## 1 – Disclosure (1:25)

#### Interpretation: Debaters must disclose all broken positions (AC’s, NC’s, K’s, DA’s, CP’s) on the NDCA wiki under their own name open sourced.

#### Violation: They don’t – screenshots

Graphical user interface, text, application, Word, email

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#### Prefer:

#### [1] Quality engagement --- disclosure allows in-depth preparation before the round which checks back against unpredictable positions and allows debaters to effectively write case negs and blocks. Quality engagement is an independent voter because the constitutive reason we debate is to engage and have clash. Its also key to fairness since I need to have prep to win.

#### [2] Academic Ethics --- disclosure deters mis-cutting, power-tagging, abuse of brackets, ellipses, and plagiarism. This is an independent reason to vote you down because it promotes better norms about academic engagement. Academic ethics establish a crucial real-world norm, and outweighs any in-round impact.

#### [3] Research --- disclosure incentives more in-depth and focused research since we can go past the stock arguments. NAILS 13:

[Nails, Jacob. “A Defense of Disclosure (Including Third-Party Disclosure).” NSDUpdate. October 10th, 2013. LHP AA]  
I fall squarely on the side of disclosure. I find that the largest advantage of widespread disclosure is the educational value it provides. First, **disclosure streamlines research**. **Rather than every team** **and** every **lone wolf researching** completely in the dark**, the wiki provides a public body of knowledge** that everyone can contribute to and build off of. **Students can look through the different** **studies** on the topic **and choose the best ones** **on an informed basis** without the prohibitively large burden of personally surveying all of the literature. **The best arguments are identified** and replicated, which is a natural result of an open marketplace of ideas. **Quality of evidence increases** across the board. In theory, the **increased quality of information could trade off with quantity**. **If debaters could** **just look to the wiki for ev**idence**, it might remove the competitive incentive** **to do one’s own** **research**. **Empirically**, however, **the opposite has been true**. In fact, a second advantage of **disclosure** is that it **motivates research**. **Debaters cannot expect to** **make it a whole topic with the same stock AC** – that is, **unless** **they** **are** continually updating and **frontlining** it. Likewise, **debaters with access to their opponents’ cases** can **do more** **targeted** and specific **research**. **Students can go to a new level of depth**, researching not just the pros and cons of the topic but the specific authors, arguments, and adovcacies employed by other debaters. The incentive to cut author-specific indicts is low if there’s little guarantee that the author will ever be cited in a round but high if one knows that specific schools are using that author in rounds. In this way, disclosure increases incentive to research by altering a student’s cost-benefit analysis so that the time spent researching is more valuable, i.e. more likely to produce useful evidence because it is more directed. In any case, **if publicly accessible evidence jeopardized** **research**, **backfiles and briefs would have done LD in a long time ago.**

#### [4] Small schools – Disclosure is key to combat prep inequality – otherwise big schools share their prep with each other and small schools never get access to it, making engagement impossible.

#### Impacts: (a) outweighs other theory args , and is an independent voter --- the macro level reason why we do debate is to get good research skills and information

#### (b) constrains your ability to even vote aff because the debate could have been much better if the research opportunity was there & non disclosure hindered my ability to respond to the aff

#### Drop the debater a) crossapply deter future abuse (b) dropping the arg on disclosure is incoherent – it indicts the entirety of the 1AC

#### No RVI’s – crossapply

#### Competing interpretations – a] reasonability is arbitrary since it relies upon judge opinion which outweighs since it’s terminally unfair – it relies on something completely out of control and b] reasonability collapses into competing interpretations since you need to justify why your brightline is better than competing ones.

## 2 – Cap (2:40)

#### The aff’s international approach to the patent system is the essence of the capitalist empire. It seeks to deprive local power while bolstering the influence of the global market over them, securing its position of dominance in the world. Knezevic 07,

Intellectual Property or Intellectual Poverty? Between Colonialism and Empire in the Context of AIDS and Public Health Crises

