#### Unpredictable shifts ruin biz con AND overall growth

Sarah Chaney Cambon 21, Reporter on The Wall Street Journal's Economics Team, BA in Business Journalism from the University of North Carolina-Chapel Hill, “Capital-Spending Surge Further Lifts Economic Recovery”, Wall Street Journal, 6/27/2021, https://www.wsj.com/articles/capital-spending-surge-further-lifts-economic-recovery-11624798800

Business investment is emerging as a powerful source of U.S. economic growth that will likely help sustain the recovery.

Companies are ramping up orders for computers, machinery and software as they grow more confident in the outlook.

Nonresidential fixed investment, a proxy for business spending, rose at a seasonally adjusted annual rate of 11.7% in the first quarter, led by growth in software and tech-equipment spending, according to the Commerce Department. Business investment also logged double-digit gains in the third and fourth quarters last year after falling during pandemic-related shutdowns. It is now higher than its pre-pandemic peak.

Orders for nondefense capital goods excluding aircraft, another measure for business investment, are near the highest levels for records tracing back to the 1990s, separate Commerce Department figures show.

“Business investment has really been an important engine powering the U.S. economic recovery,” said Robert Rosener, senior U.S. economist at Morgan Stanley. “In our outlook for the economy, it’s certainly one of the bright spots.”

Consumer spending, which accounts for about two-thirds of economic output, is driving the early stages of the recovery. Americans, flush with savings and government stimulus checks, are spending more on goods and services, which they shunned for much of the pandemic.

Robust capital investment will be key to ensuring that the recovery maintains strength after the spending boost from fiscal stimulus and business reopenings eventually fades, according to some economists.

Rising business investment helps fuel economic output. It also lifts worker productivity, or output per hour. That metric grew at a sluggish pace throughout the last economic expansion but is now showing signs of resurgence.

The recovery in business investment is shaping up to be much stronger than in the years following the 2007-09 recession. “The events especially in late ’08, early ’09 put a lot of businesses really close to the edge,” said Phil Suttle, founder of Suttle Economics. “I think a lot of them said, ‘We’ve just got to be really cautious for a long while.’”

Businesses appear to be less risk-averse now, he said.

After the financial crisis, businesses grew by adding workers, rather than investing in capital. Hiring was more attractive than capital spending because labor was abundant and relatively cheap. Now the supply of workers is tight. Companies are raising pay to lure employees. As a result, many firms have more incentive to grow by investing in capital.

Economists at Morgan Stanley predict that U.S. capital spending will rise to 116% of prerecession levels after three years. By comparison, investment took 10 years to reach those levels once the 2007-09 recession hit.

Company executives are increasingly confident in the economy’s trajectory. The Business Roundtable’s economic-outlook index—a composite of large companies’ plans for hiring and spending, as well as sales projections—increased by nine points in the second quarter to 116, just below 2018’s record high, according to a survey conducted between May 25 and June 9. In the second quarter, the share of companies planning to boost capital investment increased to 59% from 57% in the first.

“We’re seeing really strong reopening demand, and a lot of times capital investment follows that,” said Joe Song, senior U.S. economist at BofA Securities.

Mr. Song added that less uncertainty regarding trade tensions between the U.S. and China should further underpin business confidence and investment. “At the very least, businesses will understand the strategy that the Biden administration is trying to follow and will be able to plan around that,” he said.

#### Chinese growth is stable and sustainable

Scott Krantz 21, Reporter at Illinois News Today, “China’s Economy Is Set To Resist Short-Term Headwinds”, Illinois News Today, 8/19/2021, https://illinoisnewstoday.com/chinas-economy-is-set-to-resist-short-term-headwinds/348280/

China’s key economic data growth softened last month in the midst of extreme weather and the unexpected resurgence of COVID-19, but short-term headwinds provide long-term economic growth prospects It won’t change, the analyst said.

The latest data from the National Bureau of Statistics (NBS) show a rise in industrial production, retail sales and fixed investment in July, but at a slower pace than in June.

The Bank of Communications said in a survey note that the decline was primarily a combination of sporadic outbreaks of COVID-19, high temperatures and torrential rains.

At the end of the rainy season, the bank said extreme weather events would have less impact on economic activity, failing to contain the pandemic as the global spread of Delta variants could adversely affect both external and domestic demand. Warned that there was certainty.

China first appeared at Nanjing Airport in eastern China and acted swiftly to contain the latest COVID-19 resurrection that spread rapidly to several other cities.

Due to large-scale nucleic acid testing, accelerated vaccination, closed-loop management, and travel restrictions, only five new local infections were reported Wednesday, with 19 new local infections in the country. Is clearly on the decline.

Strict epidemic measures have proven to lay a solid foundation for economic recovery. In the first half of this year, gross domestic product increased by 12.7% year-on-year as factories resumed production and people resumed traveling to China.

Wang Likun, a researcher at the Development Research Center of the State Council, said that this year’s stable growth has led to a country’s overall approach to managing national and international situations and coordinated measures in epidemic control and economic development. He said it could be due.

The country’s ongoing structural reforms have made the economy less susceptible to external shocks. In line with the goal of high-quality development, China’s investment in high-tech manufacturing surged in the first seven months, supporting short-term growth and making the economy more self-sufficient in the long run.

As the country pushes new development paradigms, deepens supply-side structural reforms and promotes innovation, the quality of growth will improve further, NBS spokesman Fu Linghui predicts a stable recovery in China’s economy in the second half of this year.

