform to build out new capabilities in their efforts to end this pandemic.

We are collaborating with the World Health Organization, supplying advanced cloud technologies and technical expertise to track the virus, understand the outbreak, and better contain its spread. WHO is leveraging our cloud to build large-scale data lakes, aggregate epidemiological country data, rapidly translate medical training videos into different languages, and help global healthcare workers better treat patients. We are separately making a public AWS COVID-19 data lake available as a centralized repository for up-to-date and curated information related to the spread and characteristics of the virus and its associated illness so experts can access and analyze the latest data in their battle against the disease.

We also launched the AWS Diagnostic Development Initiative, a program to support customers working to bring more accurate diagnostic solutions to market for COVID-19. Better diagnostics help accelerate treatment and containment of this pandemic. We committed \$20 million to accelerate this work and help our customers harness the cloud to tackle this challenge. While the program was established in response to COVID-19, we also are looking toward the future, and we will fund diagnostic research projects that have the potential to blunt future infectious disease outbreaks.

Customers around the world have leveraged the cloud to scale up services and stand up responses to COVID-19. We joined the New York City COVID-19 Rapid Response Coalition to develop a conversational agent to enable at-risk and elderly New Yorkers to receive accurate, timely information about medical and other important needs. In response to a request from the Los Angeles Unified School District to transition 700,000 students to remote learning, AWS helped establish a call center to field IT questions, provide remote support, and enable staff to answer calls. We are providing cloud services to the CDC to help thousands of public health practitioners and clinicians gather data related to COVID-19 and inform response efforts. In the UK, AWS provides the cloud computing infrastructure for a project that analyzes hospital occupancy levels, emergency room capacity, and patient wait times to help the country's National Health Service decide where best to allocate resources. In Canada, OTN—one of the world's largest virtual care networks—is scaling its AWS-powered video service to accommodate a 4,000% spike in demand to support citizens as the pandemic continues. In Brazil, AWS will provide the São Paulo State Government with cloud computing infrastructure to guarantee online classes to 1 million students in public schools across the state.

Following CDC guidance, our Alexa health team built an experience that lets U.S. customers check their risk level for COVID-19 at home. Customers can ask, “Alexa, what do I do if I think I have COVID-19?” or “Alexa, what do I do if I think I have coronavirus?” Alexa then asks a series of questions about the person's symptoms and possible exposure. Based on those responses, Alexa then provides CDC-sourced guidance. We created a similar service in Japan, based on guidance from the Japanese Ministry of Health, Labor, and Welfare.

We're making it easy for customers to use Amazon.com or Alexa to donate directly to charities on the front lines of the COVID-19 crisis, including Feeding America, the American Red Cross, and Save the Children. Echo users have the option to say, “Alexa, make a donation to Feeding America COVID-19 Response Fund.” In Seattle, we've partnered with a catering business to distribute 73,000 meals to 2,700 elderly and medically vulnerable residents in Seattle and King County during the outbreak, and we donated 8,200 laptops to help Seattle Public Schools students gain access to a device while classes are conducted virtually.

Beyond COVID

Although these are incredibly difficult times, they are an important reminder that what we do as a company can make a big difference in people's lives. Customers count on us to be there, and we are fortunate to be able to help. With our scale and ability to innovate quickly, Amazon can make a positive impact and be an organizing force for progress.

Last year, we co-founded The Climate Pledge with Christiana Figueres, the UN's former climate change chief and founder of Global Optimism, and became the first signatory to the pledge. The pledge commits Amazon to meet the goals of the Paris Agreement 10 years early—and be net zero carbon by 2040. Amazon faces significant challenges in achieving this goal because we don't just move information around—we have extensive physical infrastructure and deliver more than 10 billion items worldwide a year. And we believe if Amazon can get to net zero carbon ten years early, any company can—and we want to work together with all companies to make it a reality.

To that end, we are recruiting other companies to sign The Climate Pledge. Signatories agree to measure and report greenhouse gas emissions regularly, implement decarbonization strategies in line with the Paris Agreement, and achieve net zero annual carbon emissions by 2040. (We'll be announcing new signatories soon.)

We plan to meet the pledge, in part, by purchasing 100,000 electric delivery vans from Rivian—a Michigan-based producer of electric vehicles. Amazon aims to have 10,000 of Rivian's new electric vans on the road as early as 2022, and all 100,000 vehicles on the road by 2030. That's good for the environment, but the promise is even greater. This type of investment sends a signal to the marketplace to start inventing and developing new technologies that large, global companies need to transition to a low-carbon economy.

We've also committed to reaching 80% renewable energy by 2024 and 100% renewable energy by 2030. (The team is actually pushing to get to 100% by 2025 and has a challenging but credible plan to pull that off.) Globally, Amazon has 86 solar and wind projects that have the capacity to generate over 2,300 MW and deliver more than 6.3 million MWh of energy annually—enough to power more than 580,000 U.S. homes.

We've made tremendous progress cutting packaging waste. More than a decade ago, we created the Frustration-Free Packaging program to encourage manufacturers to package their products in easy-to-open, 100% recyclable packaging that is ready to ship to customers without the need for an additional shipping box. Since 2008, this program has saved more than 810,000 tons of packaging material and eliminated the use of 1.4 billion shipping boxes.

We are making these significant investments to drive our carbon footprint to zero despite the fact that shopping online is already inherently more carbon efficient than going to the store. Amazon's sustainability scientists have spent more than three years developing the models, tools, and metrics to measure our carbon footprint. Their detailed analysis has found that shopping online consistently generates less carbon than driving to a store, since a single delivery van trip can take approximately 100 roundtrip car journeys off the road on average. Our scientists developed a model to compare the carbon intensity of ordering Whole Foods Market groceries online versus driving to your nearest Whole Foods Market store. The study found that, averaged across all basket sizes, online grocery deliveries generate 43% lower carbon emissions per item compared to shopping in stores. Smaller basket sizes generate even greater carbon savings.

AWS is also inherently more efficient than the traditional in-house data center. That's primarily due to two things—higher utilization, and the fact that our servers and facilities are more efficient than what most companies can achieve running their own data centers. Typical single-company data centers operate at roughly 18% server utilization. They need that excess capacity to handle large usage spikes. AWS benefits from multi-tenant usage patterns and operates at far higher server utilization rates. In addition, AWS has been successful in increasing the energy efficiency of its facilities and equipment, for instance by using more efficient evaporative cooling in certain data centers instead of traditional air conditioning. A study by 451 Research found that AWS's infrastructure is 3.6 times more energy efficient than the median U.S. enterprise data center surveyed. Along with our use of renewable energy, these factors enable AWS to do the same tasks as traditional data centers with an 88% lower carbon footprint. And don't think we're not going to get those last 12 points—we'll make AWS 100% carbon free through more investments in renewable energy projects.

Leveraging scale for good

Over the last decade, no company has created more jobs than Amazon. Amazon directly employs 840,000 workers worldwide, including over 590,000 in the U.S., 115,000 in Europe, and 95,000 in Asia. In total, Amazon directly and indirectly supports 2 million jobs in the U.S., including 680,000-plus jobs created by Amazon's investments in areas like construction, logistics, and professional services, plus another 830,000 jobs created by small and medium-sized businesses selling on Amazon. Globally, we support nearly 4 million jobs. We are especially proud of the fact that many of these are entry-level jobs that give people their first opportunity to participate in the workforce.

And Amazon's jobs come with an industry-leading \$15 minimum wage and comprehensive benefits. More than 40 million Americans—many making the federal minimum wage of \$7.25 an hour—earn less than the lowest-paid Amazon associate. When we raised our starting minimum wage to \$15 an hour in 2018, it had an immediate and meaningful impact on the hundreds of thousands of people working in our fulfillment centers. We want other big employers to join us by raising their own minimum pay rates, and we continue to lobby for a \$15 federal minimum wage.

We want to improve workers' lives beyond pay. Amazon provides every full-time employee with health insurance, a 401(k) plan, 20 weeks paid maternity leave, and other benefits. These are the same benefits that Amazon's most senior executives receive. And with our rapidly changing economy, we see more clearly than ever the need for workers to evolve their skills continually to keep up with technology. That's why we're spending \$700 million to provide more than 100,000 Amazonians access to training programs, at their places of work, in high-demand fields such as healthcare, cloud computing, and machine learning. Since 2012, we have offered Career Choice, a pre-paid tuition program for fulfillment center associates looking to move into high-demand occupations. Amazon pays up to 95% of tuition and fees toward a certificate or diploma in qualified fields of study, leading to enhanced employment opportunities in high-demand jobs. Since its launch, more than 25,000 Amazonians have received training for in-demand occupations.

To ensure that future generations have the skills they need to thrive in a technology-driven economy, we started a program last year called Amazon Future Engineer, which is designed to educate and train low-income and disadvantaged young people to pursue careers in computer science. We have an ambitious goal: to help hundreds of thousands of students each year learn computer science and coding. Amazon Future Engineer currently funds Introduction to Computer Science and AP Computer Science classes for more than 2,000 schools in underserved communities across the country. Each year, Amazon Future Engineer also gives 100 four-year, \$40,000 college scholarships to computer science students from low-income backgrounds. Those scholarship recipients also receive guaranteed, paid internships at Amazon after their first year of college. Our program in the UK funds 120 engineering apprenticeships and helps students from disadvantaged backgrounds pursue technology careers.

For now, my own time and thinking continues to be focused on COVID-19 and how Amazon can help while we're in the middle of it. I am extremely grateful to my fellow Amazonians for all the grit and ingenuity they are showing as we move through this. You can count on all of us to look beyond the immediate crisis for insights and lessons and how to apply them going forward.

Reflect on this from Theodor Seuss Geisel:

"When something bad happens you have three choices. You can either let it define you, let it destroy you, or you can let it strengthen you."

I am very optimistic about which of these civilization is going to choose.

Even in these circumstances, it remains Day 1. As always, I attach a copy of our original 1997 letter.

Sincerely,

A handwritten signature in black ink that reads "Jeff P. Bezos". The signature is fluid and cursive, with the first name "Jeff" being particularly prominent.

Jeffrey P. Bezos
Founder and Chief Executive Officer
Amazon.com, Inc.



1997 LETTER TO SHAREHOLDERS (Reprinted from the 1997 Annual Report)

To our shareholders:

Amazon.com passed many milestones in 1997: by year-end, we had served more than 1.5 million customers, yielding 838% revenue growth to \$147.8 million, and extended our market leadership despite aggressive competitive entry.

But this is Day 1 for the Internet and, if we execute well, for Amazon.com. Today, online commerce saves customers money and precious time. Tomorrow, through personalization, online commerce will accelerate the very process of discovery. Amazon.com uses the Internet to create real value for its customers and, by doing so, hopes to create an enduring franchise, even in established and large markets.

We have a window of opportunity as larger players marshal the resources to pursue the online opportunity and as customers, new to purchasing online, are receptive to forming new relationships. The competitive landscape has continued to evolve at a fast pace. Many large players have moved online with credible offerings and have devoted substantial energy and resources to building awareness, traffic, and sales. Our goal is to move quickly to solidify and extend our current position while we begin to pursue the online commerce opportunities in other areas. We see substantial opportunity in the large markets we are targeting. This strategy is not without risk: it requires serious investment and crisp execution against established franchise leaders.

It's All About the Long Term

We believe that a fundamental measure of our success will be the shareholder value we create over the *long term*. This value will be a direct result of our ability to extend and solidify our current market leadership position. The stronger our market leadership, the more powerful our economic model. Market leadership can translate directly to higher revenue, higher profitability, greater capital velocity, and correspondingly stronger returns on invested capital.

Our decisions have consistently reflected this focus. We first measure ourselves in terms of the metrics most indicative of our market leadership: customer and revenue growth, the degree to which our customers continue to purchase from us on a repeat basis, and the strength of our brand. We have invested and will continue to invest aggressively to expand and leverage our customer base, brand, and infrastructure as we move to establish an enduring franchise.

Because of our emphasis on the long term, we may make decisions and weigh tradeoffs differently than some companies. Accordingly, we want to share with you our fundamental management and decision-making approach so that you, our shareholders, may confirm that it is consistent with your investment philosophy:

- We will continue to focus relentlessly on our customers.
- We will continue to make investment decisions in light of long-term market leadership considerations rather than short-term profitability considerations or short-term Wall Street reactions.
- We will continue to measure our programs and the effectiveness of our investments analytically, to jettison those that do not provide acceptable returns, and to step up our investment in those that work best. We will continue to learn from both our successes and our failures.

- We will make bold rather than timid investment decisions where we see a sufficient probability of gaining market leadership advantages. Some of these investments will pay off, others will not, and we will have learned another valuable lesson in either case.
- When forced to choose between optimizing the appearance of our GAAP accounting and maximizing the present value of future cash flows, we'll take the cash flows.
- We will share our strategic thought processes with you when we make bold choices (to the extent competitive pressures allow), so that you may evaluate for yourselves whether we are making rational long-term leadership investments.
- We will work hard to spend wisely and maintain our lean culture. We understand the importance of continually reinforcing a cost-conscious culture, particularly in a business incurring net losses.
- We will balance our focus on growth with emphasis on long-term profitability and capital management. At this stage, we choose to prioritize growth because we believe that scale is central to achieving the potential of our business model.
- We will continue to focus on hiring and retaining versatile and talented employees, and continue to weight their compensation to stock options rather than cash. We know our success will be largely affected by our ability to attract and retain a motivated employee base, each of whom must think like, and therefore must actually be, an owner.

We aren't so bold as to claim that the above is the "right" investment philosophy, but it's ours, and we would be remiss if we weren't clear in the approach we have taken and will continue to take.

With this foundation, we would like to turn to a review of our business focus, our progress in 1997, and our outlook for the future.

Obsess Over Customers

From the beginning, our focus has been on offering our customers compelling value. We realized that the Web was, and still is, the World Wide Wait. Therefore, we set out to offer customers something they simply could not get any other way, and began serving them with books. We brought them much more selection than was possible in a physical store (our store would now occupy 6 football fields), and presented it in a useful, easy-to-search, and easy-to-browse format in a store open 365 days a year, 24 hours a day. We maintained a dogged focus on improving the shopping experience, and in 1997 substantially enhanced our store. We now offer customers gift certificates, 1-ClickSM shopping, and vastly more reviews, content, browsing options, and recommendation features. We dramatically lowered prices, further increasing customer value. Word of mouth remains the most powerful customer acquisition tool we have, and we are grateful for the trust our customers have placed in us. Repeat purchases and word of mouth have combined to make Amazon.com the market leader in online bookselling.

By many measures, Amazon.com came a long way in 1997:

- Sales grew from \$15.7 million in 1996 to \$147.8 million – an 838% increase.
- Cumulative customer accounts grew from 180,000 to 1,510,000 – a 738% increase.
- The percentage of orders from repeat customers grew from over 46% in the fourth quarter of 1996 to over 58% in the same period in 1997.
- In terms of audience reach, per Media Metrix, our Web site went from a rank of 90th to within the top 20.
- We established long-term relationships with many important strategic partners, including America Online, Yahoo!, Excite, Netscape, GeoCities, AltaVista, @Home, and Prodigy.

Infrastructure

During 1997, we worked hard to expand our business infrastructure to support these greatly increased traffic, sales, and service levels:

- Amazon.com's employee base grew from 158 to 614, and we significantly strengthened our management team.
- Distribution center capacity grew from 50,000 to 285,000 square feet, including a 70% expansion of our Seattle facilities and the launch of our second distribution center in Delaware in November.
- Inventories rose to over 200,000 titles at year-end, enabling us to improve availability for our customers.
- Our cash and investment balances at year-end were \$125 million, thanks to our initial public offering in May 1997 and our \$75 million loan, affording us substantial strategic flexibility.

Our Employees

The past year's success is the product of a talented, smart, hard-working group, and I take great pride in being a part of this team. Setting the bar high in our approach to hiring has been, and will continue to be, the single most important element of Amazon.com's success.

It's not easy to work here (when I interview people I tell them, "You can work long, hard, or smart, but at Amazon.com you can't choose two out of three"), but we are working to build something important, something that matters to our customers, something that we can all tell our grandchildren about. Such things aren't meant to be easy. We are incredibly fortunate to have this group of dedicated employees whose sacrifices and passion build Amazon.com.

Goals for 1998

We are still in the early stages of learning how to bring new value to our customers through Internet commerce and merchandising. Our goal remains to continue to solidify and extend our brand and customer base. This requires sustained investment in systems and infrastructure to support outstanding customer convenience, selection, and service while we grow. We are planning to add music to our product offering, and over time we believe that other products may be prudent investments. We also believe there are significant opportunities to better serve our customers overseas, such as reducing delivery times and better tailoring the customer experience. To be certain, a big part of the challenge for us will lie not in finding new ways to expand our business, but in prioritizing our investments.

We now know vastly more about online commerce than when Amazon.com was founded, but we still have so much to learn. Though we are optimistic, we must remain vigilant and maintain a sense of urgency. The challenges and hurdles we will face to make our long-term vision for Amazon.com a reality are several: aggressive, capable, well-funded competition; considerable growth challenges and execution risk; the risks of product and geographic expansion; and the need for large continuing investments to meet an expanding market opportunity. However, as we've long said, online bookselling, and online commerce in general, should prove to be a very large market, and it's likely that a number of companies will see significant benefit. We feel good about what we've done, and even more excited about what we want to do.

1997 was indeed an incredible year. We at Amazon.com are grateful to our customers for their business and trust, to each other for our hard work, and to our shareholders for their support and encouragement.



Jeffrey P. Bezos
Founder and Chief Executive Officer
Amazon.com, Inc.

Netflix

Shareholder Letter (2020 Q1 Earnings)

— 4/21/2020

April 21, 2020

Fellow Shareholders,

In our 20+ year history, we have never seen a future more uncertain or unsettling. The coronavirus has reached every corner of the world and, in the absence of a widespread treatment or vaccine, no one knows how or when this terrible crisis will end. What's clear is the escalating human cost in terms of lost lives and lost jobs, with tens of millions of people now out of work.

At Netflix, we're acutely aware that we are fortunate to have a service that is even more meaningful to people confined at home, and which we can operate remotely with minimal disruption in the short to medium term. Like other home entertainment services, we're seeing temporarily higher viewing and increased membership growth. In our case, this is offset by a sharply stronger US dollar, depressing our international revenue, resulting in revenue-as-forecast. We expect viewing to decline and membership growth to decelerate as home confinement ends, which we hope is soon.

By helping people connect with stories they love, we are able to provide comfort and escape as well as a sense of community during this pandemic. So our focus has been on maintaining the quality of our service while our employees around the world adapt to working from home.

For the most part, this has gone smoothly. Our product teams, for example, have been relatively unaffected. As a precaution, we have temporarily reduced the number of product innovations we try, while continuing to release features that we know will add meaningful value for our members, such as improved parental controls.

However, we have seen significant disruption when it comes to customer support and content production. On the customer support side, we've now fixed most of our work-from-home challenges. In addition, we've taken on another 2,000 agents (all working remotely), so our customer service levels are almost fully restored despite the increased demand.

When it comes to production, almost all filming has now been stopped globally, with the exception of a few countries like Korea and Iceland. This has been devastating for millions of workers in the TV and film industry - electricians, hair and make-up artists, carpenters and drivers who are often paid hourly wages and work project-to-project.

In March, we created a [\\$100 million fund](#) to help with hardship in the industry, starting with the hardest hit workers on our productions, where Netflix has the greatest responsibility. We will have paid these crews for about seven weeks, with the goal of providing a bridge until government safety nets kick in. In addition, we're donating \$30 million to third parties and non-profits, providing emergency relief to out-of-work crew and cast across the broader TV and film industry in countries where we have a large production base.

This includes donations of \$1 million each to the [SAG-AFTRA Foundation COVID-19 Disaster Fund](#), the [Motion Picture and Television Fund](#) and the [Actors Fund Emergency Assistance](#) in the US, and \$1 million between the [AFC](#) and [Fondation des Artistes](#) in Canada. These are all well established hardship funds. In

other countries where no such funds exist, we've been working to set them up, including in the UK (£1 million) with the [British Film Institute](#), in Italy (€1 million) with the [Italian Film Commission](#), in France (€1 million) with [Audiens](#), in Brazil (R\$5 million) with the [Brazilian Institute of Audiovisual Content](#), in Mexico (\$1 million) with the [Mexican Academy of Film Arts and Sciences](#), in Spain (€1 million) with the [Ministry of Culture and Sport, Accion Cultural and the Film Academy](#) and in the Netherlands (€1 million) with the [Netherlands Film Fund](#).

In total, we have committed to spend \$150 million supporting the industry through this crisis.

Netflix's culture is designed to empower decision making at all levels of the company. Throughout this crisis, our employees have been working tirelessly to maintain the quality of our service and to find quick, practical solutions to the problems Netflix and our partners face.

For example, within two weeks of the shelter-in-place orders coming into effect in Los Angeles, most of our animation production team was back up and running, working from home. On the post production side, we've been able to get 200+ projects going remotely. Most of our series writers' rooms are operating virtually. However, we've been unable to create dubs in Italian and some other languages due to home confinement of our voice talent for a handful of titles launching in April and May. But we hope that with the help of guilds around the world, voice actors can be set up from home, ensuring that they can stay safe and continue to earn a living. Similar efforts are underway for both music and visual effects.

This pandemic has demonstrated the importance of a strong Internet like never before. Over the years, we've invested heavily in Open Connect, a pioneering caching system that puts our library of content as close to members' homes as possible. This enables ISPs to run their networks more efficiently and at a lower cost. However, given the surge in internet use, networks in some countries have struggled to cope.

In March, we were asked by a number of governments and ISPs to temporarily reduce the network traffic of our members. Using our Open Connect technology, our engineering team was able to respond immediately, [reducing network use by 25 percent](#) virtually overnight in those countries, while also substantially maintaining the quality of our service, including in higher definition. We're now working with ISPs to help increase capacity so that we can lift these limitations as conditions improve.

Netflix employees have been outstanding and to help them support their local communities, we've doubled our charitable match giving program for 2020. So for every \$1 donated by our employees to an organization, we now donate an additional \$2 to that organization.

Last, and most important of all, we want to say thank you on behalf of all our employees to the heroic doctors, nurses and first responders fighting this pandemic on the frontlines and the grocery, restaurant and other essential workers who take risks to make sure our families are fed and taken care of. We are truly inspired and humbled by you.

Our summary results for Q1 and our Q2 forecast can be found in the table below.

(in millions except per share data and Streaming Content Obligations)	Q1'19	Q2'19	Q3'19	Q4'19	Q1'20	Q2'20 Forecast
Revenue	\$ 4,521	\$ 4,923	\$ 5,245	\$ 5,467	\$ 5,768	\$ 6,048
Y/Y % Growth	22.2%	26.0%	31.1%	30.6%	27.6%	22.8%
Operating Income	\$ 459	\$ 706	\$ 980	\$ 459	\$ 958	\$ 1,080
Operating Margin	10.2%	14.3%	18.7%	8.4%	16.6%	17.9%
Net Income	\$ 344	\$ 271	\$ 665	\$ 587	\$ 709	\$ 820
Diluted EPS	\$ 0.76	\$ 0.60	\$ 1.47	\$ 1.30	\$ 1.57	\$ 1.81
Global Streaming Paid Memberships	148.86	151.56	158.33	167.09	182.86	190.36
Y/Y % Growth	25.2%	21.9%	21.4%	20.0%	22.8%	25.6%
Global Streaming Paid Net Additions	9.60	2.70	6.77	8.76	15.77	7.50
Net cash provided by (used in) operating activities	\$ (380)	\$ (544)	\$ (502)	\$ (1,462)	\$ 260	
Free Cash Flow*	\$ (460)	\$ (594)	\$ (551)	\$ (1,670)	\$ 162	
Adjusted EBITDA**	\$ 584	\$ 836	\$ 1,107	\$ 586	\$ 1,084	
Shares (FD)	451.9	452.2	451.6	451.4	452.5	
Streaming Content Obligations*** (\$B)	18.9	18.5	19.1	19.5	19.2	
Note: Figures are consolidated, including DVD.						
* Free cash flow represents Net Cash provided by (used in) operating and investing activities						
** Adjusted EBITDA represents net income before interest expense and other income/expense, income taxes, depreciation and amortization of property and equipment and further adjusted to exclude other non-cash charges or non-recurring items						
*** Corresponds to our total known streaming content obligations as defined in our financial statements and related notes in our most recently filed SEC Form 10-K						

Q1 Results and Q2 Forecast

Despite paid net additions that were higher than forecast, revenue was in-line with our guidance due to the appreciation in the US dollar vs. other currencies. Excluding a -\$115m impact from F/X, streaming ARPU grew 8% year over year. Operating margin of 16.6% (vs. 10.2% in the prior year quarter) was lower than our 18.0% forecast as we incurred \$218m in incremental content costs due to paused productions and hardship fund commitments (a 3.8 percentage point impact to operating margin).

There are three primary effects on our financial performance from the crisis. First, our membership growth has temporarily accelerated due to home confinement. Second, our international revenue will be less than previously forecast due to the dollar rising sharply. Third, due to the production shutdown, some cash spending on content will be delayed, improving our free cash flow, and some title releases will be delayed, typically by a quarter. More on each of these three effects below.

During the first two months of Q1, our membership growth was similar to the prior two years, including in UCAN. Then, with lockdown orders in many countries starting in March, many more households joined Netflix to enjoy entertainment. This timing of paid membership additions also affected our Q1'20 global streaming ARPU; this was the primary driver of the sequential decline in streaming ARPU as the revenue impact from these additions late in the quarter will be mostly felt in Q2'20 and beyond.

Hopefully, progress against the virus will allow governments to lift the home confinement soon. As that happens, we expect viewing and growth to decline. Our internal forecast and guidance is for 7.5 million global paid net additions in Q2. Given the uncertainty on home confinement timing, this is mostly guesswork. The actual Q2 numbers could end up well below or well above that, depending on many

factors including when people can go back to their social lives in various countries and how much people take a break from television after the lockdown. Some of the lockdown growth will turn out to be pull-forward from the multi-year organic growth trend, resulting in slower growth after the lockdown is lifted country-by-country. Intuitively, the person who didn't join Netflix during the entire confinement is not likely to join soon after the confinement. Plus, last year we had new seasons of *Money Heist* and *Stranger Things* in Q3, which were not planned for this year's Q3. Therefore, we currently guess that Q3'20 and Q4'20 will have lower net additions than last year due to these effects.

