## 1NC – T

#### Interpretation: topical affs must fiat an action through the World Trade Organization

#### Member nations of the WTO make policies as a whole

WTO ND [(World Trade Organization) “What is the WTO?” https://www.wto.org/english/thewto\_e/whatis\_e/whatis\_e.htm] BC

The WTO is run by its member governments. All major decisions are made by the membership as a whole, either by ministers (who usually meet at least once every two years) or by their ambassadors or delegates (who meet regularly in Geneva).

In this respect, the WTO is different from some other international organizations such as the World Bank and International Monetary Fund. In the WTO, power is not delegated to a board of directors or the organization’s head.

When WTO rules impose disciplines on countries’ policies, that is the outcome of negotiations among WTO members. The rules are enforced by the members themselves under agreed procedures that they negotiated, including the possibility of trade sanctions. But those sanctions are imposed by member countries, and authorized by the membership as a whole. This is quite different from other agencies whose bureaucracies can, for example, influence a country’s policy by threatening to withhold credit.

Reaching decisions by consensus among some 150 members can be difficult. Its main advantage is that decisions made this way are more acceptable to all members. And despite the difficulty, some remarkable agreements have been reached. Nevertheless, proposals for the creation of a smaller executive body — perhaps like a board of directors each representing different groups of countries — are heard periodically. But for now, the WTO is a member-driven, consensus-based organization.

#### Nation and government are synonymous

Merriam Webster ND [“nation” Merriam Webster, https://www.merriam-webster.com/dictionary/nation] BC

Definition of nation

 (Entry 1 of 2)

1a(1): NATIONALITY sense 5athree Slav peoples … forged into a Yugoslavia without really fusing into a Yugoslav nation— Hans Kohn

(2): a politically organized nationality

(3)in the Bible : a non-Jewish nationality why do the nations conspire— Psalms 2:1 (Revised Standard Version)

b: a community of people composed of one or more nationalities and possessing a more or less defined territory and government Canada is a nation with a written constitution— B. K. Sandwell

c: a territorial division containing a body of people of one or more nationalities and usually characterized by relatively large size and independent status a nation of vast size with a small population— Mary K. Hammond

#### Collective nouns are singular – this means “member nations” refers to a singular entity

MLA 3/8 [“Should I use a singular or plural verb with a collective noun?” MLA Style Center, 3/8/2021] JL

Collective nouns, like *team*, *family, class*, *group*, and *host*, take a singular verb when the entity acts together and a plural verb when the individuals composing the entity act individually. The following examples demonstrate this principle:

The team is painting a mural. (The team collectively paints the mural, so the verb is singular*.*)

#### Violation – they don’t – EU member states are distinct from WTO member nations

#### Prefer

#### Precision – even if all EU member states are in the WTO that doesn’t mean all WTO member nations are in the EU – prefer our interp – we have evidence from the WTO that explains what coordinated action looks like and

#### Limits and ground – explodes the topic to include affs about any country reducing IP – only our interp ensures link magnitude by ensuring it is an international reduction for IPP for medicine which is key to generics like the innovation DA which requires reducing IP across the board, WTO bad, negotiations and politics DAs, circumvention – stretches pre-tournament neg prep too thin and precluding rigorous testing – theory and medicine spec affs solve PICs

#### TVA – spec a medicine

#### Topic ed – WTO patent waivers are the topic – their aff is just domestic policy passed in [[state]] – proven by their second advantage – none of their internal links are about medical trade secrets which proves their interpretation is a cheap way of getting a relations impact about any two countries – justifies the US-Mexico or China-Japan aff. Outweighs – prep is determined by the lit and we only have 2 months to debate the topic

#### Paradigm issues:

#### Drop the debater – their abusive advocacy skewed the debate from the start

#### Competing interps – reasonability invites arbitrary judge intervention and a race to the bottom of questionable argumentation

#### Fairness is a voter ­– necessary to determine the better debater

#### Education is a voter – why schools fund debate

## 1NC – T

#### Interpretation: member nations of the World Trade Organization is a generic bare plural. The aff may not defend that a subset of member nations ought to reduce IP protections for medicines.

Nebel 19 Jake Nebel [Jake Nebel is an assistant professor of philosophy at the University of Southern California and executive director of Victory Briefs.] , 8-12-2019, "Genericity on the Standardized Tests Resolution," Briefly, https://www.vbriefly.com/2019/08/12/genericity-on-the-standardized-tests-resolution/ SM

Both distinctions are important. Generic resolutions can’t be affirmed by specifying particular instances. But, since generics tolerate exceptions, plan-inclusive counterplans (PICs) do not negate generic resolutions. Bare plurals are typically used to express generic generalizations. But there are two important things to keep in mind. First, generic generalizations are also often expressed via other means (e.g., definite singulars, indefinite singulars, and bare singulars). Second, and more importantly for present purposes, bare plurals can also be used to express existential generalizations. For example, “Birds are singing outside my window” is true just in case there are some birds singing outside my window; it doesn’t require birds in general to be singing outside my window. So, what about “colleges and universities,” “standardized tests,” and “undergraduate admissions decisions”? Are they generic or existential bare plurals? On other topics I have taken great pains to point out that their bare plurals are generic—because, well, they are. On this topic, though, I think the answer is a bit more nuanced. Let’s see why. 1.1 “Colleges and Universities” “Colleges and universities” is a generic bare plural. I don’t think this claim should require any argument, when you think about it, but here are a few reasons. First, ask yourself, honestly, whether the following speech sounds good to you: “Eight colleges and universities—namely, those in the Ivy League—ought not consider standardized tests in undergraduate admissions decisions. Maybe other colleges and universities ought to consider them, but not the Ivies. Therefore, in the United States, colleges and universities ought not consider standardized tests in undergraduate admissions decisions.” That is obviously not a valid argument: the conclusion does not follow. Anyone who sincerely believes that it is valid argument is, to be charitable, deeply confused. But the inference above would be good if “colleges and universities” in the resolution were existential. By way of contrast: “Eight birds are singing outside my window. Maybe lots of birds aren’t singing outside my window, but eight birds are. Therefore, birds are singing outside my window.” Since the bare plural “birds” in the conclusion gets an existential reading, the conclusion follows from the premise that eight birds are singing outside my window: “eight” entails “some.” If the resolution were existential with respect to “colleges and universities,” then the Ivy League argument above would be a valid inference. Since it’s not a valid inference, “colleges and universities” must be a generic bare plural. Second, “colleges and universities” fails the upward-entailment test for existential uses of bare plurals. Consider the sentence, “Lima beans are on my plate.” This sentence expresses an existential statement that is true just in case there are some lima beans on my plate. One test of this is that it entails the more general sentence, “Beans are on my plate.” Now consider the sentence, “Colleges and universities ought not consider the SAT.” (To isolate “colleges and universities,” I’ve eliminated the other bare plurals in the resolution; it cannot plausibly be generic in the isolated case but existential in the resolution.) This sentence does not entail the more general statement that educational institutions ought not consider the SAT. This shows that “colleges and universities” is generic, because it fails the upward-entailment test for existential bare plurals. Third, “colleges and universities” fails the adverb of quantification test for existential bare plurals. Consider the sentence, “Dogs are barking outside my window.” This sentence expresses an existential statement that is true just in case there are some dogs barking outside my window. One test of this appeals to the drastic change of meaning caused by inserting any adverb of quantification (e.g., always, sometimes, generally, often, seldom, never, ever). You cannot add any such adverb into the sentence without drastically changing its meaning. To apply this test to the resolution, let’s again isolate the bare plural subject: “Colleges and universities ought not consider the SAT.” Adding generally (“Colleges and universities generally ought not consider the SAT”) or ever (“Colleges and universities ought not ever consider the SAT”) result in comparatively minor changes of meaning. (Note that this test doesn’t require there to be no change of meaning and doesn’t have to work for every adverb of quantification.) This strongly suggests what we already know: that “colleges and universities” is generic rather than existential in the resolution. Fourth, it is extremely unlikely that the topic committee would have written the resolution with the existential interpretation of “colleges and universities” in mind. If they intended the existential interpretation, they would have added explicit existential quantifiers like “some.” No such addition would be necessary or expected for the generic interpretation since generics lack explicit quantifiers by default. The topic committee’s likely intentions are not decisive, but they strongly suggest that the generic interpretation is correct, since it’s prima facie unlikely that a committee charged with writing a sentence to be debated would be so badly mistaken about what their sentence means (which they would be if they intended the existential interpretation). The committee, moreover, does not write resolutions for the 0.1 percent of debaters who debate on the national circuit; they write resolutions, at least in large part, to be debated by the vast majority of students on the vast majority of circuits, who would take the resolution to be (pretty obviously, I’d imagine) generic with respect to “colleges and universities,” given its face-value meaning and standard expectations about what LD resolutions tend to mean.

#### It applies to member nations:

#### Upward entailment test – spec fails the upward entailment test because saying “US ought to reduce IPP for medicines” doesn’t entail that all nations ought to

#### Adverb test – adding “usually” to the res doesn’t substantially change its meaning

#### Vote neg:

#### Semantics outweigh:

#### Topicality is a constitutive rule of the activity and a basic aff burden, they agreed to debate the topic when they came to the tournament

#### Jurisdiction – you can’t vote aff if they haven’t affirmed the resolution

#### It’s the only stasis point we know before the round so it controls the internal link to engagement, and there’s no way to use ground if debaters aren’t prepared to defend it

#### Limits – there are countless affs accounting for any permutation of 164 member nations that are home to vastly different pharmaceutical industries and illnesses – unlimited topics incentivize obscure affs that negs won’t have prep on – limits are key to reciprocal prep burden – potential abuse doesn’t justify foregoing the topic and 1AR theory checks PICs

#### Ground – spec guts core generics like WTO bad and the health multilateralism DA that rely on all nations reducing IP and shifts away from the core topic lit of WTO patent waivers – also means there is no universal DA to spec affs

#### TVA solves – read as an advantage to whole rez

## 1NC – K

#### The aff’s portrayal of a world with reduced IP protections as an “information commons” where medical inequality is solved by deregulation perpetuates the neoliberal myth of a perfect market **Kapczynski 14** [(Amy, a Professor of Law at Yale Law School, Faculty Co-Director of the Global Health Justice Partnership, and Faculty Co-Director of the Collaboration for Research Integrity and Transparency. She is also Faculty Co-Director of the Law and Political Economy Project and cofounder of the Law and Political Economy blog. Her areas of research include information policy, intellectual property law, international law, and global health.) “INTELLECTUAL PROPERTY’S LEVIATHAN” Duke Law, Law & Contemporary problems, 2014. https://scholarship.law.duke.edu/cgi/viewcontent.cgi?article=4710&context=lcp] BC

Over the last decade or so, a powerful set of critiques has emerged to contest the dominant account just sketched out as well as the contemporary state of IP law.12 These arguments have come from many directions, some even arising from scholars who previously were champions of the dominant account.13 The most prominent and potent line of theoretical critique in the legal literature has come in the guise of arguments for free culture and the “information commons” and has been most influentially articulated by Lawrence Lessig and Yochai Benkler.14 Both have stressed the problems with expansive exclusive rights regimes in information and have also sketched a set of actually existing alternatives to market-based exclusionary forms of information and cultural production.