#### COVID will be controlled

Laura He 21, CNN Business, “China Growth Forecasts Slashed as Delta Variant Spreads Across The Country”, Action News Now, 8/13/2021, https://www.actionnewsnow.com/templates/AMP?contentID=575090982

Still, despite the anticipated slump in the third quarter, the Goldman analysts still expect the recovery largely to remain intact this year. For all of 2021, they expect China's economy to grow 8.3%, slightly lower than a previous estimate of 8.6%.

Other economists, though, have also warned of a hit to growth.

China has implemented "strict individual mobility restrictions" to better enforce its "zero tolerance" policy, analysts at JP Morgan wrote in a research note earlier this week. They forecast economic growth to halve to 2% in the current quarter, compared with a previous estimate of 4.3%. They also cut their 2021 GDP growth forecast to 8.9% from 9.1%.

"We expect the situation can be brought under control in the next several weeks, but the epidemic control procedure will dent consumption and services tentatively," they added.

#### Uncertainty crashes the overall economy:

#### The engine of growth is business investment, which requires confidence and stable planning.

#### Other pillars will fall off as stimulus and reopenings fade, leaving biz con as the lone source of strength---that’s Cambon.

#### Studies prove biz con’s key AND depends on perceptions of political stability

Gabriel Caldas Montes 21, PhD Candidate in the Department of Economics at Fluminense Federal University and Fabiana da Silva Dr. Leite Nogueira, PhD in Economics from Universidade Federal Fluminense, Professor of Economics at the Universidade de Vassouras, “Effects of Economic Policy Uncertainty and Political Uncertainty on Business Confidence and Investment”, Journal of Economic Studies, April 2021, Emerald Insights

1. Introduction

The literature on business confidence is vast. If on the one hand some studies indicate that business confidence acts as a leading indicator of macroeconomic activity and influences the economic environment, on the other hand, some studies investigate the determinants of business confidence (Khan and Upadhayaya, 2020).

Although many advances have been made, the literature on the determinants of business confidence continues to evolve. Some studies analyze not only the effects of macroeconomic variables, but also the effects of other variables able to create (or reduce) uncertainties, such as corruption (Montes and Almeida, 2017) and monetary policy credibility (Montes, 2013; de Mendonça and Almeida, 2019). These studies reveal that low credibility and high levels of corruption reduce confidence due to the uncertainties that emerge.

Uncertain economic scenarios created by economic policy uncertainty undermine confidence, and affect the decision making of entrepreneurs, who, for example, postpone investment and employment decisions in order to gain more information (Bloom et al., 2018). Regarding the definition of economic policy uncertainty, Al-Thaqeb and Algharabali (2019) points out that “*Policy uncertainty is the economic risk associated with undefined future government policies and regulatory frameworks*” (Al-Thaqeb and Algharabali, 2019, p. 2). Baker et al. (2016) and Al-Thaqeb and Algharabali (2019) suggest that economic policy uncertainty delay economic recoveries during periods of recession as businesses and households postpone their decisions about investment and consumption expenditures due to market uncertainty. Nevertheless, regarding the effects of economic policy uncertainty on research and development (R&D) expenditures and innovation outputs, Tajaddini and Gholipour (2020) find positive relationships for a set of 19 developed and developing countries, thus, contradicting those that claim a negative association between economic policy uncertainty and R&D expenditure.

Since the work of Bloom (2009), and due to existing controversies in the literature, studies investigate the effects of uncertainty shocks on different economic variables (e.g., Baker et al., 2016; Bachmann et al., 2013; Colombo, 2013; Nodari, 2014; Donadelli, 2015; Gulen and Ion, 2015; Moore, 2017; Istiak and Serletis, 2018; Bahmani-Oskooee and Nayeri, 2018; Bahmani- Oskooee et al., 2018; Mumtaz and Surico, 2018; Gholipour, 2019; Greenland et al., 2019; Istiak and Alam, 2019, 2020; Tajaddini and Gholipour, 2020). In general, the findings suggest that macroeconomic variables such as GDP, investment and employment are adversely affected by increased economic policy uncertainty.

The political environment is also a source of uncertainty that affects the economy. Studies provide evidence that the instability of the political environment has negative effects on the economic environment (e.g., Barro, 1991; Alesina and Perotti, 1996; Svensson, 1998; Carmignani, 2003; Aisen and Veiga, 2006, 2013; Durnev, 2010; Zouhaier and Kefi, 2012; Julio and Yook, 2012; Uddin et al., 2017; Azzimonti, 2018; Jens, 2017). These studies show that political instability has negative effects on inflation, GDP and unemployment.

Political uncertainty reflects instabilities on the political scene (i.e., involving politicians). The instabilities arising from the political scenario are associated to uncertainties regarding possible changes in the “rules of the game” and in the functioning of institutions. Hence, the uncertainty related to the political system is a key feature affecting the business environment, which entrepreneurs must consider when deciding, for instance, to start or expand their businesses. The effects of political uncertainty are stronger when firms and politicians have close connections and political favors might be at play.

One can suggest economic policy uncertainty reduces entrepreneurs’ optimism about the future of the economy and their business. Similarly, an uncertain political environment can deteriorate business confidence, producing negative effects on the economic environment. Hence, some important questions arise. Does political uncertainty affect business confidence? Is business confidence affected by economic policy uncertainty? Are political uncertainty and economic policy uncertainty transmitted to investment decisions through business confidence? These questions are particularly important for developing countries since these countries often present higher levels of political uncertainty and economic policy uncertainty.