Boris Knezevic, UCL Faculty of Laws Medicine, Ethics and Law  
February 2007

**The corporate-industrialized world nexus project in pushing the global IP agenda with a view to adopt a “common standard”85 or “one size fits all”86 model for patents regardless of the field of technology (in this case medicine) or socio-economic circumstances in question (AIDS epidemic in Africa) is not only hypocritical but dangerous,** and not just to immediate public health concerns. **It constitutes an attempt to sever the juridical notion of patent from its material historical source** – to deprive us of the language to articulate the un-ethics of the situation. **It seeks to monopolize the very language and thought-processes that permit us to ethically and effectively question the ‘rational’ decision-making of world leaders and corporations**. **This is what Hardt and Negri refer to (in a reading of Foucault) as a ‘biopolitics’ of control, which permeates below the level of consciousness to the bios in order to manipulate** 87 [T]he problem of the new juridical apparatus is presented to us in its most immediate figure: a global order, a justice, and a right that are still virtual but nonetheless apply to us...**our internal moral disposition...tends to be determined by the ethical, political, and juridical categories of Empire...The means of the private and individual apprehension of values are dissolved**: with the appearance of Empire, we are confronted no longer with the local 89 This latter tension represents most faithfully the precise tension between the position of developing nations and that of industrialized nations in relation to pharmaceutical patents. **It is the tension between an adaptive conception that is modified as it is historically and socio-economically contextualized or ‘locally mediated’ – and on the other hand a conception that is in juristic terms rigid and by claiming for itself ‘concrete universality’ extinguishes all contextualized conceptions**. This tendency of the very limits of what we are capable of thinking. The sentiment is echoed in the comment cited above by Spiegel regarding the ‘Cuba taboo’ – a conspicuous silence which reflects an “inclination to narrow the boundaries of what are deemed to be possible approaches”88 to public health. Out of this universalized silence, the global order of ‘Empire’ unfolds [my italics]: [T]he problem of the new juridical apparatus is presented to us in its most immediate figure: a global order, a justice, and a right that are still virtual but nonetheless apply to us...our internal moral disposition...tends to be determined by the ethical, political, and juridical categories of Empire...The means of the private and individual apprehension of values are dissolved: with the appearance of Empire, we are confronted no longer with the local mediations of the universal but with a concrete universal itself. Empire to extinguish and erase context and ‘local mediation’ is not directed merely at the Other – **the industrialized world which here is the agent of empire seeks to expunge its own context and history from the record, too, so long as the order that is universalized is the one it dominates at present**. The characteristic of Empire is that it is “formed not on the basis of force but on the basis of the capacity to present force as being in the service of right and peace.”90 **The only truly effective means to resist this process of Empire then is to deny it its ethical foundation by insisting on history**, both that of the developed and developing world, and in particular the complicity of the former in the plight of the latter, for example: Besides introducing new diseases, European colonial incursions created devastating ecological changes in Africa. Mining, plantation agriculture, irrigation schemes, and drainage ditches created good habitats for malaria- bearing mosquitoes. As Africans died from smallpox and famine, cultivated areas returned to bush, promoting the spread of tsetse flies... That, in short, is the sort of thing European ‘transfer of technology’ to Africa achieved in the 19th and early 20th century. Hunter goes on to note some further examples, among them this: it took until the 1960s to rid the Serengeti plain of the rinderpest virus brought there by the British and Italians in the 1880s, by which time most of the native domestic cattle and wild ungulates on which the Masai population depended were dead. From 1880 to 1933 the population of the Belgian Congo declined from around 40 million to 9.25 million. In another French colony it went from 20 million to 2.5 million in the space of 20 years, 1911-1931. On the heels of these ravages, “Western medicine matured at just the right time to be used as a ‘tool of empire’.”92 This configuration, it seems, persists today in what Hardt and Negri call the new ‘imperial paradigm’, which has migrated from “disciplinary society to a society of control.”93 It is the latter that operates at the level of bios, which rather than merely employing physical coercion, attempts to regulate from afar our very thought processes “to narrow the boundaries of what are deemed to be possible approaches.”94 **What is taking place here is the transition to an order wherein the agents of Empire need not instruct colonial subjects what to do or coerce them to it, but are able to ensure that goals are carried out merely by limiting the horizons of thought.** **It is clear that industrialized countries have taken every opportunity to adapt their patent systems and evolve them according to their immediate socio-economic or public health needs in different epochs**. **Developing countries should be allowed to do the same, especially given the historical complicity of developed countries in their demise and in the retardation of their development**. **The global model imposed by industrialized countries cannot serve the immediate public health needs of the developing world**. In this process and particularly in dealing with existing public health crises such as the AIDS epidemic, Cuba provides the best existing model for developing countries to learn from, given both its success and the country’s socio- economic identity with other developing countries, and there is no reason why this model could not be implemented without replicating its political environment. Over this entire complex, however, looms the hegemonic global order of Empire, with the industrialized world as agent, seeking to universalize its own conception. **In order to resist this universalizing process, developing countries should insist as a matter of right on managing their own public health networks matched by suitable patent regimes crafted to their immediate needs (i.e. compulsory licenses, import of generics) – rather than accepting the universalising imposition in return for ad hoc donations and other aid as a matter of charity or good will**. **Developing nations** should, in other words, **reject ad hoc utilitarian approaches of enforcing patents unconditionally at the service of the industrialized world designed to alleviate their suffering** but never allow them to stand on their own two feet, **leaving them always a step behind and at the mercy of corporate and international donors**. They should continue to assert their moral rights in the face of the global pharmaceutical lobby and insist on their unfettered discretion to determine the existence of health crises on their territories and design patent regimes appropriate to their immediate needs. They should implement “social and organizational priorities” shown to produce results toward the “social production of health” simultaneously investing (socially and financially) in their public health networks and in publicly financed institutions to conduct R&D programs crafted to their concerns, guided by public health needs and motives and not profit possibilities**. The attainment of public health goals is financially well within their reach merely by the implementation of appropriate policies**, as discussed above. This of course raises a number of issues relating to the willingness of African officials and governments to deal with the AIDS crisis in an effective way, and the various cultural and political 96 obstacles to this, however that this only makes the compendium of obstacles to the resolution of the AIDS crisis more complex;97 by removing the global obstacles (stringent pharmaceutical patent protection) and reducing the crisis to the level of national politics, the immediate technical responsibility is placed on the shoulders of leaders who in most cases are in one way or another politically accountable to the very populace afflicted by the epidemic, rather than on the shoulders of corporate executives thousands of miles away who answer primarily to shareholders. Thus if there is unwillingness among African politicians and elites to engage effectively with the epidemic (as some writers suggest), a more systematically ethical and less profit- oriented approach to patent enforcement by industrialized countries would be much more likely to expose this unwillingness and eliminate such politicians. **So long as industrialized countries insist on a ‘common standard’, they will remain the main scapegoat.** If they believe it to be in their interest to produce a greater confluence of norms relating to intellectual property, they should work from the opposite end to where they are now – by investing in the public health networks of developing countries with a view to making them sustainable and self-sufficient both in providing for immediate health needs and conducting R&D in the long term; that is, by working toward a ‘common standard’ in public health rather than in patent protection, for the former would in turn produce greater confluence in patent systems.

#### Slight adjustments to the current IP system inevitably fail while allowing global regimes to expand their power. The aff specifically kills the opportunity to critique the current system allowed for by the pandemic. Krikorian and Torreele 6-23,

Krikorian, Gaëlle, and Els Torreele. "We Cannot Win the Access to Medicines Struggle Using the Same Thinking That Causes the Chronic Access Crisis." *Health and Human Rights* 23.1 (2021): 119.

**Supply gaps and market failures are also increasing for health products considered not profitable enough to continue production. The availability of medicines and diagnostics required in small volumes is being increasingly threatened, as is the case for many neglected diseases such as tuberculosis, sleeping sickness, leishmaniasis, and diphtheria**. We are also seeing shortages of old and inexpensive yet essential medicines, such as penicillin and cotrimoxazole.[23](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8233016/#r23) **In the context of the COVID-19 pandemic, we have witnessed global shortages of key antibiotics** (such as amoxicillin and doxycycline), **morphine, and basic reagents for diagnostics**.[24](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8233016/#r24) At various points since the start of the pandemic, even if one wanted to buy these, they are simply not available or have already been sold to the highest bidder. **This has led to calls for considering essential medicines strategic products that every country or region should be self-sufficient in and for creating nonprofit- and government-controlled production to ensure this**.[25](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8233016/#r25) These **emerging tensions are questioning the efficiency, cost-effectiveness, and fairness of the dominant system**. Another extraordinary example of unjustified control by pharmaceutical companies that affects patients worldwide is the rising prices of previously cheap—yet lifesaving—medicines, such as insulin, where a few corporations control the market for their mutual benefit and are able to increase prices year after year to the detriment of many people with diabetes who can no longer afford the treatment.[26](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8233016/#r26) Seeking to challenge this status quo, **a group of scientists is exploring small-scale community-based open source production of insulin**.[27](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8233016/#r27) In a similar move to increase access to overly expensive medicines and circumvent monopolies, doctors and pharmacists are looking into bedside magistral production as a way to provide personalized medicine.[28](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8233016/#r28) **The COVID-19 crisis has added to the growing understanding that the scarcity of many essential medicines, vaccines, and raw materials is not inevitable but rather the consequence of policies** and decisions from the industry and governments. On the one hand, pharmaceutical companies have wielded unrivaled power to determine the scope and direction of medical innovation and to decide who gets access and under which conditions. On the other hand, **states, relinquishing their power to exert their health sovereignty, agree to rely on the private sector for the provision of these essential health tools**. **They thus became dependent on a handful of producers and a globalized supply that cannot fulfill all existing needs**, chose to adopt economic and industrial policies that **prioritized business interests over the needs of their populations and health systems**.[29](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8233016/#r29) Business-as-usual is not an option; we must break the deadlock Wishing to replicate past successes, **health advocates have pushed for broadening the scope of existing solutions** to encompass additional diseases and health technologies and to expand the set of “eligible” countries for the exceptions created in earlier years. **This has been welcomed by some of the organizations embodying those solutions, as they see it as an opportunity to expand their mandate and scope of activities across disease areas or to new territories and be able to tap into additional funding sources for sustainability**. This applies for instance to Gavi, the Coalition for Epidemic Preparedness Innovations, the Global Fund, the Foundation for Innovative Diagnostics, and Unitaid, which positioned themselves as key players in the design, setup, and functioning of ACT-A together with the Gates Foundation and Wellcome. The same players are now advocating for ACT-A’s evolution into a permanent epidemic response infrastructure.[30](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8233016/#r30) **But the replication and routinization of ad hoc and donor-driven solutions, bringing more and more public health areas under the control of self-declared global health institutions that focus on narrowly defined biomedical solutions, does not necessarily suit all current and future health challenges or take into account existing shortfalls or pitfalls of these mechanisms**. **It also does not address the governance gaps that exist in many international organizations that function more like untransparent public-private partnerships than institutions whose policies are dictated by public interest**. **Because countries’ ability to set priorities and develop an integrated health policy are often hampered and skewed by donor subsidies and their priorities, there are growing voices from “beneficiary” countries calling for increased agency and participation, if not leadership and autonomy, in designing the solutions they deem most fit to promote the health and well-being of their populations**—a movement that also includes #DecolonizeGlobalHealth.[31](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8233016/#r31) **For the ongoing COVID-19 pandemic, it is clear that the established global health architecture is unable—and ill suited—to work out relevant and equitable solutions for the developing world,** as exemplified by ACT-A and its well-intended but so far ineffective COVAX facility, held hostage to supply restrictions by companies and the vaccine nationalism from those who created it in the first place.[32](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8233016/#r32) **Voluntary proposals that keep developing nations captive to the willingness of corporations and wealthy countries to access lifesaving public health tools are being increasingly criticized**.[**33**](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8233016/#r33) **The political tensions on an IP waiver on COVID-19-related technologies at the World Trade Organization are reopening an old battle that raged during the HIV epidemic 20 years ago between developing countries challenging monopolies on medical technologies and the wealthy countries defending the pharmaceutical corporations** located in their countries.[34](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8233016/#r34) However, the COVID-19 vaccine scarcity affects people everywhere, rendering the flaws of the monopoly-based yet highly subsidized pharmaceutical economy visible to more people, and making it obvious that **limited exceptions to the IP regimes** (for a few patents, for one virus, for a few months, and so forth) **will not fix the problems.** The COVID-19 crisis illustrates the critical role of public contributions in the research, development, production, and deployment of medical innovations for global public health.[35](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8233016/#r35) The inequities in vaccine access that we are seeing due to the fact that control over such innovations was left in the hands of a few private companies highlights the colossal unbalance that exists between the public health interest and private profits. They illustrate how public resources are used without adequate checks and balances to ensure public value, and fail to prevent growing inequalities in access, even in the wealthiest countries. **Tinkering in the margins of the status quo is unlikely to be successful**. The market-based health, pharmaceutical, and medical innovation policies that our governments designed are unable to generate the relevant health technologies and make them available—at an affordable price—to all who need them. Therefore, **we need transparent R&D and access policies and governance that are no longer captive to the current, Western-driven global health order**. The design of needs-driven research and production of pharmaceuticals could be organized to deliver health commons, not market commodities, making the best of public capacities and setting up transparent and fair collaboration with the private sector for the public interest.