Lessig has written a series of influential books that have made him a “rock star of the information age,”15 particularly for young Internet and free-culture activists. He has argued powerfully, for example, that existing copyright law is in deep conflict with the radical new possibilities for creativity in the digital age. As he points out, when a mother posting a video of her toddler dancing to a Prince song on YouTube is threatened with a $150,000 fine for copyright infringement, something has gone seriously awry.16 Lessig also contends that copyright law today is too long, too expansive, and instantiates a “permission culture” that is antithetical to free expression in the age of the remix.17 As he puts it, “the Internet has unleashed an extraordinary possibility for many to participate in the process of building and cultivating a culture that reaches far beyond local boundaries,” creating the possibility of markets that “include a much wider and more diverse range of creators,” if not stifled by incumbents who use IP law to “protect themselves against this competition.”18

Benkler’s work has also been extraordinarily formative in the field, particularly for his insights into the multiplicity of modes of information production. As he has stressed, the conventional justification for IP does not account for the many successful and longstanding modes of market nonexclusionary information production.19 For example, attorneys write articles to attract clients, software developers sell services customizing free and opensource software for individual clients, and bands give music away for free to increase revenues from touring or merchandise.20 More pathbreaking still is Benkler’s account of the importance of “commons-based peer production,” a form of socially motivated and cooperative production exemplified by the volunteer network that maintains Wikipedia or the groups of coders who create open-source software products such as the Linux operating system.21 In the digital networked age, as Benkler describes, the tools of information production are very broadly distributed, “creating new opportunities for how we make and exchange information, knowledge, and culture.”22 These changes have increased the relative role in our information economy of nonproprietary production and facilitate “new forms of production [that] are based neither in the state nor in the market.”23 Because commons-based peer production is not hierarchically organized and is motivated by social dynamics and concerns, it also offers new possibilities for human development, human freedom, a more critical approach to culture, and more democratic forms of political participation.24

This line of critique has been profoundly generative and has helped launch an important new conceptualization of the commons as a paradigm. That paradigm, as a recent book puts it, “helps us ‘get outside’ of the dominant discourse of the market economy and helps us represent different, more wholesome ways of being.”25 Proponents of the commons concept draw upon contemporary articulations of successful commons-based resource management by Elinor Ostrom and her followers.26 They do mobilize retellings of the political and economic history of the commons in land in Europe before enclosure,27 and recent evidence from psychology and behavioral economics that suggests that humans have deep tendencies toward cooperation and reciprocation.28 They argue that A key revelation of the commons way of thinking is that we humans are not in fact isolated, atomistic individuals. We are not amoebas with no human agency except hedonistic “utility preferences” expressed in the marketplace. No: We are commoners—creative, distinctive individuals inscribed within larger wholes. We may have unattractive human traits fueled by individual fears and ego, but we are also creatures entirely capable of self-organization and cooperation; with a concern for fairness and social justice; and willing to make sacrifices for the larger good and future generations.29

This stands, of course, as a powerful rebuke to the neoliberal imaginary, which “constructs and interpellates individuals as . . . rational, calculating creatures whose moral autonomy is measured by their capacity for ‘self-care’— the ability to provide for their own needs and service their own ambitions.”30

III

Given this radical—and, in my view, critically important—attempt to rethink the subject at the core of neoliberal accounts, it is all the more striking that proponents of the commons often appear to adopt a neoliberal image of the state. For example, the introduction to a recently edited volume that gathers writings on the commons from seventy-three authors in thirty countries (entitled, tellingly, The Wealth of the Commons: A World Beyond Market and State) has this to say:

The presumption that the state can and will intervene to represent the interests of citizens is no longer credible. Unable to govern for the long term, captured by commercial interests and hobbled by stodgy bureaucratic structures in an age of nimble electronic networks, the state is arguably incapable of meeting the needs of citizens as a whole.31

The commons, they suggest, is a concept that seeks not only to liberate us from predatory and dysfunctional markets, but also from predatory and dysfunctional states. Something immediately seems incongruous here. If people are inherently cooperative reciprocators, why are states irredeemably corrupt? After all, as Harold Demsetz famously wrote in his 1967 attack on Arrow’s optimism about state production of information, “[g]overnment is a group of people.”32

Lessig, one of the progenitors of the language of the commons in the informational domain, often leads with a similar view of the state:

[I]f the twentieth century taught us one lesson, it is the dominance of private over state ordering. Markets work better than Tammany Hall in deciding who should get what, when. Or as Nobel Prize-winning economist Ronald Coase put it, whatever problems there are with the market, the problems with government are more profound.33

Lessig reveals his own sense of the power of this conception of the state when he seeks to tar IP law with the same brush; we should rebel against current IP law, he suggests, because we should “limit the government’s role in choosing the future of creativity.”34

Benkler is more measured but admits as well to viewing the state as “a relatively suspect actor.”35 We should worry, he suggests, that direct governmental intervention “leads to centralization in the hands of government agencies and powerful political lobbies,”36 a view that echoes the neoliberal account described above.

It should perhaps not surprise us that leading critics of neoliberal information policy embrace a neoliberal conception of the state. After all, neoliberalism is not merely an ideology, but also a set of policy prescriptions that may have helped to call forth the state that it has described. As David Harvey puts it, “[t]he neoliberal fear that special-interest groups would pervert and subvert the state is nowhere better realized than in Washington, where armies of corporate lobbyists . . . effectively dictate legislation to match their special interests.”37

There are, it must be said, few areas of law that better exemplify this problem than IP law. For example, Jessica Litman has documented the astonishing process through which the 1976 Copyright Act was drafted, in which Congress delegated most of the drafting to interest groups that were forced to negotiate with one another.38 Other scholars have offered similarly startling accounts of the genesis of the most important IP treaty today, the TradeRelated Aspects of Intellectual Property Rights (TRIPS) Agreement. TRIPS came into force in 1996, revolutionizing international IP law by both imposing new standards and by rendering them enforceable through the WTO’s disputeresolution system, which authorizes trade retaliation to enforce its judgments. Most countries in the world are members of TRIPS, and the Agreement introduced, for developing countries in particular, substantial new obligations, such as the obligation to grant patents on medicines and food-related inventions. Several excellent histories of the treaty have been written, documenting its beginnings as a brash idea proposed by “twelve chief executive officers (representing pharmaceutical, entertainment, and software industries).”39 As Susan Sell has described, the TRIPS Agreement was a triumph of industry organizing. Through TRIPS, Industry revealed its power to identify and define a trade problem, devise a solution, and reduce it to a concrete proposal that could be sold to governments.

#### The power dynamics of the LIO are defined by colonial relations that result in domestic neoliberalism and populism -

Parmar 18 – [(Inderjeet, Professor of international politics, and head of the Department of International Politics at City, University of London and an Honorary Research Fellow at the University of Manchester) “The US-led liberal order: imperialism by another name?” 7-26-2018, https://www.chathamhouse.org/sites/default/files/images/ia/INTA94\_1\_9\_240\_Parmar.pdf] TDI

The overall finding is that liberal internationalist thinking/theory is, in effect (albeit unconsciously on the part of its proponents), a legitimating ideology rather than an effective explanatory frame for understanding the way in which the LIO actually works. That conclusion is reached, in part, by suggesting the applicability of a rather different perspective on the operations of the LIO and US power: specifically, a synthesized Gramscian–Kautskyian framework, explained below.

The key point is that the LIO is a class-based, elitist hegemony—strongly imbued with explicit and implicit racial and colonial/imperial assumptions—in both US domestic and foreign relations. At home, this analysis helps to explain in part the phenomenon of the ‘left behind’ white working/middle class, including the affluent but economically anxious voters whose salience on the right has transformed US politics since the Reagan revolution of the 1980s.2 Responding to the (minorities’) rights revolution of the 1960s, and the loss of economic opportunity and decline in living standards due to technological change and the global redistribution of industry,3 white working- and middle-class voters drifted towards the Republicans as the party of low taxes and fiscal conservatism.4 This delivered little in material terms, however; and, as inequality increased with market freedom and real wages stagnated, workers in the ‘rust belt’ and other areas grew increasingly dissatisfied with the status quo of establishment politics, their frustration exacerbated by anxieties about ethno-racial diversity and American identity as the United States moves towards a society in which whites are a minority.5 The result was the election as president in 2016 of Donald Trump on an overtly anti-conservative and barely concealed white identity platform at home and a programme of protectionism and non-interventionism—America First—abroad.6

Yet political dissatisfaction or disaffection was not confined to the political right.7 ‘Occupy Wall Street’ and other movements and groups vented their anger at the inequalities of power, wealth and income, particularly in the wake of the Iraq War and the 2008 financial crisis.8

In external policy, the analysis helps to explain the difficulty, perhaps the impossibility, of the US readily embracing a more diverse international order, as well as the character of that very embrace.9 Accepting nations of the global South on an equal footing may become a strategic necessity, but the process remains problematic given the racialized discourses of western power over the past several centuries, fortified in the United States by the experience of the slave trade, slavery, the ‘Jim Crow’ era, Orientalist views of Asians, and other factors.10 Class power helps to explain the strategic embrace of foreign elites as the sources of change and the agents of American influence, however diluted it may have been due to target states’ national interest considerations. Those at the apex of America’s hierarchies sought to forge alliances with and incorporate their foreign elite counterparts— with their full cooperation—in South Korea and China.11 Hence, the liberal internationalist ‘successes’ in the cases of South Korea and China must be qualified by considering the repercussions of developing market-oriented societies marked by economic inequality, rising social unrest and varying degrees of political repression. In ‘successful’ China and South Korea, as in India and other emerging powers, there remain major challenges underpinned by profound inequalities in power, wealth and income, associated with a politics that is frequently class-based but also heavily racialized and xenophobic.12

#### Neoliberal exploitation causes extinction.

Clark 18 (Brett, associate professor of sociology and sustainability studies at the University of Utah; Stefano B. Longo, Assistant Professor specializing in Environmental Sociology at NC State; “Land–Sea Ecological Rifts”, Land–Sea Ecological Rifts, https://monthlyreview.org/2018/07/01/land-sea-ecological-rifts/)

Covering approximately 70 percent of the Earth’s surface, the World Ocean is “the largest ecosystem.”1 Today all areas of the ocean are affected by multiple anthropogenic effects—such as overfishing, pollution, and emission of greenhouse gases, causing warming seas as well as ocean acidification—and over 40 percent of the ocean is strongly affected by human actions. Furthermore, the magnitude of these impacts and the speed of the changes are far greater than previously understood.2 Biologist Judith S. Weis explains that “the most widespread and serious type of [marine] pollution worldwide is eutrophication due to excess nutrients.”3 The production and use of fertilizers, sewage/waste from humans and farm animals, combustion of fossil fuels, and storm water have all contributed to dramatic increases in the quantity of nutrients in waterways and oceans. Research in 2008 indicated that there were over 400 “dead zones,” areas of low oxygen, mostly near the mouths of rivers.4 Nutrient overloading thus presents a major challenge to maintaining healthy aquatic ecosystems.

Nutrients are a basic source of nourishment that all organisms need to survive. Plants require at least eighteen elements to grow normally; of these, nitrogen, phosphorus, and potassium are called macronutrients, because they are needed in larger quantities. While all essential nutrients exist in the biosphere, these three are the ones most commonly known to be deficient in commercial agricultural production systems. Beginning in the early twentieth century with the Haber-Bosch process, atmospheric nitrogen was converted into ammonia to create synthetic nitrogen fertilizer. The fixation of nitrogen, an energy-intensive process, made the nutrient far more widely available for use in agriculture. This in turn dramatically changed production systems, which no longer depended on legumes and manures to biologically supply nitrogen for other crops such as wheat, corn, and most vegetables.

In the modern era, particularly since the Second World War, the increased production and use of fertilizers served to greatly expand food production and availability. Major macronutrients are routinely applied to soils in order to maintain and increase the growth of plant life on farms, as well as private and public landscapes such as golf courses, nurseries, parks, and residences. They are used to produce fruits, vegetables, and fibers for human and non-human consumption, expand areas of recreation, and beautify communities. However, like many aspects of modern production, given the larger social dynamics and determinants that shape socioecological relationships, these technological and economic developments have generated serious negative—often unforeseen—consequences. The wide expansion and increasing rates of nitrogen and phosphorus application have caused severe damage to aquatic systems in particular. Rivers, streams, lakes, bays (estuaries), and ocean systems have been inundated with nutrient runoff, which has had far-reaching effects.

Here we examine the socioecological relationships and processes associated with the transfer of nutrients from terrestrial to marine systems. We employ a metabolic analysis to highlight the interchange of matter and energy within and between socioecological systems. In particular, we show how capitalist agrifood production contributes to distinct environmental problems, creating a metabolic rift in the soil nutrient cycle. We emphasize how the failure to mend nutrient cycles in agrifood systems has led to approaches that produce additional ruptures, such as those associated with nutrient overloading in marine systems. This analysis reveals the ways that the social relations of capitalist agriculture tend to produce interconnected ecological problems, such as those in terrestrial and aquatic systems. Further, we contend that these processes undermine the basic conditions of life on a wide-ranging scale. It is important to recognize that nutrient pollution of groundwater as well as surface waters has been a major concern since the rise of modern capitalist agriculture and the development of the global food regime.5 The failure to address the metabolic rupture in the soil nutrient cycle and the contradictions of capital are central to contemporary land-sea ecological rifts.

#### The alternative is a global socialist movement that ends globalization

Galant 19 [(Michael, a coordinator of the Wire Pillar of the Progressive International, former economics and trade fellow at Young Professionals in Foreign Policy, MPP from Harvard University’s Kennedy School and BA in political economy from Brown University) “The Battle of Seattle: 20 years later, it's time for a revival” Open Democracy, 11/30/2019. https://www.opendemocracy.net/en/oureconomy/battle-seattle-20-years-later-its-time-revival/] BC

20 years ago today, the streets of Seattle became front lines in the global class war.

Over the course of five days, some 40,000 individuals, representing unions, environmental groups, and Leftist organizations from around the world came together in an attempt to disrupt the Ministerial Conference of the World Trade Organization (WTO).

Using direct action tactics, activists physically delayed access to the meeting and led marches, rallies, and teach-ins that drew massive crowds. Protesters of all stripes were attacked by a violent police force – attracting international media coverage. The demonstrations outside became a wedge that would help drive the negotiations inside to collapse. The Battle of Seattle was won.

