

**Redesigning Capitalism: Restructuring the United States' economic metric system best befitting for humanity in the age of artificial intelligence, robotics, automation & software development.**

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Spring 2021

A thesis submitted in partial fulfillment of the requirements for the degree of

Master of Science in Finance

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Saint Peter's University

17 May 2021

### **Dedication**

I would like to dedicate this paper to my father. The toughest things in life are the things we most commonly avoid to do: to love wholeheartedly and unconditionally, to have confidence pursuing things despite the judgements, to strive towards a better sense of self, to understand that the mistakes we encounter is a reflection to absolve those failures and take it as a lesson to be learned and then move forward. I hope to the world and to my father, that you can forgive and let go of the pain that has kept you down for such a long time. And look at the world with the same lens as we once did when we were children: Curiosity. Particularly curiosity to learn with an openness of creativity.

## **Abstract**

This paper investigates the resulting flaws of capitalism today and how best we can formulate a newly updated design for capitalism in the U.S economy, under the new age of artificial intelligence, robotics, automation & software development. It provides the resulting evidence of detrimental effects on its U.S citizens socially, mentally, physically, and environmentally. On top of another threat, our society must adaptively change in the age of these technologies; when more technologies are constantly improving at rapid rates in all areas of human exposure. It will redefine how we think of work, social interactions, connectivity, transportation, and agriculture. This paper will investigate ideas and experiments used in other countries as well as our own, and in past human history for a much-needed upgrade to our U.S economic metrics that best serves humanity. It will redesign our education system, the way our markets operate, and how businesses make a profit without destroying their citizens or our environment. This paper will provide a simulation of how our economy would work in this new design. The current data will show a valuable opportunity to reconstruct how societies could run economically for the betterment of humanity nationally and possibly globally. Future research would be required to investigate the transition from our old system to the new system and answer many ethical issues and complications along the way.

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## INTRODUCTION

The U.S economy uses the following metric indicators to determine how well the economy is doing: Gross Domestic Product or GDP for short, Productivity Growth or productivity of labor, and Unemployment. However, various economists would note to add the markets, particularly the Stock Market, Labor Market, and the Housing Market as well as government interventions using monetary and fiscal policies, and Interest Rates. According to the World Bank, the United States is up 21.43 trillion dollars since 2019. About 6 trillion dollars greater than China, at 14.34 trillion dollars. According to the Bureau of Labor Statistics or BLS, productivity growth hovered between zero and 10% for the past decade. However, due to Covid-19, it has plummeted below zero since June 2020. From 2010 to 2015, the unemployment rate decreased from 10% to roughly 5% during the Obama Administration. It continued to decrease to roughly 2% under the Trump Administration until Covid-19 of May 2020. Despite the downfall of the DJI Index (Dow Jones Industrial) back in March 2020, the stock market continues to increase even during Covid-19. From early 2017 to early 2021, it increased 6%. During the Great Depression of 1929, the stock market crashed by 24.8%. However, by World War II, the stock market evidently did very well for the U.S. Unfortunately, wars are considered to be *good* for the economy. We are seeing a common trend throughout U.S. history as we've witnessed two stock market crashes in 2008 and 2020 in our lifetime. The U.S economy appears to be doing pretty well, all things considered. But how are its citizens?

Despite the pandemic, the U.S economy is gradually bouncing back from Covid-19 as more U.S. citizens are getting vaccinated. However, there are those who are struggling much worse during Covid and before it. The American family has been breaking down for more than a decade, but we are only seeing the staggering numbers now. According to Attorney Marilyn

York, roughly 17 million children are fatherless this past year alone. Divorce Rates at an all-year high at 52 percent. Also, despite Covid-19, the number one leading cause of death by external factors, is still suicides. Suicide rates continue to increase in the U.S alone; predominantly males rather than females. The highest demographic suicide rates among females are of the ages 45 to 64, and 75 & older for males. However, the total suicide rates committed are at the highest between the ages of 15 to 45 combined. Outside the family, we are also struggling as a society as we navigate through identity politics - we want diversity of identity, but not of thought. We are going to face another major threat as massive amounts of new technology will be more incorporated into our everyday lives. There are 311 new technological fields; all of which can mold into newer possibilities for technology to continually advance even further. And it is continually making leaps, taking science fiction into a new reality. How will our society adjust in the U.S? Will this economic system be enough to combat the different struggles we will face as a society? Are there new measurements or methods we can use to help humanity economically, socially, mentally, and environmentally?

In this paper, I am going to formulate a new design using new methods and metric measurements combating the resulting evidence of our current system and the threat of new technologies incorporated into our everyday lives. In chapter one, I am going to explain the metric measurements used in our current system, reveal the detrimental evidence it has on our society, and later explain the incentives best befitting for a human's well-being. In chapter two, I will be introducing new technologies that will ultimately shift our society to adapt more profoundly into the new era of highly advanced robotics, artificial intelligence, automation & software development. In chapter three, I will bring forth new methods and metric measurements suggested in past human history used currently in other countries as well as our own, and suggest

new technologies beneficial for the new system that was introduced in the previous chapter. In the final chapter, I will be providing a simulation of the new system, suggest a plan to smoothly transition into the new system, and bring forth new questions we would need to answer for future research.

## **CHAPTER ONE**

### **Economic Success, Growth & Measurement**

In our history of economic thought, economists have remedied the theory and practice on how governments should understand and use the term *growth* more effectively. How is *growth* defined in economics? Is it inclusive of humanity's well-being and its effects on the environment? If defined correctly, are we measuring *growth* for the betterment of humanity or simply for profit comparisons between nations. *Growth* in the broader sense of economics refers to the aggregate output of the nation as a whole, regardless of who are the winners and losers within that particular nation. According to the Father of Economics, Adam Smith, there are inequalities in the nature of employment that lead advantageously for some and leave others empty. In our predominantly capitalist society, we have two important aspects for the potential of uncontrollable growth: free will and freedom of choice. The choices we individually make are the free will of opportunity to make those choices, unknowing of the outcome and its effect on another person's choice; whether that choice would ultimately lead to *successful growth* or to their downfall. The unfortunate misunderstanding is the realization of that freedom of choice. Our society has been complacent to think the government has designed the system to achieve success - that if one were to follow the rest of the herd, they too can reach *successful growth*. What people often forget is their finalized free-will decision to make that finalized choice - either consciously or unconsciously. We all are then entitled to believe we will achieve successful

equality of outcome. However, equality of outcome for *growth* relies solely on the laws of the government to imply socialistic rules. This suggests that we have two types of growth: natural growth and forced growth - what some would refer to as capitalism and socialism. We are a mixed economy, but we are outwardly portrayed as a capitalist society. This is not to imply that capitalism is a failed system. I do suggest however, there are beneficial qualities with capitalism and socialism if strategically used to effectively prop humanity's well-being and its occupancy on this earth. The definition of economic *growth* is incomplete and requires greater detail. Capitalism invites the freedom of choice that allows us, individually, to make that final choice achieving our own personal success regardless of the outcome and how we define *success* personally to our own perspectives. Economic growth, in our society, is an incomplete definition of how well we are doing, as a whole, in this country. In other words, the Gross Domestic Product of our economy is an incomplete economic measurement that often misrepresents humanity's well-being to achieve a singular misguided rate of growth in comparison to other nations. And in doing so, we must adamantly redefine the definitions of our measurements more specifically for a more accurate representation of our economy, as a whole.

