## 1

#### Interp: ‘Private sector’ excludes current AND direct government control.

Garner ’19 [Bryan A; Editor in Chief of Black’s Law Dictionary; Westlaw, Black's Law Dictionary, Eleventh Edition, “Private Sector”]

private sector (1930) The part of the economy or an industry that is free from direct governmental control. Cf. PUBLIC SECTOR.

#### Violation - They read a bunch of solvency cards about Chinese state-owned enterprises – if they defend they apply to those, its extratopical

#### Reject that – otherwise it massively expands the size of the topic and distorts the literature base – that’s a voter

## 2

#### Business practices are ongoing conduct defined by the behaviors of many market participants

Kerry Lynn Macintosh 97, Associate Professor of Law, Santa Clara University School of Law. B.A. 1978, Pomona College; J.D. 1982, Stanford University, “Liberty, Trade, and the Uniform Commercial Code: When Should Default Rules Be Based On Business Practices?,” 38 Wm. & Mary L. Rev. 1465, Lexis

These new and revised articles reflect a strong trend toward choosing default rules 4 that codify existing business practices. 5 [FOOTNOTE 5 BEGINS] In this Article, the term "business practices" is used to refer to practices that emerge over time as countless market participants exercise their freedom to engage in profitable transactions. For an account of the evolution of business practices, see infra Part II. As used here, "business practices" is broader and less technical than "trade usage," which the Code narrowly defines as "any practice or method of dealing having such regularity of observance in a place, vocation, or trade as to justify an expectation that it will be observed with respect to the transaction in question." U.C.C. 1-205(2). [FOOTNOTE 5 ENDS] This is particularly true of the recent revisions to Articles 3 (Negotiable Instruments), 4 (Bank Deposits and Collections) and 5 (Letters of Credit).

#### Prohibit means forbid by authority

Merriam-Webster No Date <https://www.merriam-webster.com/dictionary/prohibition> and <https://www.merriam-webster.com/dictionary/prohibiting>

Definition of prohibition 1: the act of prohibiting by authority

Definition of prohibit transitive verb 1: to forbid by authority : ENJOIN

#### Only per se illegality prohibits a practice---rules of reason prohibit anticompetitive effects for individual acts, or instances of ‘practice.’

John Paul Stevens 90, Justice, Supreme Court of the United States, “FTC v. Superior Court Trial Lawyers Ass'n,” 493 U.S. 411, Lexis

LEdHN[3C] [3C]LEdHN[14] [14]Equally important is the second error implicit in respondents' claim to immunity from the per se rules. In its opinion, the Court of Appeals assumed that the antitrust laws permit, but do not require, the condemnation of price fixing and boycotts without proof of market power. 15 The opinion further assumed that the per se rule prohibiting such activity "is only a rule of 'administrative convenience and efficiency,' not a statutory command." 272 U.S. App. D. C., at 295, 856 F. 2d, at 249.This statement contains two errors. HN10 [\*\*\*\*42] The per se [\*433] rules are, of course, the product of judicial interpretations of the Sherman Act, but the rules nevertheless have the same force and effect as any other statutory commands. Moreover, while the per se rule against price fixing and boycotts is indeed justified in part by "administrative convenience," the Court of Appeals erred in describing the prohibition as justified only by such concerns. The per se rules also reflect a long-standing judgment that the prohibited practices by their nature have "a substantial potential for impact on competition." Jefferson Parish Hospital District No. 2 v. Hyde, 466 U.S. 2, 16 (1984).

[\*\*\*\*43] LEdHN[15] [15]As we explained in Professional Engineers, HN11 the rule of reason in antitrust law generates

"two complementary categories of antitrust analysis. In the first category are agreements whose nature and necessary effect are so plainly anticompetitive that no elaborate study of the industry is needed to establish their illegality -- they are 'illegal per se.' In the second category are agreements whose competitive effect can only be evaluated by analyzing the facts peculiar to the business, the history of the restraint, and the reasons why it was imposed." 435 U.S., at 692.

