### 1NC – Kant

#### Permissibility and Presumption negate: A~ " negate[[1]](#footnote-1) means “to deny the truth of,” if the neg proves a lack of obligation you negate in context of the debate. O/ws it’s the only predictable baisis for burdens B~ Probability – There are infinite number of ways to prove a statement false and only one way to prove it true – means res is more likely to be false

#### Morality must be derived a priori:

#### 1] Naturalistic Fallacy – Evaluative conclusions require at least one evaluative premise—purely factual premises about the naturalist “goodness” do not entail evaluative conclusions.

#### 2] Uncertainty – inability to know others’ experience due to a limited perception makes empiricism unreliable for universal ethics.

#### 3] Verification – The logic of evaluating consequences is circular because it relies on the assumption that nature will hold uniform but we could only reach that conclusion through an observation of past events.

#### Ethics must answer “why should I follow this” else people could opt out of it and be skeptics. Only reason solves:

#### 1] Inescapability – asking why reason is important cedes authority to reason itself – it’s constitutive of our agency

#### 2] Action Theory – Every action can be broken down to infinite amounts of movements, i.e. me moving my arm can be broken down to every state my arm is in. Only reason can unify these movements because we use practical reason to achieve our goals, means all actions collapse to reason

#### Moral law must be both necessary and universal – only universal law can be constitutive of agency because it applies to all agents in all instances – other maxims cannot guide action in every situation. Willing coercion is a contradiction in conception because you extend your own freedom while simultaneously undermining your ability to act in the first place.

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#### Thus, the standard is respecting freedom.

#### Prefer –

#### 1] Hijack – The existence of extrinsic goodness requires unconditional human worth—that means we must treat others as ends in themselves.

Korsgaard ’83 (Christine M., “Two Distinctions in Goodness,” The Philosophical Review Vol. 92, No. 2 (Apr., 1983), pp. 169-195, JSTOR)

The argument shows how Kant's idea of justification works. It can be read as a kind of regress upon the conditions, starting from an important assumption. The assumption is that when a rational being makes a choice or undertakes an action, she or he supposes the object to be good, and its pursuit to be justified. At least, if there is a categorical imperative there must be objectively good ends, for then there are necessary actions and so necessary ends (G 45-46/427-428 and Doctrine of Virtue 43-44/384-385). In order for there to be any objectively good ends, however, there must be something that is unconditionally good and so can serve as a sufficient condition of their goodness. Kant considers what this might be: it cannot be an object of inclination, for those have only a conditional worth, "for if the inclinations and the needs founded on them did not exist, their object would be without worth" (G 46/428). It cannot be the inclinations themselves because a rational being would rather be free from them. Nor can it be external things, which serve only as means. So, Kant asserts, the unconditionally valuable thing must be "humanity" or "rational nature," which he defines as "the power set to an end" (G 56/437 and DV 51/392). Kant explains that regarding your existence as a rational being as an end in itself is a "subjective principle of human action." By this I understand him to mean that we must regard ourselves as capable of conferring value upon the objects of our choice, the ends that we set, because we must regard our ends as good. But since "every other rational being thinks of his existence by the same rational ground which holds also for myself' (G 47/429), we must regard others as capable of conferring value by reason of their rational choices and so also as ends in themselves. Treating another as an end in itself thus involves making that person's ends as far as possible your own (G 49/430). The ends that are chosen by any rational being, possessed of the humanity or rational nature that is fully realized in a good will, take on the status of objective goods. They are not intrinsically valuable, but they are objectively valuable in the sense that every rational being has a reason to promote or realize them. For this reason it is our duty to promote the happiness of others-the ends that they choose-and, in general, to make the highest good our end.

#### 2] Performativity – Argumentation presupposes one’s own freedom to act – if I violated your freedom, you wouldn’t be able to debate – this means contestations of my framework prove it true

#### 3] Non-ideal theory is epistemically bankrupt:

#### A] Cruel Optimism – we’d constantly be fixing injustices as a precondition to ethical action so we never get to the bottom of what is actually ethical b) particularity framing is bad- every society has different injustices that occur – the resolution is a universal values statement which means you cannot universalize any theory under nonideal theory.

#### B] Only univeralizable reason can effectively explain the perspectives of agents – that’s the best method for combatting oppression.

Farr 02 Arnold Farr (prof of phil @ UKentucky, focusing on German idealism, philosophy of race, postmodernism, psychoanalysis, and liberation philosophy). “Can a Philosophy of Race Afford to Abandon the Kantian Categorical Imperative?” JOURNAL of SOCIAL PHILOSOPHY, Vol. 33 No. 1, Spring 2002, 17–32.

**One** of the most popular **criticism**s **of Kant’s moral philosophy is that it is too formalistic.**13 That is, the universal nature of the categorical imperative leaves it devoid of content. Such a principle is useless since moral decisions are made by concrete individuals in a concrete, historical, and social situation. This type of criticism lies behind Lewis Gordon’s rejection of any attempt to ground an antiracist position on Kantian principles. The rejection of universal principles for the sake of emphasizing the historical embeddedness of the human agent is widespread in recent philosophy and social theory. I will argue here on Kantian grounds that **although a distinction between the universal and the concrete is** a **valid** distinction, **the unity of the two is required for** an understanding of human **agency.** The attack on Kantian formalism began with Hegel’s criticism of the Kantian philosophy.14 The list of contemporary theorists who follow Hegel’s line of criticism is far too long to deal with in the scope of this paper. Although these theorists may approach the problem of Kantian formalism from a variety of angles, the spirit of their criticism is basically the same: The universality of the categorical imperative is an abstraction from one’s empirical conditions. **Kant is** often **accused of making the moral agent an abstract, empty**, noumenal **subject. Nothing could be further from the truth. The Kantian subject is** an embodied, empirical, concrete subject. However, this concrete subject has a dual nature. Kant claims in the Critique of Pure Reason as well as in the Grounding that human beings have an intelligible and empirical character.15 It is impossible to understand and do justice to Kant’s moral theory without taking seriously the relation between these two characters. The very concept of morality is impossible without the tension between the two. By “empirical character” Kant simply means that we have a sensual nature. We are physical creatures with physical drives or desires. **The** very **fact that I cannot simply satisfy my desires without considering the rightness** or wrongness **of my actions suggests that my empirical character must be held in check** by something, or else I behave like a Freudian id. My empiri- cal character must be held in check **by my intelligible character**, which is the legislative activity of practical reason. It is through our intelligible character that **we formulate principles that keep our** empirical **impulses in check.** The categorical imperative is the supreme principle of morality that is constructed by the moral agent in his/her moment of self-transcendence. What I have called self-transcendence may be best explained in the following passage by Onora O’Neill: In restricting our maxims to those that meet the test of the categorical imperative we refuse to base our lives on maxims that necessarily make our own case an exception. The reason why a universilizability criterion is morally signiﬁcant is that it makes our own case no special exception (G, IV, 404). In accepting the Categorical Imperative we accept the moral reality of other selves, and hence the possibility (not, note, the reality) of a moral community. **The Formula of Universal Law enjoins no more than that we act only on maxims that are open to others also.**16 O’Neill’s description of the universalizability criterion includes the notion of self-transcendence that I am working to explicate here to the extent that like self-transcendence, universalizable moral principles require that the individ- ual think beyond his or her own particular desires. The individual is not allowed to exclude others **as** rational **moral agents** who have the right to act as he acts in a given situation. For example, if I decide to use another person merely as a means for my own end I must recognize the other person’s right to do the same to me. I cannot consistently will that I use another as a means only and will that I not be used in the same manner by another. **Hence,** the **universalizability** criterion **is a principle of consistency and** a principle of **inclusion.** That is, in choosing my maxims **I** attempt to **include the perspective of other moral agents.**

#### Now negate:

#### 1] Patents protect private companies.

Na 19 [Blake Na, "Protecting Intellectual Property Rights in the Pharmaceutical Industry", Chicago-Kent | Journal of Intellectual Property, 4-19-2019, https://studentorgs.kentlaw.iit.edu/ckjip/protecting-intellectual-property-rights-in-the-pharmaceutical-industry/, accessed: 8-24-2021.] //Lex VM