But the war continued. Seattle was about more than any single organization. The WTO was a symbol of the larger project of neoliberal globalization that was, in 1999, well on its way to reshaping the world in the interest of capital. The Battle of Seattle would become an equally potent symbol of resistance. The WTO protests marked the moment that the Alter-Globalization Movement (AGM), also known as the Global Justice, or disparagingly, the Anti-Globalization Movement, was launched into the public consciousness.

Much has changed in the two decades since. The AGM won many meaningful victories and experienced many more profound losses. Eventually, the movement faded. Today’s global economy resembles the neoliberal nightmare the Seattle protesters were fighting against more than the world they were fighting for. But recent years have revealed cracks in the surface. With an opportunity to finish what was started, it’s time to revive the spirit of Seattle.

Globalization and its dissent

Neoliberal globalization is a political project intended to raise the power of capital to the international level – to cement its supremacy as an immutable universal law beyond the reach of political communities. “Free trade” agreements and WTO rules establish the primacy of profit over democracy, labor, environmental, and consumer protections. World Bank and IMF loan conditions impose austerity, privatization, and deregulation on nations of the Global South. An international system of tax havens allows corporations and wealthy individuals to hoard their plundered resources. Global supply chain fragmentation shields multinationals from accountability for their abuses. Investment treaties unleash finance and corporations to cross borders in search of opportunities for exploitation, setting off a regulatory race to the bottom. If there was doubt before that capitalism must be confronted at the global level to be defeated, the power grab that is neoliberal globalization puts those doubts to rest. Capital is global. Labor must be too.

Yet there are forces preventing such global solidarity. Beginning during the Cold War, the majority of Northern labor accepted a compromise: support a foreign policy that enacts the interests of capital, and benefit from a share of the spoils in the form of minor concessions, a tempered welfare state, and cheap consumer goods. This tacit agreement survived largely intact into the neoliberal era – dividing the interests of a global working class and quelling demands for systemic global change.

The Alter-Globalization Movement rejected the compromise. While activists in the Global South had long resisted destructive free trade agreements and World Bank austerity, occasionally with solidarity from the North, the extremity of turn-of-the-century neoliberalism led to the explosion of a movement that refused to accept the mere crumbs of neocolonial extraction, and sought instead to build an alternative global economy for the many, both North and South.

This was a movement that brought together American anarchists with Korean peasants; libertarian socialist indigenous groups in Mexico with US anti-sweatshop activists; the International Confederation of Free Trade Unions with the Industrial Workers of the World; the Brazilian Movement for Landless Workers with Greenpeace; Filipino anti-capitalist scholars with French farmer activists best known for physically dismantling a McDonald’s. Their demands were many and varied – from land redistribution to the abolition of the World Bank, from a renegotiated NAFTA to the protection of indigenous knowledge of seeds from privatization – but all shared a vision of a global solidarity that would overcome the forces of neoliberal globalization.

Organizing under such a big tent, the AGM is better understood as a dispersed, informal network – a “movement of movements” – than a unified political structure. This fluid network manifested in many forms. The flagship World Social Forum regularly convened activists in an alternative to the annual World Economic Forum. Transnational advocacy networks campaigned on issues such as Global South debt relief. Northern activists used their positions of relative privilege to support local campaigns in the South, fighting water privatization in Bolivia and indigenous displacement from hydroelectric dams in India. And, as in Seattle, meetings of international organizations became rallying points for major global demonstrations.

With these organizing methods, the movement achieved substantial victories. The Jubilee 2000 campaign led to significant debt relief for Southern nations. Potentially disastrous trade agreements from the FTAA to TPP have been, at least temporarily, defeated. International Financial Institutions like the IMF and World Bank – while still agents of global capital – have vastly improved their lending practices since the 90’s. But its greatest successes were intangible: the AGM undermined the hegemonic ambitions embodied in Thatcher’s “There Is No Alternative”, slowed neoliberal globalization’s seemingly inexorable onslaught, and kept alive the flame of resistance during an otherwise nadir of Leftist politics.

The AGM should not, however, be romanticized. Emerging in a moment when the failures of 20th century socialist politics weighed heavily on the Left’s imagination, the AGM turned too far in the opposing direction. Big-tentism led to a dilution of demands and paved the way for the NGO-ization of the World Social Fora. A preference for all things decentralized made grabbing headlines easy, but building lasting political structures difficult. Resistance was often treated as an intrinsically valuable ends, rather than a means to taking power. And criticisms of “neoliberalism” typically fell short of identifying the true enemy – capitalism – or advancing a coherent alternative – socialism.

Ultimately, the neoliberal plan for the global economy succeeded more than not. While resistance to neoliberal globalization would rage on in the South, Northern solidarity faded. The September 11th attacks were the beginning of the end. Energy shifted to the anti-war movement, the state expanded its repression of Leftist organizing, and increased pressures toward “patriotism” led some to reconsider the old foreign policy compromise. By the mid-2000’s, little was left of what the AGM once was.

A call for revival

It’s time to rekindle the flame.

The global economy is still structured in the interest of capital. But the neoliberal consensus has begun to waver under the weight of its own contradictions.

The Right has a response to the crisis. Reactionary nationalists like Trump and Johnson seize upon existing systems of oppression to scapegoat the symptoms of a failed economic model. The problem is not that the global working class has lost out to a global capital class. The problem is that “we” – White, Christian, cishet, native-born Americans – have lost out to “them” – People of Color, immigrants, entire foreign countries, feminists, LGBTQ+ folks, and all those who threaten our supremacy in their struggles for liberation.

The Left must offer an alternative vision. The dramatic growth of socialist organizing and rise in popularity of social democratic politicians should offer great hope. But as the AGM understood, social democracy for the North is not enough. Our socialism must not mean merely a greater share of neocolonial extraction for Northern workers. Our socialism must rightly identify the global nature of our challenge, and unite across borders to confront a globalized capital.

That means internationalizing labor organizing to confront multinational corporations. Changing the rules of trade and investment. Ending tax havens. Building alternatives to the existing intellectual property regime. Holding corporations accountable for abuses in their supply chains. Supporting the struggles of peasants, indigenous peoples, and all global subaltern groups. Democratizing global governance. Opening borders to those displaced by the ravages of global capitalism. Advancing alternative models of development. Transforming, if not abolishing and replacing, the Bretton Woods Institutions. And confronting the all-important threat of climate collapse with, to begin with, a global Green New Deal. These are not minor addendums to a socialist platform. Class war is global. Internationalist demands are fundamental.

Organizations that remain from the AGM, international labor, and newcomers like Justice Is Global, the Fight Inequality Alliance, and Bernie Sanders and Yanis Varoufakis’s Progressive International, are already struggling for this vision. But its fruition depends on the backing of a far broader movement.

Like the AGM, we must take a global frame of analysis, and see neoliberal globalization as a concerted effort to undermine our power. Unlike the AGM, we must understand that neoliberalism is merely one manifestation of a greater enemy.

Like the AGM, we must build diverse, anti-racist, anti-sexist, anti-xenophobic movements that transcend borders. Unlike the AGM, we must not allow fears of centralization to undermine a coherent platform.

Like the AGM, we must reject a class compromise that sacrifices the possibility of a better world for the crumbs of colonialism. Unlike the AGM, we must build lasting political structures that back our rejection with political power.

20 years ago, the streets of Seattle echoed with a chant that would become the defining motto of the movement: “another world is possible!” It still is – if we’re willing to fight for it.

## Case

### Advantage 2

#### Econ decline doesn’t cause war – it encourages decreased defense spending, threat deflation, threat prioritization, international coop, and better leaders.

Clary ’15 (Christopher; 4/25/15; Ph.D. in political science from the Massachusetts Institute of Technology, M.A. in National Security Affairs, Postdoctoral fellow, Watson Institute for International Studies, Brown University; MIT Political Science Department Research Paper, “Economic Stress and International Cooperation: Evidence from International Rivalries,” https://papers.ssrn.com/sol3/papers.cfm?abstract\_id=2597712)

Do economic downturns generate pressure for diversionary conflict? Or might downturns **encourage austerity and economizing behavior** in foreign policy? This paper provides new evidence that economic stress is associated with conciliatory policies between strategic rivals. For states that view each other as military threats, the biggest step possible toward bilateral cooperation is to terminate the rivalry by taking political steps to manage the competition. Drawing on **data** from 109 **distinct rival** dyads **since 1950**, 67 of which terminated, the evidence suggests rivalries were approximately twice as likely to terminate during economic downturns than they were during periods of economic normalcy. This is true controlling for all of the main alternative explanations for peaceful relations between foes (democratic status, nuclear weapons possession, capability imbalance, common enemies, and international systemic changes), as well as many other possible confounding variables. This research questions existing theories claiming that economic downturns are associated with diversionary war, and instead argues that in certain circumstances peace may **result from economic troubles**. I define a rivalry as the perception by national elites of two states that the other state possesses conflicting interests and presents a military threat of sufficient severity that future military conflict is likely. Rivalry termination is the transition from a state of rivalry to one where conflicts of interest are not viewed as being so severe as to provoke interstate conflict and/or where a mutual recognition of the imbalance in military capabilities makes conflict-causing bargaining failures unlikely. In other words, rivalries terminate when the elites assess that the risks of military conflict between rivals has been reduced dramatically. This definition draws on a growing quantitative literature most closely associated with the research programs of William Thompson, J. Joseph Hewitt, and James P. Klein, Gary Goertz, and Paul F. Diehl.1 My definition conforms to that of William Thompson. In work with Karen Rasler, they define rivalries as situations in which “[b]oth actors view each other as a significant politicalmilitary threat and, therefore, an enemy.”2 In other work, Thompson writing with Michael Colaresi, explains further: The presumption is that decisionmakers explicitly identify who they think are their foreign enemies. They orient their military preparations and foreign policies toward meeting their threats. They assure their constituents that they will not let their adversaries take advantage. Usually, these activities are done in public. Hence, we should be able to follow the explicit cues in decisionmaker utterances and writings, as well as in the descriptive political histories written about the foreign policies of specific countries.3 Drawing from available records and histories, Thompson and David Dreyer have generated a universe of strategic rivalries from 1494 to 2010 that serves as the basis for this project’s empirical analysis.4 This project measures rivalry termination as occurring on the last year that Thompson and Dreyer record the existence of a rivalry. Economic crises lead to conciliatory behavior through five primary channels. (1) Economic crises lead to austerity pressures, which in turn incent leaders to search for ways to cut defense expenditures. (2) Economic crises also encourage strategic reassessment, so that leaders can argue to their peers and their publics that defense spending can be arrested without endangering the state. This can lead to threat deflation, where elites attempt to **downplay** **the seriousness** of the threat posed by a former rival. (3) If a state faces multiple threats, economic crises provoke elites to **consider** threat prioritization, a process that is postponed during periods of economic normalcy. (4) Economic crises increase the political and economic benefit from international **economic** cooperation. Leaders **seek foreign aid**, **enhanced trade**, and **increased investment** from abroad during periods of economic trouble. This search is made easier if tensions are reduced with historic rivals. (5) Finally, during crises, elites are more prone to select leaders who are perceived as **capable of** resolving **economic** difficulties, permitting the emergence of leaders who hold heterodox foreign policy views. Collectively, these mechanisms make it **much more likely** that a leader will prefer conciliatory policies compared to during periods of economic normalcy. This section reviews this **causal logic** in greater detail, while also providing **historical examples** that these mechanisms recur in practice. Economic Crisis Leads to **Austerity** Economic crises generate pressure for austerity. Government revenues are a function of national economic production, so that when production diminishes through recession, revenues available for expenditure also diminish. Planning almost **invariably assumes growth** rather than contraction, so the deviation in available revenues compared to the planned expenditure can be sizable. When growth slowdowns are prolonged, the cumulative departure from planning targets can grow even further, even if no single quarter meets the technical definition of recession. Pressures for austerity are **felt** most **acutely** in governments that face difficulty borrowing to finance deficit expenditures. This is **especially the case** when this borrowing relies on international sources of credit. Even for states that can borrow, however, intellectual attachment to balanced budgets as a means to restore confidence—a belief in what is sometimes called “expansionary austerity”—generates incentives to curtail expenditure. These incentives to cut occur precisely when populations are experiencing economic hardship, making reductions especially painful that target poverty alleviation, welfare programs, or economic subsidies. As a result, mass and elite constituents strongly resist such cuts. Welfare programs and other forms of public spending may be especially susceptible to a policy “ratchet effect,” where people are **very reluctant** to forego benefits once they have become accustomed to their availability.6 As Paul Pierson has argued, “The politics [of welfare state] retrenchment is typically treacherous, because it imposes **tangible losses** on concentrated groups of voters in return for diffuse and uncertain gains.”7

#### EU collapse is inevitable:

#### Economic crisis

Nasir 8/3 [(Muhammad Ali, Associate Professor in Economics and Finance at the University of Huddersfield, former Senior Lecturer in Economics at Leeds Business School, PhD in Economics) “Four reasons why EU is staring down the barrel of a second lost decade,” The Conversation, 8/3/2021] JL

When COVID broke out, the eurozone growth rate remained well below its long-term trajectory. It was behind the US and UK, both of whom were hit harder by the global financial crisis, and even worse compared to the leading emerging economies. Neither was this a one-off. Looking at the past five recessions, the eurozone nations have been successively slower to recover from each one.

