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Links to the Global Economy

GLOBALIZATION IN THE NEW PANDEMIC WORLD

The yearning for a return to normal is universal. People everywhere wish for a return to the time when COVID-19 did not exist, when most people outside China had never heard of the city of Wuhan, and when few people had ever heard much, if anything, about the nomenclature and the nuances of the science of epidemiology. This yearning is understandable. It is also futile. The impact of the pandemic will be "felt for years to come."[1] The world cannot return to the "previous normal" after COVID-19.[2] The world cannot return to any semblance at all of normality unless and until the new vaccines that have been discovered in record time, and that can inoculate us against the disease, have been fully deployed worldwide. Even then, and from now on, we will live in a new pandemic world.

Even when everyone in the world has at last been vaccinated, there can be no reversing all the changes caused by the pandemic. Much has changed that cannot be unchanged. This pandemic may well be followed by others, which may be worse. Or it may be followed by something just as disruptive, perhaps a cyber breakdown or (lest we have forgotten) the quickly cascading consequences of climate change. The world we knew is the world of yesterday.[3] There can be no returning today or tomorrow to the now lost and vanished world of before the fateful events in Wuhan toward the end of 2019; for 2019 is akin to 1913, the year before the storm, the year before a "war to end all wars" swept away another lost and vanished world. As Amina Mohammed, the deputy secretary-general of the United Nations, has cautioned, even what may appear to be a return in some parts of the world to something resembling our previous reality "must not lull us into a false sense of security."[4] It must not blind us to the fact that the world is forever changed.[5]

What will the new world of COVID-19 be like? Much about the new world is still in the making. It is still unknown. Yet some characteristics of the new world are already apparent. For one, obviously, the pandemic world will be more virtual. Work will be more remote and more automated. While the disease remains a threat, and likely longer due to the threat of future similar diseases, there will be less travel and less human physical contact. Life will be lived more online. Commerce will occur more online. The COVID-19 world will gaze less often through an airplane window and more often through the video squares of a Zoom call. And life will be lived more at home. Even when we are all inoculated with a COVID-19 vaccine, we may find that we will need to wear masks in many places for mutual protection for some time to come. Rendered faceless by the novel coronavirus, the new world will be in search of new ways to see and construct the vital links of human connections.

The new world will include, for better and for worse, a larger role in society for the state. During the pandemic, more people everywhere have sought more security and a stronger social safety net from their government. There has been less emphasis on individual self-reliance and more stress on mutual aid through the machinery of government. The never-ending challenge in governance is to identify and implement the right mix between the two. Meeting this challenge has been made all the harder by the advent of COVID-19. In the new world, continued calls for governmental action to alleviate the medical, economic, and other pains of the pandemic will be heard and – in one way or another, and in different ways in different places – heeded. More and more, these actions by governments in response to these calls will raise fundamental questions about the best and fairest ways to structure human society. One basic question will be, can we be both safe and free?

Depending on the nature of the government, in some places, the state's larger role will enable human freedom; in others, it will diminish it. The power of the state can be employed to uphold human rights; encourage growth and innovation; stimulate new employment; and enforce new health and safety measures that fight the spread of COVID-19 and other diseases. The state can be a tool for helping humanity up. Yet the power of the state can be used instead to deny human rights; strangle the market; stifle human initiative; quell the expression of free speech; and erase the right of public assembly. In these and other ways, the state can be a tool for holding humanity down. New digital technologies, for instance, can help find vaccines and cures for new diseases. Yet they can also help impose pervasive and oppressive social control. The impact of the power of the state depends to a great extent on who is wielding that power and on how they came to wield it. Some leaders want to use power for good; others want only to possess power for the pleasure of possessing it. Democracy tends to serve freedom; dictatorship does not.

As we have already seen in the flurry of deficit spending sparked by the economic impacts of the pandemic, a larger role for the state will in many places be accompanied by a larger pile of accumulating public debt.

Worldwide, and especially in the wealthier countries, national currencies are being treated as if they were Monopoly money in "the whirring of the printing press."[6] By September 2020, national governments had committed $11.7 trillion – 12 percent of global output – to combating the economic downturn caused by the pandemic. Cumulative public debt neared 100 percent of global GDP.[7] The US debt rose by one-third under President Trump, mainly due first to his huge tax cut in 2017 and later to stimulus spending to fight the pandemic.[8] His successor, President Biden, began his term by proposing trillions of dollars in additional spending to help combat the virus and sustain the US economy until the pandemic subsides.[9] His subsequent spending proposals promised to push the budget deficit and the national debt even higher.

While the pandemic persists, there will be little political pushback against the incurrence of this debt. Thus far, and not without good reason, the coronavirus pandemic has produced a total victory for pump-priming Keynesianism. The trillions of dollars that have been printed and distributed by desperate governments throughout the world have helped prevent the impacts of the pandemic from becoming much worse than they are. The immediate imperative of getting through today has put off the eventual imposition of paying for tomorrow. Yet even Lord John Maynard Keynes himself might cringe at the rising height of the global mountain of debt.

What is more, there are downsides as well as upsides to printing more money to serve even the noblest of public purposes. As global economist Ruchir Sharma has advised,

> A growing body of research shows that constant government stimulus (since the 2008 financial crisis) has been a major contributor to many of modern capitalism's most glaring ills. Easy money fuels the rise of giant firms and, along with crisis bailouts, keeps alive heavily indebted "zombie" firms at the expense of startups, which typically drive innovation. All of this leads to low productivity – the prime contributor to a slowdown in economic growth and a shrinking of the pie for everyone. At the same time, easy money has juiced up the value of stocks, bonds and other financial assets, which benefits mainly the rich, inflaming social resentment over growing inequalities in income and wealth.[10]

Added to these downsides to easy money must be the greater potential for public money to be misspent due to regulatory capture, crony capitalism, ill-considered subsidies, and more vulnerability to the siren song of trade protectionism. The likelihood is greater that the common public interest will be sacrificed to selfish private interests.

Irrespective of such cautions, and no matter their merits, fiscal demands for still more deficit spending are unlikely to subside. Yet fiscal procrastination about the extent of such spending cannot continue forever. Eventually, there will, in many countries, be a fiscal reckoning. Unless countered by the right kind of leadership, there will be every inclination in the new pandemic world to discard any fiscal thoughts of "intergenerational equity."[11] According to

Sharma, "What capitalism urgently needs is a new, more focused approach to government intervention – one that will ease the pain of disasters but leave economies free to grow on their own after the crises pass."[12] With a more focused approach, the extent of public debt could be constrained and perhaps diminished by a combination of more targeted and more accountable spending with some measure of income redistribution through fairer taxation. More likely, tomorrow will continue to be sacrificed for today because of a masked myopia that makes tomorrow a dim and distant blur.

The new pandemic world will be polarized politically even more than before. We have learned during the pandemic that "mustering a concerted and effective global response is nigh on impossible in a world of blustering demagogues and self-confident autocrats."[13] The unequal effects of the pandemic and the increased inequalities it has caused will drive still more divisive wedges between countries and between people within countries. Throughout the world, political elites will pay for their past failures and perceived complacencies. They will find it hard to unite their people, and harder to lead them. There will be little popular patience for reminders by elites of past accomplishments. There will be pressing demand instead for governments to stop reminding, stop pondering, stop deliberating, *and act*. The demand for governmental action will be made in many languages. It may be whispered or shouted, depending on where it is made. But everywhere people will ask of those who would deign to lead them, what will you do for me now?

Those making these demands will have little trust in those to whom their demands are made. Public trust is in short supply nowadays. Already, before the sudden shock of COVID-19, global surveys indicated that four out of every five people in Europe, China, India, the United States, and other countries believed that "the system" – whatever it was where they lived – was not working for them.[14] Amid the pandemic, in much of the world, "the system" seemed to be failing them once again, and with more fateful consequences. In the new pandemic world, the people who political elites wish to unite and to lead will tend to trust them even less than before. The people will seek solutions. But they will be more reluctant than ever to believe in solutions when they hear them. And they will be even more apt than they were before the pandemic to fall prey to the phony populism of those who are not truly seeking solutions but are seeking only to get and keep political power. In the United States, this situation is much worsened by the cumulative effects of several decades of steadily intensifying anti-government animus on the right of the American political spectrum.

Without electoral victories, responsible politicians of various stripes will be unable to find and apply solutions. Elections will be even harder to win for those who act responsibly in framing and proposing solutions. The cards of the COVID-19 world seem, in many places, to be stacked against the exercise of political responsibility. The urgency of now argues against the appreciation of nuance. The more fearful people are, the less accepting they are of the inconvenience of unwelcome facts, especially when these facts are contrary to their predispositions (however misguided) and may involve some personal sacrifices. They want solutions, but, when confronted with the facts about how best to achieve those solutions, they opt instead to cast their votes not for those who offer them the facts but for those who channel their anger and their resentment in fact-free demagoguery.

Making matters worse, in the fictive online world of social media, the COVID-19 pandemic has been accompanied by a highly contagious "info-demic" of "alternative facts" flowing out from a specious alternative reality that bears little or often no resemblance to what is happening in the real world.[15] In the United States, between 2016 and 2020, the amount of "fake news" that Americans consumed on Facebook and other social media sites tripled.[16] In the first few months following the outbreak of COVID-19, websites spreading health hoaxes drew an estimated 460 million views on Facebook.[17] In American politics, lies were uttered, circulated, and repeated endlessly to the credulous on social media. These lies revealed the fraught fault lines of the American democratic experiment, and, in the aftermath of a divisive national election, threatened to consume American democracy in conflagration. It is with the fantasies of this fabricated cyber world that facts must often compete.