#### Failure causes bankruptcies and unemployment---it’s unique: confidence is slowly recovering with stable support

Dr. Laurence Boone 20, PhD in Economics from London Business School, OECD Chief Economist, Master Degree in Econometrics from the University of Reading, MAS in Modelization and Quantitative Analysis from Paris X-Nanterre University, “Building Confidence Crucial Amid An Uncertain Economic Recovery”, OECD Interim Economic Report, 9/16/2020, https://www.oecd.org/newsroom/building-confidence-crucial-amid-an-uncertain-economic-recovery.htm

With the COVID-19 pandemic continuing to threaten jobs, businesses and the health and well-being of millions amid exceptional uncertainty, building confidence will be crucial to ensure that economies recover and adapt, says the OECD’s Interim Economic Outlook.

After an unprecedented collapse in the first half of the year, economic output recovered swiftly following the easing of containment measures and the initial re-opening of businesses, but the pace of recovery has lost some momentum more recently. New restrictions being imposed in some countries to tackle the resurgence of the virus are likely to have slowed growth, the report says.

Uncertainty remains high and the strength of the recovery varies markedly between countries and between business sectors. Prospects for an inclusive, resilient and sustainable economic growth will depend on a range of factors including the likelihood of new outbreaks of the virus, how well individuals observe health measures and restrictions, consumer and business confidence, and the extent to which government support to maintain jobs and help businesses succeeds in boosting demand.

The Interim Economic Outlook projects global GDP to fall by 4½ per cent this year, before growing by 5% in 2021. The forecasts are less negative than those in OECD’s June Economic Outlook, due primarily to better than expected outcomes for China and the United States in the first half of this year and a response by governments on a massive scale. However, output in many countries at the end of 2021 will still be below the levels at the end of 2019, and well below what was projected prior to the pandemic.

If the threat from COVID-19 fades more quickly than expected, improved business and consumer confidence could boost global activity sharply in 2021. But a stronger resurgence of the virus, or more stringent lockdowns could cut 2-3 percentage points from global growth in 2021, with even higher unemployment and a prolonged period of weak investment.

Presenting the Interim Economic Outlook, covering G20 economies, OECD Chief Economist Laurence Boone said: “The world is facing an acute health crisis and the most dramatic economic slowdown since the Second World War. The end is not yet in sight but there is still much policymakers can do to help build confidence.”

She added: “It is important that governments avoid the mistake of tightening fiscal policy too quickly, as happened after the last financial crisis. Without continued government support, bankruptcies and unemployment could rise faster than warranted and take a toll on people’s livelihoods for years to come. Policymakers have the opportunity of a lifetime to implement truly sustainable recovery plans that reboot the economy and generate investment in the digital upgrades much needed by small and medium-sized companies, as well as in green infrastructure, transport and housing to build back a better and greener economy.”

#### Decline cascades---nuclear war

Dr. Mathew Maavak 21, PhD in Risk Foresight from the Universiti Teknologi Malaysia, External Researcher (PLATBIDAFO) at the Kazimieras Simonavicius University, Expert and Regular Commentator on Risk-Related Geostrategic Issues at the Russian International Affairs Council, “Horizon 2030: Will Emerging Risks Unravel Our Global Systems?”, Salus Journal – The Australian Journal for Law Enforcement, Security and Intelligence Professionals, Volume 9, Number 1, p. 2-8

Various scholars and institutions regard global social instability as the greatest threat facing this decade. The catalyst has been postulated to be a Second Great Depression which, in turn, will have profound implications for global security and national integrity. This paper, written from a broad systems perspective, illustrates how emerging risks are getting more complex and intertwined; blurring boundaries between the economic, environmental, geopolitical, societal and technological taxonomy used by the World Economic Forum for its annual global risk forecasts. Tight couplings in our global systems have also enabled risks accrued in one area to snowball into a full-blown crisis elsewhere. The COVID-19 pandemic and its socioeconomic fallouts exemplify this systemic chain-reaction. Onceinexorable forces of globalization are rupturing as the current global system can no longer be sustained due to poor governance and runaway wealth fractionation. The coronavirus pandemic is also enabling Big Tech to expropriate the levers of governments and mass communications worldwide. This paper concludes by highlighting how this development poses a dilemma for security professionals.

Key Words: Global Systems, Emergence, VUCA, COVID-9, Social Instability, Big Tech, Great Reset

INTRODUCTION

The new decade is witnessing rising volatility across global systems. Pick any random “system” today and chart out its trajectory: Are our education systems becoming more robust and affordable? What about food security? Are our healthcare systems improving? Are our pension systems sound? Wherever one looks, there are dark clouds gathering on a global horizon marked by volatility, uncertainty, complexity and ambiguity (VUCA).

But what exactly is a global system? Our planet itself is an autonomous and selfsustaining mega-system, marked by periodic cycles and elemental vagaries. Human activities within however are not system isolates as our banking, utility, farming, healthcare and retail sectors etc. are increasingly entwined. Risks accrued in one system may cascade into an unforeseen crisis within and/or without (Choo, Smith & McCusker, 2007). Scholars call this phenomenon “emergence”; one where the behaviour of intersecting systems is determined by complex and largely invisible interactions at the substratum (Goldstein, 1999; Holland, 1998).

The ongoing COVID-19 pandemic is a case in point. While experts remain divided over the source and morphology of the virus, the contagion has ramified into a global health crisis and supply chain nightmare. It is also tilting the geopolitical balance. China is the largest exporter of intermediate products, and had generated nearly 20% of global imports in 2015 alone (Cousin, 2020). The pharmaceutical sector is particularly vulnerable. Nearly “85% of medicines in the U.S. strategic national stockpile” sources components from China (Owens, 2020).