Second, partially due to the crisis, the US dollar has appreciated significantly, which creates a drag on international revenue growth. As an example, the price for our standard plan in Brazil is R\$33, which used to be \$8.5 last year but now is \$6.5 based on April 2020 F/X rates, so we have a ~25% decline in US dollar average subscription price from Brazil, which offsets strong membership growth.

Third, we've paused most of our productions across the world in response to government lockdowns and guidance from local public health officials. In Q2, there is only a modest impact on our new releases, which is primarily language dubbing. No one knows how long it will be until we can safely restart physical production in various countries, and, once we can, what international travel will be possible, and how negotiations for various resources (e.g., talent, stages, and post-production) will play out. The impact on us is less cash spending this year as some content projects are pushed out. We are working hard to complete the content we know our members want and we're complementing this effort with additional licensed films and series.

Our content competitors and suppliers will be impacted about as much as we are, in terms of new titles. Since we have a large library with thousands of titles for viewing and very strong recommendations, our member satisfaction may be less impacted than our peers' by a shortage of new content, but it will take time to tell.

We continue to target a 16% operating margin for the full year 2020, despite the extra costs in Q1. As a reminder, more than half of our revenue is not denominated in US dollars and we don't hedge our foreign exchange exposure. If the US dollar remains at these elevated levels (or strengthens further), we may target modestly slower growth in our annual operating margin progression next year. Given that lead time, we believe we can readjust our model to be appropriate in that new stronger US dollar world.

Content

As people shelter at home, our hope is that we can help make that experience more bearable by providing a diverse range of high quality content for our members. While our productions are largely paused around the world, we benefit from a large pipeline of content that was either complete and ready for launch or in post-production when filming stopped.

For Q2, we're looking forward to releasing all of our originally planned shows and films (with some language dubbing impacts on a few titles). We're also finding ways to bolster our programming this year - including the recent acquisition of Paramount's and Media Rights Capital's [The Lovebirds](#), a comedy starring Issa Rae and Kumail Nanjiani, for Q2'20 and Legendary Pictures' [Enola Holmes](#) starring Millie Bobby Brown, Helena Bonham Carter, Henry Cavill, and Sam Claflin, for Q3 '20. So, while we're certainly

impacted by the global production pause, we expect to continue to be able to provide a terrific variety of new titles throughout 2020 and 2021.

Our Q1 slate highlighted the variety of content that people enjoy en masse all over the world on Netflix: scripted English language series like *Ozark* season 3 (a projected 29m member households will have chosen to watch this season in its first four weeks), the riveting docu-series *Tiger King: Murder, Mayhem and Madness* (64m), our breakthrough unscripted dating show [Love is Blind](#) (30m), original film *Spenser Confidential* (85m), and season four of the Spanish language hit *La Casa de Papel*, aka *Money Heist* (a projected 65m), which debuted in early April.

In Q2, we are looking forward to the launch of *Space Force*, our new original comedy series created by Greg Daniels (*The Office*) and Steve Carell, starring Carell, John Malkovich and Lisa Kudrow. We just launched our latest buzzy unscripted series *Too Hot to Handle*, *#BlackAF* from Kenya Barris and, outside the US, the Michael Jordan documentary *The Last Dance*, which we co-produced with ESPN (launching on Netflix in the US on July 19). We will also premiere [Hollywood](#) from Ryan Murphy, and, later this week, [Extraction](#), a large scale action film starring Chris Hemsworth and directed by Sam Hargrave, who was the stunt coordinator and choreographer on films like *Avengers: Endgame*, *Avengers: Infinity War*, *Deadpool 2*, and *Captain America: Civil War*.

Product

In February, we rolled out our [Top 10 most popular lists](#) to nearly 100 countries, after testing this feature last year in the UK and Mexico. In each of these countries, there are now three daily lists: Top 10 overall, Top 10 series and Top 10 films. Our goal with this feature is to help members find great TV shows and films and enable them to be part of the cultural zeitgeist in their country.

Recently, we've also enhanced our parental controls for our service to improve the experience for family members of all ages. [Updates](#) include (i) PIN-controlled access to content by maturity level; (ii) the ability to PIN protect specific titles as well as profiles; (iii) Profile-level content filtering; (iv) the ability to create kids' experiences that can be customized for different age groups ('teens and below,' 'older kids and below' and 'little kids'); and (v) the ability to disable post-play for kids from account settings.

Cash Flow and Capital Structure

In Q1, net cash used in operating activities was +\$260 million vs. -\$380 million in the prior year period. Free cash flow¹ totaled +\$162 million compared with -\$460 million in the year ago quarter. As we stated last quarter, our FCF profile is beginning to improve due to growing operating margin and profits and as we digest our big move into the production of Netflix originals (which requires more cash upfront vs. later-window content) that started five years ago.

With our productions currently paused, this will shift out some cash spending on content to future years. As a result, we're now expecting 2020 FCF of -\$1 billion or better (compared with our prior 2020 expectation of -\$2.5 billion and -\$3.3 billion actual in 2019). This dynamic may result in more lumpiness

¹ For a reconciliation of free cash flow to net cash (used in) operating activities, please refer to the reconciliation in tabular form on the attached unaudited financial statements and the footnotes thereto.

in our path to sustained FCF profitability (as, prior to the pandemic, we had been planning for annual improvement in FCF). However, there has been no material change to our overall time table to reach consistent annual positive FCF and we believe that 2019 will still represent the peak in our annual FCF deficit.

We finished the quarter with cash of \$5.2 billion, while our \$750m unsecured credit facility remains undrawn. Combined with our improved FCF outlook for 2020, we have more than 12 months of liquidity and substantial financial flexibility. Our financing strategy remains unchanged - our current plan is to continue to use debt to finance our investment needs.

Reference

For quick reference, our eight most recent investor letters are: [January 2020](#), [October 2019](#), [July 2019](#), [April 2019](#), [January 2019](#), [October 2018](#), [July 2018](#), [April 2018](#).

Appendix

(in millions)	Q1'19	Q2'19	Q3'19	Q4'19	Q1'20
UCAN Streaming:					
Revenue	\$ 2,257	\$ 2,501	\$ 2,621	\$ 2,672	\$ 2,703
Paid Memberships	66.63	66.50	67.11	67.66	69.97
Paid Net Additions	1.88	-0.13	0.61	0.55	2.31
ARPU	\$ 11.45	\$ 12.52	\$ 13.08	\$ 13.22	\$ 13.09
Y/Y % Growth	4%	12%	17%	17%	14%
F/X Neutral Y/Y % ARPU Growth	4%	13%	17%	17%	14%
EMEA:					
Revenue	\$ 1,233	\$ 1,319	\$ 1,428	\$ 1,563	\$ 1,723
Paid Memberships	42.54	44.23	47.36	51.78	58.73
Paid Net Additions	4.72	1.69	3.13	4.42	6.96
ARPU	\$ 10.23	\$ 10.13	\$ 10.40	\$ 10.51	\$ 10.40
Y/Y % Growth	-4%	-6%	1%	3%	2%
F/X Neutral Y/Y % ARPU Growth	2%	3%	6%	7%	4%
LATAM:					
Revenue	\$ 630	\$ 677	\$ 741	\$ 746	\$ 793
Paid Memberships	27.55	27.89	29.38	31.42	34.32
Paid Net Additions	1.47	0.34	1.49	2.04	2.90
ARPU	\$ 7.84	\$ 8.14	\$ 8.63	\$ 8.18	\$ 8.05
Y/Y % Growth	-11%	-5%	8%	9%	3%
F/X Neutral Y/Y % ARPU Growth	7%	12%	17%	18%	12%
APAC:					
Revenue	\$ 320	\$ 349	\$ 382	\$ 418	\$ 484
Paid Memberships	12.14	12.94	14.49	16.23	19.84
Paid Net Additions	1.53	0.80	1.54	1.75	3.60
ARPU	\$ 9.37	\$ 9.29	\$ 9.29	\$ 9.07	\$ 8.94
Y/Y % Growth	-2%	-1%	0%	-1%	-5%
F/X Neutral Y/Y % ARPU Growth	3%	5%	3%	0%	-3%

April 21, 2020 Earnings Interview, 3pm PT

Our video interview with Michael Morris of Guggenheim Securities will be on [youtube/netflixir](https://www.youtube.com/watch?v=netflixir) at 3pm PT today. Questions that investors would like to see asked should be sent to michael.morris@guggenheimpartners.com. Reed Hastings, CEO, Spence Neumann, CFO, Ted Sarandos, Chief Content Officer, Greg Peters, Chief Product Officer and Spencer Wang, VP of IR/Corporate Development will all be on the video to answer Michael's questions.

<p>IR Contact: Spencer Wang VP, Finance/IR & Corporate Development 408 809-5360</p>	<p>PR Contact: Richard Siklos VP, Communications 408 540-2629</p>
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Use of Non-GAAP Measures

This shareholder letter and its attachments include reference to the non-GAAP financial measure of free cash flow and adjusted EBITDA. Management believes that free cash flow and adjusted EBITDA are important liquidity metrics because they measure, during a given period, the amount of cash generated that is available to repay debt obligations, make investments and for certain other activities or the amount of cash used in operations, including investments in global streaming content. However, these non-GAAP measures should be considered in addition to, not as a substitute for or superior to, net income, operating income, diluted earnings per share and net cash provided by operating activities, or other financial measures prepared in accordance with GAAP. Reconciliation to the GAAP equivalent of these non-GAAP measures are contained in tabular form on the attached unaudited financial statements.

Forward-Looking Statements

This shareholder letter contains certain forward-looking statements within the meaning of the federal securities laws, including statements regarding the business impact of the coronavirus (COVID-19) pandemic, including on viewing hours, membership growth, new content releases including delays and impact of delays on consumers, restarting production and post-production activities, lifting of restrictions on our network use, the end of “shelter in place” orders and other home confinement, international revenue growth, cash spending on content, free cash flow, and the impact on competitors and suppliers; product innovation and releases; content availability and future content offerings; cash use, including content spend; liquidity; free cash flow; future capital raises; consolidated revenue, revenue growth, operating income, operating margin, net income, earnings per share, global streaming paid members and membership growth, and global streaming paid net additions. The forward-looking statements in this letter are subject to risks and uncertainties that could cause actual results and events to differ, including, without limitation: our ability to attract new members and retain existing members; our ability to compete effectively; maintenance and expansion of device platforms for streaming; fluctuations in consumer usage of our service; service disruptions; production risks; actions of Internet Service Providers; competition, including consumer adoption of different modes of viewing in-home filmed entertainment; and the impact of the coronavirus (COVID-19) pandemic. A detailed discussion of these and other risks and uncertainties that could cause actual results and events to differ materially from such forward-looking statements is included in our filings with the Securities and Exchange Commission, including our Annual Report on Form 10-K, filed with the Securities and Exchange Commission (“SEC”) on January 29, 2020. The Company provides internal forecast numbers. Investors should anticipate that actual performance will vary from these forecast numbers based on risks and uncertainties discussed above and in our Annual Report on Form 10-K. We undertake no obligation to update forward-looking statements to reflect events or circumstances occurring after the date of this shareholder letter.

Netflix, Inc.**Consolidated Statements of Operations**

(unaudited)

(in thousands, except per share data)

	Three Months Ended		
	March 31, 2020	December 31, 2019	March 31, 2019
Revenues	\$ 5,767,691	\$ 5,467,434	\$ 4,520,992
Cost of revenues	3,599,701	3,466,023	2,870,614
Marketing	503,830	878,937	616,578
Technology and development	453,817	409,376	372,764
General and administrative	252,087	254,586	201,952
Operating income	958,256	458,512	459,084
Other income (expense):			
Interest expense	(184,083)	(177,801)	(135,529)
Interest and other income (expense)	21,697	(131,378)	76,104
Income before income taxes	795,870	149,333	399,659
Provision for (benefit from) income taxes	86,803	(437,637)	55,607
Net income	\$ 709,067	\$ 586,970	\$ 344,052
Earnings per share:			
Basic	\$ 1.61	\$ 1.34	\$ 0.79
Diluted	\$ 1.57	\$ 1.30	\$ 0.76
Weighted-average common shares outstanding:			
Basic	439,352	438,547	436,947
Diluted	452,494	451,367	451,922

Netflix, Inc.**Consolidated Balance Sheets**

(in thousands)

	As of	
	March 31, 2020 (unaudited)	December 31, 2019
Assets		
Current assets:		
Cash and cash equivalents	\$ 5,151,884	\$ 5,018,437
Other current assets	1,295,897	1,160,067
Total current assets	6,447,781	6,178,504
Content assets, net	25,266,889	24,504,567
Property and equipment, net	650,455	565,221
Other non-current assets	2,694,785	2,727,420
Total assets	<u>\$ 35,059,910</u>	<u>\$ 33,975,712</u>
Liabilities and Stockholders' Equity		
Current liabilities:		
Current content liabilities	\$ 4,761,585	\$ 4,413,561
Accounts payable	545,488	674,347
Accrued expenses and other liabilities	1,061,090	843,043
Deferred revenue	986,753	924,745
Short-term debt	498,809	—
Total current liabilities	7,853,725	6,855,696
Non-current content liabilities	3,206,051	3,334,323
Long-term debt	14,170,692	14,759,260
Other non-current liabilities	1,420,148	1,444,276
Total liabilities	26,650,616	26,393,555
Stockholders' equity:		
Common stock	2,935,532	2,793,929
Accumulated other comprehensive loss	(47,054)	(23,521)
Retained earnings	5,520,816	4,811,749
Total stockholders' equity	8,409,294	7,582,157
Total liabilities and stockholders' equity	<u>\$ 35,059,910</u>	<u>\$ 33,975,712</u>

Netflix, Inc.

Consolidated Statements of Cash Flows
(unaudited)
(in thousands)

	Three Months Ended		
	March 31, 2020	December 31, 2019	March 31, 2019
Cash flows from operating activities:			
Net income	\$ 709,067	\$ 586,970	\$ 344,052
Adjustments to reconcile net income to net cash provided by (used in) operating activities:			
Additions to content assets	(3,294,275)	(3,945,542)	(2,997,746)
Change in content liabilities	258,945	(571,351)	(14,698)
Amortization of content assets	2,483,385	2,579,669	2,124,686
Depreciation and amortization of property, equipment and intangibles	28,517	27,818	23,561
Stock-based compensation expense	97,019	100,066	101,200
Other non-cash items	65,448	63,893	45,708
Foreign currency remeasurement loss (gain) on debt	(93,060)	122,100	(57,600)
Deferred taxes	46,619	(188,694)	6,627
Changes in operating assets and liabilities:			
Other current assets	(127,353)	(195,951)	(32,076)
Accounts payable	(149,153)	230,847	(124,467)
Accrued expenses and other liabilities	214,191	(234,036)	157,647
Deferred revenue	62,008	9,239	47,793
Other non-current assets and liabilities	(41,446)	(47,003)	(4,486)
Net cash provided by (used in) operating activities	<u>259,912</u>	<u>(1,461,975)</u>	<u>(379,799)</u>
Cash flows from investing activities:			
Purchases of property and equipment	(98,015)	(107,737)	(60,381)
Change in other assets	(288)	(99,834)	(19,722)
Net cash used in investing activities	<u>(98,303)</u>	<u>(207,571)</u>	<u>(80,103)</u>
Cash flows from financing activities:			
Proceeds from issuance of debt	—	2,226,110	—
Debt issuance costs	—	(17,942)	—
Proceeds from issuance of common stock	43,694	15,633	22,972
Net cash provided by financing activities	<u>43,694</u>	<u>2,223,801</u>	<u>22,972</u>
Effect of exchange rate changes on cash, cash equivalents, and restricted cash	(70,902)	29,810	(5,014)
Net increase (decrease) in cash, cash equivalents, and restricted cash	134,401	584,065	(441,944)
Cash, cash equivalents and restricted cash at beginning of period	5,043,786	4,459,721	3,812,041
Cash, cash equivalents and restricted cash at end of period	<u>\$ 5,178,187</u>	<u>\$ 5,043,786</u>	<u>\$ 3,370,097</u>
Three Months Ended			
	March 31, 2020	December 31, 2019	March 31, 2019
Non-GAAP free cash flow reconciliation:			
Net cash provided by (used in) operating activities	\$ 259,912	\$ (1,461,975)	\$ (379,799)
Net cash used in investing activities	(98,303)	(207,571)	(80,103)
Non-GAAP free cash flow	<u>\$ 161,609</u>	<u>\$ (1,669,546)</u>	<u>\$ (459,902)</u>

Netflix, Inc.

Streaming Revenue and Membership Information by Region

(unaudited)

(in thousands, except revenue per membership)

	As of / Three Months Ended		
	March 31, 2020	December 31, 2019	March 31, 2019
United States and Canada (UCAN)			
Revenues	\$ 2,702,776	\$ 2,671,908	\$ 2,256,851
Paid net membership additions	2,307	548	1,876
Paid memberships at end of period	69,969	67,662	66,633
Average paying memberships	68,816	67,388	65,695
Average monthly revenue per paying membership	\$ 13.09	\$ 13.22	\$ 11.45
Europe, Middle East, and Africa (EMEA)			
Revenues	\$ 1,723,474	\$ 1,562,561	\$ 1,233,379
Paid net membership additions	6,956	4,423	4,724
Paid memberships at end of period	58,734	51,778	42,542
Average paying memberships	55,256	49,567	40,180
Average monthly revenue per paying membership	\$ 10.40	\$ 10.51	\$ 10.23
Latin America (LATAM)			
Revenues	\$ 793,453	\$ 746,392	\$ 630,472
Paid net membership additions	2,901	2,037	1,470
Paid memberships at end of period	34,318	31,417	27,547
Average paying memberships	32,868	30,399	26,812
Average monthly revenue per paying membership	\$ 8.05	\$ 8.18	\$ 7.84
Asia-Pacific (APAC)			
Revenues	\$ 483,660	\$ 418,121	\$ 319,602
Paid net membership additions	3,602	1,748	1,534
Paid memberships at end of period	19,835	16,233	12,141
Average paying memberships	18,034	15,359	11,374
Average monthly revenue per paying membership	\$ 8.94	\$ 9.07	\$ 9.37
Total Streaming			
Revenues	\$ 5,703,363	\$ 5,398,982	\$ 4,440,304
Paid net membership additions	15,766	8,756	9,604
Paid memberships at end of period	182,856	167,090	148,863
Average paying memberships	174,973	162,712	144,061
Average monthly revenue per paying membership	\$ 10.87	\$ 11.06	\$ 10.27

Netflix, Inc.**Non-GAAP Information**

(unaudited)

(in thousands)

	<u>March 31,</u> <u>2019</u>	<u>June 30,</u> <u>2019</u>	<u>September 30,</u> <u>2019</u>	<u>December 31,</u> <u>2019</u>	<u>March 31,</u> <u>2020</u>
Non-GAAP Adjusted EBITDA reconciliation:					
GAAP net income	\$ 344,052	\$ 270,650	\$ 665,244	\$ 586,970	\$ 709,067
Add:					
Other expense (income)	59,425	205,503	(32,084)	309,179	162,386
Provision for (benefit from) income taxes	55,607	230,266	347,079	(437,637)	86,803
Depreciation and amortization of property, equipment and intangibles	23,561	25,496	26,704	27,818	28,517
Stock-based compensation expense	101,200	103,848	100,262	100,066	97,019
Adjusted EBITDA	<u>\$ 583,845</u>	<u>\$ 835,763</u>	<u>\$ 1,107,205</u>	<u>\$ 586,396</u>	<u>\$ 1,083,792</u>

Pinduoduo

Shareholder Letter (2019 Annual Report) — 4/25/2020

by Colin Zheng

2020 Pinduoduo Letter to Shareholders

April 25, 2020

What time?

In February, the world learned a new word, “COVID-19”, which upended our lives. As I write this, half of the world remains confined at home, waiting for the tiny virus that causes COVID-19 to leave us. During the early days of the outbreak, as we waited in solidarity, we eagerly hoped to return to normal. But as the world has been put on hold week after week, we start to forget time.

We cannot help but ask ourselves, what is the time we are in now and what is time?

We are in a time of crisis – of division, misinformation, and chaos. The virus has caused countless conflicts and contrasts as we watch the news around us and worldwide. It is an unprecedented time to most of us. Yet if we put it in the context of the human history, it might just be a normal incident, a drop in the ocean.

This virus is a messenger by Mother Nature. Out of self-protection and preservation, our bodies desperately fought it using all the strength and energy available. Soon enough, the war against this seemingly unstoppable virus extended from our own bodies to the broader organisms that make up our society (if we see every institution as a living organism made up of people and relationships with a mission and purpose). Companies, governments, countries, big and small, are all scrambling in their own ways to combat this life-threatening virus. In these attempts, we possibly have unintentionally introduced more damage to ourselves.

These all started with an almost invisible virus, a tiny messenger carrying some information (RNA) and a negligible amount of energy that, independent of a host, cannot even replicate. It is in stark contrast with nuclear threat, the power we feared for decades. Which is more capable of greater and more prolonged damage to our human society then - a mushroom cloud representing massive destructive energy, or a “messenger” with virtually no energy?

We cannot help but wonder if this is a lesson purposefully delivered, a punishment, a redemption, or simple irony? No matter what it is, it is surreal to me.

Time for new

When Einstein wrote down his famous $E=MC^2$, he elegantly (in some sense also arrogantly) depicted a physical world in his mind. However, what he did not explain in his theory of relativity is the relationship between the human mind and the physical world, nor the relationship between energy and information.

Today, in this bizarre time, millions of people are staying at home, physically cut off from their families and friends. Yet we are connected and unified in spirit through shared sentiment, which in turn affects the physical world. The boundaries between the virtual and physical worlds are unprecedentedly blurred, and we are beginning to see (not just envision) a new world. In this new world, the phrase “virtual reality” is obsolete. Reality has become virtual and virtual has become part of reality. Similarly, the distinction between humanity’s physical needs and spiritual needs is also becoming vague.

When this tiny virus was dropped into our world, it acted just like a catalyst in a test tube, accelerating the formation of a whole new world. Inevitably, some dimensions of the previous world are being restructured, some rules are being rewritten. The impact of this sweeping force will fundamentally and permanently change the world we are in now. Just like what I explained in the previous shareholder letters

about PDD's formation, new models are bound to emerge and grow in a whole new setup. We are indeed seeing the phasing out of some as new ones emerge. It is the time of reestablishment.

Feel the time

1. Time with an arrow/direction

Human beings have long used reason to try to understand and control the world. In many cases, we succeeded, for example, science. In science, we strive to detach ourselves from the physical world we are in, to watch it as if we are a higher being "objectively" observing, understanding, and defining the world into a finite number of equations. In this framework, time is a reversible parameter in the equation $-t = (-)t$. It is merely a parameter in an equation to describe a predetermined trajectory of an object.

However, when an almost invisible virus awoken us to the reality that we are not above the world, but just a negligible part of the world to be observed, the only thing we can do is to sit still and let time carry its course. We then realize time is not really a parameter in an equation, but an irreversible vector. It is a silent and relentless directional force driving everything we see and feel. It effortlessly creates asymmetry, irreversibility and mortality, no matter how stubbornly and desperately we yearn for symmetry and immortality.

While the first law of thermodynamics ($\Delta U = Q - W$) gives us a sense of control and certainty, the second law ($\Delta S \geq 0$) humbles us to acknowledge the unknown beyond just force and mass we used to define our physical world. Entropy (S) also relates to information. I am not sure if entropy relates to the spiritual world, but it does help us feel and comprehend time. Again, it is not a reversible parameter, but a silent and irreversible driving force beyond and behind both the physical and the spiritual world.

2. Time, crowd and uncertainty

When Newton revealed $F = M(dV/dT)$, it gave us a delusive sense of control, or at least it allowed our wishful thinking that we can finally harness force. We no longer have to worry, because every object has a calculable trajectory determined by its position, mass, velocity and force. We assume each object's current state fully encompasses and explains its past and that each object is independent. With that, large number of interactions among large number of objects over time would increase complexity and appear chaotic and uncertain, hence probabilistic. It seems that time has created this chaos and uncertainty. And probability is just a statistical aggregation of the trajectories of a large number of objects.

However, when we are isolated at home, waiting with anxiety and unsettling emotions, we start to doubt whether the notion of each object being independent is really a valid assumption in our attempt to understand and explain the world. In our yearning for certainty, we have conveniently chosen to accept some assumptions, such as independence among each object, that can help us explain the world. Our desire for certainty is so strong that we start believing it is truth.

But what if probability is a fundamental feature of each object, rather than a result of statistical aggregation? What if the large number of objects is intrinsically intertwined and interrelated? Just like our human society, no matter how independent each individual is, we are intrinsically connected both physically and spiritually. And these connections define who we are and our existence.

Because of these connections, the divide-and-conquer approach is no longer effective to reduce uncertainty. Instead, we see the large number of interactions among individuals over time becoming a force that brings order and certainty to the society. Again, we feel the force and magic of time.

Seize the time

When COVID-19 swept the earth, every organism was confronted with the brutal reality of Mother Nature. Some of us who are relatively young cannot help but to feel grateful and lucky. This is not to say that we see an opportunity to take advantage of during the crisis. In fact, I despise the saying “don’t waste a crisis”. A crisis is a crisis. Nobody can come out as a winner in the midst of a catastrophe. Any wishful thinking to capture the ‘opportunities’ (or exploiting loopholes) to benefit oneself seems foolish in the face of time. It is akin to a presumptuous gambler trying to outsmart time at a casino.

Instead, we feel the urge to work even harder. Because we, more than ever, understand and appreciate how precious youth is. More than ever, we realize that we now have our duty to fulfil. We need to demonstrate that our generation is innovative and different, that in this new world, new species and new creatures are bound to emerge and grow. Mother Nature will flourish and progress, regardless of any individual’s will. Understanding these rules of nature does not make us feel superior, nor does it give us the power to rule and order. On the contrary, it humbles us to admit that we are just part of a natural evolution of the world. One poet captured it all: “As I silently look back, all the sorrows and joy, all the twists and turns, of life, vanished like sands in the desert. And now I know, all I have accomplished, is just a part of life.”[\[1\]](#)

With this perspective and in this new world, we feel humble and calm. We are tremendously grateful for our precious youth, and we feel the weight of our duty. As a result, we will be more than ever committed to investing in the future, and to be part of the driving force to the new world we are seeing. The journey has only started.

This is our *Carpe Diem*. This is our *C’est La Vie*.