#### Global capitalism and industrialization cause climate change and extinction. McDuff 19,

McDuff, Phil. "Ending climate change requires the end of capitalism. Have we got the stomach for it." *The Guardian* 18 (2019).

Climate change activism is increasingly the domain of the young, such as 16-year-old Greta Thunberg, the unlikely face of the school strike for climate movement, which has seen many thousands of children walk out of school to demand that their parents’ generation takes responsibility for leaving them a planet to live on. In comparison, the existing political establishment looks more and more like an impediment to change. **The consequences of global warming have moved from the merely theoretical and predicted to observable reality over the past few years, but this has not been matched by an uptick in urgency. The need to keep the wheels of capitalism well-oiled takes precedence even against a backdrop of fires, floods and hurricanes**. Today’s children, as they become more politically aware, will be much more radical than their parents, simply because there will be no other choice for them. This emergent radicalism is already taking people by surprise. **The Green New Deal (GND**), a term presently most associated with 29-year-old US representative Alexandria Ocasio-Cortez, **has provoked a wildly** **unhinged backlash from the “pro free market” wing**, who argue that it’s a Trojan horse, nothing more than an attempt to piggyback Marxism onto the back of climate legislation. Think we should be at school? Today’s climate strike is the biggest lesson of all Greta Thunberg, Anna Taylor and others Greta Thunberg Read more **The criticism feels ridiculous. Partly because the GND is far from truly radical** and already represents a compromise solution**, but mainly because** the radical economics isn’t a hidden clause, but a headline feature. **Climate change is the result of our current economic and industrial system.** GND-style proposals marry sweeping environmental policy changes with broader socialist reforms because the level of disruption required to keep us at a temperature anywhere below “absolutely catastrophic” is fundamentally, on a deep structural level, incompatible with the status quo. **Right now we can, with a massive investment of effort by 2030, just about keep the warming level below 1.5C. This is “bad, but manageable” territory. Failing to put that effort in sees the world crossing more severe temperature barriers that would lead to outcomes like ecosystem collapse, ocean acidification, mass desertification, and coastal cities being flooded into inhabitability. We will simply have to throw the kitchen sink at this. Policy tweaks such as a carbon tax won’t do it. We need to fundamentally re-evaluate our relationship to ownership, work and capital. The impact of a dramatic reconfiguration of the industrial economy require similarly large changes to the welfare state. Basic incomes, large-scale public works programmes, everything has to be on the table to ensure that the oncoming system shocks do not leave vast swathes of the global population starving and destitute. Perhaps even more fundamentally, we cannot continue to treat the welfare system as a tool for disciplining the supposedly idle underclasses. Our system must be reformed with a more humane view of worklessness, poverty and migration than we have now.** Unfortunately for our children, the people they have to convince of all this are the people who have done very well out of this system, and are powerfully incentivised to deny that it is all that bad. Already, Joke Schauvliege, a Belgian environment minister, has been forced to resign after falsely claiming that she had been told by Belgian state security services that “ghosts” behind the scenes were behind demonstrations in Belgium. This conspiracism of the elite, these claims that genuine mass movement can’t possibly really exist and must be in some way being guided by agents provocateurs, is just one of the ways in which those currently running things have resorted to a kind of political gaslighting in an attempt to maintain their grip on power. 3:18 Dianne Feinstein rebuffs young climate activists' calls for Green New Deal – video **Gaslighting is a term I don’t use lightly, because it describes a genuine form of emotional abuse, where an abuser will deny reality in an attempt to get their victim to literally doubt their own sanity, and this should not be diluted by overuse. Yet I struggle to think of another word that adequately sums up the way in which “sensible” adults are doubling down on their tactic of manufacturing a political reality which bears no relationship to the world we see around us. It’s the Marxism of Groucho rather than Karl: “Who are you going to believe? The serious political professionals or your own lying eyes?”** US Senator Dianne Feinstein’s meeting with schoolchildren petitioning her to take action over the issue went viral because of the way she condescended to them for, basically, asking her to leave them a planet behind to live on. “I’ve been doing this for 30 years,” she said, “I know what I’m doing.” The obvious response is, of course, that messing something up for 30 years is quite long enough, thanks. Long tenure without results is not the same thing as expertise. This is a tough and bitter pill to swallow for the political professionals whose feet are firmly under the table. It is increasingly obvious that all their tactics have done almost nothing except run down the clock, but still they insist that it’s the young who just don’t get it and that things aren’t that simple. They’re the living embodiment of the famous New Yorker cartoon, with a suited man sat in a post-apocalyptic landscape telling his young audience “Yes, the planet got destroyed. But for a beautiful moment in time we created a lot of value for shareholders.” Capitalism can crack climate change. But only if it takes risks Larry Elliott Larry Elliott Read more **This is reality v the vested interests of the powerful. Any meaningful policy has to upset the established power base and the political donor class. Any policy that doesn’t upset these people will be useless. To pretend that we can compromise our way through this while we wait for a magical, technological bullet that will keep temperatures down without costing us anything is beyond wilful ignorance now. It is a question of basic morality.** Many of today’s climate strikers won’t even be 30 by the time the 1.5C deadline comes around in 2030. They are asking us to consider a simple question: is their future worth more than preserving our reputations? What will our response to them be?

