Quarterly Investment Perspective

Investing in the Age of Digital Transformation

BESSEMER TRUST

Holly H. MacDonald
Chief Investment Officer

Executive Summary

- **While the COVID-19 pandemic has caused unprecedented challenges, digital transformation is accelerating as trends in society are being reshaped.**
- **Cloud computing is enabling the transformation, offering companies numerous advantages such as lower costs, better capital efficiency, and improved operational reliability.**
- **Interactive entertainment is one exciting growth area supported by the cloud; gaming companies have created a virtuous cycle that leverages engagement and data to continuously improve content.**
- **Disruptive technologies are creating extraordinary amounts of data, driving demand for semiconductors; this industry continues to rapidly innovate.**
- **While we expect elevated market volatility in the near term, we remain focused on the long term, with technological innovation as a key investment theme.**

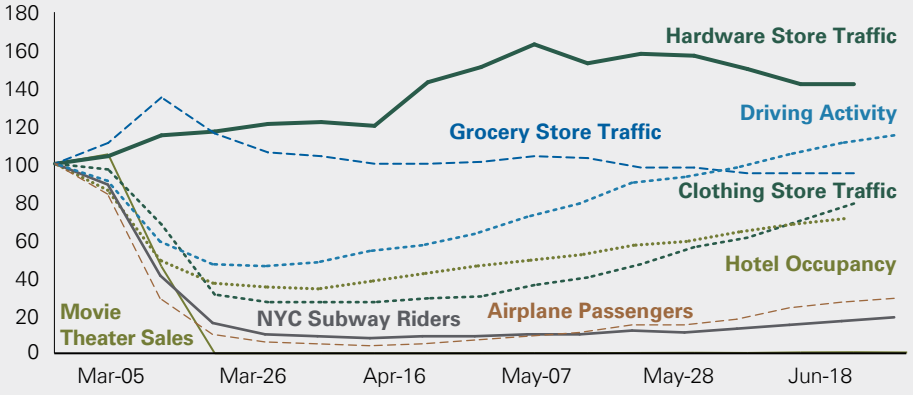
As the investment team at Bessemer has managed client portfolios during the extreme volatility of recent months, our thoughts have continued to be with those most affected by the virus and the related economic shutdown. Especially during the darkest days of this period, the underlying resiliency of the human spirit and the determination of individuals and companies to innovate have been a beacon for us.

In this *Quarterly Investment Perspective*, we provide our high-level views on the economic and financial market situation and then take a deep dive into an area of innovation that is shaping the way people communicate, the way we process information, and the way businesses operate: digital transformation and cloud computing. Both the technology and healthcare sectors have outperformed given the nature of this crisis, and Bessemer mandates have an overweight to both sectors. For the purposes of this discussion, we choose to focus on technological innovation given the scalable, long-term investment opportunities it creates; in healthcare, the opportunity set is more nuanced, and we will discuss our approach in future communications.

Exhibit 1: High-Frequency Mobility and Consumer Data

Key Takeaway: The economy appears to have bottomed in April, though the bounce back is nuanced.

Indexed to 100 on March 5, 2020



Source: Driving activity: Apple. NYC subway riders: MTA, 7-day moving average. Airplane passengers: TSA, 7-day moving average. Grocery store, hardware store, and clothing store traffic: Foursquare. Hotel occupancy: STR. Movie theater sales: BoxOfficeMojo, weekly domestic gross revenue. All data is as of June 25, 2020, except Foursquare and STR data is as of June 18, 2020.

Cloud computing allows companies tremendous leverage as the backbone of the delivery of computing services over the internet — including servers, storage, databases, networking, software, analytics, and intelligence. We believe trends in this area are accelerating as societal trends are being reshaped, and they inform many of our investment decisions, especially related to the individual companies our portfolio teams hold in client accounts. Indeed, our emphasis on investing in companies with such enduring growth characteristics has helped us to navigate more reliably through the recent turbulence.

I am joined in this discussion of innovation by three accomplished equity analysts who have joined Bessemer in recent years, bringing their expertise to our platform. Kyle Butler, of the Large Cap Core team, explains cloud computing at a high level and how we characterize the opportunity set for investing. Bobby Jan, of the U.S. Select team, focuses on a specific application of the cloud — interactive entertainment, or gaming. Eric Li Cheung, of the Small and Mid Cap Core team, analyzes the way in which the cloud drives underlying trends in hardware, specifically the semiconductor space.

While we expect the markets to remain volatile in the coming quarters, focusing on cycles of innovation, in addition to market and economic cycles, positions us well to deliver on our commitment to clients to provide perspective and investment returns over the long term.

Two Paths Forward, Updated

In our last *Quarterly Investment Perspective,* "Navigating an Evolving Crisis," we outlined two potential paths for the economy related to an uncertain trajectory of the COVID-19 virus and policy response. In a "Spring Forward" scenario, the economy would begin reopening in the spring, and policy support would allow markets to look through the dire situation to an eventual recovery, with equity markets likely to rebound before the news flow turned decisively. In a "Weaker for Longer" scenario, the reopening would stall, and economic weakness would become entrenched, either due to a worsening of the virus itself or a waning of supportive policy, or both.