Colin Zheng Huang
On behalf of Pinduoduo
April 20, 2020

P.S. I attach the letter from our IPO. It is still the beginning, and our principles stay the same.

2018 Letter to Shareholders (Reprinted from the IPO Prospectus)

Pinduoduo is not a conventional company. We founded Pinduoduo when the China market accepted the status quo of the existing e-commerce landscape and thought its formative phase had come to an end. Within three years, Pinduoduo has attracted over 300 million active buyers and over 1 million merchants through a new shopping format and experience. This exponential growth shows unlimited potential of our platform. As our three-year-old platform is still burgeoning, we know we face many obvious challenges and uncertainties ahead. Hence, why are we bringing Pinduoduo into the ebbs and flows of the capital markets so soon? We'd appreciate you hearing our thoughts in this letter.

- We think the e-commerce business is closely tied with social impacts and responsibilities, and therefore its growth and value should be shared with the public;
- We believe in the tremendous potential of our platform; therefore, if we take a long-term view, there is no difference for our listing in three years, five years or longer. On the contrary, with public scrutiny and regulatory supervision, we may grow better and stronger; and
- We envision Pinduoduo to be an organization that reports to the public. It should create value for the public, rather than being a show-off trophy for a few or carrying too much personal color. We want it to be an independent organization that brings value to the society with its unique organizational structure and corporate culture. Most importantly, it should continue to strive to better itself.

Now as the founder, I would like to give you more color on my observation and vision for Pinduoduo so as to give you a more concrete understanding of the company you are investing into.

What does Pinduoduo do?

- Pinduoduo dedicates itself to creating a commingled "space" between cyberspace and physical space, where users can find the most value-for-money merchandise that meet their different needs and derive happiness;
- Pinduoduo leverages a platform and an ecosystem comprised of hundreds of millions of users, merchants, platform management personnel/operators and platform infrastructure/service providers; while each player is interdependent with one another, all of them evolve and improve as they constantly try to balance cost-effectiveness, efficiency, user experience and satisfaction;
- Pinduoduo's survival depends on the value it creates for its users; I hope our team wakes up feeling anxious every day, never because of share price volatilities, but because of their constant fear of users departing if we are unable to anticipate and meet users' changing needs; and
- Pinduoduo is dedicated to investing in the future and will always focus on the long term. It might appear too aggressive or too conservative at times. However, it always follows the basic and simple principle—growing its long term intrinsic value.

Company Value

Pinduoduo's core value is "本分" (Ben Fen). It is difficult to express it perfectly in English, but it essentially means to adhere firmly to one's own duties and principles. There are several layers of meaning here:

- Be honest and trustworthy;
- Discharge our own duties and responsibilities regardless of others' conduct; ;
- Insulate our minds from outside pressures so that we can focus on the very simple basics of what we should be doing;
- Never take advantage of others even when we are in a position to do so;
- Self-reflect and take responsibilities when problems arise instead of blaming others.

Specifically for Pinduoduo, the management's 本分 (Ben Fen) is to relentlessly focus on value creation for our consumers. We may not always be understood, but we always do things out of goodwill and do no evil.

Going forward

In the past three years, Pinduoduo has established and promoted a new e-commerce concept and experience of "team purchase" (or "拼", "pin"). We can reasonably expect that it would evolve into a variety of "pin" formats. We also hope that other innovative formats for different user scenarios will be created just like how we have created "pin" today.

If you close your eyes and visualize the next stage for Pinduoduo, it would be an exemplification of a multi-dimensional space, seamlessly integrating cyberspace and the physical space. It would be a combination of "Costco" and "Disneyland" (value-for-money and entertainment combined), driven by a distributed network of intelligence agents (versus the popular super-brain-like centralized AI system). It not only matches information efficiently, but also constantly puts the social interactions of the universe into consideration to make the entire experience more enjoyable.

As part of the process to constantly meet users' needs, we are highly aligned to be the driving force to improve the efficiency and quality of the supply chain. One good example would be the agricultural industry. China has relatively less arable land per capita given its population and landscape. This is different from countries like the United States, where large-scale farms are prevalent, and the production and transportation of agricultural products could be highly industrialized. We find "pin" an effective solution to aggregate consumer demand, match them with batches of agricultural produce, and mobilize China's well-penetrated and affordable logistics capability to have perishable and fresh produce shipped directly from farms to users and bypass multiple layers of distribution. This not only enhances user experience, but more importantly, helps to turn small scale agriculture production of different quality, variety, and volume into a semi-customized batch processing mechanism. It lowers the unnecessary costs of agricultural consumption and potentially makes small scale customized services viable. The social impact and value to our society would far exceed our business success or the perceived valuation of the company. We are excited by the small impact we see today and think this would be a trend even beyond agriculture.

Appreciation for our investors

We are grateful to those who are willing to invest in Pinduoduo after reading through the utopian ideas above. It is not easy to take the leap of faith believing in such an unconventional company, which strives

to meet both economic and social needs of users, and to make a positive impact to the society. The pursuit and focus of our long-term vision and intrinsic value may not always translate into near-term profits. Instead, we hope to show you the true colors of our company no matter how bumpy or rough the numbers may seem to be. We ask you to ride the journey with us for the long term. We believe it will be wonderful.

So, what should you expect from Pinduoduo as an investor?

First of all, you can reasonably believe that we are far from the best we could achieve. In fact, we are probably at our most rudimentary level of services now if we look forward in 10 years' time. Yet, many of our users have chosen to believe in us. We are encouraged and have every reason to believe that as we work hard day after day to improve our services, more and more users will stick with us, believe in us.

Secondly, you should expect a team with passion that is trustworthy and always focuses on serving users and our company's intrinsic value. We have the courage and the ability to invest in long-term opportunities.

Pinduoduo, as a growing organization, will always dedicate itself to do the right things, to create value for our society, and to make this world a better and happier place.

Colin Zheng Huang
On behalf of Pinduoduo
June 2018

[\[1\]](#) 我冷眼向过去稍稍回顾，只见它曲折灌溉的悲喜，都消失在一片亘古的荒漠。这才知道我的全部努力，不过完成了普通的生活。

Venture/Growth Investors Pt. 2

Union Square Ventures (Albert Wenger)

Coronavirus: Privacy and Democracy — 2/7/2020
Coronavirus and World After Capital — 2/24/2020
Coronavirus COVID19 Preparedness — 2/25/2020
COVID19: Flatten the Curve — 3/10/2020
COVID19 What's Next? Innovation FTW — 3/16/2020
COVID19 Crisis, Business Advice, and First Principles — 3/20/2020
Putting the Economy in Suspended Animation: A Proposal — 3/21/2020
Privacy, Power, and the Commons — 3/29/2020
VC Backed Startups and PPP: Do You Really Need It? — 4/4/2020
Normalcy Bias: We Live in a Dynamic World (But People Don't Believe It — 4/6/2020
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A Plan for Rapidly Ramping COVID19 Testing — 4/18/2020
COVID19 and the Decentralization of Money — 5/2/2020

New Enterprise Associates (Jeff Immelt)

Lead Through a Crisis — 3/23/2020

Mayfield Fund (Navin Chaddha)

Thriving in Tough Times Series:

Key Learnings from Reputation Management Expert Amanda Duckworth — 4/6/2020
Christopher Lochhead Shares how Legendary Leaders Leverage Marketing — 4/13/2020
Leadership Lessons with John Baird — 4/20/2020
Sales Strategies for Today's Crisis Market w/ Lars Nilsson + Travis Henry — 4/20/2020
How to do Effective Content Marketing w/ Ben Worthen & Miguel Helft — 4/27/2020
Selling to CXOs — What Works & What Doesn't in a Tougher Economy — 4/27/2020

Bond Capital

Our New World — 4/17/2020

Union Square Ventures

Coronavirus: Privacy and Democracy — 2/7/2020

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COVID19 and the Decentralization of Money — 5/2/2020

by Albert Wenger

Coronavirus: Privacy and Democracy

2/7/2020

I have [written and spoken a lot about how technological progress is incompatible with privacy](#). One example I have used is someone bioengineering a virus in their basement. It turns out a much simpler example is what we are seeing today: a new virus that's spreading. We cannot both have fast, easy international travel and also have privacy of travelers. If you travel and later come down with the coronavirus, we need to know where you went and who else may have been exposed. At a minimum society needs to be able to notify fellow travelers. Obviously in a situation like this we should also much more rapidly restrict travel than we have done.

At the same time the new coronavirus also perfectly illustrates why technological progress means we need well functioning democracies more than ever. Authoritarian governments always will suppress news that doesn't fit with their preferred narrative, even when that news could save thousands or even millions of lives. The initial reporting of the new coronavirus by [Li Wenliang was suppressed by the local government. Sadly, yesterday he himself passed away from the disease](#). Because of much improved internal travel within China the outbreak was able to spread further and faster than it would have in the past. The initial suppression of the news may well be the reason for why this outbreak potentially cannot be contained at all.

Here is a talk I gave at Blockstack Berlin a couple of years back that lays out some of these ideas: <https://www.youtube.com/watch?v=IBUPEv6KlnM>

Coronavirus and World After Capital

2/24/2020

We are continuing to see the COVID19 coronavirus spread around the world with a big flare up in Italy. [Johns Hopkins maintains a good global map of the outbreak](#). There are now quite a few experts who believe that the virus may be impossible to contain and could result in a global pandemic. This is something the world is woefully ill prepared for.

The danger we are now finding ourselves in can be directly traced to our reliance on the market mechanism for allocating attention. A global pandemic is an example of the kind of [tail risk for which prices cannot exist](#). This is a key theme of my book [World After Capital](#) and I have been using pandemics as an alternative example to the [climate crisis](#) (another, while we are at it, are asteroid strikes).

Now why am I saying this is about attention and not capital? Don't we need way more hospital beds? Well, once a pandemic is in full swing yes we will be capital constrained for sure. But we had a long time before that to work on such things as detection and treatment. [SARS](#), which occurred nearly two decades ago, was also a coronavirus. Since then we have had another reminder of the potential danger in the form of [MERS](#) about eight years ago.

I very much hope that the experts are wrong and that COVID19 can be contained. No matter what happens, we must learn to allocate attention to tail risk threats (and opportunities, eg. nuclear fusion) outside of the market mechanism if we want humanity to progress.

PS I also wrote a prior post that [relates the virus outbreak to privacy and democracy](#) (two other themes in [World After Capital](#))

Coronavirus COVID19 Preparedness

2/25/2020

Executive Summary

While we all hope that the coronavirus COVID19 will not turn into a global pandemic, it is better to be prepared and have nothing bad happen than the other way round. Several USV portfolio companies have offices in China and have already been impacted. We are therefore recommending to all USV portfolio companies to (a) take precautions such as limiting some travel and (b) prepare for the possibility of prolonged office closures requiring work from home.

Evidence

COVID19 has proven difficult to contain because human-to-human transmission appears to be both relatively easy and can occur while an infected person is still asymptomatic. COVID19 can remain infectious on surfaces outside of the human body for up to a week. Combined with a long incubation period of up to several weeks, this renders many containment techniques, such as health checks of travelers using infrared imaging to check for fevers, ineffective. As a result authorities have been [resorting to large scale lockdowns](#). To get a sense of orders of magnitude: there are about 80,000 globally confirmed COVID19 cases as of February 24th, compared to an all time total of about 8,000 cases for SARS (i.e. COVID19 has already spread 10x more than SARS ever did).

Precautions

For a complete set of precautions you can [check the CDC website about COVID19](#).

Limit travel to places which have a large number of cases. This is a good opportunity to use video conferencing instead, which has the added benefit of a dramatically lower carbon footprint. [Johns Hopkins maintains an up-to-date map on the spread of COVID19 cases](#).

Wash hands frequently and thoroughly and avoid touching hands to face. Hand sanitizer is an alternative. Also happens to be good hygiene in any case.

Anyone who is coughing/sneezing should stay at home until they are better. If someone has to cough/sneeze they should cover their mouth with a tissue and immediately dispose of that tissue in a covered waste bin.

Preparedness

Because traditional methods of containment are ineffective, authorities have been resorting to large scale lockdowns. This is no longer limited to China. For instance, [several Italian cities are on lockdown right now](#). All companies should be prepared for the possibility that one or more offices may be closed for a prolonged period of time. Employees using laptops should take those home every evening. Anyone using a desktop computer at work should also have a separate computer at home. If you have not done so already you should probably have a VPN solution or other way of securing remote access, [such as Cloudflare for Teams](#).

COVID19: Flatten the Curve

3/10/2020

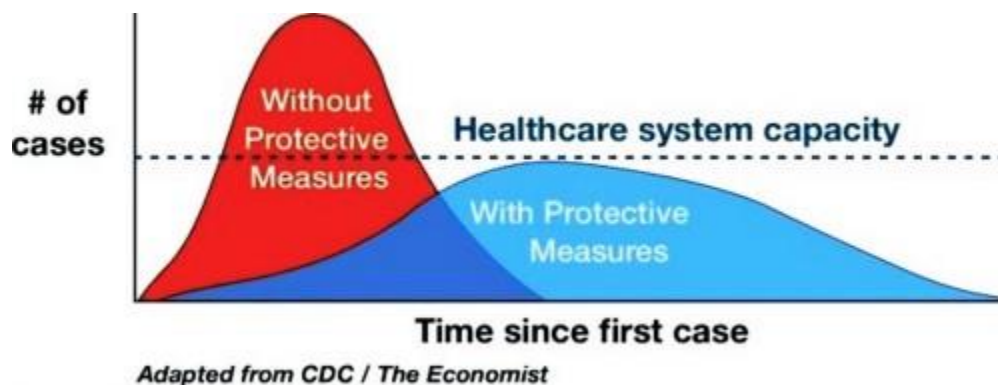
On February 25th we sent a [Coronavirus Preparedness email](#) to all of [USV's portfolio company](#) CEOs. Since then it has become clear that many countries, including the US, have far underestimated the severity and spread of COVID19.

As of March 10th any company that can have employees work from home should do so. Of course that is not possible if you are operating a production facility, or distribution center, or other labor that has to be carried out in person. For those companies, they should offer paid sick leave (if it all financially possible), screen anyone coming to work for fever, use surgical masks at work and have employees wash their hands frequently (including right after arrival). Non-essential travel should be canceled for all companies.

We should also call on our mayors, governors, senators and representatives to take urgent measures, including the following:

- Transparent reporting of all cases
- Rapid, decentralized and free testing
- Free medical care for all who test positive
- Paid sick leave for anyone funded by government
- Temporary ban on all gatherings of more than 100 people
- Screening of all airport arrivals for fever

It is not too late to avoid the worst outcome, but we now all need to do our part to slow down the spread in order to avoid overloading scarce medical resources, as explained clearly by this graph



For more suggestions on what to do (and not to do), check out the [Flatten the Curve](#) website.

Disclosure: I am writing this from a family trip to Peru, which currently has 11 reported cases, but the number has been doubling so far every 2 days, so I suspect there is significant underreporting still.

COVID19 What's Next? Innovation FTW

3/16/2020

I wrote a post about [flattening the curve](#) last week. I believe this week we will see some kind of government enforced lockdown in the US similar to the one in place in [Italy, Spain and France](#). It is really the only way left at this point to have even a chance of not completely overwhelming the healthcare system (and even that's questionable).

So what's next after that? The key of course as always will be innovation.

The single most urgent piece here is testing. Ideally we can get this to the point where people can test themselves, but short of that we need to broadly deploy the kind of drive-through testing that's become common in several Asian countries.

In terms of pharmaceutical innovation, the two crucial pieces we need to race for are better treatments and ultimately a vaccine. On the treatment side there are some signs that remdesivir may help. There is also experimentation with the HIV drugs lopinavir/ritonavir, as well as reports of positive effects from the malaria drug chloroquine. On the vaccine side lots of [potential vaccines](#) are being developed but testing them will take time and finding an effective one won't be easy.

In terms of other healthcare innovation, we will need to figure out how to rapidly build a lot more ventilators as it appears that 10% of all those infected may need it. There is at least [one open source initiative underway](#) to tackle that.

But medical innovation isn't the only kind of innovation required. There is also innovation in many other fields.

Take education as an example. We need to figure out how people can learn from home using the many tools and services that have been developed for that over the last few years. There are several great efforts underway here, such as this [website with resources for parents](#). Our portfolio company Outschool is [actively recruiting more teachers to its platform](#) to address the surging demand. Susan and I homeschooled our kids and we believe that's an important innovation that can be much more widely adopted.

And then there is social innovation. It appears a [crucial moment in time to trial a basic income](#) at the Federal level. Many people cannot support themselves for even a week without income and lots of jobs, especially freelance jobs, will contract dramatically. There is already a [bill developed by the Economic Security](#) project to dramatically expand the Earned Income Tax Credit. But ideally we would go even further and just let people open accounts at the Fed that can be credited with a [basic income](#) (the same way the [Fed creates money for banks](#)).

We are extremely fortunate to have a whole new set of capabilities at our disposal for confronting this crisis. Let's use them to be as innovative as we possibly can to help save as many lives as possible but also transform the way we live. While terrifying and coming at a huge cost, the COVID19 pandemic is also [an opportunity to progress](#) towards a [World After Capital](#).

COVID19 Crisis, Business Advice and First Principles

3/20/2020

I have written a few general posts about the [COVID19 crisis](#) already. Today I want to address all of those running a company or making management decisions with a simple message: avoid generic business advice! By generic advice I mean anything of the form “do x,” such as “cut 20% of cost now.” Why? Because it may or may not apply to your specific situation.

Across the USV portfolio, the COVID19 crisis has had wildly different impact on companies. Some companies are experiencing dramatic acceleration in growth, whereas others are seeing massive slow downs. If you are providing services such as distance education, subscription food delivery or services for remote teams demand for your service has just grown dramatically. Conversely if you are relying on advertising you are probably experiencing a significant contraction.

So what then is an alternative to generic advice? First principles. These can form the basis for figuring out what to do and also for evaluating advice. A crucial first principle in business is that you cannot run out of money. Bankruptcy is an absorbing state. It means that everything ends and nothing else matters. But you have to do the work to figure out whether COVID19 means you will run out of money faster or slower than before (or not at all for that matter).

And that’s not as easy as just looking at what is happening to your demand. Why? Another first principle of business is that financing needs are determined by cash flow patterns of the operating business. A corollary to this first principle is that growth can generate or consume cash depending on your working capital situation. If you have positive working capital and grow faster you consume cash. Conversely, if you have negative working capital then faster growth will produce cash.

And even that is not as straightforward as it may seem. Why? Because in a crisis a negative working capital business can flip into a positive one (which despite the terms would be a bad thing). All of your suppliers may suddenly insist on getting paid early because they are experiencing cash flow issues of their own. Conversely depending on the position you are in you may have the opportunity to go from a positive working capital business to a negative one (for example if you are providing an essential service that customers may want to prepay to assure its availability).

So as you are analyzing the impact of COVID19 on your business approach everything from a first principles perspective. One crucial aspect of first principles is that they let you evaluate risk even when you don’t have data yet. For example, you can see that flipping from negative to positive working capital may be a risk for your business even before you have suppliers asking for different payment terms.

Nothing I have argued here is really specific to the COVID19 crisis. A first principles based approach is always superior to the indiscriminate application of generic advice. It is just that in a crisis everyone is shouting generic advice even louder than normally.

Putting the Economy in Suspended Animation: A Proposal

3/21/2020

Now that we are finally going on lockdown here in the US in order to [flatten the curve](#) of the COVID19 crisis, we also need to take drastic measures to put the economy on suspended animation. In particular, I propose the following for the duration of the lockdown:

1. Suspend all interest, mortgage, rent and similar payments
2. Permit companies in non-essential industries to suspend wage payments.
3. Pay everyone a [Universal Basic Income](#) of \$600/month
4. Federally back all health insurers and in return force them to pick up all testing and treatment expenses

The goal of these measures would be to avoid personal and business bankruptcies across the economy. At present course these would decimate small businesses and further exacerbate the income and wealth inequality.

For individuals the biggest expenses by far tend to be rent, food and healthcare. Each of these is covered by one of the points above. Rent or mortgage payments are suspended as per #1. Food can be purchased from the UBI paid under #3. And healthcare is covered under #4.

For small businesses, the bulk of fixed costs are rent, interest payments and wages. Rents and interest payment would be suspended under #1, wages could be stopped under #2.

What would happen to real estate companies and lenders under this scenario? The biggest expense for real estate companies themselves turns out to be interest payments. They would stop receiving rents but would no longer need to pay interest. Should be survivable. For lenders this would be a great situation also. Right now they are facing the loss of principal on a lot of loans but under this scenario while interest payments are suspended, there is a much higher likelihood of the recovery of principal.

Sidenote: why am I proposing less than \$1,000 for the UBI? Because the other measures eliminate key expenses for many people.

Is this realistic? Well in the absence of a crisis that could result in millions of deaths in the US alone not. But under present circumstances feels doable and other nations are already headed in this direction, with [France suspending rent payments](#).

Addendum: Some clarification based on Twitter responses. By “suspend” payments I really mean suspend without a later catch up. Instead the elapsed time should be added to contracts. So for instance if you have 36 months of interest payments in total you will still have 36 months, just with a 2-3 months break in there.

Privacy, Power and the Commons

3/29/2020

Private property has become so prevalent in the world that we rarely think about the commons. Most people consider the subway as a public good, it is part of “public transport” after all. But they are unlikely to recognize the space on the subway as a common, the way a community would previously have thought about a shared pasture. The COVID19 crisis is a stark reminder that commons are all around us: A single infected subway rider not wearing a mask could infect dozens of people.

How is that insight useful? Because it means we can look at [Elinor Ostrom](#)'s work on how to manage commons as a guide. Here are her [8 principles](#):

1. Define clear group boundaries.
2. Match rules governing use of common goods to local needs and conditions.
3. Ensure that those affected by the rules can participate in modifying the rules.
4. Make sure the rule-making rights of community members are respected by outside authorities.
5. Develop a system, carried out by community members, for monitoring members' behavior.
6. Use graduated sanctions for rule violators.
7. Provide accessible, low-cost means for dispute resolution.
8. Build responsibility for governing the common resource in nested tiers from the lowest level up to the entire interconnected system.

All of these are important in their own way. I am particularly interested though in their relation to ideas of privacy and power.

It is immediately clear from #5 that these principles cannot be enforced unless the community can observe members' behavior, which in many situations will be at direct odds with privacy. For example, how do you get everyone on the subway to wear a mask without some degree of observation? Yes you could try to deputize citizens or spread a lot of observers around but you could also use face recognition technology.

What's crucial though is the interaction with power. Many of the other principles are about limiting power. For example, according to #3 community members need to be able to participate in modifying the rules. Or according to #8 decisions should be made as local as possible. So for example, New Yorker should have a say in how mask compliance is observed and enforced on the New York subway and this should not be handled by the federal government. And New Yorkers might choose to have the city use facial recognition to observe and fine those not wearing masks.

So what's the upshot? Communities in order to manage the commons have a right that goes above individual privacy but we need to be careful to pick the lowest possible level of government and adhere to democratic processes in order to avoid excess central power.

VC Backed Startups and PPP: Do You Really Need It?

4/4/2020

There has been a lot of discussion of whether or not startups qualify for forgivable loans under the Paycheck Protection Program administered by the SBA (part of the CARES Act). I don't want to rehash the arcana of affiliation rules here but make a totally different point instead: there is a money grab going on right now by some venture backed startups that this program absolutely should exclude.

Let me start by writing about the kind of business that I believe this is spot on for: the local construction company that has to stop all projects or the barber shop that has zero business right now. These businesses tend to be low margin and operate on very little cash (2-4 week maybe). Their revenues have gone to zero. They don't have equity investors and are largely shut out from the credit markets. Their only alternative is bankruptcy.

By contrast many venture backed companies have many months or maybe even more than a year of burn sitting in their bank accounts. Their investors are often deep pocketed funds who should be well reserved for follow on investments. They can get sophisticated financial advice and can access the venture debt market (admittedly not right now but probably again in a couple of months). Many of these businesses operate in the digital realm and have seen limited impact on revenues – some have even seen their revenues explode.

Just to be clear. I think that some venture backed companies have a legitimate claim that they should be part of PPP. For example, we have some companies in our portfolio for which revenues have collapsed. But I fear that many more will apply and with a program that's first-come first-served that will squeeze out small businesses for which this is the only lifeline.

I have been an entrepreneur myself and I understand the worry that maybe things look OK now, but what if my company falls off a cliff and I haven't taken this money. All of these are legitimate considerations, but so is the realization that millions of small businesses already have fallen off a cliff and they need those funds. In this context it might be useful to keep in mind that there will be a public record of every company that avails itself of PPP.

So: I urge everyone who is running a venture backed company with a lot of money in the bank and limited COVID19 impact to think twice about applying for PPP. In the end this is obviously a difficult decision but we are in a crisis where true leadership means thinking beyond one's own concerns.

Normalcy Bias: We Live in a Dynamic World (But People Don't Believe It)

4/6/2020

Something that consistently surprises me is how many people have a fundamentally static worldview. Their motto appears to be: Things are as they are and nothing will change. Never mind that history is full of massive change. And even more surprising: once a huge change has occurred the new situation becomes the new accepted normal.

The COVID19 crisis is case in point. The force of change, in the form of a virus that can be spread asymptotically, was already clearly visible in January. The majority of people, however, were going after their lives as if nothing was happening and as if no change would be coming well into March. It was a small minority who were screaming about the need to prepare and to take drastic measures. This bit of recent history is reasonably well understood.

Now that we are in the depth of the crisis, however, the lockdown and fear are rapidly becoming the new normal. Now I hear from friends how they are “settling in for the long run.” I see forecasts that this crisis will prevent students from going to college in the fall. Very few people now seem to believe that this could actually be over faster.

And yes, to be clear, there are definitely scenarios where the crisis drags on and certainly where the economic downturn is extended, especially here in the US due to lots of personal and small business bankruptcies. Still, it is worth considering the factors that could contribute to a faster recovery. There is now tons of work on possible treatments. There are massive efforts underway to create a vaccine. Testing will be available widely and contact tracing will be facilitated by mobile phone location (and/or bluetooth handshake). There will be masks for everyone.

We have made some wild technological progress in the last decade that might come into play here. We can now write DNA (not just read it), which lets us create precise synthetic viruses. While that has potentially scary applications, it also means we can crank out [vaccine candidates](#) in totally new ways. There are also breakthroughs in [growing and reproducing antibodies](#), where we can leverage antibodies from people who have developed resistance.