### **Gross Domestic Product**

Gross Domestic Product, or GDP, is a measure of monetary expenditures regarding the market value of all final goods and services produced in a specific time period - particularly quarterly and/or annually. It is widely considered the best economic measure of growth for a nation. William Petty had a general basic concept of GDP. However, it was chief architect, Simon Kuznets, who first developed the modern concept of GDP in 1934, after the Great Depression. The most commonly used formula for GDP is as follows, where the aggregate



output (Y) equals the summation of consumption expenditures (C), planned investments (I), government expenditures (G), and net exports (X) minus imports (M).

$$Y = C + I + G + (X - M)$$

**Figure 1**

This is considered the expenditure approach, one of three approaches for estimation of GDP. The other two are the Income Approach and the Production Approach. The income approach, or GDI, is the sum of the Compensation of Employees (COE), Gross Operating Surplus (GOS), Gross Mixed Income (GMI), and taxes subsidized on production and imports (Tpm - Spm). By definition, GDI equals GDP. The Production Approach, or Value Added Approach, calculates the value at every level of production - estimating the gross value of domestic output by estimating the intermediate cost value of materials, supplies & services, minus the intermediate consumption of those production values. This approach is currently used by the Organization for Economic Cooperation and Development (OECD). Despite the use of this measurement, Dr. Kuznets stated in his article, *Economic Growth and Income Inequality*, “the welfare of a nation can scarcely be inferred from a measure of national income. If we are to deal adequately with processes of economic growth, processes of long-term change in which the very technological, demographic, and social frameworks are also changing - and in ways that decidedly affect the operation of economic forces proper - it inevitable that we venture into fields beyond those recognized in recent decades as the province of economics proper” (Kuznets 31). The chief architect has carefully mentioned that GDP mustn't be confused with how well its citizens are doing, but only as a measure of national income alone. The reason being is GDP does not determine which individuals make money and which individuals don't; it only represents the total sum among all of them, regardless of who contributes more or less.

## Productivity Growth and Labor of Productivity

The measurement of Productivity Growth, or Labor Productivity, is a specific period in time in which the total output of a country's economy is divided by the total input of hours of labor in these three main factors: physical capital, new technology, and human capital.

$$\text{Labor Productivity Rate} = \frac{\text{Total Output of all finalized goods and services produced}}{\text{Total Input of hours in labor performed}}$$

Figure 1.2

Physical capital refers to the tools, equipment, and facilities used to perform the work in order to produce goods and services in the allotted time. New technology refers to the technology used to enhance work productivity effectively. Human capital refers to the skills provided by the worker's level of education and specialization that is best utilized in the workforce. Investopedia states we are not to confuse labor productivity with employee productivity. Therefore, the total input of hours of labor does not specify by whom of which is performing the task. It simply records the amount of time a task(s) is completed equating to the total input. For instance, if a manager wants a finalized product of goods and services to the consumer, he or she assigns someone or something to perform the task. Once the task is done, labor productivity records the amount of time it took to perform the task to reach a finalized product made ready to the public. Labor productivity records the hours of labor, it does not care who or what is performing the task. The Labor Productivity is another misinterpreted measurement. It would be important to make this measurement more accurate than it would presumably provide as precise. In chapter two, the new technologies of the future will decrease the number of employees required due to the productive efficiency of the new technology without human involvement. If left to do so, the Labor Productivity formula will indicate a continual increase, but it would not, yet, generate a

spike large enough to catch the attention of the economy. Technology has not yet passed that threshold.

### **Unemployment Measurement**

The Unemployment rate is another misinterpreted measurement. The definition of unemployment emerged from the Works Progress Administration and the Census Bureau by statisticians in the late 1930s. David Card repeated to say in his article, *Origins of the Unemployment Rate*, stating, “Under the definition, people who are not working but are actively searching for work are counted as unemployed” (Card 4). Particularly, a citizen would have to be actively searching for a job within the past 30 days to be considered as unemployed. In other words, if a citizen is not searching for a job at all, he or she would not be counted in the formula. The founder for Venture for America, Andrew Yang, states, “The problem is that the unemployment rate is defined as how many people in the labor force are looking for a job but cannot find one. It does not consider people who drop out of the workforce for any reason, including disability or simply giving up trying to find a job. If you get discouraged and stop looking for any reason, you are no longer considered ‘unemployed’” (Yang 78). However, he does state the alternative measures of unemployment, such as the U-6 unemployment rate as a more accurate reading. Unfortunately, the data revealed high levels of dislocation for young workers at roughly 15 percent; a scarier indicator for the public than the suitable U-3 unemployment rate measurement showing 4.7 percent. It looks less discouraging to the public masses. What also is discouraging, is the indication of employment. If a citizen is part-time, temporarily employed, or in an underpaid contract, it would still be considered employment regardless of the resulting pay the citizen receives. This unfulfilling obligation to ensure proper

living conditions based on the citizens marginal propensity to consume with these misleading measurements often reveal the inaccuracies of the citizens well-being.

### **Job Skills and Job Growth**

Job skills are defined as the competencies a citizen would possess in order to perform the task the job requires. Job growth, in the macroeconomic level, is a measurement utilized by the Bureau of Labor Statistics (BLS) to track the number of jobs created in a country on a monthly basis. There is a quota to create at least 100,000 jobs per month for economic expansion. This fundamental data is provided for investors to assist on meeting that quota. Investopedia states, *“A job growth figure between 100,000 and 150,000 new jobs per month is considered to be the minimum level of job growth needed to mitigate the effects of new entrants to the workforce.”* Job Growth, by their definition is another misleading term, because they equate job growth to well-being. This is widely not the same thing. Keep in mind that a job created looks amazing from an outside perspective. However, it does not equate to what type of job; whether it is part-time, full-time, temporary, or a contract. When it comes to searching for a job, most citizens want job security without compromising their happiness. For instance, 85 percent of graduates do not work in a job related to their field of study. Therefore, 62% go back to school later in life for the job that’s in high-demand. Citizens compromise with what they want, for what they need - which is job security. There are multiple factors in which a job does not bring citizens happiness, but the job growth measurement equates it with overall well-being. According to Gallup, only 30% of 340 million U.S citizens are engaged with their job. This would mean that 70% of U.S citizens are not engaged; and yet we equate jobs to well-being. Andrew Yang states, *“The relationship between humanity and work involves money, but in something of a negative correlation. The jobs and roles that are the most human and would naturally be most attractive*

*tend to pay nothing or close to nothing. Mother, father, artist, writer, musician, coach, teacher, storyteller, nurturer, counselor, dancer, poet, philosopher, journalist - these roles often are either unpaid or pay so little that it is difficult to survive or thrive in many environments. Many of these roles have high positive social impacts that are ignored by the market.*” (Yang 67). In another Gallup study, 4 in 10 Americans reported working more than 60 hours per week, which is actually the opposite of what John Maynard Keynes had predicted in his book, *The General Theory of Employment, Interest and Money*. A Historian at the University of Iowa said it best when he stated, *“Purpose, meaning, identity, fulfillment, creativity, autonomy - all these things that positive psychology has shown us to be necessary for well-being are absent in the average job.”* Jobs that give citizens meaning are worth working. Andrew Yang provides a partial list of things a human worker would require or entail:

- A level of degree of training.
- They typically want more over-time.
- They need rest.
- They require healthcare that they sometimes must pay for and they can be very specific about what type.
- They get sick.
- They want to feel good about what they’re doing
- They have bad days
- They can’t do the same task precisely the same way millions of times.
- They have families they want to spend time with at times.
- They are sometimes bad at their jobs and need to be fired. In which case they generally want severance pay
- They get bored.
- They have legal protections. Therefore, they can occasionally sue their employers.
- They can become demoralized and unproductive.