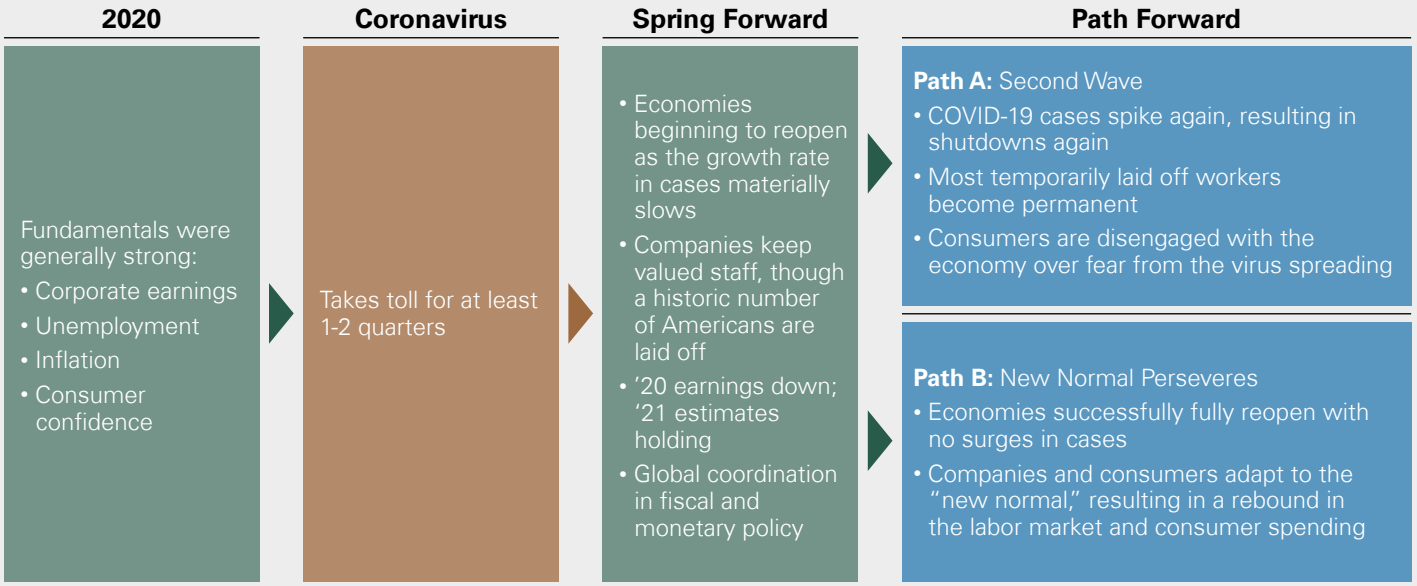
As we have tracked novel data sources related to the virus and the reopening, it seems clear to us the "Spring Forward" path has played out so far, though the economic shutdown has been longer than implied in this scenario. The bottoming in the economy and bounce in investor sentiment, however, have been in line with this more optimistic view. Looking at an array of real-time economic activity data, we believe the recession was at its worst in early April and the economy has since shown signs of life (Exhibit 1). To be sure, we are not witnessing a quick reversion to life as it was. While hardware store traffic is about 50% higher than it was pre-COVID, the numbers of people riding New York City subways or going to movie theaters have only slightly budged. People are moving around, largely on foot and in cars, but few are back in the office.

Looking ahead, we believe there are broadly two paths forward from here: one in which a "new normal" takes shape and one in which a severe second wave of COVID triggers a slowdown or reversal of the reopening progress we have seen (Exhibit 2). It is difficult to assign probabilities to these two scenarios, but we would not be surprised to see a modest equity market pullback in either case in the coming months following the significant rebound from the late March lows. As fiscal support wanes, and no new incremental news materializes from the Fed in terms of its stimulus efforts, the focus is likely to shift to increasing new COVID-19 case numbers in certain parts of the country that were previously less affected, even if a true "second wave" does not take hold.

However, in our view, the extreme fear of the March period is unlikely to return, and we do not expect a significant sell-off back anywhere close to those market levels. First, more is now known about the virus, and hospital capacity appears sufficient to handle severe cases. We are monitoring hospitalization rates and mortality trends more than new case trends, given

Exhibit 2: Two Paths Forward, Updated

Key Takeaway: Uncertainty remains even as the market has "sprung forward."



As of July 1, 2020.

Source: Bessemer Trust

that the latter is complicated by the significant increases in testing. Additionally, even if the economy were to suffer a setback amid evidence of an emerging second wave, we do not believe a resulting pullback of reopening plans would be as drastic as the complete lockdown of late March and early April.

Further, though no major news is expected from the Fed, the liquidity backstops that it so quickly implemented in March and early April can easily be reactivated should sentiment deteriorate. Balance sheet expansion, purchases of municipal and corporate debt, and forward guidance about rates being low for longer are just a few of the tools the Fed has at its disposal (Exhibit 3). Finally, short-term equity market technical factors are broadly balanced, but over $4.5 trillion in money market funds, the largest dollar amount since January 2009, suggests equity market dips will draw in money from the sidelines.

Positioning and Performance

In light of these views, we hold modestly defensive positioning across client portfolios. For clients who are investing new capital into the markets, we recommend continuing to do so in line with their longer-term objectives. Client advisors and investment strategists can help discuss plans for individual situations. We have had to make portfolio adjustments during this period of volatility to maintain this positioning. The unprecedented sell-off in early 2020 as well as a desire to reposition some of our equity risk drove our recommendations in late March (see our *Investment Insights*, "Adjusting Exposures While Maintaining Similar Risk Profile"), which resulted in a modest increase to equity market exposure at that time. And now, with global equities rebounding by over 35% in recent months, equity weights in client portfolios have drifted higher and closer to neutral. We subsequently