The tendency to see the current state of the world as the normal that will not change is sometimes called “[normalcy bias](#).” This is fundamentally about the difference between a static and a dynamic conception of the world. Entrepreneurs and startups investors have that dynamic conception that change is possible and even more that they can bring about that change. That’s why they were among the ones who pointed out we were headed for crisis and that’s why they are now the most optimistic that we will get out of it.

The Road Back from COVID19: Masks, Tests and Tracing For All

4/10/2020

The lockdown measures put in place have started to flatten the curve, but they are hugely disruptive and even if we were better about [freezing the economy](#) than we are, we cannot possibly maintain them until we have a vaccine (which is many months off at a minimum). So how do we get back from here? There are three essential ingredients that need to be in place: masks, tests and tracing for all.

How do we get these at the time of a dysfunctional federal government? Well here are some possibilities.

Masks for All: This is the easiest one as it turns out that reasonably effective masks can be homemade. Kudos to the team behind [#Masks4All](#) for popularizing this straightforward solution. You can also find tons of [masks on Etsy](#).

Tests for All: Masks will not prevent all infections, so we need massive testing. Thankfully there are a lot of new ways to test for the SARS-CoV-2 virus at scale. For instance there is a [new assay](#) to use existing sequencing capacity to ramp to 1 million tests per day and [another proposal for using “barcoding”](#) to pool samples which can get us to the 10s of millions of tests per day. The cost here is low enough that these can all be privately or state level funded.

Tracing for All: Then of course once someone tests positive we need to notify everyone they may have infected. That requires tracing. The solution for that are mobile apps because our phones are always with us and know where we have been. There are several credible teams working on centralized approaches such as [Coronatrace](#), as well as the emerging [TCN coalition](#) for a decentralized system. Both Apple and Google should put their considerable resources behind these efforts immediately. Update: [Apple and Google have announced a tracing approach](#).

I believe we can have all three of these firmly in place some time in May at which point many of our regular activities can resume. To be clear, people will still get infected and some people will die from those infections. But with hospitals not overwhelmed treatment will be significantly better and mortality rates lower (also new treatment options are emerging).

What can we do as individuals? To the extent you can based on your skills and where you work, please contribute to one of these initiatives. If you can't, make sure to put pressure on your local or state government to embrace this approach.

A Plan for Rapidly Ramping COVID19 Testing

4/18/2020

Since I wrote my post on "[The Road Back from COVID19](#)" we have made lots of progress on two out of the three pillars: masks and tracing. Masks went from a discussion of their merits to being [mandatory to wear in public in several states](#), including New York. Tracing went from a hodgepodge of approaches to an [API supported by both Google and Apple](#). On the third pillar of testing, however, we are massively behind.

It is by now well understood that the virus is transmissible for several days before the appearance of symptoms. To be able to reopen without immediately heading back into a steep infection curve that would once again overwhelm ICU capacity, we must ramp up testing dramatically with a target of many millions of *daily* tests. Ideally people could test themselves at home and/or at work several times a week with results in minutes.

Is that just crazy or can we get there? Yes because the required technology already exists, we just need to approve it and manufacture it at scale. Here are just two examples of machines, the [MicrosensDx](#) and the [Accula](#). There are many more startups and established companies that have tests and there are fascinating proposals for [super high throughput cheap testing](#).

We need to take three steps right now: (1) approve lots of these test immediately and (2) manufacture at scale and (3) monitor ongoing results. Here is how to accomplish this

Step 1: Approval

The regular FDA approval process needs to be completely sidestepped. Instead we either go a decentralized route, allowing states to approve their own tests, or we put together an approval task force recruited from the leading test scientists. The goals for that group should be to greenlight dozens of tests within the span of days and to then define follow-up reporting requirements to enable ongoing monitoring (step 3 below).

Step 2: Manufacture

There are lots of components to these tests and they are not easy to manufacture. But there is definitely manufacturing capacity that could be repurposed. To do so quickly I believe we will have to invoke the [Defense Production Act](#) as well as be willing to spend a lot of money. Every dollar spend on testing will unlock a multiple in economic activity so this is among the best money we can spend, even if some of the tests we buy don't work well (or maybe not even at all). Having more different tests approved in Step 1 means we can lean into manufacturing much harder with a portfolio approach.

Step 3: Monitor

Finally we need to set up a reporting and stats infrastructure to monitor the performance of the tests as they are deployed so that we can hone in on the ones with the best [sensitivity and specificity](#). With the right reporting protocols we will rapidly learn what works well.

Essentially this amounts to reversing the normal approval process which takes a long time with the goal of having only high quality tests in market. Here we want to optimize for speed and massively over allow, then pull back later. Because this is so essentially a 180 from the FDA's normal operations we need a special one-time panel on this.

Governors should be exerting public pressure right now calling for this and if it has not been put in place by end of next week they should proceed on their own.

COVID19 and the Decentralization of Money

5/2/2020

One key lesson from [COVID19](#) is that we need a lot more decentralization. This is especially true when the center is as inept at managing the crisis as the US federal government has proven to be. For example, the power of agencies such as the CDC and the FDA has turned out to be problematic, e.g. in giving guidance on mask wearing or trying to increase the availability of testing (both central to the [road back](#)). This is not just a critique of current leadership but rather of the accretion of excessive federal power more generally.

The size of the [economy of New York State](#) is roughly \$1.7 trillion as measured by the equivalent of GDP (an admittedly bad measure). That is about 150 times the GDP of the entire [United States in 1800](#) (assuming I did my math right on that). Or if New York were a country, it would [rank 11th in the world](#), ahead of over 150 other countries. California is even bigger [coming in 4th in the world](#) (and ~275 times the size of the United States in 1800). It is completely unclear why outside a few crucial topics — that can only be regulated at the federal level — states of this size should not be making independent policy decisions. For example, why shouldn't New York and California approve their own at home tests?

COVID19 may, however, turn out to be a catalyst for the ultimate decentralization, that of money. The dollar's role as a global reserve currency has for many years put the US in a position of strength. But dollar dominance has proven to be a massive problem in this crisis — everyone who has dollar denominated debt, which includes not just US corporations and states, but also foreign sovereigns and corporates was relying on economic activity, including international trade, to produce the dollar necessary for debt service. With the COVID19 lockdowns that source of dollars has suddenly dried up which has forced the Federal Reserve to step in, producing [an extraordinary 2.35 trillion dollars in the space of 6 weeks](#). For a super clear explanation of this see [Jill Carlson's great post](#).

The Fed is effectively making a last ditch attempt to prevent a massive global debt collapse. Even if we can stave that off in the near term, the crisis will make many entities around the world accelerate their search for an alternative to the dollar. This isn't just idle thinking as the [extraordinary speech by then Bank of England governor Mark Carney shows](#) and is further illustrated by the massive freakout that central banks had over Libra's plan for a stable coin based on a currency basket (the search for an alternative clearly does not include one that was feared could be controlled by Facebook).

One of the most interesting ways the decentralization of money could really pick up steam is with community currencies. US States cannot print money but will find themselves with massive budget holes from a combination of increased crisis response spending with a massive loss in tax revenues (footnote: there may be a way for states around this, but it is likely complicated and might result in an ugly fight). But there is a long history of [community currencies in the US](#). And of course there is the famous "[Miracle of Wörgl](#)" in which a town helped lift itself out of economic depression by creating its own currency.

This is also an opportunity for crypto technology to really come into its own. For example we have been spending time upstate New York in Columbia County. It would be fantastic to have a local digital currency that is created on and settles via a blockchain. The county, or even a single city like Hudson, could issue it. Or better yet, citizens could create it for themselves. If anyone is aware of such experiments, I would love to learn more about them.

H/T to [Tamar](#) and [Pete](#) for getting my thinking on this going earlier today with an email exchange starting with this [post by the Schumacher Center](#).

New Enterprise Associates

Lead Through a Crisis — 3/23/2020

by Jeff Immelt

Lead Through a Crisis

3/23/2020

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As CEO, I lived through four tail-risk events, three global recessions, and every industry went through a rough patch. Business cycles and crises are hard, but the big mistake is to hide.

In this era of volatility, you will see things that you've never seen before, that you hadn't planned for. I had never seen a true tail-risk event until 2001. Since then, I've seen several: 9/11, Hurricane Katrina, the Global Financial Crisis, Fukushima earthquake and Nuclear Disaster, BP Oil Spill ... from the front seat of the car. And now, the coronavirus.

It takes courage to survive the dark years. The big tendency is to retreat into old habits, to hide or to wait for a return to normal. This is a time for leadership and action. This is what I learned.

Know that time resets. Much of what you thought you know is changing in real time. In that regard: every minute is a day, day a month and month a year. Make a plan for a period of time you can handle. During the Financial Crisis, we planned week-by-week. Don't be afraid to make decisions; don't be afraid to change your mind. And, learn to say "I don't know."

Pace yourself, because a crisis will come at you in waves. Don't expect a rest period. Keep a few actions in reserve. Remember that you can make mistakes in two directions: lack of action and overreaction. So, don't panic. After the 9/11 tragedy, it appeared that the commercial aviation industry would never return to strength. But it did, resulting in a 15-year bull market for commercial air travel.

You need a strong and flexible point of view about the world. This will allow you to develop a set of fluid contingencies. This informs what counts: the decisions you need to make, and when you need to make them.

In the case of coronavirus, you should seek a macro perspective on how long the economic impact will last. The good news is that China seems to be getting back to work; the bad news is that this is the first time we have shut down the entire global economy simultaneously. There is no model. During a crisis, there are a multitude of opinions and few facts. Get some intelligence you can trust.

You need to work "two truths" at the same time. What is the worst case, and where are the opportunities? Protect the areas of your company that are not in the danger zone, while also defending the future. In the midst of the financial meltdown, we had an industrial company to run. So, while we were shoring up GE Capital, we were also making huge investments in technology and globalization. For example, we had to approve billions in engine commitments during the financial crisis. Don't let the fear spread. Crisis is a great time to shift market share or add talent.

Make decisions (get more cash) and don't worry about criticism. Don't be afraid to cut cash burn, or pull your bank lines. Understand what cash is restricted and available. Unfortunately, we never know as much about our balance sheet as we should. You will regret not doing more when times were better. But things can still get worse; in fact, it is tough to model "the worst-case scenarios." Get cash.

This will frequently require tough decisions about your cost base and your customers. Especially in crisis, if you insist on waiting until the skies clear, you will never do anything at all. After 9/11, we loaned billions to the airlines without a clear picture of the future. Constipation is bad leadership, but inaction can feel safer because the minute you act you open yourself up to criticism. Often your best moments of leadership will be second guessed. Don't let it rattle you.

In the end, focus on what you can control. There are no “style points” in a crisis. Do your best every day. During the Financial Crisis, the GE team conceived and executed a \$15B equity raise in a weekend. It was teamwork at its best. For this, we were publicly criticized. But we know we did the right thing, and we all took pride in a team effort.

Communicate constantly ... inside and outside the company. Stay fluid. Kill the PowerPoint. Conduct frequent meetings with your executive team to update your point of view. Hold your team together. Communicate constantly, even if you have nothing new to say. People don't expect you to be perfect, just make progress. Remember, the crisis is no one's fault, so don't pass blame. In a blaming culture, people stop working in order to cover their own asses. If you can nurture an ethos of all-for-one and one-for-all, it can save your bacon. Everyone wants a sense of purpose. Good people will stand alongside you in a righteous fight, emboldened by your mission. When you have a strong team, you can weather any crisis. Without that, you are lost. At times, you will need to fight for your reputation. Communication is not for the faint of heart. The media doesn't always get it right. You can't counter inaccuracies – neither factual errors nor contextual ones – with silence. Fight the bad stories with good ones.

Find a way to help. After 9/11, GE was the first company to donate money to the Twin Towers Fund (\$10M). After Fukushima, GE donated \$5M to the Red Cross in Japan. During the Financial Crisis, GE was the only lender to access broad sections of the economy, like recreational vehicles. People want to be a part of their company's mission during a crisis. They want their company to have meaning, so find a way to help. Treat your team with compassion.

See who keeps their cool. This is a great time to judge your team. Let's face it, most people haven't seen tough days for a decade. Crisis reveals character. You will find that more work is done by fewer people.

The best leaders absorb fear. This skill has often been described inaccurately. I'm not talking about soothing people by blowing smoke or giving false assurances. Authenticity and transparency are important, but not about everything. You should talk about the things that your team can actually do something about.

Importantly, cheer for good government leadership. They were great partners to the private sector after 9/11 and the Financial Crisis. I'm sure they will be a partner now.

We will get through this. Don't retreat, or hide, or wait for a return to normal. This is a time to lead.

Mayfield Fund

Thriving in Tough Times Series

Key Learnings from Reputation Management Expert Amanda Duckworth — 4/6/2020
Christopher Lochhead Shares how Legendary Leaders Leverage Marketing — 4/13/2020
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Sales Strategies for Today's Crisis Market w/ Lars Nilsson + Travis Henry — 4/20/2020
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Selling to CXOs — What Works & What Doesn't in a Tougher Economy — 4/27/2020

by Navin Chaddha

Key Learnings from Reputation Management Expert Amanda Duckworth

4/6/2020

We recently launched a webinar series for our portfolio on Thriving in Tough Times, in which experts in various domains share their insights. Our first guest was reputation management expert Amanda Duckworth, who reminded us that actions and behaviors in a time of crisis can do much to enhance long term reputation. While we are certainly living in unprecedented times, and there is no blueprint for what to do as things are changing every day, there are still steps companies can take – as Amanda said, you can't manage a crisis, but you can lead through one. And in doing the right thing during this extraordinary time, companies will be able to strengthen bonds with critical stakeholders and increase the value of these relationships.

Here were some of the key takeaways from her session.

Trust is your only currency.

Trust comes from being transparent, consistent and accurate in your communications, even if you have to evolve your position over time to adapt to changing circumstances. It's always better to be straightforward with bad news than to have to backtrack later. For example, if you think there's a chance that your company will have to cut headcount, it's better to be clear that all options are on the table. If you tell your employees that layoffs won't happen and then you have to make cuts, you'll lose their trust.

Demonstrate leadership through your core values.

In a time where many have lost trust in government and other institutions, people are looking to companies for leadership. The best way to move forward is to follow your company's core values to determine your actions. We've seen plenty of examples of companies recognizing the need to be leaders in their communities by repurposing production lines to make hand sanitizer or face masks. It's also a time to put aside monetary self-interest and not take every last nickel off the table to help employees and customers.

Use communications to strengthen your team and support your employees.

Right now, employees are your most important audience. The goal for internal communications during this time is to instill confidence that your organization has the mechanisms in place to manage a lot of uncertainty. To achieve this, you can start by creating a team (Amanda says in an early-stage company it can be as small as 2 people) to focus on the issue at hand, and appoint a crisis czar who reports directly to the CEO. The team should be cross-functional and make decisions in short increments (every 24-48 hours) based on tracking key metrics. Then communicate this structure to the employees.

You'll also need to define the new world order and communicate these roles and procedures to your team. Who can work from home, and who can't? Why is that the case? How will working procedures change in this new environment? How can the company support the employees' mental wellbeing during this time? These are a few examples of questions your leadership crisis team should think through and communicate to employees.

Communicate, communicate, communicate.

It's better to err on the side of over-communicating with your core stakeholders, especially employees and customers. For employees, create a regular cadence of communication and stick to it, even if there are no real updates. The form – Zoom meeting, dial-in call, email – is less important than the consistency.

Stay super close to customers.

For customers, keep them updated on your business, especially if you will be unable to meet their needs. And try to be flexible when you can with customers if they're having a tough time – can you make

adjustments to billing cycles, delivery schedules, etc.? It's these kinds of actions that will bolster reputation on the other side of a crisis.

Following these guiding principles and specific actions can help companies preserve and even increase their value as we all navigate the choppy waters ahead. Thanks to Amanda for sharing her insights with us, and stay tuned for more expert insights on thriving in tough times.

Christopher Lochhead Shares how Legendary Leaders Leverage Marketing

4/13/2020

This is part two of the Mayfield/Crunchbase series, “Thriving in Tough Times: Expert Insights.” In this series, we will share key takeaways and lessons learned from experts across a variety of fields. Stay tuned for content on reputation management, leveraging marketing, leading in challenging times, sales strategy in times of crisis, pivoting field marketing to digital, and more.

Following up on last week’s lessons on reputation management with Amanda Duckworth, this week’s Thriving in Tough Times session features marketing legend Christopher Lochhead, a three-time public company CMO, top podcaster, and advisor to 50+ venture-backed companies. Christopher shared his insights on how legendary leaders leverage marketing in times like these – as he put it, “It takes courage to be legendary, and we are clearly living in a time where legendary leadership is required.” From radical generosity and transparency to owning and evangelizing your category, his tips can help leaders navigate the current climate through marketing.

Here were some of his key takeaways.

Lead through marketing and get thoughtfully aggressive.

When economic downturns happen, 10% of companies come out stronger on the other side, taking market share and emerging as category kings and queens – leaders should set a BHAG (big hairy audacious goal) to be one of those companies. To do that, lead your category and company through marketing. Staple yourself to your CMO or marketing lead and think about the ways in which you can get thoughtfully aggressive with marketing. In times like these, most companies are playing defense, which is good, because there’s a lot of defense to be played – but there’s always room for a little offense. This is a chance to redesign an existing category or launch a new one – thoughtfully, while taking the current climate and mindset into consideration. People look for leaders in challenging times, and those leaders often emerge stronger on the other side.

Be radically generous.

Now is a good time to do some good. Leaders need to step up, assess the situation, and see what they can do today, both as individuals and as companies, to make the biggest difference. And while some of the ways you help may not benefit your bottom line, it’s okay to do good while positioning yourself for success. Take Zoom for example, which provided its software to schools for free. It’s a radically generous act that will have significant costs and effects on the company’s bandwidth, but it will also result in incalculable uptick in brand awareness and category awareness. The important thing is to see how you can make a difference with you and your company’s core skill set.

Drill down on your marketing budget.

With pipelines and revenues declining, budget cuts are an inevitable reality for many companies. Now’s the time to get at anything that doesn’t make sense. Cut more than you need to – measure twice, cut once. Marketing should also be focused on shoring up short-term revenue at this time.

Hone your digital leadership skills.

In a time where communication can’t benefit from all the nonverbal cues we are accustomed to, digital leadership – the ability to lead via digital platforms and channels like Zoom or conference calls – is more important than ever. To start, Christopher recommends leaders practice radical transparency with their teams or employees, speaking to them two to three times per week on video, and always taking questions in these sessions.

Evangelize your category, not your brand.

Right now everyone is reprioritizing purchasing, and decision-makers prioritize based on how important they perceive a category to be. As a result, leaders and companies need to position what they do as a painkiller, not a vitamin. Legendary leaders are taking this moment to create a POV about their category, which is all about customers not their company, and then evangelizing that POV to be viewed by buyers as more strategic.

In challenging times, the difference that marketing can make is immeasurable. Leaders must have the courage to lean into marketing if they're going to thrive and emerge stronger on the other side. Thanks again to Christopher for sharing his lessons learned with us – if you're interested in hearing more marketing lessons and stories from him, please [listen to his podcast](#).

Leadership Lessons with John Baird

4/20/20

Even in normal circumstances, leaders are constantly pulled in a million directions, and in challenging times like these, it's even more difficult to keep a clear head and support your team. For this week's installment of Thriving in Tough Times, we heard from John Baird, legendary executive coach, on how CEOs can address and lead through uncertainty. John has been coaching CEOs and founders in the valley for over 20 years, including through the dotcom bust and 2008 financial crisis. He's worked with a range of companies – including both early stage startups, and Fortune 500 leaders from companies like Apple and Nike.

Leaders set the emotional tone for their organizations.

There is an old Marine saying that “an officer never runs,” meaning that even in times of crisis, the officer always has to stay calm – if a leader panics, their team will panic too. Leaders have a huge impact on the overall mood of their organization, so maintaining a sense of calm is key in times like these is essential. As you communicate with your team, be mindful of your nonverbal cues – tone of voice, facial expressions, body movement etc – as only 7% of a message is conveyed with the words used.

Give your team a goal to rally around and keep them focused on the task at hand.

In times like these when morale is low and the current situation provides endless distractions, keeping your team focused on a goal bigger than themselves – and helping them focus on their specific task to achieve that goal – is crucial. Rally your team around your company's mission, and repeat that mission-focused message consistently – as John says, what gets repeated gets remembered. Centering your team on the group goal as well as their individual role in it helps them focus on what they can control in this situation, rather than what they can't.

Make sure your people feel heard.

As everyone tries to navigate these times, it's important as a leader to “be the rock that a wave of emotion can crash upon.” Your team is likely experiencing a wide range of emotions related to the uncertainty of our current reality – for some it may manifest as fear; for others, anger; and some may shut down. It's important as a leader to hold space for your team members to share these emotions. John encourages leaders to think about what they can do to make sure that all your employees are being heard.

Adapt the work environment to a new reality.

While some companies were already remote-first, many are experiencing work from home for the first time. Working remotely is not the same as working in a central office, and leaders need to address this change and figure out ways to support employees through this transition. Whether it's new tools or shifting productivity expectations, leaders need to adapt work to the new environment, rather than expecting employees to figure it out on their own.

Communicate what you know when you know it.

This is a tip that keeps coming up from our experts in this series – and for good reason. Transparency and consistency in communications with your team are critical for maintaining trust across the organization. John notes that communicating what you don't know is as important as communicating what you do know. It's important to address issues as they come up, even if you don't have all the answers yet.

As CEOs navigate their organizations through choppy waters, their leadership will be tested – but if they are able to support their teams like John has laid out, they'll come out stronger on the other side. Thanks again to John for joining us and sharing some of his top lessons for leadership in challenging times. For more tips from John, [read his blog](#), and stay tuned for more expert insights next week.

Sales Strategies for Today's Crisis Market w/ Lars Nilsson + Travis Henry

4/20/20

One area of particular focus for many leaders right now is sales, as revenues decline and customers' budgets tighten. For this week's installment of Thriving in Tough Times, we heard from Lars Nilsson and Travis Henry from SalesSource, who shared insights on managing the sales funnel, pipeline, and customers in today's crisis market.

Here were some of their key takeaways.

Lead Forecasting

It's really important right now for heads of sales/marketing/the executive team to get together and look at the lead forecasting for the next 3-6 month time period. Where were your leads previously coming from? What were the sources previously? What are they now? There has to be a shift to digital and outbound (account based and targeted).

Cast a Narrow Net

A wide net may not work as well right now – some customer bases are suffering. Re-think your targeted addressable market.

The First Sentence

What you say in the first sentence of the first email is what grabs someone's attention – it better be personalized, have context, and have relevance, or it's going to see the delete pile pretty quickly.

Multi-Channel Approach

Any single channel is a failing strategy – you have to pursue a multi-channel approach. No matter the sequence, starting on the first day with a triple tap (email, voicemail, and social message) tends to produce the best day 1 results. With phone, a lot of SDR teams are under-trained and not effective on the phone – plus, connect rates have dropped to 1-5% on average – expect to leave a voicemail and add value in that voicemail which points them back to another channel.

Buyer Personas

In the early days have SDRs at least focus on buyer personas rather than just geography, even if you don't verticalize them yet.

Target the Top

Don't be afraid to try sniper campaigns to target your most coveted accounts at the very top – this involves a VP/C-level executive from within your company reaching out to their counterpart within the prospect company.

Dashboards

Don't let a sales rep make their own dashboard – create the dashboard components for the CEO, CRO, CMO, all the way down to the individual contributor and SDR to make sure that when they get delivered a fresh new weekly dashboard, people can see where they stand, where their team stands, and where their company stands. It's important to have a dashboarding strategy – reps need to understand if they have the right alignment.

Honesty in the Pipeline

Pick up the phone and call your customers to get honest input from them – how are they doing during this crisis? It's okay for your customers to be honest with you about the odds of getting a deal done.

Payment

Try trial periods or pushing out payments for a product as well – the committees you’re selling to aren’t co-located anymore though, so really getting creative with payment terms can help as a lever to pull.

Trustworthy Partnerships

Now is a great time to have real conversations with your customers, and be a thoughtful and meaningful partner.

Thanks again to Lars and Travis for joining us and sharing some of their top tips for sales in these challenging times, and stay tuned for more insights on shifting field marketing to digital and selling to CXOs.

For more expert insights on thriving in tough times, check out the [previous posts](#) in the series.

How to do Effective Content Marketing w/ Ben Worthen & Miguel Helft

4/27/2020

This week's Thriving in Tough Times session features Ben Worthen and Miguel Helft, former journalists who now work together at Message Lab, a top content marketing agency. Ben and Miguel shared their thoughts on how companies can effectively reach prospects and customers now that in-person meetings are on hold. Their advice covers how to engage people online, but also what to measure to determine whether content is effective.

Here were some of their key takeaways.

What companies should talk about now

Most marketers tend to think content has to be about their company or product. Sometimes that's true. More often than not, however, the best way for a company to engage with an audience is by writing about shared ideas and interests. In particular—and we hear this again and again—audiences are hungry for stories of how people like them solved problems similar to the ones they face, and for information that will help them do their jobs better. People will seek these kinds of pieces out and spend the time extracting the relevant lessons.

How to tell if it's effective

The analytics programs most companies use to assess their success aren't designed for content. Google Analytics and Adobe Analytics are made for ecommerce—getting someone to buy a plane ticket or a pair of slippers. They help you figure out how to move people as quickly through a purchase funnel as possible. With content, the goal is to get someone to engage with your ideas. And for many businesses—real estate agencies or software companies, for example—expecting someone to click from an article to a “buy-now” page isn't a realistic goal. Bounce rate is an example of a commonly used stat that can be misleading when it comes to non-sales content. If someone spends a lot of time with your ideas, but then leaves, that's valuable information that you want to be able to capture and do something with.

A better system for determining value

Analytics for content has to be built around different units of measurement—around variables that capture the behavior you're trying to encourage. At Message Lab, they use engaged time, which measures how long someone is actively on a page, regardless of whether the person eventually bounces back. Engaged time isn't an outcome in and of itself, but it is a good proxy. It shows whether a piece of content delivers value, and engaged time is correlated with the sorts of outcomes companies seek. The second part of an analytics model for content is to translate your user journey into things that can be measured. In technical terms, it means capturing data—events, in analytics speak—whenever someone does one of the things we want them to do, like sign up for email, download a file, share content on social, or click on a link to some other asset.