#### And warming causes extinction

#### Xu 17

Yangyang Xu 17, Assistant Professor of Atmospheric Sciences at Texas A&M University; and Veerabhadran Ramanathan, Distinguished Professor of Atmospheric and Climate Sciences at the Scripps Institution of Oceanography, University of California, San Diego, 9/26/17, “Well below 2 °C: Mitigation strategies for avoiding dangerous to catastrophic climate changes,” Proceedings of the National Academy of Sciences of the United States of America, Vol. 114, No. 39, p. 10315-10323

We are proposing the following extension to the DAI risk categorization: warming greater than 1.5 °C as “dangerous”; warming greater than 3 °C as “catastrophic?”; and warming in excess of 5 °C as “unknown??,” with the understanding that changes of this magnitude, not experienced in the last 20+ million years, pose **existential threats** to a majority of the population. The question mark denotes the subjective nature of our deduction and the fact that catastrophe can strike at even lower warming levels. The justifications for the proposed extension to risk categorization are given below. From the IPCC burning embers diagram and from the language of the Paris Agreement, we infer that the DAI begins at warming greater than 1.5 °C. Our criteria for extending the risk category beyond DAI include the potential risks of climate change to the physical climate system, the ecosystem, human health, and **species extinction**. Let us first consider the category of catastrophic (3 to 5 °C warming). The first major concern is the issue of **tipping points**. Several studies (48, 49) have concluded that 3 to 5 °C global warming is likely to be the threshold for tipping points such as the collapse of the western Antarctic ice sheet, shutdown of deep water circulation in the North Atlantic, dieback of Amazon rainforests as well as boreal forests, and collapse of the West African monsoon, among others. While natural scientists refer to these as **abrupt and irreversible climate changes**, economists refer to them as catastrophic events (49). Warming of such magnitudes also has **catastrophic human health effects**. Many recent studies (50, 51) have focused on the direct influence of extreme events such as heat waves on public health by evaluating exposure to heat stress and hyperthermia. It has been estimated that the likelihood of extreme events (defined as 3-sigma events), including heat waves, has increased 10-fold in the recent decades (52). Human beings are extremely sensitive to heat stress. For example, the 2013 European heat wave led to about 70,000 premature mortalities (53). The major finding of a recent study (51) is that, currently, about 13.6% of land area with a population of 30.6% is exposed to deadly heat. The authors of that study defined deadly heat as exceeding a threshold of temperature as well as humidity. The thresholds were determined from numerous heat wave events and data for mortalities attributed to heat waves. According to this study, a 2 °C warming would double the land area subject to deadly heat and expose 48% of the population. A 4 °C warming by 2100 would subject 47% of the land area and almost 74% of the world population to deadly heat, which could pose **existential risks to humans** and mammals alike unless massive adaptation measures are implemented, such as providing air conditioning to the entire population or a massive relocation of most of the population to safer climates. Climate risks can vary markedly depending on the socioeconomic status and culture of the population, and so we must take up the question of “dangerous to whom?” (54). Our discussion in this study is focused more on people and not on the ecosystem, and even with this limited scope, there are multitudes of categories of people. We will focus on the poorest 3 billion people living mostly in tropical rural areas, who are still relying on 18th-century technologies for meeting basic needs such as cooking and heating. Their contribution to CO2 pollution is roughly 5% compared with the 50% contribution by the wealthiest 1 billion (55). This bottom 3 billion population comprises mostly subsistent farmers, whose livelihood will be severely impacted, if not destroyed, with a one- to five-year megadrought, heat waves, or heavy floods; for those among the bottom 3 billion of the world’s population who are living in coastal areas, a 1- to 2-m rise in sea level (likely with a warming in excess of 3 °C) poses **existential threat** if they do not relocate or migrate. It has been estimated that several hundred million people would be subject to famine with warming in excess of 4 °C (54). However, there has essentially been no discussion on warming beyond 5 °C. Climate change-induced species extinction is one major concern with warming of such large magnitudes (>5 °C). The current rate of loss of species is ∼1,000-fold the historical rate, due largely to habitat destruction. At this rate, about 25% of species are in danger of extinction in the coming decades (56). Global warming of 6 °C or more (accompanied by increase in ocean acidity due to increased CO2) can act as a major force multiplier and **expose** as much as **90% of species to** the dangers of **extinction** (57). The bodily harms combined with climate change-forced species destruction, biodiversity loss, and threats to water and food security, as summarized recently (58), motivated us to categorize warming beyond 5 °C as unknown??, implying the possibility of **existential threats**. Fig. 2 displays these three risk categorizations (vertical dashed lines).

#### The alternative is earth democracy. It prioritizes local values and production over globalization, dismantling global capitalist power while maintaining the ability to produce at large scales and ensure wellbeing of citizens, but it is incompatible with the aff’s view on global trade and the WTO. Fukuda 10,

Fukuda, Yasuo. "WTO regime as a new stage of imperialism: Decaying capitalism and its alternative." *World Review of Political Economy* 1.3 (2010): 485.

