## 1AC—Framing

### 1AC—Base

#### The standard is maximizing expected well being.

**Pleasure and pain are intrinsically valuable. People consistently regard pleasure and pain as good reasons for action, despite the fact that pleasure doesn’t seem to be instrumentally valuable for anything.**

**Moen 16** [Ole Martin Moen, Research Fellow in Philosophy at University of Oslo “An Argument for Hedonism” Journal of Value Inquiry (Springer), 50 (2) 2016: 267–281] SJDI

Let us start by observing, empirically, that **a widely shared judgment about intrinsic value and disvalue is that pleasure is intrinsically valuable and pain is intrinsically disvaluable.** **On virtually any proposed list of intrinsic values and disvalues (we will look at some of them below), pleasure is included among the intrinsic values and pain among the intrinsic disvalues.** This inclusion makes intuitive sense, moreover, for **there is something undeniably good about the way pleasure feels and something undeniably bad about the way pain feels, and neither the goodness of pleasure nor the badness of pain seems to be exhausted by the further effects that these experiences might have.** “Pleasure” and “pain” are here understood inclusively, as encompassing anything hedonically positive and anything hedonically negative.2 **The special value statuses of pleasure and pain are manifested in how we treat these experiences in our everyday reasoning about values.** If you tell me that you are heading for the convenience store, **I might ask: “What for?” This is a reasonable question, for when you go to the convenience store you usually do so**, not merely for the sake of going to the convenience store, but **for the sake of achieving something further that you deem to be valuable.** You might answer, for example: “To buy soda.” This answer makes sense, for soda is a nice thing and you can get it at the convenience store. I might further inquire, however: “What is buying the soda good for?” This further question can also be a reasonable one, for it need not be obvious why you want the soda. You might answer: “Well, I want it for the pleasure of drinking it.” **If I then proceed by asking “But what is the pleasure of drinking the soda good for?” the discussion is likely to reach an awkward end. The reason is that the pleasure is not good for anything further; it is simply that for which going to the convenience store and buying the soda is good.**3 As Aristotle observes**: “We never ask [a man] what his end is in being pleased, because we assume that pleasure is choice worthy in itself.**”4 Presumably, a similar story can be told in the case of pains, for if someone says “This is painful!” we never respond by asking: “And why is that a problem?” We take for granted that if something is painful, we have a sufficient explanation of why it is bad. If we are onto something in our everyday reasoning about values, it seems that **pleasure and pain are both places where we reach the end of the line in matters of value.**

**Moral uncertainty means preventing extinction should be our highest priority.  
Bostrom 12** [Nick Bostrom. Faculty of Philosophy & Oxford Martin School University of Oxford. “Existential Risk Prevention as Global Priority.” Global Policy (2012)]  
These reflections on **moral uncertainty suggest** an alternative, complementary way of looking at existential risk; they also suggest a new way of thinking about the ideal of sustainability. Let me elaborate.¶ **Our present understanding of axiology might** well **be confused. We may not** nowknow — at least not in concrete detail — what outcomes would count as a big win for humanity; we might not even yet **be able to imagine the best ends** of our journey. **If we are** indeedprofoundly **uncertain** about our ultimate aims,then we should recognize that **there is a great** option **value in preserving** — and ideally improving — **our ability to recognize value and** to **steer the future accordingly. Ensuring** that **there will be a future** version of **humanity** with great powers and a propensity to use them wisely **is** plausibly **the best way** available to us **to increase the probability that the future will contain** a lot of **value.** To do this, we must prevent any existential catastrophe.

#### Reducing the risk of extinction is always priority number one.  Bostrom 12 [Faculty of Philosophy and Oxford Martin School, University of Oxford.], Existential Risk Prevention as Global Priority.  Forthcoming book (Global Policy). MP. [http://www.existenti...org/concept.pdf](http://www.existential-risk.org/concept.pdf) Even if we use the most conservative of these estimates, which entirely ignores the   possibility of space colonization and software minds, we find that the expected loss of an existential   catastrophe is greater than the value of 10^16 human lives.  This implies that the expected value of   reducing existential risk by a mere one millionth of one percentage point is at least a hundred times the   value of a million human lives.  The more technologically comprehensive estimate of 10  54 humanbrain-emulation subjective life-years (or 10  52  lives of ordinary length) makes the same point even   more starkly.  Even if we give this allegedly lower bound on the cumulative output potential of a   technologically mature civilization a mere 1% chance of being correct, we find that the expected   value of reducing existential risk by a mere one billionth of one billionth of one percentage point is worth   a hundred billion times as much as a billion human lives. One might consequently argue that even the tiniest reduction of existential risk has an   expected value greater than that of the definite provision of any ordinary good, such as the direct   benefit of saving 1 billion lives.  And, further, that the absolute value of the indirect effect of saving 1  billion lives on the total cumulative amount of existential riskâ€”positive or negativeâ€”is almost   certainly larger than the positive value of the direct benefit of such an action.