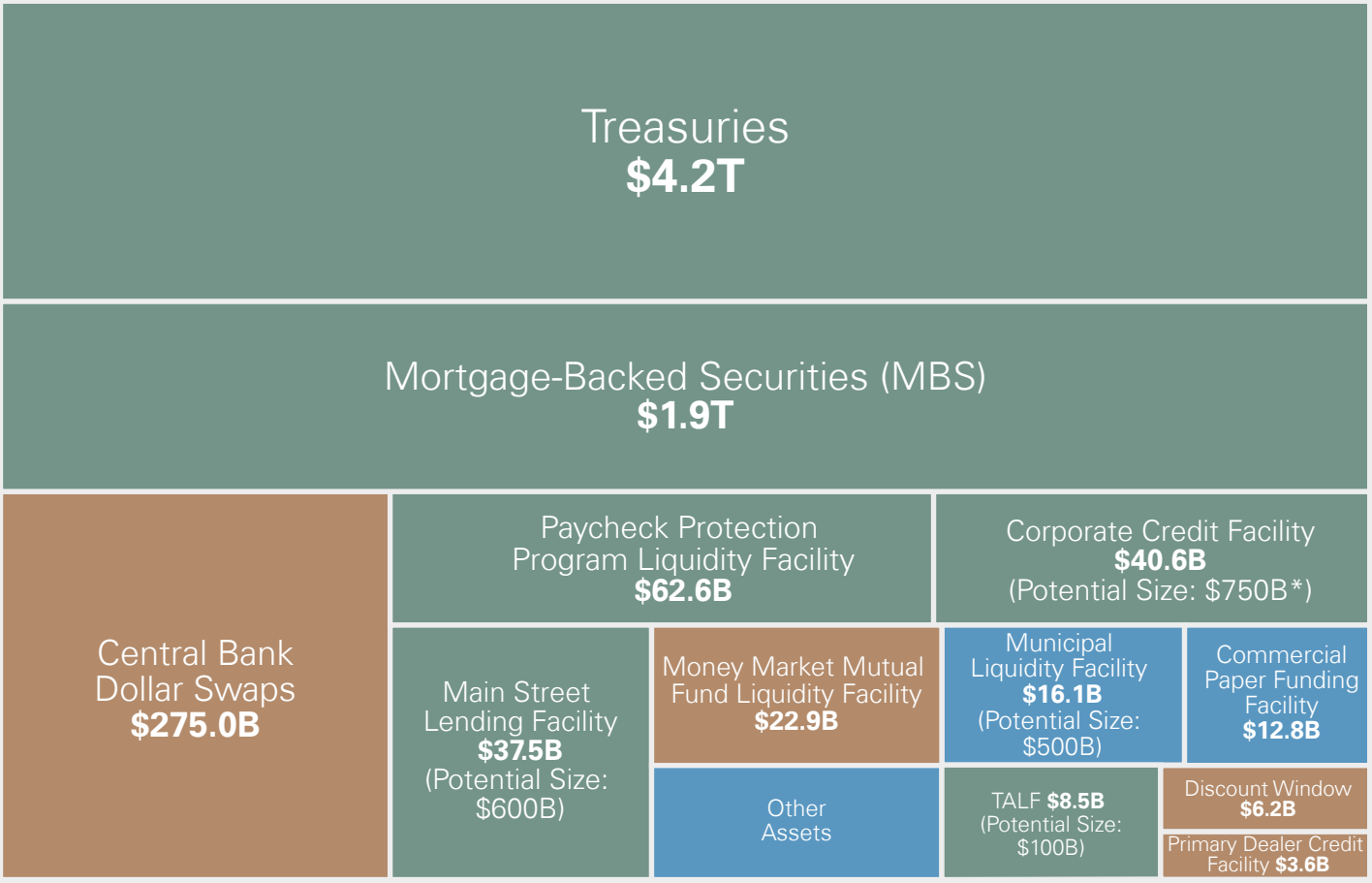
have recommended rebalancing in the other direction, lowering risk at the margin. We have a high hurdle for these shifts since our clients are largely taxable, but the unprecedented conditions of 2020 and our focus on risk mitigation have justified them, in our view.

In terms of performance, after declining in the first quarter, a representative Balanced Growth portfolio (70/30 equity/bond risk) rebounded meaningfully in the second quarter, but still remains slightly negative for the year, though ahead of its benchmark. Strong absolute and relative performance from fixed income mandates have been additive. In equities, an overweight to the U.S. and a focus on companies with strong balance sheets and high return on capital, many of which are poised to benefit from structural societal changes, have benefited the majority of underlying strategies. We remain focused on upgrading portfolios in light of the evolving situation and in line with our dedication to preservation of capital and long-term performance.

Exhibit 3: The Federal Reserve's Balance Sheet

Key Takeaway: The Fed has a number of tools to stimulate the economy if the fundamental situation or sentiment deteriorates.

Balance sheet increased from $4.1 trillion to $7.1 trillion



As of June 25, 2020.

* Limit is for both the primary and secondary corporate credit facilities. The Primary Market Corporate Credit Facility (PMCCF) has not begun yet.

Source: Bloomberg, Federal Reserve

Cloud Computing — A Wealth of Opportunities for Companies and Investors

Kyle Butler
Equity Analyst

In 1942, Austrian economist Joseph Schumpeter outlined the economic concept of "creative destruction," which describes the "process of industrial mutation that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one."

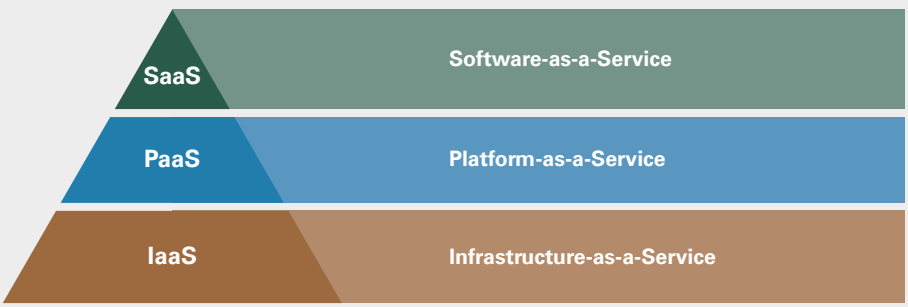
Today, individual companies and entire industries are transforming dramatically, driven predominantly by the power and disruptive force of technology. What is behind this digital transformation? The answer lies in the broadly impactful theme of cloud computing. But what is cloud computing? What are the implications of cloud computing on today's enterprises? And importantly, how are Bessemer portfolios positioned to take advantage of this theme?