An initial run on respiratory masks has now been eclipsed by rowdy queues at supermarkets and the bankruptcy of small businesses. The entire global population – save for major pockets such as Sweden, Belarus, Taiwan and Japan – have been subjected to cyclical lockdowns and quarantines. Never before in history have humans faced such a systemic, borderless calamity.

COVID-19 represents a classic emergent crisis that necessitates real-time response and adaptivity in a real-time world, particularly since the global Just-in-Time (JIT) production and delivery system serves as both an enabler and vector for transboundary risks. From a systems thinking perspective, emerging risk management should therefore address a whole spectrum of activity across the economic, environmental, geopolitical, societal and technological (EEGST) taxonomy. Every emerging threat can be slotted into this taxonomy – a reason why it is used by the World Economic Forum (WEF) for its annual global risk exercises (Maavak, 2019a). As traditional forces of globalization unravel, security professionals should take cognizance of emerging threats through a systems thinking approach.

METHODOLOGY

An EEGST sectional breakdown was adopted to illustrate a sampling of extreme risks facing the world for the 2020-2030 decade. The transcendental quality of emerging risks, as outlined on Figure 1, below, was primarily informed by the following pillars of systems thinking (Rickards, 2020):

• Diminishing diversity (or increasing homogeneity) of actors in the global system (Boli & Thomas, 1997; Meyer, 2000; Young et al, 2006);

• Interconnections in the global system (Homer-Dixon et al, 2015; Lee & Preston, 2012);

• Interactions of actors, events and components in the global system (Buldyrev et al, 2010; Bashan et al, 2013; Homer-Dixon et al, 2015); and

• Adaptive qualities in particular systems (Bodin & Norberg, 2005; Scheffer et al, 2012) Since scholastic material on this topic remains somewhat inchoate, this paper buttresses many of its contentions through secondary (i.e. news/institutional) sources.

ECONOMY

According to Professor Stanislaw Drozdz (2018) of the Polish Academy of Sciences, “a global financial crash of a previously unprecedented scale is highly probable” by the mid- 2020s. This will lead to a trickle-down meltdown, impacting all areas of human activity.

The economist John Mauldin (2018) similarly warns that the “2020s might be the worst decade in US history” and may lead to a Second Great Depression. Other forecasts are equally alarming. According to the International Institute of Finance, global debt may have surpassed $255 trillion by 2020 (IIF, 2019). Yet another study revealed that global debts and liabilities amounted to a staggering $2.5 quadrillion (Ausman, 2018). The reader should note that these figures were tabulated before the COVID-19 outbreak.

The IMF singles out widening income inequality as the trigger for the next Great Depression (Georgieva, 2020). The wealthiest 1% now own more than twice as much wealth as 6.9 billion people (Coffey et al, 2020) and this chasm is widening with each passing month. COVID-19 had, in fact, boosted global billionaire wealth to an unprecedented $10.2 trillion by July 2020 (UBS-PWC, 2020). Global GDP, worth $88 trillion in 2019, may have contracted by 5.2% in 2020 (World Bank, 2020).

As the Greek historian Plutarch warned in the 1st century AD: “An imbalance between rich and poor is the oldest and most fatal ailment of all republics” (Mauldin, 2014). The stability of a society, as Aristotle argued even earlier, depends on a robust middle element or middle class. At the rate the global middle class is facing catastrophic debt and unemployment levels, widespread social disaffection may morph into outright anarchy (Maavak, 2012; DCDC, 2007).

Economic stressors, in transcendent VUCA fashion, may also induce radical geopolitical realignments. Bullions now carry more weight than NATO’s security guarantees in Eastern Europe. After Poland repatriated 100 tons of gold from the Bank of England in 2019, Slovakia, Serbia and Hungary quickly followed suit.

According to former Slovak Premier Robert Fico, this erosion in regional trust was based on historical precedents – in particular the 1938 Munich Agreement which ceded Czechoslovakia’s Sudetenland to Nazi Germany. As Fico reiterated (Dudik & Tomek, 2019):

“You can hardly trust even the closest allies after the Munich Agreement… I guarantee that if something happens, we won’t see a single gram of this (offshore-held) gold. Let’s do it (repatriation) as quickly as possible.” (Parenthesis added by author).

President Aleksandar Vucic of Serbia (a non-NATO nation) justified his central bank’s gold-repatriation program by hinting at economic headwinds ahead: “We see in which direction the crisis in the world is moving” (Dudik & Tomek, 2019). Indeed, with two global Titanics – the United States and China – set on a collision course with a quadrillions-denominated iceberg in the middle, and a viral outbreak on its tip, the seismic ripples will be felt far, wide and for a considerable period.

A reality check is nonetheless needed here: Can additional bullions realistically circumvallate the economies of 80 million plus peoples in these Eastern European nations, worth a collective $1.8 trillion by purchasing power parity? Gold however is a potent psychological symbol as it represents national sovereignty and economic reassurance in a potentially hyperinflationary world. The portents are clear: The current global economic system will be weakened by rising nationalism and autarkic demands. Much uncertainty remains ahead. Mauldin (2018) proposes the introduction of Old Testament-style debt jubilees to facilitate gradual national recoveries. The World Economic Forum, on the other hand, has long proposed a “Great Reset” by 2030; a socialist utopia where “you’ll own nothing and you’ll be happy” (WEF, 2016).

In the final analysis, COVID-19 is not the root cause of the current global economic turmoil; it is merely an accelerant to a burning house of cards that was left smouldering since the 2008 Great Recession (Maavak, 2020a). We also see how the four main pillars of systems thinking (diversity, interconnectivity, interactivity and “adaptivity”) form the mise en scene in a VUCA decade.