[\*\*\*873] "Once experience with a particular kind of restraint enables the Court to predict with confidence that the rule of reason will condemn it, it has applied a conclusive presumption that the restraint is unreasonable." Arizona v. Maricopa County Medical Society, 457 U.S. 332, 344 (1982).

[\*\*781] LEdHN[16] [16] [\*\*\*\*44] The per se rules in antitrust law serve purposes analogous to per se restrictions upon, for example, stunt flying in congested areas or speeding. Laws prohibiting stunt flying or setting speed limits are justified by the State's interest in protecting human life and property. Perhaps most violations of such rules actually cause no harm. No doubt many experienced drivers and pilots can operate much more safely, even at prohibited speeds, than the average citizen.

[\*434] If the especially skilled drivers and pilots were to paint messages on their cars, or attach streamers to their planes, their conduct would have an expressive component. High speeds and unusual maneuvers would help to draw attention to their messages. Yet the laws may nonetheless be enforced against these skilled persons without proof that their conduct was actually harmful or dangerous.

In part, the justification for these per se rules is rooted in administrative convenience. They are also supported, however, by the observation that every speeder and every stunt pilot poses some threat to the community. An unpredictable event may overwhelm the skills of the best driver or pilot, even if the [\*\*\*\*45] proposed course of action was entirely prudent when initiated. A bad driver going slowly may be more dangerous that a good driver going quickly, but a good driver who obeys the law is safer still.

#### Prefer it:

#### 1) GROUND---key to link uniqueness and a unidirectional topic. Fringe standards dodge topic links, AND they can pick a broader but more permissive standard, making the topic bidirectional.

#### 2) LIMITS---too many possible standards, each requiring distinct answers, makes the topic unmanagbly large.

## 3

#### The United States federal government should amend the Foreign Trade Antitrust Improvements Act to clarify that the Sherman Act only applies extraterritorially where it does not offend the sovereignty of a foreign nation and extensively apply international comity analysis in all antitrust cases involving foreign parties.

#### The CP does the opposite of the aff – it amends the FTAIA to limit the scope of extraterritorial laws – creates uniqueness for the DA and solves your uncertainty warrants – any permutation is incoherent and impossible – or it would create mass uncertainty and supercharges our link arguments

Kava 19 [Samuel; 2019; J.D./M.B.A. Candidate, 2020, University of Maryland Francis King Carey School of Law and Johns Hopkins University Carey School of Business; Journal of Business & Technology Law; “The Extraterritorial Application of the Sherman Anti-Trust Act in the Age of Globalization: The Need to Amend the Foreign Trade Antitrust Improvements Act (FTAIA) & Vigorously Apply International Comity;” vol. 15, no. 1, p. 135-164]

Overall, there is a significant risk that foreign nations will look towards blocking statutes to limit the extraterritorial application of the Act. The conflicting laws of the United States and international community will lead to judicial uncertainty, which will have an adverse impact on the global economy. Businesses will spend more time and money to avoid disputes; thus, undermining corporate profits, a customer’s ability to purchase low cost goods, and the overall health of the global economy. The only certainty is that trade will slow down as a result of trade policy uncertainty. To avoid these adverse economic effects, it would be advantageous for the United States Congress to amend the FTAIA in a way that limits the effects of the extraterritorial application of the Sherman Anti-Trust Act. Specifically, Congress should limit the effects of the extraterritorial application of the Sherman Anti-Trust Act by expressly providing courts with a robust international comity analysis.