### Econ Advantage

#### Vaccines will not cover LMICs until at least 2023—fortunately there is massive room for supply increase

Nancy S. **Jecker &** Caesar A. **Atuire 21**. \*Department of Bioethics & Humanities, University of Washington School of Medicine, \*\*Department of Philosophy, University of Johannesburg, Auckland Park, Gauteng, South Africa, “What’s yours is ours: waiving intellectual property protections for COVID-19 vaccines,” Journal of Medical Ethics, July 6, 2021, <https://jme.bmj.com/content/medethics/early/2021/07/06/medethics-2021-107555.full.pdf>., RJP, **DebateDrills.**

Since consequentialist justifications treat the value of IP as purely instrumental, they are also vulnerable to counterarguments showing that a sought-after goal is not the sole or most important end. During the COVID-19 pandemic, we submit that the vaccinating the world is an overriding goal. With existing IP protections intact, the world has **fallen well short** of this goal. Current forecasts show that at the current pace, there will **not be enough vaccines to cover the world’s population** until 2023 or 2024.15 IP protections further frustrate the goal of universal access to vaccines by limiting who can manufacturer them. The WHO reports that 80% of global sales for COVID-19 vaccines come from five large multinational corporations.16 Increasing the number of manufacturers globally would not only **increase supply,** but reduce prices, making vaccines more affordable to L[ow and] M[iddle] I[ncome] C[ountrie]s. It would stabilise supply, minimising disruptions of the kind that occurred when India halted vaccine exports amidst a surge of COVID-19 cases.

It might be objected that waiving IP protections will not increase supply, because it takes years to **establish manufacturing capacity**. However, since the pandemic began, we have learnt it takes less time. Repurposing facilities and vetting them for safety and quality can often happen in 6 or 7months, about half the time previously thought.17 Since COVID-19 will not be the last pandemic humanity faces, expanding manufacturing capacity is also necessary preparation for **future pandemics**. Nkengasong, Director of the African Centres for Disease Control and Prevention, put the point bluntly, ‘Can a continent of 1.2billion people—projected to be 2.4billion in 30 years, where one in four people in the world will be African—continue to import 99% of its vaccine?’18

#### Unequal vaccine distribution has massive economic costs even with conservative estimates that don’t account for the Delta variant

Çakmakli 21-- Çakmakli, Cem [Assistant Professor at Koç University. PhD: Pennsylvania State University] et al. The economic case for global vaccinations: An epidemiological model with international production networks. No. w28395. National Bureau of Economic Research, 2021. (AG DebateDrills)

To estimate the costs of inequitable vaccine distribution, we develop a global SIR-multi-sectormacro framework and calibrate it to 65 countries-35 sectors. We incorporate sectoral heterogeneity in infections together with inter-industry and international trade and production linkages. Once we account for this economic interdependence of the economies, we reveal the substantial costs, up to 3 percent of advanced countries pre-pandemic GDPs, that will be borne by the vaccinated countries through their trade relationships with unvaccinated countries.36 Our framework captures the short run. We find that AEs may bear somewhere from 13 percent to 49 percent of the global losses arising from an inequitable distribution of vaccines in 2021. Globalization might have amplified the effects of the pandemic but it is also imperative for an equitable distribution of the vaccines because this is the only way for open economies with international linkages to have a robust recovery. There are substantial uncertainties ahead of us regarding the course of vaccine distribution. Our estimates are based on the available information about the pandemic. For example, we did not incorporate the recent developments on the variants into our analysis. To the extent that these variants threaten the efficacy of the current vaccines, there is even more urgency to make the existing vaccines globally available as soon as possible. Mutations that risk a prolonged pandemic would not only have further health costs but also escalate the economic costs that we estimated in our analysis.

#### Economic loss and slow supply recovery causes inflation deanchoring and econ collapse in advanced economies as well as extreme poverty in EMDEs

World Bank 6-21 – World Bank Prospects Group; June 2021 Global Economic Prospects; <https://openknowledge.worldbank.org/bitstream/handle/10986/35647/9781464816659.pdf> (AG DebateDrills)

Since May 2020, however, inflation has gradually picked up. By April 2021, inflation had risen above pre-pandemic levels, in both advanced economies and EMDEs. The inflation pickup was broad-based and present in about four-fifths of countries, although the change in inflation varied widely, especially in EMDEs. The 2020 global recession featured the most muted inflation decline and fastest subsequent inflation upturn of the five global recession episodes of the past 50 years (box 4.1). While this behavior partly reflects lower levels of inflation at the beginning of 2020, purchasing managers report growing pressures on input as well as output prices in 2021 (figure 4.1). Looking ahead, as the global economy gradually reopens, monetary and fiscal policies continue to be accommodative to support the global recovery, and pent-up demand may be about to be unleashed in advanced economies.1 For major advanced economies, some have raised concerns that this confluence of factors may generate significant inflationary pressures (Blanchard and Pisani-Ferry 2020; Goodhart and Pradhan 2020; Landau 2021). Others, in contrast, see little reason for concern, at least for many advanced economies, because of the temporary nature of price pressures over the short-term as well as wellanchored inflation expectations and structural factors still depressing inflation (Ball et al. 2021; Gopinath 2021). If growing inflationary pressures cause financial market participants to become concerned about persistently higher inflation in advanced economies, they may reassess prospects for continued accommodative monetary policies by major central banks. This could trigger a significant rise in risk premia and borrowing costs. EMDEs are particularly vulnerable to such financial market disruptions because of their record high debt and a lagging economic recovery from the pandemic (chapter 1). In the event of financial market stress, sharp exchange rate depreciations and capital outflows may force them to abruptly tighten policies in a manner that could throttle their recoveries. Even in the absence of dislocating financial market stress, E[merging] M[arket] D[eveloping] E[conomie]s may face rising inflation as global price pressures feed into domestic inflation through input prices and exchange rate movements. A temporary increase in inflation may not warrant a monetary policy response. Again, if rapidly rising price pressures risk de-anchoring inflation expectations, EMDE central banks may be forced to tighten monetary policy before the recovery is fully entrenched. Persistently higher inflation would erode discretionary incomes of the poorest households and may tip some back into poverty (Ha, Kose, and Ohnsorge 2019). This is a particularly serious risk for low-income countries (LICs; box 4.2). Since food accounts for a substantial share of consumption in these countries, recent increase in food prices have led to higher inflation and compounded the challenges confronting the poor during the pandemic.