ENVIRONMENTAL

What happens to the environment when our economies implode? Think of a debt-laden workforce at sensitive nuclear and chemical plants, along with a concomitant surge in industrial accidents? Economic stressors, workforce demoralization and rampant profiteering – rather than manmade climate change – arguably pose the biggest threats to the environment. In a WEF report, Buehler et al (2017) made the following pre-COVID-19 observation:

The ILO estimates that the annual cost to the global economy from accidents and work-related diseases alone is a staggering $3 trillion. Moreover, a recent report suggests the world’s 3.2 billion workers are increasingly unwell, with the vast majority facing significant economic insecurity: 77% work in part-time, temporary, “vulnerable” or unpaid jobs.

Shouldn’t this phenomenon be better categorized as a societal or economic risk rather than an environmental one? In line with the systems thinking approach, however, global risks can no longer be boxed into a taxonomical silo. Frazzled workforces may precipitate another Bhopal (1984), Chernobyl (1986), Deepwater Horizon (2010) or Flint water crisis (2014). These disasters were notably not the result of manmade climate change. Neither was the Fukushima nuclear disaster (2011) nor the Indian Ocean tsunami (2004). Indeed, the combustion of a long-overlooked cargo of 2,750 tonnes of ammonium nitrate had nearly levelled the city of Beirut, Lebanon, on Aug 4 2020. The explosion left 204 dead; 7,500 injured; US$15 billion in property damages; and an estimated 300,000 people homeless (Urbina, 2020). The environmental costs have yet to be adequately tabulated.

Environmental disasters are more attributable to Black Swan events, systems breakdowns and corporate greed rather than to mundane human activity.

Our JIT world aggravates the cascading potential of risks (Korowicz, 2012). Production and delivery delays, caused by the COVID-19 outbreak, will eventually require industrial overcompensation. This will further stress senior executives, workers, machines and a variety of computerized systems. The trickle-down effects will likely include substandard products, contaminated food and a general lowering in health and safety standards (Maavak, 2019a). Unpaid or demoralized sanitation workers may also resort to indiscriminate waste dumping. Many cities across the United States (and elsewhere in the world) are no longer recycling wastes due to prohibitive costs in the global corona-economy (Liacko, 2021).

Even in good times, strict protocols on waste disposals were routinely ignored. While Sweden championed the global climate change narrative, its clothing flagship H&M was busy covering up toxic effluences disgorged by vendors along the Citarum River in Java, Indonesia. As a result, countless children among 14 million Indonesians straddling the “world’s most polluted river” began to suffer from dermatitis, intestinal problems, developmental disorders, renal failure, chronic bronchitis and cancer (DW, 2020). It is also in cauldrons like the Citarum River where pathogens may mutate with emergent ramifications.

On an equally alarming note, depressed economic conditions have traditionally provided a waste disposal boon for organized crime elements. Throughout 1980s, the Calabriabased ‘Ndrangheta mafia – in collusion with governments in Europe and North America – began to dump radioactive wastes along the coast of Somalia. Reeling from pollution and revenue loss, Somali fisherman eventually resorted to mass piracy (Knaup, 2008).

The coast of Somalia is now a maritime hotspot, and exemplifies an entwined form of economic-environmental-geopolitical-societal emergence. In a VUCA world, indiscriminate waste dumping can unexpectedly morph into a Black Hawk Down incident. The laws of unintended consequences are governed by actors, interconnections, interactions and adaptations in a system under study – as outlined in the methodology section.

Environmentally-devastating industrial sabotages – whether by disgruntled workers, industrial competitors, ideological maniacs or terrorist groups – cannot be discounted in a VUCA world. Immiserated societies, in stark defiance of climate change diktats, may resort to dirty coal plants and wood stoves for survival. Interlinked ecosystems, particularly water resources, may be hijacked by nationalist sentiments. The environmental fallouts of critical infrastructure (CI) breakdowns loom like a Sword of Damocles over this decade.

GEOPOLITICAL

The primary catalyst behind WWII was the Great Depression. Since history often repeats itself, expect familiar bogeymen to reappear in societies roiling with impoverishment and ideological clefts. Anti-Semitism – a societal risk on its own – may reach alarming proportions in the West (Reuters, 2019), possibly forcing Israel to undertake reprisal operations inside allied nations. If that happens, how will affected nations react? Will security resources be reallocated to protect certain minorities (or the Top 1%) while larger segments of society are exposed to restive forces? Balloon effects like these present a classic VUCA problematic.

Contemporary geopolitical risks include a possible Iran-Israel war; US-China military confrontation over Taiwan or the South China Sea; North Korean proliferation of nuclear and missile technologies; an India-Pakistan nuclear war; an Iranian closure of the Straits of Hormuz; fundamentalist-driven implosion in the Islamic world; or a nuclear confrontation between NATO and Russia. Fears that the Jan 3 2020 assassination of Iranian Maj. Gen. Qasem Soleimani might lead to WWIII were grossly overblown. From a systems perspective, the killing of Soleimani did not fundamentally change the actor-interconnection-interaction adaptivity equation in the Middle East. Soleimani was simply a cog who got replaced.