Patent Rights A pharmaceutical company may apply for a patent from the PTO at any time in the development lifetime of a drug.[12] A drug is patentable if it is non-obvious, new, and useful.[13] The drug must be non-obvious when comparing the drug with another previously invented drug, i.e., it does not bring the same type of information as the other drugs. The drug must also not exist, and it must have a purpose. Intellectual property rights, especially patent rights, are the foundation of the pharmaceutical industry. The industry heavily depends on the future profits which innovation (and as a result, exclusivity) enable. Drug patents grant the originator company to market exclusivity for a fixed term of 20 years from the patent’s original filing date. By giving this 20-year patent term in which the government cannot regulate the price, market exclusivity allows pharmaceutical companies to have a monopoly over the market. To maximize their profit, pharmaceutical companies work on extending the exclusivity of a drug. For example, AbbVie extended the manufacturing exclusivity of Humira by delaying generic companies from manufacturing generic entrants until 2023. The market exclusivity can be lengthened anywhere between 180 days to 7 years. Thus, due to efforts to derive profits from patents, pharmaceutical companies’ patents contribute to roughly 70-80 percent of their overall revenues. Patents in the pharmaceutical industry are normally referred to as their product portfolio and are the most effective method for protecting innovation and creating significant returns on investments. Accordingly, as mentioned above, patents help in recouping costs related to research, development, and marketing of a drug. Patents not only help pharmaceutical companies recoup investments, they can also act as a shield against infringement claims. Strong patent protection can safeguard drugs from potential infringers. Without consent from the patentee, other competing companies cannot use, make, or distribute the invention. However, because a drug can be easily imitated by competitors, bringing an infringement suit can also protect a patentee’s rights. Recently, DUSA Pharmaceuticals, Inc.—an arm of the Indian pharmaceutical company Su Pharma and ranked among the top 50 global Pharma Companies—was recently granted injunctive relief from a U.S. court against Biofrontera Inc. in a patent infringement case[14]. The court’s order prohibited Biofrontera from making use of information, including sales data, marketing data, technical information, and unpublished clinical data, of DUSA Pharmaceuticals[15]. Although bringing an infringement suit is a valuable remedial measure for patentees, pharmaceutical companies often face difficulty with the high costs and uncertainty of litigation

#### That negates – A] Promise breaking – states promised legally binding IP protections to companies who might not have otherwise developed medicines – the aff is a unilateral violation of that contract. B] That’s a form of restricting the free economic choices of individuals.

#### 2] IP is a reflection of our will and a form of property.

Merges 11 [Merges, Robert P. "Will and Object in the World of IP." Justifying Intellectual Property, Cambridge, Harvard UP, 2011, pp. 76-78. ISBN: 0674049489,9780674049482. Found on Libgen.] //Lex VM

It is clear enough at this point that Kant thought reliable expectations about ongoing possession of objects enables something positive to take place. Stable possession permits the imprinting of some aspect of a person, what Kant called his will, onto objects so as to enable the person to more fully flourish. Though nuances abound, Kant’s basic idea regarding the will24 is simple enough: Will is that aspect of a person which decides to, and wants to, act on the world.25 It has three distinctive qualities: it is personal, autonomous, and active. It is highly individual, a function of each person’s preferences and desires; Lewis White Beck says that will is “bent upon the satisfaction of some arbitrary purpose.” It is this aspect or feature of ourselves that we imprint or stamp on the world through our choices and the resulting actions that carry out or manifest these choices. Right here, in this foundational element, we see a radically individualistic and autonomous view of humans. Although this is balanced by a universalizing, transpersonal sense of reason in other parts of his philosophy,26 a highly individual will is nonetheless central to Kant’s view of human thought and action, and thus an essential aspect of what he thought it means to be human.27 will and object in the world of ip. It is tempting to get caught up in the terminology and conceptual complexity of Kant’s ideas of persons, will, and objects. To prevent that happening, it seems wise at this point to talk about some specific examples. How exactly does Kantian autonomy work? What does it look like in the context of IP rights? After we have a better grasp of these ideas, and of how they relate to Kant’s rationale for property, we can turn to an equally important topic: the limits on individual autonomy that Kant built into his theory. Our earlier example of Michelangelo showed how stable possession is required for a creator to fully work his will on a found object— in that case, a block of marble. The same basic logic applies in all sorts of cases. Individual farmers and landowners generate and then bring to life a vision for the lands they work on;28 inventors transform off- the- shelf materials into prototypes, rough designs, and finished products; and artists work in media such as paint and canvas, paper and pen, textiles and wood, keyboard and iPad, and so on, to give life to a concept or mental image. Wherever personal skill and judgment are brought to bear on things that people inherit or find, we see evidence of the Kantian process of will imprinting itself on objects. It even happens when the objects at hand are themselves intangible. A composer working out a new instance of a traditional form— a fugue or symphony, blues song or tone poem— is working on found objects just as surely as the farmer or inventor. Even in our earlier example, some of the objects that Michelangelo works on in the course of carving his sculpture are intangible: received conventions about how to depict an emotion; traditional groupings of figures in a religious set piece, such as the Pieta; or accepted norms about how to depict athletic grace or youthful energy. He may take these pieces of the cultural tableau and refine them, or he may subtly resist or transform them. However he handles them, these conventions are just as much objects in his hands as the marble itself.29 As with found physical objects, extended possession of these objects- intransformation is required to fully apply the creator’s skill and judgment. And because of this, Kantian property rights come into play with intangible objects as well. Let me say a word about this complex, and perhaps controversial, possession of intangible objects. It has often been argued that this feature of IP, the control of copies of an intangible work, constitutes a form of “artificial scarcity,”30 that it runs counter to an ethically superior regime where information is shared freely— and is maybe even counter to the nature of information, which, some say, “wants to be free.”31 According to Kant, all property rights have this element of artifice, because they define a conceptual type of possession. Property is not just a matter of physical contact between person and object; it describes a relationship that is deeper and goes well beyond the basic acts of grasping and holding. I can hear one objection to this right away. Yes, Kant speaks of legal ownership as a special relation between a person and an object. But, the objection might run, in his writings he refers only to physical objects, for example, an apple (à la Locke). So maybe the ownership relation is limited to that sort of thing? No. I give no weight to the fact that Kant uses only examples of tangible, physical property in most of the sections of the Doctrine of Right (DOR).32 Kant describes an additional type of possession that makes it crystal clear that the idea is not in any way limited to physical things—the expectation of future performance under a contract. He posits that one could not properly be said to “possess” a right to performance under an executory contract (one that has been signed or agreed to, but not yet performed) unless “I can maintain that I would have possession . . . even if the time of the performance is yet to come.”33 With that legal relation established, however, “[t]he promise of the [promisor] accordingly belongs among my worldly goods . . . , and I can include it under what is mine.”34 The synonymous use of “possession,” “object,” “belonging,” and “mine” in the case of a tangible, physical thing such as an apple and an intangible thing such as a promise of future contractual performance is too clear to require much comment. “Object” is very abstract for Kant, and can of course therefore include IPRs.35

#### A] The aff has a deontological obligation to be topical. Nebel 15:

Jake Nebel,"The Priority of Resolutional Semantics by Jake Nebel," Briefly, <https://www.vbriefly.com/2015/02/20/the-priority-of-resolutional-semantics-by-jake-nebel/>

A second strategy denies that such pragmatic benefits are relevant. This strategy is more deontological. One version of this strategy appeals to the importance of consent or agreement. Suppose that you give your opponents prior notice that you’ll be affirming the September/October 2012 resolution instead of the current one. There is a sense in which your affirmation of that resolution is now predictable: your opponents know, or are in a position to know, what you will be defending. And suppose that the older resolution is conducive to better (i.e., more fair and more educational) debate. Still, it’s unfair of you to expect your opponents to follow suit. Why? Because they didn’t agree to debate that topic. They registered for a tournament whose invitation specified the current resolution, not the Sept/Oct 2012 resolution or a free-for-all. The “social contract” argument for topicality holds that accepting a tournament invitation constitutes implicit consent to debate the specified topic. This claim might be contested, depending on what constitutes implicit consent. What is less contestable is this: given that *some* proposition must be debated in each round and that the tournament has specified a resolution, no one can reasonably reject a principle that requires everyone to debate the announced resolution as worded. This appeals to Scanlon’s contractualism. Someone who wishes to debate only the announced resolution has a strong claim against changing the topic, and no one has a stronger claim against debating the announced resolution (ignoring, for now, some possible exceptions to be discussed in the next subsection). So it is unfair to expect your opponent to debate anything other than the announced resolution. This unfairness is a constraint on the pursuit of education or other goods: it wrongs and is unjustifiable to your opponent.