The rejection of facts is indicative of "the rising rejection of the Enlightenment" commitment to reason, as reflected in the postmodernism of the vocal extremes of right and left alike on the political spectrum.[18] Postmodernism contends that there are no facts; there are only opinions.[19] In the absence of a common understanding of the facts, it becomes nigh impossible to find a mutual purchase on common ground. American historian Adam Garfinkle has pointed out that, in such circumstances, the "positive-sum" approach of the Enlightenment, in which institutions are built to serve all, and in which one person can profit without harming another, yields to a nihilistic "zero-sum" approach to everything, in which institutions are viewed as instruments of dominance and one person's gain must inevitably be another person's loss.[20] One casualty of such thinking, as conservative commentator George F. Will has noted, and as Donald Trump – the doyen of "zero-sum" thinking – has demonstrated, is the increasing inability of a fact-deprived populace to comprehend the proven mutual benefits of free trade.[21]

Martin Wolf, the eminent economic columnist for the *Financial Times*, of London, has rightly observed that the times "demand an alliance of politics with expertise, both domestically and globally, just as happened in the 1940s and 1950s."[22] And yet, in the new pandemic world, expertise has been devalued. Weariness with the high-handed hubris of some experts has led to wariness of all claimed expertise. Now, anyone with genuine expertise who has the temerity to endeavor to convey reliable information is immediately challenged by hosts of self-appointed experts in the degraded public square of conventional and social media. Online, many people who may have barely passed high school biology have now morphed into self-certified epidemiologists. Online, on television, and on radio, imposters parade as sages in science, sociology, history, economics, finance, and, ubiquitously, international trade.[23]

In the new pandemic world, seemingly anyone can anoint themselves as an expert on almost anything. Likewise, anyone, however poorly informed, can feel free to reject the advice of an expert. The reactive reasoning goes, some experts have been wrong about some things; why then listen to any of them about anything? Dismissing expert advice with derisive disdain is a consoling way of appearing to assert personal control in a confusing world that seems beyond control. Given this devaluation of expertise, any public official so bold as to rely on expert advice and to tell people who do not want to hear it that they should follow it, will be told by pseudo-experts that they are, at best, deceived, or, at worst, prevaricating in pursuit of some elitist agenda.

It is all too clear from the dismaying quality of the debate on social media over the appropriate response to COVID-19 that, in the new pandemic world, the downward trajectory of recent years toward a widespread popular denial of the scientific method of testing by observation will continue and could descend to even more degraded depths. Social media savants will continue to multiply. Divisive viral images of "memes" and "GIFs," often originated by anonymous and foreign websites with dark agendas, will substitute for civil and reasoned discourse. And, borne of a widespread willful ignorance, more and more of the actual reality of the world will be seen by many as merely a concoction, merely a "hoax."

"These are dangerous times," laments the American arms control expert Tom Nichols in his book *The Death of Expertise*.

> Never have so many people had so much access to so much knowledge and yet have been so resistant to learning anything. In the United States and other developed nations, otherwise intelligent people denigrate intellectual achievement and reject the advice of experts. Not only do increasing numbers of laypeople lack basic knowledge, they reject fundamental rules of evidence and refuse to learn how to make a logical argument. In doing so, they risk throwing away centuries of accumulated knowledge and undermining the practices and habits that allow us to develop new knowledge.[24]

Sadly, all too many people have not learned how to engage in the rational critical thinking that is a requisite of enlightened and effective citizenship. Without such skill, they are more likely to be confused by the complexities of their circumstances, and this leaves them more likely to believe the soothing simplicities of those who appeal to their baser instincts, and of those whose knowledge and whose wisdom are entirely of their own imagining. Unable to think critically, these generally good and well-intentioned people are often unable to discern the difference between a fake social media meme (perhaps produced by a Russian bot) and a reliable opinion. Unable to deal with the contemporary inevitability of complexity, they often fall prey to the divisive devices of those who pull us apart by stirring animosities and speaking darkly of conspiracy. It is easier for them to believe in conspiracy than to accept the fact that the fast-changing world around us is not simple but complex. The incendiary consequences of this shortage of critical thinking skills have been all too apparent during the pandemic, and they make it all the harder for public servants who truly try to lead to succeed.

Without question, the expert elites are not without fault for the travails that have befallen many people in the past generation and more. Far from it. The American invasion of Iraq in 2003 is a lasting example of how elites can fail; the run-up to the global financial crisis in 2008 is another. Yet this does not mean that expert advice is not worth hearing and, often, heeding. The key is to know when to ignore expert advice and when to listen to and follow it. Perhaps this is where we have failed the most in recent years. As conservative thinker David Brooks has concluded, "Our core problem is ignorance and incompetence and not an elite conspiracy."[25] In the United States, for instance, the problem is not a conspiratorial "deep state"; it is an ineffective state licensed and empowered by a public ignorance that has proven capable of entrusting the leadership of the state to unfit incompetents and unprincipled opportunists without even realizing it. This outcome is made more likely because the money spent to elect such adventurers is virtually unlimited and often undisclosed. And this democratically perilous situation threatens to worsen in the new COVID-19 world. Unable to think critically and thus unable to think for themselves, all too many people across the world are likely to be led astray by those who tell them lies and offer them only easy answers that are no answers at all.

The fear of disease exacerbates racial, religious, and ethnic tensions, and there is every danger, too, that these tensions will be much on display in the new world.[26] Fear is fodder for demagogues. In this new world, in a growing number of places, irresponsible demagogues of sundry dubious persuasions will offer stirring speeches that feed on fears. But they will not offer capable governance. They will not offer real answers. Without real answers to offer, they will look for scapegoats. In the new pandemic world, as before, these demagogues will find the scapegoats they seek among their fellow citizens who may look, act, think, and believe differently than they do. And they will find them beyond their borders by fomenting and exploiting the age-old irrational fear of the foreign and the foreigner.

In the United States, the times are even more dangerous because of the apprehension of many white Americans about the inexorable approach of a demographic destiny in which most Americans will not be white. A majority that will soon become a minority is more susceptible to demagoguery because they "feel their grip on power slipping away."[27] Americans are in the midst of a fundamental and far-reaching debate over whether America is an idea or an ethnic group. Demographic trends suggest that those Americans who see America as an idea – as a set of basic beliefs about individual rights and democratic self-governance belonging to all Americans, of whatever ethnicity or background – can prevail over time. The question is – will the idea of

America survive long enough to enable those who believe in the idea of America to prevail?

Disease-driven fear is combustible; it is tinder for violence. The imminent danger of contagion scorches the shallow surface of reasoned civilization and reveals the unreason below. For as long as such fear continues, power-seeking demagogues will spew a running sewer of isms – a foul flow comprised of a flammable combination of nativism, nationalism, isolationism, sexism, racism, and anti-intellectualism. To the extent that these foul emissaries for intolerance and for hate succeed, there will – both within countries and between countries – be more conflict and less cooperation. To that same extent, there will be less internationalism, less multilateralism, and an ever-rising crescendo of anomic and destructive attacks on the effective functioning of the WTO and the rest of the peaceful institutional apparatus of the postwar liberal world order. There will be more global distancing.

What, in this grave new world, will be the enduring effects of COVID-19 on trade? The atmosphere in the pandemic world is conducive to imposing new restrictions on international trade; it is amenable to protectionism. Amid all the upheavals of the pandemic, there is increasing apprehension everywhere about almost anything that is somehow different or that happens to be sent "here" – wherever "here" may be – from an alien somewhere else. Increasingly, many people around the world are fearful even of the supposed threats, invisible and otherwise, that they think will greet them if they so much as go outside their own home. Thus, there is little wonder that, stoked by the inflammatory divisiveness of self-serving demagogues, they are increasingly fearful, too, of much of all that originates outside their own borders – outside the borders of their neighborhood, their community, their city, their state or province, their country. Goods, services, people, ideas – all that is foreign is suddenly suspect.

The depth and intensity of these common fears will impede global recovery and progress on many economic and other fronts. It will prove no small obstacle to those who hope to revive world trade to its "previous normal" in the new pandemic world. Engulfed by the pandemic, those who seek to insulate themselves from the competition of foreign trade solely for self-interested economic reasons will now be inclined, all the more, to cloak their commercial interests in the local flag, whatever that flag may be. Amid "the legions of the anxious and the unemployed," these protectionists will be still more persuasive in doing so.[28] They will do all they can to disguise their selfish economic interests, cloak them in altruism, equate protectionism will patriotism, and make insulation from the competition of foreign trade seem a perfectly logical reaction to the changed nature of the surrounding world. Yet, if we descend worldwide into economic nationalism, if we rely on doses of the false economic cures of "Buy American," "Buy Chinese," "Buy Brazilian," "Buy Indian," and more, then, whatever the current forecasts, the decline in world trade since the onset of COVID-19 will be followed by an even steeper decline in the new pandemic world.

The decline in world trade during the pandemic did not begin with the pandemic. It had gone on for some years since soon after the turn of the century. As Douglas A. Irwin, a leading trade economist, has explained,

> As measured by trade flows, this … era of globalization appears to have peaked in 2008 … [T]he world trade to GDP ratio has fallen since the Great Recession. World trade bounced back in 2010 from the sharp blow in 2009, but it has faltered ever since … While trade has tended in the past decades to grow more rapidly than world output, that is no longer the case. Instead, trade growth has been abnormally weak in recent years. World trade volume actually fell in 2019, even though the world economy grew steadily.[29]

By the time COVID-19 showed up, the heyday of ever-increasing international trade seemed just about over.

There were several causes for the decline in the growth of world trade preceding the pandemic. The growth in global supply chains subsided. The global agenda for lowering the remaining tariffs and other barriers to trade through further trade liberalization stalled. The number and scale of commercial conflicts between trading partners increased. The costly absence of much-needed new international trade rules and the inadequacies of the existing rules became more and more evident. The international trade flows that formerly seemed heralds of further increases in global wealth and prosperity now seem harbingers of a lesser world, a less optimistic and thus a less ambitious world, a fragile world of frayed trade rules in which it takes all of what remains of international cooperation to prevent the world from coming apart.

Added to the cause of this pre-pandemic decline in trade growth, too, must be the fact that, individually and collectively, we have been living since the global financial crisis of 2008 in "nervous states" characterized by a growing loss of confidence that our lives and our futures can be improved through more international trade and through other additional engagement with foreign "others" from elsewhere through globalization.[30] Increasingly, the festering feeling of many people in many parts of the world is that such engagement has not helped them; it has harmed them. It has, they feel, cost them jobs; it has shuttered factories and destroyed communities. It has, they think, caused vast increases in inequality. Better, it is felt, to trust only those who are near and not those who are far; better to trust only those who know and share the local ways. Where foreign trade is concerned, this feeling has been expressed in the belief of many that they are not beneficiaries of trade; they are trade's victims.

In recent years, the broad sharing of this feeling of victimization made it easier to blame much of all that went wrong in the world on foreign trade. It made little difference that this feeling about the results of trade was not true. Although the feeling of so many in the United States and throughout the world that they are victims of trade bears little resemblance to the actual reality of the actual results of increased trade, the feeling remains. The reality this feeling describes is a fiction; it exists only in the ether of the Internet and in the excited rallies of the demagogues. Nevertheless, this feeling describes the perception of reality as lived by those who strongly feel it. And, in politics, the perception of reality can often become the true reality at the ballot box.

