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Citi Global Wealth Investments

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Two for One:

Really Listening to Jerome Powell

Defensive Growth: How Security Requires Cyber Security

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Market Action Summary

- **Despite obvious progress toward the Fed's goals (please see our last bulletin), markets were less-than-fully prepared for the Fed's comments that it *wouldn't* continue crisis-period monetary policy indefinitely.**
- **Last week, the major US dollar index jumped 1.8% from a 5-year low and recorded the largest weekly gain since 1H2018. The US yield curve flattened at the long end. (2-year US Treasury yields were up 11 basis points, 5-year yields +14, 30-year yields -12). Overall, credit markets were barely scathed.**
- **Across asset classes, "inflation trades" were set back. Gold fell 6.2%, copper declined 8.4% and oil steadied. In the case of industrial metals and energy, the losses were small compared to the scope of year-to-date gains (+18% for copper).**
- **Strong investor inflows into cyclical recovery opportunities left them vulnerable to the merest acknowledgement of a "responsible Fed." Profit-taking and repositioning were evident already before the Fed's meeting. The absence of long-term rate pressures helped growth/tech shares, which rose slightly.**
- **Amid a complex Fed message and muddled market response, investors need to see the big picture. 1) Supply shortages that have driven inflation spikes are generally not long-term growth opportunities. 2) "Slowing the pace of Fed easing" won't cause economic collapse. 3) Central banks will "stay easy" by the standard of past decades. This doesn't mean they will allow inflation to accelerate without bound.**
- **As discussed in our *Mid-Year Outlook* a fully reopened world economy still suggests sharp rebounds in the most COVID-impacted industries and regions. This suggests further gains for a narrowing subset of cyclical assets. It also suggests modestly higher interest rates.**
- **The economy will also differ significantly from the pre-COVID period, with a much larger "digital" base. Investors shouldn't shun enduring growth opportunities. This week, we examine the critical need to protect our data and data infrastructure.**

What Did He Just Say? Really Listening to Jerome Powell

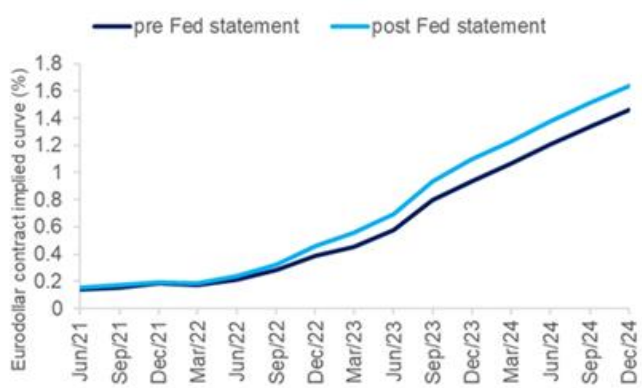
Last week's events again demonstrated that communication - mere words uttered apprehensively by Fed Chairman Powell - delivered the leading edge of monetary policy's impact. Following the Fed's two-day meeting, the US dollar rose (marginally) by the most in more than two years. The rise in intermediate-term US Treasury yields was also the largest in about two years.

At press conferences following the last two Federal Open Market Committee Meetings, Powell seemed cajoled by reporters into clarifying the Fed's policy intentions with slightly greater transparency than he wanted to provide. Last week, he acknowledged that the Fed was "talking" about when to time an announcement that it would slow the pace of bond purchases with newly printed money.

Powell said the central bank was not ready to make this announcement, but it would consider doing so on a "meeting to meeting" basis. The Fed would then leave time between those words and the actual actions of slowing down the pace of bond purchases. Once the Fed was done with quantitative easing (no new bond purchases net of redemptions), it would give some more time before signaling its intention to "lift off" from a zero percent short-term interest rate.

This whole process could take 12-18 months in or view. This assumes a strong economic recovery remains clearly on track. Showing some confidence, the bond market now prices at least one 25 basis point rate hike by late 2022, faster than the Fed's less concrete timetable "during 2023" (Figure 1).