#### B] Independently not defending the topic is non-universalizable b/c if nobody defended the topic than a topic wouldn’t have even been created in the first place which is a contradiction in conception.

#### C] “Resolved” means to enact by law.

Words & Phrases ’64

(Words and Phrases; 1964; Permanent Edition)

Definition of the word “resolve,” given by Webster is “to express an opinion or determination by resolution or vote; as ‘it was resolved by the legislature;” It is of similar force to the word “enact,” which is defined by Bouvier as meaning “to establish by law”.

### TL

#### Vote neg on presumption –

#### A) Nothing spills over – there’s no connection between the ballot and chancing people’s attitudes. You encourage more teams to read framework which turns your offense and prevents the alteration of mindsets.

#### B) No warrant for a ballot – the competitive nature of debate coopts any ethical value of advocating the aff – winning rounds only makes it look like they just want to win which proves framework and means advocating by losing is more effective.

#### C) Debate – none of their evidence is specific to it – sets a high threshold for solvency and ignores how communicative norms operate.

#### D) Voting aff doesn’t access social change, but voting neg resolves our procedural impacts.

Ritter ‘13 (JD from U Texas Law (Michael J., “Overcoming The Fiction of “Social Change Through Debate”: What’s To Learn from 2pac’s Changes?,” National Journal of Speech and Debate, Vol. 2, Issue 1)

The structure of competitive interscholastic debate renders any message communicated in a debate round virtually **incapable of creating any social change**, either in the debate community or in general society. And to the extent that the fiction of social change through debate can be proven or disproven through empirical studies or surveys, academics instead have analyzed debate with **nonapplicable** rhetorical **theory** that **fails to account for the unique aspects** of competitive interscholastic debate. Rather, the current debate relating to activism and competitive interscholastic debate concerns the following: “What is the best model to promote social change?” But a more fundamental question that must be addressed first is: **“Can debate cause social change?”** Despite over two decades of opportunity to conduct and publish empirical studies or surveys, academic proponents of the fiction that debate can create social change have chosen **not to prove this fundamental assumption**, which—as this article argues—is **merely a fiction** that is **harmful in** most, if not **all, respects**. The position that competitive interscholastic debate can create social change is more properly characterized as a **fiction** than an argument. A fiction is an invented or fabricated idea purporting to be factual but is **not provable** by any human senses or rational thinking capability or is unproven by valid statistical studies. An argument, most basically, consists of a claim and some support for why the claim is true. If the support for the claim is false or its relation to the claim is illogical, then we can deduce that the particular argument does not help in ascertaining whether the claim is true. Interscholastic competitive debate is premised upon the assumption that debate is argumentation. Because fictions are necessarily not true or cannot be proven true by any means of argumentation, the competitive interscholastic debate community should be **incredibly critical** of those fictions and adopt them only if they promote the activity and its purposes.

#### Theoretically – Heirarchies are malleable and the result of specific policy choices with material incentives

Harari 15 [Yuval Noah Harari, Israeli historian and a tenured professor in the Department of History at the Hebrew University of Jerusalem, specializing in World History, Doctorate in Philosophy from Oxford University, and an acclaimed author whose first book, Sapiens, was an international bestseller that received lavish praise by figures ranging from Barack Obama to Bill Gates, Sapiens: A Brief History of Humankind, tr. by Yuval Harari with help from John Purcell and Haim Watzman, HarperCollins: Broadway, NY, 2015, p. 133-144]