Since 2008, the ECB has tried numerous measures to improve growth. Like most major powers, it has done a lot of quantitative easing (QE), which involves creating money to buy sovereign bonds and other financial assets. It has sought to prop up its retail banks in various ways, while also pioneering negative interest rates and giving the markets more forward guidance about monetary policy.

Famously in 2012, then ECB president Mario Draghi said he would do “whatever it takes” to save the euro. This forward guidance kept the euro stable, but the same cannot be said of growth.

Policy errors are partly to blame for this. With the benefit of hindsight, the eurozone went into the global financial crisis with lending rates on the low side, so had less room to cut than other regions. It was also more reluctant than central banks like the Bank of England and US Federal Reserve to start QE, preferring to focus on curbing inflation and making the euro “*stabil wie die mark*” (stable like the German mark). The ECB did not unveil a QE programme until 2015.

Countries with the capacity to spend to stimulate their economies, such as Germany, France and the Netherlands, also did too little. Spain’s stimulus was poorly designed, while Italy was more interested in balancing its books at the time. Too soon after the crisis struck, austerity then became the priority for the whole eurozone.

A related problem has been public and private investment. In middle-income EU regions, investment rates fell by about 14% between 2002 and 2018. In thrifty Germany, public and private fixed investments declined as a percentage of GDP for decades, despite a huge surplus in public spending.

Before COVID hit, EU infrastructure investment was at a 15-year low, with the greatest declines in regions that were already lagging. Initiatives intended to help, such as the European Economic Recovery Plan of 2008 and the European Commission Investment Plan in 2014, were too little.

The overall result was that weakness: Germany and the eurozone as a whole were showing 0% growth at the time of the COVID outbreak, while Austria, France and Italy were all contracting slightly. In response, the ECB had cut its main interest rate by 0.1 percentage points to -0.5% in September 2019, and restarted monthly QE to the tune of €20 billion (£17 billion) from November 1 of that year – the date Christine Lagarde became ECB president.

The eurozone economy was therefore needing life support even before the pandemic – indeed, many of the ECB’s other unconventional support measures were in place throughout. Tellingly, the ECB’s only new measure during the pandemic has been a new form of cheaper refinancing for banks. It raises the prospect of the ECB running out of the ammunition needed to keep stimulating the eurozone’s sickly economy.

#### Poland and Hungary

Reuters 7/16 [“Poland's Tusk says conflicts with EU could eventually end the bloc,” Reuters, 7/16/2021] JL

WARSAW, July 16 (Reuters) - Poland and Hungary's conflicts with the European Union could start a process that results in the bloc falling apart, former European Council President Donald Tusk warned on Friday, amid a worsening standoff over democratic standards.

Brussels is at loggerheads with Warsaw and Budapest over issues such as the independence of the judiciary and press freedoms, a conflict which deepened this week as Poland's Constitutional Tribunal ruled the country should not comply with demands from the EU's top court, while the European Commission took legal action against both countries over LGBT rights.

"If more of these kinds of countries are found who insist on damaging... the European Union it may simply mean the end of this organisation," Tusk, who has returned to domestic politics as leader of Poland's main opposition party Civic Platform (PO), told private broadcaster TVN24.

#### Economic collapse is inevitable – runaway growth and debt crises

Goldstein 7/7 [(Steve, responsible for MarketWatch's coverage of financial markets in Europe, internally cites Patrick Artus, professor at the Paris School of Economics, member of the Economic Analysis Council, PhD from the Institute of Political Studies of Paris) “Here are four reasons the West is headed for a ‘very drastic crisis,’ according to a veteran economist,” Marketwatch, 7/7/2021] JL

Patrick Artus, a senior economics adviser at French bank Natixis and a professor at the Paris School of Economics, isn’t sharing in the joy. In a very blunt memo to clients, Artus says a crisis is “inevitable.”

The total outstanding debt of the U.S., the U.K., the eurozone and Japan relative to gross domestic product has come off the highest levels of the pandemic as economies have reopened but still is at elevated levels. “Borrower solvency cannot be ensured if debt-to-income ratios increase continuously,” he says.

The money supply also is at records. “The money supply cannot be increased continuously relative to income, as soon or later demand for money, which is linked to savings and income, can no longer increase,” said Artus, whose résumé includes stints at the Organization for Economic Cooperation and Development and the Banque de France.

Also zooming higher is wealth, with both stock and housing prices surging. “Rising relative asset prices cannot be extrapolated: If they become too high, the savings of asset buyers will no longer suffice to buy then, leading inevitably to a downward correction in prices,” he says. Finally, he notes a skewing of income distribution against wage earners: “If wage earnings do not receive productivity gains over a long period, demand for goods and services will become too weak to absorb production, which grows rapidly when earnings are invested.”

So how will this unwind? Artus says a correction in income distribution will lead to faster wage growth and higher inflation. That, in turn, will need to more restrictive monetary policy and higher inflation-adjusted interest rates. The more restrictive monetary policy will then stabilize asset prices and wealth, forcing deleveraging. And that deleveraging will lead to a recession due to the necessary fall in demand among households, companies and governments.

“The stabilization of these variables will lead to a very drastic crisis, due to faster growth in wages and inflation, a restrictive monetary policy, a fall in wealth and asset prices, and a recession caused by a fall in domestic demand,” he concludes.

#### Only degrowth solves– infinite growth relies on burning fossil fuels, depleting natural resources, mining REMS, and pollution – COVID means a transition is possible

Herbert and Mastini 20 [(Joe Herbert, a doctoral researcher in Human Geography at Newcastle University) (Riccardo Mastini, a doctoral researcher in Political Ecology in the Institute of Environmental Science and Technology at the Autonomous University of Barcelona) “Economic Growth Can't Go Back to Normal If We Are to Solve the Ecological Crisis” Common Dreams, 6/8/2020] BC

The COVID-19 pandemic has delivered a sharp and sudden shock to the global economy’s usual diet of ever-expanding economic growth. Measures to tackle the virus have seen industries grind to a halt, and high streets become ghost towns. Experts are predicting the worst global recession since the 1930s, and the UK’s Gross Domestic Product (GDP) is forecast to fall by 14% in 2020.

For the beneficiaries of our existing economic system, this hit to growth is a waking nightmare.

Growth is heralded as a rising tide that lifts all boats, creating larger incomes and more jobs, as well as funding essential public services like healthcare and education. Strong and uninterrupted growth is considered an unquestionable good that benefits all of society.

The problems with growth

But what drives economic growth? Our economy relies on burning fossil fuels and depleting natural resources to expand production and consumption, while polluting the environment with the waste. Most of us are forced to work for wages in order to survive, creating the goods and services which generate growth, while a minority siphon off the profits. In 2018, 82% of new wealth created went to the world’s richest 1%, while the poorest half of the global population got nothing.

Most scientists agree that an unprecedented economic transformation is now needed to limit global temperature rise to 1.5°C and avert climate breakdown. Meanwhile, the destruction of ecosystems to claim land and resources in service of more economic growth is contributing to the sixth mass extinction of life on Earth.

“Green growth” has been touted as a solution to these problems. But recent research suggests that growth cannot be decoupled from environmental pressures at a scale or speed sufficient to halt ecological breakdown.

Transitioning to renewable energy can reduce carbon emissions, but it increases pressures on rare Earth minerals and land to build wind and solar farms. Reducing emissions in one country often involves exporting dirty production processes to another. When goods are made more efficient, they become cheaper to produce, and their lower ecological impact is often offset by increased consumption. Think of someone switching to a fuel efficient car but driving more often. Put simply, attempts at “greening” growth often shift, rather than eliminate, environmental impact.

Governments have taken action to reduce the spread of COVID-19 at the expense of economic growth. But as the post-pandemic recession kicks in, rebooting growth will be the priority. This would set us right back on the path of ecological catastrophe.

Yet, polling suggests a public appetite to prioritise wellbeing over growth in the post-COVID economy. To achieve this while tackling ecological crisis would require turning the current short-term disruption to growth into a long-term managed downscaling of the economy. As researchers, we work with a concept which can guide this task: degrowth.

Well-being without growth

Degrowth calls for a fundamental restructuring of the economy to reduce its ecological impact and improve well-being by abolishing economic growth as a social objective.

The pandemic will shrink the global economy, but not in a targeted way that downscales carbon-intensive sectors. For this reason, a degrowth transition would look very different to a crisis-driven recession such as the present one. Still, there are useful lessons to be drawn from COVID-19. Firstly, when confronted with a major crisis, we must stop activities that threaten well-being, regardless of the impact on growth.

Once we have established the necessary boundaries to protect well-being – whether it’s closing non-essential industries to prevent the spread of a virus, or curtailing those which threaten to push global warming beyond 1.5°C – our task as a society is to build an economy which helps everyone live well within those limits. For instance, the appeal during the pandemic to “stay home” could afterwards become “stay grounded”, as we scale down the enormously carbon-intensive aviation industry while expanding green public transport.

Secondly, COVID-19 has also prompted society to reconsider how we value different forms of labour. The heroes of the pandemic are those undervalued by our current economic system, often working for low wages or in poor conditions. They are, among others, the cleaners, shop workers, farmers, nurses, rubbish collectors, teachers, postal workers and food couriers. Feminist economists describe this work - disproportionately done by women - as the “reproductive economy”, so called because it provides the essential services on which the rest of society depends for its day to day functioning.

Lots of vital reproductive work also occurs outside of the waged labour market, such as care of relatives in family homes. If all this unwaged labour were paid, it’s estimated that its global value would total $10.8 trillion per year. A care income could support all those doing unpaid work caring for other people and their local environments.

Reproductive work is central to sustaining well-being, but it also tends to have a lower ecological impact than much of the industrial economy. For these reasons, a degrowth transition could reduce ecological degradation by shrinking the sectors that pollute the most, like the fossil fuel industry and aviation, while expanding reproductive sectors such as health care, education and ecosystems restoration.

The COVID-19 pandemic has undeniably created an upsurge of political imagination. Now, as the restructuring of the post-pandemic economy begins, we must resist the return to infinite growth. The future of life on Earth depends upon it.

### Advantage 1

#### No extinction from disease

#### Resilience and countermeasures prevent spread – distinct from burnout

Adalja 16

Amesh Adalja is an infectious-disease physician at the University of Pittsburgh, The Atlantic, June 17, 2016, “Why Hasn't Disease Wiped out the Human Race?”, https://www.theatlantic.com/health/archive/2016/06/infectious-diseases-extinction/487514/

But when people ask me if I’m worried about infectious diseases, they’re often not asking about the threat to human lives; they’re asking about the threat to human life. With each outbreak of a headline-grabbing emerging infectious disease comes a fear of extinction itself. The fear envisions a large proportion of humans succumbing to infection, leaving no survivors or so few that the species can’t be sustained.

I’m not afraid of this apocalyptic scenario, but I do understand the impulse. Worry about the end is a quintessentially human trait. Thankfully, so is our resilience.

For most of mankind’s history, infectious diseases were the existential threat to humanity—and for good reason. They were quite successful at killing people: The 6th century’s Plague of Justinian knocked out an estimated 17 percent of the world’s population; the 14th century Black Death decimated a third of Europe; the 1918 influenza pandemic killed 5 percent of the world; malaria is estimated to have killed half of all humans who have ever lived.

Any yet, of course, humanity continued to flourish. Our species’ recent explosion in lifespan is almost exclusively the result of the control of infectious diseases through sanitation, vaccination, and antimicrobial therapies. Only in the modern era, in which many infectious diseases have been tamed in the industrial world, do people have the luxury of death from cancer, heart disease, or stroke in the 8th decade of life. Childhoods are free from watching siblings and friends die from outbreaks of typhoid, scarlet fever, smallpox, measles, and the like.