There is considerable ongoing debate between “globaphobes” and “globaphiles.” **The decaying nature of modern capitalism shows that free trade is not a panacea for citizen welfare**. The task of this section is not however to recount the arguments between globaphobes and globaphiles. Rather, **the aim is to outline an alternative system**. **The matter at hand is how to restore viability, independence, and sustainability to local communities**. But before arguing how this may be achieved, it is worthwhile to clarify the social conditions necessary for realizing such an outcome. **V. Shiva (2005: Ch. 2) advocates “earth democracy” as an alternative to corporate globalization**. **Earth democracy is composed of four basic principles of sustainable society**. **The first is “ecological sustainability.”** That is, **the recognition that all species have intrinsic worth and that their life-cycles are interdependent of one another.** **The second is “community control of the commons.”** **Resources vital to sustenance, including public services and infrastructure, should not be privately owned; public resources must remain in the commons**. The **third is “security of livelihoods.”** That is, the idea that **all people have the right to basic needs, such as food, water, housing, and jobs**. **The fourth is “local sovereignty,” which amounts to community self-governance in regards to local economic affairs.** **Localization of the economy does not mean a closed economy; rather, it is the idea that local production should have priority over trade**. These four principles are necessary conditions for sound and sustainable community life. The second principle, community control of the commons, and the fourth, local sovereignty, are necessary conditions for the third, security of livelihoods. The first principle, ecological sustainability, guarantees preservation of the environment, thereby protecting sustainability of livelihoods as well. **These principles are not just the necessary conditions for sustainable society (Cavanach and Mander 2004), they are also the policy guidelines for realizing it** (Korten 2001). **It is a requirement of earth democracy that corporate globalization be dismantled**. This is because **corporate globalization denies all of the principles of earth democracy**. Therefore, the **power structure of corporate globalization must be broken up**. **First, the Anti-Trust Act must be reformed so that governments can mitigate the power of large firms in the global marketplace**. Large companies that have no technical reason for maintaining such large organizations should be broken up into more governable segments. **Second, market rules such as WTO agreements, should be rewritten**. **Introduced in the name of deregulation and trade liberalization, the aim of these rules has been nothing other than to allow large companies to use monopolistic power to control the global marketplace**. **Local governments must take back the right to formulate policy on matters affecting their own communities, reclaiming the policy space which has been hijacked by the WTO, the IMF, and the World Bank**. **Third, the ability of corporate power to design market systems must be checked**. The political power of big business is principally based on cozy relationships with government. Therefore, **political contributions from corporations must be prohibited**, **lobbying tied to political money should not be allowed**, **and revolving doors between big business and government must be closed** (Marx et al. 2007). Finally, **corporations should be deprived of the entitlement to express their political opinions through media, think tanks, etc**. Simultaneous to the dismantling of the excesses of corporate power, **it is also necessary that communities regain their independence on matters of economic policy**. The arguments presented below are intended to itemize the policy tasks needed for the rebuilding of community-based society. The **first task is to strengthen the foundations of the local economy**. Here, **the policy matter is how to secure productive investment in local communities**. **Local governments need to protect and support their home firms by adopting policies such as local contents regulations, and reinvestment rules in regards to profits gained locally.** The **second task is to support and nurture local businesses, such as small to medium-sized firms, the self-employed, family farming, and so forth**, as these represent core elements of the local economy. The **priority of industrial policies must be to shift power from big business to these local actors**. The objective of such a policy shift should be to strengthen reproductive circulation within the local economy. Local actors are interdependent on one another through the internal circulations which occur at the local level. Therefore, **the strengthening of local actors leads to the independence of the local economy**. But this policy does not amount to locally closed economies (autarky). To the contrary, **it is essential that local industries establish linkages with external markets to ensure viability of the local economy**. **What is important here is for local actors to take the initiative in establishing these linkages**. Therefore, large firms need to be regulated so as to prevent them from damaging the interests of local economic actors. **Large companies should be made to support local actors rather than inhibit them**. The **third task is for local communities to regain control of the commons.** The commons, including **natural resources** (water, soil, seeds, gene information), **public services and utilities** (municipal water supplies, electric power sources, educational services, medical care), **are indispensable to peoples’ lives**. **It is thus a prerequisite to the establishment of economic independence that local communities retain their policy space on issues which concern the commons**. Even in cases of private ownership, **local communities should have the final say with respect to governance of the commons**. In addition, it should be strongly encouraged for citizens to develop a stake in the local economy through, for example, promotion of the co-ownership of cooperatives and the establishment of municipal holding companies. Localization is a way for people to realize democracy on a higher level. Upon this new dimension of democracy, local citizens can make strides toward more healthy and sustainable lives.

#### The role of the ballot is to contest the ontological structure of capitalism. Global capitalism relies on a structurally divided form of society which allows it to commodify all logic which accepts the given structure. This is used to cover the unsustainability of its current form. However, the lines of such divisions can be contested from outside the commodification by pursuing valuation of ecology, reproduction, and polity above capital. FRASER

[Fraser, Nancy. “Beyond Marx’s Hidden Abode: For an Expanded Conception of Capitalism.” *Critical Theory in Critical Times*. Pg 142-159]

Likewise, the picture I have sketched differs from the view of capitalism as a reified form of ethical life, characterized by pervasive commodification and monetization. In **that view**, as articulated in Georg Luka.cs's celebrated essay on "Reification and the Consciousness **of** the Proletariat," **the commodity form colonizes all of life**, stamping its mark on such diverse phenomena as law, science, morality, art, and culture.11 In my view**, commodification is far from universal in capitalist society**. On the contrary**, where it is present, it depends for its very existence on zones of noncommodification**. **Social, ecological, and political**, these **noncommodified zones do not simply mirror the commodity logic but embody distinctive normative and ontological grammars of their own**. For example, **social practices oriented to reproduction (as opposed to production) tend to engender ideals of care, mutual responsibility, and solidarity, however hierarchical and parochial these may be**.12 Likewise, **practices oriented to polity, as opposed to economy, often refer to principles of democracy, public autonomy, and collective self-determination, however restricted or exclusionary these may be**. Finally, **practices associated with capitalism's background conditions in nonhuman nature tend to foster such values as ecological stewardship, nondomination of nature, and justice among generations, however romantic and sectarian these may be**. Of course, **my point is not to idealize these "noneconomic" normativities** **but** **to register their divergence from the values associated with capitalism**'s foreground-above all, growth, efficiency, equal exchange, individual choice, negative liberty, and meritocratic advancement This divergence makes all the difference to how we conceptualize capitalism. **Far from generating a single, all-pervasive logic of reification, capitalist society is normatively differentiated, encompassing a determinate plurality of distinct but interrelated social ontologies.** What happens when these collide remains to be seen. But the structure that underpins them is already clear: capitalism's distinctive normative topography arises from the foreground-background relations we have identified**. If we aim to develop a critical theory of it, we must replace the view of capitalism as a reified form of ethical life with a more differentiated, structural view.** If capitalism is neither an economic system nor a reified form of ethical life, then what is it? My answer is that it is best conceived as an institutionalized social order, on a par with, for example, feudalism. Understanding capitalism in this way underscores its structural divisions, especially the institutional separations that I have identified. Constitutive of capitalism, we have seen, is the institutional separation of "economic production" from "social reproduction," a gendered separation that grounds specifically capitalist forms of male domination even as it also enables capitalist exploitation of labor power and, through that, its officially sanctioned mode of accumulation. Also definitive of capitalism is the institutional separation of "economy" from "polity," a separation that expels matters defined as "economic" from the political agenda of territorial states, freeing capital to roam in a transnational no-man's-land, where it reaps the benefits of hegemonic ordering while escaping political control. Equally **fundamental to capitalism**, finally, **is the ontological division, preexisting but massively intensified, between its (nonhuman) "natural" background and its (apparently nonnatural) "human" foreground**. Therefore, to speak of capitalism as an institutionalized social order, premised on such separations, is to suggest its nonaccidental, structural imbrication with gender oppression, political domination-both national and transnational, colonial and postcolonial-and ecological degradation, in conjunction, of course, with its equally structural, nonaccidental foreground dynamic of labor exploitation. This is not to suggest, however, that capitalism's institutional divisions are simply given once and for all. On the contrary, as we saw**, precisely where and how capitalist societies draw the line between production and reproduction, economy and polity, human and nonhuman nature varies historically, according to the regime of accumulation**. In fact, we can con­ ceptualize competitive laissez-faire capitalism, state-managed monopoly capitalism, and globalizing neoliberal capitalism in precisely these terms, as three historically specific ways of demarcating economy from polity, production from reproduction, and human from nonhuman nature. Equally important, **the precise configuration of the capitalist order at any place and time depends on politic**s-on the balance of social power and on the outcome of social struggles. **Far from being simply given, capitalism's institutional divisions often become foci of conflict, as actors mobilize to challenge or defend the established boundaries separating economy from polity, production from reproduction, human from nonhuman nature.** **Insofar as they aim to relocate contested processes on capitalism's institutional map, capitalism's subjects draw on the normative perspective**s associated with the various zones that we have identified.We can see this happening today. For example**, some opponents of neoliberalism draw on ideals of car**e, solidarity, and mutual responsibility, associated with reproduction, in order **to oppose efforts to commodify education**. **Others** **summon notions of stewardship of nature** and justice among generations, **associated with ecology, to militate for a shift to renewable energy**. Still others invoke ideals of public autonomy, associated with polity, to advocate international capital controls and to extend democratic accountability beyond the state. **Such claims, along with the counterclaims they inevitably incite, are the very stuff of social struggle in capitalist societies-as fundamental as the class struggles over control of commodity production and distribution of surplus value that Marx privileged**. **These boundary struggles**, as I shall call them, **decisively shape the structure of capitalist societies**.13 They play a constitutive role in the view of capitalism as an institutionalized social order.The focus on boundary struggles should forestall any misimpression that the view I have been sketching is functionalist. Granted, I began by characterizing reproduction, **ecology**, and political power **as necessary background conditions for capitalism's economic front story, stressing their functionality for commodity production, labor exploitation, and capital accumulation. But this structural moment does not capture the full story of capitalism's foreground-background relations. It coexists, rather, with another "moment," already hinted at, which is equally central and which emerges from the characterization of the social, political, and ecological as reservoirs of"noneconomic" normativity. This implies that, even as these "noneconomic" orders make commodity production possible, they are not reducible to that enabling function. Far from being wholly exhausted by, or entirely subservient to, the dynamics of accumulation, each of these hidden abodes harbors distinctive ontologies of so­ cial practice and normative ideals.** Moreover, **these "noneconomic" ideals are pregnant with critical­political possibili**ty**. Especially in times of crisis, they can be turned against core economic practices associated with capital accumulation**. In such times, the structural divisions that normally serve to segregate the various normativities within their own institutional spheres tend to weaken. When the separations fail to hold, capitalism's subjects-who live, after all, in more than one sphere-experience normative conflict. **Far from bringing in ideas from the "outside," they draw on capitalism's own complex normativity to criticize it, mobilizing against the grain the multiplicity of ideals** that coexist, at times uneasily, in an institutionalized social order premised on foreground-background divisions. Thus, the view of capitalism as an institutionalized social order helps us understand how a critique of capitalism is possible from within it. Yet this view also suggests that it would be wrong to construe society, polity, and nature romantically, as "outside" capitalism and as inherently opposed to it. That romantic view is held today by a fair number of anticapitalist thinkers and left-wing activists, including cultural femi­ nists, deep ecologists, and neo-anarchists, as well as by many proponents of "plural," "postgrowth," "solidary," and "popular" economies. Too often, these currents treat "care;' "nature;' "direct action," or "commoning" as intrinsically anticapitalist. As a result, they overlook the fact that their favorite practices not only are sources of critique but also are inte­ gral parts of the capitalist order. Rather, the argument here is that society, polity, and nature arose con­ currently with economy and developed in symbiosis with it. They are effectively the latter's "others" and only acquire their specific character in contrast to it. Thus, reproduction and production make a pair, with each term co-defined by way of the other. Neither makes any sense apart from the other. The same is true of polity/economy and nature/human. Part and parcel of the capitalist order, none of the "noneconomic" realms af­ fords a wholly external standpoint that could underwrite an absolutely pure and fully radical form of critique. On the contrary, political projects that appeal to what they imagine to be capitalism's "outside" usually end up recycling capitalist stereotypes, as they counterpose female nurtur­ ance to male aggression, spontaneous cooperation to economic calcula­ tion, nature's holistic organicism to anthropocentric individualism. To premise one's struggles on these oppositions is not to challenge but to un­ wittingly reflect the institutionalized social order of capitalist society. It follows from this that a proper account of capitalism's foreground­ background relations must hold together three distinct ideas. **First, capitalism's "noneconomic" realms serve as enabling background conditions for its economy; the economy depends for its very existence on values and inputs from the "noneconomic." Second, however, capitalism's "noneco­ nomic" realms have a weight and character of their own, which can, under certain circumstances, provide resources for anticapitalist struggle.** Nevertheless, and this is the third point, these realms are part and parcel of capitalist society, historically coconstituted in tandem with its economy and marked by their symbiosis with it. There is also a fourth idea, which returns us to the problem of crisis with which I began. Capitalism's foreground-background relations harbor built-in sources of social instability. As we have seen**, capitalist production is not self-sustaining; it free rides on social reproduction, nature, and political power. Yet its orientation to endless accumulation threatens to destabilize these very conditions of its possibility**. **In the case of its ecological conditions, what is at risk are the natural processes that sustain life and provide the material inputs for social provisioning.** In the case of its social-reproduction conditions, what is imperiled are the sociocultural processes that supply the solidary relations, affective dis­ positions, and value horizons that underpin social cooperation while also furnishing the appropriately socialized and skilled human beings who con­ stitute "labor." In the case of its political conditions, what is compromised are the public powers, both national and transnational, that guarantee property rights, enforce contracts, adjudicate disputes, quell anticapital­ ist rebellions, and maintain the money supply.