UNDERSTANDING HUMAN HISTORY IN THE millennia following the Agricultural Revolution boils down to a single question: how did humans organise themselves in mass-cooperation networks, when they lacked the biological instincts necessary to sustain such networks? The short answer is that humans created imagined orders and devised scripts. These two inventions filled the gaps left by our biological inheritance. However, the appearance of these networks was, for many, a dubious blessing. The imagined orders sustaining these networks were neither neutral nor fair. They divided people into make-believe groups, arranged in a hierarchy. The upper levels enjoyed privileges and power, while the lower ones suffered from discrimination and oppression. Hammurabi’s Code, for example, established a pecking order of superiors, commoners and slaves. Superiors got all the good things in life. Commoners got what was left. Slaves got a beating if they complained. Despite its proclamation of the equality of all men, the imagined order established by the Americans in 1776 also established a hierarchy. It created a hierarchy between men, who benefited from it, and women, whom it left disempowered. It created a hierarchy between whites, who enjoyed liberty, and blacks and American Indians, who were considered humans of a lesser type and therefore did not share in the equal rights of men. Many of those who signed the Declaration of Independence were slaveholders. They did not release their slaves upon signing the Declaration, nor did they consider themselves hypocrites. In their view, the rights of men had little to do with Negroes. The American order also consecrated the hierarchy between rich and poor. Most Americans at that time had little problem with the inequality caused by wealthy parents passing their money and businesses on to their children. In their view, equality meant simply that the same laws applied to rich and poor. It had nothing to do with unemployment benefits, integrated education or health insurance. Liberty, too, carried very different connotations than it does today. In 1776, it did not mean that the disempowered (certainly not blacks or Indians or, God forbid, women) could gain and exercise power. It meant simply that the state could not, except in unusual circumstances, confiscate a citizen’s private property or tell him what to do with it. The American order thereby upheld the hierarchy of wealth, which some thought was mandated by God and others viewed as representing the immutable laws of nature. Nature, it was claimed, rewarded merit with wealth while penalising indolence. All the above-mentioned distinctions – between free persons and slaves, between whites and blacks, between rich and poor – are rooted in fictions. (The hierarchy of men and women will be discussed later.) Yet it is an iron rule of history that every imagined hierarchy disavows its fictional origins and claims to be natural and inevitable. For instance, many people who have viewed the hierarchy of free persons and slaves as natural and correct have argued that slavery is not a human invention. Hammurabi saw it as ordained by the gods. Aristotle argued that slaves have a ‘slavish nature’ whereas free people have a ‘free nature’. Their status in society is merely a reflection of their innate nature. Ask white supremacists about the racial hierarchy, and you are in for a pseudoscientific lecture concerning the biological differences between the races. You are likely to be told that there is something in Caucasian blood or genes that makes whites naturally more intelligent, moral and hardworking. Ask a diehard capitalist about the hierarchy of wealth, and you are likely to hear that it is the inevitable outcome of objective differences in abilities. The rich have more money, in this view, because they are more capable and diligent. No one should be bothered, then, if the wealthy get better health care, better education and better nutrition. The rich richly deserve every perk they enjoy. People with lighter skin colour are typically more in danger of sunburn than people with darker skin. Yet there was no biological logic behind the division of South African beaches. Beaches reserved for people with lighter skin were not characterised by lower levels of ultraviolet radiation. Hindus who adhere to the caste system believe that cosmic forces have made one caste superior to another. According to a famous Hindu creation myth, the gods fashioned the world out of the body of a primeval being, the Purusa. The sun was created from the Purusa’s eye, the moon from the Purusa’s brain, the Brahmins (priests) from its mouth, the Kshatriyas (warriors) from its arms, the Vaishyas (peasants and merchants) from its thighs, and the Shudras (servants) from its legs. Accept this explanation and the sociopolitical differences between Brahmins and Shudras are as natural and eternal as the differences between the sun and the moon.1 The ancient Chinese believed that when the goddess Nü Wa created humans from earth, she kneaded aristocrats from fine yellow soil, whereas commoners were formed from brown mud.2 Yet, to the best of our understanding, these hierarchies are all the product of human imagination. Brahmins and Shudras were not really created by the gods from different body parts of a primeval being. Instead, the distinction between the two castes was created by laws and norms invented by humans in northern India about 3,000 years ago. Contrary to Aristotle, there is no known biological difference between slaves and free people. Human laws and norms have turned some people into slaves and others into masters. Between blacks and whites there are some objective biological differences, such as skin colour and hair type, but there is no evidence that the differences extend to intelligence or morality. Most people claim that their social hierarchy is natural and just, while those of other societies are based on false and ridiculous criteria. Modern Westerners are taught to scoff at the idea of racial hierarchy. They are shocked by laws prohibiting blacks to live in white neighbourhoods, or to study in white schools, or to be treated in white hospitals. But the hierarchy of rich and poor – which mandates that rich people live in separate and more luxurious neighbourhoods, study in separate and more prestigious schools, and receive medical treatment in separate and better-equipped facilities – seems perfectly sensible to many Americans and Europeans. Yet it’s a proven fact that most rich people are rich for the simple reason that they were born into a rich family, while most poor people will remain poor throughout their lives simply because they were born into a poor family. Unfortunately, complex human societies seem to require imagined hierarchies and unjust discrimination. Of course not all hierarchies are morally identical, and some societies suffered from more extreme types of discrimination than others, yet scholars know of no large society that has been able to dispense with discrimination altogether. Time and again people have created order in their societies by classifying the population into imagined categories, such as superiors, commoners and slaves; whites and blacks; patricians and plebeians; Brahmins and Shudras; or rich and poor. These categories have regulated relations between millions of humans by making some people legally, politically or socially superior to others. Hierarchies serve an important function. They enable complete strangers to know how to treat one another without wasting the time and energy needed to become personally acquainted. In George Bernard Shaw’s Pygmalion, Henry Higgins doesn’t need to establish an intimate acquaintance with Eliza Doolittle in order to understand how he should relate to her. Just hearing her talk tells him that she is a member of the underclass with whom he can do as he wishes – for example, using her as a pawn in his bet to pass off a jower girl as a duchess. A modern Eliza working at a jorist’s needs to know how much effort to put into selling roses and gladioli to the dozens of people who enter the shop each day. She can’t make a detailed enquiry into the tastes and wallets of each individual. Instead, she uses social cues – the way the person is dressed, his or her age, and if she’s not politically correct his skin colour. That is how she immediately distinguishes between the accounting-firm partner who’s likely to place a large order for expensive roses, and a messenger boy who can only afford a bunch of daisies. Of course, differences in natural abilities also play a role in the formation of social distinctions. But such diversities of aptitudes and character are usually mediated through imagined hierarchies. This happens in two important ways. First and foremost, most abilities have to be nurtured and developed. Even if somebody is born with a particular talent, that talent will usually remain latent if it is not fostered, honed and exercised. Not all people get the same chance to cultivate and refine their abilities. Whether or not they have such an opportunity will usually depend on their place within their society’s imagined hierarchy. Harry Potter is a good example. Removed from his distinguished wizard family and brought up by ignorant muggles, he arrives at Hogwarts without any experience in magic. It takes him seven books to gain a firm command of his powers and knowledge of his unique abilities. Second, even if people belonging to different classes develop exactly the same abilities, they are unlikely to enjoy equal success because they will have to play the game by different rules. If, in British-ruled India, an Untouchable, a Brahmin, a Catholic Irishman and a Protestant Englishman had somehow developed exactly the same business acumen, they still would not have had the same chance of becoming rich. The economic game was rigged by legal restrictions and unoɽcial glass ceilings. The Vicious Circle All societies are based on imagined hierarchies, but not necessarily on the same hierarchies. What accounts for the differences? Why did traditional Indian society classify people according to caste, Ottoman society according to religion, and American society according to race? In most cases the hierarchy originated as the result of a set of accidental historical circumstances and was then perpetuated and refined over many generations as different groups developed vested interests in it. For instance, many scholars surmise that the Hindu caste system took shape when Indo-Aryan people invaded the Indian subcontinent about 3,000 years ago, subjugating the local population. The invaders established a stratified society, in which they – of course – occupied the leading positions (priests and warriors), leaving the natives to live as servants and slaves. The invaders, who were few in number, feared losing their privileged status and unique identity. To forestall this danger, they divided the population into castes, each of which was required to pursue a specific occupation or perform a specific role in society. Each had different legal status, privileges and duties. Mixing of castes – social interaction, marriage, even the sharing of meals – was prohibited. And the distinctions were not just legal – they became an inherent part of religious mythology and practice. The rulers argued that the caste system rejected an eternal cosmic reality rather than a chance historical development. Concepts of purity and impurity were essential elements in Hindu religion, and they were harnessed to buttress the social pyramid. Pious Hindus were taught that contact with members of a different caste could pollute not only them personally, but society as a whole, and should therefore be abhorred. Such ideas are hardly unique to Hindus. Throughout history, and in almost all societies, concepts of pollution and purity have played a leading role in enforcing social and political divisions and have been exploited by numerous ruling classes to maintain their privileges. The fear of pollution is not a complete fabrication of priests and princes, however. It probably has its roots in biological survival mechanisms that make humans feel an instinctive revulsion towards potential disease carriers, such as sick persons and dead bodies. If you want to keep any human group isolated – women, Jews, Roma, gays, blacks – the best way to do it is convince everyone that these people are a source of pollution. The Hindu caste system and its attendant laws of purity became deeply embedded in Indian culture. Long after the Indo-Aryan invasion was forgotten, Indians continued to believe in the caste system and to abhor the pollution caused by caste mixing. Castes were not immune to change. In fact, as time went by, large castes were divided into sub-castes. Eventually the original four castes turned into 3,000 different groupings called jati (literally ‘birth’). But this proliferation of castes did not change the basic principle of the system, according to which every person is born into a particular rank, and any infringement of its rules pollutes the person and society as a whole. A persons jati determines her profession, the food she can eat, her place of residence and her eligible marriage partners. Usually a person can marry only within his or her caste, and the resulting children inherit that status. Whenever a new profession developed or a new group of people appeared on the scene, they had to be recognised as a caste in order to receive a legitimate place within Hindu society. Groups that failed to win recognition as a caste were, literally, outcasts – in this stratified society, they did not even occupy the lowest rung. They became known as Untouchables. They had to live apart from all other people and scrape together a living in humiliating and disgusting ways, such as sifting through garbage dumps for scrap material. Even members of the lowest caste avoided mingling with them, eating with them, touching them and certainly marrying them. In modern India, matters of marriage and work are still heavily influenced by the caste system, despite all attempts by the democratic government of India to break down such distinctions and convince Hindus that there is nothing polluting in caste mixing.3 Purity in America A similar vicious circle perpetuated the racial hierarchy in modern America. From the sixteenth to the eighteenth century, the European conquerors imported millions of African slaves to work the mines and plantations of America. They chose to import slaves from Africa rather than from Europe or East Asia due to three circumstantial factors. Firstly, Africa was closer, so it was cheaper to import slaves from Senegal than from Vietnam. Secondly, in Africa there already existed a well-developed slave trade (exporting slaves mainly to the Middle East), whereas in Europe slavery was very rare. It was obviously far easier to buy slaves in an existing market than to create a new one from scratch. Thirdly, and most importantly, American plantations in places such as Virginia, Haiti and Brazil were plagued by malaria and yellow fever, which had originated in Africa. Africans had acquired over the generations a partial genetic immunity to these diseases, whereas Europeans were totally defenceless and died in droves. It was consequently wiser for a plantation owner to invest his money in an African slave than in a European slave or indentured labourer. Paradoxically, genetic superiority (in terms of immunity) translated into social inferiority: precisely because Africans were fitter in tropical climates than Europeans, they ended up as the slaves of European masters! Due to these circumstantial factors, the burgeoning new societies of America were to be divided into a ruling caste of white Europeans and a subjugated caste of black Africans. But people don’t like to say that they keep slaves of a certain race or origin simply because it’s economically expedient. Like the Aryan conquerors of India, white Europeans in the Americas wanted to be seen not only as economically successful but also as pious, just and objective. Religious and scientific myths were pressed into service to justify this division. Theologians argued that Africans descend from Ham, son of Noah, saddled by his father with a curse that his offspring would be slaves. Biologists argued that blacks are less intelligent than whites and their moral sense less developed. Doctors alleged that blacks live in filth and spread diseases – in other words, they are a source of pollution. These myths struck a chord in American culture, and in Western culture generally. They continued to exert their influence long after the conditions that created slavery had disappeared. In the early nineteenth century imperial Britain outlawed slavery and stopped the Atlantic slave trade, and in the decades that followed slavery was gradually outlawed throughout the American continent. Notably, this was the first and only time in history that slaveholding societies voluntarily abolished slavery. But, even though the slaves were freed, the racist myths that justified slavery persisted. Separation of the races was maintained by racist legislation and social custom. The result was a self-reinforcing cycle of cause and effect, a vicious circle. Consider, for example, the southern United States immediately after the Civil War. In 1865 the Thirteenth Amendment to the US Constitution outlawed slavery and the Fourteenth Amendment mandated that citizenship and the equal protection of the law could not be denied on the basis of race. However, two centuries of slavery meant that most black families were far poorer and far less educated than most white families. A black person born in Alabama in 1865 thus had much less chance of getting a good education and a well-paid job than did his white neighbours. His children, born in the 1880S and 1890s, started life with the same disadvantage – they, too, were born to an uneducated, poor family. But economic disadvantage was not the whole story. Alabama was also home to many poor whites who lacked the opportunities available to their better-off racial brothers and sisters. In addition, the Industrial Revolution and the waves of immigration made the United States an extremely fluid society, where rags could quickly turn into riches. If money was all that mattered, the sharp divide between the races should soon have blurred, not least through intermarriage. But that did not happen. By 1865 whites, as well as many blacks, took it to be a simple matter of fact that blacks were less intelligent, more violent and sexually dissolute, lazier and less concerned about personal cleanliness than whites. They were thus the agents of violence, theft, rape and disease – in other words, pollution. If a black Alabaman in 1895 miraculously managed to get a good education and then applied for a respectable job such as a bank teller, his odds of being accepted were far worse than those of an equally qualified white candidate. The stigma that labelled blacks as, by nature, unreliable, lazy and less intelligent conspired against him. You might think that people would gradually understand that these stigmas were myth rather than fact and that blacks would be able, over time, to prove themselves just as competent, law-abiding and clean as whites. In fact, the opposite happened – these prejudices became more and more entrenched as time went by. Since all the best jobs were held by whites, it became easier to believe that blacks really are inferior. ‘Look,’ said the average white citizen, ‘blacks have been free for generations, yet there are almost no black professors, lawyers, doctors or even bank tellers. Isn’t that proof that blacks are simply less intelligent and hard-working?’ Trapped in this vicious circle, blacks were not hired for whitecollar jobs because they were deemed unintelligent, and the proof of their inferiority was the paucity of blacks in white-collar jobs. The vicious circle did not stop there. As anti-black stigmas grew stronger, they were translated into a system of ‘Jim Crow’ laws and norms that were meant to safeguard the racial order. Blacks were forbidden to vote in elections, to study in white schools, to buy in white stores, to eat in white restaurants, to sleep in white hotels. The justification for all of this was that blacks were foul, slothful and vicious, so whites had to be protected from them. Whites did not want to sleep in the same hotel as blacks or to eat in the same restaurant, for fear of diseases. They did not want their children learning in the same school as black children, for fear of brutality and bad influences. They did not want blacks voting in elections, since blacks were ignorant and immoral. These fears were substantiated by scientific studies that ‘proved’ that blacks were indeed less educated, that various diseases were more common among them, and that their crime rate was far higher (the studies ignored the fact that these ‘facts’ resulted from discrimination against blacks). By the mid-twentieth century, segregation in the former Confederate states was probably worse than in the late nineteenth century. Clennon King, a black student who applied to the University of Mississippi in 1958, was forcefully committed to a mental asylum. The presiding judge ruled that a black person must surely be insane to think that he could be admitted to the University of Mississippi. The vicious circle: a chance historical situation is translated into a rigid social system. Nothing was as revolting to American southerners (and many northerners) as sexual relations and marriage between black men and white women. Sex between the races became the greatest taboo and any violation, or suspected violation, was viewed as deserving immediate and summary punishment in the form of lynching. The Ku Klux Klan, a white supremacist secret society, perpetrated many such killings. They could have taught the Hindu Brahmins a thing or two about purity laws. With time, the racism spread to more and more cultural arenas. American aesthetic culture was built around white standards of beauty. The physical attributes of the white race – for example light skin, fair and straight hair, a small upturned nose – came to be identified as beautiful. Typical black features – dark skin, dark and bushy hair, a flattened nose – were deemed ugly. These preconceptions ingrained the imagined hierarchy at an even deeper level of human consciousness. Such vicious circles can go on for centuries and even millennia, perpetuating an imagined hierarchy that sprang from a chance historical occurrence. Unjust discrimination often gets worse, not better, with time. Money comes to money, and poverty to poverty. Education comes to education, and ignorance to ignorance. Those once victimised by history are likely to be victimised yet again. And those whom history has privileged are more likely to be privileged again. Most sociopolitical hierarchies lack a logical or biological basis – they are nothing but the perpetuation of chance events supported by myths. That is one good reason to study history. If the division into blacks and whites or Brahmins and Shudras was grounded in biological realities – that is, if Brahmins really had better brains than Shudras – biology would be sufficient for understanding human society. Since the biological distinctions between different groups of Homo sapiens are, in fact, negligible, biology can’t explain the intricacies of Indian society or American racial dynamics. We can only understand those phenomena by studying the events, circumstances, and power relations that transformed figments of imagination into cruel – and very real – social structures.