#### Economic Collapse goes Nuclear.

Tønnesson 15, Stein. "Deterrence, interdependence and Sino–US peace." International Area Studies Review 18.3 (2015): 297-311. (the Department of Peace and Conflict, Uppsala University, Sweden, and Peace research Institute Oslo (PRIO), Norway)

Several recent works on China and Sino–US relations have made substantial contributions to the current understanding of how and under what circumstances a combination of nuclear deterrence and economic interdependence may reduce the risk of war between major powers. At least four conclusions can be drawn from the review above: first, those who say that interdependence may both inhibit and drive conflict are right. Interdependence raises the cost of conflict for all sides but asymmetrical or unbalanced dependencies and negative trade expectations may generate tensions leading to trade wars among inter-dependent states that in turn increase the risk of military conflict (Copeland, 2015: 1, 14, 437; Roach, 2014). The risk may increase if one of the interdependent countries is governed by an inward-looking socio-economic coalition (Solingen, 2015); second, the risk of war between China and the US should not just be analysed bilaterally but include their allies and partners. Third party countries could drag China or the US into confrontation; third, in this context it is of some comfort that the three main economic powers in Northeast Asia (China, Japan and South Korea) are all deeply integrated economically through production networks within a global system of trade and finance (Ravenhill, 2014; Yoshimatsu, 2014: 576); and fourth, decisions for war and peace are taken by very few people, who act on the basis of their future expectations. International relations theory must be supplemented by foreign policy analysis in order to assess the value attributed by national decision-makers to economic development and their assessments of risks and opportunities. If leaders on either side of the Atlantic begin to seriously fear or anticipate their own nation’s decline then they may blame this on external dependence, appeal to anti-foreign sentiments, contemplate the use of force to gain respect or credibility, adopt protectionist policies, and ultimately refuse to be deterred by either nuclear arms or prospects of socioeconomic calamities. Such a dangerous shift could happen abruptly, i.e. under the instigation of actions by a third party – or against a third party. Yet as long as there is both nuclear deterrence and interdependence, the tensions in East Asia are unlikely to escalate to war. As Chan (2013) says, all states in the region are aware that they cannot count on support from either China or the US if they make provocative moves. The greatest risk is not that a territorial dispute leads to war under present circumstances but that changes in the world economy alter those circumstances in ways that render inter-state peace more precarious. If China and the US fail to rebalance their financial and trading relations (Roach, 2014) then a trade war could result, interrupting transnational production networks, provoking social distress, and exacerbating nationalist emotions. This could have unforeseen consequences in the field of security, with nuclear deterrence remaining the only factor to protect the world from Armageddon, and unreliably so. Deterrence could lose its credibility: one of the two great powers might gamble that the other yield in a cyber-war or conventional limited war, or third party countries might engage in conflict with each other, with a view to obliging Washington or Beijing to intervene.

### African Instability adv.

A prolonged economic contraction due to the pandemic in Africa pushes millions more into poverty and also forever ends projects key to future economic progress

Lakemann and Tafese 20-- Lakemann, Tabea, Jann Lay, and Tevin Tafese. "Africa after the covid-19 lockdowns: economic impacts and prospects." (2020): 14.

The most recent economic data suggests that economic activity declined dramatically during the lockdowns. The very sharp decline in South Africa is particularly worrying, as it is likely to affect neighboring economies as well. At the same time, some countries in West and East Africa are already showing signs of recovery that may take place more quickly than anticipated. Looking solely at African aggregate growth performance and aggregate poverty will be misleading. Short-term impacts, especially on urban poverty, have likely been severe: The evidence is clear that informal workers across the continent have suffered drastic income losses during the lockdowns, as few have been shielded by social protection or other policies. It remains to be seen how quickly they can recover from the shock, but there is some empirical silver lining here as well. As elsewhere in the world, industries have been affected heterogeneously by the pandemic and the associated restrictions. This also holds for the external sector. Trade has declined dramatically, but our analysis reveals important differences between export products. Oil exporters have been adversely affected by the oil price slump and impacts on products traded in GVCs have been diverse, ranging from strong declines in textiles and apparel to increases in some food products. Food imports have hardly been affected, as global food supply chains have, overall, proven relatively resilient thus far. Finally, FDI is likely to drop substantially in 2020. Although there is again sectoral variation, this drop will not spare investments considered key for an acceleration of Africa’s economic development and the creation of productive employment. The drop in FDI demonstrates the uncertainty that looms over the hope for quick recovery. Huge setbacks to economic progress and poverty reduction in Africa can only be avoided with a quick recovery. A prolonged economic recession would not only cause poverty to rise further, but the medium- to long-term costs of the shock could be exacerbated by political turmoil or even increased conflict.