Cloud computing is the delivery of computing services over the internet; these include servers, storage, databases, networking, software, analytics, and intelligence. Each of the three primary components of cloud computing — infrastructure-, platform-, and software-as-a-service — offers its own material implications for today's enterprises (Exhibit 4).

Infrastructure-as-a-Service (IaaS). IaaS is an instantaneous computing infrastructure. Rather than committing to own and operate physical servers and other data center hardware, IaaS resources are effectively rented from a cloud service provider. Among the many benefits of IaaS, we highlight three notable advantages:

- **Capital efficiency**: When leveraging IaaS resources, enterprises eliminate the upfront capital expenditure associated with purchasing physical data center infrastructure. An e-commerce retailer, for example, can rent incremental capacity for its website to accommodate spikes in demand, such as during holiday periods, rather than build for capacity that is only needed episodically.

Exhibit 4: Components of Cloud Computing



Source: Bessemer Trust

Infrastructure-as-a-Service provides companies with improved capital efficiency, operational scalability and reliability, and analytical capacity.

- **Operational reliability**: A significant amount of technology and staff are required to achieve high availability, business continuity, and disaster recovery. In the cloud, the service provider ensures the reliability of the infrastructure.
- **Analytical capability**: The magnitude of data accumulated by today's enterprises is increasing dramatically, and in turn, so are the storage and computing resources required to analyze that data. IaaS users can leverage the service provider's high-performance computing and big data tools.

We point to one tangible example of the power of cloud computing — an airline that was only storing 122 days of flight data given the capacity and processing power limitations of its existing infrastructure. By shifting to the cloud, the company provisioned storage capacity, thereby retaining a larger sample of flight records, and then ran cloud-enabled optimization engines to improve routing efficiency to both lower costs and improve customer experience. The next time you are re-routed due to inclement weather, thank the cloud for putting you on the faster path!

Platform-as-a-Service (PaaS). PaaS provides a platform that enables users to develop, run, and manage business applications without the need to maintain the infrastructure such software development processes typically require. Advantages include the following:

- **Faster time to market**: Setting up platform-level software to run applications is time consuming and complex. PaaS tools simplify, automate, and in many cases eliminate the steps associated with setting up the foundation of an application, allowing developers faster deployment, iteration, and extension of the application. In today's rapidly evolving competitive landscape, speed is critical.
- **More cost-effective deployment**: Historically, companies would have to purchase complex software stacks and invest large amounts of time and money into technology that quickly became dated. PaaS reduces these costs and gives developers access to best-in-class tools maintained by scaled service providers.
- **Efficient management of the application lifecycle**: PaaS provides all of the capabilities needed to support the complete web application lifecycle — building, testing, deploying, and updating — all within the same integrated environment.

Not only is PaaS enabling skilled developers to create and deliver new applications at a rapid pace; it is also empowering untrained professionals to take action. Unisphere Research surveyed over 300 business and IT leaders on the topic, and 76% of respondents noted that some portion of their applications were developed outside of their IT departments. During the company's April 2020 earnings call, Microsoft cited 3.4 million "citizen developers" using its aptly named Power platform.

Software-as-a-Service (SaaS). SaaS involves accessing applications via an internet browser, instead of downloading software to a PC or business network. This distinction meaningfully changes software applications in terms of the following:

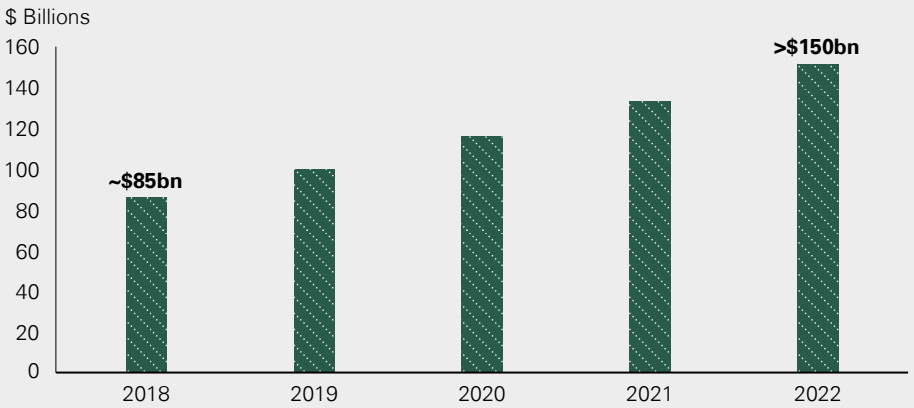
- **Accessibility:** All you need to access a SaaS application is a browser and an internet connection. It is usually available on a wide range of devices and from anywhere in the world, which makes SaaS more accessible than traditional enterprise software installations.
- **Cost:** SaaS eliminates upfront license purchases, as well as ongoing upgrades, in exchange for monthly subscriptions. For small businesses, this can be especially advantageous, providing access to expensive, high-powered software that might have been prohibitively expensive in license format.
- **Maintenance:** For SaaS applications, installation is as simple as having an internet connection. Maintenance responsibilities are shifted from enterprise IT departments to the vendor itself, eliminating the extra work hours and downtime associated with maintenance and upgrades.

These noteworthy benefits of SaaS are fueling rapid adoption across industries. A Deloitte survey conducted in 2018 revealed that the vast majority of CIOs (93%) have either adopted or plan to adopt SaaS, and over half of the surveyed CIOs expected to use cloud software for crucial apps in the next three years. Correspondingly, as of November 2019, Gartner estimated that SaaS spending would increase from $100 billion in 2019 to over $150 billion by 2022 (Exhibit 5).

