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The Calamitous Future of the United States and How to Prevent It

It may be unknown to many Americans but we, along with much of the rest of the world, are at risk of altering the planet forever. In the wake of economic progress, it may be wise to re-examine the byproducts that occur outside of the marketplace, which benefits our nation significantly. The externality in question is the carbon dioxide (CO2) emission output from persisting heavy industry. While there seems to be growing pessimism in the west, regarding stagnant wages that have not been proportional to productivity growth, no one can deny that the economy has been growing at an exponential rate in the last half century (Mahbubani 2019, pg. 5-7). Our culture, in particular, has been shaped by the pursuit of high disposable income, but seldom, however, do we reevaluate at what cost to the rest of the world. The central idea at focus is the growing phenomenon that an expanding GDP per capita doesn't accurately quantify a higher standard of living. In this paper I intend to examine the problem of a growing American economy without the growing environmental consciousness to match it, and propose why, in the United States, has environmental activism been slow to take off. The following paragraphs will attempt to provide an answer to this question from an economic, psychological, political, and cultural lense, and regression analysis will be used on various data indicators, hosted by the World Bank, to best support this information. As this is an expansive issue with no clear answer, I acknowledge that I won’t be able to cover all of the causes and drawbacks associated with the rise of CO2 emission output, yet if this paper prompts the reader to reflect on the United States’ environmental future it will have succeeded in its purpose. Sometimes the only remedy for change is time, but I remain optimistic that, in the near future, the problems mentioned in this paper will be a memory of the past.

**Growing Economies With Sustainable Growing Environmentalism**

Using Stata, a statistical analysis software, I have transformed and cleaned two data frames, one with information on American GDP per capita, denominated in USD from 1960-2018, and the other with C02 emissions reported in kilotons (kt), from the years 1960-2014 (data.worldbank.org). For the sake of a better explanation, I converted the GDP per capita data in the form of a natural logarithm. If I regress the effect that ln(GDP) has on CO2 emissions, we find that the coefficient of effect is equivalent to 763,120.9. What this tells us is that for every 1% increase in GDP per capita, C02 emissions will increase by 763,120.9 kilotons. The p-value in my findings suggest that this observation is statistically significant at the 1%, 5%, and 10% significance level; the probability that this observation is caused by some random error is 0. When presented with the coefficient of determination, .82295838, we can observe that roughly an 82.29% of variance in GDP per capita explains a variance in CO2 emission output. In order for humans to grow richer or retain their existing revenue, it is accepted that the economy needs to grow. However, if we strive to become richer we can’t lose sight of the byproducts of such wealth. The United States had recognized this and as far back as the 1970’s there was a legislative focus on accounting for these byproducts, yet while growing regulation has persisted it has not been able to overpower our emission output. There is, however, a mistaken belief among all this: the assumption that there is an intrinsic conflict between economic growth and environmental protection. Instead, we could treat these issues as those which complement each other. Bangladeshi Nobel Peace Prize winning Economist, Muhammad Yunus, asserts in *A World of Three Zeros: The New Economics of Zero Poverty, Zero Unemployment, and Zero Net Carbon Emissions* that if we continue down this road “we will end up having to deal with trillions of dollars worth of damage to our planet and our resources on which all life ultimately depends on. Dirty growth is unsustainable growth-- not just in environmental terms but in practical economic terms as well” (pg. 101). An example can be seen earlier when he cited a research study, by climate change expert Atiq Rahman at the Bangladeshi Centre for Advanced Studies, that had predicted that by 2050 rising sea levels, brought on by growing greenhouse gas emissions, would flood about 17% of Bangladesh permanently and force 18 million to flee. Natural resources, human capital, and infrastructure of various utility would be destroyed. Rising CO2 output is an interconnected global issue; it carries with it the potential to melt the cryosphere, destroy land and aquatic habitats with their respective food chains, and directly endanger coastal communities and anyone who depends on our current ecosystem stability for occupation or as a primary food source. It is for these reasons that the state of the environment is embedded in the balance of mankind. Ultimately, it isn’t a question of how much we should be sacrificing for the environment but rather that a growth in GDP per capita is dependent on environmental stability and doesn’t need to affect the environment in this way.