- They take 15-20 years of rearing to become productive and then they are unproductive and infirm for 10-15 years at the back ends of their lives; which they often would want employers to pay them for both the time at the end and the cost of raising their children.
- If something bad happens to one of them, the others notice.
- They occasionally harass each other or sleep with each other.
- They sleep.
- They are sometimes dishonest and even steal.
- They occasionally quit and look for other jobs.
- They see things and share misinformed information or hostile information between colleagues.
- They sometimes use drugs.
- They get injured and disabled.
- They are unreliable. They sometimes change their minds.
- They sometimes take breaks when they should be working.
- They sometimes organize and negotiate for various benefits beyond what they could get on their own.
- They sometimes have bad judgment and can act in ways that will tarnish the company's brand.
- They have social media accounts, which could amplify hostility inside and outside the workplace.
- They expect time off for holidays.
- They sometimes get divorced or have relationships end which can make them sad and unproductive.
- They sometimes talk to reporters.
- Companies cannot sell their employees to another firm, much like physical capital.
- They do not come with warranties.
- The company's software often does not upgrade easily for them to make that transition.

All of these requirements an employer is responsible for in order to run a company smoothly. No job is secured enough to have millennials settle down and start their own families and buy their first homes. Baby Boomers quickly found jobs that pay well after they graduate during their time. Most millennials are coming from divorced parents, carrying a load of student debt, with a piece of paper that says, *Bachelors*. Creating jobs to register as positive in the job growth measurement does not help its citizens. Once the job is created then the next series of questions a citizen would ask are some examples: What is the job? Do I have the skills to perform that job? Does the job pay well? Does it come with benefits? Will I like this job?, etc. Therefore, the job growth measurement is, in fact, misleading. If the jobs created continually discourages citizens from applying that does not fulfill most, if not all they require, they will cease to appear under the unemployment measurement. If they do find a job that moderately answers most of those questions, then the danger would be to satisfy all those bullet points listed above - which leads to another Gallup study of disengaged workers. Most employers do not give potential applicants the opportunity to work in their company because they lack the skills and the experience. And applicants are not given the opportunity to build their skills and generate experience within any company. Most employers should look for applicants who are adequately trained, but also look for applicants who can perform the task better than those with experience. The problem with experience is that it is an ageist approach. A person with 20 years of experience could be performing the last 10 years with minimal effort, but another worker's performance level consistently supersedes the person with experience with very little experience to begin with, in the first 5 years. Many factors tied to the job growth rate measurement often leave out the most important aspects for a human to achieve *successful growth*. We need to dig deeper into how we define what work really means to us.

## Real Wages

Real Wages, on the other hand, are considered wages compensated to the employee that are adjusted from the effects of inflation or rising prices. This determines the purchasing power that a citizen has and the amount of goods and/or services he or she can individually purchase given the current market conditions. Nominal Wages, however, are the payments completed to its workers and do not take into account inflation and any market condition. Keep in mind, money wages is the payment for the labor performed in a company. Therefore, nominal wages and money wages would be an inaccurate measurement to utilize if one would refer to every individual completely compensated for their work without any hidden deductions from their paycheck. For instance, if one were to deduct their total bills cost from their paychecks they would not deduct it from their gross income, because it does not include after-tax dollars. He or she would want to deduct the cost from their total net income for a more accurate reading. John Maynard Keynes had stated that real wages and money wage rates move in the opposite direction. Dr. John Pencavel would agree, as he states from his article, *Keynesian Controversies on Wages*, saying, “*When money-wages are rising, it will be found that real wages are falling. In fact, a movement by employers to revise money-wage bargains downward will be much more strongly resisted than a gradual and automatic lowering of real wages as a result of rising prices*’. In other words, in a contraction, because workers will resist wage cuts, money wages will adjust more slowly than prices are adjusting; therefore, they are falling less rapidly than prices are falling and hence real wages are rising.”(Pencavel 295). He goes on to say that the relationship between money wages and real wages are not reliable because real wages move procyclically and contracyclically to even be constituted as an essential macroeconomic model. He states, “*It is a fragile association that is not invariant to modest changes in the definition and*



*measurement of variables and in equation specification.*” (Pencavel 307). The U.S Bureau of Labor Statistics, showed a gap between productivity and hourly compensation. The gap has continued to increase since 1966. It is important we look to new strategies to close the gap.

### **Failure in the Markets**

The Markets, in general, is a place where two parties can gather together to facilitate the exchange of goods and services. There are many types of markets, but I will mostly focus on the financial side of markets, particularly with large banks and the stock market. Adam Smith coined the term of the *Invisible Hand*, where he describes unforeseen forces that move the *free* market economy into the hands of the few. In the book, *How Markets Fail: The Logic of Economic Calamities*, John Cassidy states, *“The point is clear enough - public goods and decreasing cost phenomena cause private market decisions to go wrong. Market prices will fail to approximate true scarcity values in terms of wants; they will be loaded with misinformation, and producers’ profit calculations will leave out of account much of the private benefit associated with public goods. The ‘invisible hand’ will fumble: people’s decentralized market choices will not efficiently cater to their tastes”* (Cassidy 350). This explains how large banks like Citigroup and Goldman Sachs could borrow from the Federal Reserve holding short-term interest rates at zero and issue short-term commercial paper to investors, then lend it back to the Treasury for 3 to 5 percent. Frederich Hayek suggests we look at the price system to see how to communicate information if we want to understand how financial markets work. In other words, follow the money. Cassidy stated, *“In economic terms, the most serious problem with the rescue programs was not that they further enriched the loathed bankers but that they exacerbated some serious incentive problems at the heart of the financial system. By extending trillions of dollars in loans, capital injections, and debt guarantees to troubled firms, the U.S Government and its counterparts overseas had*

*greatly extended the public safety net for banks and other financial entities” (Cassidy 352).*

Adam Smith suggested in his book, *The Wealth of Nations*, to have preventative measures to ensure banks are not to issue notes to speculative lenders; particularly laws from all governments as it would endanger the national security of all societies across the world. Unfortunately, it is the coordination of trade between big commercial banks and lack of government intervention that keeps markets from truly being free for the public. In February 2021, we witnessed a glimpse of corruption when daily traders in reddit coordinated to buy a lot of gamestop stock, against the bet proposed by greedy financial firms, that the gamestop stock will short. When it didn't fall their way, gamestop stock continued to rise over 200% in three days until Robinhood prevented the rest of the public from purchasing any gamestop stock. It is delusional to think that the market is truly free.

