

Innovation, Dominance & Disruption

AMERICA'S STORY

The new Bull Market turned 1, as March 23 marked the lows from the Covid crash of 2020. I consistently find myself contemplating what has transpired in the past 12 months. The list is long. But there are some important takeaways. The year 2020 was like a learning laboratory. Companies were forced to embrace new methods or risk dying. Stress was high as the clouds of uncertainty were everywhere. Staying calm and maintaining discipline was essential. Recognizing opportunity while others froze was a difference-maker in better outcomes. We learned a lot about ourselves and our world. Opportunity continues to circle. Not everybody recognizes it. Even those that do, often fail to seize it. There's always been a wide divide between the Great and the Good. Still is. It's the story of America.

A nation divided; Hundreds of Thousands died. The Great American experiment had failed, or so it seemed. Uncertainty brings opportunity though. From the ashes of the Civil War, emerged a new generation of risk-takers and thought leaders. The vision of the future of America was born. Opportunity, and the promise for better days ahead, was foundational. America is persistently and relentlessly fertile ground for progress. It again was driven by innovation and ingenuity. Success required vision and guts. It was the age of advancement. Visionaries and entrepreneurs took an idea and created industries from the ground up. It was the rebirth of the American Dream. They were job creators who later became moguls. They were wise as well as ruthless. They out-hustled and out-smarted the competition. Their

names were Rockefeller, Vanderbilt, Carnegie and Morgan.

The advancement of the railroad was the 19th-century version of the World Wide Web. It connected the country and created a boom for communication and commerce. Next came kerosene from Oil, which expanded light after dark. Electricity, steel structures and the motor car followed next. It was a great time for investors and Wall Street financed the growth engines. Big industry built America with highways and infrastructure. It was an age of unprecedented growth. It was the Industrial Revolution.

In addition to the vision and the efforts of our Founding Fathers, who wrote the document and planted the seeds for America's future, the vision and the efforts of American entrepreneurs are what led to American ingenuity and dominance. On the back of this private sector progress, the United States became the leader of the free world. Competition is what creates the best product or service at the best price. But excess power has proven to be detrimental to creativity and generally leads to increased prices.

None of America's progress would have been possible without Standard Oil, General Electric and US Steel. They were run by the Fathers of American Business. America provided the innovative resources to the Modern World. The United States became a Global Economic Power because it allowed people to dream. It rewarded hard work and ingenuity. The question was, how big do you want to dream and how hard do you want to work?



The Panama Canal typifies the American might and conviction. It was the most ambitious and impactful engineering project in our nation's history. It cut the distance for a ship to travel from New York City to San Francisco by 8,000 miles and 5 month's time. The canal was built by US Steel powered by American electricity and run on American gasoline. The United States became an industrial Super Power behind the disruptive ingenuity of the young Corporate America; US Steel, Standard Oil and General Electric.

The start of the 20th century saw the advancement of the telephone, the wireless telegraph, x-ray machines. Moving pictures led to the cinema. Hollywood was born. People in increasing numbers rode bicycles, drove automobiles, and flew in airplanes. All of these inventions influenced how time and space were experienced and understood. The Industrial Revolution brought heavy machinery and took manufacturing output to new heights. It triggered new inventions and increased the quality of life in the nation less than a century and a half old.

Power and money have led to abuse throughout history. It's as common as anything in humankind. The success of Corporate America during the Industrial Revolution created some titanic companies with monopolistic powers. A Trust Buster stepped in to prevent it from spreading in America at the dawn of the new century. President Theodore Roos-

sevelt filed lawsuits against 43 companies. Standard Oil, which controlled 90% of America's Oil supply, was broken up in 1911 under the Sherman Antitrust Act. Roosevelt also pressured Congress to pass the Pure Food and Drug Act. Poor working conditions and spoiled food permeated the growing nation. Investigative reporters, called Muckrakers in the day, outed the filthy activity and exposed it for Teddy Roosevelt to change. It set the tone for rest of the century, and new innovators stepped in to change the way Americans consumed.

Henry Ford disrupted the auto industry in the 20th century. He was a visionary. He knew what people wanted before they did. Ford was once quoted as saying, "If I asked people what they wanted, they would have said a faster horse..." Ford embraced the assembly line for greater efficiency. Henry Ford didn't invent mass production, but he mastered it. Ford paid his workers \$5 per day, more than double the going wage of \$2. He created a safer environment for employees. He standardized the 8-hour workday, 5 days per week. Ford believed that taking care of his employees brought goodwill and got more out of them. The Ford Motor Company built cars 8X faster than the competition. The automobile changed the American lifestyle forever. Hershey and Wrigley embraced Ford's assembly line to mass-produce chocolate and chewing gum.