## Case

### Epistemology

#### Commodification means reject the 1AC’s anti cap and utilitarian arguments because of epistemology – they are co-opted by cap. Authors from wealthy countries go into universities made to create capitalist workers, teaching them about economics and politics from a cap lens. They then work in organizations like the WTO or do cap-favored economic studies for profit. Then they write articles supporting the cap system that has profited them, the cycle repeats. Means all their articles function within this lens – mine don’t, the authors have no monetary motive – they exist on zones of non commodification. They’re also anti cap.

### K Links

#### They say improving innovation through evergreening leads to these benefits, but companies will just shift to other fronts to re-entrench cap. If we prevent people from having both data exclusivity and patents, they will then increase the patent term… Cap will always shift to find a way to maintain its power.

#### Every policy is seen as causing extinction causing people to constantly fear for their lives, which simply re-entrenches fear. i.e. the 1ac, they claim that if you don’t do the 1ac we’ll go extinct from robots. That’s ridiculous.

### Impacts

#### No extinction impact – ill concede extinction first – the method work was just critiquing their view of aggregating extinction but extinction still outweighs.

### Turns

#### Intellectual property protections are key to pharmaceutical innovation – laundry of list of studies – that solves access better, Ezeli and Cory 19:

Stephen Ezell, [vice president, global innovation policy, at the Information Technology and Innovation Foundation (ITIF). He focuses on science and technology policy, international competitiveness, trade, manufacturing, and services issues.] and Nigel Cory, [an associate director covering trade policy at the Information Technology and Innovation Foundation. He focuses on cross-border data flows, data governance, intellectual property, and how they each relate to digital trade and the broader digital economy. Cory has provided in-person testimony and written submissions and has published reports and op-eds relating to these issues in the United States, the European Union, Australia, China, India, and New Zealand, among other countries and regions, and he has completed research projects for international bodies such as the Asia Pacific Economic Cooperation and the World Trade Organization.] “The Way Forward for Intellectual Property Internationally” April 25, 2019, <https://itif.org/publications/2019/04/25/way-forward-intellectual-property-internationally> //LHP AV