### 1AR – Cap Good

#### Growth is sustainable, physical limits aren’t absolute, AND resource use is declining now---degrowth unleashes global disaster

Bailey 18 [Ronald; February 16; B.A. in Economics from the University of Virginia, member of the Society of Environmental Journalists and the American Society for Bioethics and Humanities, citing a compilation of interdisciplinary research; Reason, “Is Degrowth the Only Way to Save the World?” https://reason.com/2018/02/16/is-degrowth-the-only-way-to-save-the-wor; RP]

Unless us folks in rich countries drastically reduce our material living standards and distribute most of what we have to people living in poor countries, the world will come to an end. Or at least that's the stark conclusion of a study published earlier this month in the journal Nature Sustainability. The researchers who wrote it, led by the Leeds University ecological economist Dan O'Neill, think the way to prevent the apocalypse is "degrowth." Vice, pestilence, war, and "gigantic inevitable famine" were the planetary boundaries set on human population by the 18th-century economist Robert Thomas Malthus. The new study gussies up old-fashioned Malthusianism by devising a set of seven biophysical indicators of national environmental pressure, which they then link to 11 indicators of social outcomes. The aim of the exercise is to concoct a "safe and just space" for humanity. Using data from 2011, the researchers calculate that the annual per capita boundaries for the world's 7 billion people consist of the emission of 1.6 tons of carbon dioxide per year and the annual consumption of 0.9 kilograms of phosphorus, 8.9 kilograms of nitrogen, 574 cubic meters of water, 2.6 tons of biomass (crops and wood), plus the ecological services of 1.7 hectares of land and 7.2 tons of material per person. On the social side, meanwhile, the researchers say that life satisfaction in each country should exceed 6.5 on the 10-point Cantril scale, that healthy life expectancy should average at least 65 years, and that nutrition should be over 2,700 calories per day. At least 95 percent of each country's citizens must have access to good sanitation, earn more than $1.90 per day, and pass through secondary school. Ninety percent of citizens must have friends and family they can depend on. The threshold for democratic quality must exceed 0.8 on an index scale stretching from -1 to +1, while the threshold for equality is set at no higher than 70 on a Gini Index where 0 represents perfect equality and 100 implies perfect inequality. They set the threshold for percent of labor force employed at 94 percent. So how does the U.S. do with regard to their biophysical boundaries and social outcomes measures? We Americans transgress all seven of the biophysical boundaries. Carbon dioxide emissions stand at 21.2 tons per person; we each use an average of 7 kilograms of phosphorus, 59.1 kilograms of nitrogen, 611 cubic meters of water, and 3.7 tons of biomass; we rely on the ecological services of 6.8 hectares of land and 27.2 tons of material. Although the researchers urge us to move "beyond the pursuit of GDP growth to embrace new measures of progress," it is worth noting that U.S. GDP is $59,609 per capita. On the other hand, those transgressions have provided a pretty good life for Americans. For example, life satisfaction is 7.1; healthy life expectancy is 69.7 years; and democratic quality stands at 0.8 points. The only two social indicators we just missed on were employment (91 percent) and secondary education (94.7 percent). On the other hand, our hemisphere is home to one paragon of sustainability—Haiti. Haitians breach none of the researchers' biophysical boundaries. But the Caribbean country performs abysmally on all 11 social indicators. Life satisfaction scores at 4.8; healthy life expectancy is 52.3 years; and Haitians average 2,105 calories per day. The country tallies -0.9 on the democratic quality index. Haiti's GDP is $719 per capita. Other near-sustainability champions include Malawi, Nepal, Myanmar, and Nicaragua. All of them score dismally on the social indicators, and their GDPs per capita are $322, $799, $1,375, and $2,208, respectively. The country that currently comes closest to the researchers' ideal of remaining within its biophysical boundaries while sufficient social indicators is…Vietnam. For the record, Vietnam's per capita GDP is $2,306. "Countries with higher levels of life satisfaction and healthy life expectancy also tend to transgress more biophysical boundaries," the researchers note. A better way to put this relationship is that more wealth and technology tend to make people happier, healthier, and freer. O'Neill and his unhappy team fail drastically to understand how human ingenuity unleashed in markets is already well on the way toward making their supposed planetary boundaries irrelevant. Take carbon dioxide emissions: Supporters of renewable energy technologies say that their costs are already or will soon be lower than those of fossil fuels. Boosters of advanced nuclear reactors similarly argue that they can supply all of the carbon-free energy the world will need. There's a good chance that fleets of battery-powered self-driving vehicles will largely replace private cars and mass transit later in this century. Are we about to run out of phosphorous to fertilize our crops? Peak phosphorus is not at hand. The U.S. Geological Survey (USGS) reports that at current rates of mining, the world's known reserves will last 266 years. The estimated total resources of phosphate rock would last over 1,140 years. "There are no imminent shortages of phosphate rock," notes the USGS. With respect to the deleterious effects that using phosphorus to fertilize crops might have outside of farm fields, researchers are working on ways to endow crops with traits that enable them to use less while maintaining yields. O'Neill and his colleagues are also concerned that farmers are using too much nitrogen fertilizer, which runs off fields into the natural environment and contributes to deoxygenated dead zones in the oceans, among other ill effects. This is a problem, but one that plant breeders are already working to solve. For example, researchers at Arcadia Biosciences have used biotechnology to create nitrogen-efficient varieties of staples like rice and wheat that enable farmers to increase yields while significantly reducing fertilizer use. Meanwhile, other researchers are moving on projects to engineer the nitrogen fixation trait from legumes into cereal crops. In other words, the crops would make their own fertilizer from air. Water? Most water is devoted to the irrigation of crops; the ongoing development of drought-resistant and saline-tolerant crops will help with that. Hectares per capita? Humanity has probably already reached peak farmland, and nearly 400 million hectares will be restored to nature by 2060—an area almost double the size of the United States east of the Mississippi River. In fact, it is entirely possible that most animal farming will be replaced by resource-sparing lab-grown steaks, chops, and milk. Such developments in food production undermine the researchers' worries about overconsumption of biomass. And humanity's material footprint is likely to get smaller too as trends toward further dematerialization take hold. The price system is a superb mechanism for encouraging innovators to find ways to wring ever more value out less and less stuff. Rockefeller University researcher Jesse Ausubel has shown that this process of absolute dematerialization has already taken off for many commodities. After cranking their way through their models of doom, O'Neill and his colleagues lugubriously conclude: "If all people are to lead a good life within planetary boundaries, then the level of resource use associated with meeting basic needs must be dramatically reduced." They are right, but they are entirely backward with regard to how to achieve those goals. Economic growth provides the wealth and technologies needed to lift people from poverty while simultaneously lightening humanity's footprint on the natural world. Rather than degrowth, the planet—and especially its poor people—need more and faster economic growth.