### **Failure in Parenting & the Education System**

The two most important groups in a child's life are the parents and the teachers. They are the foundation of a child's ability to achieve success. However, it is important for a child to be supervised by consistently *great* parents and *great* teachers. Sir Ken Robinson stated our schools are killing creativity and we have adamantly made them obedient to the system and not to their well-being. It is very crucial for teachers and parents to become exceptional at their jobs. A child with a single *great*-parent that makes a consistent effort to improve their child's abilities and characteristics has a better chance to succeed in life than a child with two neglectful parents. The same can be said about teachers. If a teacher needs to satisfy the requirements of the education system rather than identifying and improving the child's talents to achieve success in their own future respective fields, that child will consistently believe he or she is stupid; and the teacher will either protect his or her job, satisfying the status quo of the education system, or left

exhausted in a tug-of-war between satisfying the child's needs and the needs of the education system; causing them to become moderately bad teachers. However, it is ultimately the parents responsibility to discipline their children well enough to cope with the hurdles of life effectively, but it's not entirely the parents fault nor is the teachers. The economic system is designed for parents to be less of a parent and more of a worker outside of parenting. For instance, parents who work longer hours or work two jobs, have less time parenting their children. The system is designed for most parents to work long hours to pay for things they need and want; only to have less ample opportunities to spend time with their kids. If a child is in many ways left neglected, unsupervised, unsupported or undisciplined, they are more likely to make consistent mistakes without correction. A child often feels less motivated, disengaged, disconnected, unloved or non-existent because of the demands a parent must meet for their employer, their government, their own personal needs, their friends, and other relatives outside their immediate family.

Economically speaking, GDP decreases when a parent leaves his or her employer to attend to their sick child, rather than staying at work satisfying the needs of the company's client. If the parent decides to stay at work, possible profits increase, therefore overall GDP would ultimately increase. However, if the child is continually left neglected or if the parent is consistently absent in a child's life, that child could likely commit crimes or make bad decisions by the time he or she turns 18. In other words, the result of a crime would require taxpayers dollars or payments to fix damages. But this is reflected in GDP as a profit. If the teen participates in a riot, damaging local businesses. The store owner would then spend money on materials, or pay someone to fix the damages. This is recorded in GDP as a good thing. If a child litters the public streets, a person with a job that handles this situation is recorded in GDP as a

good thing. If we are trying to invest in humanity then profits should be allocated to what humans find most valuable.

### **U.S Citizens Well-Being and the Environment in this Current System**

If the overall GDP signifies that we are doing well, then so should the citizens, correct? Unfortunately, that is not the case. The nuclear family has been destroyed along with the environment. Divorce rates are at an average 50% for the past three years. Children are being raised in single-parent homes at a 76% higher rate than the 1960s. Roughly 17 million children are fatherless this past year and continue to increase. One of the top ten leading causes of death are suicides. There has also been a large increase in drug overdose by an increase of 4% each year. In 2019, the Center for Disease Control and Prevention (CDC) had 70,000 drug overdose deaths in the United States; 73% of which were opioid users. Both suicides and drug users continue to increase at alarming rates. Obama stated a child is 15 times more likely to get addicted to drugs, commit a crime and go to jail, from a single-parent household. Our education system does not help as well. Sir Ken Robinson stated numerous times in his lectures regarding the lack of creativity and critical thinking. We've placed children in a path where the test scores matter and the obedience to the employer matters. It's an assembly line of failed expectations. Roughly 86% of students who graduate from college never used their degree in the real world. About 47% of those college graduates head back to school to either switch careers or advance their degrees in a different area of expertise. As Andrew Yang has mentioned, we are selling college at record prices and it hasn't gotten any better at all. Students will graduate with not having to use their degree at all, and they will only obtain large amounts of college debt to show for it. Simon Sinek stated too many children face the threat of failed parenting strategies, technology, impatience and environment. To put it into perspective a child is born in an age where their parents are divorced and don't work well with each other; so a child sees both

perspectives every time the child moves between the mother's home and the father's home. There is no solid foundation.

Take into the perspective of the parent-child-teacher trilemma where the teacher must meet the quota of educating their students in preparation for the exams, but also disciplining their students because of the absent parenting in the home. Parents are working more hours for their job, providing them with very little time to spend time with their children. Most children feel neglected and unloved. Now take into the account of technology. The social media platforms have left the children zoned into technology with very little effort required from them; and instead, provides them instant gratification. Children have built poor habits to be impatience, and superficially happy but inwardly depressed. There has also been an increase in the drop-out rate, in high school, at 10% and a 7% in college. We are also seeing a decrease in the birth rates. More and more citizens are not settling down and having kids. Some claim it is because of massive college debt and inability to find a well-paying job to move out of the parents house and start their own lives. Population flow will be a problem in the near future if birth rates continue to stay low as 0.09% as of 2021.

Now throw in identity politics and political agendas to divide the masses into chaotic tribalism and you're left with corrupt politicians, and misinformed and misguided citizens. People want diversity in the workplace, but no diversity of thought. The freedom to express a different opinion, even if the other side doesn't fully agree. Now we have *Woke* culture and *Cancel* culture taking over media platforms and enforcing *Critical Race Theory* in children's classrooms. Keep in mind, a student who is not fully prepared for college would have to pay more in college. This is good business for college universities. If rioting occurs and businesses are destroyed in the process, then business owners would have to pay to fix the damages. This is recorded in GDP as a good thing. If an unorganized protest occurs or a highway crash occurs, this will cause traffic, but traffic is considered a good thing in GDP. The approval rating for the

U.S Government is only 15% since 2012. Many citizens do not trust the U.S Government. What people value the most and enjoy doing the most, is not counted in the market as a good thing. It is important we acknowledge this current system and improve on it. If we do not, an accumulation of problems will continue to rise as technology continues to advance into a major player for the future of humanity.

## **CHAPTER TWO**

### **Threat Against Humanity**

With all the problems going on in the United States and across the world, another threat is already on the horizon and in our waters; and that is technology. Technology continues to advance more rapidly in all areas and all perspectives of work, life, and mobility. The industrial age was a magnificent example of technological advances at multiple areas of humanity's resilience to adaptively change. It required 10x the change to adapt quickly and swiftly. But what about 100x or 1000x. Due to Moore's law, computational power continues to increase at rapid rates every 18 months. In 2018, we have 311 new branches of technology already created and changing the minds from what we once believed was science-fiction to now a reality. Elon Musk stated, it is a new frontier of technology where people in the past would have believed this to be magic. The technology is here, and it is now continuing to advance and create an entirely new cultural shift on how humanity operates in this new ecosystem. According to Dr. Shoshana Zuboff's book, *The Age of Surveillance Capitalism: The Fight For A Human Future at the New Frontier of Power*, she states, "*In our time Google became the pioneer, discoverer, elaborator, experiment, lead practitioner, role mode, and diffusion hub of surveillance capitalism*" (Zuboff 63). Surveillance capitalism, by definition, is a new economic order that claims human experience as free raw material for hidden commercial practices of extraction, prediction, and sales; a parasitic economic logic in which the production of goods and services is subordinated to

a new global architecture of behavioral modification; a rogue mutation of capitalism marked by concentrations of wealth, knowledge, and power unprecedented in human history; a movement that aims to impose a new collective order based on total certainty; an expropriation of critical human rights that is best understood as a coup from above: an overthrow of the people's sovereignty.