* 1. **Intervening actors check**

**Zakaria 9—**Editor of Newsweek, BA from Yale, PhD in pol sci, Harvard. He serves on the board of Yale University, The Council on Foreign Relations, The Trilateral Commission, and Shakespeare and Company. Named "one of the 21 most important people of the 21st Century" (Fareed, “The Capitalist Manifesto: Greed Is Good,” 13 June 2009, http://www.newsweek.com/id/201935)

Note—Laurie Garrett=science and health writer, winner of the Pulitzer, Polk, and Peabody Prize

It certainly looks like another example of crying wolf. **After bracing ourselves for a global pandemic, we've suffered** something more like **the usual seasonal influenza**. Three weeks ago the World Health Organization declared a health emergency, warning countries to "prepare for a pandemic" and said that the only question was the extent of worldwide damage. **Senior officials prophesied that millions could be infected** by the disease. **But as of last week, the WHO had confirmed only 4,800 cases** of swine flu, with 61 people having died of it. Obviously, these low numbers are a pleasant surprise, but it does make one wonder, what did we get wrong? **Why did** the **predictions of a pandemic turn out to be so exaggerated**? Some people blame an overheated media, but it would have been difficult to ignore major international health organizations and governments when they were warning of catastrophe. I think **there is a** broader **mistake in the way we look at the world.** Once we see a problem, we can describe it in great detail, extrapolating all its possible consequences. But **we** can **rarely anticipate the human response to that crisis. Take** **swine flu. The virus** **had crucial characteristics** **that led researchers to worry that it could spread far and fast**. They described—and the media reported—what would happen if it went unchecked. **But it did not go unchecked**. **In fact, swine flu was met by an extremely vigorous response at its epicenter**, **Mexico. The Mexican government reacted quickly** and massively, quarantining the infected population, testing others, providing medication to those who needed it. **The noted expert on this subject,** Laurie **Garrett, says, "**We should all stand up and scream, **'Gracias, Mexico**!' because the Mexican people and the Mexican government have sacrificed on a level that I'm not sure as Americans we would be prepared to do in the exact same circumstances. They shut down their schools. They shut down businesses, restaurants, churches, sporting events. **They** basically paralyzed their own economy. They've suffered billions of dollars in financial losses still being tallied up, and thereby **really brought transmission to a halt." Every time one of these viruses is detected**, writers and **officials bring up the Spanish influenza** epidemic **of 1918** in which millions of people died. Indeed, during the last pandemic scare, in 2005, President George W. Bush claimed that he had been reading a history of the Spanish flu to help him understand how to respond. **But the world we live in today looks nothing like 1918. Public health-care systems are far better** and more widespread than anything that existed during the First World War. **Even Mexico, a developing country, has a first-rate public-health system**—far better than anything Britain or France had in the early 20th century.

#### Solves warming

#### Disease outbreaks will be defeated with quarantines

**Szalai 7/26** [(Jennifer Szalai - author for the NYT) “The Extradordinary History (and likely busy future) of quarantine” The New York Times. 7-26-2021]

**Quarantine can be lifesaving**; it can also be dangerous, an exercise of extraordinary power in the name of disease control, a presumption of guilt instead of innocence.

In “Until Proven Safe,” a new book about quarantine’s past and future, Geoff Manaugh and Nicola Twilley do an impressively judicious job of explaining exactly why fears of quarantine are understandable and historically justified, while also showing how in coming years “we will almost certainly find ourselves more dependent on quarantine, not less.” Quarantine has to do with risk and uncertainty, and its logic is simple: “There might be something dangerous inside you — something contagious — on the verge of breaking free.”

**While medical advances have made some diseases more diagnosable** and less deadly, newfound knowledge can also accentuate the depths of our ignorance. The more we know, the more we know how much we don’t know — not to mention that **modern life, with escalating numbers of people and goods churning** their way **around the world**, has **increased the opportunities for contagion.**

Quarantine is distinct from isolation, even if the terms are often used interchangeably. Someone is isolated when they are known to be sick; **someone is quarantined when they might be but we cannot be sure**. Manaugh, an architecture and technology blogger, and Twilley, the co-host of a podcast about the science and history of food, bring an impressively wide range of interests to bear on a subject that involves not only infectious disease but also — in their ambitious yet seamless narration — politics, agriculture, surveillance and even outer space.

#### **Quarantines solve climate change – COVID was responsible for the largest drop in emissions ever**

**Alexander 20** [(Kurtis, a general assignment reporter for The San Francisco Chronicle, frequently writing about water, wildfire, climate and the American West. His recent work has focused on the impacts of drought, the widening rural-urban divide and state and federal environmental policy. Before joining the Chronicle, Alexander worked as a freelance writer and as a staff reporter for several media organizations, including The Fresno Bee and Bay Area News Group, writing about government, politics and the environment.) "Coronavirus has altered the global warming trajectory. But for how long?" San Francisco Chronicle, 5/20/20, https://www.sfchronicle.com/health/article/Greenhouse-gas-emissions-on-track-for-record-drop-15279312.php] TDI

The disruption caused by the coronavirus has been so profound that it’s altered the trajectory of global warming.

Not since World War II — and perhaps never before — have the emissions of heat-trapping gases dropped as much around the planet as they have during the COVID-19 outbreak.

The latest and most detailed study yet on the pandemic’s impact on climate pollution, published Tuesday and authored by the research group Global Carbon Project chaired by Stanford University’s Rob Jackson, finds that the Earth will see up to a 7% decrease in carbon dioxide this year. The dip is five times the decline in emissions in 2009, when the recession choked the world’s economy, and double what it was in 1992, after the fall of the Soviet Union.

The paper’s findings mirror other reports that have similarly found sharp drops in greenhouse gases recently. The emerging research also is in agreement that the lull will likely be short-lived and, at best, buy time before the most devastating effects of climate change take hold. The lockdown that has halted factories, energy plants and automobiles during the pandemic is already lifting, and without deliberate action, carbon-intense activities are bound to resume.

“That’s the danger here,” said Jackson, a professor of earth system science and senior fellow at Stanford Woods Institute for the Environment. “We’ve decreased emissions for the wrong reasons. Will they jump back up starting this fall, or could the virus allow us to rethink transportation and other parts of the economy?”

The answer to the question, say Jackson and others, may not be so straightforward. Greenhouse gases could rebound in some areas, and there could be lasting decreases in others.

Measuring heat-trapping gas emissions, for which carbon dioxide is a proxy, is not easy to do, especially in real time. The researchers at the Global Carbon Project analyzed daily economic activity in 69 countries from January through April and modeled the carbon pollution that likely resulted, then compared it to last year. The countries included have historically produced almost all of the world’s carbon dioxide.

The researchers found that China, the largest polluter, reduced emissions by nearly 24% on some days in mid-February. The United States, the second-largest polluter, cut emissions by nearly 32% for almost two weeks in mid-April. The European Union, including Great Britain, trimmed emissions by about 27% during the first week of April.

The dates of peak reductions varied in different parts of the globe because each locked down at a different time. The biggest cumulative drop in carbon dioxide was on April 7 and measured about 17%, according to the study.

While a variety of activity explains the declines, fewer people driving was the largest contributor worldwide. Less industrial pollution was also a big contributor.

Based on the observed drops in emissions, the researchers estimate that going forward, carbon dioxide will fall between 4% and 7% for the year worldwide, depending on how quickly countries end their lockdowns.

Jackson said the amount of the decline can be viewed as both considerable, given that it’s the largest ever seen, and humbling because it’s the minimum needed annually to put the planet on track to meet the Paris climate agreement — enough of a drop to prevent the global temperature from rising 2 degrees Celsius above preindustrial levels.

“We would need to do this every year,” he said.

The International Energy Agency recently projected an 8% dip in greenhouse gases for the year while the International Monetary Fund came up with an estimate closer to 6%. Both organizations said carbon pollution would likely rise again in 2021.

After the decline in emissions in 2009 of about 1.4%, the following year saw an increase of 5.1%.

The Global Carbon Project says there’s reason to think that at least some parts of the globe will try to prevent heat-trapping gases from bouncing back. Stimulus programs aimed at developing clean energy and new carbon-friendly ways of living adopted during the pandemic, such as working from home, could help limit emissions.

“Cities from Seattle to Milan are keeping roads closed to cars and letting them stay open to bikes and pedestrians even after the shelter-in-place,” Jackson said. “And maybe COVID-19 and stimulus funding will jump-start electric cars.”

#### Shutdowns solve climate change – substantially reduce emissions, air and water pollution, directs attention to climate

**Chow 20** [(Denise, a reporter for NBC News Science focused on general science and climate change) "Coronavirus shutdowns have unintended climate benefits: cleaner air, clearer water," NBC News, 3/18/20, https://www.nbcnews.com/science/environment/coronavirus-shutdowns-have-unintended-climate-benefits-n1161921] DRD

Concentrations of nitrogen dioxide in the atmosphere over Italy also fell precipitously, as they did in China. An analysis by The Washington Post found that the most dramatic drop was observed over northern Italy.

Nitrogen dioxide can irritate the lungs, and inhaling the pollutant can increase the risk of asthma and inflammation of the lungs. Although the noxious gas isn't thought to be a major contributor to climate change, studying its concentration in the atmosphere can help scientists understand other heat-trapping greenhouse gases that do drive global warming.

Jacqueline Klopp, co-director of the Center for Sustainable Urban Development at Columbia University in New York City, said she expects to see greenhouse gas emissions plummet across the board because of the quarantine measures.

"People were in their homes and really stopped a lot of the activities that lead to greenhouse gas emissions and other pollution," she said.

Early observations have shown that extreme social-distancing measures are likely also having an effect on air pollution at the city level in the U.S.

Jordan Wildish, a project director at Earth Economics, an environmental non-profit organization based in Tacoma, Washington, developed an online dashboard to track air quality in San Francisco, New York City and the Seattle area, comparing the measurements with figures from the same time last year.

In San Francisco, which is under shelter-in-place orders to control the spread of the coronavirus, the average concentration of fine particulate matter — tiny particles in the air that are dangerous because they can be breathed deeply into the lungs — over the past five days was almost 40 percent lower than the previous year.

In New York City, there was a 28 percent drop over the same period of time, and the Seattle-Tacoma-Bellevue saw a 32 percent decrease.

But experts warned that observed reductions are temporary and that as cities, countries and economies bounce back, so, too, will emissions — unless major infrastructure or societal changes are adopted.

Klopp said the pandemic could make companies and governments realize that other threats to humanity, including climate change, could be just as devastating and that it's imperative to develop protective measures.

* 1. **Warming causes extinction**

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**Climate change is becoming an existential threat with warming in excess of 2°C within the next three decades and 4°C to 6°C within the next several decades. Warming of such magnitudes will expose as many as 75% of the world’s population to deadly heat stress in addition to disrupting the climate and weather worldwide. Climate change is an urgent problem requiring urgent solutions**. This paper lays out urgent and **practical solutions that are ready for implementation now, will deliver benefits in the next few critical decades**, and places the world on a path to achieving the longterm targets of the Paris Agreement and near-term sustainable development goals. The approach consists of four building blocks and 3 levers to implement ten scalable solutions described in this report by a team of climate scientists, policy makers, social and behavioral scientists, political scientists, legal experts, diplomats, and military experts from around the world. These solutions will enable society to decarbonize the global energy system by 2050 through efficiency and renewables, drastically reduce short-lived climate pollutants, and stabilize the climate well below 2°C both in the near term (before 2050) and in the long term (post 2050). It will also reduce premature mortalities by tens of millions by 2050. As an insurance against policy lapses, mitigation delays and faster than projected climate changes, the solutions include an Atmospheric Carbon Extraction lever to remove CO2 from the air. The amount of CO2 that must be removed ranges from negligible, if the emissions of CO2 from the energy system and SLCPs start to decrease by 2020 and carbon neutrality is achieved by 2050, to a staggering one trillion tons if the carbon lever is not pulled and emissions of climate pollutants continue to increase until 2030.

There are numerous living laboratories including 53 cities, many universities around the world, the state of California, and the nation of Sweden, who have embarked on a carbon neutral pathway. These laboratories have already created 8 million jobs in the clean energy industry; they have also shown that **emissions of greenhouse gases and air pollutants can be decoupled from economic growth**. Another favorable sign is that **growth rates of worldwide carbon emissions have reduced from 2.9% per year during the first decade of this century to 1.3% from 2011 to 2014 and near zero growth rates during the last few years. The carbon emission curve is bending, but we have a long way to go and very little time for achieving carbon neutrality**. We need institutions and enterprises that can accelerate this bending by scaling-up the solutions that are being proven in the living laboratories. We have less than a decade to put these solutions in place around the world to preserve nature and our quality of life for generations to come. The time is now.

The Paris Agreement is an historic achievement. For the first time, effectively all nations have committed to limiting their greenhouse gas emissions and taking other actions to limit global temperature change. Specifically, 197 nations agreed to hold “the increase in the global average temperature to well below 2°C above pre-industrial levels and pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels,” and achieve carbon neutrality in the second half of this century.