#### No limits to growth---solar, nuclear, and fusion energy solve climate change better than degrowth

Michael Liebreich 18, Visiting Professor at Imperial College’s Energy Future Lab, “The Secret of Eternal Growth,” 10/29/18, http://ifreetrade.org/article/the\_secret\_of\_eternal\_growth\_the\_physics\_behind\_pro\_growth\_environmentalism

The earth, however, is not an isolated system. It may be nearly closed, exchanging limited matter across the planetary boundary, but it is far from isolated, as it receives a huge daily flux of energy from the sun and radiates almost as much away to space. In his book, Georgescu-Roegen even acknowledged the existence of huge solar energy fluxes, but that didn’t stop him from basing his seminal work on a scientific error. Later in his career, after ruefully acknowledging his mistake, he invented a Fourth Law of Thermodynamics, claiming that “material entropy” would forever prevent materials from being perfectly recycled. Pure fake science. Around the same time as Georgescu-Roegen was making up thermodynamic laws, a group of concerned environmentalists calling themselves the Club of Rome invited one of the doyens of the new field of computer modelling, Jay Forrester, to create a simulation of the world economy and its interaction with the environment. In 1972 his marvellous black box produced another best-seller, Limits to Growth (iv), which purported to prove that almost every combination of economic parameters ended up not just with growth slowing, but with an overshoot and collapse. This finding, so congenial to the model’s commissioners, stemmed entirely from errors in its structure, as pointed out by a then fresh-faced young economics professor at Yale, William Nordhaus. A third foundational work in the degrowth canon is Steady State Economics (v) by Herman Daly, later Senior Economist in the Environment Department of the World Bank. In it he explains that “the economy is an open subsystem of a finite and nongrowing ecosystem. Any subsystem of a finite nongrowing system must itself at some point also become nongrowing.” It’s a repeat of Georgescu-Roegen’s error. Daly must have known it too, since he noted that six days’ worth of radiation from the sun contained more useful energy (or exergy, to give it its correct name) than that embodied in all the fossil fuel reserves known at the time. The point here is not that solar power is the key to endless growth, though it could well be - nuclear fission and fusion are other strong contenders. The point is that when you scratch the surface of any of the seminal tracts of the degrowth movement, you find they are based on the same fake science, right through to the present day. Jeremy Rifkin’s 1980 Entropy: a New World View (vi) states that “here on earth material entropy is continually increasing and must ultimately reach a maximum”. In 2009, Professor Tim Jackson, the favourite anti-capitalist of the TED generation, published Prosperity Without Growth (vii). In it he pays homage to Daly’s “pioneering case for a ‘steady state economy’” and cheerfully recommends it to students hungering for alternative wisdom – either not understanding or not caring that it is based on a fallacy. This matters because, for all that the neo-liberal world economy has delivered extraordinary improvements in living standards – in life span, levels of education, infant survival, maternal health, poverty reduction, leisure, and so on (viii) – it is currently failing to address severe, systemic environmental challenges, first and foremost among them climate change. Unless the free-trade, pro-growth, pro-trade right offers a coherent plan, it is ceding the argument to the degrowth, anti-capitalist, anti-trade left. Climate change is real, serious, and urgent. That recent IPCC 1.5°C report is based on rigorous research. Of course climate change is being co-opted by the “Academic Grievance Studies” brigade (ix), but that doesn’t make the underlying physical science less real. As the world continues to burn through its remaining carbon budget, as temperatures continue to rise, as the ‘signal’ of climate damage becomes clearer against the background ‘noise’ of weather, the demand for dramatic action will only increase. Limiting the impact of climate change will require the application of technology, both new and yet-to-be-developed, on a heroic scale. Destroying the ability of the world economy to deliver these solutions is the very opposite of what we should be doing. And that is where Nordhaus and Romer come in. Romer’s great contribution was to identify the contribution of knowledge to economic growth. Before his Endogenous Growth Theory, no one could explain differences in growth rates of as much as 10 percent between countries at a similar stage of development. Romer’s work is the perfect riposte to those who think that economic growth is the same thing as ever-increasing physical material use and pollution; it is also the perfect riposte to those who believe that extractive industries can ever deliver long-term wealth and those who believe the same of agricultural subsidies and import tariffs. Nordhaus, for his part, was the creator of the first Integrated Assessment Models, bringing together the physics of climate change, its economic impact, and the functioning of the economy. He was also the first person to suggest that attaching a cost to emissions – low at first but rising – would squeeze greenhouse gases out of the economy. Nordhaus is no climate fundamentalist, famously diverging from the view propounded in the Stern Review, that the world needs super-high carbon taxes immediately. Nordhaus accepted that environmental challenges and climate change will act as a drag on the economy but, unlike others before him, he quantified the drag and showed that it is highly unlikely to reverse economic growth. Nordhaus and Romer are not the only Nobel Prize-winners whose work suggests that an open, liberal, trade-friendly economy – though one pricing in externalities – will do a better job of addressing climate change and other environmental problems than stalling or reversing economic growth. Simon Kuznets, who won the 1971 Nobel Prize for Economics (x), described how a variable can get worse in the early phases of a country’s development, and then improve as growth continues. He focused mainly on inequality, but the Environmental Kuznets Curves has been shown to govern most forms of local pollution. Ilya Prigogine won the 1977 Nobel Prize in Chemistry for his research into non-equilibrium “dissipative” structures – how a flow of energy across closed system can drive the creation of “order out of chaos” (xi). This is a real scientific expert on entropy proving that the economy can grow for as long as there is still a sun in the sky (which would give us about another five billion years).