Then came COVID-19. The arrival of the novel coronavirus accelerated this trend, and the world entered a new and current phase of economic integration that Irwin calls "slowbalization," a time when economic globalization persists but is assailed on all sides by economic and political forces that constrain and oppose it.[31] It is a time when many of the countries in the world are less inclined to engage even in the pretense of trying to reach any kind of new global agreements, including agreements on trade. It is a time when fewer countries in the world are willing to risk any of their dwindled store of political capital on defending international law, including the international law on trade. The new pandemic world is a world in which fewer and fewer are willing to think and act globally. Even in the wake of the pandemic, some as-yet unknown amount of economic globalization may continue in the altered world, albeit at a slower pace, but true international economic integration may not. One casualty of this "slowbalization" could be the WTO.

As a result of the pandemic, some foresee not only a slowing of globalization. They foresee an end to it. They anticipate not more unity but more division in the world. They await a sad but inevitable conclusion to the centuries-long idealistic quest to bring the nations of the world together as one to work together for one humanity. They have long seen the hopeful liberal internationalism that spun such dreams of international cooperation as doomed to fail. From the outset in 1945, they have seen the very notion of the United Nations as a supreme folly. Now they see humanity reawakening to the cruel Hobbesian world of all against all. Now they see the dream of so many of the founders of the WTO and other postwar international economic institutions – the dream of freer trade, a freer flow of capital, and open markets as liberating levers for open, peaceful, and cooperative societies in an open world – as over.[32]

In the new pandemic world, the optimists who have long dreamed these dreams are confronted by doubt. The pessimists who have long sought to dispel them feel vindicated. Global thinker Robert D. Kaplan, who has warned for decades about the smoldering divisions just beneath the veneer of global governance, cautions us that the new pandemic world "is about separating the globe into great-power blocs with their own burgeoning militaries and separate supply chains, about the rise of autocracies, and about social and class divides that have engendered nativism and populism, coupled with middle-class angst in Western democracies. In sum, it is a story about new and re-emerging global divisions, more friendly to pessimists."[33] There is no room in such a dog-eat-dog world for the lofty dreams of liberal internationalism.

One of the most persistent and eloquent of the pessimists, the British contrarian and political philosopher John Gray, predicts the final demise of liberal internationalism. He says,

> The era of peak globalization is over. An economic system that relied on worldwide production and long supply chains is morphing into one that will be less interconnected. A way of life driven by unceasing mobility is shuddering to a stop. Our lives are going to be more physically constrained and more virtual than they were. A more fragmented world is coming into being ... Liberal capitalism is bust.[34]

Gray has long dismissed belief in progress as a pipe dream.[35] Now, for him and for the others who share his pessimism, the COVID-19 pandemic has dashed at last the hopes of the optimists for a bountiful and beneficent globalization.

For the pessimists, the bubble has at last burst on the airy illusions of all those who set out to shape new global economic governance for a peaceful and prosperous world at a conference in Bretton Woods, New Hampshire in 1944, toward the end of the Second World War, and of all those all over the world who have strived since then to achieve that abiding goal. Two enduring results of the conference at Bretton Woods were the World Bank and the International Monetary Fund. Another ultimate result of the conference was the General Agreement on Tariffs and Trade – the GATT – which eventually became the WTO. These three postwar Bretton Woods institutions have formed the fundamental international architecture that supports economic globalization.

Who is right about the fate of globalization in the pandemic world? Is it the optimists, who are still as confident as ever that an economically globalized world can become a better, brighter world for all? Or is it the pessimists, who have never thought that globalization could succeed or even last? How many times, and in how many ways, has this same question been posed in so many differing times and in so many differing circumstances in the past, long before the arrival of COVID-19? Human history never repeats itself in precisely the same way, but always there are recurring patterns. There are recurring patterns in history because human nature never changes. The recurrence of these historical patterns is evidence of our immutability as a species. At the same time, and at any given time, the variations in those patterns reveal whether we have displayed the best or the worst in our unchanging nature.

Whether by nature or by nurture, or perhaps by some mix of both, there are always optimists and there are always pessimists among humanity. Optimists always fire hope. Pessimists always pour cold water on hope. Yet, in all times, and in all circumstances, whether we are optimists or pessimists, the future is ours to shape. Who is right about the course of our future in any given time and in any given circumstance, is decided by who prevails then and there in seeing the future clearly enough to seize and shape it. We humans are autonomous agents of our own destiny. If human freedom means anything, it must mean that the future is not predetermined for us. It is always a consequence of the exercise of our free will. It is always open-ended. It is always ours to shape.

From time to time, fate may intervene with a pandemic or a crop failure, with a typhoon or a tornado, or with a rolling tsunami on the ocean tide. But the future depends in no small part on how we respond to such fateful events. In shaping our future, we must strive always to make the future better. Part of what makes us noteworthy as a species is that we can hope that the future will be better. And we are truest to the best in our humanity when we believe not only that we *can* hope, but also that we *must* hope. As the only species on earth that, so far as we now know, can foresee tomorrow, we have an obligation to believe in tomorrow. We have a duty of optimism.[36]

In the world of COVID-19, there is urgent need especially for fulfilling our duty of optimism in trade.

THE CONTINUED NECESSITY OF TRADE LINKS THROUGH THE WTO

The economic assumptions that underlie the rules of the multilateral trading system overseen by the WTO have not been altered in the new pandemic world. WTO rules are founded on basic principles of classical economics. Trade is a division of labor. Nationally and internationally, trade is linked through a division of labor. The production of wealth is multiplied by adding subdivisions to the division of labor. Artificial hindrances to the division of labor – such as import taxes called tariffs and the endlessly evolving host of nontariff trade barriers that amount to taxes – diminish the production of economic wealth. An ever-dividing and subdividing division of labor has for millennia been the wellspring of the flow of ever more human prosperity.

The notion that the division of labor is the foundation of the economy is the first principle of classical economics. It was the first lesson taught by the Scottish economist Adam Smith in the first chapter of his timeless treatise, *The Wealth of Nations*, published in the revolutionary year of 1776. Furthermore, Smith also taught that the division of labor is limited only by "the extent of the market."[37] During the centuries since 1776, and especially during the most recent age of globalization, we have learned over time that the extent of the market, and therefore the extent of the division of labor, can be worldwide. The cause of freeing trade to maximize the international division of labor is Smith's cause. The contemporary world of globalization through international economic integration is in many respects Smith's world.

Early in the nineteenth century, British economist David Ricardo built on Smith's insight about the division of labor when he introduced the counter-intuitive concept of "comparative advantage."[38] Ricardo explained that everyone can benefit from trade. No one needs to be *absolutely* the best at producing anything to benefit from trade. All of us can produce the most and thus profit the most from a division of labor when each of us does what we do *relatively* best when compared to others. Each of us, he explained, possesses a *comparative* advantage over others in the production of some good or service. And, if we each specialize where we have a comparative advantage, then we can all benefit from trade, both domestically and internationally. Ricardo's concept applies to individuals. It applies to firms. It applies also to countries. Thus, in the contemporary terms of game theory, trade is not a "zero-sum" game. When it is pursued consistently with comparative advantage, trade is a "win-win" for all.[39]

Later in the nineteenth century, another British political economist, John Stuart Mill, identified three different kinds of "gains from trade." First, he saw direct economic gains from the specializations in production derived from a division of labor. Trade enables more production through a more efficient allocation of limited resources. In this way, it magnifies overall national income and creates gains for consumers in the form of lower prices and broader choices. Second, Mill saw indirect economic gains in the ways trade makes limited resources more productive by stimulating innovations and enhancing the process of production and overall economic performance. Thus, trade contributes to the growth of productivity by increasing the ratio of what we produce to what goes into production.

Third, Mill contended, "the economical benefits of commerce are surpassed in importance by those of its effects which are intellectual and moral," such as supporting peace and speeding the spread of new ideas and useful knowledge.[40] Like Smith before him, Mill saw trade as a means not only of commerce but also of communication.

There is no specific mention of any of these underlying intellectual antecedents in the General Agreement on Tariffs and Trade of 1947, which was the ultimate trade product of the Bretton Woods conference in 1944 and doubled as a de facto trade institution for nearly half a century. Nor are any of them mentioned in the 1994 treaty that broadened the scope of the trade rules and transformed the GATT into the World Trade Organization in 1995. The WTO treaty is not a free trade agreement. The phrase "free trade" does not appear anywhere in the WTO treaty. Free trade is not mandated by WTO rules. Indeed, much that is entirely inconsistent with free trade is included in WTO rules (such as provisions permitting higher tariffs as economic "safeguards" when a domestic industry is seriously injured from a sudden surge of imports, but there is no allegation of unfair trade).[41] Instead, the WTO is a multilateral legal framework within which trading countries can, if they choose, agree on binding rules that reduce trade barriers, and thus result in freer trade under the rule of law. The WTO is a legal and institutional means of making more open economies and (the ultimate hope of many who made the WTO) more open societies.

The WTO treaty does not anywhere mention the link between trade and freedom. The existence of this liberating link is, however, a tacit but shared assumption of many of those from throughout the world who created and continue to support the WTO. These advocates of both trade and freedom believe that trade is about much more than merely commerce. For them, trade is also about individual freedom and the individual choices that are the essence of freedom. Being free is about being able to make as many personal choices as possible about how to live. The equation between trade and freedom is this: More trade equals more choices equals more opportunities for freedom. More trade does not guarantee more freedom, but it does create more opportunities for the full flourishing of freedom for all humanity. Without more trade, there are fewer opportunities for expanding freedom.[42]

None of the logic of this thinking about trade has been changed by COVID-19. If more human flourishing through more human freedom is the rightful global goal, then more trade links are needed. We must add further subdivisions to the division of labor. We must pursue comparative advantage. We must maximize the direct, indirect, and other gains from trade – even as we work to find better ways to help all of humanity share more fully and more fairly in those gains. If we do not, then we will not have all the personal choices we must have to make the most of our freedom. We will not prosper in the full enjoyment of freedom if we retreat from trade and from international cooperation on trade, and if we reject and undermine the trading rules on which we have long agreed to help govern globalization.[43]

Economists have found it difficult to quantify down to the last penny the benefits of belonging to the WTO-based multilateral trading system. How to determine the precise dollar value of sailing in smooth seas instead of stormy waters? How to express the monetary value of having what the WTO treaty calls "security and predictability" in world trade through global adherence to the rule of law in trade?[44] This said, in the now lost world before the outbreak of COVID-19, decades of successful efforts in freeing trade worldwide through liberalization of trade based on rules forbidding trade discrimination helped multiply global prosperity to unprecedented heights. Nobel Prize–winning economist Michael Spence maintains that,

> The GATT was the beginning of the creation of what we now call the global economy … Together with cost-reducing technological advances in travel, transportation, and communication, the GATT was an essential catalyst to a second economic revolution, a much more inclusive one in which hundreds of millions of people started to experience the benefits, if also the turbulence, of growth. It is this revolution … that is shaping the way we live.[45]

For thousands of years, up until the dawn of the scientific age, the overall growth in human productivity was almost nil. Annual global rates of growth were consistently exceedingly small. Then new scientific discoveries and, along with them, new technologies began to change the world. The average global rate of growth annually was 0.3 percent from 1500 to 1820; 1.6 percent from 1820 to 1950; and 3.9 percent from 1950 to near the end of the twentieth century.[46] Few economists would contest the assertion that the tripling of the annual rate of global growth in the decades following the end of the Second World War was due in no small part to the lower barriers to trade and the more open economies in the growing and evolving multilateral trading system.