#### These direct impacts combine with indirect effects on the job market to create a vicious cycle where productivity loss increases political instability, deteriorating economic conditions and foreign confidence further, fostering even more turmoil

Carmody 20-- Carmody, Pádraig. "Meta-trends in global value chains and development: interacting impacts with COVID-19 in Africa." Transnational Corporations Journal 27.2 (2020).

The indirect impacts have, potentially, even wider effects. First amongst these is a “negative multiplier”. Dramatic reductions in the formal economy will have substantial knock-on effects on the informal sector, with potentially massive implications for poverty and unemployment. The United Nations Economic Commission for Africa forecasts that up to half of all formal sector jobs in Africa could be lost as a result of the pandemic, whereas McKinsey predicts 18 million formal and 100 million informal jobs could be at risk (Thomas, 2020). While the urban informal economy may be locked in an exploitative relationship with the formal one (Santos, 1979), it is nonetheless largely dependent on it for its survival. Reductions in remittances from urban areas or from relatives living overseas may affect rural areas particularly badly. In rural Western Kenya average income declines of 25 per cent were recorded from early April to the end of May 2020 as lockdown measures were introduced and then eased (Miguel, 2020)3 . Flows of remittances to Sub-Saharan Africa are projected to decline by 23.1 per cent in 2020 (World Bank cited in African Business, 2020). As formal sector jobs are lost, less income circulates through the economy and tax revenues are reduced. This may also have potentially severe political economy effects as “productive” social contracts (Nugent, 2019) may be further undermined, where they exist, as informalization deepens and proliferates, driving marginal productivity even further down. This may, in turn, exacerbate problems of governance and corruption in certain countries, with myriad, but generally negative economic consequences; again potentially compromising the ability to attract inward inflows of productive FDI. Reduced tax revenues may also mean reductions in infrastructural investment and social expenditure, increased indebtedness, or most likely, both – again reducing economic growth – with the potential to generate a vicious circle. While there have been some initiatives to try to limit the impact of increased indebtedness, such as a debt moratorium by the Group of 20 (G20) for low income countries until the end of the year, the head of the International Monetary Fund (IMF) has argued that many countries will need debt restructuring, rather than just a freeze (Reuters, 2020). As economic conditions deteriorate in many African countries they will find it increasingly difficult to source finance from international capital markets, which may reorient to service developed countries seeking to finance their budget deficits. Consequently, many have already been forced to ask the IMF for emergency assistance. However, the strict conditions attached to IMF loans have generally not been conducive, or have been actively detrimental, to development efforts on the continent (Mkandawire and Soludo, 1999). Dozens of countries on the continent are now under, or requesting, IMF financial assistance, even if that organization has also offered some debt relief (Mizner, 2020)4 . The (enforced) return or reinforcement of economic orthodoxy on the continent will reduce policy space for developmental states, such as Ethiopia, to emerge in the future (Carmody, Kragelund and Riboredo, 2020).

#### African instability results in global draw-in as natural resource wealth and weak governance make Africa a prime target for proxy wars

Yeisley 11, Mark O. "Bipolarity, proxy wars, and the rise of China." Strategic Studies Quarterly 5.4 (2011): 75-91. (assistant professor of international relations at the School of Advanced Air and Space Studies). (AG DebateDrills)

Of primary interest is open access to Africa’s significant deposits of oil and other energy resources. For example, China has 4,000 military personnel in Sudan to protect its interests in energy and mineral investments there; it also owns 40 percent of the Greater Nile Oil Production Company.54 Estimates indicate that within the next few decades China will obtain 40 percent of its oil and gas supplies from Africa.55 Trade and investment in Africa have also been on the rise; trade has grown more than 10 percent annually in the past decade. Between 2002 and 2004, African exports to China doubled, ranking it third behind the United States and France in trade with the continent. Chinese investment is also growing; more than 700 Chinese business operations across Africa total over $1 billion. Aid and direct economic assistance are increasing as well, and China has forgiven the debt of some 31 African nations.56 Africa is thus a vital foreign interest for the Chinese and must be for the United States; access to its mineral and petroleum wealth is crucial to the survival of each.57 Although the US and Chinese economies are tightly interconnected, the nonrenewable nature of these assets means competition will remain a zero-sum game. Nearly all African states have been independent entities for less than 50 years; consolidating robust domestic state institutions and stable governments remains problematic.58 Studies have shown that weak governments are often prime targets for civil conflicts that prove costly to control.59 Many African nations possess both strategic resources and weak regimes, making them vulnerable to internal conflict and thus valuable candidates for assistance from China or the United States to help settle their domestic grievances. With access to African resources of vital strategic interest to each side, competition could likely occur by proxy via diplomatic, economic, or military assistance to one (or both) of the parties involved. Realist claims that focusing on third-world issues is misplaced are thus fallacious; war in a future US-China bipolar system remains as costly as it was during the Cold War. Because of the fragile nature of many African regimes, domestic grievances are more prone to result in conflict; US and Chinese strategic interests will dictate an intrusive foreign policy to be both prudent and vital. US-Sino proxy conflicts over control of African resources will likely become necessary if these great powers are to sustain their national security postures, especially in terms of strategic defense.60