### Inno

#### Strong commercial space catalyzes tech innovation – progress at the margins and spinoff tech change global information networks

Joshua Hampson 2017, Security Studies Fellow at the Niskanen Center, 1-25-2017, “The Future of Space Commercialization”, Niskanen Center, https://republicans-science.house.gov/sites/republicans.science.house.gov/files/documents/TheFutureofSpaceCommercializationFinal.pdf

Innovation is generally hard to predict; some new technologies seem to come out of nowhere and others only take off when paired with a new application. It is difficult to predict the future, but it is reasonable to expect that a growing space economy would open opportunities for technological and organizational innovation. In terms of technology, the difficult environment of outer space helps incentivize progress along the margins. Because each object launched into orbit costs a significant amount of money—at the moment between $27,000 and $43,000 per pound, though that will likely drop in the future —each 19 reduction in payload size saves money or means more can be launched. At the same time, the ability to fit more capability into a smaller satellite opens outer space to actors that previously were priced out of the market. This is one of the reasons why small, affordable satellites are increasingly pursued by companies or organizations that cannot afford to launch larger traditional satellites. These small 20 satellites also provide non-traditional launchers, such as engineering students or prototypers, the opportunity to learn about satellite production and test new technologies before working on a full-sized satellite. That expansion of developers, experimenters, and testers cannot but help increase innovation opportunities. Technological developments from outer space have been applied to terrestrial life since the earliest days of space exploration. The National Aeronautics and Space Administration (NASA) maintains a website that lists technologies that have spun off from such research projects. Lightweight 21 nanotubes, useful in protecting astronauts during space exploration, are now being tested for applications in emergency response gear and electrical insulation. The need for certainty about the resiliency of materials used in space led to the development of an analytics tool useful across a range of industries. Temper foam, the material used in memory-foam pillows, was developed for NASA for seat covers. As more companies pursue their own space goals, more innovations will likely come from the commercial sector. Outer space is not just a catalyst for technological development. Satellite constellations and their unique line-of-sight vantage point can provide new perspectives to old industries. Deploying satellites into low-Earth orbit, as Facebook wants to do, can connect large, previously-unreached swathes of 22 humanity to the Internet. Remote sensing technology could change how whole industries operate, such as crop monitoring, herd management, crisis response, and land evaluation, among others. 23 While satellites cannot provide all essential information for some of these industries, they can fill in some useful gaps and work as part of a wider system of tools. Space infrastructure, in helping to change how people connect and perceive Earth, could help spark innovations on the ground as well. These innovations, changes to global networks, and new opportunities could lead to wider economic growth.

#### Tech innovation solves every existential threat – cumulative extinction events outweigh the aff

Dylan **Matthews 18**. Co-founder of Vox, citing Nick Beckstead @ Rutgers University. 10-26-2018. "How to help people millions of years from now." Vox. https://www.vox.com/future-perfect/2018/10/26/18023366/far-future-effective-altruism-existential-risk-doing-good

If you care about improving human lives, you should overwhelmingly care about those quadrillions of lives rather than the comparatively small number of people alive today. The 7.6 billion people now living, after all, amount to less than 0.003 percent of the population that will live in the future. It’s reasonable to suggest that those quadrillions of future people have, accordingly, hundreds of thousands of times more moral weight than those of us living here today do. That’s the basic argument behind Nick Beckstead’s 2013 Rutgers philosophy dissertation, “On the overwhelming importance of shaping the far future.” It’s a glorious mindfuck of a thesis, not least because Beckstead shows very convincingly that this is a conclusion any plausible moral view would reach. It’s not just something that weird utilitarians have to deal with. And Beckstead, to his considerable credit, walks the walk on this. He works at the Open Philanthropy Project on grants relating to the far future and runs a charitable fund for donors who want to prioritize the far future. And arguments from him and others have turned “long-termism” into a very vibrant, important strand of the effective altruism community. But what does prioritizing the far future even mean? The most literal thing it could mean is preventing human extinction, to ensure that the species persists as long as possible. For the long-term-focused effective altruists I know, that typically means identifying concrete threats to humanity’s continued existence — like unfriendly artificial intelligence, or a pandemic, or global warming/out of control geoengineering — and engaging in activities to prevent that specific eventuality. But in a set of slides he made in 2013, Beckstead makes a compelling case that while that’s certainly part of what caring about the far future entails, approaches that address specific threats to humanity (which he calls “targeted” approaches to the far future) have to complement “broad” approaches, where instead of trying to predict what’s going to kill us all, you just generally try to keep civilization running as best it can, so that it is, as a whole, well-equipped to deal with potential extinction events in the future, not just in 2030 or 2040 but in 3500 or 95000 or even 37 million. In other words, caring about the far future doesn’t mean just paying attention to low-probability risks of total annihilation; it also means acting on pressing needs now. For example: We’re going to be better prepared to prevent extinction from AI or a supervirus or global warming if society as a whole makes a lot of scientific progress. And a significant bottleneck there is that the vast majority of humanity doesn’t get high-enough-quality education to engage in scientific research, if they want to, which reduces the odds that we have enough trained scientists to come up with the breakthroughs we need as a civilization to survive and thrive. So maybe one of the best things we can do for the far future is to improve school systems — here and now — to harness the group economist Raj Chetty calls “lost Einsteins” (potential innovators who are thwarted by poverty and inequality in rich countries) and, more importantly, the hundreds of millions of kids in developing countries dealing with even worse education systems than those in depressed communities in the rich world. What if living ethically for the far future means living ethically now? Beckstead mentions some other broad, or very broad, ideas (these are all his descriptions): Help make computers faster so that people everywhere can work more efficiently Change intellectual property law so that technological innovation can happen more quickly Advocate for open borders so that people from poorly governed countries can move to better-governed countries and be more productive Meta-research: improve incentives and norms in academic work to better advance human knowledge Improve education Advocate for political party X to make future people have values more like political party X ”If you look at these areas (economic growth and technological progress, access to information, individual capability, social coordination, motives) a lot of everyday good works contribute,” Beckstead writes. “An implication of this is that a lot of everyday good works are good from a broad perspective, even though hardly anyone thinks explicitly in terms of far future standards.” Look at those examples again: It’s just a list of what normal altruistically motivated people, not effective altruism folks, generally do. Charities in the US love talking about the lost opportunities for innovation that poverty creates. Lots of smart people who want to make a difference become scientists, or try to work as teachers or on improving education policy, and lord knows there are plenty of people who become political party operatives out of a conviction that the moral consequences of the party’s platform are good. All of which is to say: Maybe effective altruists aren’t that special, or at least maybe we don’t have access to that many specific and weird conclusions about how best to help the world. If the far future is what matters, and generally trying to make the world work better is among the best ways to help the far future, then effective altruism just becomes plain ol’ do-goodery.\*