**The Psychological Irrationalities of Humans and Groupthink**

The United States appears more divided than ever before, with respect to hostility among our two leading political parties. While it may be easy to pick sides and demonize the opposer for the general beliefs of the party, it would be beneficial if we could get into the psychological reasonings on why there seems to be a lack of general consensus on what action to take. If we can all agree that environmental degradation is harmful for humanity and our potential for future development, why are things the way they are? This is best answered by Robert Greene, in his 2018 book, *The Laws of Human Nature,* where he proposes that there are generally three universal qualities to our self-opinions. The first, “I am autonomous, acting on my own free will”, represents the struggle where humans are constantly trying to assert their free will. We don’t want to believe that we may be less cognitively autonomous than we actually are. The second, “I am intelligent in my own way”, raises the issue that people never want to admit that they are “less than intelligent”. In this way, someone’s political opinions may come from what they perceive as common sense, a form of intelligence that shouldn't be called into question. Finally, the last, “I am basically good and decent”, implies that we generally see ourselves on the side of the greater good and supporting the right causes (pg. 185). In that regard, humans are incredibly social creatures and the feeling to belong to a group with similar ideas is relieving. For example, to be Democrat or Republican has become a method to mark someone's general ideology as well as character, precisely because many followers may be part of the party’s monolithic thought without sufficient pressure being applied on the ideas of said party. A 2012 psychological study, conducted by Academics Kimmo Eriksson and Alexander Funcke, contained results which mirrored this observation: their findings concluded that both Republicans and Democrats “tended to rate their own warmth and competence clearly above average” and that “participants tended to rate the average affiliate of their own party even higher – a grace that was not extended to the other party” (Eriksson & Funcke, 2012). These finding were combined to explain a phenomenon deemed as the “ingroup-above-self-effect”, a combination of the “above-average effect” mixed in with political ingroup bias. We can see that Americans from both parties, can easily be victims of this “group bias”, where they may be motivated to take on party beliefs because it provides them some form of relief. An attack on our party turns into an attack on our ideology which turns into an attack on our beliefs and values, and finally an attack on our self-opinion (pg. 30). So often it is the case where bitter debates will break out between differing party members, because it is perceived that by trying to convince someone of something they have inadvertently challenged another’s self opinion. Furthermore, more personal self-opinions may have arisen from insecurities in a child’s development. A Conservative, for example, who may oppose social welfare programs under the guise that people just “need to get it together”, can be classified as having a self-reliant opinion on the world. These types, Robert Greene asserts, “may have experienced a very distant mother, be haunted by feelings of abandonment, and have crafted a self-image of rugged independence”. They didn’t develop their worldview overnight, and a failure to see it this way could lead to a violent confrontation. For a more collaborative future for American politicians, and one that prioritizes the control of CO2 emissions, one must not give into the irrationalities of short-term anger and superiority bias when dealing with those of a different party. It is best to be socially strategic by making people feel secure in their self-opinion. Political cooperation could thrive in the United States if people were to become deeper listeners, enter talks with a sense of indulgence, sympathize with others’ self-opinion and understand where it is coming from, keep an open mind, and perhaps acquire some humility along the way.