INTELLECTUAL PROPERTY UNDERPINS INNOVATION AND GROWTH Intellectual property rights arrangements are well recognized, going back to the Middle Ages, as enabling innovators to earn the returns necessary to continue to innovate and promote the availability of leading-edge technologies. **Nobel laureate economist Douglas North**, one of the foremost scholars of economic history, **argues that the introduction of intellectual property rights had one of the most profound impacts on spurring economic growth in human history**. North points out that average global economic growth rates for about one and a half millennia prior to the Industrial Revolution were essentially zero. Eighteenth-century elites in England had practically the same per capita income as their counterparts in third-century Rome.21 North has shown that the inflection point toward greater economic growth was the widespread development of patent systems in the 19th century.22 Gregory Clark, in his seminal book, Farewell to Alms: A Brief Economic History of the World, reached a similar conclusion that the introduction of **IPRs was catalytic to turbo-charging global economic growth**.23 **Robust intellectual property rights spur innovative activity by increasing the appropriability of the returns to innovation, enabling innovators to capture enough of the benefits of their own innovative activity to justify taking considerable risks**. By raising the private rate of return closer to the social rate of return, in**tellectual property rights address the knowledge-asset incentive problem, allowing inventors to realize economic gain from their inventions, thereby catalyzing investment in knowledge creation.** If innovators know that most of the benefits from their innovations would go to others without compensation, **they would be much less likely and capable of engaging in future innovations**. In addition, as they capture a larger portion of the benefits of their innovative activity, **innovating companies obtain the resources to pursue the next generation of innovative activities.** **IP thus produces a number of positive benefits, including: 1) creating powerful incentives for domestic innovation; 2) inducing knowledge spillovers that help others to innovate; 3) ensuring** a country’s **companies can focus on operating productively and innovating**, instead of having to devote an undue amount of their time and resources to protecting their IP in an environment where it’s at risk; **4) promoting the international diffusion of technology, innovation, and knowhow; and 5) boosting a country’s levels of research and development, inbound foreign direct investment (FDI), and exports of goods and services**.24 Robust intellectual property rights spur innovative activity by increasing the appropriability of the returns to innovation, enabling innovators to capture enough of the benefits of their own innovative activity to justify taking considerable risks. The **evidence shows that strong intellectual property rights protections are vitally important for both developed and developing countries alike.** As the definitive 2010 OECD review of the effects of intellectual property rights protections on developing countries, “Policy Complements to the Strengthening of IPRs in Developing Countries” found, “The results point to a tendency for IPR reform to deliver positive economic results.”25 The OECD study found that **developing-country IPR reforms concerning patent protection have tended to deliver the most substantial results**, although the results for copyright reform and trademark reform are also positive and significant. But to have the greatest impact on economic growth, IPR reforms must occur concomitantly with other positive complements, particularly ones regarding inputs for innovative and productive processes and the ability to conduct business. These include policies that influence the macro-environment for firms as well as the availability of resources (e.g., related to education), a country’s legal and institutional conditions, and fiscal incentives.26 The evidence shows that strong intellectual property rights protections are vitally important for both developed and developing countries alike. The following section details the broad swath of academic literature reviewing the relationships between IPR strengthening and trade, FDI, and technology transfer; IPR reform and innovation and R&D; and IPR reform and exports and industry growth, revealing the benefits of stronger IPR protections for developed and developing countries alike. IPRs Strengthen Trade, FDI, and Technology Transfer A wealth of academic research has documented the relationship between the strength of a country’s intellectual property protections and the extent of trade, foreign direct investment, and technology transfer it enjoys. Strengthening IPR protection has been shown to correlate with increased trade.27 For instance, Fink and Primo Braga found that IPR protection is positively associated with international trade flows, in particular of manufactured, non-fuel imports.28 Other studies have found a positive association between IPR protection and trade flows in high-technology products.29 Likewise, strengthening of IPR protection has also been connected with increased inflows of FDI. Cavazos Cepeda et al. found that a 1 percent increase in the protection of IPRs as measured by the Patent Rights Index (a measure of the strength of countries’ IPR regimes) is associated with a 2.8 percent increase in the inflow of FDI.30 Similarly, a 1 percent increase in trademark protection levels is associated with a 3.8 percent increase in incoming FDI; and a 1 percent increase in copyright protection yields a 6.8 percent increase in FDI.31 Moreover, the researchers identified a virtuous cycle between FDI and protection of IP, whereby improvements in the IPR environment are associated with improved economic performance—in particular with respect to FDI—and, in turn, further improvements in the IPR environment. Park and Lippoldt showed that stronger IPRs in developing countries are associated with an increase of technology-intensive FDI, while Awokuse and Yin provided a concrete example concerning the relationship of IPR protection in China to FDI inflows, concluding that IPR reforms in China have had a positive and significant effect on inbound FDI.32 There is also evidence that countries with similar levels of intellectual property protection trade more with one another.33 Academic research also signals a strong correlation between IPR and technology transfer. Lippoldt showed that IPR strengthening in countries—particularly with respect to patents—is associated with increased technology transfer via trade and investment.34 Research has revealed that a country’s level of intellectual property protection considerably affects whether foreign firms will transfer technology into it.35 That matters because the welfare gains from the importation of technology via innovative products, while differing across countries, can be substantial.36 For instance, foreign sources of technology account for over 90 percent of domestic productivity growth in all but a handful of countries.37 The research on this matter is clear and consistent. For example, a 1986 United Nations Conference on Trade and Development (UNCTAD) study found that direct investment in new technology areas such as computer software, semiconductors, and biotechnology is supported by stronger intellectual property rights policy regimes.38 (However, as this report later clarifies, subsequent UNCTAD reports have lamentably taken a more skeptical view toward IP.) A 1989 study by the United Nations Commission on Transnational Corporations (UNCTC) found that weak IP rights reduce computer software direct investment; and a 1990 study by UNCTC found that weak IP rights reduce pharmaceutical investment.39 Mansfield conducted firm-level surveys and found that perceptions of strong IP rights abroad have a positive effect on incentives to transfer technologies abroad. Likewise, survey research by the World Bank’s International Finance Corporation found that, with variations by sector, country, and technology, at least 25 percent of American and Japanese high-tech firms refuse to directly invest, or enter into a joint venture, in developing countries with weak intellectual property rights; and a later study confirmed those survey findings with actual foreign direct investment data.40 And an Institute for International Economics study of World Bank data concluded that weak intellectual property rights reduce flows of all these commercial activities, regardless of nations’ levels of economic development.41 A wealth of academic research has documented the relationship between the strength of a country’s intellectual property protections and the extent of trade, foreign direct investment, and technology transfer it enjoys. Studies have also shown how the benefits of intellectual property extend to developing countries. Diwan and Rodrik demonstrated that stronger patent rights in developing countries give enterprises from developed countries a greater incentive to research and introduce technologies appropriate to developing countries.42 Similarly, Taylor showed that weak patent rights in developing countries lead enterprises from developed countries to introduce less-than-best-practice technologies to developing countries.43 Interestingly, the relationship goes in both directions. Branstetter and Saggi showed that strengthened IPR protection not only improves the investment climate in the implementing countries, but also leads to increased FDI in the country producing the original innovation.44 They concluded that IPR reform in the “global South” (e.g., developing countries) may be associated with FDI increases in the “global North” (e.g., developed countries). As northern firms shift their production to southern affiliates, this FDI accelerates southern industrial development, creating a cyclical feedback mechanism that also benefits the North. Another study by Liao and Wong, which focused on firm-level analysis, highlights the inter-relationship of IPR reform in developed and developing countries. Their study concluded that developing countries can entice technology transfer from the North by providing IPR protection for incoming products (although they note there is a need for redoubled R&D efforts in developed countries to spur needed innovations).45 **IPRs Strengthen Innovation** Intellectual property rights power innovation. For instance, analyzing the level of intellectual property protections (via the World Economic Forum’s Global Competitiveness reports) and creative outputs (via the Global