Today is a new age for advancement in America. It's a Digital Revolution driven by data, networks and computing. A new age of moguls emerged by the name of Gates and Jobs. Soon after came Larry and Sergey, Bezos, Zuckerberg and Musk. The 21st century is driven by advanced computing power. Cellular phones keep getting smarter. Today's personal computers, laptops and mobile devices are more powerful than the machines that launched the Apollo missions. The news cycle is 24/7 and politics dominate the airwaves, social media and the American way of life. Cars, which have always been innovative machines, are the ultimate mobile device. The internal combustion engine is already seeing its obituary written real-time as the trend has made a hard turn toward electric in the Digital World.



The 21st century is so far being dominated by a pack of Trillion Dollar companies. Apple went from being a PC manufacturer with a specialized audience in the 1990s to the nation's largest company with an integrated ecosystem and loyal customer base. Steve Jobs' vision of the iPhone has been realized. The company has grown far beyond his imagination under Tim Cook's reign. Amazon launched in the Summer of 1995, as a website that sold books. The company was formed less than a year earlier in the garage of Founder Jeff Bezos. Today it sells darn near everything and will ship it overnight for next to nothing. Amazon disrupted the retail industry. It didn't stop there. Amazon disrupts anything and everything in its way. Amazon has half of US online sales but just 6% of total. Its customers love it. Google is an internet titan which dominates US search. With 88% share of the online search market, Google is a verb as well as a monopoly. Apple and Google combined account for 99% of the global smartphone market, making them a duopoly.

There's a big difference with the Tech Titans today, in comparison to the monopolies from a century ago. It's centered on pricing. The Industrial Titans, with little competition, made prices higher. The Tech Titans generally send prices lower. Facebook and Google don't charge a dime. Amazon took prices lower and delivered for free. The thing is, there's no such thing as free. The ultimate cost in the Digital Age; Our privacy. The Tech Titans know everything about our behavior. They track it. They store it. They sell it. It's a data-driven world. The people are the subject.

The Tech Titans of today have gotten so big and powerful, everyone is gunning for them. Apple, Amazon, Microsoft, Google, Facebook alone account for nearly a quarter of the S&P 500. These companies thrived during the pandemic as people were forced to stay at home. Their roles in commerce and content have drawn increased scrutiny and calls for break-ups. The issue is gaining support in the public domain. But the American people are still avid users of the content. They might say they are against the growing power of the Tech Titans, but the American people have shown little interest in abandoning the products and services of the Tech Titans.



Regulatory scrutiny on Big Tech is back in the headlines. Democratic Representative David Cicilline, Chairman of the House Judiciary Committee's antitrust panel, said he is planning to craft a series of smaller bills to curb Big Tech's power. He said this small-target strategy increases the potential of finding common ground between Democrats and Republicans and makes it much harder for companies like Amazon, Facebook, Apple and Google to mobilize quickly against reforms they don't like. Cicilline has repeatedly

stressed that these companies are abusing their power to crush competitors and Congress needs to respond. Cicilline is also reportedly preparing a proposal taking aim at online companies' key protection against liability from users' posts. He says this will focus on the decisions companies like Facebook make to amplify content that's posted by users, whether factual or not. This is a big deal with growing support. While Republicans agree on the need to rein in the power of Big Tech, they seem to view the Democrats' more aggressive proposals like legislation creating structural separation as non-starters. Cicilline says that if you look at the way these Technology companies have staffed up with their lobbying efforts and the money they are investing in Washington, it is designed to prevent any changes to the current ecosystem that benefits them enormously. Facebook spent over \$20 Million on lobbyists last year, more than any other company. The White House seems to be staffing up too. Expect this theme to get increasing attention.

It's natural that people are concerned that automation is going to take away human jobs. It is true. But that has been the case for over a century. Heavy machinery replaced dangerous, unskilled labor in mining, drilling and steel manufacturing. But new jobs were created in response. The telecommunications industry once had operators putting plugs into switchboards. Those jobs are long gone. But what emerged was an ecosystem of people who design, install and manage the complicated infrastructure which has connected the globe. This has been a pattern across nearly every industry. Disruption and innovation have always been constant. Change is a given. How people respond is the question.

Robots and machines are augmenting human capabilities. The key is for humans to continue to advance their knowledge and skills to stay ahead of the curve and work automation. Artificial Intelligence will continue to advance the

FROM ONE OF OUR SOURCES IN WASHINGTON:

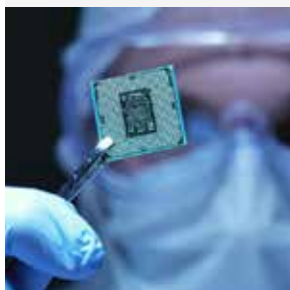
In the past two weeks, the Biden administration hired Tim Wu to a key White House position on anti-trust policy and Politico reported that the administration will probably nominate Lina Kahn to the Federal Trade Commission which has some antitrust jurisdiction. We view Mr. Wu and Ms. Kahn as Big Tech critics of Big Tech firms and antitrust crusaders. Even though neither Mr. Wu nor Ms. Khan would have the power to unilaterally set policy and dismantle firms, we look at their appointments as well as the hiring across the regulatory universe of allies of Senator Elizabeth Warren (D-MA) as signs that it is increasingly likely that the key positions of FTC Chairman and Assistant Attorney General for Antitrust will go to nominees who could aggressively use antitrust laws to force changes in the ways firms run their businesses, force some firms to break-up, and block future proposed mergers. Tim Wu was also named to Biden's National Economic Council. He is a Professor at Columbia, now serving as the President's special assistant for policy on Technology and Competition.