The numerous benefits of Software-as-a-Service are fueling rapid adoption across industries.

Exhibit 5: SaaS Revenue

Key Takeaway: The many benefits of SaaS are fueling rapid adoption across industries, leading to significant expected growth in revenue.



As of November 2019.

Source: Gartner, Inc.

The key benefits of a cloud-based architecture — operational reliability, scalable capacity, remote and mobile accessibility — have been critical requirements for any enterprise operating through the pandemic.

Acceleration of Digital Transformation

Individually, each component above provides discrete benefits to today's enterprises. Collectively, these ingredients coalesce as the catalyst for creative destruction.

Cloud computing has structurally lowered start-up costs and vastly expanded the market for online services, resulting in disruption across industries. It is no wonder that today's dominant video service providers, music companies, retailers, entertainment companies, and marketing platforms are software companies. Software is even permeating value chains of industries that are widely viewed as primarily existing in the physical world, from automobile manufacturers to energy companies. Incumbent enterprises are being forced to disrupt themselves to remain competitive, finding efficiencies through new tools and resources and reinvesting those gains into new business opportunities.

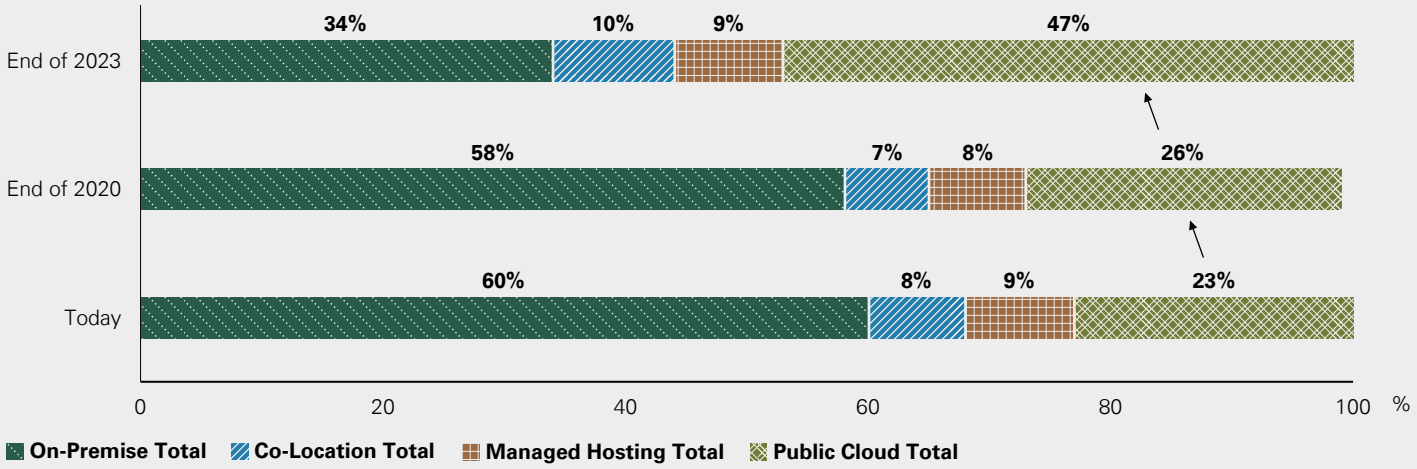
This theme of digital transformation has only accelerated amid the COVID-19 pandemic. The key benefits of a cloud-based architecture — operational reliability, scalable capacity, remote and mobile accessibility — have been critical requirements for any enterprise operating through this unprecedented period. Microsoft's CEO, Satya Nadella, described COVID-19 as driving "two years' worth of digital transformation in two months." From remote teamwork and learning, to sales and customer service, to cloud infrastructure and security, enterprises have been forced to operate in an almost entirely non-physical world. This can only be accomplished through extensive use of cloud resources.

Investment Implications of the Cloud

Such dynamic industrial change often creates compelling investment opportunities. Bessemer portfolios have exposure to this theme through multiple angles. Hyper-scale cloud providers Microsoft (Azure) and Amazon (AWS), both portfolio holdings, will benefit materially as companies continue to migrate to their respective cloud offerings. A recent Morgan Stanley CIO survey indicated that 23% of application workloads are in the public cloud today, and the number is expected to increase to 47% by 2023 (Exhibit 6).

Exhibit 6: Location of Application Workloads (% of Total Workloads)

Key Takeaway: CIOs expect nearly one-half of application workloads to reside in the public cloud by the end of 2023.



Source: Morgan Stanley

SaaS companies are changing the old ways in which businesses manage customer relationships and process internal business workflows, which supports Bessemer portfolios' positions in Salesforce and ServiceNow.

Many more holdings are leveraging the power of technology to improve their prospects; for example, Nike is building more direct customer relationships, and Bank of America is reducing costs while enabling new digital experiences for customers.

Cloud computing is enabling rapid change, and today's enterprises are taking notice. Just over a decade after Schumpeter's "creative destruction," the serial innovator Thomas Edison captured the message most succinctly: "There's a way to do it better — find it!"

Bobby Jan
Equity Analyst

Interactive Entertainment — Savvy Companies Creating Fervent Gamers

Today, the interactive entertainment (video games) industry sits at the intersection of many exciting technological trends, creating opportunities we believe are not fully recognized by investors. Interactive entertainment companies are creating a virtuous cycle of better content leading to more engagement that, in turn, leads to more data that can further improve content (Exhibit 7). With 2.5 billion active video gamers worldwide, the industry's revenues now exceed $150 billion annually — bigger than the total of music and film box office combined. With annual revenues growing in the high-single digits, the industry is also outpacing other forms of entertainment, such as music and television. Interactive entertainment should take market share for many years to come as technological innovations continue to improve the user experience.