Figure 1: Market-Implied US Policy Rates before and after Wednesday's Fed Announcement



Source: Bloomberg and Factset as of June 17, 2021. All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events

As we observe the market reaction, it seems akin to watching a fallen skier coming to his feet on a steep slope. The slightest move (such as an ever-so-slightly firmer intonation from Powell) and all comes tumbling down.

Markets didn't believe the Fed would even begin the excruciatingly-gradual process of slowing down quantitative easing in the near term, despite remarkable progress on vaccinations and net employment gains of nearly 500,000 per month (please see last week's CIO bulletin). After last week's price response, markets are now certain the Fed will begin to slow purchases within the next several months. There has even been talk of a "policy mistake" of overtightening. This is because yields at the very long-end of the US Treasury curve came down while medium-duration yields rose (Figure 2).

In our view, avoiding a very long period of excessively easy monetary policy is rather more like correcting a mistake than making one. Despite the Fed acknowledging a higher inflation rate in 2021, the Fed's barest hints of normalizing policy in time helped restore the US dollar's international value by 1.8% (Figure 3).

Figure 2: US Treasury Long/Intermediate Curve and Periods of Recession (30-years less 5-year yields)

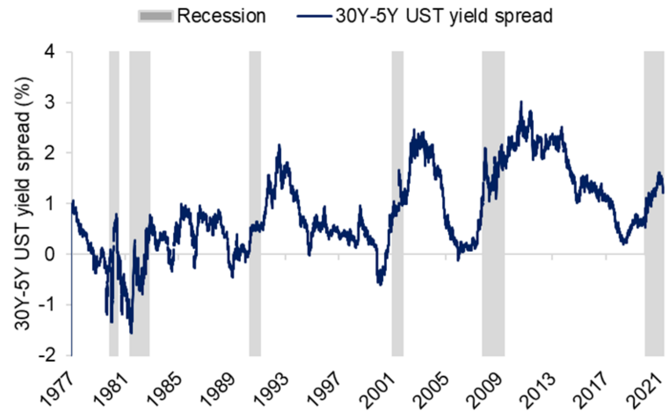
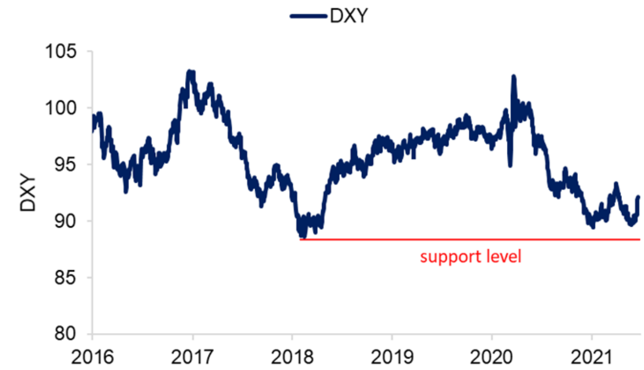


Figure 3: USD Major Currency Index Daily



Source: Haver Analytics as of June 18, 2021. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Past performance is no guarantee of future results. Real results may vary.

The Fed has not abandoned a commitment to a full economic recovery. It is largely un-swayed by immediate inflation concerns as producers can't rapidly adjust to a surge in demand in a reopening economy. The Fed will most likely spend the rest of 2021 increasing the supply of credit to the economy, albeit at a slower growth rate, with its policy rate remaining at zero.

So why the "violent" moves lower in the past few days in assets that are aligned with cyclical recovery and higher inflation? As Figures 4-5 show, the effective vaccinations and economic reopening we've long documented have generated a surge in investor inflows into sectors that would benefit most from a broadening economic expansion. The IT sector, in contrast to Financials and Energy for example – has seen waning interest from investors. Inflows in industrial commodities – such as copper – also surged, with speculators now beginning to reduce their long exposure (Figures 6-7).