B. International Comity Test

As was discussed in Part I.B., comity refers to "the respect nations afford each other by limiting the reach of their laws." 165 Prior to the Supreme Court case Hartford Fire Insurance Co., which narrowed the comity analysis to only situations where it would be impossible for a foreign entity to comply with both U.S. and foreign nation's laws, federal courts considered a host of factors to determine if the Sherman Anti-Trust Act was barred from applying extraterritorially. Section 403 of Restatement (Third) of the Foreign Relations Law of the United States provides eight factors a court should consider when deciding whether "a state may [or may] not exercise jurisdiction to prescribe law with respect to a person or activity having connections with another state." 166 These eight factors include: (1) the link of the activity to the territory of the regulating state; (2) the connection between the regulating state and the person principally responsible for the activity to be regulated; (3) the character, importance, extent, and degree of importance of the regulation to the regulating state; (4) the existence of justified expectations that might be protected or hurt by the regulation; (5) the importance of the regulation to the international political, legal, or economic system; (6) the extent to which the regulation is consistent with the traditions of the international system; (7) the extent to which another state may have an interest in regulating the activity; and (8) the likelihood of conflict with regulation by another state. 167

Justice Scalia, in his dissenting opinion in Hartford Fire Insurance Co., highlighted many of these factors and determined that international comity barred the Sherman Anti-Trust Act's extraterritorial application in that case. 168 However, the majority decided to narrow the comity analysis by only considering if "the non-U.S. law must require the action being challenged so that 'compliance with the laws of both countries is...impossible."' 169 This narrow comity analysis has led to the broadening of the Sherman Anti-Trust Acts extraterritorial application, which jeopardizes the economic well-being of the global economy. While some courts have disregarded the Supreme Court's narrow comity analysis, by claiming that the Supreme Court "left unclear whether it was saying that the only relevant comity factor in that case was conflict with foreign law...or whether the Court was more broadly rejecting balancing of comity interests in any case where there is no true conflict," Congress should expressly provide federal courts with a broad range of factors it should consider to ensure the United States respects the laws of other nations. 170 Specifically, Congress should amend the FTAIA by explicitly providing that the Sherman Anti-Trust Act only applies extraterritorially in cases where it does not offend the sovereignty of a foreign nation.

In essence, to ensure the economic prosperity of the global economy, the United States Congress should be proactive in amending the FTAIA. Specifically, Congress should prescribe a broad international comity test for courts to consider when deciding if the Sherman Anti-Trust Act should apply extraterritorially. If international comity is taken seriously, unlike its most recent application by the Supreme Court in Hartford Fire Insurance Co., there will be a greater degree of compliance by the international community and more certainty will be provided to consumers and producers. Moreover, federal courts should not wait until Congress amends the FTAIA. In fact, federal courts should, on its own accord, extensively apply an international comity analysis to every case where a foreign entity is involved. As was previously mentioned, some courts continue to apply a robust international comity analysis. Specifically, the Ninth Circuit Court of Appeals in Mujica v. Airscan Inc. considered:

[T]he location of the conduct in question, the nationality of the parties, the character of the conduct in question, the foreign policy interests of the United States, any public policy interests, the strength of the foreign governments' interests, and the adequacy of the alternative forum. 171

Thus, until the United States Congress takes the necessary step to amend the FTAIA, federal courts should consider applying an international comity analysis to all cases that involve an international entity. By adopting a broad international comity analysis: (1) foreign nations would be less likely to adopt burdensome blocking statutes, (2) consumers and producers would have more certainty through unified laws, (3) the global economy will continue to prosper because of the certainty and predictability of the law, and (4) foreign nations may become more amenable to enter into bi-lateral treaties with the United States.

## 4

#### Deference to comity is strong in antitrust now – the aff reverses that and causes protectionism and splinters global IP

Ginsburg & Taladay 17 [Professor of Law Douglas H. Ginsburg is a Senior Judge, United States Court of Appeals for the District of Columbia Circuit, Chairman of the Global Antitrust Institute’s International Board of Advisors, and a former Assistant Attorney General in charge of the Antitrust Division of the U.S. Department of Justice. John Taladay is a Partner and Co-Chair of the Antitrust and Competition Law Practice at Baker Botts LLP, Chair of the Business and Industry Advisory Committee to the OECD’s Competition Committee, Chair of the United States Council for International Business Competition Committee, and CoChair of the ABA Section of Antitrust Law’s Procedural Transparency Task Force. "THE ENDURING VITALITY OF COMITY IN A GLOBALIZED WORLD." http://georgemasonlawreview.org/wp-content/uploads/2018/05/3\_Ginsburg\_Taladay.pdf]