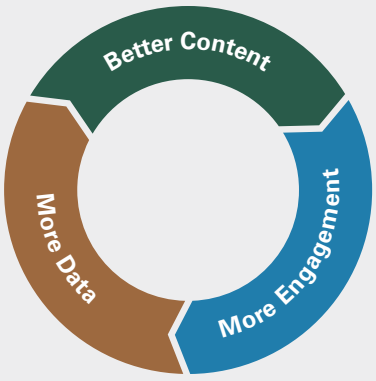
Although the COVID-19 pandemic has been a major headwind for most industries, it has significantly accelerated the adoption of digital entertainment. Notable examples include a 101% year-over-year increase in hours watched in April on Twitch, a leading live streaming platform. And Activision Blizzard, the largest video game company in North America and Europe and publisher of the popular *Call of Duty* game, reported strong financial results in first quarter 2020.

The Virtuous Content-Engagement-Data Cycle

From 2003 through 2017, according to the U.S. Bureau of Labor Statistics, the average minutes per day spent playing games increased from 17 minutes to 28 minutes, a 65% increase, with every age cohort playing more games than before (Exhibit 8). We believe this change is driven by the appeal of interactive entertainment to more people and the ability to keep them entertained for longer.

Exhibit 7: Interactive Entertainment Business Cycle

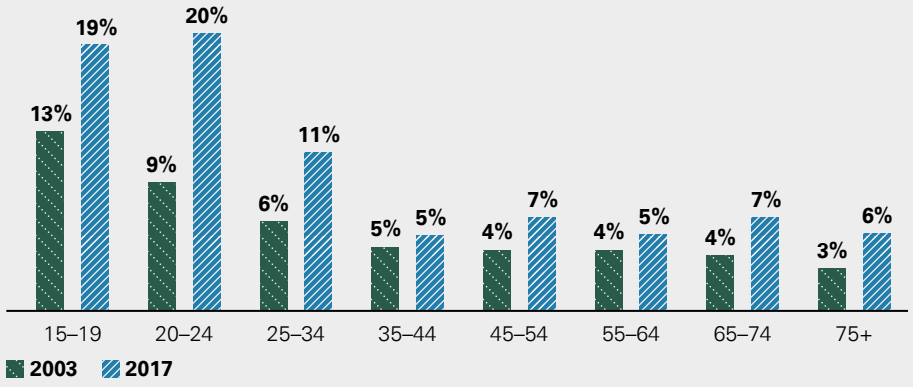
Key Takeaway: Interactive entertainment companies are creating a virtuous cycle of better content, leading to more engagement, leading to more data that can further improve content.



Source: Bessemer Trust

Exhibit 8: Percent of Leisure Time Spent Playing Games

Key Takeaway: Every age cohort is playing more games than before.



Source: Bureau of Labor Statistics

Interactive entertainment businesses are well positioned to collect data as gamers are spending more time playing games, and as games are increasingly online and social.

Companies that are able to collect data that can be used to rapidly improve their businesses enjoy a large competitive advantage over those who cannot. Moreover, the value of data is increasing due to several trends in technology. First, the cost of data collection and storage is rapidly declining. For example, according to global research and advisory firm Gartner, the cost per gigabyte of enterprise hard disk and solid state drives (the primary technologies for storing data) has been declining approximately 20% per year over the past five years. Second, breakthrough technologies, such as those in the domain of artificial intelligence, enable companies to gain valuable insights from big data. For example, advances in natural language processing are unlocking insights from unstructured data, such as text communication and photos, which Gartner estimates account for almost 80% of enterprise data today.

In a 2017 article, *The Economist* declared that "the world's most valuable resource is no longer oil, but data." In our view, interactive entertainment businesses are well positioned to collect this valuable resource as gamers are spending more time playing games, and as games are increasingly online and social. For example, new games, such as *Call of Duty: Mobile,* must be played online and with other gamers, generating a continuous stream of individual and community data for Activision.

In addition to generating more data, online and social gaming also enable the rapid testing and implementation of insights gained from the data. For example, A/B testing, a method used to compare two versions of a single variable, is frequently used by the industry to validate design changes rapidly and at low cost. Improvements are then rapidly rolled out across the online game ecosystem, which further increases engagement and data generation.

This virtuous cycle of rapid learning and improvements has played a critical role in the success of *Fortnite,* the wildly popular online multi-player game developed by Epic Games (40% owned by Tencent Holdings, a social media

Companies best positioned to benefit from innovation are those that possess both the scale to invest in emerging technologies and a portfolio of enduring technologies.

giant and the largest video game company in the world). After many years in development, *Fortnite: Save the World* was finally released in July 2017 to modest success. However, using a free-to-play business model that relies on content updates and monetization over time, *Fortnite: Battle Royale* was developed and made available to *Fortnite* players just two months after the game's initial release.

Battle Royale is not a separate game, but rather an update that allows a new method of playing the existing game. As a result of *Battle Royale,* registered *Fortnite* users soared from approximately one million in August 2017 to 250 million by March 2019. Epic Games continued to learn and improve *Fortnite,* releasing 41 major updates to *Battle Royale* in 2019. These frequent updates kept *Fortnite* players engaged and spending, generating approximately $2 billion in revenues in 2019.

Compelling Investment Opportunities

In our view, companies best positioned to benefit from innovation are those that possess both the scale to invest in emerging technologies and a portfolio of enduring game franchises. Notable examples within Bessemer equity mandates include Activision Blizzard and Tencent. Loyal and growing fan bases enable companies like these to successfully navigate a complex landscape of technological and business model changes. We point to the success of *Call of Duty: Mobile,* an Activision and Tencent joint venture that leveraged Activision's intellectual property and Tencent's mobile gaming expertise. The game was released on October 1, 2019, and became the largest mobile game launch in history, with over 100 million downloads within the first week. Further, this game increased Activision's exposure to the free-to-play business model, which at scale should generate more predictable revenue streams from in-game purchases and advertising.