Regulation faces a long road ahead given the economic engines provided by Big Tech, their global reach and lobbying efforts within Washington. The transformation of society's relationship to these companies is also unprecedented, with the products used to manage most of people's professional and private lives, and have only gained in importance during the Covid era.

evolution of robotics and machine learning. These are considered great tools. But humans who lack the skills to interact with said Digital machinery will not only struggle; They perhaps may just succumb to being tools themselves. Education is the foundation of advancement.



It's such an exciting time to be an investor. There are so many innovative themes today. Activity is increasing in the Cloud and in Space. Renewable Energy and Modern Infrastructure are attracting attention and investment. Robotics, Artificial Intelligence and the Internet of Things are constantly expanding in our daily lives. These are all investment themes, still in their infancies.



Many traditional industries continue to get disrupted too. The Real Estate industry has been catapulted into the Digital Age in response to the pandemic. Fresh and new keeps pushing Food & Beverage. Digital platforms and cryptocurrencies are changing the way people pay. Transportation, delivery, communications and commerce are the epicenter of disruption, and that is not likely to change anytime soon. These are compelling investment themes.



None of this happens without chips. Semiconductors are embedded in a vast number of products these days. They're often described as the brains of electronic devices. Semiconductors enable technologies critical to economic growth, national security, and global competitiveness. Semiconductors have been far-reaching in developing innovative products and industries as the Digital Age evolves. They have driven advances in Communications, Health Care, the Military, Transportation, Energy, and countless other industries and applications. You name it, chances are they're in it. Semiconductors are foundational for the expansion of the Internet of Things, Machine Learning and Artificial Intelligence. The stage is set for the next phase of the Digital Revolution. Devices are getting smarter and smarter. Machines are learning every day. Fresh skill sets are a requirement for success in the Digital Age.

In response to the pandemic, a remarkable thing took place: Large teams with a shared vision comprised of scientists, professors, engineers, researchers, students and volunteers set aside their day jobs in order to do something that had never been done before. Academia and the Private sector banded together with support from communities around the country. The mission of creating and producing a vaccine at Warp Speed was on. CRISPR genome editing and mRNA were foundational in both the Pfizer and Moderna vaccines that came to light, lightning-fast, to reach American arms in less than a year. Dr. Jennifer Doudna, a biochemist at Cal Berkeley received the Nobel prize in Chemistry in 2020 for co-inventing CRISPR technology. It's just incredible what can happen in America when a group of individuals comes together with a common purpose for good. The possibilities have no boundaries. It's very investable.



There's a new \$2 Trillion Infrastructure package presented in Washington, to be spent over the course of 8 years. The plan is based on Corporate America picking up a big chunk of the tab. It pegs an increase to the Corporate tax rate up to 28% in order to fund it. Infrastructure is a very popular issue with the American people, understanding how dire our airports, roads, bridges and tunnels are in need of upgrades. Broadband and Renewable Energy are also slated for investment, as the US Economy modernizes further in the Digital Age.

Corporate America knows infrastructure is popular too. A large Infrastructure package would result in massive investment around the country which would benefit many corporations. Higher tax rates are seldom popular. But Corporate America seems to be weighing all the options before taking a stand. It's our sense that a 28% Corporate Tax rate is still unlikely. The votes just aren't there. But 25% could be. Individual Earned Income and Capital Gains rates aren't expected to rise with the infrastructure package, but could be on the table next year. That will bring a bigger fight on Capitol Hill. Politicians will be politicking all Spring and into Summer on this. As a reminder, the Corporate Tax rate fell from 35% to 21% in 2017.

The issue of taxes has been nagging at Americans since the very beginning. They always have. They always will. It was Benjamin Franklin who said back in 1789: "In this world nothing can be said to be certain, except death and taxes." And so it goes...

Innovation is a constant thing. It doesn't always mean a great invention or the next big thing. It's simply the commitment, every day, to a better way. America's success was due to its economic ingenuity and engine. Our nation's finest days have come when facing great adversity and seizing opportunity. America thinks. America creates. America designs. America builds. America powers. America produces. America hustles. America leads. This is another moment in our nation's history. Investment and innovation are making it possible. People make it happen. You have to think it to live it.

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