Figure 4: Sector Fund Inflows: COVID Cyclicals vs Defensives

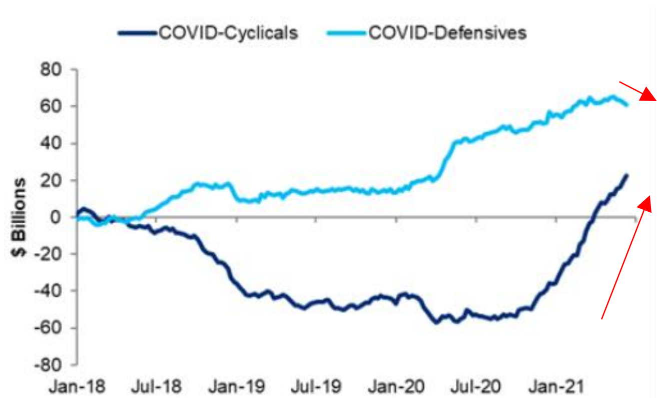
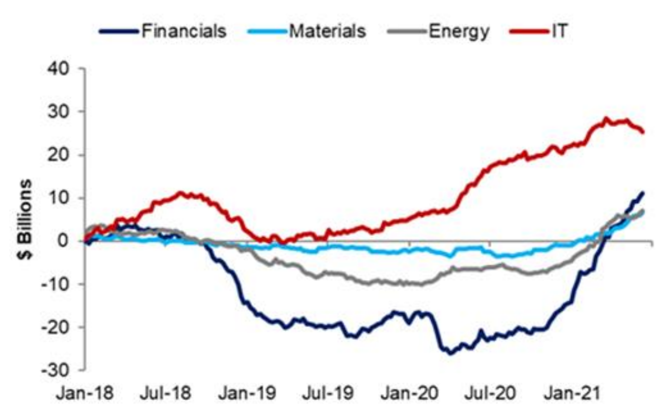


Figure 5: Sector Fund Inflows: IT vs Financials, Materials and Energy



Source: Bloomberg as of June 18, 2021. **Note:** COVID Cyclicals: Materials, Energy, Financials, Industrials, Infrastructure, Real Estate COVID Defensives: Health Care, Technology, Telecom, Consumer Goods, Utilities. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Past performance is no guarantee of future results. Real results may vary.

Figure 6: Cumulative Fund Inflows – Physical Commodity

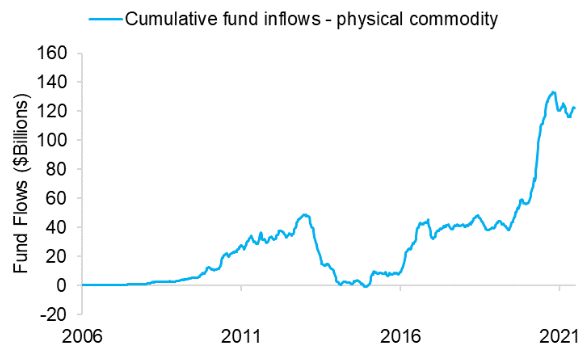
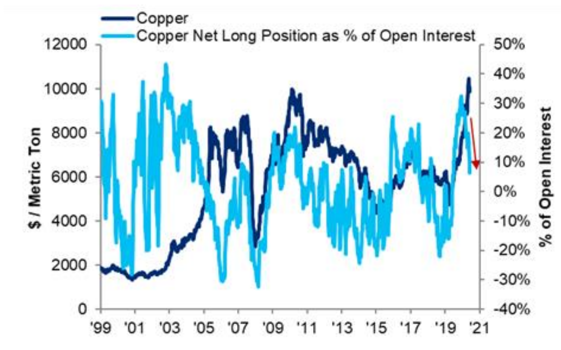


Figure 7: Copper Price vs. Copper Net Long/Short Position



Source: EFPR and Haver Analytics as of June 18, 2021.

The Fed's soon to be "slower easing" and future state of "gradual tightening" won't stop global vaccinations and economies from reopening. We see potential investment gains to be had in the most impacted industries (Figure 8). On policy, the Fed's short-term interest rate target won't swiftly rise to its "long run" normal estimate of 2.5%. It also won't be zero indefinitely.

With high valuations and rate pressure in mind, we've wanted to set limits on exposure to US growth stocks since the summer of 2020. We also eliminated a tactical gold position in early 2021 as we believed the bulk of the declines in real interest rates occurred in 2020 (Figure 9). Since then, "COVID cyclical" equities have generally outperformed defensives. Some of the strongest beneficiaries of the pandemic-economy – such as video conferencing, telemedicine and broader e-commerce shares - have corrected or stagnated.