Moreover, Activision and Tencent are spearheading the rapid growth of eSports, or video games as a spectator sport. Goldman Sachs forecasts that the eSports audience will grow 14% a year through 2022, reaching 300 million people globally, or nearly triple the audience size of Major League Baseball today. Another portfolio holding, Amazon, will broadcast eSport competitions to the world through Twitch with 9.8 billion hours streamed in 2019.

Microsoft and Alphabet are at the frontier of cloud gaming through their xCloud and Stadia platforms, respectively. Although in the early innings, cloud gaming could significantly expand the reach of digital entertainment by lowering the cost of entry; players will no longer need to make significant upfront investments in hardware and software. In addition, the rollout of 5G should be an important catalyst for cloud gaming as it could solve bandwidth and latency challenges.

Looking ahead, although we are living through uncertain times, we are confident that companies in our portfolio are well positioned to leverage technology to build stronger and more profitable digital entertainment businesses.

Semiconductors — Cloud Driving Escalating Growth

Eric Li Cheung
Senior Equity Analyst

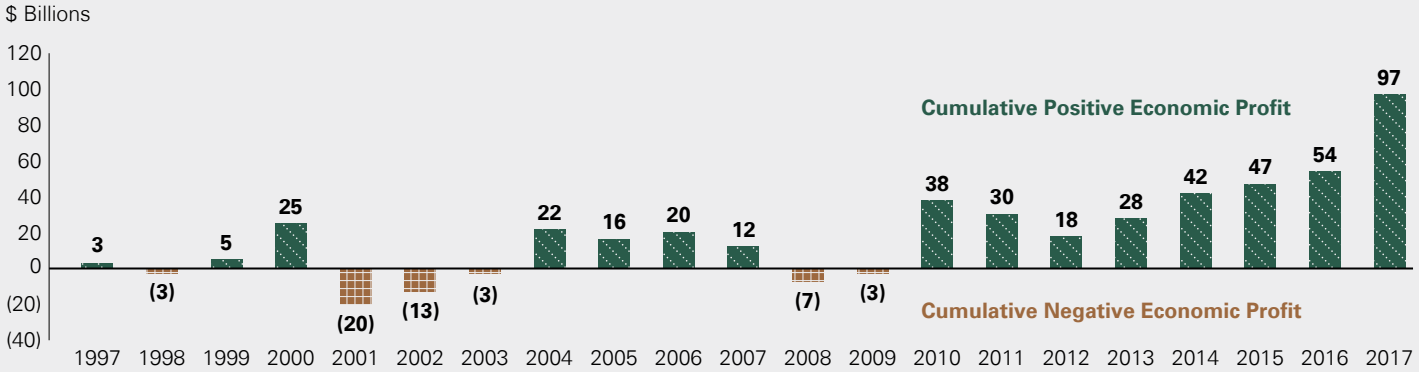
Innovative and disruptive technologies such as the Internet of Things, cloud computing, video streaming, artificial intelligence, machine learning, autonomous driving, and virtual/augmented reality are creating unprecedented amounts of data and driving a heightened need for semiconductors, as well as the equipment and materials used to manufacture them. According to IBM, 90% of the data that exists in the world today was created over the last two years, and this theory is likely to remain valid for the foreseeable future given the exponential growth of "big data." As businesses, institutions, and individuals consume and generate increasing amounts of data at progressively higher velocities, the electronic devices that process this data require rising semiconductor content to meet the performance demands of the global digital ecosystem today.

What Are Semiconductors?

In simple terms, a semiconductor is a material that provides electric connectivity somewhere between that of a conductor and that of an insulator, the latter of which offers very little conductivity. Electricity flows through a semiconductor when an electric charge is applied. A transistor is a semiconductor device that regulates the flow of electric current. An integrated circuit is formed from a flat layer of silicon known as a chip, which is then combined with numerous transistors and other components, such as capacitors or resistors. Integrated circuits are customized to serve different

Exhibit 9: Semiconductor Industry Economic Profit

Key Takeaway: The rising importance of semiconductors in enabling new technologies has resulted in significant value creation for the industry.



Economic profit is calculated as (net operating profit less adjusted taxes) minus capital charge (where capital charge is invested capital, excluding goodwill, at previous year times weighted average cost of capital).

Source: McKinsey & Company — Semiconductor CPC database

functions and purposes, and together they form the "brains" of numerous critical technologies including smartphones, servers, computers, home automation systems, communications infrastructure, autonomous driving, and electric vehicles. Today, there can be as much semiconductor content in a single smartphone as there was in a person's living room a decade ago.

For many decades, Moore's Law — the observation by Intel co-founder and former CEO Gordon Moore that the number of transistors on integrated circuits could double roughly every two years — has been the driving force in the semiconductor industry. Transistor scaling has enabled steady increases in performance, speed, energy efficiency, and functionality in smaller form factors and at lower price points. In more recent years, however, it has become increasingly difficult to further shrink transistors. Today, integrated circuits can be as small as 1/1000 the width of a human hair.

The "slowing" of Moore's Law has spurred new innovations in semiconductor materials, architectures, capital equipment, and software, all aimed at the goal of designing and manufacturing integrated circuits that are smaller, more powerful, and more efficient. Integrated circuits are an indispensable part of any electronic device, yet producing them at sufficiently high volumes and yields is a herculean task. Visualize the challenge of creating two football fields, both perfectly flat, but where every blade of grass on each field must be within one millimeter of the same height as the grass on the other field. This level of precision is occurring in the semiconductor fabrication process, albeit on a nanoscopic level.