Telling the real signals

Message Lab has one client that gets millions of organic page views on its blog, but hardly anyone sticks around for more than a minute, or takes any of the other actions they're measuring. The page views give the false impression that content is contributing value to the business. For another client, they were able to show that about 40% of all marketing leads had previously engaged with our content and that they complete forms at more than twice the rate as everyone else. The key is that by capturing all of this data, they've equipped themselves with the tools to figure out what it is that's causing those outcomes. And that sets us on a path to making content that's not only more engaging but also gets measurable results.

It's not always a content problem

Message Lab has learned by studying the online behavior of more than 5 million people that successful content requires more than the right words. Effective content depends on a great UX, an effort to reach the right audience, and a willingness and ability to test and iterate. You might have great content, but if your site is hard to use, people will leave before they ever start reading. And if you just put a piece of content online and think you're done—and don't work hard to get it to the right people—you'll likely never get any value from it.

Thanks again to Ben and Miguel for sharing their insights with us, and stay tuned for more lessons learned on building community in a digital-first world and running effective virtual meetings.

Selling to CXOs – What Works & What Doesn't in a Tougher Economy

4/27/2020

Selling is already a challenge for many startups, and the current crisis is placing an added burden to have a much clearer story on a startup's offerings. A tougher economy requires pain-killers (must-have solutions) and not vitamins (nice-to-have solutions), so companies must demonstrate that the benefits of their innovative solution far outweighs the risks of working with a startup in these troubled times. To better understand what works and what doesn't in this environment, this week's Thriving in Tough Times installment featured 3 expert panelists who shared real life best practices. These experts have been in the trenches with startups as customers and shared their expertise for how a startup sales team can engage and win early customer adoption. Our experts were Alan Boehme, VP of Innovation – Digital/Information Technology of Procter & Gamble; Brian Lillie, former Chief Product Officer & CIO of Equinix; and Mark Settle, former CIO of Okta.

Here were some of their key takeaways:

First Meeting Strategies

- Leave a meeting with people wanting more – you don't have to exhaust everything during that time. You're doing something revolutionary at Corp X, and they want to hear more about it. Sharing a lot about vision helps.
- Develop some degree of personal empathy with your audience – get quotes about pain points from other customers (they don't have to be high level people), and ask your customer about their needs.
- Engage directly with their product, company or offering to bring direct experience insight before you talk to them – then show that connection to the brand in your deck. You really want to develop that human-level relationship.
- Separate hard benefits from soft benefits. Displacing a competitive vendor, for instance, by saving money is different from saving 10 minutes of time for each warehouse worker, so be careful how you quantify things.
- Offer a process for next steps, that is your refined methodology for ensuring value and impact, and ask for their buy-in into the process.

What Corporate Buyers are Looking For

- Vision – Even if a startup doesn't have much going on today, what is their vision for tomorrow?
- Secret Sauce – Some spaces are supersaturated – what is your secret sauce? There has to be some kind of technical differentiation you're going to bring to the table.
- Business Credibility – Do you have existing customers, or even alpha customers? All too often when salespeople pitch, they only know 3 examples. They don't do their homework and look at the buyer's business model or business problems.
- Competitive Landscape – It's helpful when startups position themselves. No one wants to ask 20 questions about where your company stands. Admittedly, the startup will put their spin on it, but at least it's a starting point.

The Network Effect – Advisory Boards

CIOs are a very connected group, and the number one way to get access to CIOs is via respected networks and communities of interest. To help get CIOs involved with your board, consider three things they might be interested in: 1) Access to your leadership team, 2) Ability to help with your roadmap and be involved, 3) A good deal for the company they work at.

How a Startup Wins the Deal – 5 Important Steps

- Step 1 – Define the current state of your customer’s network or application stack. Not being judgmental, just document it. Put it on paper.
- Step 2 – Capture the issues and opportunities with the current state. It can’t just be filled with problems; you should include opportunities as well.
- Step 3 – Propose a future state with your solution.
- Step 4 – Solve the issues – Show how that future state is addressing each of those issues and opportunities that were called out in the current state. Don’t just trade one set of problems for another.
- Step 5 – Show a roadmap on how to get there – the customer journey and how you make it happen.
- Bonus point: What’s the ROI/payback?

Figure Out Your Industry Targets

Some people are taking 20-30% budget cuts. Don’t sell into them right now. It could be a good time to develop a relationship though.

Selling Inside vs Outside Silicon Valley

It’s good to get early wins with your friends inside Silicon Valley, but remember that things will be different outside in the larger world. It’s nothing like selling to a global Fortune 500 or 1000. Talk through with your sales team how IT orgs actually work, what are the drivers and where are the areas you can fit in. It’s not about the tech, features, or functions – you need to be able to tell a story (which will vary depending on audience, CIOs – more business / CTOs – more technical, some business / bank/build-shop CTOs – more technical).

Take a Portfolio Approach

Take a portfolio approach when dealing with clients – have a couple of large companies, but have a portfolio of smaller companies. The sales process, legal, procurement, etc. on large companies is very difficult.

Land & Expand

Don’t try to win an entire corporation – sell to a small part of the corporation and prove your value. If you succeed with one part, others will come to you over time. Make yourself visible to the rest of the businesses within the corporation (similar to getting corporate logos to be visible to other corporates).

Know When to Say “No”

You can’t pivot into things that aren’t replicable for other customers. You have to say, “No, that’s not on our roadmap.” Your BD and sales orgs have to have their motivations in the right place – not on a per deal/per transaction basis.

Promises Made & Promises Kept

Prove your value by keeping your promises. Do a great scope up front, figure out your customer's KPIs and pain points, then try to meet and exceed those things *fast* – speed is important these days. Make the person on the buying side look good. Don't over-promise and under-deliver.

Perfecting the art of the sales pitch is critical for startups, now more than ever. Thanks again to Alan, Brian and Mark for sharing their stories and best practices for selling to CXOs during these challenging times. These experts are part of an extensive Mayfield CXO Network of CIOs, CTOs, CISOs and leaders of innovation who are startup-savvy technology and business leaders.

Bond Capital

Our New World — 4/17/2020

BOND

April 17, 2020

We are in an environment the likes of which we have not experienced before...

In this informal note, we have compiled observable trends that help form our views of the present and should provide insights into the future.

Relevant reference points from [Internet Trends](#) plus [USA, Inc.](#) can be found at bondcap.com.

– Mary, Noah, Mood, Juliet, Daegwon, Paul & the BOND team

Our New World (Outline)

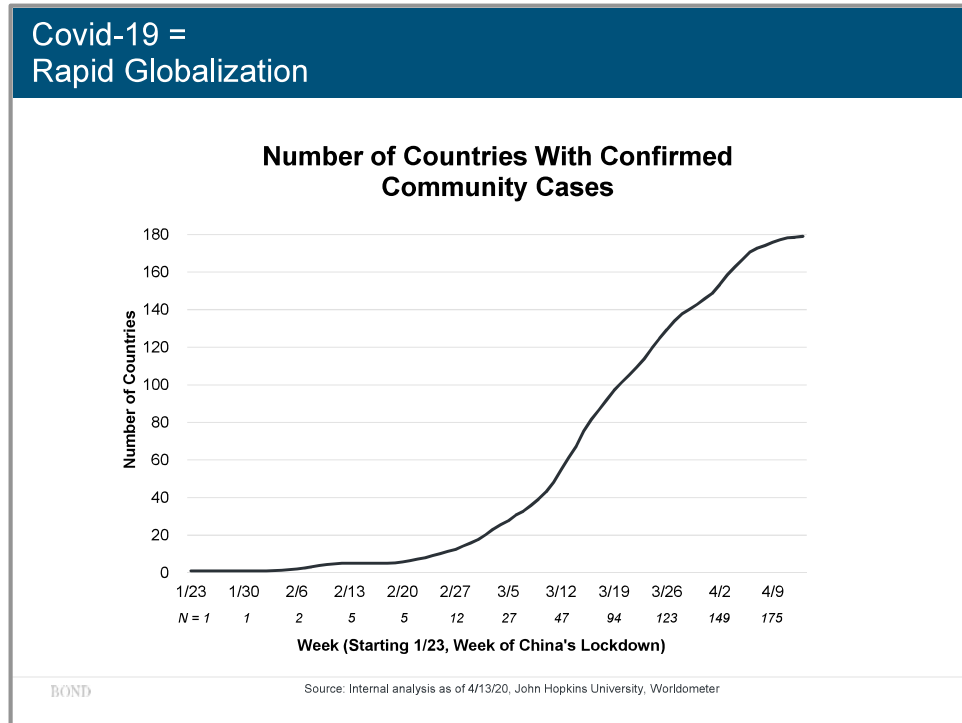
- 1) Covid-19 = Shock + Aftershocks
- 2) Viruses + Microbes = Consistent + Periodic Agents of Disaster
- 3) Creative Innovators (Globally + Together) Will Rise Above the Virus
- 4) Rapid Changes Drive Growth in Both Directions...
 - Scientists / Engineers / Domain Experts Get Back More Seats at The Tables
 - Work-Life Re-Balanced
 - Digital Transformation Accelerating
 - Rise of On-Demand Services as Economic Growth Driver Continues (for Consumers + Workers)
 - Government's Role in Stabilizing / Stimulating Economy (& Jobs) Must Be Enabled by Modern Technologies
 - 2020 = Step-Function Year for Technology + Healthcare?
 - Traditional Sports = Post Covid-19 Evolution Provides Real-Time Engagement Clues for Other Businesses
- 5) 'The World Just Doesn't End That Often' = We Will Get Through This... But Life Will Be Different...

Our New World

1) Covid-19 = Shock + Aftershocks

Earthquakes are like high-speed zippers that rip open the earth – they can run 138 miles in a minute¹ as the San Francisco Earthquake did in 1906. The big ones transform the way people live.

The shock from Covid-19's high-speed spread / impact has similarities – as of 4/16/20, in the 94 days since the first known cases outside of China were reported, 2.1MM people have tested positive globally and 145K have died. 93% of the world's 193 countries have reported cases, and governments' only choice has been to impose unprecedented social control policies with the hope of 'flattening the curve.'



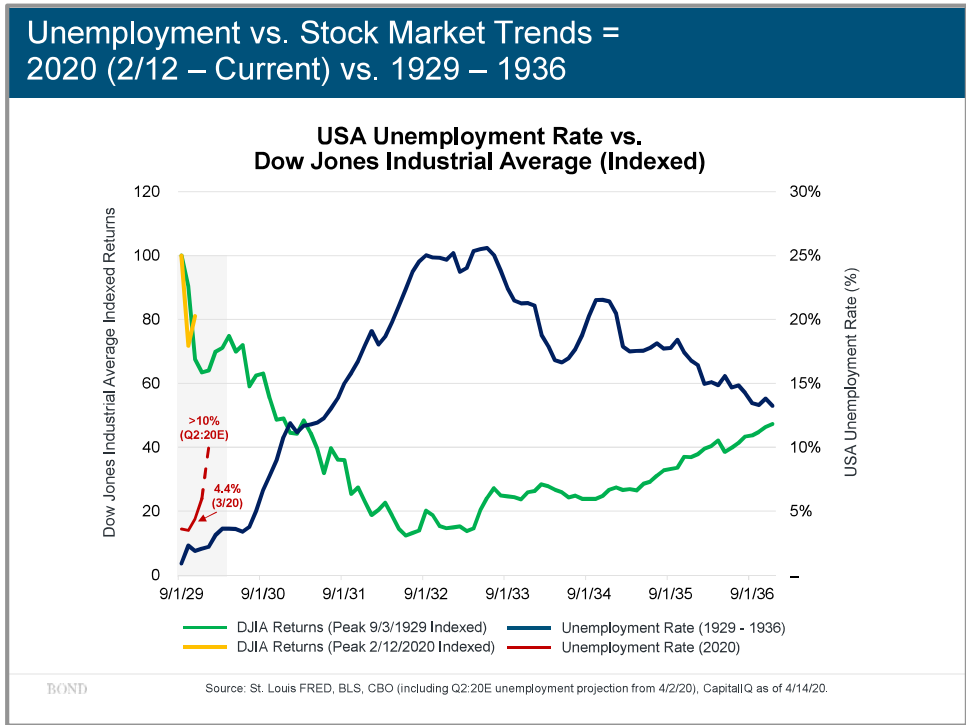
The top 20 countries by GDP have all implemented some form of social distancing and/or quarantine – in aggregate, this represents 80% of global GDP and a large portion of the population. Covid-19 has upended our modern lives in ways we're just starting to understand.

With an abrupt shock, many of us – other than those who are infected or serving those in need of care – have shifted from navigating the 'rat race' to moving at a relative snail's pace. We are living in a hunkered down world that in many ways seems more attuned to life from another era – but in 24x7 streaming global color.

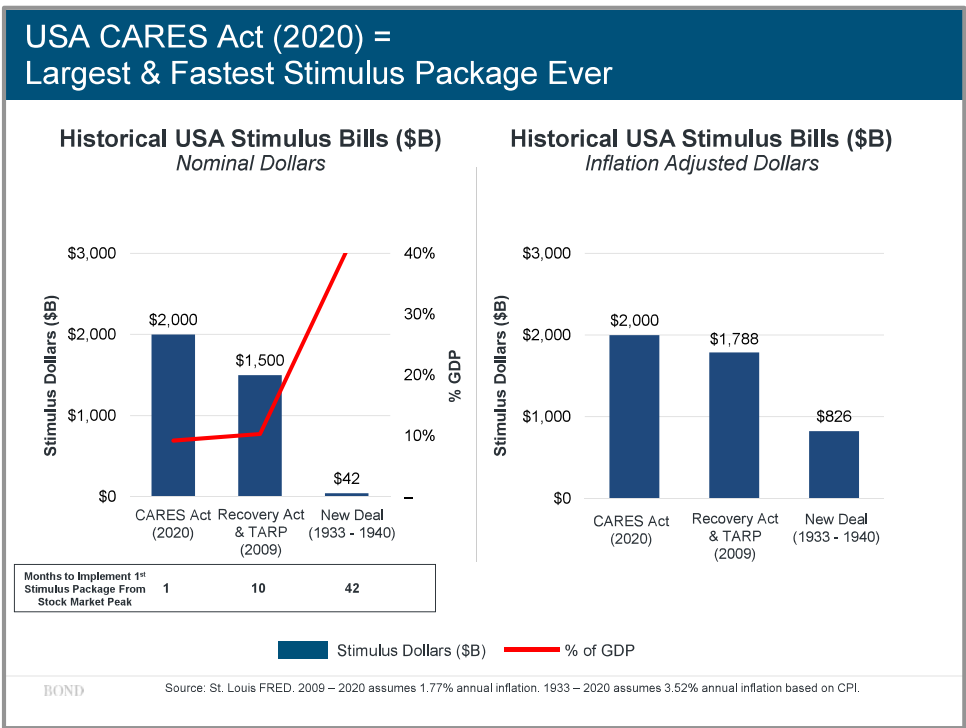
In the face of an enemy on our shores, America has stepped up. Neighbors are looking out for each other. Philanthropic initiatives (often local) are rolling out to provide stopgap help to those in need until more sustainable solutions are optimized. And, over 18MM² healthcare workers are tirelessly and heroically serving on our front lines.

In the aftershock, the economy has also ground to a halt, and job losses are rising rapidly. At current course and speed, in a few months unemployment could reach levels not seen since the Great Depression almost a century ago. Nearly one in four American workers are employed in the most affected face-to-face jobs like food service, hospitality, retail and other services³. As of one month ago, one in five Americans had already lost working hours or jobs⁴. Seventy-three percent of Americans have indicated their household income has been reduced⁵.

Comparing U.S. unemployment and the stock market of the past 43 trading days with September 1929 – December 1936 (the Great Depression), one finds terrifyingly similar trends in stock market movements while today's unemployment levels are spiking at a materially faster clip. Similar shocks have taken place in other advanced economies, amplifying the knock-on effects to trade that may worsen the global downturn.



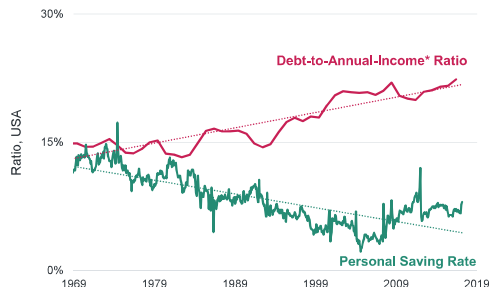
Recent government-imposed containment actions have necessitated government-funded lending / liquidity / stimulus programs at unprecedented speed, scope, scale and complexity. In its effort to stabilize and stimulate the weakening economy, the U.S. government has committed over \$2 trillion in aid to consumers and the economy while the Federal Reserve has committed up to \$2.3 trillion to expand an existing corporate lending program for small and medium-sized businesses along with the purchase of municipal bonds. These numbers will likely continue to rise.



We have a hydra-like crisis – health / economic / psychological – that occurred at a time when many things were humming (economic growth / consumer spending / employment / wages...) but there weren't huge margins for error.

Personal Saving Rate = Rising But 8% vs. 12% Fifty Years Ago...
Debt-to-Annual-Income Ratio = 23% vs. 15%

Personal Saving Rate & Debt-to-Annual-Income* Ratio



BOND Source: St. Louis Federal Reserve FRED Database. USA Federal Reserve Bank. *Consumer debt-to-annual-income ratio = outstanding credit extended to individuals for "household," family & other personal expenditures, excluding loans secured by real estate vs. average annual personal income. Personal saving rate = percentage of disposable personal income (DPI), frequently referred to as "the personal saving rate," (i.e. the annual share of disposable income dedicated to saving).

USA Public Debt / GDP Level =
8th Highest vs. Major Economies (2018)

Government Debt			Government Debt		
Country	% of GDP	2018 (\$B)	Country	% of GDP	2018 (\$B)
1) Japan	236%	\$4,971	16) Angola	89%	\$106
2) Sudan	186	41	17) Brazil	87	1,869
3) Greece	185	218	18) Argentina	86	520
4) Italy	135	2,084	19) UK	86	2,855
5) Portugal	122	241	20) Sri Lanka	84	89
6) Singapore	110	364	21) Croatia	75	61
7) Mozambique	107	15	22) Zambia	75	27
8) USA	106	20,544	23) Austria	74	455
9) Cyprus	101	25	24) Pakistan	72	315
10) Belgium	100	543	25) Slovenia	70	54
11) France	98	2,778	26) Hungary	70	158
12) Spain	98	1,419	27) India	69	2,719
13) Egypt	93	251	28) Morocco	65	118
14) Congo	90	11	29) Ireland	64	382
15) Canada	90	1,713	30) Yemen	63	27

BOND Source: IMF 2018 Estimate, World Bank GDP data.

For context, the \$4.3 trillion in government monetary and fiscal responses is the equivalent of 124% of the American government's revenue in 2019 and 20% of GDP. Simplistically, it would take total debt / GDP level to 127% vs. 107% in 2019. The speck of relative good news here is that interest rates are near record low levels so the near-term annual cost of the new debt will be relatively low.

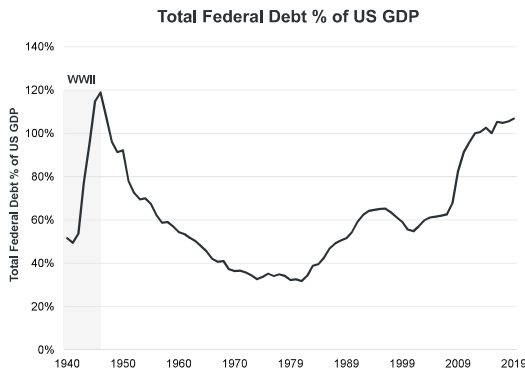
USA Income Statement = Expenses > Revenue for Years... -19% Average Net Margin Over 30 Years

USA Income Statement

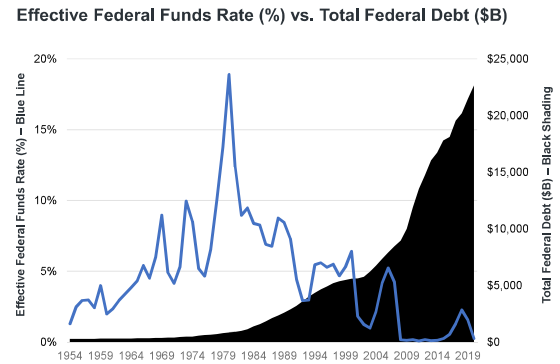
	F1989	F1994	F1999	F2004	F2009	F2014	F2019	Comments
Revenue (\$B)	\$991	\$1,259	\$1,827	\$1,880	\$2,105	\$3,021	\$3,463	
YY Growth	9%	9%	6%	5%	(17%)	9%	4%	+5% YY average over 25 years
Individual Income Taxes*	\$446	\$543	\$879	\$809	\$915	\$1,395	\$1,718	Largest driver of revenue
% of Revenue	45%	43%	48%	43%	43%	46%	50%	
Social Insurance Taxes	\$359	\$461	\$612	\$733	\$891	\$1,023	\$1,243	Social Security & Medicare payroll tax
% of Revenue	36%	37%	33%	39%	42%	34%	36%	
Corporate Income Taxes*	\$103	\$140	\$185	\$189	\$138	\$321	\$230	Fluctuates with economic conditions
% of Revenue	10%	11%	10%	10%	7%	11%	7%	
Other	\$83	\$114	\$151	\$148	\$161	\$283	\$272	Estate & gift taxes, duties / fees...
% of Revenue	8%	9%	8%	8%	8%	9%	8%	
Expense (\$B)	\$1,144	\$1,462	\$1,702	\$2,293	\$3,518	\$3,506	\$4,448	
YY Growth	7%	4%	3%	6%	18%	1%	8%	
Entitlement / Mandatory	\$486	\$717	\$900	\$1,238	\$2,093	\$2,098	\$2,735	Risen owing to rising healthcare costs + aging population
% of Expense	42%	49%	53%	54%	60%	60%	61%	
Non-Defense Discretionary	\$208	\$255	\$312	\$463	\$846	\$573	\$853	Education / law enforcement / transportation / general government...
% of Expense	18%	17%	18%	20%	24%	16%	19%	
Defense	\$304	\$282	\$275	\$456	\$661	\$603	\$686	2009 increase driven by War on Terror
% of Expense	27%	19%	16%	20%	19%	17%	15%	
Net Interest on Public Debt	\$169	\$203	\$230	\$160	\$187	\$229	\$375	Recent benefit of historic low interest
% of Expense	15%	14%	14%	7%	5%	7%	8%	
Surplus / Deficit (\$B)	(\$153)	(\$203)	\$126	(\$413)	(\$1,413)	(\$485)	(\$985)	-19% average net margin, 1989-2019
Net Margin (%)	(15%)	(16%)	7%	(22%)	(67%)	(16%)	(28%)	

BOND Source: Congressional Budget Office, White House Office of Management and Budget.
*Individual & corporate income taxes include capital gains taxes. Note: USA federal fiscal year ends in September. Non-defense discretionary includes federal spending on education, infrastructure, law enforcement, judiciary functions.

USA Total Federal Debt as % of GDP =
@ 107% & Rising (2019)



USA Interest Rates =
Near Historic Lows... Total Federal Debt at Historic High



These are all big numbers. The biggest / fastest such intervention ever from Washington DC – by a long shot. For better or worse, given the circumstances, the boosters – or bazookas (a term used by Hank Paulson, U.S. Treasury Secretary, during the financial crisis in 2008) are needed for the attempt to stabilize and restart our rapidly deteriorating economy.

These large numbers may not be large enough – after all, one person's lost revenue is also another person's lost revenue and so on and so on... a problematic cascade on multiple dimensions that is still in its early stages.

We are all participating in an unproven test for fiscal and monetary policy of a magnitude we have not experienced before. Can a rapid response of this scale using lots of capital stabilize rapidly declining business trends and help them resume growth in short order? The money is one thing; human confidence is another. We will know soon enough – we suspect business trends in Q3 will be better than Q2 but that will be a low bar...

Key challenges of this multi-sided situation include:

- 1) Understanding when people can safely leave their homes, resume some version of their former lives, and restart the economy... all while balancing privacy and civil liberties
- 2) Ensuring government funding efficiently gets in the right hands and helps the economy weather the sudden slowdown
- 3) Helping businesses gradually get up and running again, while mindful of the potential for periodic shutdowns
- 4) Ensuring sufficient and creative ways for people to get back to work (and/or receive support) that sustain long-term economic growth
- 5) Managing government debt – which unfortunately has risen in good times – so that the financial overhang does not overburden our future

2) Viruses + Microbes = Consistent + Periodic Agents of Disaster

The battle of humans vs. infectious disease has been going on forever and humanity's ever-increasing proximity is the primary facilitator. Viruses are commonplace, epic viruses are rare – these are the big ones that changed the world...