#### Extinction – nuclear winter, crude oil amplifies, smoke covers the world

**Snyder and Ruyle 17** (Brian F.Snyder and Leslie E. Ruyle, 12-15-2017, [Brian F. Snyder. Department of Environmental Science, Louisiana State University, United States. Leslie E. Ruyle. Center on Conflict and Development, Texas A&M University, United States]"The abolition of war as a goal of environmental policy," No Publication, <https://www.sciencedirect.com/science/article/pii/S0048969717316431?via%3Dihub)//CHS> PK

While the precise impacts of a hypothetical nuclear war are difficult to predict, the **detonation of the world's nuclear weapons would plausibly kill all or nearly all humans on Earth and initiate a mass extinction event**. There are a total of about 9400 nuclear warheads in active service around the world, with approximately 8300 of these weapons in U.S. and Russian arsenals (Kristensen and Norris, 2017a). Because of government secrecy, it is difficult to reliably estimate the total explosive power contained in these warheads, but in most cases, each warhead ranges between 100 and 1200 kt of TNT equivalent (for comparison, the bombs dropped on Hiroshima and Nagasaki had yields of approximately 15–20 kt). The combined arsenals of the U.S. and Russia likely have a yield of at least 2–3 billion tons of TNT equivalent (Kristensen and Norris, 2017b,c). 2.1. Nuclear winter **In the 1980s climate scientists used simple and early climate models to estimate the effects of large-scale nuclear wars on climate. The estimates they derived were catastrophic.** For example, Turco et al. (1983) reported temperature reductions of 43 °C for 4 months in the Northern Hemisphere following nuclear war using the explosive power of 10 billion tons of TNT.1 As the cold war ended, interest in modelling the climate effects of nuclear war declined and some policy-makers considered the threat of nuclear winter to be either disproved or exaggerated (Martin, 1988). Toon et al. (2007) and Robock et al. (2007) reignited interest in the climate effects of nuclear war. Toon et al. (2008) modeled the effects of a medium scale nuclear war with a total explosive yield of 440 million tons of explosive yield (far less than current U.S. and Russian arsenals) and estimated global soot2 emissions of 180 Tg. Using a more conservative estimate of 150 Tg of soot, Toon et al. estimated that this emission would be sufficient to reduce global temperatures by about 8 °C and energy flux by 150 W/m2 ; for comparison, the cumulative greenhouse gas emissions to the atmosphere since the industrial revolution have increased energy flux by 3 W/m2 (Butler and Montzka, 2017). Robock et al. (2007) modeled a similar 150 Tg smoke emission and found similar results including temperature reduction of about 8 °C lasting for several years. Low temperatures reduced evapotranspiration and weakened the global hydrological cycle and Hadley cells. As a result, precipitation decreased globally by 45% with especially dramatic decreases in the agricultural areas of the United States. In the Northern Hemisphere, **growing seasons would be shortened by about 100 days for about 3 years**. This would preclude most food production over most of the world for several years. Mills et al. (2014) conducted a detailed analysis of the effects of a small (1.5 million ton) regional exchange lofting just 5 Tg of soot into the atmosphere. This war would be equivalent to an exchange of 100 Hiroshima-sized bombs between, for example, India, Pakistan, or China. Mills et al. found global temperature decreases of 1.6 °C. To our knowledge, no one has studied the effects of a multi-billion ton nuclear exchange using modern atmospheric models. If, as Toon et al. and Robock et al. suggest, a 440 million ton war results in temperature reductions of 8 °C for a decade and a 100 day reduction in the growing season, **it is reasonable to assume that a one to five billion ton war would not be survivable for the majority of people on earth.** However, as populations and population centers grow, the effects of nuclear wars on the biosphere will also grow. The consequences of nuclear winter increase as the amount of fuel (buildings, cars, biomass, liquid and solid fuels) added to a targeted area increase. As population centers grow and densify over time, the amount of soot added to the stratosphere as the result of any given nuclear exchange may increase (depending in part on building materials). As a result, **the nuclear winter resulting from a 400 million ton yield global war in 2020 may be far more severe than if the same war occurred in 2000**. Further, there are reasons to believe that **the soot emissions from a hypothetical nuclear exchange are conservative because they focus on urban areas and often do not incorporate non-urban energy infrastructure**. For example, if ignited and burned completely, the U.S. Strategic Petroleum Reserve (SPR) alone contains about 14.5 Tg of soot emissions.3 Including all crude held in U.S. commercial facilities, the potential soot emissions increase to 24 Tg. **Thus, incorporating crude oil storage in the U.S. alone would increase soot generation estimates by about 16**%. Similarly, nuclear war planners would be likely to target coal, oil and gas fields in the U.S., Russia, and their allies. **This unaccounted for fuel could increase the total soot contribution to the atmosphere, potentially deepening the resulting nuclear winte**r. 2.2. Acute effects of particulate matter Studies of nuclear winter typically focus on the effects of smoke lofted into the stratosphere during nuclear firestorms. However, a larger proportion of smoke following nuclear war will be trapped in the troposphere where it would have significantly acute impacts on human and non-human species. Crutzen et al. (1984) calculated that **following a major nuclear war (about 5 billion tons of explosives, roughly the combined U.S. and Russian deployed nuclear arms as of 2017) smoke would cover about 30–40% of the earth's surface with airborne smoke concentrations on the order of 5 mg/m3 .** While initially this smoke would be composed of very small particles (b0.1 μm), the particles would rapidly coalesce into the 0.1 to 3 μm range, roughly consistent with the wellstudied PM2.5. For comparison, the EPA's National Ambient Air Quality standard for PM2.5 is 0.012 mg/m3 and as of 2017, the highest PM2.5 concentrations in Asia are typically around 0.3 to 1 mg/m3 .