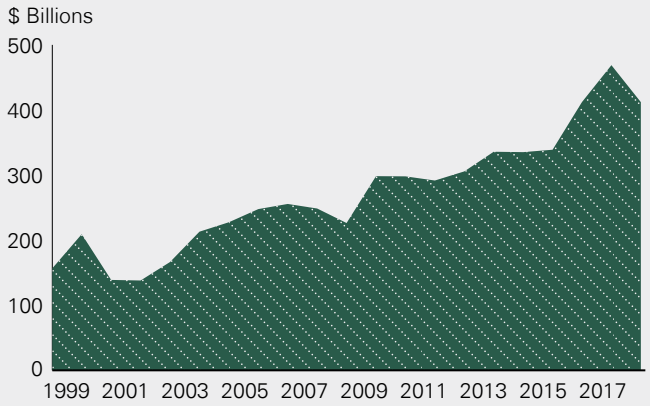
Semiconductor Industry Outlook

The semiconductor industry is inherently cyclical, although its rising importance in enabling new technologies has resulted in higher peaks and higher troughs, as well as lower volatility within a cycle. Industry consolidation has also helped reduce volatility of profits (Exhibit 9).

On this note, we would be remiss not to mention the global humanitarian challenge posed by COVID-19 and the economic disruptions that are occurring as a result. In the near term, the pandemic has created both supply and demand shocks for the semiconductor industry. On the supply side, the pandemic has inhibited many workers from entering production facilities, especially in Asia, resulting in site closings and global supply chain shortages. Although manufacturing plants have begun to reopen in areas where the pandemic is subsiding, the demand side remains murky given the current global recession, and as semiconductor industry growth has historically exhibited strong correlation with global GDP growth. As a result, current market expectations call for the semiconductor industry to contract by 10% in 2020 with automotive, wireless communication, and industrial segments facing the most severe declines.

Exhibit 10: Global Semiconductor Sales

Key Takeaway: Global semiconductor industry growth over the last two decades has been robust across economic cycles.



Source: Semiconductor Industry Association (SIA) estimates, World Semiconductor Trade Statistics (WSTS)

Nonetheless, global semiconductor industry growth over a longer time horizon has been robust across cycles, as evidenced in the data from the World Semiconductor Trade Statistics (Exhibit 10). We remain optimistic about the long-term growth prospects of the semiconductor industry, some of which have even been accelerated by the "lockdowns" resulting from the pandemic. The unprecedented need for work-from-home and personal entertainment products and services, such as video streaming and gaming, has created a spike in demand for servers and wired communication equipment in cloud data centers. Even when the pandemic subsides, several trends could endure and drive a sustained

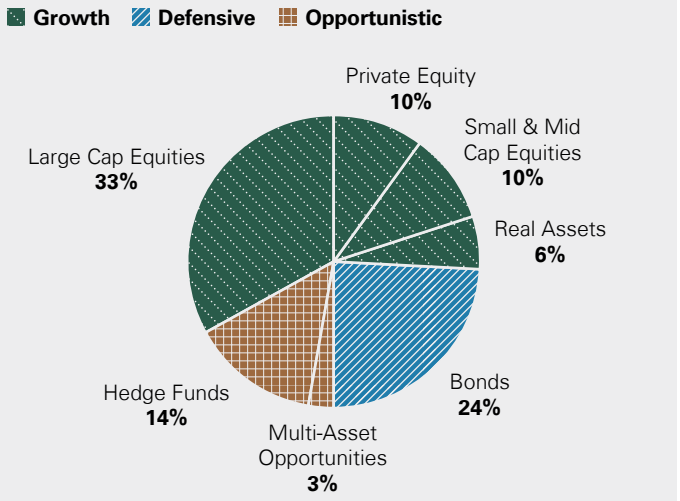
increase in semiconductor demand. Possibilities include a lasting propensity for remote work, greater utilization of telemedicine and digital health tracking, and further automation of manufacturing and logistics.

Investment Implications

Bessemer's exposure to the semiconductor ecosystem is represented by holdings in companies such as Amphenol (APH), ASML Holding (ASML), Cabot Microelectronics (CCMP), CDW Corporation (CDW), KLA-Tencor (KLAC), Synopsys (SNPS), and Texas Instruments (TXN). We believe these companies possess key competitive advantages within their respective pockets of the semiconductor value chain. Notably, these companies outperformed many of their peers coming out of the prior recession by partnering with their customers as inextricably as possible, and by maintaining higher levels of research and development and capital expenditures in order to drive future innovation. Intel's Gordon Moore famously quipped: "You can't save your way out of a recession."

Ultimately, we are encouraged by the numerous technological tailwinds driving semiconductor demand for many years to come, and we view the aforementioned companies as well positioned to benefit from those tailwinds.

Bessemer's Positioning (70/30 Risk Profile with Alternatives)



Positioning as of July 1, 2020. This model displays Bessemer's Balanced Growth with Hedge Funds and Private Assets target portfolio allocation guidelines. Each client situation is unique and may be subject to special circumstances, including but not limited to greater or less risk tolerance, classes, and concentrations of assets not managed by Bessemer, and investment limitations imposed under applicable governing documents and other limitations that may require adjustments to the suggested allocations. Model asset allocation guidelines may be adjusted from time to time on the basis of the foregoing or other factors. Alternative investments, including Bessemer private equity, real assets, and hedge funds of funds, are not suitable for all clients and are available only to qualified investors.

Conclusion

Through challenging periods like the first half of 2020, it is important to stay focused on the long term. With continued uncertainty around the future path of COVID-19, we remain committed to a strategy of staying invested with a proper amount of diversification in portfolios, implementing prudent and timely adjustments as the fundamental and market situation evolves. Many exciting technological trends are accelerating, and we expect our investments in these themes to be additive to portfolios over the long term. We continue to wish you good health and safety, and encourage you to reach out to your advisor for any support you need. Thank you for your trust in us.

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