Pandemic	Type	# Deaths	# Infected	Mortality		Years	Origin	Region Most	Stopping Mechanism
				Rate	Duration			Affected	
Bubonic Plague	Bacterial	200MM	~333MM	60%	5 years	1347-51	China	Europe	Quarantine / Survivor Immunity
Small Pox	Viral	56MM	~185MM	30%	431 years	1520-1951	Europe	Global	Vaccine
Spanish Flu	Viral	40-50MM	~500MM	8%	2 years	1918-19	Unknown	Global	Quarantine / Survivor Immunity
Plague of Justinian	Bacterial	30-50MM	~80MM	50%	2 years	541-542	Middle East	Europe	Survivor Immunity
HIV / AIDS	Viral	25-35MM	~70MM	35%	39 years	1981 - Present	Africa	Global	Testing / Antivirals
Third Plague	Bacterial	12MM	NA	NA	1 year	1885	Asia	Asia	Quarantine / Survivor Immunity

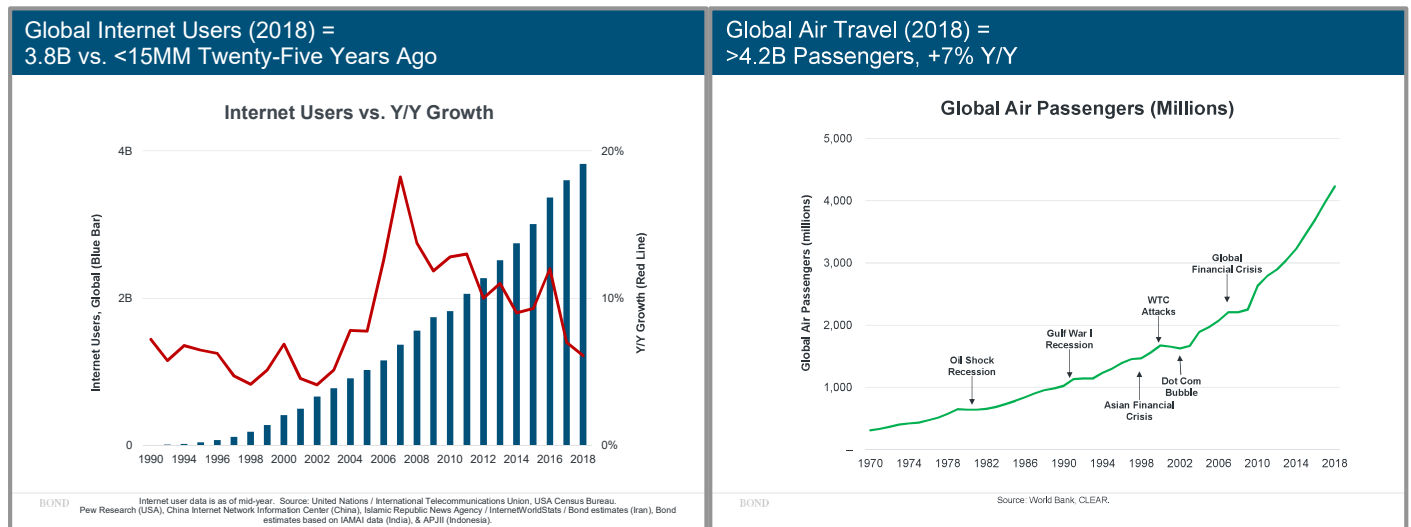
Sources: Visual Capitalist, CDC, History.com, TIME

Additional viruses over the last century have been material killers, all originating outside America: Asian Flu killed 1.1MM people in 1957-58 primarily in Asia; Hong Kong Flu killed 1MM in 1968-70 primarily in Asia; Swine Flu killed 200K in 2009-2010 globally, Ebola killed 11.3K in 2014-2016 in West Africa¹ and SARS killed 8K people in 2003.

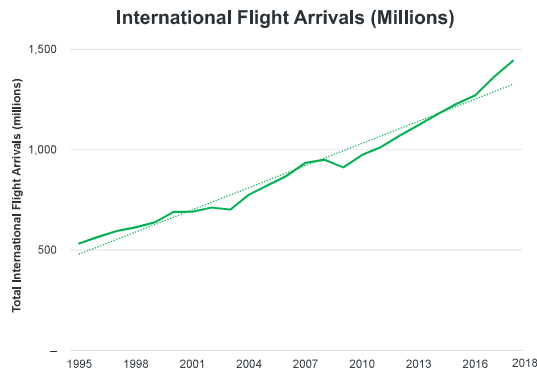
While other regions (primarily Asia) have experienced easily spread viruses with high mortality rates in recent history, America's last pandemic experience (at scale) was the Spanish Flu one-hundred years ago. Unfortunately, 3-4 generations are long enough for many people to have forgotten the pain and to be ill-prepared for the next attack.

Our world had become increasingly porous, handing a coronavirus the perfect setup for global impact.

As digital connectivity, air travel, cross-border movement and trade have ramped steadily upward, our population has become untethered physically, darting from place to place with limited geographic constraints. Furthermore, people have migrated from rural, isolated regions to more densely populated, connected urban areas.



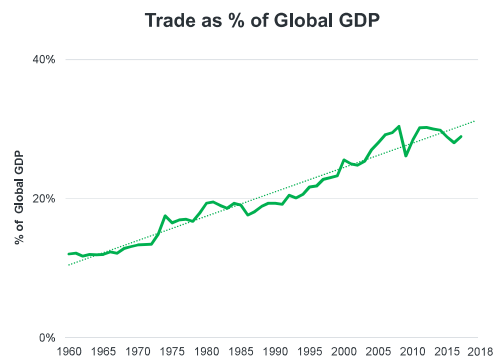
Global Cross-Border Air Travel (2018) =
1.4MM Arrivals, +6% Y/Y



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Source: World Bank

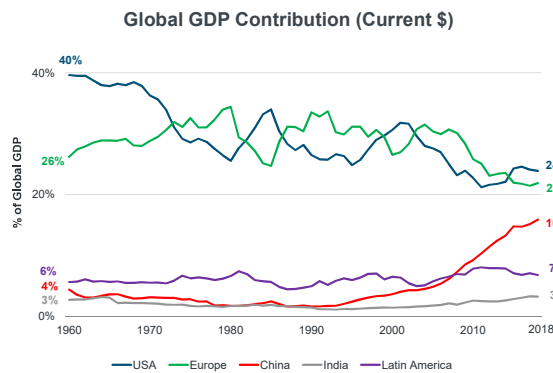
Global Cross-Border Trade (2018) =
\$25T @ 29% of Global GDP



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Source: World Bank.
Note: 'World Trade' refers to the average of Imports & Exports (to account for goods in-transit between years) for all nations.

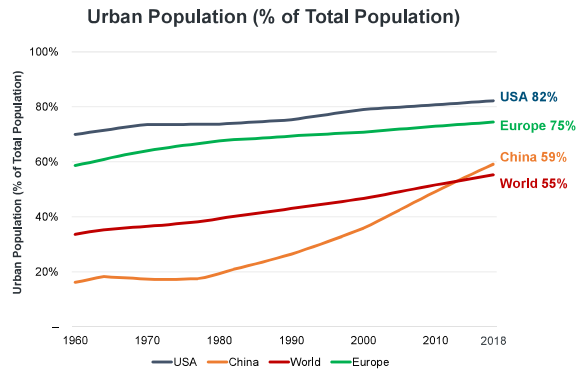
Global Relative GDP (Current \$) =
China + USA Rising... Europe Falling (2018)



BOND

Source: World Bank (GDP in current \$). Other countries account for ~30% of global GDP.

Global Population (2018) =
On-Going Migration to Urban Areas



BOND

Source: Catalyst Partners (March 2020) & World Bank

All these trends set up a virus' dream – hitchhike on a human or surface, and travel hundreds of miles per hour across land and sea to get to a whole new world. When there, quietly multiply before anyone can contain you. The virus is clever, and it has evolved perfectly for the global environment through its long incubation time, asymptomatic transmission and symptoms so mild that most carriers just keep working and milling about.

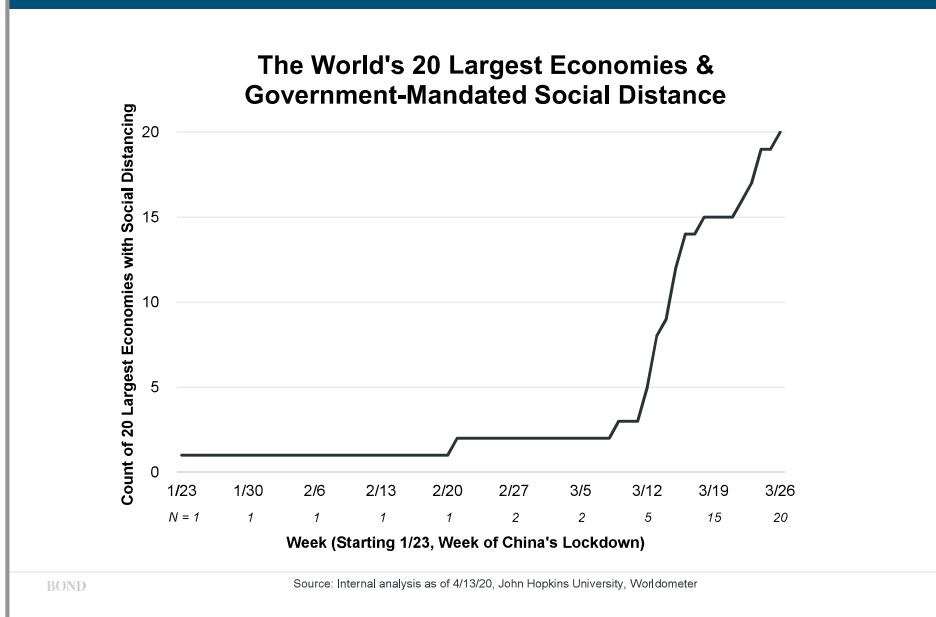
Its impact on a human is a toxic cocktail of the unpredictable: from nothing...to sniffles...to coughing...to breathing difficulties...to death.

The capriciousness sows fear, not just of the infected, but of every human interaction. It creates a feeling of being helpless in a war – with an invisible enemy.

We are all focused on the duration and severity of our crisis and watching / waiting / praying for the ebb of coronavirus cases so we can begin to get out without fear of infection.

The good news is that social distancing appears to work and governments around the world have embraced it. In an unprecedented and rapid global response, 100% of the 20 largest economies are now in some form of lockdown, with 19 of those countries taking action within a 4-week window.

Social Distancing = Rapidly Implemented by World's Largest 20 Economies



From the epidemiological data emerging from around the world, we now know more about this agent of disaster, much faster than ever before in pandemic history:

1) *In the absence of intervention, Covid-19 infections will grow exponentially...*

Early consensus is that each person infected with Covid-19 will lead to 2 to 3 additional people becoming infected. In a world where the average person physically interacts with 10-15 others¹ per day, there are hundreds of opportunities for transmission during the infectious stage of the disease. Empirically, that was proven in almost every country around the world, where a doubling time of every three days was observed in the weeks prior to social distancing. This doubling time is what produced the early warnings of hundreds of millions of infections.

2) *Extreme social distance measures work...*

After implementing control measures, countries consistently see an improvement to ~6 days of doubling time within two weeks, and ~11 days within three weeks. The earliest countries to enter lockdown have now hit their peak hospitalization and death rates, approximately four weeks after implementing strict social controls. As a result, worldwide new daily cases largely stabilized in April and the world's case count doubling time of ~15 days suggests we may be near the peak of *this* outbreak.

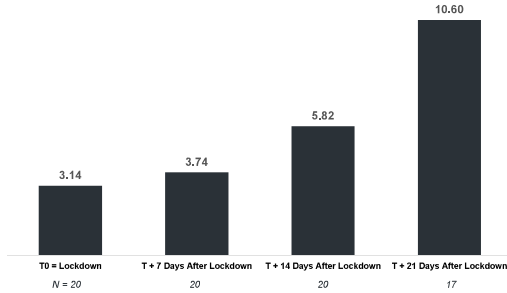
3) *We don't know what to expect 'in between'...*

We know the two extremes, but we don't know what will happen when we start to let down our guard. To do so, we need 100% available diagnostic testing with much faster turn-around (measured in minutes, not days). We need the systems and the tools to take action one step at a time, measure the impact, and iterate to find the most effective ways to contain Covid-19 until we have a vaccine.

**Impact of Social Distancing =
Dramatic Reduction of Exponential Growth**

Average Doubling Times (Days) During Various Phases of Lockdown

T0 = Date Social Distancing is Implemented

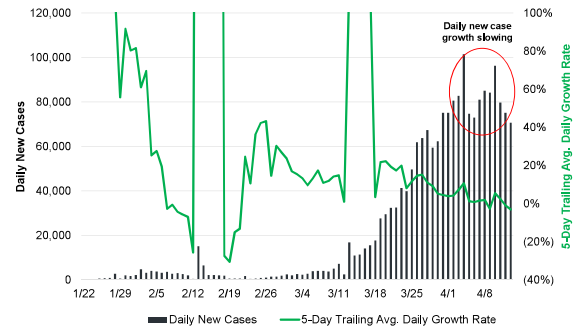


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Source: Internal analysis as of 4/13/20, John Hopkins University, Worlfdometer

**Daily New Cases =
Largely Plateaued in April**

World Daily New Cases



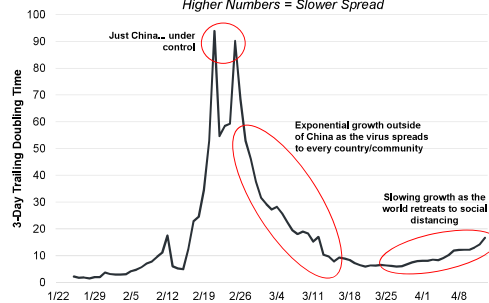
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Source: Internal analysis as of 4/13/20, John Hopkins University, Worlfdometer

**Doubling Time =
Dramatic Improvement In April**

World Doubling Times

Higher Numbers = Slower Spread



BOND

Source: Internal analysis as of 4/13/20, John Hopkins University, Worlfdometer

The riddle for the whole world will be how to walk the fine line between relaxing the right measures at the right time in the right places, without fanning the flame of infection transmission and exponential case count growth. We believe that riddle is a problem that technology can help solve.

3) Creative Innovators (Globally + Together) Will Rise Above the Virus

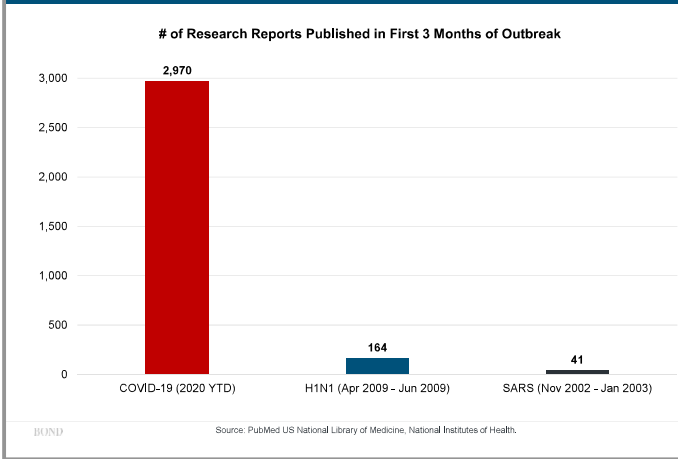
It's easy to be fearful of how Covid-19 could continue to rage when one looks at the devastating outcomes from the epic plagues of past centuries.

The difference today, in a world with near 24x7 transparency, is that broad awareness of problems rises faster than ever, thanks to our real-time global connectedness. Scientists and experts begin discussion / debate; citizens, businesses, entrepreneurs and governments move with varying levels of urgency. Action and the quest for solutions to problems can also ramp at record speed.

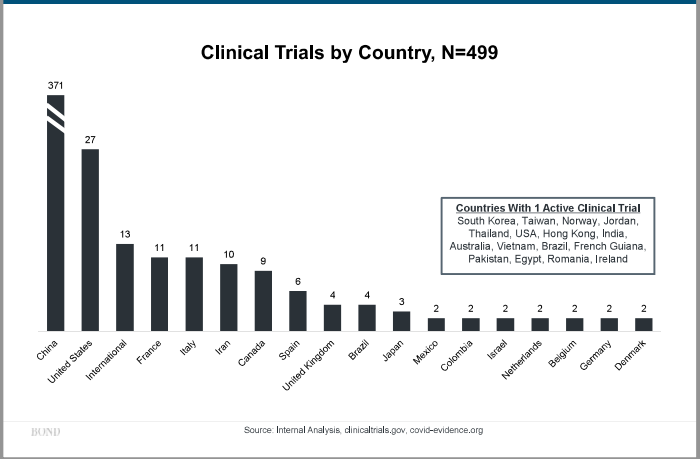
The world has urgently moved on medical and public health initiatives to halt the spread of Covid-19:

- Global Information Sharing – ~3K published Covid-19 papers, which is 20x the published research of prior infectious diseases at this stage in the public health response
- Rapid Mobilization of Clinical Research – ~500 clinical trials for Covid-19 interventions underway or completed across 34 countries
- Unprecedented Scale – 5MM expected clinical trial participants

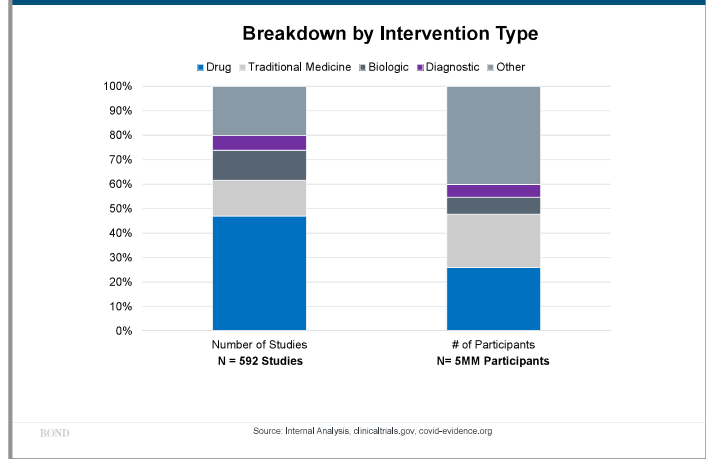
**Published Covid-19 Research =
Faster Scientific Response Than Any Time In History**



**Covid-19 Clinical Trials =
~500 Trials Across 34 Countries**



Clinical Trials = 13MM Participants... Primarily Drug / Traditional Medicine / Biologic Trials



In sports, we often talk about dream teams from different eras like the New York Yankees, UCLA Bruins (Wooden Basketball), Boston Celtics, Chicago Bulls, New England Patriots, Alabama Crimson Tide (Bryant & Saban Football) and Golden State Warriors – their choreography, team play and wins have mesmerized.

There's comfort that a global healthcare dream team of medical professionals is working in unprecedented ways around the clock, rapidly sharing and iterating information / best practices / feedback in real-time at scale... in effect, organizing a lot of the world's relevant information and making it accessible (and useful, one hopes) in record time.

This type of global collective technology-assisted rapid response to a health-related problem has never happened before, including collaboration and cooperation between the private sector and governments / regulators.

We will soon know if the fast-break attack of the virus can be countered by the global fast-break attack of the experts (and new thinkers) with their data, technology, machines and passion. We like the odds of the counterattack though the clock is ticking.

4) Rapid Changes Drive Growth in Both Directions...

Many of our customary activities have suddenly slowed – or come to complete halts. But the impact of Covid-19 has also brought accelerating growth and focus in other areas. Most of these represent an acceleration of trends that have been underway for years. Most have digital tie-ins.

Some trends we see happening now...

Scientists / Engineers / Domain Experts Get Back More Seats at The Table

In our work at BOND, we focus on technology, innovation, and the powerful role of science / engineering / data in forward progress. We believe the Covid-19 environment creates a moment for the technology sector and its entrepreneurs to shine.

The sector has consistently driven growth and value creation in the American economy. When one looks at public market capitalization as a measure of business momentum / success and reviews the top American-based market cap growers of the past ten years, there are common threads:

- 1) Technology / innovation
- 2) Digital, often cloud-based, business operations
- 3) CEOs with engineering / computer science degrees
- 4) Founded over the past ~30 years

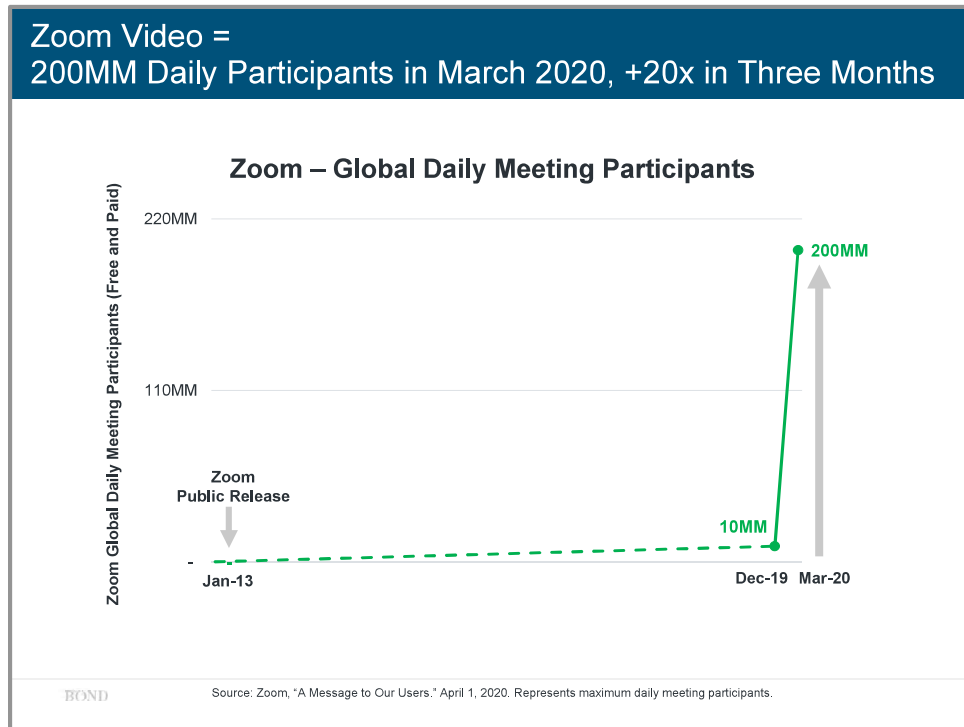
The list-toppers are Microsoft, Amazon, Apple, Alphabet / Google and Facebook.

These successful companies are led by planners – they have short and long-term (10-20+ year) visions and business plans focused on data, execution, iteration, engineering and science.

Events of the past 3-4 months underscore the need for broad-scale data-driven forward planning / execution and the need for modern technology. In both industry and government, we fully expect greater focus on forward planning with more scientists / engineers / domain experts who have seats at the table and relevant voices. This would be a good thing.

Work-Life Re-Balanced

For those fortunate enough to be working these days, to say 'shelter-in-place has changed daily routines' is an understatement. Technology investors recall the legend of Instagram securing 100MM monthly active users in ~2 years and Fortnite snagging 100MM MAUs in ~18 months, but we have never seen a business-focused app rise from 10MM to 200MM daily meeting participants in three months as Zoom's video collaboration platform just did. Zoom has secured its spot in the record books.



In the wake of Covid-19, other business-focused apps (messaging & collaboration platforms) have also seen dramatic usage increases – Slack reported more than a 2x increase in paying customer adds in Q1 plus a 20% increase in average daily messages sent per user per day, while Microsoft Teams reported 44MM DAUs (daily active users), +3.7x week-over-week, for the week of March 19.

Over the years, we have spent a lot of time looking at the evolution of work – from entrepreneurs working on online marketplaces (like eBay / Etsy / Upwork / Airbnb), workers earning money in new ways via on-demand services (like Uber / DoorDash / Instacart) and office workers working remotely at companies (like Automatic, Zapier and GitLab).

We have often been in large open spaces at technology companies filled with people using laptops at standing desks while wearing headphones to tune out background noise. Despite the advantage of being in the same space, the workers often collaborate mostly using digital tools. We have questioned what percentage of workers need to be in the same place at the same time – is there a better win-win arrangement?

Beginning on March 2, Bay-Area technology companies began to shift to work-from-home owing to Covid-19. Many workers stuffed their laptops and personal items into bags, took their regular commutes home, had a meal, went to sleep, woke up in the morning and then began doing those same jobs at a different desk (or kitchen table...or sofa).

In effect, a big experiment started that will likely change the way lots of office work is done.

We tend to invest in technology companies that have been founded in the past ten years. The businesses are generally run in the cloud using cutting-edge technology. Most are online businesses. Often 40-50% of their workforces focus on product development and engineering.

We conducted an informal survey of some of the companies...we asked questions about the new remote work environment.

- *At a high level, do you think your business is running more efficiently?*
- *Are your teams and individuals more productive?*
- *Are there business units / teams that are more efficient and happier?*
- *Are there business units / teams that are less efficient and sadder?*
- *What services are you using more – video conferencing / messengers / other?*
- *What are the upside surprises of remote work?*
- *How are you maintaining your company culture through remote work?*
- *What are the downside surprises / challenges of remote work?*
- *Assuming your business fundamentals are running as previously planned in 3-6 months, how might you change the way your business is run given what you are learning from remote working?*

Here's what we have learned from the first 1½ months of remote work:

- It's still early – and the novelty may wear off and things may begin to break – but, so far so good.
- At the margin, productivity is the same or higher.
- Video calls, when not overused, are efficient / productive and they tend to start / end on time (or early).
- Messenger & video-based information sharing / editing is very effective.
- People outside of headquarters feel more included.
- It's easier to bring outsiders in for quick video discussions.
- Time flexibility / commute time elimination / family meal sharing are big wins for workers.
- Pre-existing management bottlenecks – around individual performance or organizational design – are only amplified in a distributed environment.
- Biggest productivity and balance challenges come from parents with pre- or school-aged children that had other support systems during the working day prior to the implementation of work-from-home mandates. In addition, there's work to be done in understanding potential psychological and physical stress and other challenges related to remote work, especially in the current 'shelter-in-place' environment.
- Companies that focus on effective written communication and documentation (dubbed the 'Amazon way') – where plans are shared in written form for editing – either synchronous / asynchronous – have had an easier time shifting to distributed work. Many observe this form of communication can lead to more insightful input and decision making.
- 'Creating the office' online can be successful – including regularly scheduled meetings plus active social experiences like work-related classes and training plus outlets like live-streamed workouts.

While most companies already had teams working remotely, most believe – after the experience of forced remote work – they will shift to more distributed work.

Top-of-mind issues with large-scale remote work include questions of how to:

- 1) Ensure creativity is captured and productivity is maintained
- 2) Determine which teams are optimized by working together in-person all the time / some of the time / rarely
- 3) Maintain engagement and culture(s), recruit / train / develop / retain people, and manage human resources
- 4) Manage technology / security with rising numbers of remote workers
- 5) Think about recruiting if physical proximity to headquarters / office is less relevant
- 6) Organize / utilize office space(s)
- 7) Evolve business travel and entertainment

One founder said, 'With newer start-up / founder-led companies, there can be a mindset that nothing is set in stone and there's a nimbleness and receptivity to new ideas and change. Distributed work is just another new thing to embrace and make the best of. We are finding, in many ways, there's a lot to like.'