### **Future of Technology**

There are four stages in the advancement of technology. Stage I begins with the close monitoring of a newly invented product; where the device is not probably tested to its full potential and the safety of the product is absolutely secured. The technology must be as common as the elevator. The elevator works consistently despite numerous occasions where the machine did not operate correctly. Yet, many people still trust the technology. There are four technological inventions we take for granted today; the paper, running water, electricity and computers. At stage II, the newly invented product begins ascending to large quantity prints and becomes an everyday commodity. At Stage III, the cost of the new technology becomes cheaper to obtain, but the demand for it stays consistently relative; to the point of a necessity. By Stage IV, it becomes more of a fashion statement, as the design of the technology becomes more attractive to stay relevant and also contain minor upgrades. We are currently seeing this on Elon Musk's technology, more particularly, the Tesla. It started in stage I, in which he and his team designed the prototype to attract high-income investors. He is currently at Stage II moving onto stage III, where more EV vehicles are becoming relatively cheaper to obtain and still keep the bare bones of the item in order; which is autopilot and electric powered. However, Elon Musk made his patents public. By doing so, he allowed anyone and everyone access to the source of his creations. This allowed other potential investors to compete against Tesla, but in the grand

scheme of things; it also allowed more people to move towards electric vehicles rather than traditional gasoline. Dr. Michio Kaku stated, *“Science and technology are the engines of prosperity. If you do not master the latest in science and technology, your competitors will”* (Kaku 347). We are at the stage of a fourth wave of innovation, and the future of technology has become apparently foreseen by innovators, tech-minds and futurists. If the speed of technological advancement continues with every stride in the past 10 years, it will continue to do so for the next 10 years at record exponential speeds. Dr. Michio Kaku stated that the future of technology will bring disruption indicative of winners and losers when it comes to jobs, the future of entertainment, and the switch from commodity capitalism to intellectual capitalism. The future of humanity will be affected abruptly because of the pace and the avenues of various technological advancements.

### **Artificial Intelligence**

Artificial Intelligence is the brain of machine learning and data mining technology. The ability to absorb information and correctly make decisions based on numerous sensory capabilities is extraordinary. Dr. Kai-Fu Lee stated, *“Artificial Intelligence is the elucidation of the human learning process, the quantification of the human thinking process, the explication of human behavior, and the understanding of what makes intelligence possible. It is men’s final step to understand themselves”* (Lee 7). Similar to Thomas Edison’s expansion of electricity, Deep-learning pioneer Andrew Ng stated Artificial Intelligence can be harnessed into different avenues of technology such as diagnosing a disease or issuing an insurance policy. The implementation of this technology will be widespread. Discovery of new social constructs for humanity has been left to a few elite thinkers of the 20th century, but we are now seeing the possibilities of this technology to continually progress newer opportunities we dare not wish to



even consider. In the Age of Data, particularly Big Data and a combination with quantum computing, artificial intelligence can now make complex algorithms to quickly make corrective adjustments on discovery and implementation of the human thought process. It can absorb and identify human mannerisms and speech recognition patterns. He states, *“In deep learning, there’s not data like more data. The more examples of a given phenomenon a network is exposed to, the more accurately it can pick out patterns and identify things in the real world.”* (Lee 14).

Americans have always strive towards the progression of discovery, especially technology. However, China has abruptly taken these ideas and continually made copycats of new technologies in their country. Unlike America, it is of no consequence to them to experiment with new technology and progress them further regardless of the ramifications of human descension. America can use Artificial Intelligence the right way to ensure any and such apocalyptic struggles we face as a nation will not be the implementation from A.I. to humanity, but how humanity can co-exist despite differences and use this technology to assist humanity rather than destroy it. Our system was not designed to measure the well-being of its citizens but rather their labor to produce quantities of products for the marketplace.

### **Automation**

Automation of artificial intelligence is just one aspect of avenues technology can cover. We will be constantly surrounded by artificial intelligence in our workplace and now our homes. We’ve already seen glimpses of it when we surf the internet, go shopping, or communicate with friends and family. Automation is defined as the implementation of technology to reduce the need for manual labor. We can identify the cost-savings of the products produced when technology is included. In the Cobb-Douglas Production Function, where A stands for Technology or total factor production, is the assistant with which technology provides an

increase of performance for the human capital of labour to produce a total quantity of products.

But what if we no longer need humans to do the most common jobs that we find meaningless and detrimental to our mindsets; the repetitive machine-like work we don't find fulfilling such as working at a McDonalds, or working a cashier position, or organizing products on the retail sales floor or working at a warehouse. These types of jobs drain the life out of us each day we work long hours just to sustain basic necessities and still have money left over to spend time with family and friends. In a book, *Intelligent Automation: Welcome to the World of Hyperautomation*, Pascal Bornet explained, "*Besides the nature of the current wave of automation is different from the previous industrial revolutions Whenever a technological disruption happened in the past, people were able to reinvent themselves thanks to their intelligence. This time, it is intelligence itself that is automated by machines*" (Bornet 262).

Every technological innovation has destroyed jobs, but created new ones. Eventually, however, as technology continues to automate most of the common jobs, we are left to discover new jobs we would never have dreamt we could possibly conceive. In his book, Bornet stated intelligent automation is Hyper-automation. He stated, "*The goal of using IA is to achieve a business outcome, through a redesigned automated process, with no or minimal human intervention. As a result, IA increases process speed, reduces costs, enhances compliance and increases process resilience, and optimizes decision outcomes*" (Bornet 39). Intelligent Automation will continue to revolutionize the business industry. In all avenues of technology automation will disrupt jobs and bring forth new ideas on what we perceive as work. It continues to remain recent, universal, scalable, available 24/7, reliable, economically attractive and accessible. It generates revenue streams more consistently than human capabilities. Human beings will remain relevant, but not in this field.

## Robotics

Robotics is another type of technology that will disrupt the way we live. Robotics is defined as the interdisciplinary field that combines computer science and engineering. We already see highly advanced prosthetic devices used by humans, but what about worker robots? In California, there is a pizza place where 1 or 2 employees are assisted by a machine that creates and monitors pizza to a science. The worker is only communicating with the customers and taking the finalized product to the buyer directly. In doing so, the technology has allowed stores to operate efficiently with the necessary need for a human. Productivity remains the same, if not better than the average human worker. Robotics reduces the need for manual labour at massive numbers. If there were 40 employees at a store, we now only need 3 for each shift. It is that simple. Robotics technology is on Stage II of production. It steered the manufacturing industry out of business for employees. Productivity of human labour becomes non-existent as we continually see inequality and stagnant wages become relatively disproportionate to the numerous amounts of employees willing to work, but unwilling to settle for lower wages and poor healthcare assistance. Robotics removes the need for workers entirely. In the book, *Rise of the Robots: Technology and the threat of a jobless future*, Martin Ford stated, “*Boston-based Rethink Robotics has taken a different track with Baxter, a light weight humanoid manufacturing robot that can easily be trained to perform a variety of repetitive tasks. Baxter, which costs significantly less than a year’s wages for a typical US manufacturing worker, is essentially a scaled-down industrial robot that is designed to operate safely in close proximity to people.*” (Ford 5). If robotics technology can eliminate the need to pay a worker wages, while ensuring the safety of the workers and the compensation and difficulty of the worker to cooperate in the

workplace, it is with absolute certainty that workers will eventually cease to exist in most areas of repetitive tasks. Robotics stripes the need for humans once again.