Strong comity principles localize the enforcement of competition laws. They allow nations to regulate their economies as they see fit and in accordance with local culture and custom. When applied, comity reduces the likelihood that one country would enforce its laws in a manner that greatly disrupted (whether intentionally or not) another country’s economy.96

Where there is a direct conflict of laws, the cases make clear that comity has an important role to play in respecting the policy decisions reflected in the laws, actions, and pronouncements of other jurisdictions.97 In these cases, U.S. courts have taken action to retract the reach of the U.S. antitrust laws in order to ensure that foreign governments’ interests are respected.98 But there is an equally important application of comity that requires antitrust enforcement authorities to apply comity out of respect for the interests of foreign governments. That application lies in declining to enforce competition laws, and avoiding the application of remedies beyond the borders of an agency’s own jurisdiction, when a foreign jurisdiction affirmatively has chosen a less restrictive application of its competition laws. In these cases, where “Jurisdiction A” has affirmatively decided and declared that it will not enforce its competition laws against certain commercial activity, “Jurisdiction B” should not only respect that approach, but take pains to ensure that its application of its competition laws does not overtake the non-enforcement decision of Jurisdiction A.

For this and other reasons, U.S. enforcement agencies have explicitly included comity considerations in their guidance concerning prosecutorial discretion: “The U.S. enforcement agencies recognize that concepts of international comity must play a role in antitrust enforcement. Accordingly, even when jurisdiction exists, the Department of Justice will consider ‘whether significant interests of any foreign sovereign would be affected.’”99 It is not clear, however, that foreign competition authorities have comparable positions.

Without this recognition of comity by competition authorities, the international competition community faces the potential for a “most restrictive means” approach to competition law enforcement, with those jurisdictions having the lowest tolerance dictating the outcome for other jurisdictions globally. This type of approach would allow a single jurisdiction to act as the ‘global competition police’ according to whatever competition standard it enforces. This creates the potential, and indeed the incentive, for jurisdictions to use competition law enforcement as an aggressive tool of industrial policy.100

A good example of the application of a domestic antitrust law that is in conflict with foreign antitrust laws, with arguable industrial policy objectives, is the recent decision of the Korea Fair Trade Commission (“KFTC”) against Qualcomm, which seeks to impose a global remedy based upon Korean antitrust standards that are not applicable elsewhere.101 In that case, the KFTC concluded that Qualcomm’s licensing practices violated Korean competition law because the company refused to license its standard essential patents, and “coerced” licensees to pay “unilaterally determined royalty rates,” in circumvention of its FRAND commitments.102 Both the “refusal to license” theory and the “coercion” theory, which is a thinly veiled excessive pricing claim, would not be recognized theories of antitrust harm in the United States.

Nonetheless, the KFTC imposed a “global remedy” that would force Qualcomm to change its licensing practices worldwide. It reasoned that: [T]he illegal conduct of [Qualcomm has] been carried out not only against the Korean enterprises and the Korea-registered patents in the territory of Korea, but also in the remaining parts of the world, in the same way and at the same time. The effects of the illegal conduct influence overseas markets as well as the domestic market. . . . [I]t is reasonable not to limit the [remedial measures] and the scope of application only to the territory of Korea and the Korea-registered patents, in order to effectively remove the anti-competitive effects influencing the Korean market.103

But the KFTC wrongly assesses the need for the application of comity. It considers comity only in the case of affirmative conflict stemming from an application of another country’s laws: The issue of international comity related to a law enforcement of other countries is to be considered in cases where there is any conflict between the [remedial orders] issued by KFTC and any law enforcement of another country, etc. The issue of international comity does not arise simply because a conduct carried out of the country is included in the matters subject to a [remedial order].104

Thus, the KFTC ignores completely situations in which the antitrust laws of other countries would permit, or even endorse, the actions it is prohibiting Qualcomm from taking in those countries.105 For example, the KFTC condemns as per se unlawful Qualcomm’s use of so-called portfolio licensing,106 but the policies of many other jurisdictions not to preclude portfolio licensing suggests it can be viewed as harmless or efficiency enhancing. The KFTC’s order nonetheless would seek to preclude portfolio licensing globally, ignoring the approach of other jurisdictions as to what constitutes permissible conduct.