### 1NC – Financialization good

#### Pharma innovation high now – monetary incentive is the biggest factor.

**Swagel 21** Phillip L. Swagel, Director of the Congressional budget office 4-xx-2021, "Research and Development in the Pharmaceutical Industry," Congressional Budget Office, <https://www.cbo.goc/publication/57126#_idTextAnchor020> SJ//DA

**Every year, the U.S. pharmaceutical industry develops a variety of new drugs that provide valuable medical benefits. Many of those drugs are expensive and contribute to rising health care costs for the private sector and the federal government. Policymakers have considered policies that would lower drug prices and reduce federal drug expenditures. Such policies would probably reduce the industry’s incentive to develop new drugs.** In this report, the Congressional Budget Office assesses trends in spending for drug research and development (R&D) and the introduction of new drugs. CBO also examines factors that determine how much drug companies spend on R&D: expected global revenues from a new drug; cost to develop a new drug; and federal policies that affect the demand for drug therapies, the supply of new drugs, or both. What Are Recent Trends in Pharmaceutical R&D and New Drug Approvals? T**he pharmaceutical industry devoted $83 billion to R&D expenditures in 2019. Those expenditures covered a variety of activities, including discovering and testing new drugs, developing incremental innovations such as product extensions, and clinical testing for safety-monitoring or marketing purposes. That amount is about 10 times what the industry spent per year in the 1980s, after adjusting for the effects of inflation.** The share of revenues that drug companies devote to R&D has also grown: **On average, pharmaceutical companies spent about one-quarter of their revenues (net of expenses and buyer rebates) on R&D expenses** in 2019, which is **almost twice as large a share of revenues as they spent in 2000.** That revenue share is larger than that for other knowledge-based industries, such as semiconductors, technology hardware, and software. The number of new drugs approved each year has also grown over the past decade. On averace, the Food and Drug Administration (FDA) approved 38 new drugs per year from 2010 through 2019 (with a peak of 59 in 2018), which is 60 percent more than the yearly average over the previous decade. **Many of the drugs that have been approved in recent years are “specialty drugs.” Specialty drugs generally treat chronic, complex, or rare conditions, and they may also require special handling or monitoring of patients**. Many specialty drugs are biologics (large-molecule drugs based on living cell lines), **which are costly to develop, hard to imitate, and frequently have high prices.** Previously, most drugs were small-molecule drugs based on chemical compounds. Even while they were under patent, those drugs had lower prices than recent specialty drugs have. Information about the kinds of drugs in current clinical trials indicates that much of the industry’s innovative activity is focused on specialty drugs that would provide new cancer therapies and treatments for nervous-system disorders, such as Alzheimer’s disease and Parkinson’s disease. **What Factors Influence Spending for R&D?** Drug companies’ R&D spending decisions depend on three main factors: Anticipated lifetime global revenues from a new drug, **Expected costs to develop a new drug**, and Policies and programs that influence the supply of and demand for prescription drugs. Various considerations inform companies’ expectations about a drug’s revenue stream, including the anticipated prices it could command in different markets around the world and the expected global sales volume at those prices (given the number of people who might use the drug). The prices and sales volumes of existing drugs provide information about consumers’ and insurance plans’ willingness to pay for drug treatments. Importantly, when drug companies set the prices of a new drug, they do so to maximize future revenues net of manufacturing and distribution costs. A drug’s sunk R&D costs—that is, the costs already incurred in developing that drug—do not influence its price. **Developing new drugs is a costly and uncertain process, and many potential drugs never make it to market. Only about 12 percent of drugs entering clinical trials are ultimately approved for introduction by the FDA. In recent studies, estimates of the average R&D cost per new drug range from less than $1 billion to more than $2 billion per drug**. Those estimates include the costs of both laboratory research and clinical trials of successful new drugs as well as expenditures on drugs that do not make it past the laboratory-development stage, that enter clinical trials but fail in those trials or are withdrawn by the drugmaker for business reasons, or that are not approved by the FDA. Those estimates also include the company’s capital costs—the value of other forgone investments—incurred during the R&D process. Such costs can make up a substantial share of the average total cost of developing a new drug. The development process often takes a decade or more, and during that time the company does not receive a financial return on its investment in developing that drug. The federal government affects R&D decisions in three ways. First, it increases demand for prescription drugs, which encourages new drug development, by fully or partially subsidizing the purchase of prescription drugs through a variety of federal programs (including Medicare and Medicaid) and by providing tax preferences for employment-based health insurance. Second, the federal government increases the supply of new drugs. It funds basic biomedical research that provides a scientific foundation for the development of new drugs by private industry. Additionally, tax credits—both those available to all types of companies and those available to drug companies for developing treatmentscof uncommon diseases—provide incentives to invest in R&D. Similarly, deductions for R&D investment can be used to reduce tax liabilities immediately rather than over the life of that investment. Finally, the patent system and certain statutory provisions that delay FDA approval of generic drugs provide pharmaceutical companies with a period of market exclusivity, when competition is legally restricted. During that time, they can maintain higher prices on a patented product than they otherwise could, which makes new drugs more profitable and thereby increases drug companies’ incentives to invest in R&D. Third, some federal policies affect the number of new drugs by influencing both demand and supply. For example, federal recommendations for specific vaccines increase the demand for those vaccines and provide an incentive for drug companies to develop new ones. Additionally, federal regulatory policies that influence returns on drug R&D can bring about increases or decreases in both the supply of and demand for new drugs. Trends in R&D Spending and New Drug Development Private spending on pharmaceutical R&D and the approval of new drugs have both increased markedly in recent years, resuming a decades-long trend that was interrupted in 2008 as generic versions of some top-selling drugs became available and as the 2007–2009 recession occurred. **In particular, spending on drug R&D increased by nearly 50 percent between 2015 and 2019.** Many of the drugs approved in recent years are high-priced specialty drugs for relatively small numbers of potential patients. By contrast, the top-selling drugs of the 1990s were lower-cost drugs with large patient populations. R&D Spending R&D spending in the pharmaceutical industry covers a variety of activities, including the following: Invention, or research and discovery of new drugs; Development, or clinical testing, preparation and submission of applications for FDA approval, and design of production processes for new drugs; Incremental innovation, including the development of new dosages and delivery mechanisms for existing drugs and the testing of those drugs for additional indications; Product differentiation, or the clinical testing of a new drug against an existing rival drug to show that the new drug is superior; and Safety monitoring, or clinical trials (conducted after a drug has reached the market) that the FDA may require to detect side effects that may not have been observed in shorter trials when the drug was in development. In real terms**, private investment in drug R&D among member firms of the Pharmaceutical Research and Manufacturers of America (PhRMA), an industry trade association, was about $83 billion in 2019, up from about $5 billion in 1980 and $38 billion in 2000**.1 Although those spending totals do not include spending by many smaller drug companies that do not belong to PhRMA, the trend is broadly representative of R&D spending by the industry as a whole.2 A survey of all U.S. pharmaceutical R&D spending (including that of smaller firms) by the National Science Foundation (NSF) reveals similar trends.3 Although total R&D spending by all drug companies has trended upward, small and large firms generally focus on different R&D activities. **Small companies not in PhRMA devote a greater share of their research to developing and testing new drugs,** many of which are ultimately sold to larger firms (see Box 1). By contrast, a greater portion of the R&D spending of larger drug companies (including those in PhRMA) is devoted to conducting clinical trials, developing incremental “line extension” improvements (such as new dosages or delivery systems, or new combinations of two or more existing drugs), and conducting postapproval testing for safety-monitoring or marketing purposes.