The fulfillment of, first, GATT, and now, WTO obligations, has led to direct and indirect advances for all the countries that are participants in the system. Directly, lower barriers to trade have increased market access and thus increased the volume of trade. This has, in turn, increased the gains from trade and, thus, the potential for more shared prosperity. Indirectly, the need to comply with agreed tariff cuts, transparency, nondiscrimination, and other international trade obligations has led to domestic reforms that have made national economies more open and, thus, more productive. One economic study has concluded, "Taking these (direct and indirect) effects into account suggests that, on average, GATT/WTO membership has increased trade between Members by 171% and trade between member and non-member countries by about 88%."[47]

According to Australian trade economist Kym Anderson, "While it remains difficult to attribute reforms directly to the GATT/WTO, the overall body of evidence . . . supports the economic professionals' consensus that this institution has contributed substantially to global economic welfare."[48] After reviewing all of the empirical studies by economists throughout the world on the economic impact of membership in the WTO, Anderson summarized succinctly the broad accomplishments of the WTO, which range beyond the economic: "[T]he lowering of trade distortions generally (although not in every case) has contributed to global economic welfare through, for example, improved efficiency of resource use, lower consumer prices, often more employment, faster economic growth, more sustainable development, nearly always less global income inequality and poverty and less conflict within and between nations."[49] This speaks to the value of the WTO as a global "public good" – a good that serves all of human society.

Although it is difficult to draw a straight line connecting the WTO through cause and effect to all of the worldwide economic advances between 1995 and the arrival of the novel coronavirus at the end of 2019, the increases in world trade during most of that time were unprecedented. The dollar value of world trade nearly quadrupled. The real volume of world trade expanded nearly threefold – 2.7 times. Average tariffs in the world were cut nearly in half, from 10.5 percent to 6.4 percent. During those same twenty-five years, the percentage of humanity living in extreme poverty fell from about one-third to less than 10 percent, not least due to the opening of the Chinese, Indian, and other rapidly growing developing country economies to the wider world, and to the resulting freer trade in the rules-based multilateral trading system.[50]

Consider the gains of trade under GATT and WTO rules of just one country, the United States. A recent study prepared for the Business Roundtable concluded that international trade supports nearly 39 million American jobs. One in every five American jobs is linked to imports and exports of goods and services. In the twenty-five years following the establishment of the WTO, trade-dependent jobs in the United States grew more than four times as fast as US jobs generally. Every one of the fifty US states realized net job gains that can be directly attributed to trade.[51] In another trade study, economists at the Peterson Institute for International Economics estimated "that the payoff to the United States from trade expansion – stemming from policy liberalization and improved transportation and communications technology – from 1950 to 2016 (was) roughly $2.1 trillion ... (and) that US GDP per capita and GDP per household accordingly increased by $7,014 and $18,131, respectively."[52] Further, "disproportionate gains probably accrue(d) to poorer households."[53]

The United States, of course, is far from the only country that has profited from participating in the WTO-based multilateral trading system. For Americans, though, it is worth noting that, according to a 2019 study by the Bertelsmann Foundation in Germany, membership in the WTO system has boosted annual US GDP by about $87 billion in the twenty-five years since the establishment of the WTO – *more than any other country*.[54] China was second in the annual benefits received from WTO membership, with about $85.5 billion, and Germany was third, with about $66 billion. Generally, countries, whatever their stage of development, have benefited from their participation in the rule-based multilateral trading system in rough equivalence with their percentage share of world trade.[55] Proportionately, no one country has benefited much more than any other, although it is certainly true that many developing countries could benefit more if they were more fully integrated into world trade.

In furthering transparency and facilitating trade liberalization, WTO rules promote openness. They do so because more openness to the world economy, including through trade, is necessary for economic growth and economic competitiveness. History demonstrates that no country has ever grown – *and continued to grow over time* – without opening economically to the wider world.[56] One common characteristic of all the high-growth economies in the past half-century has been that "[t]hey fully exploited the global economy."[57] Their "sustained growth became feasible only because the world economy became more open and more tightly integrated."[58] Over time, a country closed to the wider world will shrink and sink economically.

The need for rules that promote openness is borne out by the global experience with the most common of the many restrictions on trade – tariffs. In 2018, the International Monetary Fund studied the economic statistics from 151 countries over the course of more than half a century (from 1963 through 2014) and concluded that "tariff increases lead, in the medium term, to economically and statistically significant declines in domestic output and productivity as well as more unemployment and higher inequality."[59] Tariffs are popular with all of those who propose to put their own country "first" through economic nationalism; but, for any country, for all countries, imposing and raising tariffs lowers competitiveness.

Yet, while trade is necessary, an openness to trade is not enough. An increased openness to more trade and freer trade internationally must be matched domestically by actions that open the way for more free people to share fully in the gains of trade. Openness alone does not lead to success. "The competitiveness of economies in an integrated world [is determined by] how well they convert the potential created by access to global markets into opportunities for their ...

people."[60] The emphasis must be on creating the human capital of human capabilities.[61] Without domestic actions that increase the opportunities for individuals to become better prepared to compete, the gains derived from more and freer trade will be fewer, and those gains will be enjoyed by fewer people. The "distributive effects" from the trade gains – who gets them and how much of them they get – will be unfair. All too often, in America and elsewhere, this is precisely what has happened so far in this century.[62]

Open economies are enablers of growth. Closed economies decline and die. Competitiveness can only be maximized if there is openness.[63] The best path to competitiveness will vary from country to country with varying circumstances. Yet the basic ingredients of competitiveness are everywhere much the same. These ingredients include free trade, free investment, supportive laws and institutions that enable free and open markets, and, to glue it all together, the rule of law. Equally essential are financial stability and fiscal solvency. What is more, the basic ingredients of competitiveness everywhere include maximizing the potential gains from trade and from other economic endeavor – and thus the potential for the enjoyment of individual human freedom – by finding and combining the right mix of market and government actions.

The right line must be drawn everywhere between private and public – between markets and governments – between the necessity to preserve personal liberty and the necessity also to empower it. In always striving to find this right line, we must provide: innovative lifelong education for both work and citizenship, beginning with essential and cost-saving investments in early childhood development; practical, skills-based training and retraining and other forms of tested and proven unemployment and other transitional assistance such as wage insurance or refundable tax credits for workers; modern and environmentally friendly roads, transit systems, water systems, bridges, seaports, airports, spaceports, communications grids, power grids, and all other kinds of sustainable infrastructure; strong protections for civil rights and worker rights; a fair, limited, and broadly shared tax base; and a tax structure that does not undermine public trust by resulting in an obscene extent of income inequality.

This right line of a mixed public/private economy must be drawn also while providing ease of labor mobility; accessible and affordable universal health care; abundant basic scientific research and development; an ample and reliable social safety net; a sufficient but not counterproductive minimum wage; an enabling economic atmosphere that supports individual and cooperative initiative, incentive, and enterprise; antitrust laws that guard against economic monopolies and other predatory economic practices by assuring market competition; effective protection and preservation of the environment; and all else that is necessary to help make it possible for each and all to make the most of the opening of new economic opportunities through an open economy in an open society.

Yet no country can afford or provide the needed extent of all these domestic benefits if it does not have an open economy. No country can seize its fair share of the future if it clings stubbornly to a past that no longer exists. One essential ingredient of sustaining and strengthening competitiveness is thus an openness to economic change. The embrace of freedom demands a willingness to undergo "the ordeal of change" for the sake of a better future.[64] For any individual, any enterprise, or any country to be competitive in shaping such a future, there must be a firm and unwavering understanding that, as Spence has put it, "Sustained growth and structural change go hand in hand."[65] To be successful in generating economic growth, free markets must be free, if need be, to destroy the old so as to create the new.

The older sectors of an economy will always resist the "creative destruction" of capitalism.[66] They will resist the logic of comparative advantage – which teaches us that we prosper most when we specialize in producing what we produce relatively better than others. (Note the word "*relatively*" here – the oft-omitted core of the concept.) Those who derive power and profit from the way things are, will seek always to forestall the new way things could be. Those who own and control the less competitive parts of an economy, will resist yielding to the arrival of the new, and they will often seek to survive by securing the subsidizing support and other favoritism of government through profit-making from the largesse of political influence – through the "rent seeking" of unearned profits from "crony capitalism."

In the timeless words of Franklin Roosevelt in 1932, "The same man who tells us that he does not want to see the government interfere with business . . . is the first to go to the White House and ask the government for a prohibitive tariff on his product."[67] What was true then is true now. Entrenched economic interests that are no longer internationally competitive will do all they can to try to preserve their entrenchment while denying to themselves the incentivizing benefits of the competition offered by imports, and while denying to others the new opportunities that should be theirs to share in the gains from more trade and more investment. All of the other workers and the firms engaged in the broader economy will pay the opportunity costs of this protection of the old at the expense of the new through higher costs, higher taxes, lost innovation, and lost opportunities for jobs with a future.

In the United States, this was clearly illustrated in recent years by the costs of the unilateral 25 percent tariffs on imports of steel imposed by President Trump. US steel makers increased production to some extent after the tariffs were applied, largely because of increased domestic demand for steel. They did not, however, increase the number of steel workers. Instead, steel makers produced more steel from the modern and highly efficient mini-mills with electric-arc furnaces that require fewer workers than the older blast furnaces that date back to the fourteenth century.[68] Just 200 jobs were created in the US steel industry during the first year of the steel tariffs. The workers did not benefit much from the tariffs. Who did? As the editorial writers of the *Wall Street Journal* noted, the steel companies "are making more money as they benefit from their ability to raise prices in a protected market."[69] Trump's unilateral steel tariffs are "crony capitalism" in action.