In short, the KFTC would respect comity only if, as is the case in most instances of cooperation, the foreign jurisdiction has a parallel enforcement proceeding on the same substantive basis. In all other circumstances, other countries are forced to abide by the KFTC’s rules on how the commercial market should function. This is evident from the KFTC’s determination of when comity might require different action: “[Qualcomm] may request the Korea Fair Trade Commission to re-review this [remedial order] if the final and binding judgment, measure or order of a foreign court or competition authorit[y] . . . conflicts with this [remedial order], making it impossible to comply with both of them at the same time.”107

This would result in Korea exercising direct control over the licensing of U.S. and other jurisdictions’ patents, despite the fact that those other jurisdictions clearly have a greater interest in the protection of the intellectual property rights they have granted than does Korea. By contrast, the U.S. generally does not use compulsory licensing as a remedy in non-merger cases.108 Comity directly addresses this condition, requiring a jurisdiction to balance its own enforcement priorities against the interests of the foreign jurisdiction(s) in which the enforcement action would have effects.

The KFTC decision can be contrasted with the decision of China’s National Development and Reform Commission (“NDRC”) in an investigation of the same conduct. In February 2015, the NDRC found Qualcomm guilty of abuse of market dominance and engaging in monopolistic activities that eliminated and restricted competition, namely: “(1) charging unfairly excessive patent royalties; (2) tying patents that are not standard-essential patents in the telecom industry without a legitimate reason; and (3) imposing unreasonable conditions in the sale of baseband chips.”109 Qualcomm was ordered to cease its infringing activities and was fined $975 million, which represented about eight percent of its 2013 revenue in China.110 The NDRC expressly kept its decision and remedy, however, territorial in nature. The NDRC focused on: (1) licensing of Chinese standard essential patents (2) to Chinese manufacturers (3) for use in China.111

The NDRC decision applies comity far more conscientiously than does the KFTC decision. Even though the substantive competition laws of China differ significantly from the laws of the United States and many other jurisdictions, China’s remedial measures are appropriately limited to ensure that the commercial result is not forced upon other jurisdictions that might have a significant, indeed greater, interest in regulating the use and licensing of intellectual property.

Intellectual property, along with other technology products and services, may be among the interests particularly subject to adverse effects from the lack of comity. These and other products and services commonly transited across borders, such as energy, commercial banking, natural resources, and electronics, differ from traditional products and services that are typically local or regional in scope. Therefore, jurisdictions should be particularly vigilant in these sectors to respect the legitimate interests of other sovereigns with different competition laws.

CONCLUSION

Traditional comity requires more than avoidance of conflicting outcomes and remedies; it also requires respect for differences in the scope and commercial effect of the laws of foreign sovereigns. If competition agencies do not apply comity in the application of their laws and in limiting the extraterritorial scope of their remedies, then international competition enforcement will quickly devolve into a “race to the bottom,” in which the country with the most restrictive competition laws will regulate commercial conduct for the entire world. The effects doctrine is a legitimate basis upon which to apply competition laws and impose remedies but, just as an agency considers how foreign conduct affects its domestic consumers, it likewise should ensure that its remedy does not unnecessarily affect foreign governments, agencies, business interests, or consumers. Comity should be invoked to prevent the effects doctrine from becoming a way for one jurisdiction to impose its domestic commercial policy on the conduct of businesses outside its borders. Otherwise competition enforcement turns from a policy to protect consumers into a slightly disguised way of implementing industrial policy.