## Solvency

#### Plan: Member nations of the WTO ought to grant a TRIPS waiver for COVID medicines

#### India and South Africa have signaled ability to increase vaccine production after a TRIPS waiver—this is also our solvency advocate

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This view has come under increasing fire. Two competing positions have emerged. First, India and South Africa petitioned the WTO for a temporary waiver of IP rights for medical products pertaining to preventing, containing or treating COVID19.2 The wavier would apply to all WTO members and lift restrictions in four TRIPS sections: copyright and related rights, industrial designs, patents and protection of undisclosed information. It would be annually reviewed and last for a set length, determined by the WTO Council. Proponents of the proposal argue that IP protections have ‘hindered urgent scale-up of vaccine production’ and that ‘many countries—especially LMICs countries—may face institutional and legal difficulties when using TRIPS flexibilities’.12 To break the divide, WTO Director General, Okonjo-Iweala, proposed ‘a third way’ in which ‘we… license manufacturing to countries so that we can have adequate supplies while still making sure that IP issues are taken care of.’13 This approach permits companies to retain ownership while licensing other companies to manufacture their vaccines.

#### The plan is also a prerequisite to starting the WHO technology transfer hub

WHO 4/21—WHO, 4-21-2021, “Establishment of a COVID-19 mRNA vaccine technology transfer hub to scale up global manufacturing,” <https://www.who.int/news-room/articles-detail/establishment-of-a-covid-19-mrna-vaccine-technology-transfer-hub-to-scale-up-global-manufacturing>. (AG DebateDrills)

WHO and its partners are seeking to expand the capacity of low- and middle-income countries (LMICs) to produce COVID-19 vaccines and scale up manufacturing to increase global access to these critical tools to bring the pandemic under control.

WHO will facilitate the establishment of one (or more, as appropriate) technology transfer hub(s) that will use a hub and spoke model (REF) to transfer a comprehensive technology package and provide appropriate training to interested manufacturers in LMICs. This initiative will initially prioritize the mRNA-vaccine technology2 but could expand to other technologies in the future.

The intention is for these hubs to enable the establishment of production process at an industrial or semi-industrial level permitting training and provision of all necessary standard operating procedures for production and quality control. It is essential that the technology used is either free of intellectual property constraints in LMICs, or that such rights are made available to the technology hub and the future recipients of the technology through non-exclusive licenses to produce, export and distribute the COVID-19 vaccine in LMICs, including through the COVAX facility. Preference will be given to applicants who have already generated clinical data in humans, as such clinical data will contribute to accelerated approval of the vaccines in LMICs.

It is anticipated that WHO will work with funders and donors to mobilize financial support to establish the hubs and, as they are being established, to support the transfer of technology to selected manufacturers in LMICs, taking into consideration the need to establish permanent vaccine production capacity in regions where this is currently mostly absent. This broader objective will ensure that all WHO regions will be able to produce vaccines as essential preparedness measures against future infectious threats.

#### There are many countries including Canada, Bangladesh, Denmark, and African nations that have capacity to produce millions of doses

Meldrum and Cheng 21-- ANDREW MELDRUM and MARIA CHENG, AP News, “Vaccine technology transfer center to open in South Africa,” 6/21/2021, <https://apnews.com/article/united-nations-south-africa-africa-technology-coronavirus-vaccine-3cbdee395502802b55db2b5c81e6becd>. (AG, DebateDrills)

Poor countries in Africa and elsewhere are facing dire shortages of COVID-19 jabs despite some countries having the ability to produce vaccines, lamented Lara Dovifat, a campaign and advocacy adviser for Doctors Without Borders. “The faster companies share the know-how, the faster we can put an end to this pandemic,” she said in a statement. Numerous factories in Canada, Bangladesh, Denmark and elsewhere have previously called for companies to immediately share their technology, saying their idle production lines could be churning out millions of doses if they weren’t hampered by intellectual property and other restrictions. More than 1 billion coronavirus vaccines have been administered globally, but fewer than 1% have been in poor countries. South Africa accounts for nearly 40% of Africa’s total recorded COVID-19 infections and is currently suffering a rapid surge, but vaccine rollout has been slow, marked by delayed deliveries among other factors. South Africa currently does not manufacture any COVID-19 vaccines from scratch, but its Aspen Pharmacare assembles the Johnson & Johnson shot by blending large batches of the ingredients sent by J&J and then putting the product in vials and packaging them, a process known as fill and finish. Earlier this month the company had to discard 2 million doses because they had ingredients produced in the U.S. in a factory under suspect conditions.