#### Commercial space solves deterrence

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The commercial space sector directly promotes mission assurance and resilience efforts. This is in part due to the distributed and diversified nature of commercial space launch and satellites services. Distribution refers to the use of a number of nodes, working together, to perform the same mission or functions as a single node; diversification describes contributing to the same mission in multiple ways, using different platforms, orbits, or systems and capabilities.11 The 2017 U.S. National Security Strategy, in noting the benefits derived from the commercial space industry, states that DoD partners with the commercial sector’s capabilities to improve the U.S. space architecture’s resilience.12 Although U.S. policy and joint doctrine frequently acknowledge the role of the commercial space sector in space mission assurance and resilience, there is little recognition that day-to-day contributions from the commercial industry assists in deterring would-be adversaries. The commercial space sector contributes to deterrence by denial through multi-domain solutions that are distributed and diversified. These can deter potential adversaries from pursuing offensive actions against space-related systems. Commercial launch providers enhance deterrence by providing options for getting payloads into orbit. These include diverse space launch capabilities such as small and responsive launch vehicles, along with larger, reusable launch vehicles; launch rideshares for secondary payloads; and government payloads on commercial satellites. Various on-orbit systems also promote deterrence. For example, if an aggressor damages a commercial remote sensing satellite during hostilities, similar commercial satellites in a different orbital regime, or those of the same constellation, may provide the needed imagery. If satellite communications are jammed or degraded, commercial service providers can reroute satellite communications through their own networks, or potentially through the networks of another company using a different portion of the frequency spectrum. Regarding deterrence by punishment efforts, the commercial space sector can play a role, albeit an indirect one, through improved space situational awareness (SSA) and space forensics (including digital forensics and multispectral imagery). The commercial industry may support the attribution process following a hostile or illegal act in space through its increasingly proliferating network of SSA ground telescopes and other terrestrial tracking systems. The DoD may also leverage the commercial space sector’s cyber expertise to support digital forensic efforts to help determine the source of an attack. By supporting a credible and transparent attribution process, commercial partners may cause a would-be adversary to act differently if it perceives that its aggressive, illegal, or otherwise nefarious actions will be disclosed. Doing so can help bolster the perceived ability to conduct a legitimate response following a hostile attack, which may improve deterrence by punishment efforts. Commercial space capabilities may also facilitate the application of force to punish a potential aggressor. In addition to traditional military space systems, commercial satellite imagery and communication capabilities may be used in cueing and targeting for punitive strikes against an aggressor. Although the commercial space sector is not expected to be involved directly in the use of retaliatory force following a hostile act, commercial partners may help in providing the information used to identify those responsible and to facilitate any consequent targeting efforts.

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#### Commercial space innovation is key to solve a laundry list of problems.

Beames 18 – Chairman of the SmallSat Alliance & Exec Chairman of York Space Systems, former Principal Director of Space & Intel-Office of UnderSecDef AT&L

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--Commercial space creates new space data capabilities that transform every facet of our economy

1] enviro impacts – can track overfishing and plan how to preserve oceans to save biod

2] Resource allocation impact – can ensure better urban planning + sustainable water to solve resource wars

3] can better coordinate responses to disease + tracking – otherwise, extinction

4] helps with asteroid deflection – extincton

We find ourselves still at the dawn of a new space century, mindful of the victories and setbacks of our past, eager to pass the torch to the next generation of space visionaries, scientists, engineers, and enthusiasts. We look to the future not just to see how much bigger, faster, or higher we can reach, but also how the United States, and specifically the U.S. space community, can again inspire the nations of the world to align with us, as it did in the 20th century.

The SmallSat Alliance is an alliance of companies developing, producing, and operating in all segments of the ‘next generation’ space economy; championing renewed U.S. leadership in the burgeoning commercial space economy, and advocating for the transformation of government-led space capabilities. We are experienced space professionals who have chosen to join with others leveraging our decades of hard-won experience, to develop smarter ways to explore space in the 21st century.

A wonderful outgrowth of the legacy space program is the commercial, entrepreneurial, and job-creating commercial space business that it bequeathed. These next-generation enterprises range from multi-million-dollar startups providing rideshare opportunities or components for small satellites to multi-billion-dollar space data-analytic platforms reinventing urban car service and agricultural production. The early returns of this economic revolution are already on our doorstep: space data capabilities are exponentially growing elements of the 21st century world economy.

Beginning with the dreams and funding by successful tech entrepreneurs, enormous venture investments are already delivering wondrous benefits to the world.