Part of being competitive is being willing to compete. The spur of competition – both foreign and domestic – is necessary to the ongoing process of structural change. Growth involves a structural transformation that "is the result of competitive pressure."[70] Without the incentives from the pressures of competition, including open foreign competition, there will be less growth. Thus, "[g]overnments committed to growth must … liberalize product markets, allowing new, more productive firms to enter and obsolete firms to exit. They must also create room to maneuver in the labor market, so that new industries can quickly create jobs and workers can move freely to fill them."[71] Trying to protect and preserve jobs in uncompetitive sectors of the economy by insulating them from competition, Spence tells us, "is the functional equivalent of throwing sand in the gears of an otherwise well-oiled machine. It will negatively impact productivity and incomes – and, eventually, growth."[72]

As this image illustrates, comparative advantage "shifts continuously over time, in parallel with investment, human capital acquisition, and, ultimately, with prices and wages."[73] Competitiveness is everywhere and always about comparative advantage. To remain competitive, we must be willing to shift as comparative advantage shifts.[74] Some jobs will inevitably be lost along the way in these shifts because of the competition that comes from trade, both foreign and domestic. Yet, as Spence asserts, "The main job of government is to facilitate structural change by investing in human capital, protecting people in the transitions through income support and access to basic services, and then to let the market forces and investment incentives work."[75] Putting all this in one sentence, the best strategy to increase competitiveness is to protect people, not specific jobs. Strengthening international trade links helps implement this best strategy, and trade links are best strengthened through the multilateral trade framework called the WTO.

LINKS TO NATURE AND SUSTAINABLE DEVELOPMENT

Although COVID-19 has not changed our basic economic assumptions about the division of labor that is trade, the novel coronavirus has provided us with an all too revealing C-scan of how trade and other dimensions of the economy are linked, intricately and inextricably, to the environment, which contains the economy. The pandemic is not a punishment imposed (much as we may deserve it) by a judgmental Providence. Nor is it a random act of an indifferent nature. More accurately, the pandemic is nature's unconscious and unfeeling revenge for the heedless actions of humanity. As one global group of experts has explained, "Pandemics have their origins in diverse microbes carried by animal reservoirs, but their emergence is entirely driven by human activities."[76] The outbreak and spread of COVID-19 are linked directly to the human destruction of nature,[77] and this wanton destruction is linked in part to trade, both legal and illegal.

COVID-19 is only one of an untold number of zoonotic diseases that can potentially jump from animals to humans. Scientists report that "[a]n estimated 1.7 million currently undiscovered viruses are thought to exist in mammal and avian hosts. Of these, 631,000–827,000 could have the ability to infect humans."[78] Rats, bats, monkeys, and civets are among the animal species that host most of the known zoonotic viruses that can leap to humans. The likelihood of this lethal leap from these and other animal species is increasing because, throughout the world, "[h]uman activities are destroying, degrading, and fragmenting natural areas at an unprecedented rate. Habitat destruction and biodiversity loss are contributing to the rise in new diseases by undercutting the ability of ecosystems to reduce and regulate the risk of a pathogen spreading among wildlife."[79]

Thomas Lovejoy, the acclaimed conservation biologist who coined the phrase "biological diversity," has lamented that the rapid spread of COVID-19 is "the consequence of our persistent and excessive intrusion in nature and the vast illegal wildlife trade … Habitat loss and overexploitation of wildlife – compounded by climate change – are driving factors in the disease boom."[80] Climate scientist Johan Rockstrom, who helped invent the notion of "planetary boundaries," has explained that, when we destroy more natural habitats and also hunt for more wildlife in what remains of those habitats, "the natural balance of species collapses due to loss of top predators and other iconic species, leading to an abundance of more generalized species adapted to live in human-dominated habitats."[81] This proximity promotes the spread of zoonotic diseases.

The human origins of COVID-19 and other zoonotic diseases have been summarized well by science writer Ferris Jabr: "Between 60 and 75 percent of emerging infectious diseases in humans come from other animals," including "rabies, Lyme, anthrax, mad cow disease, SARS, Ebola, West Nile, Zika," and now the novel coronavirus COVID-19.[82] He adds,

> Zoonotic pathogens do not typically seek us out nor do they stumble onto us by pure coincidence. When diseases move from animals to humans, and vice versa, it is usually because we have reconfigured our shared ecosystems in ways that make the transition more likely. Deforestation, mining, intensive agriculture and urban sprawl destroy natural habitats, forcing wild creatures to venture into human communities. Excessive hunting, trade and consumption of wildlife significantly increase the probability of cross-species infection. Modern transportation can disperse dangerous microbes across the world in a matter of hours … We drain the world's biological basins of the diversity that would ordinarily keep contagions in check. Other animals' diseases have not so much leapt onto us as flowed into us through channels we have supplied.[83]

Wildlife trade is frequently a source of human infection. The infection often occurs in the "wet" markets where much of such trade occurs, such as the Huanan market in Wuhan on which so much attention was centered in the early days of the COVID-19 pandemic. In these markets, human and disease-infected wild animals mingle in ways they never would otherwise. As Jabr has put it,

> The wildlife trade is an ecological aberration: It thrusts species that would otherwise never meet into strained intimacy. Because captive animals are often undernourished and stressed, they are more susceptible to infection. When they are butchered on the spot, which happens in certain live-animal markets, their bespattered fluids potentially expose other animals as well as humans. It's an unparalleled crossroads for infectious pathogens.[84]

Various wildlife species are sold in these markets, mostly as sources of traditional medicines and exotic meat. But they can also be sources of human disease and death.

Like the Huanan market in Wuhan, these wildlife markets are found in many places in Central and South China. Likewise, they are found in many other places in Southeast Asia and Central Africa. And, as we have seen with COVID-19, new viruses can quickly spread from wildlife markets to humans and then to multiples of other humans, at first near and soon far. So long as we do little to address these and other sources of contagion, new zoonotic diseases are likely to spread. COVID-19 is the latest. It will not be the last. As one group of scientists has warned, the next plague from the next pandemic could potentially be "even more disruptive and lethal than Covid-19."[85]

Plagues are not new in the world.[86] The great Athenian statesman Pericles died during a plague that devastated Athens during the Peloponnesian War. Plagues slaughtered untold millions in the Rome of the Antonine emperors during the second century and the Byzantium of the emperor Justinian in the sixth century of the Common Era. The Black Death of the bubonic plague killed between 75 and 200 million people in Eurasia and North Africa in the fourteenth century. A renewed outbreak, the great plague of London, killed another 75,000 people in the seventeenth century. Fifty million people died worldwide from the Spanish Flu of 1918 and 1919 – far more than the 20 million deaths during the unprecedented carnage of the First World War. About 33 million people worldwide have died thus far from the HIV/AIDS epidemic that began in the Congo in the 1920s and was first recognized in the United States in the 1980s.[87] But plagues have never occurred previously in a world as thoroughly globalized as ours has become – a world in which our own actions are more likely than ever before to bring plagues upon us.

Contained as we humans are within the environment, we are likewise contained within the consequences of what we do to the environment. We are a part of all that surrounds us. All we do to all that surrounds us, we do also to ourselves. And yet, until now, we have long persisted in acting as if we, as a singular species, are a world unto our own, distinct from all the rest of nature. In our overweening pride, we have placed humanity alone on a pedestal, above all else, in control of all else, and untouched by all else. Amazingly, up until the advent of COVID-19, many of us extended this hubristic thinking even to public health, despite centuries of scientific evidence to the contrary. Health, we thought, came from exercise at the gym. Medicine, we believed, came from bottles.

But "[n]othing exists independent of the natural world."[88] And that includes us. Aaron Bernstein of Harvard University puts this point bluntly: "We swim in a common germ pool with other animals. If we stretch the fabric of life too far, things pop out of that germ pool and they land on us."[89] As disease ecologist Jonathan Epstein has explained, "We need to stop looking at people in a vacuum. Everything we do to disrupt natural systems, to manipulate the environment around us, influences our own health. We haven't thought about that carefully enough."[90] Nor have we thought carefully enough about all of the many other ways in which our occasionally noble, always striving, but ever-arrogant, species lives, not alone unto itself, and not within a vacuum, but, rather, within the ever-present constraints of the natural environment.

The human economy is one of those ways. The economy is a collective manifestation of humans working together in a shared effort to survive, thrive, and perpetuate ourselves as a sentient species. The economy is a way of paying for dinner this evening. It is a way of paying next month's bills. But, above all else, it is a means of preserving and passing on the human genetic code through human endurance and human flourishing. Looking at people in a vacuum, much of humanity has long tended to think of the environment as separate and distinct from the economic task. Now, in the pandemic world, looking at people anew as an embedded part of the natural world that surrounds us, we are impelled to see that the economy is enveloped by the environment. It is contained within it. The economy and the environment are not separate and distinct. They are one. They have always been one. They will always be one. We must internalize this basic, essential insight into all that we do, whether it be in fighting the pandemic, in furthering trade, or in forging the best links for accomplishing the global goals on which we have agreed for what we have described as "sustainable development."[91]

As a concept, "sustainable development" has been centuries in the making. Often called simply "sustainability," it has slowly emerged along with the slow awakening of humanity to the realization that human social and economic goals are not only linked to each other. The two are also unavoidably linked to the environment.[92] Indeed, there is a widespread but mistaken popular assumption that the idea of "sustainability" is exclusively about the environment. This, though, is not so. Sustainable development is holistic. It is an exercise in what might rightly be described as "systems thinking"; for it sees the world as an interrelated and mutually reinforcing system, and it sees humanity as one part of that system.[93] In this view, what the United Nations describes as the "three dimensions" of sustainable development – social, economic, and environmental – are interlinked. Each of these "three dimensions" is linked in ways that reinforce the other two. And each of the three must therefore be approached "in a balanced and integrated manner" to achieve "sustainable development."[94]

The most famous definition of "sustainable development" is in the 1987 report of the United Nations Commission on Environment and Development entitled "Our Common Future," commonly known as the Brundtland Report, after Gro Harlem Brundtland, the commission's chairwoman and the former three-time prime minister of Norway.[95] "Sustainable development" was famously defined in the Brundtland Report as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."[96] It was then explained in the report that the definition of sustainable development "contains within it two key concepts: the concept of 'needs,' in particular the essential needs of the world's poor, to which overriding priority should be given; and the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs."[97] Thus, the two linked "key concepts" of economic needs and environmental limits are entwined within the definition of "sustainable development" and within all that is done toward that end.