### Disease (Short)

#### The plan sets a precedent to seamlessly shift to a direct support model during pandemics--that solves future pandemics but avoids the innovation DA.

Brink **Lindsey 21**. Vice President, Niskanen Center; Writes for Brookings, “Why Intellectual Property and Pandemics Don’t Mix,” Brookings, June 3, 2021, <https://www.brookings.edu/blog/up-front/2021/06/03/why-intellectual-property-and-pandemics-dont-mix/>, RJP, **DebateDrills**.

**PUBLIC HEALTH EMERGENCIES AND DIRECT GOVERNMENT SUPPORT**

For pandemics and other public health emergencies, patents’ mix of costs and benefits is misaligned with what is needed for an effective policy response. The basic patent bargain, even when well struck, is to pay for more innovation down the road with slower diffusion of innovation today. In the context of a pandemic, that bargain is a bad one and should be rejected entirely. Here the imperative is to accelerate the diffusion of vaccines and other treatments, not slow it down. Giving drug companies the power to hold things up by blocking competitors and raising prices pushes in the completely wrong direction.

What approach to encouraging innovation should we take instead? How do we incentivize drug makers to undertake the hefty R&D costs to develop new vaccines without giving them exclusive rights over their production and sale? The most effective approach during a public health crisis is direct government support: public funding of R&D, advance purchase commitments by the government to buy large numbers of doses at set prices, and other, related payouts. And when we pay drug makers, we should not hesitate to pay generously, even extravagantly: we want to offer drug companies big profits so that they prioritize this work above everything else, and so that they are ready and eager to come to the rescue again the next time there’s a crisis.It was direct support via Operation Warp Speed that made possible the astonishingly rapid development of COVID-19 vaccines and then facilitated a relatively rapid rollout of vaccine distribution (relative, that is, to most of the rest of the world). And it’s worth noting that a major reason for the faster rollout here and in the United Kingdom compared to the European Union was the latter’s [misguided penny-pinching](https://www.nytimes.com/2021/05/17/opinion/europe-vaccines-commission.html?smid=tw-share). The EU bargained hard with firms to keep vaccine prices low, and as a result their citizens ended up in the back of the queue as various supply line kinks were being ironed out. This is particularly ironic since the Pfizer-BioNTech vaccine was developed in Germany. As this fact underscores, the chief advantage of direct support isn’t to “get tough” with drug firms and keep a lid on their profits. Instead, it is to accelerate the end of the public health emergency by making sure drug makers profit handsomely from doing the right thing.Patent law and direct support should be seen not as either-or alternatives but as complements that apply different incentives to different circumstances and time horizons. Patent law provides a decentralized system for encouraging innovation. The government doesn’t presume to tell the industry which new drugs are needed; it simply incentivizes the development of whatever new drugs that pharmaceutical firms can come up with by offering them a temporary monopoly. It is important to note that patent law’s incentives offer no commercial guarantees. Yes, you can block other competitors for a number of years, but that still doesn’t ensure enough consumer demand for the new product to make it profitable. DIRECT SUPPORT MAKES PATENTS REDUNDANT The situation is different in a pandemic. Here the government knows exactly what it wants to incentivize: the creation of vaccines to prevent the spread of a specific virus and other drugs to treat that virus. Under these circumstances, the decentralized approach isn’t good enough. There is no time to sit back and let drug makers take the initiative on their own timeline. Instead, the government needs to be more involved to incentivize specific innovations now. As recompense for letting it call the shots (pardon the pun), the government sweetens the deal for drug companies by insulating them from commercial risk. If pharmaceutical firms develop effective vaccines and therapies, the government will buy large, predetermined quantities at prices set high enough to guarantee a healthy return. For the pharmaceutical industry, it is useful to conceive of patent law as the default regime for innovation promotion. It improves pharmaceutical companies’ incentives to develop new drugs while leaving them free to decide which new drugs to pursue – and also leaving them to bear all commercial risk. In a pandemic or other emergency, however, it is appropriate to shift to the direct support regime, in which the government focuses efforts on one disease. In this regime, it is important to note, the government provides qualitatively superior incentives to those offered under patent law. Not only does it offer public funding to cover the up-front costs of drug development, but it also provides advance purchase commitments that guarantee a healthy return. It should therefore be clear that the pharmaceutical industry has no legitimate basis for objecting to a TRIPS waiver. Since, because of the public health crisis, drug makers now qualify for the superior benefits of direct government support, they no longer need the default benefits of patent support. Arguments that a TRIPS waiver would deprive drug makers of the incentives they need to keep developing new drugs, when they are presently receiving the most favorable incentives available, can be dismissed as the worst sort of special pleading. That said, it is a serious mistake to try to cast the current crisis as a morality play in which drug makers wear the black hats and the choice at hand is between private profits and public health. We would have no chance of beating this virus without the formidable organizational capabilities of the pharmaceutical industry, and providing the appropriate incentives is essential to ensure that the industry plays its necessary and vital role. It is misguided to lament that private companies are profiting in the current crisis: those profits are a drop in the bucket compared to the staggering cost of this pandemic in lives and economic damage. What matters isn’t the existence or size of the profits, but how they are earned. We have good reason to want drug makers to profit from vaccinating the world: the comparative price is minuscule, and the incentive effects are a vital safeguard of public health in the event of future crises. What we want to avoid at all costs is putting drug makers in the position where drug companies can profit from standing in the way of rapid global vaccination. That is why intellectual property rights need to be taken out of the equation. Vaccinating the world in any kind of reasonable time frame will require large-scale technology transfer to drug firms in other countries and rapid expansion of their production capacity. And looking beyond the current pandemic to the longer term, we need [ample, redundant global vaccine production capacity](https://www.vox.com/future-perfect/22397914/vaccine-mrna-adenovirus-manufacturing-process-investment) that is widely distributed around the planet. To achieve these goals as rapidly as possible will require the active cooperation of the U.S. pharmaceutical industry, which is why the direct support model now needs to be extended. What is needed now is an Operation Warp Speed for the world, in which we make it worth current vaccine producers’ while to share their know-how broadly and ramp up global capacity. Here again, we must recognize that the choice isn’t between people on the one hand and profits on the other. Rather, the key to good pandemic response policy is ensuring that incentives are structured so that drug company profit-seeking and global public health are well aligned. That means opting out of the default, decentralized patent bargain in favor of generous but well-focused direct government support.