Digital Transformation Accelerating

On a relative basis, when we look back on business trends in the spring of 2020, it is likely that businesses doing the best tended to have:


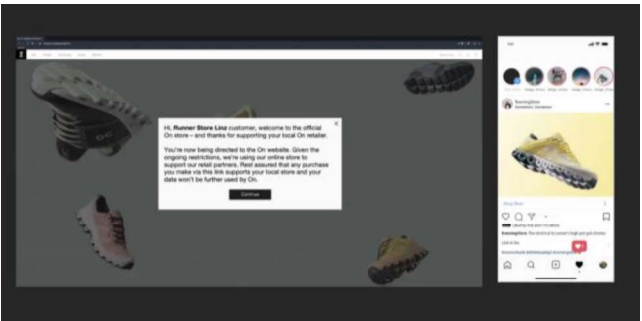
- 1) Cloud-based business functions where workers can take their computing devices and work nearly anywhere
- 2) Products always in demand but especially so in uncertain times (starting with Maslow's food / water / shelter... extended to entertainment)
- 3) Easily discoverable online presence that seamlessly helps consumers
- 4) Efficient ways to distribute products to consumers in limited-contact ways
- 5) Products that make businesses more digitally efficient
- 6) Broad (or emerging) social media presence

We have seen it with the likes of:

- Local restaurants shifting from four-top seating to curbside pick up
- Local stores adapting to sell products on information-only websites
- Local communities experiencing rising connectedness
- Big brands ramping online efforts while offline falters
- Instructors shifting from in-person to on-demand / virtual classes
- Students shifting from physical to virtual & digital classes
- Families + individuals shifting to more digital entertainment
- Grocery shoppers shifting from going to store to ordering delivery
- Diners shifting from eating-out to eating-in
- Doctors shifting from in-person to telehealth appointments
- CEOs / CTOs accelerating IT spending on cloud-based products / services

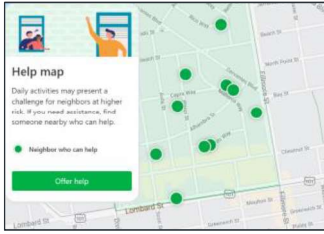
Many of these offline-to-online trends have been in place for a while – Covid-19 just accelerated them.

Some highlights / data follow...

Restaurants = Shifting from Four-Top Seating to Curbside Pick Up	Local Stores = Adapting to Sell Products on Information-Only Websites
 <p>itsdumpingtime • Follow Dumping Time</p> <p>Express. You can order delivery or pick up all your orders through our OG location at 11 Division Street. Tuesday - Sunday 11:30 til 9:00. For all our amazing neighbors at @ucsfhealth on the front lines keeping our community safe, we're still here for all your needs, thank you for everything you do!</p> <p>2x</p> <p>HOURS UPDATE</p> <p>Dumpling Time "OG"</p> <p>11 Division Street San Francisco</p> <p>Pick Up & Delivery</p> <p>Tues - Sun 11:30 am - 9:00 pm</p> <p>Order thru our partners at</p> <p>Caviar UberEats DoorDash Postmates</p> <p>TROND Source: Instagram</p>	 <p>Hi, Runner Stone Line customer, welcome to the official On-line - and thanks for supporting your local On-line.</p> <p>You're now being directed to the On-website. Given the ongoing restrictions, we're using our online store to support our retail partners. That means that any purchase you make to this link supports your local store and your sale won't be further used by On.</p> <p>TROND Source: On Running</p>

Local Communities = Experiencing Rising Connectedness

Nextdoor Help Map



Nextdoor Worldwide Weekly iOS Active Users (AppAnnie)



Source: Nextdoor, AppAnnie iOS worldwide Nextdoor weekly active user data as of 4/15/2020.

Big Brands = Ramping Online Efforts While Offline Falters

So we try to reimagine how we're communicating, how we're working with the consumers. If you go to our website, you can get a sense for what we're doing. The whole front of the website starts with a letter from me addressing the current situation, letting everybody know our galleries are closed & letting everyone know that we say our doors may be closed, but our hearts & minds are open...

We set up virtual appointments using FaceTime, Hangouts, Skype, Zoom, or call – it's like we're live innovating, improvising, adapting and overcoming.

And the demand that our teams are generating during this time is – I think it's extraordinary. If you look back and think about the really big important moves this company & this brand has made in its history, the most important moves we made, the biggest transformational steps we've taken have been in the times of most uncertainty...

I think no different then this virus is going to forever change this country & the world. This time is going to forever change our company & our way of doing business & in many ways, elevate our culture.

Gary Friedman – Chairman / CEO, Restoration Hardware Earnings Call (3/30/20)

Source: Restoration Hardware FY2019 Q4 earnings transcript

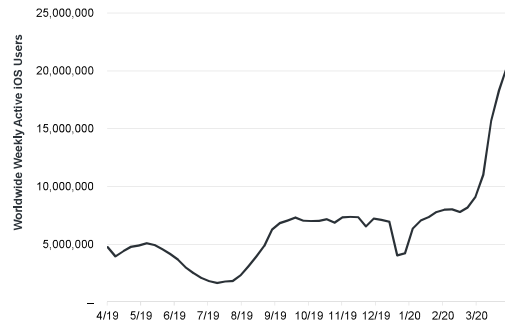
Instructors = Shifting from In-Person to On-Demand / Virtual Classes



Source: Core Power Yoga Instagram

Students = Shifting from Physical to Virtual Classes...

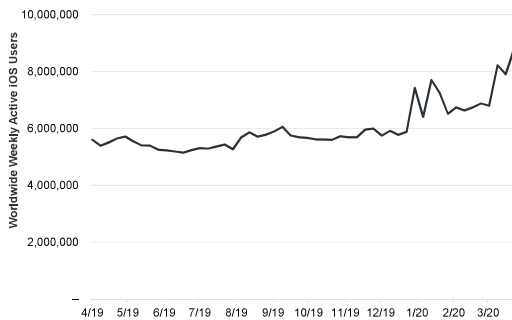
Google Classroom Worldwide Weekly Active Users on iOS (AppAnnie)



Source: AppAnnie iOS worldwide Google Classroom weekly active users data as of 4/15/2020.

... Students = Shifting from Physical to Digital Classes

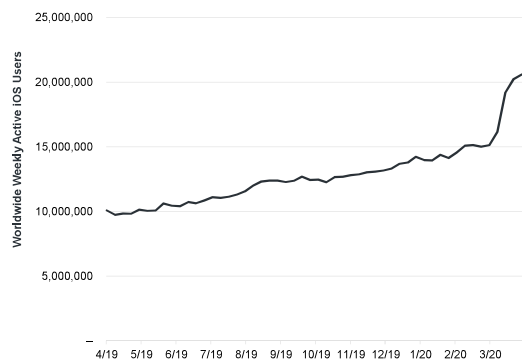
Duolingo Worldwide Weekly Active Users on iOS (AppAnnie)



Source: AppAnnie iOS worldwide Duolingo weekly active user data as of 4/15/2020.

Families + Individuals = Shifting to More Digital Entertainment

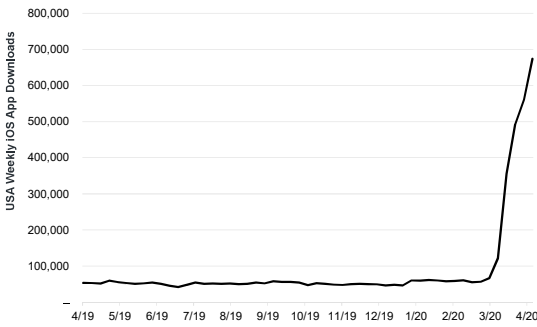
Discord iOS Worldwide Weekly Active Users (AppAnnie)



Source: AppAnnie iOS worldwide Discord weekly active user data as of 4/15/2020.

**Grocery Shoppers =
Shifting from Going to Store to Ordering Delivery**

Instacart - 3rd Party iOS App Download Data (AppAnnie)



Source: AppAnnie iOS US Instacart app weekly download data as of 4/15/2020. Excludes partial week download data.

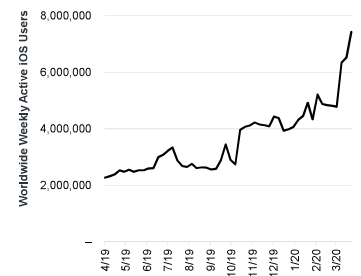
**Diners =
Shifting from Eating-Out to Eating-In**

DoorDash – Worldwide Weekly Active Users on iOS (AppAnnie)

Our Eats business is an important resource right now, especially for restaurants that have been hurt by containment policies. And in the US, our SMB sales team is now closing 2.5x the number of new restaurants we normally do per day.

And our restaurant self-service website has seen a 10x increase in sign-ups since last Thursday. Eats is becoming all the more important for its partners, and we expect to be there for them.

Dara Khosrowshahi – CEO of UBER, Shareholder Update Call (3/19/20)



Source: AppAnnie iOS worldwide DoorDash weekly active user data as of 4/15/2020; public earnings transcripts

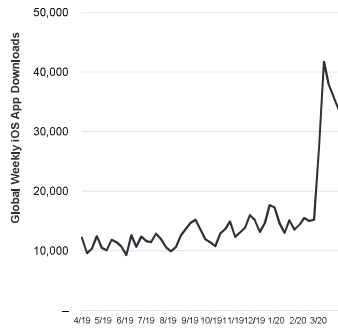
**Doctors =
Shifting from In-Person to Telehealth Appointments**

Teladoc – 3rd Party iOS App Download Data (AppAnnie)

The demand has shifted forever on virtual care & we're on the verge of a new era for virtual care in the healthcare system.

We're certainly seeing a significant increase in volume & I didn't exactly expect the president to be talking at a White House press briefing about telehealth. If you'd asked me that a few months ago, I would have said that's pretty unlikely.

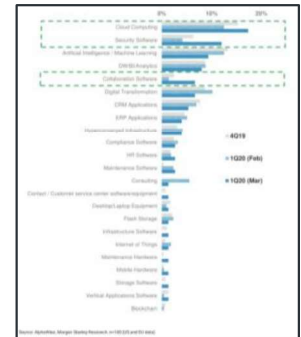
Jason Gorevic – CEO, Teladoc Health, CNBC (3/23/20)



Source: AppAnnie iOS worldwide Teladoc weekly download data as of 4/15/2020. Excludes partial week download data.

**CEOs / CTOs =
Accelerating IT Spending on Cloud-Based Products / Services**

Projects with Largest Spend Increase in 2020 (% of Total Responses)



Source: Morgan Stanley CIO Survey (March 2020, report dated as of 4/2/2020), Twitter

Rise of On-Demand Services as Economic Growth Driver Continues (for Consumers + Workers)

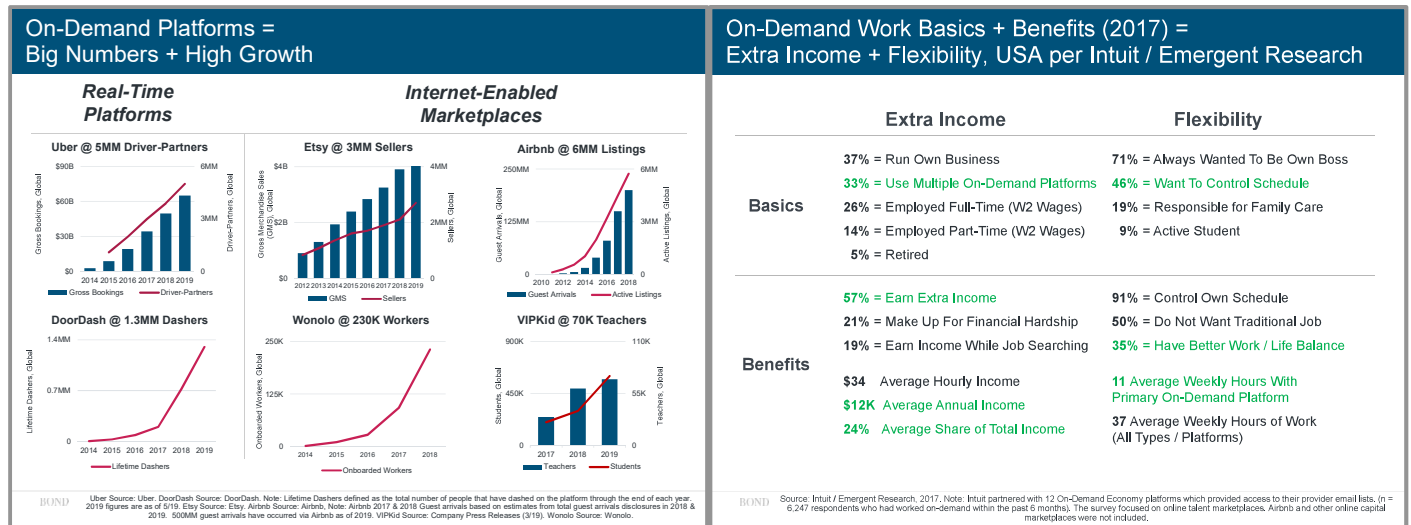
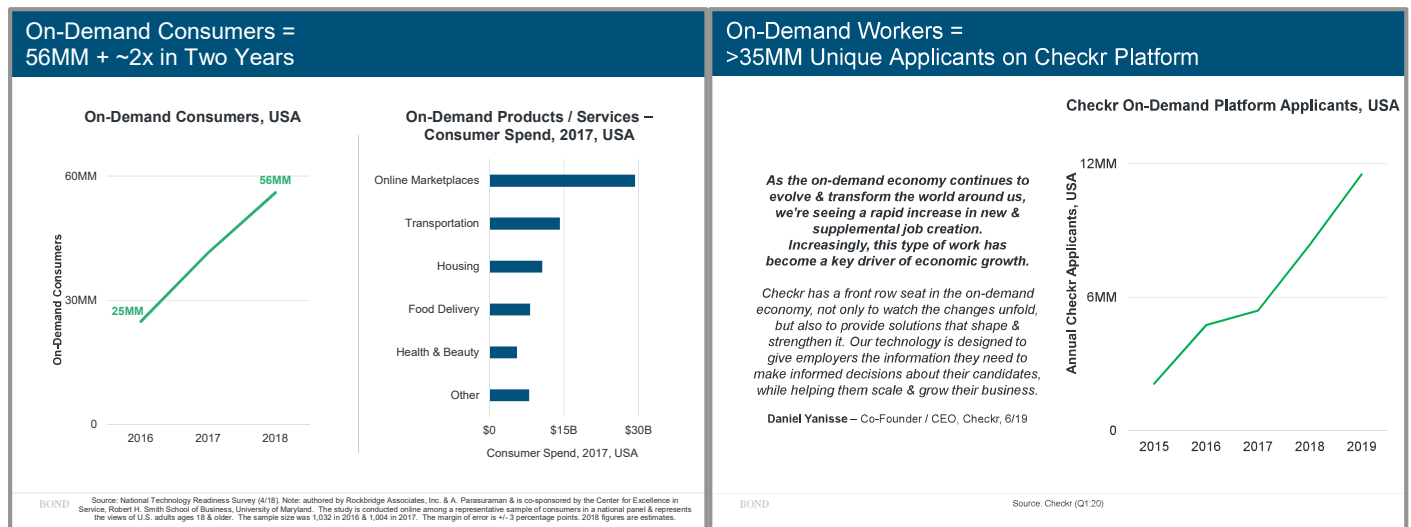
On-demand services have been on the rise for years. Many of the top on-demand businesses have been negatively impacted by Covid-19.

Leading on-demand platforms for transportation (Uber / Lyft...), accommodations (Airbnb...) and services have seen volumes decline as a result of stay-at-home measures, social distancing and border closures.

On the other hand, on-demand platforms that deliver groceries and food (Instacart / DoorDash...) have experienced surging demand and are aggressively bringing on new workers, in addition to providing demand to local grocers, restaurants and other essential stores.

Net, we believe on-demand and to-the-door delivery services may be gaining permanent market share in these unusual times. While the benefits to consumers of on-demand services are relatively obvious, we continue to believe the importance of on-demand businesses in helping provide workers with work and flexibility is underappreciated in America. In many regions around the world, especially Asia, on-demand services are more pervasive and advanced than in America.

The on-demand economy is large and has been expanding in the U.S. – there were an estimated 56MM on-demand consumers in America in early 2018¹. Checkr indicated it had 11.5MM unique applicants on its on-demand worker background checking platform in 2019 and has supported >35MM unique applicants since 2015. This compares with the Bureau of Labor Statistics tally of 156MM American workers in March.



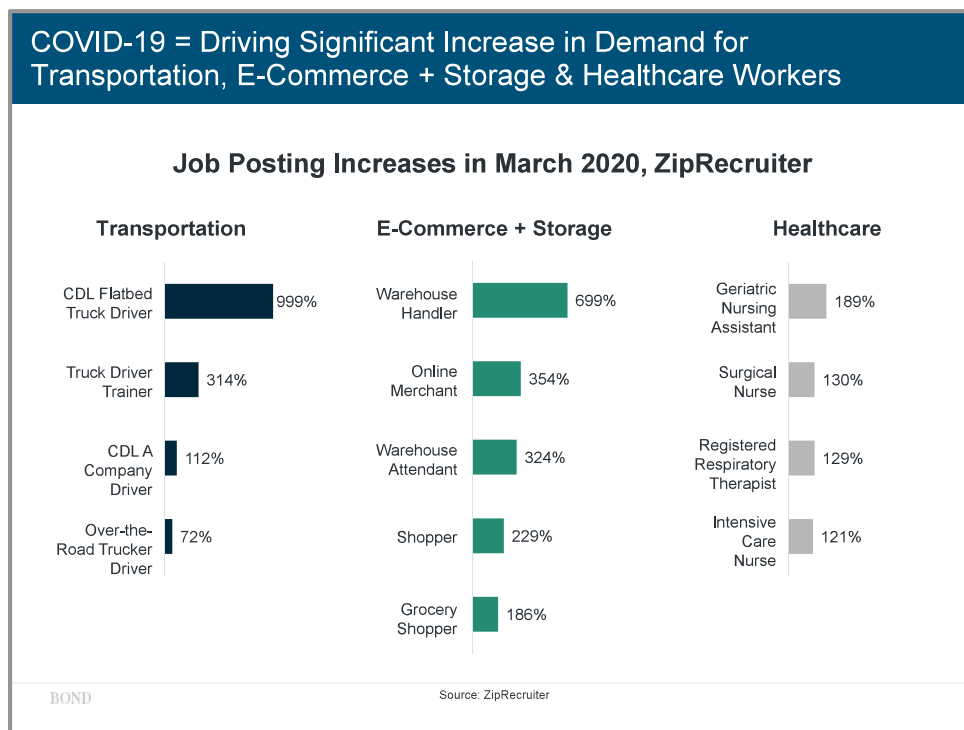
While there's a lot of uncertainty in the world now, we do know the following:

- 1) The ways people work are changing
- 2) People are losing jobs
- 3) Most people feel less financially secure
- 4) We don't know what our world will look like in 3-24 months

We believe these trends are likely:

- *The nature of work / jobs will continue to evolve rapidly...*

We are experiencing a rapid short-term reallocation of labor not seen since experienced since WWII (1939-1945). Covid-19's impact has caused labor shortages in transportation, supply chains, groceries, and healthcare. Walmart announced plans to hire 150K hourly associates on 3/19 and CVS announced plans to add 50K full-time / part-time roles on 3/23. Recent job postings from online job marketplaces like ZipRecruiter highlight significant growth in transportation (trucking), e-commerce (warehousing / supply-chain) and healthcare.



- *On-demand work / jobs will evolve and become a bigger part of our economy...*

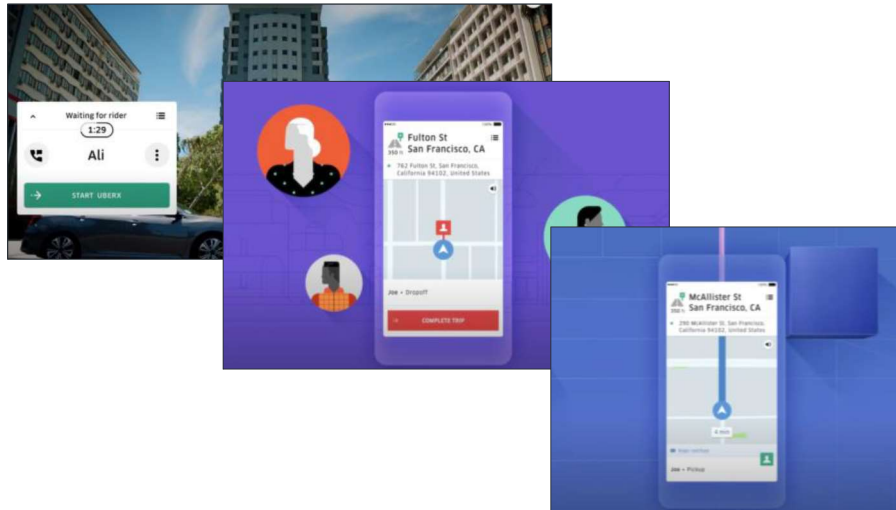
On-demand work can allow displaced workers to sign up for work on multiple platforms and schedule hours around life commitments such as childcare and/or education. Owing to the re-accelerating adoption of on-demand platforms for grocery, food and e-commerce, there is a surge in demand for labor with recent announcements from the likes of Instacart which announced it was looking for 300K full-service shoppers (3/23) and Amazon which indicated it was looking for 175K warehouse and delivery workers (3/16 & 4/13).

- *Relevance of tech-enabled multi-way synchronous / asynchronous communication and feedback will rise...*

This kind of immediate, focused communication is foundational to on-demand services (like Uber drivers receiving instant feedback on new pick-ups) and is becoming increasingly utilized in more traditional work (thanks to recent usage ramps of the likes of Zoom / Slack / Microsoft Teams). And, it can serve as an effective training tool. We expect it to become more foundational to business operations of all sorts and it can help improve productivity, efficiency and satisfaction.

Net, Covid-19 has been a forcing function for a rapid re-think about the nature of work and the training / education necessary to remain agile and relevant in the workforce. On-demand work should be a foundational way that government helps people get back to work.

Uber for Drivers = Synchronous + Asynchronous Communication / Feedback Platform



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Source: Uber, YouTube

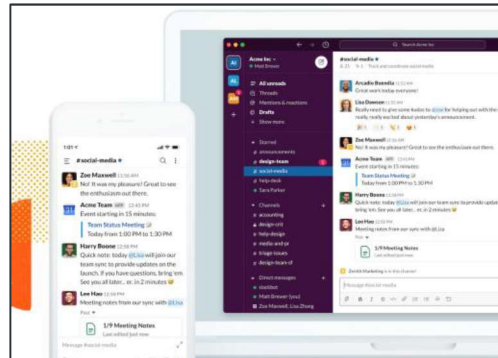
Slack for Workers = Synchronous + Asynchronous Communication / Feedback Platform

One of the advantages of Slack is the deep level of engagement... Even though the average number of users have [increased], the average messages per user has increased.

[Users] are sending messages, creating channels, adding integrations, uploading files – we want to be integral in how these organizations operate.

And the way we get there is simultaneous connections.

Stewart Butterfield – Co-Founder / CEO, Slack, 3/26/20
(Interview with RBC Capital Markets)



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Source: Slack

Government's Role in Stabilizing / Stimulating Economy (& Jobs) Must Be Enabled by Modern Technologies

There will be endless debate about the wisdom and timing of government actions that stopped the economy by sending people home, and about government efforts to restart the economy by sending people back to work.

But in the here and now, governments face several immediate challenges. As noted earlier, they must:

- 1) Understand when people can safely leave their homes, resume some version of their former lives, and restart the economy...all while balancing privacy and civil liberties
- 2) Ensure government funding efficiently gets in the right hands and helps the economy weather the sudden slowdown
- 3) Help businesses gradually get up and running again, while mindful of the potential for periodic shutdowns
- 4) Ensure sufficient and creative ways for people to get back to work (and/or receive support) that sustain long-term economic growth
- 5) Manage government debt – which unfortunately has risen in good times – so that the financial overhang does not overburden our future

Covid-19 has attacked humans, and, in effect, it has also attacked our systems. We know that people most vulnerable to the virus can have pre-existing conditions. Our governments have pre-existing conditions, too. The problem is beyond partisanship: Our government's day-to-day operating systems and technology are old / fragile / inefficient and vulnerable. Covid-19 has exposed this. We are hopeful that Covid-19 can serve as a forcing function to drive long-overdue upgrades and overhauls of government technology / processes and to help aid the ability to connect with its taxpayers, voters and citizens.

The restart timing and process is well underway in different regions and we suspect it will be slow and steady with the potential for rolling lockdowns as virus hotspots emerge following increased social interaction. Around the world, we have seen success stories of governments taking advantage of technology infrastructure to organize coordinated methods of keeping citizens informed and help monitor the spread of the virus. Singapore is using WhatsApp, Twitter and Telegram to publish daily updates on Covid-19 to citizens in four different languages. In Korea, the government launched the Corona 100M app that publicly informs citizens of known cases within 100 meters of their location.

Singapore COVID Communication = Multi-Platform / Language / Format Approach to Maximize Relevance

The image displays three screenshots of COVID-19 communication from Singapore:

- Twitter:** A tweet from Singapore Government (@govsg) dated 14 April 2020. The content is a graphic titled "COVID-19 UPDATE 14 APR" with the following statistics:
 - As of 12pm: 334 NEW CASES
 - Imported: 0
 - Linked to known clusters: 198 (majority Work Permit Holders in dorms)
 - Linked to other cases: 22 (10 Spore Citizens/PRs; 12 Work Permit holders)
 - Pending contact tracing: 114 (24 Spore Citizens/PRs; 90 S Pass/Work Permit/ Employment Pass/Dependant's pass holders)
 - 3,252 TOTAL CASES
 - Hospitalised: 1,315 (28 in ICU)
 - In community facilities: 1,316
 - Fatalities: 10
 - Total discharged: 611 (Discharged today: 25)A note at the bottom states: "Another death due to COVID-19. A 70 year-old male Singapore Citizen has passed away from complications due to COVID-19 infection on 14 Apr 2020. He was confirmed to have COVID-19 infection on 6 Mar. NCID has reached out to his family and is extending assistance."
- WhatsApp:** A message from Gov.sg dated 25 Feb Update. The content includes:
 - As of 12pm: New cases: 1; Total confirmed: 91; Discharged today: 5; Total discharged: 58; Total still in hospital: 33.
 - Most in hospital are stable or improving. 7 are in the intensive care unit.
 - Link between two church clusters established: A breakthrough lab test was able to detect the link between the church clusters and Wuhan travellers.
 - For those with recent travel history to Daegu and Cheongdo: From 26 Feb 2359hrs, all new visitors in the last 14 days will not be allowed into, or transit through Singapore.
- Telegram:** A channel post from Gov.sg dated 13 Apr. The content includes:
 - COVID-19: Stay updated with official sources
 - Websites on COVID-19 situation: MOH, moh.gov.sg/covid-19, gov.sg.gov.sg/features/covid-19
 - Receive updates on the go: gov.sg/whatsapp, gov.sg/govsg/telegram
 - COVID-19 Info Bot - a repository of answers to your questions on latest measures
 - Summarised info from different govt agencies, organised into topics that are of interest to you: gov.sg/infoBot
 - Sick? Find a PHPC clinic near you: phpc.gov.sg
 - COVID-19 online symptom checker: sgccovidcheck.gov.sg

Source: Twitter, WhatsApp, Telegram

Efforts, so far, to determine which people and businesses get extra capital – and how they receive it – have varied in efficiency, but we suspect there will be steady improvement.