With this linked notion of "sustainable development" as their beckoning lodestar, in September 2015, 193 members of the United Nations adopted by consensus a declaration of their common goals to be accomplished by the year 2030 entitled "Transforming Our World: The 2030 Agenda for Sustainable Development." This document is not a treaty. It is not enforceable international law. Instead, it is an aspirational statement endorsed by all the members of the United Nations of where they all wish to go in furthering human flourishing. The global goals set out in the UN agenda are generally known as the "Sustainable Development Goals," or, in the acronymic UN argot, the "SDGs."[98] They are described in the UN 2030 agenda as "integrated and indivisible, global in nature and universally applicable," and as balancing "the three dimensions of sustainable development."[99] There are seventeen goals. There are 169 associated targets for achieving them. The goals are:

- Goal 1. End poverty in all its forms everywhere.
- Goal 2. End hunger, achieve food security and improved nutrition, and promote sustainable agriculture.
- Goal 3. Ensure healthy lives and promote well-being for all at all ages.
- Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.
- Goal 5. Achieve gender equality and empower all women and girls.
- Goal 6. Ensure availability and sustainable management of water and sanitation for all.
- Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all.
- Goal 8. Promote sustained, inclusive, and sustainable economic growth, full and productive employment and decent work for all.
- Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation.

- Goal 10. Reduce inequality within and among countries.
- Goal 11. Make cities and human settlements inclusive, safe, resilient, and sustainable.
- Goal 12. Ensure sustainable consumption and production patterns.
- Goal 13. Take urgent action to combat climate change and its impacts.[100]
- Goal 14. Conserve and sustainably use the oceans, seas, and marine resources for sustainable development.
- Goal 15. Protect, restore, and promote sustainable use of terrestrial ecosystems; sustainably manage forests; combat desertification; halt and reverse land degradation; and halt biodiversity loss.
- Goal 16. Promote peaceful and inclusive societies for sustainable development; provide access to justice for all; and build effective, accountable and inclusive institutions at all levels.
- Goal 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development.

The members of the United Nations have agreed to achieve all seventeen of these ambitious goals by 2030. They have not agreed how to achieve them. The SDGs do not say how to achieve them. The intent is to "end poverty" and "end hunger." How this will be done is not specified. It is left to sovereign states to accomplish these worthy ends in their own chosen fashion. The SDGs do contemplate various means of implementation, such as, for example, overseas development assistance, international public finance, voluntary public reporting, and annual assessments in global gatherings at the United Nations. However, in the necessary process of "transforming our world," the members of the United Nations have together clearly acknowledged that "each country has primary responsibility for its own economic and social development."[101] Even in a world greatly transformed by globalization, national sovereignty still holds sway in shaping the course of a new kind of globalization as envisaged in the Sustainable Development Goals.

In bold words, the 193 countries that agreed to the SDGs stated,

> We envisage a world free of poverty, hunger, disease and want, where all life can thrive. We envisage a world free of fear and violence ... We envisage a world of universal respect for human rights and human dignity, the rule of law, justice, equality, and non-discrimination ... We envisage a world in which every country enjoys sustained, inclusive and sustainable economic growth and decent work for all ... One in which humanity lives in harmony with nature and in which wildlife and other living species are protected.[102]

And this is only part of their lofty vision for 2030. Yet, more than seventy-five years after the establishment of the United Nations, it remains clear that the principal agent for achieving all that is promised in the SDGs remains the sovereign nation-state. International cooperation is sought. International cooperation is stressed as essential. Yet international cooperation is in no way mandated.

To spur cooperation for accomplishing the SDGs, the United Nations has established a "High-Level Political Forum on Sustainable Development" to monitor and mobilize continued support for the seventeen goals as a central part of the UN 2030 agenda. This forum has met annually since 2016 and, every four years, convenes as a meeting of heads of state. It is "voluntary and country-led" and features "reviews at regional and global levels" of national progress toward sustainable development.[103] At the meeting in New York in July 2020, forty-seven countries submitted "voluntary national reviews."[104] As COVID-19 spread, the vast majority of the countries that agreed to the Sustainable Development Goals in 2015 did not submit a self-review in 2020. Among them was the United States, which, while refraining from going so far as to renounce the SDGs, largely stopped participating in the SDG effort following the election of Donald Trump as president of the United States in 2016. In the first months that followed Joe Biden's inauguration to succeed him in January 2021, there was widespread expectation that the United States would once again become active in support of the Sustainable Development Goals. Without invoking them, Biden's initial legislative proposals seemed to echo the goals and the targets of the SDGs.

The United Nations has acknowledged that, even before the pandemic, "progress remained uneven" and "we were not on track" to achieve the Sustainable Development Goals by the target date of 2030.[105] As the United Nations Secretary-General Antonio Guterres has explained,

> Some gains were visible: the share of children and youth out of school had fallen; the incidence of many communicable diseases was in decline; access to safely managed drinking water had been improved; and women's representation in leadership roles was increasing. At the same time, the number of people suffering from food insecurity was on the rise, the natural environment continued to deteriorate at an alarming rate, and dramatic levels of inequality persisted in all regions. Change was still not happening at the speed or scale required.[106]

Then, suddenly, at the beginning of 2020, the "modest progress of recent years" was erased.[107] In the space of a few weeks, the positive changes that had been happening were abruptly reversed, and the seventeen goals established in the SDGs seemed vastly farther away from any hope of accomplishment. Business leader Paul Polman, a global champion of the SDGs, has gone so far as to lament that "[t]he pandemic has put us back probably 20–30 years on the sustainable development goals."[108] Undaunted, the secretary-general has maintained that, "Far from undermining the case for the SDGs, the root cause and uneven impacts of COVID-19 demonstrate precisely why we need the" Sustainable Development Goals and the international agreements aimed at implementing them.[109] Other global leaders in the effort to achieve the SDGs have echoed him, insisting that

> what we cannot afford to do, even in these crucial times, is shift resources away from crucial SDG actions. The response to the pandemic cannot be de-linked from the

SDGs … After all, in a crisis we are only as strong as the weakest link. This is what the Sustainable Development Goals … the global blueprint to end poverty, protect our planet and ensure prosperity, are all about.[110]

At the same time, some supporters of the Sustainable Development Goals have suggested that, in the wake of the pandemic, it may be time to "reset" the SDGs for the pandemic world by organizing a framework for fulfilling them.[111] From the outset, there has been uncertainty among the advocates of sustainable development about precisely how to go about organizing the SDGs to be best able to pursue them. In 2019, already concerned about the unwieldy structure of seventeen goals and 169 targets, a group of scientists advising the UN suggested reframing the SDGs through a half dozen categories called "entry points," while still endeavoring to achieve them all.[112] Also in 2019, leaders of the worldwide Sustainable Development Solutions Network set up by the UN to help spur local and national actions to achieve the SGS, proposed grouping the seventeen goals through six "transformations" in governance.[113] The SDSN proposal built on the similar proposal in 2018 by sixty authors and some 100 global experts engaged in the "World in 2050 Initiative" of the International Institute for Applied Systems Analysis, which was undertaken to provide scientific foundations for the 2030 agenda.[114]

Now, in the new world of the pandemic, some supporters of sustainable development have called for more than merely a reframing of the Sustainable Development Goals. They contend that COVID-19 makes the case for more fundamental thinking than is reflected in the SDGs. Environmental scientists Robin Naidoo and Brendan Fisher contend that the very premises of the SDGs have been undermined, and that, as a result, "Rosy hopes that globalization and economic growth would bankroll waves of green investment and development are no longer realistic … The success of the SDGs depends on two big assumptions: sustained economic growth and globalization. COVID-19 has torn these to shreds."[115] Their alternatives? Foremost among them is: "Decouple development and growth"; that is, look at growth in a new and sustainable way.[116] In theirs and similar proposals, Ruchir Sharma's call for "a new, more focused approach to government intervention" as a means of making capitalism work again finds echoes in the call of many supporters of sustainable development for a "green recovery."[117]

LINKS TO A GREEN RECOVERY

In the new pandemic world, climate change continues to quicken. The industrial age began in the eighteenth century and greatly accelerated with James Watt's improvements in the steam engine. The steam engine was powered by the stored solar energy in coal, a fossil fuel. Since then, the advance of human civilization has largely been powered by fossil fuels, with carbon dioxide emissions piling up in the Earth's atmosphere, where they can linger for

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hundreds, if not thousands, of years. During Watt's time, global average carbon dioxide concentrations in the atmosphere were about 280 parts per million. In April 2021, CO_2 levels in the atmosphere were 420 parts per million – the highest total in human history.[118] This was despite the drop in carbon emissions during the previous year due to the reduced economic activity from the pandemic.[119]

There is more carbon dioxide in the atmosphere now than at any time in the past three million years.[120] Nobel Prize–winning economist Joseph Stiglitz has explained what this means for us: "As the atmospheric concentration of carbon increases, we are entering uncharted territory. Not since the dawn of humanity has there been anything like this. The models use the 'best estimate' of impacts, but as we learn more about climate change these best estimates keep getting revised, and, typically, in only one direction – more damage and sooner than expected."[121] According to James Hansen, the former NASA climate scientist who first brought the challenge of climate change to the attention of the Congress of the United States in the 1980s, "If humanity wishes to preserve a planet similar to that on which civilization developed and to which life on Earth is adapted ... CO_2 will need to be reduced ... to at most 350 ppm."[122]

The more carbon dioxide and other greenhouse gases there are in the atmosphere, the warmer the planet. Because of man-made alterations in the climate, the average temperature of the planet has already increased 1.2 degrees Celsius (nearly 2.2 degrees Fahrenheit) since 1880.[123] With the broadening scope of global industrial growth, two-thirds of this warming has occurred since 1975.[124] By the end of this century, in the year 2100, remedial climate mitigation and adaptation policies currently in place throughout the world are projected to reduce anticipated carbon dioxide and other greenhouse gas emissions sufficiently to limit global warming to about 3 degrees Celsius (about 5.4 degrees Fahrenheit) above preindustrial levels.[125] But that is all.