**Why American Political Parties Misunderstand Each Other**

We have covered the psychological reasoning behind why cooperation between political parties is often so difficult, and in doing so I tried to convince the reader that no singular party is absolved from guilt or praise. It is also worth mentioning that, while it should be well known that there have existed more than two political parties throughout much of the history of the United States, few get the attention that they require for political relevance in the rising climate of political action committees (PACs) and corporate lobbyism. Much of the following paragraph’s environmental discussion would lose relevance if third party leadership, such as those who affiliate with the Green Party and whose primary emphasis lies within the conservation of the planet, was more explored in American politics. Nevertheless, given our current political environment, understanding what it means to be a Democrat or Republican in regards to their environmental outlook is something that deserves specific attention. George Lakoff, author of *Moral Politics How Liberals and Conservatives Think,* analyzes both parties from a differing view of what it means to be moral. The morality of Conservatives is chopped up to a “Strict Father Model” where a strong sense of self-discipline is needed if one must resist all of the evil stimuli in the world. In its emphasis on rewards and punishments, the father takes on the qualities of a transactional leader. Liberals, in contrast, have a “Social Nutriance Model” where morality comes from maintaining social ties. This usually involves a high degree of freedom for the child to explore the world around them, while providing advice if the child is confronted with a difficult task. Where Liberals and Conservatives fail to understand each other, from an environmental perspective, stems from the belief that a great change in what has been contributing to greater revenue would mean punishing people who have rightfully earned their position at the top. For example, levying new legislature for a higher carbon tax would be seen as not morally sound, as it could mean that business owners and employees, who have worked their way up to that position through self-discipline, are being unfairly punished compared to the rest of the population. One with the values of the Nurturant Parent Morality will disagree with this observation and instead claim that morality provides us empathy, nurturance, and happiness; external and internal evils are not merely evil qualities to be avoided through self-denial and the imposition of discipline but by the exercise of nurturance. Qualities such as “social responsibility, generosity, respect for the values of others, open-mindedness, a capacity for pleasure, aesthetic sensitivity, inquisitiveness, ability to communicate, honesty, sensitivity to feelings, considerateness, cooperativeness, kindness, community mindedness, and self-respect” are what the book claims to be held by “a person of good character” (pg. 127). This of course is not to say that Conservatives are in support of higher C02 emissions, but they do have a differing sense of morality that is fostered in obedience and absolute fairness. Environmental agency efforts, such as those done by the EPA to curb carbon emissions, are opposed by some Conservatives as it doesn’t align with their view on morality. In regards to nature as whole, the readings in this class most closely align with the Nurturant Parent Morality, which sees nature as a divine home for living organism and also a victim of injury. Conservatives who may see the environment as a means of economic extraction may propose the systematic selling of pollution rights, by industries who would then be incentivized to monitor their emission output. While not inherently flawed, many Liberals aren't satisfied with this solution, as it comes from a different place of morality. Lakoff closes this chapter, on Regulation and Environment, by remarking that: “it becomes apparent that the issue is not [...] market forces versus the EPA, but two utterly opposed moral visions of the proper relation of man to nature” (pg. 221). It should stand, then, that the solution, insofar as environmental regulation goes, would be to bring the future of the United States closer to nature.