## **Software Development**

Another type of technology is one we are accustomed to. According to IBM Research: Software Development refers to a set of computer science activities dedicated to the process of creating, designing, deploying and supporting software; in which software is the set of instructions or programs that tell a computer what to do. Every company has specifically designed their software for their own means of productivity. There are four basic types: Application Software, programming, systems, and embedded software. Typically, we understand these softwares by the people who create them: software developers, programmers and engineers. The disruption this will cause on a grander scale will also be at a massive loss to the people who work in both white-collar and blue-collar jobs. Silicon Valley are aware of this; and they are preparing for mass riots and major job displacements throughout the country. Former President Ronald Reagan stated, *“Its effects are peaceful, but they will fundamentally alter our world, shatter old assumptions, and reshape our lives.”* Application software programmers, software developers and software engineers, have all generated enormous amounts of wealth, providing any and all coders to contribute their knowledge into new designs; whether it is the gaming world, financial services, or cryptography. New applications such as Node.js, Bootstrap, or GitHub, will continually be developed or new technologies will take its place. Alongside Artificial Intelligence and Machine Learning, the coding capabilities of the average software developer will be obsolete compared to an Intelligent A.I. Despite that becoming a reality in the near future, software development is indeed meant for people with complex skills to perform such difficult programming.

## **Benefits of Technology to Improve Human Well-being**

Despite the numerous job disruptions these technologies can create, there are ways in which these technologies can benefit our well-being. These technologies can fulfill what John Maynard Keynes had theorized. He believed as humans progress the advancement of technology, so does our necessity to work long hours; our work hours will decrease exponentially in the near future. However, we do need to make appropriate actions to smoothly transition into this new frontier. Dr. Don Tapscott and Alex Tapscott stated we need a guarantee trust protocol. They believed in this new technology called Blockchain. They stated, *“Blockchain can help us solve the prosperity paradox. Rather than the usual solution - the redistribution of wealth through taxation - we explained how blockchain could help us pre-distribute wealth by including billions of people in the global economy”* (Tapscott 1). Blockchain can help reinvent government, protect the free press, and restore trust in our government and appointed government officials. Despite the capabilities of cryptocurrencies, large banks and governments across the world are experimenting with blockchain technology as distributed ledgers to increase speed, lower down cost, ensure security of their companies and their clients, and leaving little room for errors. Blockchain is publicly accessible for anyone to view and it is also extremely encrypted for high quality digital security. Tapscott states, *“So the blockchain is a distributed ledger representing a network consensus of every transaction that has ever occurred... all transactions conducted are verified, cleared, and stored in a block which is linked to the preceding block, thereby creating a chain.”* (Tapscott 7). Transactions don't have to be about money, but rather smart contracts and an understanding of the truth between all who venture for it and represent honest truth. This technology can reinvent financial services, reconstruct the firms, create new business models with better trust and have high quality efficiency, solve the prosperity paradox, and create the

“Ledger of Things” in the “Internet of All Things”, and rebuild government structures and build a better democracy. It is a blockchain Ecosystem.

This type of technology, among other things, can allow humans to spend time on things they find most valuable to them. No amount of money ever bought a second of time. And it is important that we spend enough time on things we love to do, rather than work for the marketplace. Automation allows speed and efficiency to increase time productivity. Given the right incentives, it would free up more time for humans to work on valuable relationships rather than have employers enforce more work because of the technology advantage. Technology can take over jobs we do not wish to do, but rather provides us the opportunity to do jobs we love to do and get paid for it. For instance, if money was no longer an issue, the things we wish to do, require no money at all. Andrew Yang states, *“At present, the market systematically tends to undervalue many things, activities, and people, many of which are core to the human experience”* (Yang 198). Here is a list of those undervalued considerations:

- Parenting or caring for loved ones
- Teaching or nurturing children (low-pay)
- Arts and Creativity
- Serving the poor
- Working in struggling regions or environments
- The environment
- Reading
- Preventative care
- Character
- Infrastructure and public transportation
- Journalism
- Women
- People of Color/Underrepresented minorities
- Unskilled labor

- Meaningful community connections
- Small independent businesses
- Effective Government

Andrew Yang believed we can steer the conversation towards human capitalism; in which we change the incentives for technology to assist human beings and what they value the most. Time is our enemy. It is important to make use of that time wisely. And technology allows for us to do so. If the incentives do not change to where humans are not the center of why the markets and businesses do what they do, then we will see an uproar between the rich and poor alongside the culmination of identity politics and critical race theory. Job displacement, especially in the lower class, will lead us into mass scale disruption. Technology can either accelerate chaotic destruction of our current system or embrace new incentives that best benefits humans.

### **CHAPTER THREE**

#### **New Incentives to Incorporate in Metric Measurements**

The United States must implement new incentives for the system to work for the people rather than the marketplace. The marketplace is designed to make profits and tackle uncertainty at the expense of human labour to pursue those profits. This resulted in stagnant wages and income inequality. Here are 22 incentives to improve well-being:

- Median Income and Standard of Living
- Levels of engagement with work
- Health-Adjusted Life Expectancy
- Childhood success rates
- Surveys of National Well-being
- Average physical fitness and mental health
- Quality of Infrastructure
- Proportion of elderly in quality care
- Human capital development and access to education
- Marriage rates and level of success
- Deaths of despair/despair index/substance abuse

- National optimism/mindset of abundance
- Community integrity and social capital
- Environmental quality
- Global temperature variance and sea levels
- Reacclimation of incarcerated individuals and rates of criminality
- Artistic and cultural vibrancy
- Design and aesthetics
- Information integrity/journalism
- Dynamism and mobility
- Social and economic equity
- Public safety
- Civic engagement
- Cybersecurity
- Economic competitiveness and growth
- Responsiveness and evolution of government
- Efficient use of resources

All 22 incentives focus on the well-being of humans. They are also unaccounted for as key economic indicators of GDP. It is more costly and time consuming to focus on these incentives due to their inability to generate profits. GDP goes up after riots or hurricanes. These new incentives would allow businesses to incorporate these measurements into their business models, simply because they can now profit from these incentives, in both long-term and short-term investments. For example, if parent needs time to attend to their child rather than meet in the office for a follow-up meeting, then incentives for the business as a tax-credit or a reduced tax deduction, then the child's investment due to the time spent with the parent increases the child's ability to succeed in life due to character development; that child is less likely to fall into the trap of crimes or drugs. In doing so, the child becomes a great investment towards GDP and is a civil citizen in society. It is important to denote that these incentives are already scalable. However, they are not included in GDP.