**The climate has already warmed by 1°C. The problem is running ahead of us, and under current trends we will likely reach 1.5°C in the next fifteen years and surpass the 2°C guardrail by mid-century with a 50% probability of reaching 4°C by end of century**. Warming in excess of 3°C is likely to be a global catastrophe for three major reasons:

• **Warming in the range of 3°C to 5°C is suggested as the threshold for several tipping points in the physical and geochemical systems; a warming of about 3°C has a probability of over 40% to cross over multiple tipping points, while a warming close to 5°C increases it to nearly 90%, compared with a baseline warming of less than 1.5°C, which has only just over a 10% probability of exceeding any tipping point.**

**• Health effects of such warming are emerging as a major if not dominant source of concern. Warming of 4°C or more will expose more than 70% of the population, i.e. about 7 billion by the end of the century, to deadly heat stress and expose about 2.4 billion to vector borne diseases such as Dengue, Chikengunya, and Zika virus among others**. Ecologists and paleontologists have proposed that warming in excess of 3°C, accompanied by increased acidity of the oceans by the buildup of CO2 , can become a major causal factor for exposing more than 50% of all species to extinction. 20% of species are in danger of extinction now due to population, habitat destruction, and climate change.

The good news is that **there may still be time to avert such catastrophic changes**. The Paris Agreement and **supporting climate policies must be strengthened substantially within the next five years to bend the emissions curve down faster, stabilize climate, and prevent catastrophic warming**. To the extent those efforts fall short, societies and **ecosystems will be forced to contend with substantial needs for adaptation—a burden that will fall disproportionately on the poorest three billion who are least responsible for causing the climate change problem.**

Here we propose a policy roadmap with a realistic and reasonable chance of limiting global temperature to safe levels and preventing unmanageable climate change—an outline of specific science-based policy pathways that serve as the building blocks for a three-lever strategy that could limit warming to well under 2°C. The projections and the emission pathways proposed in this summary are based on a combination of published recommendations and new model simulations conducted by the authors of this study (see Figure 2). We have framed the plan in terms of four building blocks and three levers, which are implemented through 10 solutions. The first building block would be fully implementing the nationally determined mitigation pledges under the Paris Agreement of the UN Framework Convention on Climate Change (UNFCCC). In addition, several sister agreements that provide targeted and efficient mitigation must be strengthened. Sister agreements include the Kigali Amendment to the Montreal Protocol to phase down HFCs, efforts to address aviation emissions through the International Civil Aviation Organization (ICAO), maritime black carbon emissions through the International Maritime Organization (IMO), and the commitment by the eight countries of the Arctic Council to reduce black carbon emissions by up to 33%. There are many other complementary processes that have drawn attention to specific actions on climate change, such as the Group of 20 (G20), which has emphasized reform of fossil fuel subsidies, and the Climate and Clean Air Coalition (CCAC). HFC measures, for example, can avoid as much as 0.5°C of warming by 2100 through the mandatory global phasedown of HFC refrigerants within the next few decades, and substantially more through parallel efforts to improve energy efficiency of air conditioners and other cooling equipment potentially doubling this climate benefit.

For the second building block, numerous subnational and city scale climate action plans have to be scaled up. One prominent example is California’s Under 2 Coalition signed by over 177 jurisdictions from 37 countries in six continents covering a third of world economy. The goal of this Memorandum of Understanding is to catalyze efforts in many jurisdictions that are comparable with California’s target of 40% reductions in CO2 emissions by 2030 and 80% reductions by 2050—emission cuts that, if achieved globally, would be consistent with stopping warming at about 2°C above pre-industrial levels. Another prominent example is the climate action plans by over 52 cities and 65 businesses around the world aiming to cut emissions by 30% by 2030 and 80% to 100% by 2050. There are concerns that the carbon neutral goal will hinder economic progress; however, real world examples from California and Sweden since 2005 offer evidence that economic growth can be decoupled from carbon emissions and the data for CO2 emissions and GDP reveal that growth in fact prospers with a green economy.

The third building block consists of two levers that we need to pull as hard as we can: one for drastically reducing emissions of short-lived climate pollutants (SLCPs) beginning now and completing by 2030, and the other for decarbonizing the global energy system by 2050 through efficiency and renewables. Pulling both levers simultaneously can keep global temperature rise below 2°C through the end of the century. If we bend the CO2 emissions curve through decarbonization of the energy system such that global emissions peak in 2020 and decrease steadily thereafter until reaching zero in 2050, there is less than a 20% probability of exceeding 2°C. This call for bending the CO2 curve by 2020 is one key way in which this report’s proposal differs from the Paris Agreement and it is perhaps the most difficult task of all those envisioned here. Many cities and jurisdictions are already on this pathway, thus demonstrating its scalability. Achieving carbon neutrality and reducing emissions of SLCPs would also drastically reduce air pollution globally, including all major cities, thus saving millions of lives and over 100 million tons of crops lost to air pollution each year. In addition, these steps would provide clean energy access to the world’s poorest three billion who are still forced to resort to 18th century technologies to meet basic needs such as cooking. For the fourth and the final building block, we are adding a third lever, ACE (Atmospheric Carbon Extraction, also known as Carbon Dioxide Removal, or “CDR”). This lever is added as an insurance against surprises (due to policy lapses, mitigation delays, or non-linear climate changes) and would require development of scalable measures for removing the CO2 already in the atmosphere. The amount of CO2 that must be removed will range from negligible, if the emissions of CO2 from the energy system and SLCPs start to decrease by 2020 and carbon neutrality is achieved by 2050, to a staggering one trillion tons, if CO2 emissions continue to increase until 2030, and the carbon lever is not pulled until after 2030. This issue is raised because the NDCs (Nationally Determined Contributions) accompanying the Paris Agreement would allow CO2 emissions to increase until 2030. We call on economists and experts in political and administrative systems to assess the feasibility and cost-effectiveness of reducing carbon and SLCPs emissions beginning in 2020 compared with delaying it by ten years and then being forced to pull the third lever to extract one trillion tons of CO2

The fast mitigation plan of requiring emissions reductions to begin by 2020, which means that many countries need to cut now, is urgently needed to limit the warming to well under 2°C. Climate change is not a linear problem. Instead, we are facing non-linear climate tipping points that can lead to self-reinforcing and cascading climate change impacts. Tipping points and selfreinforcing feedbacks are wild cards that are more likely with increased temperatures, and many of the potential abrupt climate shifts could happen as warming goes from 1.5°C in 15 years to 2°C by 2050, with the potential to push us well beyond the Paris Agreement goals.

Where Do We Go from Here?

**A massive effort will be needed to stop warming at 2°C, and time is of the essence. With unchecked business-as-usual emissions, global warming has a 50% likelihood of exceeding 4ºC and a 5% probability of exceeding 6ºC in this century, raising existential questions for most, but especially the poorest three billion people. A 4ºC warming is likely to expose as many as 75% of the global population to deadly heat.** Dangerous to catastrophic impacts on the health of people including generations yet to be born, on the health of ecosystems, and on species extinction have emerged as major justifications for mitigating climate change well below 2ºC, although we must recognize that the uncertainties intrinsic in climate and social systems make it hard to pin down exactly the level of warming that will trigger possibly catastrophic impacts. To avoid these consequences, we must act now, and we must act fast and effectively. This report sets out a specific plan for reducing climate change in both the near- and long-term. With aggressive urgent actions, we can protect ourselves. Acting quickly to prevent catastrophic climate change by decarbonization will save millions of lives, trillions of dollars in economic costs, and massive suffering and dislocation to people around the world. This is a global security imperative, as it can avoid the migration and destabilization of entire societies and countries and reduce the likelihood of environmentally driven civil wars and other conflicts.

Staying well under 2°C will require a concerted global effort. We must address everything from our energy systems to our personal choices to reduce emissions to the greatest extent possible. We must redouble our efforts to invent, test, and perfect systems of governance so that the large measure of international cooperation needed to achieve these goals can be realized in practice. The health of people for generations to come and the health of ecosystems crucially depend on an energy revolution beginning now that will take us away from fossil fuels and toward the clean renewable energy sources of the future. It will be nearly impossible to obtain other critical social goals, including for example the UN agenda 2030 with the Sustainable Development Goals, if we do not make immediate and profound progress stabilizing climate, as we are outlining here.

1. The Building Blocks Approach The 2015 Paris Agreement, which went into effect November 2016, is a remarkable, historic achievement. For the frst time, essentially all nations have committed to limit their greenhouse gas emissions and take other actions to limit global temperature and adapt to unavoidable climate change. Nations agreed to hold “the increase in the global average temperature to well below 2°C above pre-industrial levels and pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels” and “achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century” (UNFCCC, 2015). Nevertheless, the initial Paris Agreement has to be strengthened substantially within fve years if we are to prevent catastrophic warming; **current pledges place the world on track for up to 3.4°C by 2100 (UNEP, 2016b). Until now, no specifc policy roadmap exists that provides a realistic and reasonable chance of limiting global temperatures to safe levels and preventing unmanageable climate change**. This report is our attempt to provide such a plan— an outline of specifc solutions that serve as the building blocks for a comprehensive strategy for limiting the warming to well under 2°C and avoiding dangerous climate change (Figure 1). The frst building block is the full implementation of the nationally determined mitigation pledges under the Paris Agreement of the UN Framework Convention on Climate Change (UNFCCC) and strengthening global sister agreements, such as the Kigali Amendment to the Montreal Protocol to phase down HFCs, which can provide additional targeted, fast action mitigation at scale. For the second building block, numerous sub-national and city scale climate action plans have to be scaled up such as California’s Under 2 Coalition signed by 177 jurisdictions from 37 countries on six continents. The third building block is targeted measures to reduce emissions of shortlived climate pollutants (SLCPs), beginning now and fully implemented by 2030, along with major measures to fully decarbonize the global economy, causing the overall emissions growth rate to stop in 2020-2030 and reach carbon neutrality by 2050. Such a deep decarbonization would require an energy revolution similar to the Industrial Revolution that was based on fossil fuels. The fnal building block includes scalable and reversible carbon dioxide (CO2 ) removal measures, which can begin removing CO2 already emitted into the atmosphere. Such a plan is urgently needed. Climate change is not a linear problem. Instead, climate tipping points can lead to self-reinforcing, cascading climate change impacts (Lenton et al., 2008). Tipping points are more likely with increased temperatures, and many of the potential abrupt climate shifts could happen as warming goes from 1.5°C to 2°C, with the potential to push us well beyond the Paris Agreement goals (Drijfhout et al., 2015). In order to avoid dangerous climate change, we must address these concerns. **We must act now, and we must act fast. Reduction of SLCPs will result in fast, near-term reductions in warming, while present-day reductions of CO2 will result in long-term climate benefts**. This two-lever approach—aggressively cutting both SLCPs and CO2 –-will slow warming in the coming decades when it is most crucial to avoid impacts from climate change as well as maintain a safe climate many decades from now. To achieve the nearterm goals, we have outlined solutions to be implemented immediately. These solutions to bend down the rising emissions curve and thus bend the warming trajectory curve follow a 2015 assessment by the University of California under its Carbon Neutrality Initiative (Ramanathan et al., 2016). The solutions are clustered into categories of social transformation, governance improvement, market- and regulation-based solutions, technological innovation and transformation, and natural and ecosystem management. Additionally, we need to intensely investigate and pursue a third lever—ACE (Atmospheric Carbon Extraction). While many potential technologies exist, we do not know the extent to which they could be scaled up to remove the requisite amount of carbon from the atmosphere in order to achieve the Paris Agreement goals, and any delay in mitigation will demand increasing reliance on these technologies. Yet, there is still hope. Humanity can come together, as we have done in the past, to collaborate towards a common goal. We have no choice but to tackle the challenge of climate change. We only have the choice of when and how: **either now, through the ambitious plan outlined here, or later, through radical adaptation and societal transformations in response to an ever-deteriorating climate system that will unleash devastating impacts—some of which may be beyond our capacity to fully adapt to or reverse for thousands of years.**

2. Major Climate Disruptions: How Soon and How Fast? “Without adequate mitigation and adaptation, climate change poses unacceptable risks to global public health.” (WHO, 2016)

The planet has already witnessed nearly 1°C of warming, and another 0.6°C of additional warming is currently stored in the ocean to be released over the next two to four decades, if climate warming emissions are not radically reduced during that time (IPCC, 2013). The impacts of this warming on extreme weather, droughts, and foods are being felt by society worldwide to the extent that many think of this no longer as climate change but as climate disruption. Consider the business as usual scenario:

15 years from now: In 15 years, planetary warming will reach 1.5°C above pre-industrial global mean temperature (Ramanathan and Xu, 2010; Shindell et al., 2012). This exceeds the 0.5°C to 1°C of warming during the Eemian period, 115,000– 130,000 years ago, when sea-levels reached 6-9 meters (20-30 feet) higher than today (Hansen et al., 2016b). The impacts of this warming will affect us all yet will disproportionately affect the Earth’s poorest three billion people, who are primarily subsistence farmers that still rely on 18th century technologies and have the least capacity to adapt (IPCC, 2014a; Dasgupta et al., 2015). They thus may be forced to resort to mass migration into city slums and push across international borders (U.S. DOD, 2015). The existential fate of lowlying small islands and coastal communities will also need to be addressed, as they are primarily vulnerable to sea-level rise, diminishing freshwater resources, and more intense storms. In addition, many depend on fsheries for protein, and these are likely to be affected by ocean acidifcation and climate change. Climate injustice could start causing visible regional and international conficts. All of this will be exacerbated as the risk of passing tipping points increases (Lenton et al., 2008).