History shows it is rare for long-term US interest rates to rise more than 100 basis points in a year, and the longer-term history of falling rates won't swiftly be reversed. In our view, however, there is still room for long- and short- rates to drift modestly higher in coming years. Those fearful for the economy should remember that in the last cycle (2009–2019), it took nine US rate hikes and $750 billion of quantitative tightening over five years before the Fed truly put the US expansion at risk.

Very gradual monetary policy tightening should also not lead us to avoid investments in long-term growth industries. We've already reoriented our asset allocation to potentially take advantage of the cheapest valued growth opportunity – healthcare – at the expense of certain US cyclicals that had posted the strongest rebound from the crisis low.

As we discussed in our ***Mid-Year Outlook***, we see a much larger "footprint" for the digital economy in the post COVID world. After large gains in 2020, share price declines in providers of cyber security defenses in 2021 have now largely reversed. In a market that seems suddenly concerned about risk, we see the industry combining some of the strongest characteristics of "defensive technology" and "enduring growth." Despite its recent rebound, we believe the industry is an indispensable component of the *Unstoppable Trend* of Digitization.

Figure 8: S&P 500 vs. Airlines, Hotels, Resorts and Cruise Lines

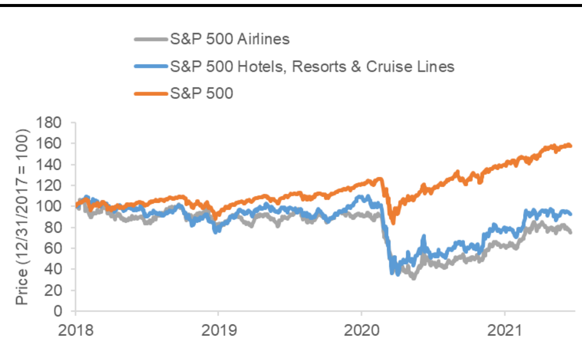


Figure 9: US Treasury 10-Year Note vs Growth Stock Index and Gold

Source: Factset as of June 17, 2021. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Past performance is no guarantee of future results. Real results may vary.

Cyber Security: The Internet's Critical Infrastructure

One doesn't need to have a PHD in computer science to understand the importance of cyber security as a linchpin to the modern economy. A simple survey of recent front-page media headlines drives home the importance of protecting the data and operations of every government, public company, and individual connected to the Internet (Figure 10). The SolarWinds malware attack, shortly followed by the ransomware that briefly shut down the Colonial Pipeline in the US, are just two high profile examples of data breaches that occur every day.

Outside the US, and especially in emerging and frontier markets, companies often operate in even less secure technology ecosystems, leaving their operations more vulnerable to attack. We therefore see an ongoing global opportunity to invest in companies that specialize in securing networks and the devices that connect to them (Figure 11). As hackers become more sophisticated and brazen in their attempts to compromise private data, constant security upgrades and investment in the latest encryption schemes is likely to be a staple for corporate and government budgets, as long as, humans access an open Internet.

Figure 10: Number of US Data Breaches per Year

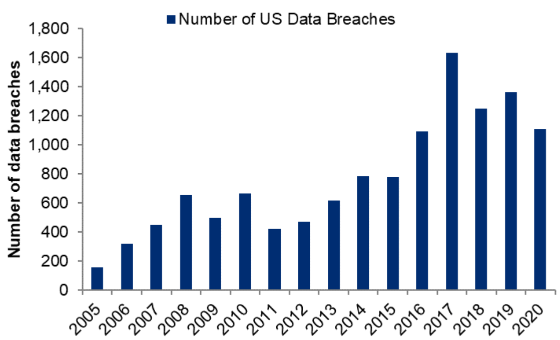
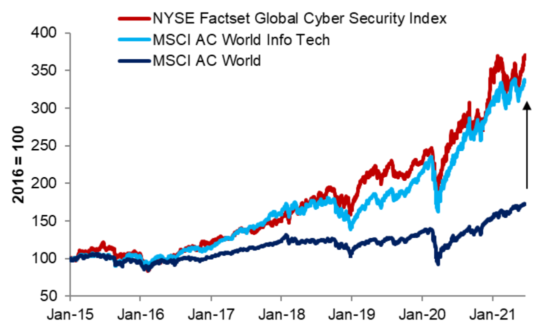