Climate scientists warn that this extent of warming would significantly exceed the amount of warming that can occur without imposing devastating harms on humanity and all else on the Earth.[126] Climatologists on the intergovernmental panel advising the United Nations on climate change tell us, "Continued emission of greenhouse gases will cause further warming and long-lasting changes in all components of the climate system, increasing the likelihood of severe, pervasive and irreversible impacts on people and ecosystems."[127] They predict with "high confidence" that, "Without additional mitigation efforts beyond those in place today, and even with adaptation, warming by the end of the 21st century will lead to high to very high risk of severe and irreversible impacts globally."[128] They add, ominously, that, "The risks of abrupt or irreversible changes increase as the magnitude of warming increases."[129]

Unless more changes – vastly more ambitious changes – are made now to curb global warming, the Earth's climate only a few decades from now will differ markedly from what it is today. To stabilize climate change, we must reduce net emissions of carbon dioxide to zero, and we must start yesterday;

for, as the World Bank has stated, "As long as we emit more than nature can absorb in its sinks (oceans, forests, and other vegetation), concentrations of CO_2 in the atmosphere will keep rising, and the planet will keep warming. And the decisions we make now will determine the planet's climate for centuries."[130]

We have done this to ourselves. We have denied the reality of climate change. We have delayed collective action on climate change for decades since we first became aware of the harm we have been doing to the climate. We have been content with hesitant and halting measures against climate change when we should have come together long ago to act boldly together in confronting the most serious threat in history to the future of humanity. The sad truth is, three decades on from the hopeful start of the human effort to fight climate change at the Earth Summit in Rio de Janeiro in 1992, so far not much has been accomplished to free humanity from our overwhelming dependence on fossil fuels for the energy that powers our economic production and perpetuates our civilization. For all the strides that have been made in recent years in developing renewable forms of energy, the source of more than 80 percent of global energy consumption remains oil, coal, or natural gas – the fossil fuels that have enabled human ingenuity to forge the transformations of the industrial revolution, but at a very high price.[131]

Closing in on nearly three centuries since the human creation of an economy based on carbon-fueled industrial production, we now know that the carbon and other emissions from the same fossil fuels that fired so many advances in human civilization are threatening to undermine and undo it by causing an increasingly rapid change in the climate of the planet. Motivated by the mounting scientific evidence of the reality and the impacts of climate change, the world has labored for several frustrating decades to engage in collective action. After nearly a quarter of a century of negotiations, 195 countries at long last concluded the Paris climate agreement in December 2015, three months after the global agreement on the Sustainable Development Goals.

The Paris climate agreement is only a start. Still, long years in coming, it is, at least, a start. The agreement mainly provides an international legal architecture to facilitate reducing carbon dioxide and other greenhouse gas emissions. It is legally binding; however, it is not an agreement containing many binding legal obligations. Apart from some reporting requirements, it does not mandate much at all. Notably, the Paris accord is not a "top-down" agreement that mandates across-the-board emissions cuts. It does not require countries to cut their carbon dioxide and other greenhouse gas emissions. It is, instead, a "bottom-up" agreement that provides a global legal framework in which countries can pledge to make such cuts voluntarily. The shared hope of the global climate negotiators has been that, in lieu of mandated emissions cuts, for which there is scant political support, particularly among major emitters, mutual peer pressure will, over time, encourage countries to ratchet up their ambitions for such cuts.[132]

In the Paris Agreement, the 195 countries announced as their ambition: "holding the increase in the global average temperature to well below 2C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5C above pre-industrial levels."[133] Scientists say that holding the average temperature rise to no more than 2C is necessary to avoid the worst ravages of climate change. Initial voluntary national pledges made under the Paris Agreement fell far short of putting the world on a path to achieve either of these goals.[134] The United Nations Environment Programme warned in November 2019, not long before the outbreak of the novel coronavirus, that "even if all current unconditional commitments under the Paris Agreement are implemented, temperatures are expected to rise by 3.2C (by 2100)."[135] UNEP concluded that "[c]ollective ambition must increase more than fivefold over current levels to deliver the cuts needed over the next decade for the 1.5C goal."[136] To achieve this goal, global greenhouse gas emissions would need to fall by 7.6 percent each year between 2020 and 2030.[137]

The focus of UNEP on holding global warming to 1.5C instead of the less ambitious Paris goal of 2C was no doubt inspired by a special report in October 2018 in which the Intergovernmental Panel on Climate Change – the worldwide group of climate scientists that advise the United Nations – stressed that limiting warming to 1.5C (2.7 degrees Fahrenheit) by 2100 would be much safer than limiting it to 2C (3.6 degrees Fahrenheit).[138] "Climate-related risks to health, livelihoods, food security, water supply, human security, and economic growth are projected to increase with global warming of 1.5C and increase further with 2C," the climate scientists reported.[139] Global warming, they predicted, was likely to reach 1.5C between 2030 and 2052 at the current rate of temperature rise.[140] And the warming from human emissions "from the pre-industrial period to the present will persist for centuries to millennia and will continue to cause further long-term changes in the climate system."[141]

Due to decades of impasse and inaction, the opportunity to reverse global warming has passed. Our past carbon emissions are already in the atmosphere, where they will linger for centuries, and for perhaps as long as a thousand years.[142] Yet, the IPCC climate scientists stressed in their special report, limiting warming to 1.5C instead of 2C would have "clear and considerable benefits, such as significantly reducing the risks of water scarcity, ill-health, food insecurity, flood and drought, extreme heat, tropical cyclones, biodiversity loss, and sea level rise."[143] At 1.5C instead of 2C in warming, ten million fewer people could be at risk from sea level rise. The percentage of the world population exposed to water stress could be cut in half. The loss of 1.5 million tons of global annual catch for marine fisheries could be avoided. From 10 to 30 percent of coral reefs could be saved.[144] Global food scarcity would be less. Hundreds of millions of people, especially in poorer countries, would be at less risk of climate-related poverty. However, to accomplish these desirable ends by limiting global warming to 1.5C, the scientists explained, global greenhouse gas emissions would need to be reduced by 45 percent from 2010 levels by 2030, and by 100 percent – net zero – by 2050.[145]

What turned out to be the year of the pandemic, 2020, was supposed to be a turning point toward much more ambitious climate action. Under the Paris Agreement, countries pledged to submit new and updated voluntary national climate pledges by 2020.[146] For this reason, since the conclusion of the climate agreement in Paris in 2015, climate activists had been looking ahead to the global climate summit planned for 2020. The annual summit held in Madrid in December 2019 – COP25 – occurred just as the novel coronavirus began to make its way through Wuhan. COP25 was supposed to set the stage for the submission at COP26 in 2020 of much more ambitious national climate pledges, as envisaged in the Paris climate agreement. But little was achieved in Madrid,[147] and, amid the pandemic, the climate talks planned for COP26 in Glasgow were postponed until November 2021.[148]

Left in a negotiating limbo, climate activists worried that the fight against climate change would be forgotten in the fugue of a global preoccupation with the fight against the pandemic. These worries were complicated by the circumstances, in which temporary declines in emissions due to virus-related economic shutdowns led many people throughout the world to think, mistakenly, that the shutdowns were having the ironic effect of stopping climate change. Skies cleared, albeit briefly, in places where clear skies had not been seen in many years. Was the climate crisis not over? Likewise, sustainability activists fretted that the other Sustainable Development Goals would also be shunted to the sidelines in the scramble to get the global economy going again. As scholars at the Overseas Development Institute in the United Kingdom expressed this widespread concern, "The urgency of rapid economic recovery risks overshadowing the urgency of climate action and undermining sustainability commitments."[149]

As countries pondered how to resurrect their economies while also continuing to fight the pandemic, climate and sustainability activists urged that these aims be pursued while also facilitating the green economic transition needed to combat climate change and achieve sustainable development. The activists were not alone. In calling for a new approach, they were joined by scientists,[150] health care workers,[151] and business leaders,[152] among many others throughout the world. There was a compelling need, they all insisted, to "build back better" to increase resiliency in confronting future pandemics and future climate and other shocks.[153] According to the OECD, the notion of building back better meant "doing more than getting economies and livelihoods quickly back on their feet. Recovery policies also need to trigger investment and behavioural changes that will reduce the likelihood of future shocks and increase society's resilience to them when they do occur."[154]

Two British scholars, Eleanor Russell and Martin Parker, declared, "There is a real danger that the policy of bouncing back to a growth economy will simply overwhelm the necessity of reducing carbon emissions. This is the nightmare scenario, one in which Covid-19 is just a prequel to something much worse."[155] Understandably, the initial response of governments worldwide was focused on the most immediate tasks of human survival – delivering health care to victims of the virus and emergency aid to businesses that had been shuttered and to people who had been left without work by the social lockdowns that were intended to quell the virus. Little thought was given in the first round of public spending to anything else.

Subsequent spending by governments worldwide, however, has addressed the impact of the pandemic more broadly, and has included stimulus measures totaling trillions of dollars. The urgent need for these stimulus measures has created an unprecedented opportunity for fashioning a new approach, one in which governmental action would boost the economy *and* cut emissions, while also fulfilling all the other objectives of sustainable development. Climate scientists tell us that investing about 10 percent of stimulus funds in renewable energy would pay for the clean energy transition.[156] They also say that, among many other benefits for sustainable development, such an approach could avoid 0.3C of global warming by the middle of this century.[157]

At this historic turning point, there is the opportunity for a *green recovery*.

Not surprisingly, we are told by those with a vested interest in the oil-soaked status quo that a green recovery would be a jobless recovery. The scaremongering message of fossil fuel producers and other defenders of the carbon-based economy has long been that shifting from a carbon economy to a low-carbon and ultimately a no-carbon economy would cost workers untold millions of jobs. They warn that the price of going green would be going without work. Now, when many millions worldwide are out of work because of COVID-19, that message resonates even more with all too many anxious people living precariously on the economic edge. In the United States especially, where fossil fuel producers have spent untold millions of dollars disseminating misinformation that denies the very existence of climate change, and where their political shills have further confused a fretful public now concerned even more about their continued employment because of the pandemic, a candidate or an officeholder who truly seeks to level with the voters about the necessity for making a green transition is, indeed, an exemplar of political courage.

Yet now, too, there is accumulating evidence that going green can create new work and more work. The Global Commission on Economy and the Environment – comprised of former heads of state and finance ministers and leaders in economics, business, and finance, and chaired by former President Felipe Calderon of Mexico – concluded in 2018 that ambitious climate action "could generate over 65 million new low-carbon jobs in 2030, equivalent to today's entire workforces of the UK and Egypt combined, as well as avoid over 700,000 premature deaths from air pollution compared with business-as-usual."[158] Furthermore, the same global commission calculated, "Transitioning to this low-carbon, sustainable growth path could deliver a direct economic gain of US$26 trillion through to 2030," again, "compared to business-as-usual."[159]

In October 2020, in the midst of the pandemic, the International Monetary Fund forecast that "[t]he goal of bringing net carbon emissions to zero by 2050 can be achieved through a comprehensive policy package that is growth friendly (especially in the short term) and involves compensatory transfers to households to ensure inclusion."[160] As IMF economists pointed out, "A concern with decarbonization policies is that they will lead to job losses in carbon-intensive industries."[161] They concluded, however, that "[e]vidence from firms suggests that job losses in high-emission sectors (for example, high-emission manufacturing, transportation) in response to tighter environmental policies can be offset by job creation in low-emission sectors (for example, low-emission manufacturing and services)."[162] In the carbon-dominated energy sector alone, the International Energy Agency has estimated that, with a global annual investment of about $1 trillion over three years, about nine million jobs could be saved or created, as compared to the six million jobs at risk because of the COVID-19 pandemic.[163]

Precisely how to pursue this green transition through a green recovery has been a main topic during the pandemic. Part of the answer – an essential part of the answer – is putting a price on carbon. Another part of the answer is having the right mix of market initiatives and governmental regulations. Still another part is the basic research that helps lead to innovation. And a critical part, of course, is creating more and better jobs to replace those that are lost in the shift away from carbon. One study in 2020 – conducted by Joseph Stiglitz, former World Bank chief economist Lord Nicholas Stern, and leading economists from Oxford University – found that "a green recovery can produce higher returns on public spending and create more jobs in both the short term and the long term, compared to the alternative of pouring stimulus cash into the fossil fuel economy."[164] They contend that, as with the response to the coronavirus crisis, "Decisive state interventions are also required to stabilize the climate, by tipping energy and industrial systems toward newer, cleaner, and ultimately cheaper modes of production that become impossible to outcompete."[165]

This Oxford study "identifies stimulus policies that are perceived to deliver large economic multipliers, reasonably quickly, and shift our emissions trajectory towards net zero. The recovery packages can either kill these two birds with one stone – setting the global economy on a pathway towards net-zero emissions – or lock us into a fossil system from which it will be nearly impossible to escape."[166] The economists who conducted the study insist that "[r]ecovery policies can deliver both economic and climate goals," and they specify five types of policies that can do so:

- Clean physical infrastructure investment in the form of renewable energy assets, storage (including hydrogen), grid modernization, and carbon capture and storage technology.
- Building efficiency spending for renovations and retrofits, including improved insulation, heating, and domestic energy storage systems.