30 years from now: By mid-century, warming is expected to exceed 2°C, which would be unprecedented with respect to historical records of at least the last one million years (IPCC, 2014c). Such a warming through this century could result in sea-level rise of as much as 2 meters by 2100, with greater sea-level rise to follow. A group of tipping points are clustered between 1.5°C and 2°C (Figure 2) (Drijfhout et al., 2015). The melting of most mountain glaciers, including those in the Tibetan-Himalayas, combined with mega-droughts, heat waves, storms, and foods, would adversely affect nearly everyone on the planet.

80 years from now: In 80 years, warming is expected to exceed 4°C, increasing the likelihood of irreversible and catastrophic change (World Bank, 2013b). 4ºC warming is likely to expose as much as 75% of the global population to deadly heat (Mora et al., 2017). The 2°C and 4°C values quoted above and in other reports, however, are merely the central values with a 50% probability of occurrence (Ramanathan and Feng, 2008). There is a 5% probability the warming could be as high as 6°C due to uncertainties in the magnitude of amplifying feedbacks (see Section 4). This in turn could lead to major disruptions to natural and social systems, threatening food security, water security, and national security and fundamentally affecting the great majority of the projected 11.2 billion inhabitants of the planet in 2100 (UN DESA, 2015).

3. What Are the Wild Cards for Climate Disruption? Increasing the concentrations of greenhouse gases in the atmosphere increases radiative forcing (the difference between the amount of energy entering the atmosphere and leaving) and thus increases the global temperature (IPCC, 2013). However, climate wild cards exist that can alter the linear connection with warming and anthropogenic emissions by triggering abrupt changes in the climate (Lenton et al., 2008). Some of these wild cards have not been thoroughly captured by the models that policymakers rely on the most. These abrupt shifts are irreversible on a human time scale (<100 years) and will create a notable disruption to the climate system, condemning the world to warming beyond that which we have previously projected. These climate disruptions would divert resources from needed mitigation and upset mitigation strategies that we have already put in place.

1. Unmasking Aerosol Cooling: The frst such wild card is the unmasking of an estimated 0.7°C (with an uncertainty range of 0.3°C to 1.2°C) of the warming in addition to mitigating other aerosol effects such as disrupting rainfall patterns, by reducing emissions of aerosols such as sulfates and nitrates as part of air pollution regulations (Wigley, 1991; Ramanathan and Feng, 2008). Aerosol air pollution is a major health hazard with massive costs to public health and society, including contributing to about 7 million deaths (from household and ambient exposure) each year (WHO, 2014). While some aerosols, such as black carbon and brown carbon, strongly absorb sunlight and warm the climate, others refect sunlight back into space, which cools the climate (Ramanathan and Carmichael, 2008). The net impact of all manmade aerosols is negative, meaning that about 30% of the warming from greenhouse gases is being masked by co-emitted air pollution particles (Ramanathan and Carmichael, 2008). As we reduce greenhouse gas emissions and implement policies to eliminate air pollution, we are also reducing the concentration of aerosols in the air. Aerosols last in the atmosphere for about a week, so if we eliminate air pollution without reducing emissions of the greenhouse gases, the unmasking alone would lead to an estimated 0.7°C of warming within a matter of decades (Ramanathan and Feng, 2008). We must eliminate all aerosol emissions due to their health effects, but we must simultaneously mitigate emissions of CO2 , other greenhouse gases, and black carbon and co-pollutants to avoid an abrupt and very large jump in the near-term warming beyond 2°C (Brasseur and Roeckner, 2005).

2. Tipping Points**: It is likely that as we cross the 1.5°C to 2°C thresholds we will trigger so called “tipping points” for abrupt and nonlinear changes in the climate system with catastrophic consequences** for humanity and the environment (Lenton, 2008; Drijfhout et al., 2015). Once the tipping points are passed, the resulting impacts will range in timescales from: disruption of monsoon systems (transition in a year), loss of sea ice (approximately a decade for transition), dieback of major forests (nearly half a century for transition), reorganization of ocean circulation (approximately a century for transition), to loss of ice sheets and subsequent sea-level rise (transition over hundreds of years) (Lenton et al., 2008). Regardless of timescale, once underway many of these changes would be irreversible (Lontzek et al., 2015). There is also a likelihood of crossing over multiple tipping points simultaneously. Warming of close to 3°C would subject the system to a 46% probability of crossing multiple tipping points, while warming of close to 5°C would increase the risk to 87% (Cai et al., 2016). Recent modeling work shows a “cluster” of these tipping points could be triggered between 1.5°C and 2°C warming (Figure 2), including melting of land and sea ice and changes in highlatitude ocean circulation (deep convection) (Drijfhout et al., 2015). This is consistent with existing observations and understanding that the polar regions are particularly sensitive to global warming and have several potentially imminent tipping points. The Arctic is warming nearly twice as quickly as the global average, which makes the abrupt changes in the Arctic more likely at a lower level of global warming (IPCC, 2013). Similarly, the Himalayas are warming at roughly the same rate as the Arctic and are thus also more susceptible to incremental changes in temperature (UNEP-WMO, 2011). This gives further justifcation for limiting warming to no more than 1.5°C.

While all climate tipping points have the potential to rapidly destabilize climate, social, and economic systems, some are also **self-amplifying feedbacks that once set in motion increase warming in such a way that they perpetuate yet even more warming. Declining Arctic sea ice, thawing permafrost, and the poleward migration of cloud systems are all examples of self-amplifying feedback mechanisms, where initial warming feeds upon itself to cause still more warming acting as a force multiplier (Schuur et al., 2015).**

#### Solves war

#### Disease pandemics decrease the likelihood of war

Walt 20 (Stephen M. Walt is the Robert and Renée Belfer professor of international relations at Harvard University; “Will a Global Depression Trigger Another World War?”; Foreign Policy; May 13, 2020; https://foreignpolicy.com/2020/05/13/coronavirus-pandemic-depression-economy-world-war/; ERB)

By many measures, 2020 is looking to be the worst year that humankind has faced in many decades. We’re in the midst of a pandemic that has already claimed more than 280,000 lives, sickened millions of people, and is certain to afflict millions more before it ends. The world economy is in free fall, with unemployment rising dramatically, trade and output plummeting, and no hopeful end in sight. A plague of locusts is back for a second time in Africa, and last week we learned about murderous killer wasps threatening the bee population in the United States. Americans have a head-in-the-sand president who prescribes potentially lethal nostrums and ignores the advice of his scientific advisors. Even if all those things magically disappeared tomorrow—and they won’t—we still face the looming long-term danger from climate change. Given all that, what could possibly make things worse? Here’s one possibility: war. It is therefore worth asking whether the combination of a pandemic and a major economic depression is making war more or less likely. What does history and theory tell us about that question? For starters, we know neither plague nor depression make war impossible. World War I ended just as the 1918-1919 influenza was beginning to devastate the world, but that pandemic didn’t stop the Russian Civil War, the Russo-Polish War, or several other serious conflicts. The Great Depression that began in 1929 didn’t prevent Japan from invading Manchuria in 1931, and it helped fuel the rise of fascism in the 1930s and made World War II more likely. So if you think major war simply can’t happen during COVID-19 and the accompanying global recession, think again. But war could still be much less likely. The Massachusetts Institute of Technology’s Barry Posen has already considered the likely impact of the current pandemic on the probability of war, and he believes COVID-19 is more likely to promote peace instead. He argues that the current pandemic is affecting all the major powers adversely, which means it isn’t creating tempting windows of opportunity for unaffected states while leaving others weaker and therefore vulnerable. Instead, it is making all governments more pessimistic about their short- to medium-term prospects. Because states often go to war out of sense of overconfidence (however misplaced it sometimes turns out to be), pandemic-induced pessimism should be conducive to peace. Moreover, by its very nature war requires states to assemble lots of people in close proximity—at training camps, military bases, mobilization areas, ships at sea, etc.—and that’s not something you want to do in the middle of a pandemic. For the moment at least, beleaguered governments of all types are focusing on convincing their citizens they are doing everything in their power to protect the public from the disease. Taken together, these considerations might explain why even an impulsive and headstrong warmaker like Saudi Arabia’s Mohammed bin Salman has gotten more interested in winding down his brutal and unsuccessful military campaign in Yemen. Posen adds that COVID-19 is also likely to reduce international trade in the short to medium term. Those who believe economic interdependence is a powerful barrier to war might be alarmed by this development, but he points out that trade issues have been a source of considerable friction in recent years—especially between the United States and China—and a degree of decoupling might reduce tensions somewhat and cause the odds of war to recede. For these reasons, the pandemic itself may be conducive to peace. But what about the relationship between broader economic conditions and the likelihood of war? Might a few leaders still convince themselves that provoking a crisis and going to war could still advance either long-term national interests or their own political fortunes? Are the other paths by which a deep and sustained economic downturn might make serious global conflict more likely? One familiar argument is the so-called diversionary (or “scapegoat”) theory of war. It suggests that leaders who are worried about their popularity at home will try to divert attention from their failures by provoking a crisis with a foreign power and maybe even using force against it. Drawing on this logic, some Americans now worry that President Donald Trump will decide to attack a country like Iran or Venezuela in the run-up to the presidential election and especially if he thinks he’s likely to lose. This outcome strikes me as unlikely, even if one ignores the logical and empirical flaws in the theory itself. War is always a gamble, and should things go badly—even a little bit—it would hammer the last nail in the coffin of Trump’s declining fortunes. Moreover, none of the countries Trump might consider going after pose an imminent threat to U.S. security, and even his staunchest supporters may wonder why he is wasting time and money going after Iran or Venezuela at a moment when thousands of Americans are dying preventable deaths at home. Even a successful military action won’t put Americans back to work, create the sort of testing-and-tracing regime that competent governments around the world have been able to implement already, or hasten the development of a vaccine. The same logic is likely to guide the decisions of other world leaders too. Another familiar folk theory is “military Keynesianism.” War generates a lot of economic demand, and it can sometimes lift depressed economies out of the doldrums and back toward prosperity and full employment. The obvious case in point here is World War II, which did help the U.S economy finally escape the quicksand of the Great Depression. Those who are convinced that great powers go to war primarily to keep Big Business (or the arms industry) happy are naturally drawn to this sort of argument, and they might worry that governments looking at bleak economic forecasts will try to restart their economies through some sort of military adventure. I doubt it. It takes a really big war to generate a significant stimulus, and it is hard to imagine any country launching a large-scale war—with all its attendant risks—at a moment when debt levels are already soaring. More importantly, there are lots of easier and more direct ways to stimulate the economy—infrastructure spending, unemployment insurance, even “helicopter payments”—and launching a war has to be one of the least efficient methods available. The threat of war usually spooks investors too, which any politician with their eye on the stock market would be loath to do. Economic downturns can encourage war in some special circumstances, especially when a war would enable a country facing severe hardships to capture something of immediate and significant value. Saddam Hussein’s decision to seize Kuwait in 1990 fits this model perfectly: The Iraqi economy was in terrible shape after its long war with Iran; unemployment was threatening Saddam’s domestic position; Kuwait’s vast oil riches were a considerable prize; and seizing the lightly armed emirate was exceedingly easy to do. Iraq also owed Kuwait a lot of money, and a hostile takeover by Baghdad would wipe those debts off the books overnight. In this case, Iraq’s parlous economic condition clearly made war more likely. Yet I cannot think of any country in similar circumstances today. Now is hardly the time for Russia to try to grab more of Ukraine—if it even wanted to—or for China to make a play for Taiwan, because the costs of doing so would clearly outweigh the economic benefits. Even conquering an oil-rich country—the sort of greedy acquisitiveness that Trump occasionally hints at—doesn’t look attractive when there’s a vast glut on the market. I might be worried if some weak and defenseless country somehow came to possess the entire global stock of a successful coronavirus vaccine, but that scenario is not even remotely possible. If one takes a longer-term perspective, however, a sustained economic depression could make war more likely by strengthening fascist or xenophobic political movements, fueling protectionism and hypernationalism, and making it more difficult for countries to reach mutually acceptable bargains with each other. The history of the 1930s shows where such trends can lead, although the economic effects of the Depression are hardly the only reason world politics took such a deadly turn in the 1930s. Nationalism, xenophobia, and authoritarian rule were making a comeback well before COVID-19 struck, but the economic misery now occurring in every corner of the world could intensify these trends and leave us in a more war-prone condition when fear of the virus has diminished. On balance, however, I do not think that even the extraordinary economic conditions we are witnessing today are going to have much impact on the likelihood of war. Why? First of all, if depressions were a powerful cause of war, there would be a lot more of the latter. To take one example, the United States has suffered 40 or more recessions since the country was founded, yet it has fought perhaps 20 interstate wars, most of them unrelated to the state of the economy. To paraphrase the economist Paul Samuelson’s famous quip about the stock market, if recessions were a powerful cause of war, they would have predicted “nine out of the last five (or fewer).” Second, states do not start wars unless they believe they will win a quick and relatively cheap victory. As John Mearsheimer showed in his classic book Conventional Deterrence, national leaders avoid war when they are convinced it will be long, bloody, costly, and uncertain. To choose war, political leaders have to convince themselves they can either win a quick, cheap, and decisive victory or achieve some limited objective at low cost. Europe went to war in 1914 with each side believing it would win a rapid and easy victory, and Nazi Germany developed the strategy of blitzkrieg in order to subdue its foes as quickly and cheaply as possible. Iraq attacked Iran in 1980 because Saddam believed the Islamic Republic was in disarray and would be easy to defeat, and George W. Bush invaded Iraq in 2003 convinced the war would be short, successful, and pay for itself. The fact that each of these leaders miscalculated badly does not alter the main point: No matter what a country’s economic condition might be, its leaders will not go to war unless they think they can do so quickly, cheaply, and with a reasonable probability of success. Third, and most important, the primary motivation for most wars is the desire for security, not economic gain. For this reason, the odds of war increase when states believe the long-term balance of power may be shifting against them, when they are convinced that adversaries are unalterably hostile and cannot be accommodated, and when they are confident they can reverse the unfavorable trends and establish a secure position if they act now. The historian A.J.P. Taylor once observed that “every war between Great Powers [between 1848 and 1918] … started as a preventive war, not as a war of conquest,” and that remains true of most wars fought since then. The bottom line: Economic conditions (i.e., a depression) may affect the broader political environment in which decisions for war or peace are made, but they are only one factor among many and rarely the most significant. Even if the COVID-19 pandemic has large, lasting, and negative effects on the world economy—as seems quite likely—it is not likely to affect the probability of war very much, especially in the short term.