Figure 11: Global Cyber Security Equity Performance

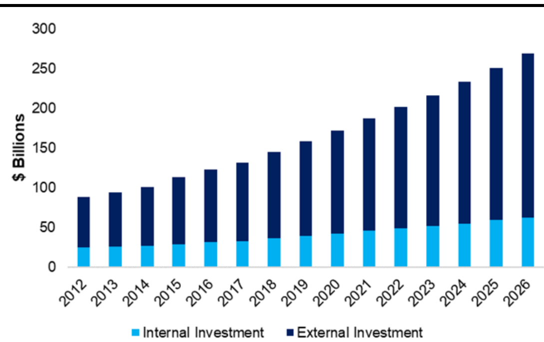


Source: Bloomberg as of June 17, 2021. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Past performance is no guarantee of future results. Real results may vary.

Inside the Cyber Security Investment Universe

The public equity universe is rich in global opportunities to invest in the cyber security theme. While US-based specialists make up roughly two-thirds of the global cyber security market cap, we see a global universe of potential corporate customers that are likely to increase their investment in data security in the coming years. While many large companies will hire full-time security experts to manage enterprise data and networks in-house, we believe that specialized cyber security providers are likely to grow much faster in the years ahead (Figure 12). Securing complex networks requires an expertise and state-of-the-art solutions that are both highly scalable and available off-the-shelf to a variety of different businesses.

Figure 12: Projected Global Investment in Cyber Security



Source: Forbes as of June 18, 2021. All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events

Cyber firms that specialize in cloud security are especially likely to benefit from significant growth in cloud-based computing. In addition, amid the rollout of 5G as more devices become connected to each other and the "cloud", we view specialists in securing the "Internet of Things" (IoT) as other potential winners within the cyber space. For example, cyber security company Fortinet offers IoT services which monitors networks for new devices and alerts users when a new device is attempting to join or listen in on other devices (or humans!) nearby.

Cyber firms have delivered steady top and bottom line growth over the past 5 years, with that revenue only growing during the 2020 pandemic (Figure 13). Expectations are for that consistent growth to continue, with consensus penciling in 6% revenue growth this year and 7.7% next year. As Figure 13 shows, cyber security sales have been much more stable than the broader technology space, perhaps justifying a premium valuation relative to the tech sector (Figure 14).

Figure 13: Cyber Security and S&P 500 Technology revenue growth (2016-2022E)

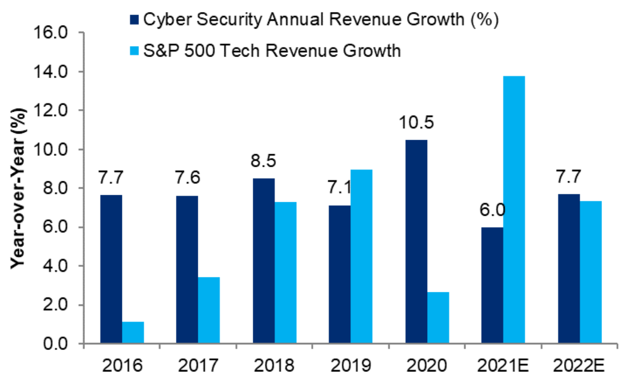
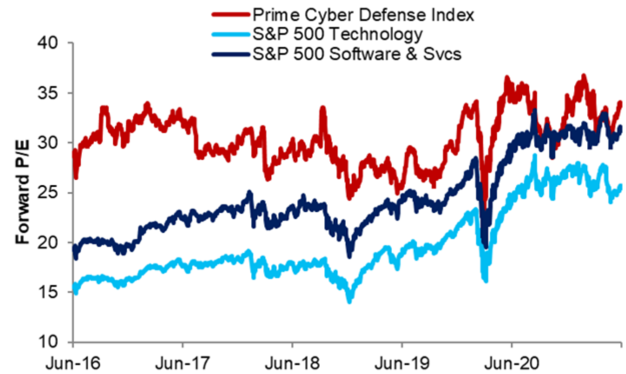


Figure 14: Cyber Security Valuations Relative to S&P 500 Tech and Software



Source: Forbes, Accenture as of June 17, 2021. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Past performance is no guarantee of future results. Real results may vary.