**The Cultural Shifts of Consumption, Diet, and Renewable Infrastructure**

The United States currently holds the largest economy in the world, one could surmise that the biggest change would come from a reallocation of our resources. However, this doesn’t need to be the only step taken. As some of the wealthiest citizens in the world, Americans have adopted what David Orr would describe as a “consumer culture” (Orr 2016, pg. 156). Our culture drives us to consume with little standing in the way to prevent it. In fact, the American personal savings rate has greatly diminished in the last 50 years. The solution, rather than create legislature around savings and investing more of our disposable income, can occur from the bottom-up level. This would have to come from some Educational reform, and would prioritize the teachings of pragmatic calculations such as those having to do with one’s personal income statement or long-term investment opportunities. Given that the purchasing power of the USD has greatly decreased in the last couple decades, special attention should be allocated towards researching one’s regional Consumer Price Index (CPI). Equipping the youth with this knowledge may contribute to greater financial awareness, and a higher saving ratio which will be reflected in a greater focus towards long-term capital investment. To that end, the U.S. should be making steps towards investment in more renewable energy alternatives or in reforming old infrastructure. Energy consumption is a basic element of all economic activity, so any delayed action in switching to a new source will be felt by growing economies all over the world. Back to Stata, we can run a linear regression, similar to the one used in the first paragraph but with “Research and development expenditure (% of GDP)” RD and “Electricity production from oil, gas, and coal sources (% of total)” COAL added in as control variables (data.worldbank.org). RD data for the United States covers the years 1996-2017, while COAL data for the United States covers the years 1960-2015. Just like with GDP, I converted the variables of COAL and RD into natural log values. In the multilinear regression, we find that the coefficient of effect for lnGDP, lnCOAL, and lnRD is 466,823.7, 9,345,945, and -1,705,636, respectively. We can see that the effect coefficient of GDP has significantly diminished from our original regression, most likely as a result of the effect being spread out amongst the other variables. What this means is that for every 1% increase in GDP per capita C02 emissions will increase by 466823.7 kt, if the % total energy ratio of electricity production from oil, gas, or coal increases by 1 percentage point C02 emissions will increase by 9,345,945 kt, and if the % ratio of Research and Development as part of GDP increases by 1 percentage point C02 emissions will decrease by -1,705,636 kt. Similar to the first regression, we find that an 83.6% variance in all of these factors explains a variance in CO2 emissions, and we have all statistically significant values. However, it is worth noting that the p-value for lnGDP and lnRD are .019 and .012, which are nearly off from being significant at the 1% level. Regardless, it is clear from these findings that greater R&D has helped reduce carbon emissions, while a growth in non renewable energy resources will contribute to significantly higher CO2 output which outpaces the coefficient of effect from even GDP per capita growth. From this, it is also worth acknowledging that a switch towards renewable energy resources will be reflected in higher priced products with energy inputs; the transition from a low to zero emission economy with greater allocation towards R&D, as well, will be nothing short of costly. The challenge here is in developing creative ways for the government to acquire more revenue. Fortunately, a reliable method has already been tried and tested, and it lies in untapping the entrepreneurship talents of poor or underserved Americans through the issuing of microcredit. Economist, Muhammad Yunus, in 2008 had officially demonstrated these powerful effects when he had collaborated to launch Grameen America, Inc. (GAI). Those with “no collateral, no assets, no savings, no references”, who have been denied loan assistance from mainstream financial institutions, and who contribute an innovative idea and passion, will be granted small start-up loans to make their ideal business into a reality. As of March 2017, Yunus cites, “GAI members have received loans totaling more than US$590 million, and they maintain a repayment rate of over 99%” (pg. 86). A productive investment in low-income American youth would not only serve to increase economic mobility but would prove to be an untapped source of revenue for future capital and research investments. Another bottom-up approach can come from reforming the American diet, which is centered around meat consumption. In the United States, as well as the rest of the world, per capita meat consumption has increased steadily, with U.S. leading the world in total meat consumption. This poses a great issue, as livestock farming, according to the UN Food and Agriculture Organization, compromises nearly 80% of all agricultural emissions. In Stata, if we run a regression on CO2 with the “Livestock Production Index” LIVESTOCK, gathered in the United States from the years 1961-2016, as our independent variable, we get a coefficient of 39,074.97 (data.worldbank.org). This signifies that for every index point that the livestock production increases, 39,074.97 kilotons of CO2 will be released. This finding is statistically significant at the 1%, 5%, and 10% significant levels, and has a coefficient of determination value of .74189706. This means that roughly 74.19% of a variation in LIVESTOCK can explain a variation in CO2 output. Fortunately, however, as a product of contemporary food innovation, plant-based substitutes have been growing exponentially more popular in recent years. While it is difficult to follow through with eating less meat, the growing popularity of alternatives would greatly soften a cultural transition away from it.

The degree to which our lives our integrated in the environment’s future is astonishing, and I feel that I still don’t comprehend all of it myself. Not to inflate our relevance, but I feel as if our generation, in particular, has the greatest stake in the planet’s future thus far. The rate at which carbon dioxide emissions are being outputted at is something the world has never seen before, which may in part be the reason why this task of saving the planet from future environmental degradation seems so monumental and frightening. The world can look completely different in the next 30 or so years, depending on our actions today, and in this paper I hope I was able to adequately go over and provide potential solutions for the multifaceted issues that impair the United States from taking stronger action amidst growing global temperatures. The issue is one where there doesn’t exist a sole rooted cause, but is tangled in an interconnected web of economic, political, psychological, and cultural impairments. When I look back at this paper in the next decade, I would be ecstatic to find that a “new” United States no longer carries with it the problems uttered in this paper, and is working towards a new future where political hostilities subside for the greater good, where the U.S. has made steps away from a consumerist-centered country and more towards a nation that values long-term infrastructural development, where the country’s citizens can reflect and learn from their biases, and finally where we would be able to enjoy both the mutual inclusivity of rising incomes and environmental stability.

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