Innovation Index) shows that **counties with stronger IP protection have more creative outputs** (in terms of intangible assets and creative goods and services in a nation’s media, printing and publishing, and entertainment industries, including online), **even at varying levels of development**.46 **IPR reforms also introduce strong incentives for domestic innovation**. **Sherwood**, using case studies from 18 developing countries, **concluded that poor provision of intellectual property rights deters local innovation and risk-taking**.47 In contrast, **IPR reform has been associated with increased innovative activity, as measured by domestic patent filings**, albeit with some variation across countries and sectors.48 For example, **Ryan, in a study of biomedical innovations and patent reform in Brazil, found that patents provided incentives for innovation investments and facilitated the functioning of technology markets**.49 **Park** **and Lippoldt also observed that** the provision of adequate protection for **IPRs can help to stimulate local innovation**, in some cases building on the transfer of technologies that provide inputs and spillovers.50 In other words, **local innovators are introduced to technologies** first **through** the technology transfer that takes place in an environment wherein **protection** of IPRs is assured; then, they may build on those ideas to create an evolved product or develop alternate approaches (i.e., to innovate). Related research finds that trade in technology—through channels including imports, foreign direct investment, and technology licensing—improves the quality of developing-country innovation by increasing the pool of ideas and efficiency of innovation by encouraging the division of innovative labor and specialization.51 However, Maskus notes that without protection from potential abuse of their newly developed technologies, foreign enterprises may be less willing to reveal technical information associated with their innovations.52 The protection of patents and trade secrets provides necessary legal assurances for firms wishing to reveal proprietary characteristics of technologies to subsidiaries and licensees via contracts. Counties with stronger IP protection have more creative outputs (in terms of intangible assets and creative goods and services in a nation’s media, printing and publishing, and entertainment industries, including online), even at varying levels of development. The relationship between IPR rights and innovation can also be seen in studies of how the introduction of stronger IPR laws, with regard to patents, copyrights, and trademarks, affect R&D activity in an economy. Studies by Varsakelis and by Kanwar and Evenson found that **R&D to GDP ratios are positively related to the strength of patent rights**, and are conditional on other factors.53 Cavazos Cepeda et al. found a positive influence of IPRs on the level of R&D in an economy, with each 1 percent increase in the level of protection of IPRs in an economy (as measured by improvements to a country’s score in the Patent Rights Index) equating to, on average, a 0.7 percent increase in the domestic level of R&D.54 Likewise, a 1 percent increase in copyright protection was associated with a 3.3 percent increase in domestic R&D. Similarly, when trademark protection increased by 1 percent, there was an associated R&D increase of 1.4 percent. As the authors concluded, “Increases in the protection of the IPRs carried economic benefits in the form of higher inflows of FDI, and increases in the levels of both domestically conducted R&D and service imports as measured by licensing fees.”55 As Jackson summarized, regarding the relationship between IPR reform and both innovation and R&D, and FDI, “In addition to spurring domestic innovation, strong intellectual property rights can increase incentives for foreign direct investment which in turn also leads to economic growth.”56 BOX 1: INNOVATE FOR HEALTH: IP IS NOT THE PROBLEM, BUT PART OF THE SOLUTION **Many opponents of robust IPR rights view them as antithetical to the interests of developing countries in terms of access to medicines or the provision of national health care services**. Yet the reality is that **stronger IPR rights in developing nations actually unleash the power of developing-country innovators to contribute to solving health challenges both in their own nations and across the global economy**. First, opponents of IP fail to recognize **that intellectual property rights matter for health care innovation in emerging economies.** **A**n Information Technology and Innovation Foundation (ITIF) and George Mason University Center for Intellectual Property Protection **report**, “How Innovators Are Solving Global Health Challenges,” **provides 25 case studies that show innovators in developing countries relying on IP to invent and bring solutions to market**.57 The 25 case studies revealed a number of key themes, including that there is opportunity in adapting health care interventions for developing-country environments where resources and infrastructure are scarce, and that local innovation and **IP can contribute substantially toward providing both affordable and robust tests for diagnosing diseases and affordable interventions to meet basic needs in challenging environments.** Second, **opponents of IP tend to ignore broader systemic issues that contribute to poor health care outcomes in developing countries.** **While cost is a central factor for policymakers in all countries, given resource scarcity, these trade-offs are not unique to health**. **The greater the resource scarcity, the greater the need for innovation**. One of the biggest challenges policymakers and innovators in developing countries confront again and again is scarcity—in access to trained professionals, in transportation, and in other infrastructure. For example, reports estimate that as many as 1 billion people lack access to essential health care because of a shortage of trained health professionals.58 A 2014 World Health Organization study estimated a shortage of 7 million public health care workers, with that number expected to rise to 13 million by 2035.59 More than 80 countries currently fail to meet the basic threshold of 23 skilled health professionals per 10,000 citizens.60 The challenge is even more daunting when it comes to specialists. For instance, Cameroon has fewer than 50 cardiologists supporting a population of over 23 million citizens.61 And Ethiopia, a country of some 90 million residents, is served by a single radiation-treatment center located in the capital of Addis Ababa.62 In other instances, individuals lack access to essential medicines, with cost being a relatively small part of the problem. For instance, in 2014, researchers at the University of Utrecht in the Netherlands found that, on average, essential medicines are available in public-sector facilities in developing countries only 40 percent of the time.63 Again, **the cost of medicines is far from the most serious problem in the provision of health care services in developing nations**. Indeed, **the vast majority of drugs—at least 95 percent—on the World Health Organization’s Essential Medicines list are off-patent, and thus potentially available in generic versions**.64 **The problem, in much larger part, stems from countries’ underdeveloped health systems and the fact that many people live in rural areas far from care.** **Stronger IP rights create an environment wherein entrepreneurs can innovate to meet health challenges in their own nations, the benefits thereof spilling over to benefit the entire international community.** IPRs Strengthen Exports and Industry Growth Academic research has also found that **stronger IPR protections support exports from developing countries and faster growth rates of certain industries.** Yang and Kuo argue that stronger IPR protection improves the export performance of firms benefitting from technology transfer. And in their research, Cavazos Cepeda et al. found that trademark protection has a statistically significant association in relation to the export turnover, sales, and total assets of firms studied. They also found a significant association between copyrights and export turnover. Moreover, they found “a positive influence of patent right protection on export turnover (e.g., sales) under certain specifications with respect to complementary policies.”65 In cross-country studies, researchers have found that stronger patent rights are associated with faster company growth in IP-intensive industries such as pharmaceuticals. In fact, during the early 1990s, a one-standard-deviation increase in patent rights was associated with an increase in firm growth of 0.69 percent (an advantage amounting to nearly one-fifth of the average industry growth rate of 3.7 percent).66 Consequences of Countries Not Enacting Robust IPR Protections and Enforcement **Nations** **that** have not implemented—or **do not enforce**—**robust intellectual property rights protections end up harming their economic development in at least three principle ways. First, they deter future innovative activity. Second, they discourage trade** and foreign direct investment, which only hurts their own consumers and businesses, by both limiting their choices and inhibiting their enterprises’ ability to access best-of-breed technologies that are vital to boosting domestic productivity. **Third, in countries with weak IP protections, firms are forced to invest undue amounts of resources in protection rather than invention**. Ironically, **developing countries’ own economic development opportunities** and intellectual property development potential **are inhibited by their own weak intellectual property protections.** For instance, the lack of effective protection for intellectual property rights in China has limited the introduction of advanced technology and innovation investments by foreign companies, thereby reducing potential benefits to local innovation capacity.67 As Cavazos Cepeda et al. found in a case study of IPR protections in that economy, “China has made progress in strengthening the protection of intellectual property over the past two decades, as attested to by indicators such as the Patent Rights Index…. However, uncertainty around the protection of intellectual property [remains] an important deterrent for foreign as well as domestic firms engaging in R&D-related activities.”68 Ironically, developing countries’ own economic development opportunities and intellectual property development potential are inhibited by their own weak intellectual property protections.

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