#### **R&D’s key to innovation – otherwise, future pandemics.**

Marjanovic et al. ’20 (Sonja; Ph.D. at the University of Cambridge; May 2020; “How to Best Enable Pharma Innovation Beyond the COVID-19 Crisis”; RAND; <https://www.rand.org/pubs/perspectives/PEA407-1.html>; Accessed: 8-31-2021; AU)

As key actors in the healthcare innovation landscape, pharmaceutical and life sciences companies have been called on to **develop** medicines, vaccines and diagnostics for pressing public health challenges. The COVID-19 crisis is one such challenge, but there are many others. For example, MERS, SARS, Ebola, Zika and avian and swine flu are also **infectious diseases** that represent public health threats. Infectious agents such as anthrax, smallpox and tularemia could present threats in a **bioterrorism context**.1 The general threat to public health that is posed by **antimicrobial resistance** is also well-recognised as an area **in need of pharmaceutical innovation**. Innovating in response to these challenges does not always align well with pharmaceutical industry commercial models, shareholder expectations and competition within the industry. However, the expertise, networks and infrastructure that industry has within its reach, as well as public expectations and the moral imperative, make pharmaceutical companies and the wider life sciences sector an **indispensable partner** in the search for solutions that save lives. This perspective argues for the need to establish more sustainable and scalable ways of incentivising pharmaceutical innovation in response to infectious disease threats to public health. It considers both past and current examples of efforts to mobilise pharmaceutical innovation in high commercial risk areas, including in the context of current efforts to respond to the COVID-19 pandemic. In global pandemic crises like COVID-19, the urgency and scale of the crisis – as well as the spotlight placed on pharmaceutical companies – mean that contributing to the search for effective medicines, vaccines or diagnostics is **essential** for socially responsible companies in the sector. 2 It is therefore unsurprising that we are seeing industry-wide efforts unfold at unprecedented scale and pace. Whereas there is always scope for more activity, industry is currently **contributing in a variety of ways**. Examples include pharmaceutical companies donating existing compounds to assess their utility in the fight against COVID19; screening existing compound libraries in-house or with partners to see if they can be repurposed; accelerating trials for potentially effective medicine or vaccine candidates; and in some cases rapidly accelerating in-house research and development to discover new treatments or vaccine agents and develop diagnostics tests.3,4 Pharmaceutical companies are collaborating with each other in some of these efforts and participating in global R&D partnerships (such as the Innovative Medicines Initiative effort to accelerate the development of potential therapies for COVID-19) and supporting national efforts to expand diagnosis and testing capacity and ensure affordable and ready access to potential solutions.3,5,6 The **primary purpose** of such innovation is to benefit patients and wider population health. Although there are also reputational benefits from involvement that can be realised across the industry, there are likely to be relatively few companies that are ‘commercial’ winners. Those who might gain substantial revenues will be under pressure not to be seen as profiting from the pandemic. In the United Kingdom for example, GSK has stated that it does not expect to profit from its COVID-19 related activities and that any gains will be invested in supporting research and long-term pandemic preparedness, as well as in developing products that would be affordable in the world’s poorest countries.7 Similarly, in the United States AbbVie has waived intellectual property rights for an existing combination product that is being tested for therapeutic potential against COVID-19, which would support affordability and allow for a supply of generics.8,9 Johnson & Johnson has stated that its potential vaccine – which is expected to begin trials – will be available on a not-for-profit basis during the pandemic.10 Pharma is mobilising substantial efforts to rise to the COVID-19 challenge at hand. However, we need to consider **how** pharmaceutical **innovation** for **responding to emerging** infectious diseases can best be enabled beyond the current crisis. Many **public health threats (including** those associated with other infectious diseases, bioterrorism agents and antimicrobial resistance) **are urgently in need** of pharmaceutical innovation, even if their impacts are not as visible to society as COVID-19 is in the immediate term. The pharmaceutical industry has responded to previous public health emergencies associated with infectious disease in recent times – for example those associated with Ebola and Zika outbreaks.11 However, it has done so to a lesser scale than for COVID-19 and with contributions from fewer companies. Similarly, levels of activity in response to the threat of antimicrobial resistance are still low.12 There are **important policy questions** as to whether – and how – industry could engage with such public health threats to an even greater extent under **improved innovation conditions.**

#### Evolving superbugs trigger extinction.

Srivatsa ’17 (Kadiyali; specialist in pediatric intensive and critical care medicine in the UK. Invented the bacterial identification tool ‘MAYA’; 1-12-2017; "Superbug Pandemics and How to Prevent Them", American Interest; https://www.the-american-interest.com/2017/01/12/superbug-pandemics-and-how-to-prevent-them/, Accessed: 8-31-2021; AU)

It is by now no secret that the human species is locked in a race of its own making with “superbugs.” Indeed, if popular science fiction is a measure of awareness, the theme has pervaded English-language literature from Michael Crichton’s 1969 Andromeda Strain all the way to Emily St. John Mandel’s 2014 Station Eleven and beyond. By a combination of massive inadvertence and what can only be called stupidity, we must now invent new and effective antibiotics faster than deadly bacteria evolve—and regrettably, they are rapidly doing so with our help. I do not exclude the possibility that bad actors might deliberately engineer deadly superbugs.1 But even if that does not happen, humanity faces an existential threat largely of its own making in the absence of malign intentions. As threats go, this one is entirely predictable. The concept of a “black swan,” Nassim Nicholas Taleb’s term for low-probability but high-impact events, has become widely known in recent years. Taleb did not invent the concept; he only gave it a catchy name to help mainly business executives who know little of statistics or probability. Many have embraced the “black swan” label the way children embrace holiday gifts, which are often bobbles of little value, except to them. But the threat of inadvertent pandemics is not a “black swan” because its probability is not low. If one likes catchy labels, it better fits the term “gray rhino,” which, explains Michele Wucker, is a high-probability, high-impact event that people manage to ignore anyway for a raft of social-psychological reasons.2 A pandemic is a quintessential gray rhino, for it is no longer a matter of if but of when it will challenge us—and of how prepared we are to deal with it when it happens. We have certainly been warned. The curse we have created was understood as a possibility from the very outset, when seventy years ago Sir Alexander Fleming, the discoverer of penicillin, predicted antibiotic resistance. When interviewed for a 2015 article, “The Most Predictable Disaster in the History of the Human Race,” Bill Gates pointed out that one of the costliest disasters of the 20th century, worse even than World War I, was the Spanish Flu pandemic of 1918-19. As the author of the article, Ezra Klein, put it: “No one can say we weren’t warned. And warned. And warned. A pandemic disease is the most predictable catastrophe in the history of the human race, if only because it has happened to the human race so many, many times before.”3 Even with effective new medicines, if we can devise them, we must contain outbreaks of bacterial disease fast, lest they get out of control. In other words, we have a social-organizational challenge before us as well as a strictly medical one. That means getting sufficient amounts of medicine into the right hands and in the right places, but it also means educating people and enabling them to communicate with each other to prevent any outbreak from spreading widely. Responsible governments and cooperative organizations have options in that regard, but even individuals can contribute something. To that end, as a medical doctor I have created a computer app that promises to be useful in that regard—of which more in a moment. But first let us review the situation, for while it has become well known to many people, there is a general resistance to acknowledging the severity and imminence of the danger. What Are the Problems? Bacteria are among the oldest living things on the planet. They are masters of survival and can be found everywhere. Billions of them live on and in every one of us, many of them helping our bodies to run smoothly and stay healthy. Most bacteria that are not helpful to us are at least harmless, but some are not. They invade our cells, spread quickly, and cause havoc that we refer to generically as disease. Millions of people used to die every year as a result of bacterial infections, until we developed antibiotics. These wonder drugs revolutionized medicine, but one can have too much of a good thing. Doctors have used antibiotics recklessly, prescribing them for just about everything, and in the process helped to create strains of bacteria that are resistant to the medicines we have. We even give antibiotics to cattle that are not sick and use them to fatten chickens. Companies large and small still mindlessly market antimicrobial products for hands and home, claiming that they kill bacteria and viruses. They do more harm than good because the low concentrations of antimicrobials that these products contain tend to kill friendly bacteria (not viruses at all), and so clear the way for the mass multiplication of surviving unfriendly bacteria. Perhaps even worse, hospitals have deployed antimicrobial products on an industrial scale for a long time now, the result being a sharp rise in iatrogenic bacterial illnesses. Overuse of antibiotics and commercial products containing them has helped superbugs to evolve. We now increasingly face microorganisms that cannot be killed by antibiotics, antifungals, antivirals, or any other chemical weapon we throw at them. Pandemics are the major risk we run as a result, but it is not the only one. Overuse of antibiotics by doctors, homemakers, and hospital managers could mean that, in the not-too-distant future, something as simple as a minor cut could again become life-threatening if it becomes infected. Few non-medical professionals are aware that antibiotics are the foundation on which nearly all of modern medicine rests. Cancer therapy, organ transplants, surgeries minor and major, and even childbirth all rely on antibiotics to prevent infections. If infections become untreatable we stand to lose most of the medical advances we have made over the past fifty years.

1. ["Negate." Def. 1. Merriam Webser. Web. <http://www.merriam-webster.com/dictionary/negate>.] [↑](#footnote-ref-1)