#### That’s key to biotech

Hirschmann 12 [David Hirschmann, President and CEO of the U.S. Chamber of Commerce Center for Capital Markets Competitiveness, Former Legislative Director for Congressman Toby Roth, “Why is IP Important?”, Global Intellectual Property Center, http://www.theglobalipcenter.com/resources/why-is-ip-important/]

Intellectual property (IP) contributes enormously to our national and state economies. Dozens of industries across our economy rely on the adequate enforcement of their patents, trademarks, and copyrights, while consumers use IP to ensure they are purchasing safe, guaranteed products. We believe IP rights are worth protecting, both domestically and abroad. This is why: Intellectual Property Creates and Supports High-Paying Jobs IP-intensive industries employ over 55 million Americans, and hundreds of millions of people worldwide. Jobs in IP-intensive industries are expected to grow faster over the next decade than the national average. The average worker in an IP-intensive industry earned about 30% more than his counterpart in a non-IP industry The average salary in IP-intensive industries pay $50,576 per worker compared to the national average of $38,768. Intellectual Property Drives Economic Growth and Competitiveness America’s IP is worth $5.8 trillion, more than the nominal GDP of any other country in the world. IP-intensive industries account for over 1/3– or 38%– of total U.S. GDP. These industries also have 72.5% higher output per worker than the national average, valued at $136,556 per worker. IP accounts for 74% of all U.S. exports- which amounts to nearly $1 trillion. The direct and indirect economic impacts of innovation are overwhelming, accounting for more than 40% of U.S. economic growth and employment. Strong and Enforced Intellectual Property Rights Protect Consumers and Families Strong IP rights help consumers make an educated choice about the safety, reliability, and effectiveness of their purchases. Enforced IP rights ensure products are authentic, and of the high-quality that consumers recognize and expect. IP rights foster the confidence and ease of mind that consumers demand and markets rely on. Intellectual Property Helps Generate Breakthrough Solutions to Global Challenges Nearly all of the hundreds of products on the World Health Organization’s Essential Drug List, which are critical to saving or improving people’s lives around the globe, came from the R&D-intensive pharmaceutical industry that depends on patent protections. Innovative agricultural companies are creating new products to help farmers produce more and better products for the world’s hungry while reducing the environmental impact of agriculture. IP-driven discoveries in alternative energy and green technologies will help improve energy security and address climate change. Intellectual Property Rights Encourage Innovation and Reward Entrepreneurs Risk and occasional failure are the lifeblood of the innovation economy. IP rights incentivize entrepreneurs to keep pushing for new advances in the face of adversity. IP rights facilitate the free flow of information by sharing the protected know-how critical to the original, patented invention. In turn, this process leads to new innovations and improvements on existing ones. American’s Founding Fathers so recognized the importance of innovation and ensured that strong IP rights for authors and inventors are protected in the U.S. Constitution, thus making America the world’s entrepreneural leader— a fact borne out by the overwhelming number of patents, copyrights and trademarks filed by the U.S. annually.

#### Biotech innovation solves extinction

Bryden 17 [Bryden, Professor at the Norwegian Institute of Bioeconomy Research, “Inclusive Innovation in the Bioeconomy: Concepts and Directions for Research”, Innovation and Development, Volume 7, http://www.tandfonline.com/doi/full/10.1080/2157930X.2017.1281209]

In this introduction to the special issue on inclusive innovation in the bioeconomy, the authors highlight inclusive innovation’s significance to economies that provide the vital resources of food, water, and energy. Innovation in the bioeconomy raises questions of environmental sustainability, human survival, social justice, and human rights. This article thus emphasizes, especially, the roles that institutions play regarding innovation in the bioeconomy. The authors suggest that inclusive innovation be defined as new ways of improving the lives of the most needy. They outline research implications of this definition, and relate these implications to debates about the modes and ethics of innovation. They argue that innovation systems’ design affects these systems’ potential for inclusiveness as well as their value premises. Finally, the contributions to this special issue are introduced and discussed in light of the special issue’s overall purpose and framework.