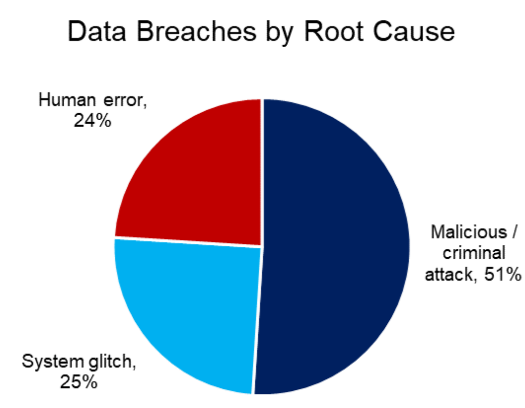
Not All Cyber Security Is the Same: Diversity within the Sector

While all hacks and data breaches involve unauthorized access to a computer system, the method by which data is compromised, and the ultimate motives of the hacker can vary. Nearly half of all cyber-attacks analyzed by the Identity Theft Resource Center in 2020 were characterized as Phishing scams. The next most common attack is ransomware, followed by malware. As Figure 15 shows, simply educating the public about strong password creation is not enough to secure sensitive enterprise information. Roughly half of attacks are the result of sophisticated, malicious activity that can occur even if employees and users do everything "right" (Figure 16).

Figure 15: Frequency of Cyber-Attack, by Method

Type of Attack	Share
Phishing	44%
Ransomware	18%
Malware	12%
Non-secured Cloud Environment	6%
Credential Stuffing	2%
Other	18%

Figure 16: Data Breaches by Root Cause



Source: Bloomberg, Identity Theft Resource Center as of June 17, 2021.

In the table below, we describe what differentiates the most common cyber-attacks. As you can see, the vast majority of cyber-attacks are not simply a result of sloppy password usage and poor cloud security. These best practices, while also crucial for protecting data, are just one component of an effective strategy for securing enterprise infrastructure. Phishing, malware, and ransomware attacks tend to be quite sophisticated, and combatting such efforts often require significant expertise. This is where cyber security specialists, many of whom operate as private companies, play a crucial role in safeguarding one of the most important economic commodities: data.

Figure 17: The Most Common Types of Cyber-Attacks

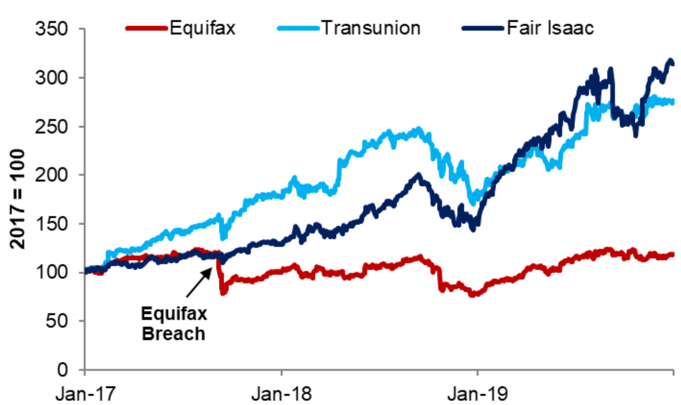
Type of Attack	Description	High Profile Examples
Phishing	Sending fake emails, text messages, or other communications, masquerading as a reliable or reputable source, in order to induce individuals to reveal personal information	2016 Hillary Clinton Campaign Email leak
Ransomware	Compromising enterprise or government data, encrypting it so it can no longer be of use, and holding it hostage until the victim pays a specified ransom (usually in cryptocurrency)	Colonial Pipeline hack
Malware	Quietly installs malicious software within a network or system, allowing the hacker to execute commands or spy on victims, often without their knowledge.	2020/21 SolarWinds attack, 2014 Sony Pictures Hack

Source: Citi Global Wealth, Office of the CIO as of June 18, 2021.