## **Ideas & Methods Promoted in Other Countries**

There are a few countries that have these incentives under the Gross National Happiness Index (GNH Index). Across the world, these incentives have been applied to their GDP to ensure the well-being of their citizens are addressed accordingly. Due to this fact, their citizens are highly educated, incredibly happy, and their country commits the fewest crimes than anyone in the world. These countries consist of Norway, Finland, Sweden, and Denmark. The Gross National Happiness (GNH) is to measure the economy's well-being based on four pillars: good governance, sustainable development, preservation and promotion of culture and environmental conservation; all of which consists of the 22 incentives I've mentioned earlier. This idea was first mentioned in the 1970s of Bhutan called the Center for Bhutan Studies and Gross National Happiness (CBSGNH). However, the differences between this nation and our own is extremely different.

We look to the Nordic countries because they are more highly developed and they have the same outlook approach as our own. In Finland, if a Finnish citizen has a business idea he or she would like to pursue, that person can be excused to work from the current job and pursue it. If the idea doesn't seem to workout, the job will be available for them to continue. Another example, is if the mother and father recently had a baby, they are both required to be excused from their job, and will be provided full pay until after 1 year, if they need more time, they can continue at 75% of the income. In their education styles, they do not have a band system in which a student is obligated to stay at a certain grade level in academics because of their age group. There are no grade levels. The purpose was to allow students to excel at what they do well academically, and appropriate them to the necessary levels in which they require more assistance regardless of age or status appropriation. Finnish citizens also do not provide tests for their kids,

and they still lead on to pursuing higher education afterwards and work in industries that require high complex skills. These Nordic countries have consistently remained at the top in education and their happiness-well-being index. We can use this index to identify the real problems in our country.

Another index we can use is called the Sustainable Economy Development Assessment or SEDA. This system uses the four pillars similar to the Bhutan GNH Index, however they also have alterations of the Gross National Happiness Index. Their system includes the GINI-Coefficient measurement. The Gini-coefficient measurement is to identify income inequality using the Lorenz Curve. In the figure below, we can see the straight line of perfect equilibrium and full-employment denoted in red. However, in reality the Lorenz curve is the blue line from zero curving underneath the perfect line of equilibrium. We identify the status of this curve by using the Gini-coefficient. In order to obtain it, we must subtract the area A from the total area of A and B to find the resulting status of income equality.

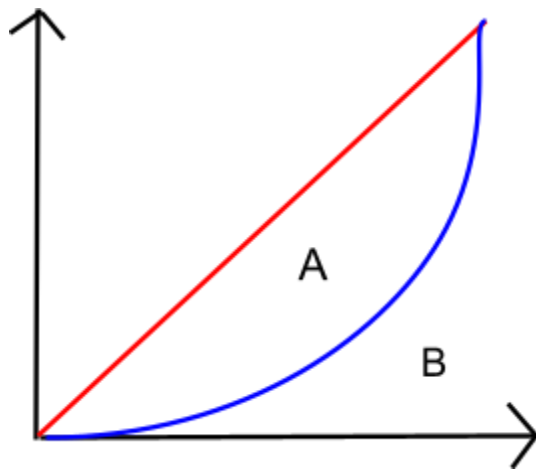


Figure 2.1

This is an accurate understanding of our economy, in terms of income. This would be a necessary indicator into how well our economy is doing financially. GDP per capita uses a similar indicator to measure income inequality based on the average of every income produced citizen in the country. We would need more measurements, if we are going to include it into the

GNH or SEDA Index. Despite the differences in our economies, we can use these measurements as key economic indicators on top of GDP.

### **Ideas & Methods Promoted in Past Human History**

If we can apply these new incentives into the GNH or SEDA index, we can then pursue methods that will help transition our economy into the new autonomous age of technology. And we can do that, by applying Universal Basic Income or UBI. This idea was coined similar to Thomas Paine, Martin Luther King and Milton Friedman. Milton Friedman used negative income tax to redistribute income necessary to the bottom lower class; assisting their basic needs and living conditions. This is quite similar to the fiscal policy of taxation used in Finland today. Martin Luther King suggested a guaranteed income for all. All of these expressed the need to protect those who cannot protect themselves to then move up the ladder of income equality. Martin Ford stated, *“The most important factor in designing a workable guaranteed income scheme is getting the incentives right. The objective should be to provide a universal safety net as well as a supplement to low incomes - but without creating a disincentive to work and to be as productive as possible”* (Ford 261). We’ve already seen how it doesn’t work during the Biden Administration; where he printed 6 trillion dollars to supposedly boost the economy, causing many citizens who live below the poverty line to generate income to spend, but also disincentivized them not to work. This is similar to how welfare is used in America. In the book, *Four Futures*, Peter Frase explained, *“work encompasses three things: the means by which the economy produces goods and services, the means by which people earn income, and an activity that lends meaning or purpose to many people’s lives. If a guaranteed basic income can be used correctly, it can still benefit the new incentives we wish to pursue. Andrew Yang provides a list of those benefits:*

- It would be a massive stimulus to lower-cost areas.
- It would empower people to avoid making terrible decisions based on financial scarcity and month-to-month needs.
- It would be a phenomenal boom to creativity and entrepreneurship.
- It would enable people to more effectively transition from shrinking industries and environments to new ones.
- It would reduce stress, improve health, decrease crime, and strengthen relationships.
- It would support parents and caretakers for the work that they do, particularly mothers.
- It would give all citizens an honest stake in society and a sense of the future.
- It would restore a sense of optimism and faith in communities around the country.
- It would stimulate and maintain the consumer economy through the automation wave.
- It would maintain order and preserve our way of life through the greatest economic and social transition in history.
- It would make our society more equitable, fair, and just.

The guaranteed income approach was tested in Iran back in 2011. They provided approximately \$16,000 dollars per year. Yang stated, *“Economists measured labor rates and found no reduction in the hours worked - if anything they found people in the service industry expanded their businesses.”* (Yang 180). It is also currently being tested in Stockton, California and Oakland, California. In Europe, back in 1986, established a Basic Income European Network or BIEN, in which countries all around Europe met in Antwerp to discuss basic income as a human right. Fast Forward to 2017, 34 affiliated countries encouraged the BIEN to be a global network of basic income to be a human right - reinventing the title to be Basic Income Earth Network. Guy Standing, author of *Basic Income: And How We Can Make It Happen*, stated, *“a group of enthusiast from across Europe, decided to launch a European Union ‘people’s initiative, the campaign succeeded in mobilizing thousands of activists in 27 European Union countries, resulting among other things in the establishment of new national basic income networks.”* These new platforms have sparked major interest in the discussion of universal basic income.

Countries across the world are beginning to build up new incentives and continually having discussions of UBI and how it should be implemented. We are at the trial stage of safely introducing a transition period in which new incentives, new technologies and new methods of taxation and generated basic income can safely navigate us in the new age of the fourth industrial revolution.