Commercial Space – Profit and Non-Profit

There are really two major categories in the commercial sector, the profit driven and the non-profit. The classic for-profit companies include not only those designing, building, launching, and operating satellites but also the tech sector that is turning that raw space data into gold through machine-learning analytics. Since for-profit companies are no longer dependent upon the revenues generated by the Cold War space race culture of a bygone era, this new generation of space companies is able to more efficiently capitalize on Moore’s Law, the nonstop exponential growth in chip density, and the associated networking technology co-evolving with it. This new generation is building profitable businesses helping to clean up our oceans of garbage and debris with satellite surveillance, reconnoitering to assist in enforcing laws that protect our oceans from illegal, unregulated, unlicensed fishing, something that is rapidly depleting the world’s most valuable and essential lifeforms. It’s leading in the innovative use of low-cost satellite constellations to produce ubiquitous remote-sensing data, enabling small business owners to be more profitable and less wasteful. For example, precise timing signals from space are already optimizing transportation of people, goods, and services, with even further gains anticipated with the introduction of artificial intelligence to assist drivers, perhaps even someday replacing them entirely.

The non-profit sector is the other side of commercial space, concerned more for the general welfare of society, but every bit as integral to this new space enterprise. Much like every century before it in human history, ours is not without its unique challenges, some of which have been a consequence of the last, and all of which the space data domain can be leveraged to help solve. Examples are endless, but one challenge that this new space community is uniquely well-adapted for is to further inform worldwide resource allocation for the 21st century and beyond. These two primary resources are sustainable water and the materials needed for adequate housing for an ever-increasing human population. As cities and urbanization continue to expand, governmental planning challenges such as transportation design optimization for goods and services are only the beginning. Additionally, through using inexpensive remote sensing technologies, some members are designing space data analytics to mitigate human suffering from plagues, contain outbreaks, and combating illegal poaching. Some are connecting with other non-profits to curtail human trafficking for the sex trade or forced labor for migrant debt repayment. Still others are helping non-governmental organizations in their work to expose the use of children as soldiers. Addressing these challenges has little to do with resuscitating dreams conceived by long deceased science-fiction writers and much more to do with turning “swords back into plowshares” to solve real threats to humanity.

Other non-profit initiatives include pursuing an even more foundational understanding of who we are and how to be the best custodians of our environment. Much as exploring and monitoring the world’s oceans has advanced civilization through a better understanding of human life and the planet, so too does exploring and monitoring from space. Low Earth orbit (LEO) provides a unique vantage point to look back on the planet and understand what is happening, anticipate what might happen and prepare for the future. In addition to better understanding Earth, responsible and rapid exploitation of the low Earth orbit domain will enhance the understanding of the solar system and the rest of the universe. Small satellites already offer low-cost platforms to study and explore what lies beyond the Earth. Other members are pioneering the use of zero-carbon, hydrogen-based reusable propulsion systems to ensure we don’t worsen our atmosphere using kerosene-fueled rockets for the coming tsunami of satellite launches. Finally, a mission ensuring the general welfare and planet survival for the next thousand years is finally confronting the existential threat that asteroids and comets pose to humanity. These extra-terrestrial, deep-space threats are passing dangerously close to our planet, and today we have no solar map of them and no defense.

#### Policy uncertainty wrecks biz con, drying up investment

Gabriel Caldas Montes 21, PhD Candidate in the Department of Economics at Fluminense Federal University and Fabiana da Silva Dr. Leite Nogueira, PhD in Economics from Universidade Federal Fluminense, Professor of Economics at the Universidade de Vassouras, “Effects of Economic Policy Uncertainty and Political Uncertainty on Business Confidence and Investment”, Journal of Economic Studies, April 2021, Emerald Insights

The findings indicate that increases in political uncertainty and economic policy uncertainty reduce business confidence. Regarding the role of confidence as a transmission channel, the findings show that business confidence acts as a transmission channel of political uncertainty and economic policy uncertainty to investment. Increases in political uncertainty and economic policy uncertainty adversely influence investment through reduced business confidence.

From the findings of this study, we can point out the following policy suggestions. Policymakers must strengthen institutions through the development and use of rules that prevent irresponsible actions and are capable of destabilizing the political scenario, and they should establish management practices based on greater levels of transparency and communication with the public in order to better guide expectations and promote an environment that enhance business confidence. Positive evaluations about the government, about the management of public affairs, as well as about the chief executive, tend to generate a more optimistic business environment, positively influencing business investment decisions. Thus, policymakers should adopt credible economic policies that promote a more stable business environment with less uncertainty, allowing entrepreneurs to plan and make investment decisions with a view to a longer time horizon.

#### The sudden nature of the plan magnifies the impact to uncertainty and shatters BizCon

**Macquarie**, 5-25-20**16**, [Some asset management or consulting firm. "5 factors that impact business and consumer confidence", https://www.macquarie.com.au/advisers/business-consumer-confidence-australia.html]

With policymakers in the major economies working hard to restore and maintain confidence levels and shifts in sentiment indicators **play**ing **a key role in risk assessments** of investors, it is worthwhile to consider the various influences on this qualitative economic measure. Our analysis of the various indicators of consumer and business confidence that are regularly published highlight several common factors that have the potential **to cause marked shifts** in sentiment; including: 1. **Changes** in interest rates and/or exchange rates, **particularly if they are rapid**, large **and unexpected** 2. Swings in the business cycle and associated movements in employment/unemployment levels and business investment intentions 3. Shifts in the relative prices of nondiscretionary goods and services, notably petrol, healthcare, education and utilities prices 4. Large external economic and/or financial shocks, such as the financial crisis of 2008/09 and the Eurozone sovereign debt crisis of 2010/11 5. **Announced policy shifts in the stance of government** fiscal **policy**, including large structural spending cuts or increases/decreases in taxation rates.