While governments are determining how to get money to people, there are many companies across industries that have direct / scaled / easy-to-use app-based payment relationships with customers. These include the likes of financial service (including credit card / payment) companies, communications companies, internet (including API-based) businesses and utilities. Dialogue is active and promising. And, in the world of small victories, we are encouraged that the U.S. government is discouraging the use of paper checks with its stimulus payments and including digital financial technology companies such as Intuit, PayPal and Square to participate in its emergency lending program.

It's hard to know exactly what return to work will look like. There will be many businesses that never recover. There will be many (with both small and large tweaks) that come back, some of these stronger than ever (with some doing so in spaces that will surprise us). And there will be new businesses that would have been inconceivable just a few years ago.

Businesspeople know it can take a day to shut something down, but it can take years to start it back up. For many businesses, 2020, in effect, will be a lost year and the challenge will be getting to 2021 when, ideally, many business patterns we have come to know begin to resume at some scale.

We believe technology infrastructure that has emerged over the past decade with remote work, on-demand businesses and mobile consumer products and apps will play critical roles in helping to balance public health considerations with America's return to work.

The costs of recent fiscal and monetary initiatives plus on-going unemployment payments are unsustainable. People need to get back to work for peace-of-mind and to help reduce the rising / on-going costs to government and taxpayers. We are hopeful that government focus in these areas will emerge in the coming weeks, and that our best-and-brightest companies will be in the mix to help people find old and new types of work, in addition to being more helpful with healthcare.

2020 = Step-Function Year for Technology + Healthcare?

The front line of the battle with Covid-19 has been the institutions and individuals that make up America's healthcare delivery system. From those ranks, millions of healthcare heroes have emerged, putting themselves and their families at risk to fight the war. America owes them honor and gratitude.

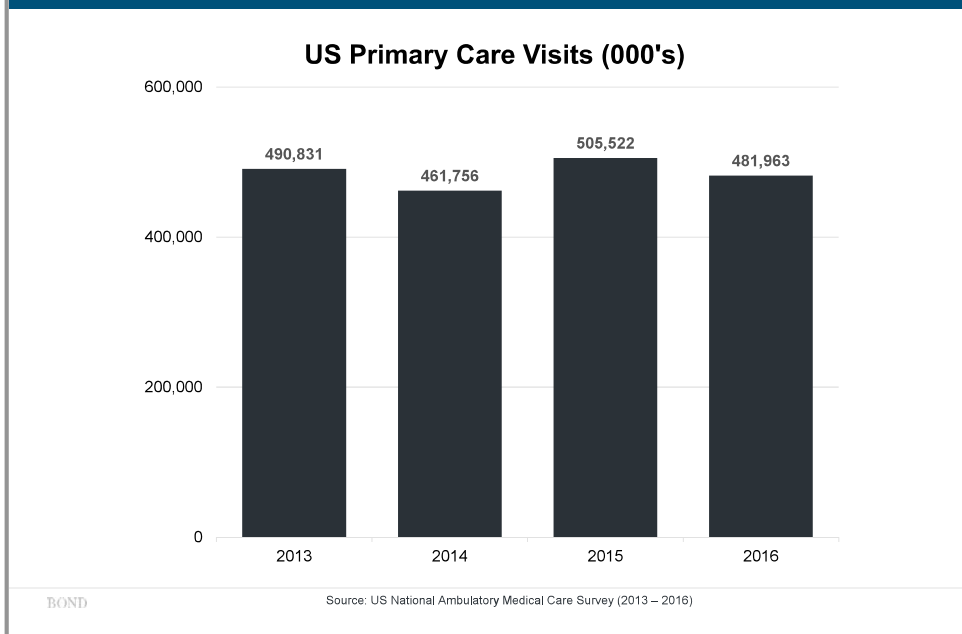
Unfortunately, the pandemic also exposed a number of structural flaws in our healthcare system. Covid-19 may be the call to arms that we need to fundamentally rethink what amounts to 8% of U.S. GDP and \$1.2T of federal spending in 2019 (Medicare / Medicaid / other healthcare services), representing 28% of the federal budget.

Two notable healthcare observations we have had during this crisis:

1) Our healthcare delivery in the U.S. hasn't changed as much as one would think since the Spanish Flu outbreak of 1918...

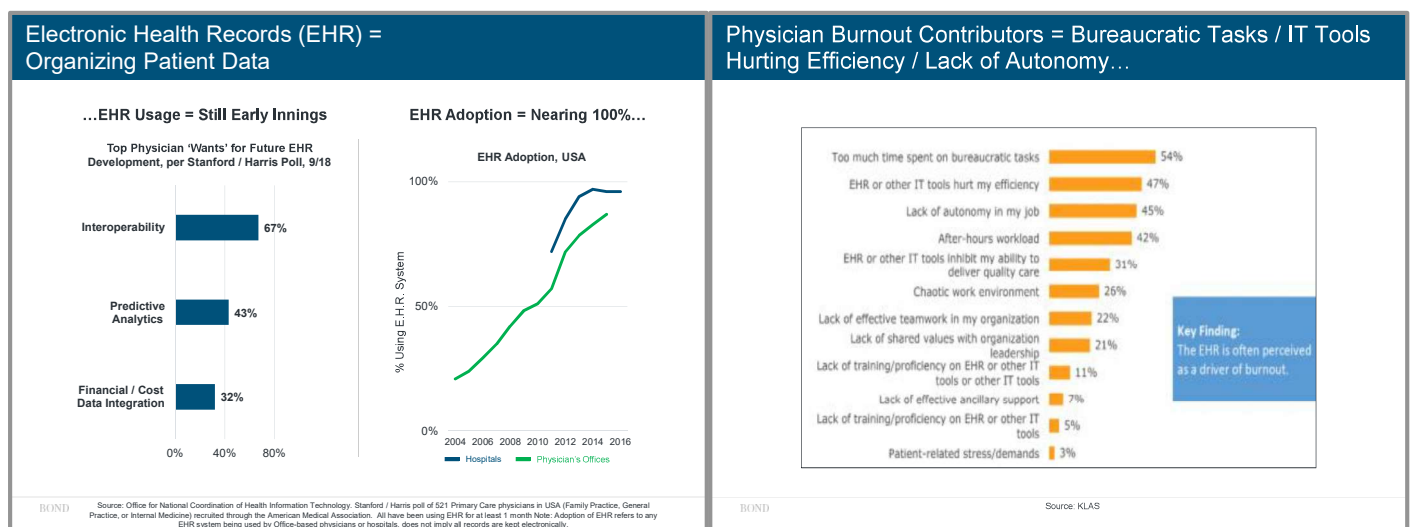
Technology and innovation have had little impact on the primary care patient journey. Patient develops symptoms, patient visits a doctor's office (possibly infecting others in the case of Covid-19), doctor diagnoses disease largely from outward symptoms, doctor sends patient home usually under 'watch and wait,' patient either recovers or escalates to the emergency room. That in-person diagnostic/treatment cycle is repeated during the ~500MM visits to primary care annually in the U.S., and the pattern hasn't changed much in 100 years.

US Primary Care Visits = ~500MM Annually



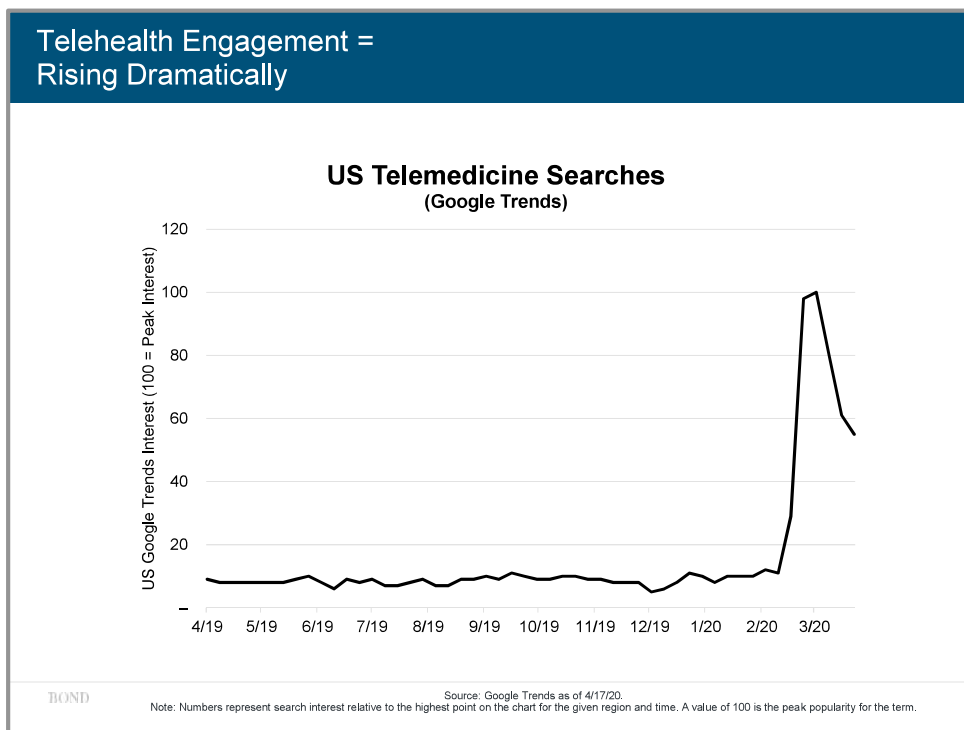
2) Awash in data, but lacking connectivity and insight...

The early days of the Covid-19 crisis involved federal and state healthcare officials exchanging spreadsheets to manually track utilization and capacity at hospitals. Because the data weren't connected, public health officials were relying on theoretical exponential models that proved to be wildly sensitive to small changes in the theoretical assumptions. Despite decades of investments in electronic health records, there remain hundreds of dark, unconnected pools of healthcare data. Even when the data are available, providers are overwhelmed by the workload and the sheer volume of the data, and therefore not getting the benefits you would expect from digitization.



We think that many healthcare innovation trends, already underway, will only accelerate due to Covid-19 as we continue the push to decentralize medicine away from hospitals and empower patients as consumers:

- **Telehealth** – Telemedicine is faster, often delivers better quality, and is almost always cheaper than traditional delivery systems. It has already advanced rapidly in recent years (chart below) and in the Covid-19 environment, can help keep people at home, flatten the curve, and save lives.
- **Connected Devices** – Internet connected monitoring devices, when deployed alongside telemedicine can enhance its efficacy and can help to produce better outcomes across the clinical spectrum, ranging from chronic to infectious disease.
- **Rapid Point-of-Care Diagnostics** – Molecular testing has not made it to the home – or really even in the physician’s office – even though the underlying technology to perform rapid / accurate molecular diagnostics has been around for a decade or more. It’s time to expect the iPhone equivalent of diagnostics, and there are a number of technology companies making great progress on that vision. Covid-19 is a reminder that regulatory and reimbursement paradigms need to shift from being an impediment to an incentive for such innovation.
- **Connecting the Dark Pools** – Healthcare is just beginning to embrace the modern data architecture of interoperability and APIs. In the Covid-19 environment, the pressure to connect systems is greater than ever and we expect innovative companies, together with government support, to accelerate connectivity without the intensive integration requirements of past attempts.
- **Applying Automation and Artificial Intelligence** – The current crisis is a reminder that our healthcare labor resources were already stretched thin. Automation will continue to make inroads in healthcare to reduce workload and improve the quality of data capture. Applied / vertical artificial intelligence is just beginning to be paired with abundant EHR data to drive the right insights to the right providers at the right time.



Traditional Sports = Post Covid-19 Evolution Provides Real-Time Engagement Clues for Other Businesses

America's passion for contact and near-contact sports is legendary. America's top draws are team sports like football, baseball, basketball, soccer and ice hockey. Other top draws include limited-contact individual sports like motorsports, golf and eSports.

Social distancing is not the way athletes and in-person fans participate in the most popular sports. Sports organizations around the world are being forced to re-think how players (and fans) engage in play and what the on-site experiences will be like in 2-12 months.

Will Shanghai Disney Resort's new process of requiring guests to wear masks / allow for temperature checks / virus-free credentials (on mobile devices) be the new norm until we have a vaccine? Will we shift to biometric check in for fans? What about athletes and support crews?




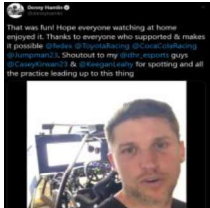
The rapid evolution of sports in our new world provides clues to the ways real-time engagement in other types of businesses may evolve...in effect, in many ways, like one big Zoom Room. It's notable that we have seen the likes of Twitch and Discord continue to move beyond their original gaming use cases (of connecting / sharing / collaborating) into social / business environment uses. This trend will continue.

Traditional Sport / Professionals (NASCAR & Formula One) Move Online...

On March 17, NASCAR & iRacing announced the formation of the eNASCAR iRacing Pro Invitational Series, an esports series with the sport's most talented and popular drivers. This was a Covid-19 driven evolution to the amateur gaming iRacing series which launched in 2010. Competitors use virtual simulators (often from their homes) to race one another, all while being broadcast live on Fox Sports with lots of social media action. NASCAR summed it up by saying, 'Until we have cars back on track, the entire NASCAR community has aligned to provide our passionate fans with a unique, fun and competitive experience on race day.'

The first race at virtual Homestead-Miami Speedway on March 22 was won by Denny Hamlin, a three-time Daytona 500 champ – he raced barefoot with his daughter cheering him on. Notably, racing legend Dale Earnhardt Jr. came out of retirement to compete and placed second.

The second race at Texas Motor Speedway on March 29 drew 1.3MM viewers (up 43% week-on-week) and broke the record for eSports TV viewership set by the previous week's race¹. While there isn't a winner's purse for the Pro Invitational Series (yet), some racers are pursuing sponsorship deals on car e-paint schemes. Penn National Gaming announced it would serve as the sponsor of the upcoming virtual race at Dover International Speedway on May 3 – the race will feature content / integration from Barstool Sports' (a Penn Gaming subsidiary) personalities to help fans feel more connected to the live event.

eNASCAR iRacing Pro Invitational Series = Homestead-Miami Speedway (3/22)	eNASCAR iRacing Pro Invitational Series = Social Media Coverage Denny Hamlin
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Live View – Racer Perspective</p>  </div> <div style="text-align: center;"> <p>SportsCenter Post-Race Coverage</p>  </div> </div> <p style="font-size: small; margin-top: 10px;">BOND Source: iRacing, SportsCenter</p>	<div style="border: 1px solid black; padding: 5px;">   </div> <p style="font-size: small; margin-top: 10px;">BOND Source: Twitter</p>


On March 22, Formula 1 debuted its esports Virtual Grand Prix race. Formula 1 drivers / celebrities / sports stars competed on Bahrain’s Sakhir circuit. The race was streamed on YouTube, Twitch and Facebook and had 3.2MM viewers.

Traditional Sport Tournament (College Basketball) Moves Online & Artificial Intelligence Predicts Outcomes...

On March 11, in lieu of March Madness 2020, College Basketball subreddit’s 1.2MM members began filling in their brackets and are streaming an unofficial 68-team simulated NCAA Tournament using the game College Hoops 2K8¹. The basketball games are streamed on YouTube and outcomes are determined using computer vs. computer match ups on the games.

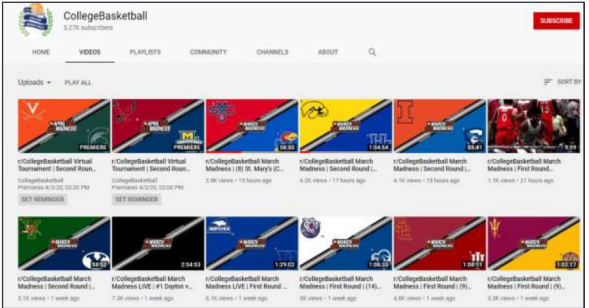
Subreddit moderators chose College Hoops 2K8, a 12-year old game, as it allowed them to customize rosters and create teams (like Northern Kentucky) that did not exist in earlier versions of College Hoops that made the field this year. First round match ups were completed in the second half of March, with Kansas, Gonzaga, Dayton and Baylor as the four #1 seeds. Final Four games are underway – with sixth seed West Virginia taking on fifth seed BYU and third seed Seton Hall facing the #1 seed Gonzaga. Final Four games will begin streaming live on YouTube on 4/18.

College Basketball Subreddit = 2020 NCAA Men’s March Madness Bracket




Source: Reddit

College Basketball Subreddit = College Hoops 2K8 Simulated Tournament Streamed on YouTube



Source: YouTube

College Basketball Subreddit = College Hoops 2K8 Simulated Game on YouTube




Source: YouTube

Traditional Player / Gamer Athletes (NBA & FIFA) Compete Online...

On March 18, FIFA La Liga clubs Real Betis and Sevilla player / gamers Borja Iglesias and Sergio Reguilón played their team's canceled match on FIFA 20. 60K+ people streamed the match on Twitch.

Beginning on April 3, the NBA & 2K Sports launched a players-only NBA 2K tournament hosting sixteen player / gamers including Kevin Durant, Trae Young and Harrison Barnes. The tournament was broadcast on ESPN over a span of ten days with Devin Booker of the Phoenix Suns claiming the title.

NBA 2K20 = 16 Player Tournament Streaming on YouTube



The image shows two screenshots related to the NBA 2K20 tournament. The left screenshot is a tweet from @NBA2K showing the tournament schedule for Round 1. The right screenshot is a YouTube video thumbnail for 'NBA2K Tournament Full Game Highlights: Kevin Durant vs. Derrick Jones Jr.' showing a basketball game in progress at the Staples Center.

ROUND 1

- DURANT VS JONES JR. 7:30PM ET / 8:00PM ET
- LAVINE VS AYTON 8:30PM ET / 9:00PM ET
- YOUNG VS BARNES 9:30PM ET / 10:00PM ET
- WHITESIDE VS BEVERLEY 10:30PM ET / 11:00PM ET

PRE-SHOW FEAT. SPECIAL GUESTS
DOLBY DIGITAL 5.1
ESPN

Kevin Durant and 6 others
4:02 AM - Apr 3, 2020 - Twitter Web App

NBA2K Tournament Full Game Highlights: Kevin Durant vs. Derrick Jones Jr.

DERRICK JONES JR. LA MEMPHIS GRIZZLIES
KEVIN DURANT LOS ANGELES CLIPPERS

STAPLES Center

BOND Source: Twitter, YouTube

FIFA 20 = Players Streaming Matches in Place of Live Match

Borja Iglesias vs. Sergio Reguilón Play a FIFA 20 Match in Place of Real Betis vs. Sevilla Match (3/18)



The image shows a screenshot of a FIFA 20 match between Real Betis (BET) and Sevilla (SEV). The score is 0-0 at the 14:23 mark. The match is being played in a virtual stadium. The player Reguilón (number 23) is highlighted in the bottom left, and Carvalho (number 14) is highlighted in the bottom right.

14:23 SEV 0-0 BET

RBB PLAY

23 REGUILÓN

14 CARVALHO

Borja Iglesias vs Sergio Reguilón: El Gran Derbi | CHALLENGE | Real Betis Balompié

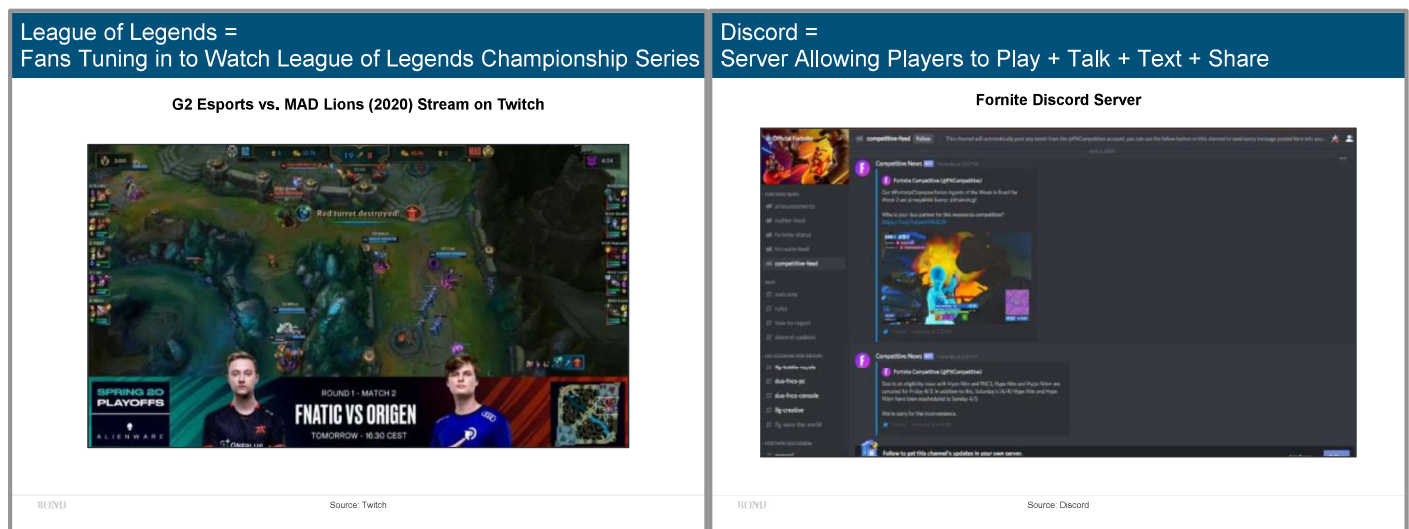
BOND Source: YouTube

Online Competitive Gaming Growth Continues...

In March, Twitch hit all-time high usage levels with peak daily active users (4.3MM), average concurrent viewers (1.9MM) and number of streams (46MM)¹. Steam's gaming platform hit an all-time high number of concurrent users, with 20MM online and 6.2MM in-game on March 15². Discord's video / voice / text chat platform for gamers has seen downloads more than double over the past month.

League of Legends remains one of the top watched esports on Twitch, with 430K peak viewers and +123MM streaming hours in March³ tuning in to watch professionals compete on the League of Legends Championship Series. More casual use cases include watching professional players practice, celebrities / athletes hosting watch parties to connect fans, or users watching expert players to learn new skills.

As live sports have come to a halt, esports & gaming have provided a medium for users to engage in competition (via live games or streaming competition), virtually connect with friends / other gamers across the globe and help players learn and improve skills through streaming.



Play Remains Foundational, In Spite of Shelter-in-Place...

Humans will find ways to compete in any world (offline or online) and, the more playful it is the better. Sports will continue to thrive. We believe media innovations around the sports we love that surface during this time of social distancing and staying-at-home have the potential to transform the way traditional sports are consumed and, in turn, drive more engaging / entertaining / interactive experiences for athletes and fans. In addition, we believe fans will always covet in-person experiences and competition, as long as they feel safe and can have fun.

5) 'The World Just Doesn't End That Often' = We Will Get Through This...But Life Will Be Different...

The quotation above is from Brian Rogers, T. Rowe Price Chairman / CIO, during the financial crisis in 2008.

We are optimists and believe there is hope on the other side of despair. That 'other side' can't come soon enough. Most experts are measuring the other side in terms of months, not years – that's good news, albeit relative.

While clean hands, social distancing, self-isolation and quarantines are table stakes, we need personal protective equipment for healthcare workers, ventilators, antivirals, vaccines, accessible testing / tracing, rapid diagnostics, telehealth at scale and planning / preparation for the next virus and the next one.

We also need government, business and entrepreneurial intervention at scale (deployed logically and effectively) to get to the other side. All must work together to ensure jobs and restart the economy so citizens have confidence they can work, have sufficient safety nets and take care of themselves, families and loved ones.

As America's former Secretary of State and National Security Advisor Henry Kissinger wrote¹ 'the pandemic will forever alter the world order...global leaders have learned important lessons from the 2008 financial crisis...the current economic crisis is more complex: the contraction unleashed by the coronavirus is, in its speed and global scale, unlike anything ever known in history...the U.S. must protect citizens from disease while starting the urgent work of planning for a new epoch.'

Our standards of living are being threatened. Some data suggest we are careening to the next great depression, that our confidence (and our balance sheets) will be shattered and unemployment will overwhelm. That growth (in part, driven by the torrid ramp of rising global connectivity) over the past 2-3 decades has seen its best days. That the adjustments to slowing growth will cause on-going nasty wide-spread dislocations. That early anti-connectivity signals of closing borders (initially related to virus spreading concerns) could evolve into more nationalism, supply-chain restructuring and a reversal of globalization which has been a foundational economic growth driver of the past several decades. This all could be true, but...

While we have trepidations about what the coming months and quarters may have in store, for the long-term, we remain in the 'darkest before dawn' camp. We have been trained not to underestimate America's global advantages, her spirit and optimism...and ability to rapidly innovate and help make the world a better place.

What if?

What if Covid-19 serves as a common enemy that unites and serves as a forcing function to:

- 1) Modernize and improve government / healthcare / education driving lower cost and more efficiency
- 2) Improve coordination between government and business for the good of citizens
- 3) Help people find jobs (and training) best suited to their skills and lifestyles
- 4) Promote more considered consumption
- 5) Get back to basics including staying closer to home
- 6) Bolster family connectedness / seriousness of purpose / community / faith?

None of what we are going through is comfortable, or fair. And while things will likely get worse before they get better, has America, perhaps, just gotten the wake-up call it needed to get to a better place?

Let's hope so, and let's find the best ways to get to the other side as quickly and thoughtfully as possible.

We close with a recent observation from one of the more talented entrepreneurs / business builders of her generation, 'We entered this time at business highs, but social lows and deeply fragmented as a society. And yet, Covid-19 does not discriminate, and its response requires complete unity – public, private, neighbors, employees, healthcare workers, strangers...What if we exit as a more united people and world?'

*For a more comprehensive look at the virus, from its Beginning to Inflection Point, Globalization, and Acceleration, check out my **Balaji Srinivasan** [Compilation](#) or visit www.balaji2020.com.*

If you think I'm missing any major memos or letter, please email me at "kevin@12mv2.com" with the subject: "Additional Corona Virus Memos/Letters." Thank you!

For more from me, you can follow me on twitter [@kgao1412](#) or check out my website [here](#).