### **Technology Promoting New Incentives For Better Human Development**

Using the new measurements, containing the 22 new incentives, we can then see how technology assists our goals into achieving better results of these new key economic indicators. We can continue with Blockchain technology. Blockchain technology can mainly be used to build trust between peers and institutions. It can correctly distribute trust for which all can see in the public eye. *“Trust in business is the expectation that the other party will behave according to the four principles: honesty, consideration, accountability, and transparency”*, as explained by Alex Tapscott (Tapscott 10). He continues to state, *“The new platform enables a reconciliation of digital records regarding just about everything in real time, soon billions of smart things in the physical world will be doing everything from protecting our environment to managing our health. This Internet of Everything needs a Ledger of Everything”* (Tapscott 7). Blockchain is easily accessible, easy to manage, but difficult to de-encrypt the code. A hacker attacking a particular block, would need to attack all the preceding blocks before it. Implementing a block with the intention to deceive can also be negated, because the block created must be accepted by all participants in order to prove its validity and defined truth. In other words, if a transaction is to be made between two parties with an agreed upon amount, providing the agreed upon smart contract, neither party can alter its contracts once it's in the blockchain and the public third party verifies its validity before being added to the blockchain. Once it's only the blockchain, no

outside combatant or either involved parties can alter the block without disrupting the blockchain itself. However, many would argue that hackers can use Artificial intelligence to disrupt the blockchain technology. I dare to disagree.

Artificial Intelligence and Machine Learning are capable of disrupting how we perceive this world to be, given the wrong incentives. But if we reconstruct our system alongside new incentives, we can then reboot AI or begin implementing AI to our advantage as humans. Artificial Intelligence uses planning, reasoning, search and knowledge presentation; within AI, it acknowledges machine learning capabilities of probabilistic learning, decision trees, deep learning and genetic algorithms. Gary Marcus, and Ernest Davis, author of the book, *Rebooting AI: Building Artificial Intelligence We Can Trust*, states, *“Trustworthy AI has to start with good engineering practices, mandated by laws, and industry standards. Too much of AI thus far has consisted of short-term solutions, without a critical layer of engineering guarantees that are often taken for granted for in other fields”* (Marcus 180). Their concern was the construction of AI to fill in the void of Human Intelligence. The difficulty of replicating numerous tasks and adjusting according to natural events, as all evidence of occurrence almost always is never the same exact scenario. It would be counterproductive if software engineers do not comprehend the importance of constantly improving AI with backup systems in case the system ceases to function properly and cause massive shutdown to everything and anything we surround ourselves with as humans. He goes on to explain that, *“Part of the reason we trust other people as much as we do is because we by and large think they will reach the same conclusion as we will, given the same evidence. If we want to trust our machines, we need to expect the same from them.”* (Marcus 192). If we implement these new incentives then software engineers can hold responsibility for specified ethical values imbued into the system of Artificial Intelligence.

Common sense knowledge is crucially important. However, common sense isn't always commonly practiced among humans as well.

If technology can increase probability of success exponentially, then it can decrease uncertainty probability of failure. AlphaGo, IBM Watson, Google's Deepmind, and Libratus, are among all machine learning artificial intelligence. Given the magnitude of their success probability, opens doors to new possibilities of removing humans out of situations which have proven to be their own demise, if not carefully monitoring others and themselves. Human beings are capable of being agitated creatures by the slightest inclination of self-doubt and counter-intuitive thinking. Data is now more valuable than oil, and we are seeing Big Data at an age in which it can revolutionize numerous industries and how we do business. It will reinvent capitalism and competitors look to outsmart each other in a game of probability and behavioral decision making approaches. After careful research on Libratus, the poker machine player, Dr. Viktor Mayer-Schonberger stated the following, *“Three technologies are crucial to this reconfiguration of markets. They allow us to use a standard language when comparing our preferences, better match preferences along multiple dimensions so that we can select the optimal transaction partners, and devise an effective way to comprehensively capture our preferences. All three technologies have in common that they facilitate the translation of rich data into effective transaction decisions”* (Mayer-Schonberger 64). This states the probability measurements are extremely high and consistently efficient in the marketplace alone. As discussed earlier in Chapter 1, we've seen how markets continually failed in our current system. In combining new incentives, new measurements, and new technologies such as Big Data, we can reinvent capitalism into human capitalism with technology assistance.

## CONCLUSION

In conclusion, the complications of navigating through the fourth industrial revolution in an age where technology continues to astound many critics of the potential opportunity to reinvent our mixed economy. It is crucially important we identify what goals are set before us and how best we can navigate technology into the direction best befitting for humans. As Professor Helena Togias has stated, *“It is imperative that countries be prepared with policy options to address each of the many potential scenarios as they arise... reforms to the education system, strengthening support programs and social safety nets... and ensure ethical use of Automation and Artificial Intelligence”* (Togias 34). Now there are complications and limitations of these dilemmas laid before us. Despite our numerous avenues on divisive problems of the world, we humans are a resilient species, capable of magnifying our capabilities to prepare for the worst and adjust according to our present circumstances into a new age. Dr. Kai-Fu Lee stated, *“We are already witnessing the way that stagnant wages and growing inequality can lead to political instability and even violence. As AI rolls out across our economies and societies, we risk aggravating and quickening these trends... the overarching trend remains the same: rising unemployment and widening inequality.”* We are going to have to embrace our enemies and work together on solving these matters of job destruction and income inequality, and human expulsion. As Milton Friedman stated, *“our job is not to constantly elect people with whom we think will do the right thing, but to get the wrong people in office now, to do the right thing by incentivizing them to do so.”* I’ve identified the new incentives and goals we wish to secure for ourselves and for the future of humanity. I’ve identified the resulting evidence of the current system. I’ve acknowledged the troubling details of technology and its exhilarating impact on humanity if we do not act now. The instruments and new goals I’ve laid out, not alone identifies the solutions we



wish to obtain, but allows businesses and government officials to set rules, regulations and policies for citizens to pursue the American Dream.

If we do not implant these new incentives into our measurements as key economic indicators of our economy's well-being this will occur after a pandemic: (1) Printing excess money, (2) Hyper-inflation will occur, resulting in higher prices and low consumer confidence, (3) Marginal propensity to save increases, excess demand on business inventory and low consumer spending, (4) Job displacements will occur, numerous unpaid debts will arise as a result of job losses, (5) Interest rates will soar and major housing foreclosures, (6) Small businesses will shut down and major businesses will turn to automation and technology to steer businesses forward, and cut the workforce further, (7) Savings will be depleted, (8) Riots will occur between the rich and the poor, (9) Government officials will use their private security to protect themselves from the mob, due to the effects of defunding the police, and (10) Identity politics will rise and race hustlers will continue to profit from their fortunes. A minimum wage increase will not steer companies into this transition due to the level of productivity technology demands at such high rate efficiency. We will simply pay more in taxes. Given these dilemmas, technology will be propelled forward displacing workers into searching for new lines of work, a few will be able to transition into new lines of work with more capable complex skills in their arsenal, some will go back to school (excluding them out of the workforce and unemployment), some will retire early, and some will be searching for work and use government subsidies until something better comes along. We need to be better prepared for such a financial crisis to occur.

This paper will require further research into these new incentivized measurements as key economic indicators of overall GDP. This will also require research on the correlation between new incentives and a guaranteed basic income program, pending the resulting evidence of UBI in

various experimental programs. We must also continue to look into the usual objections, limitations and complications of these methods if the measurements are to be restructured. Nothing is for certain, but technology will continue to progress and we must be better prepared to make that transition.

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