Cyber Security Is a "Must Do" Industry

Poor security protocols pose material financial, reputational, regulatory and legal risks on companies and governments. Ransomware attacks can easily result in multi-million dollar payouts to hackers. Compromised firms often lose business amid a loss of client confidence. Regulators, particularly in Europe and more recently in California, have implemented laws that establish minimum levels of data protection, require the reporting of data breaches, and can even impose fines on firms that violate these standards. Compounding these issues, improper handling of personally identifiable data can often lead to lawsuits from affected users or clients. All of these risks can and have directly impacted companies' bottom lines, and can sometimes lead to a permanent loss in market share (Figure 18).

Figure 18: Equifax and Its Competitors Following 2017 Data Breach



Source: Bloomberg as of June 18, 2021. Past performance is no guarantee of future results. Real results may vary.

A recent study by Accenture[1] separated organizations into two groups based on actual effectiveness in fending off cyber threats. Among those Chief Technology Officers (CTOs) most adept at achieving cyber resilience, 82% said they spent more than 20% of their IT budgets on advanced technologies like artificial intelligence and machine learning to specifically target threats (Figure 19). In addition, as more companies embrace the power of the cloud, we have seen the fastest growth in investments to secure cloud-based servers (Figure 20). We ultimately expect that all large corporations with significant client bases will have to face the reality that investment in the most cutting-edge cyber technologies is not a luxury expense but a critical business cost.

Figure 19: Share of Spending on Advanced Tech to Combat Cyber Risks by Best Performing CTOs

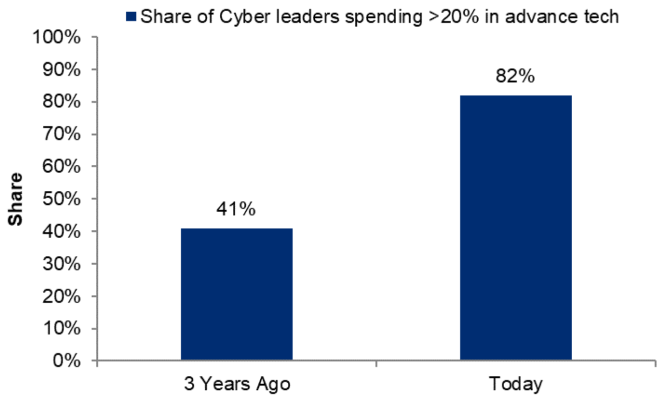
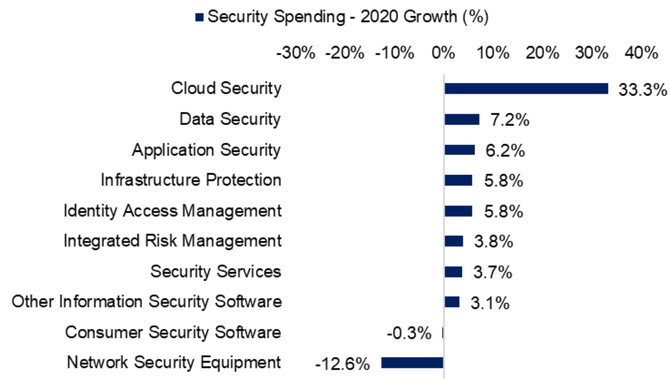


Figure 20: Growth in Security Spending, by Segment



Source: Forbes, Accenture as of June 17, 2021.

It is not hyperbole to say that the world of digitization would not be viable long-term without a layer of security protecting individuals and their data from malicious actors. In the same way that many large companies invest in private security to protect their workers while they are physically in the office, we believe the same types of protection are necessary to guard proprietary and client data. Investments in this type of digital protection is not optional, and we therefore believe that growth in the cyber security space will be both robust and stable in the years and decades to come.

[1] Accenture State of Cybersecurity Report 2020

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