- Investment in education and training to address immediate unemployment from COVID-19 and structural shifts from decarbonization.
- Natural capital investment for ecosystem resilience and regeneration, including restoration of carbon-rich habitats and climate-friendly infrastructure.
- Clean research and development spending. (In many lower- and middle-income countries, the study suggests that clean R&D spending "might be replaced" with rural support scheme spending, particularly that associated with sustainable agriculture, ecosystem regeneration, or accelerating clean energy installations.[167]

To this list must be added the necessity of linking a green recovery to environmental justice.[168] Worldwide, minorities and the disadvantaged often bear the brunt of air, water, toxic, and hazardous waste pollution and other forms of environmental destruction.[169] In the United States and elsewhere, "the COVID-19 pandemic and recession have been particularly devastating for Black, Latino, and Indigenous communities."[170] Moreover, "[m]any of these same communities are disproportionately impacted by pollution, with significant public health and economic consequences."[171] A just transition in a green recovery must begin to remedy these contemporary and historical environmental injustices by investing in the environmental cleanups, energy efficiencies, green transit systems, and green housing much needed by these communities.

As precedent for their belief that their recommended approach will further the green transition while also fostering economic growth, the Oxford economists and other advocates of a green recovery pointed to the experience with the green provisions in some of the governmental stimulus packages in the aftermath of the 2008 financial crisis, when there were also calls for a green recovery. At the time, only about 16 percent of the global stimulus spending was deemed green.[172] This green spending on economic recovery a dozen years before the 2020 pandemic included "subsidies for renewably energy, seed funding for research and development, and new technology such as electric vehicles."[173]

Recalling this earlier experience, the Oxford study economists explained,

> A lesson from the (global financial crisis) is that green stimulus policies often have advantages over traditional fiscal stimulus. For instance, renewable energy investment is attractive in both the short and the long run. Renewable energy generates more jobs in the short run (higher jobs multiplier), when jobs are scarce in the middle of a recession, which boosts spending and increases GDP multipliers (which are derived from expanding demand). In the long run, renewable energy conveniently requires less labour for operation and maintenance … This frees up labour as the economy returns to capacity. The more efficient use of labour and the savings on fuel means that renewables are also able to offer higher long-run multipliers (which are derived from expanding supply.[174]

This earlier experience illustrates how the decisions made during the pandemic about the extent and the allocation of public spending "will lock in the world's development patterns for decades."[175] If we do not invest in renewable energy, we will have less of it. If current investments are the same as past investments, then we will have in the future only what we had in the past. What we had in the past may not be suitable for the future, given climate change and all its attendant consequences. Yet we will be "locked in" to the ways of the past and "locked out" of more suitable alternative solutions. To offer one example, turn a six-lane highway into a twelve-lane highway and more automobiles will travel it in a trail of path dependency. There will be less incentive to look for ways to travel other than by automobile. In the impacts of such choices, these pivotal pandemic spending decisions either will help perpetuate the carbon economy or will help put an end to it.

Thus far, have the decisions reflected in the recovery packages enacted in the new pandemic world kept us on the path of dependency on fossil fuels, or have they turned us toward a green path? For the most part, the early answer is, we are still traveling obliviously along the fossil fuel highway. In the months following the outbreak, nearly twice as much money was committed to fossil fuels as to clean energy in the recovery packages of the G20 leading industrial economies.[176] In June 2020, Bloomberg reported that, of the total $12 trillion in stimulus that had been by then enacted worldwide, less than two-tenths of 1 percent had been targeted toward climate priorities.[177]

Worse, we may be headed in the wrong direction. The scholars at one global think tank, Vivid Economics, claimed from their detailed analysis of national recovery plans that "30% of government stimulus from 17 major economies – roughly US$3.5 trillion – (was) going to support environmentally related sectors, and that most governments (were) failing to use this support to secure medium-term benefits to their citizens' welfare and the natural world around them." As a result, they concluded, "the vast majority of the money going to business in the short term could be risking future environmental sustainability."[178] So far, the governmental responses to the pandemic have, in their view, mimicked previous stimulus measures and disregarded "the broader sustainability and resilience impacts of their actions."[179]

In fact, in fourteen of the seventeen countries these scholars studied, "potentially damaging flows outweigh those supporting nature."[180] At the top of their list of those fourteen countries, posing the most danger to nature, is the United States, which "stands out as the largest scale risk."[181] Throughout most of 2020, while other countries were at least talking about a green recovery, the Trump administration in the United States was busy rolling back environmental protections.[182] The United States was, however, far from alone during that time in risking the environment while striving to recover from the impacts of the pandemic. Indonesia's stimulus plan eliminated environmental reviews for many new development projects, which risked the survival of primary rainforests that mitigate climate change by absorbing and storing carbon.[183] China's investment plans for economic recovery envisaged spending three times as much on fossil fuel projects as on low-carbon energy – casting considerable doubt on China's pledge in September 2020 to achieve "carbon neutrality" by 2060.[184]

All told, according to researchers for the Oxford University Economic Recovery Project, of the trillions of dollars in total spending of the world's largest fifty countries in 2020, only 2.5 percent was for green initiatives such as renewable energy generation, hydrogen power, transmission infrastructure, and battery and storage infrastructure.[185] In March 2021, they reported that, "Though some promising green recovery policy examples do exist, they have been overwhelmingly implemented by a small group of wealthy countries."[186] Even these initiatives by advanced economies were too little and too few. The global economic recovery that seemed to be gathering momentum in the spring of 2021 was, overall, far from green.

Some belated encouragement for those who sought a green recovery appeared in the bipartisan actions taken by the Congress of the United States in December 2020, soon after President Trump was defeated for reelection in November. A $900 billion COVID-19 relief bill included an unprecedented array of "green" climate actions, ranging from deep cuts in the use of climate-damaging hydrofluorocarbons (HFCs) to billions of dollars for research and development on solar energy, wind energy, carbon capture and storage, and energy storage; upgrades to the electric grid; energy-efficiency projects; and carbon-free nuclear energy.[187]

The election of President Biden added further encouragement as the new Biden administration, populated by ardent climate activists, set out to make combating climate change central to its whole approach to governance. On his first day as president, Biden reversed Trump's decision to withdraw the United States from the Paris climate agreement.[188] He underlined his support for the agreement by appointing former Secretary of State John Kerry, a dedicated climate advocate, as his "climate envoy" in charge of US international climate negotiations.[189] On Biden's first call as president to British Prime Minister Boris Johnson, he spoke of the need for a "green recovery."[190]

In April 2021, the new US president introduced what he described as a pillar of his plan for addressing climate change, a $2.3 trillion infrastructure package labeled the American Jobs Plan.[191] In addition to spending on such traditional infrastructure as roads, bridges, and ports, the Biden proposal included hundreds of billions of dollars of new spending on public transit, greener housing, electric vehicle manufacturing and infrastructure, resilience measures to prevent natural disasters, climate technology research and development, and other green initiatives. Climate campaigners praised the Biden plan while noting, with justification, that it did not go far enough in encouraging a societal shift away from carbon. The president's opponents denounced the bill for departing from the conventional concept of concrete infrastructure. With only a narrow majority in the House, an evenly divided Senate, and the prospect of no support from the opposing party, it was unclear whether the American Jobs Plan would be enacted. At this writing, the original Biden proposal has been reduced to

$1.2 trillion in spending over five years and narrowed in scope. The Senate has passed the plan with bipartisan support, and it awaits a vote by the House.[192]

Providing more encouragement was much of what was happening "in parts of Western Europe, South Korea and Canada," where the recovery plans offered "more promise with at least a portion of spending likely to be nature-friendly."[193] A new French plan for the national auto sector favored electric cars.[194] Canadian bailout money went only to firms that reported their climate risks.[195] Particularly encouraging was the "Next Generation EU" recovery plan of the European Union, which directed 30 percent of the total spending package of $830 billion to "green" initiatives, including targeted measures to reduce dependency on fossil fuels, improve energy efficiency, and invest in preserving and restoring the "natural capital" provided by natural resources.[196]

In the particulars of some of these proposals for a green recovery are the trade links. Proposals for a green recovery raise anew the age-old questions about the proper role for the state in relation to the economy. They revive – with a new rationale – the never-ending debate about the merits of a state-directed industrial policy, a debate dating back to before the back-and-forth between the free trader Adam Smith and the protection-minded mercantilists in eighteenth-century Great Britain. For centuries, this debate has always turned ultimately into one mainly over the merits of managed trade. All too often in the past, what has been proposed as an "industrial policy" by would-be reformers has been mostly a soothing synonym for a national policy of trade protectionism.

The reduction of an economic policy for recovery into mere protectionism must be avoided in the structuring of a green recovery. National policies aimed at achieving a green recovery surely will have many effects on trade. Through production subsidies, import tariffs, regulatory standards, and much more, trade measures will be employed to make climate and other sustainability measures more palatable politically with local voters. Understandably, domestic producers will not want to pay the costs and bear the consequences of national climate actions unless their competitors – including their foreign competitors – pay those same costs and bear those same consequences. Otherwise, they will be put at a competitive disadvantage. The question is, which green policies will be justified in the restrictions they impose on trade? And which policies, though they may be described as green policies, will in fact only be excuses for protecting domestic producers from fair foreign competition?