#### Ceasefires and peace talks – COVID proves that pandemics incentivize them to avoid disease spread which caps global escalation.

Deirdre Shesgreen 20. Foreign Affairs Reporter at USA Today. 4/28/2020. “'War and disease travel together': Why the pandemic push for a global cease-fire is gaining ground.” https://www.usatoday.com/story/news/world/2020/04/28/coronavirus-un-secretary-wants-global-cease-fire-amid-pandemic/5163972002/. DOA: 9/4/2020. SIR.

When the head of the United Nations first called for a “global cease-fire” on March 23, it seemed like a quixotic quest that would fall on the deaf ears of warring guerrillas, militant terrorists and belligerent governments across the globe. But over the past month, fighters from Colombia to Ukraine have signaled a willingness to put down their weapons as the world confronts a deadly pandemic that could devastate civilian populations and armies alike. The 15-member U.N. Security Council may vote as early as this week on a resolution that demands an “immediate cessation of hostilities in all countries on its agenda” and calls for armed groups to engage in a 30-day cease-fire, according to a draft of the measure obtained by USA TODAY. Its fate is uncertain, and experts say it comes with many caveats and exceptions – including a loophole that could allow Russia to continue bombing civilians in Syria. Right now, world powers are still quibbling over several provisions. The Trump administration has objected to any language expressing support for the World Health Organization, among other provisions – disputes that could sink or stall the effort. President Donald Trump has blasted the WHO being biased toward China and accepting Beijing's statements about the coronavirus outbreak at face value. A State Department official declined to comment on the draft, citing ongoing negotiations. The official, who was not authorized to speak on the record, said the Trump administration supports the call for a global cease-fire but wants to ensure it will not hinder U.S. counterterrorism missions. If it passes, experts say its impact could be significant – albeit not sweeping – during an otherwise bleak moment of global crisis. “This is not a piece of paper that’s going to save the planet, and it’s not even going to stop some of the nasty wars that are burning out there,” said Richard Gowan, an expert on the United Nations and peacekeeping with the International Crisis Group, a nonpartisan organization that seeks to prevent conflict. “But it’s at least something which could help ease middle-sized and smaller conflicts in countries ranging from Colombia to Sudan, where we know that armed groups are actually interested in pausing violence and talking about peace during the COVID crisis.” It could also help staunch the flow of refugees in some war-ravaged countries – and thus slow the spread of COVID-19, said Barry Posen, an international professor of political science at the Massachusetts Institute of Technology. "War and disease travel together and are usually causative," Posen said. While a global cease-fire may sound lofty and idealistic, he said, it's also quite practical, particularly in places like Syria and Yemen, where health care is scarce and civilians are extremely vulnerable to disease. "The intrusion of COVID into that situation would make what's already a horror show into an even bigger horror show," he said. "If you can do a little something to suppress these wars at the moment, you would also be doing a little something to suppress the disease." And because these conflicts are also producing refugees, it could help limit the further spread of the illness if civilians are not forced to flee conflict zones. In this handout image released by the United Nations, U.N. Secretary-General Antonio Guterres holds a virtual press conference on April 3, 2020, at UN headquarters in New York. Guterres Friday renewed his call for a global cease-fire, urging all parties to conflict to lay down arms and allow war-torn nations to combat the coronavirus pandemic. "The worst is yet to come," Guterres said, referring to countries beset with fighting like Syria, Libya and Yemen. "The COVID-19 storm is now coming to all these theatres of conflict." The United Nation's secretary-general, , has used both lofty rhetoric and harsh reality in his pitch for the cease-fire. "There should be only one fight in our world today: our shared battle against COVID-19," he said in an April 3 news briefing on his effort. French President Emmanuel Macron has also championed the cease-fire proposal. So far, about 16 armed groups and more than 100 countries have endorsed the measure, according to an informal tally kept by U.N. officials. A few examples: In Colombia, a left-wing rebel group known as the ELN agreed to a cease-fire starting April and said it would consider reviving peace talks with the government. In Yemen, one side of that brutal war – the Saudi Arabia-led coalition – agreed to a unilateral cease-fire for at least a month, to help control the spread of coronavirus in a country already ravaged by starvation and other diseases. The Houthis, backed by Iran, have not yet signed on. In Syria, the Kurdish-led Syrian Democratic Forces agreed to a cease-fire, saying its fighters would defend themselves against attacks but not engage in offensive military action. “We hope that this humanitarian truce will help to open the door for dialogue and political solution and to put an end to the war in the world and Syria,” the SDF said in a statement.

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#### Trade secrets are key to innovation – increased R&D, information sharing, and investment

Lippoldt and Schultz 14 [(Douglas C., CIGI senior fellow and an international trade economist, Ph.D. in economics from the Institut d’études politiques de Paris, and Mark F., Endowed Chair in Intellectual Property Law and the Director of the Intellectual Property and Technology Law Program at the University of Akron School of Law) “Uncovering Trade Secrets - An Empirical Assessment of Economic Implications of Protection for Undisclosed Data,” OECD Trade Policy Papers, 2014] JL

Previous theoretical work points to several ways in which trade secret protection may incentivise investment in research and development (R&D) as well as the creation of commercially valuable information. First, such protection may increase the appropriability of the results from investment in the development of technical and confidential business information. It does this by deterring employees, business partners and third parties from misappropriating or misusing specific information meeting the trade secrets criteria. Kitch (1980) views this benefit in terms of reducing the risk of theft, while Friedman et al. (1991) emphasise that there is a reduction in the cost of protection in cases where the avenues of legal recourse are clear and effective (i.e. in the absence of such legal protection firms may need to invest more heavily in security measures). In either case, there is a potential for increased returns from R&D investment, and thus such innovation may be incentivised.

A further incentivising effect noted in the literature is the role that trade secrets may play in conferring competitive benefits. Lemley (2011) observes that firms may invest in developing trade secrets because the prospect of supra-competitive profits motivates them to do so. In this view, a trade secret may confer a competitive advantage through a production process that reduces cost or delivers a unique product. In addition, incentives may be associated with trade secrets as an alternative or complementary protection to patents. In cases where patents are legally unavailable, too expensive to maintain, or undesirable due to their disclosure requirement, Maskus (2000) and Friedman et al. (1991) argue that trade secrets can substitute for patents and provide incentives to innovate. Trade secrets can also provide protection during the developmental phase leading to a patent (i.e. prior to a formal patent application). In some cases (e.g. due to the immediate availability or potentially low costs), firms may even employ trade secrets as their preferred strategy for protection of their intangible assets (e.g. see Arundel, 2001, or Cohen et al., 2000).

On the other hand, in cases of weak protection for trade secrets, there could be more spillovers of R&D information amongst competitors. Such information may stimulate investment by firms in further internal R&D to complement the incoming information or to gain a first mover advantage. For example, a firm may need to have sufficient internal R&D to make use of external R&D, and vice versa (Lokshin et al., 2006). Weak appropriability could drive firms to pursue R&D in competitive races to develop products, relying on first mover advantage, temporary secrecy, or patents to secure an edge120. While this is a theoretical possibility, there are some indications that relatively stringent trade secrets protection may actually deliver an increased sharing of information among potential collaborators, as businesses are reassured that they can enforce their rights in the event of a breach of trust or misappropriation (Lemley, 2011). This potential was highlighted in a recent study commissioned by the European Commission (Baker & McKenzie, 2013), which included a survey of firms’ use of trade secrets. The survey found that while 60% of businesses share their trade secrets regularly or occasionally, among those that declined to share such information 40% cited fear of loss of confidentiality as the reason. Moreover, even in countries with relatively stringent trade secrets protection, there are usually exemptions or limitations on the definition and scope of trade secrecy that permit spillovers of general knowledge, skills and experience.

The availability of trade secrets protection may influence firms’ size and structure, as well their engagement in the labour market. If trade secrets protection is less stringent, then firms that depend on critical non-public information may be less willing to expand, as secrets are kept within a trusted circle (e.g. some family businesses). In such an environment, firms may be less willing to outsource manufacturing or to engage in joint ventures. Labour market implications are further highlighted via two studies of the United States (Png, 2012a and 2012b). He found that some US states enacting increased trade secret protection may have experienced relatively modest declines in the mobility of postgraduate engineers and scientists (e.g. due to enforcement of contractual requirements concerning non-competition); this in turn might slow the pace of spillover effects. However, Png (2012b) found that enactment of a trade secret law in US states was associated with a significant increase in R&D spending. Other studies point to implications for spillovers in that less stringent trade secrets protection may cause firms to attempt to retain employees by attempting to prevent employee movement by paying employees wage premia or hiring relatives (Sherwood, 1990). More stringent trade secret protection may also impede employee mobility by: (a) enforcing non-compete provisions121 or (b) imposing confidentiality obligations on ex-employees that make them less valuable to new employers122.

There are some indications that innovative small and medium size enterprises (SMEs) may be particularly reliant on trade secrecy as protection for their intellectual assets (Brant and Lohse, 2013). Subject to reasonable efforts on the part of such firms to maintain the required secrecy, in many jurisdictions trade secrets protection is readily available without burdensome administrative requirements and in some cases may be maintained at comparatively low cost123. While patents may be appropriate for protecting some types of intellectual property – as in cases where a new technology is readily discerned by competitors upon the release of a product into the market, they can also be more costly in terms of time and resources124. For example, in addition to filing and maintenance fees and administrative requirements, patenting may expose SMEs to risks of litigation (Lanjouw and Schankerman, 2004)125. Thus, in cases where trade secrets protection is adequate and appropriate, its use may prove advantageous for certain SMEs.

The availability of trade secrets protection may also play a role in international diffusion of technologies and other information via foreign direct investment (FDI) or trade. Firms may be more likely to invest or trade in a country that protects trade secrets, particularly where that investment requires the business to reveal or develop trade secrets (e.g. in cases where tacit knowledge is employed in the implementation of patent-protected processes). In entering a market, firms face a choice of engaging a local partner or starting a subsidiary. The stringency of trade secret protection may affect this choice by making a firm more or less willing to share product information and sales techniques with a local partner (CREATe, 2012). In the literature on intellectual property rights (IPR) protection and FDI, there is some evidence that firms respond positively to availability of such IPR protection (e.g. Park and Lippoldt, 2008). In addition, firms in different sectors or employing different technologies may respond differently to the availability of particular types of protection. Thus, trade secrets protection may have economy-wide effects as well as sector or technology-specific effects in relation to FDI or trade.