#### Future Pandemics cause Extinction

**Bar-Yam 16** [Yaneer. Professor and President, New England Complex System Institute; PhD in Physics, MIT. “Transition to extinction: Pandemics in a connected world.” July 3. <http://necsi.edu/research/social/pandemics/transition>] TR

Watch as one of the more aggressive—brighter red — strains rapidly expands. After a time it goes extinct leaving a black region. Why does it go extinct? The answer is that it spreads so rapidly that it kills the hosts around it. Without new hosts to infect it then dies out itself. That the rapidly spreading pathogens die out has important implications for evolutionary research which we have talked about elsewhere [1–7].¶ In the research I want to discuss here, what we were interested in is the effect of adding long range transportation [8]. This includes natural means of dispersal as well as **unintentional dispersal by humans**, like adding airplane routes, which is being done by real world airlines (Figure 2).¶ When we introduce long range transportation into the model, the success of more aggressive **strains** changes. They can **use** the **long range transportation to** find new hosts and **escape local extinction**. Figure 3 shows that the more transportation routes introduced into the model, the **more higher aggressive pathogens are able to survive and spread**.¶ As we add more long range transportation, there is a critical point at which pathogens become so aggressive **that the entire host population dies**. The pathogens die at the same time, but that is not exactly a consolation to the hosts. We call this the phase transition to extinction (Figure 4). With increasing levels of global transportation, **human civilization may be approaching such a** critical **threshold**.¶ In the paper we wrote in 2006 about the dangers of global transportation for pathogen evolution and pandemics [8], we mentioned the risk from Ebola. Ebola is a horrendous disease that was present only in isolated villages in Africa. It was far away from the rest of the world only because of that isolation. Since Africa was developing, it was only a matter of time before it reached population centers and airports. While the model is about evolution, it is really about which pathogens will be found in a system that is highly connected, and Ebola can spread in a highly connected world.¶ The traditional approach to public health uses historical evidence analyzed statistically to assess the potential impacts of a disease. As a result, many were surprised by the spread of Ebola through West Africa in 2014. As the connectivity of the world increases, past experience is not a good guide to future events.¶ A key point about the **phase transition to extinction is** its **suddenness**. Even **a system that seems stable, can be destabilized by a few** more long-range **connections**, and connectivity is continuing to increase.¶ So how close are we to the tipping point? We don’t know but it would be good to find out before it happens.¶ While Ebola ravaged three countries in West Africa, it only resulted in a handful of cases outside that region. One possible reason is that many of the airlines that fly to west Africa stopped or reduced flights during the epidemic [9]. In the absence of a clear connection, public health authorities who downplayed the dangers of the epidemic spreading to the West might seem to be vindicated.¶ As with the choice of airlines to stop flying to west Africa, our analysis didn’t take into consideration how people respond to epidemics. It does tell us what the outcome will be unless we respond fast enough and well enough to stop the spread of future diseases, which may not be the same as the ones we saw in the past. As the world becomes more connected, the dangers increase.¶ Are people in western countries safe because of higher quality health systems? Countries like **the U.S.** have highly skewed networks of **social interactions with** some very highly connected individuals that can be **“superspreaders.”** The chances of such an individual becoming infected may be low but **events like a mass outbreak pose a much greater risk** if they do happen. If a sick food service worker in an airport infects 100 passengers, or a contagion event happens in mass transportation, **an outbreak could** very well **prove unstoppable**.