1. The significance of inclusive innovation in the bioeconomy

This special issue is about inclusive innovation in the ‘bioeconomy’, generally conceived as an economy based on land and marine-based natural resources including eco-systems services and bio-waste. The bioeconomy produces the most vital goods: food, drinking water, breathable air, and energy. Increasingly, the bioeconomy is also seen as offering a green alternative to the fossil fuel-based economy that is largely responsible for climate change. The transition from the fossil fuel economy to the bioeconomy is a large and growing field for all forms of technical and institutional innovation. The cases discussed in this volume all deal with aspects of what is now termed the ‘bioeconomy’ and the related transitions to it.

In this introduction to the special issue we highlight inclusive innovation’s significance to the growing debate about the bioeconomy. We link our topic to the pathbreaking work that has been done by previous researchers on inclusive innovation, and we present our view on two much-debated topics in the inclusive innovation literature: the definition of ‘inclusive innovation’ and the definition’s implications for research. We also wish to stimulate discussion about innovation’s (often tacit) normative premises. It is argued in this special issue that normative premises guide both conventional and alternative notions of innovation, and that different modes of innovation have different normative implications regarding, for example, who’s interests and knowledge count as being significant. We thus wish to contribute in this special issue to the more general debates about innovation’s purposes, innovation’s actors, and the institutional preconditions for innovation’s ability to improve people’s lives. Finally, in the light of these general questions we introduce the papers in this special issue. Thereby, we hope to create useful pointers for future work on inclusive innovation and innovation in the bioeconomy or surrogate pricing (e.g. through environmental taxes) to make such choices. However, given the unequal distribution of purchasing power, market principles prioritize use of these resources for those with the greatest purchasing power, and leave the poorest with no, or short, supplies. Consequently, poor people’s access to vital natural resources can often be ensured only by institutional means. It is against this background that we devote this special issue to the topic of inclusive innovation in the bioeconomy. We wish to address, in particular, the roles that institutions play in securing innovation’s inclusiveness in the bioeconomy.

However, the bioeconomy, as a provider of vital subsistence resources, urges scholars and policy-makers, as argued by Bryden and Gezelius in this volume, to consider the fundamental institution of the human rights regime, which makes access to food, shelter, and clean water, among other things, a basic right. Ethical and legal issues are thus deeply enshrined in the choices to be made in the bioeconomy. Simultaneously, the bioeconomy, with its territorial nature, is deeply embedded in the communities and other social systems that inhabit its territories. These social systems are often very long standing and cannot be easily changed. They depend on natural resources that have many social and cultural uses, including subsistence, recreation, tourism, landscapes, biodiversity, carbon absorption, and others commonly summed up as ‘eco-system services’. Altering any or all of these social and biological systems to ‘grow the new bioeconomy’, therefore, has significant social and human implications that scientists and policy-makers will ignore at their peril, including, of course, the risk of fuelling popular opposition. Social scientists, therefore, have a key role to play in bringing implicit institutional preconditions and value premises to light, discussing them critically, and offering alternatives. Highlighting this role is one of the tasks in this special issue.

## 5

RICO CP:

The United States federal government should

* expand the Racketeer Influenced and Corrupt Organizations Act to prosecute cartels whose behavior has a direct effect on U.S. companies and Chinese state-owned enterprises,
* and bar antitrust application to cartels whose behavior has a direct effect on U.S. companies and Chinese state-owned enterprises.

#### The CP expands RICO to prosecute the same anti-competitive conduct as the AFF – results in identical remedies as antitrust.

Goldsmith ’89 [Michael and Vicki Rinne; 1989; Professor of Law, Brigham Young University; Member of the Utah Bar, currently in private practice; University of Minnesota Law School, “Civil RICO, Foreign Defendants, and ET,” vol. 73; KP]

RICO provides both civil and criminal sanctions40 against persons engaged in "enterprise criminality."'4' Because RICO focuses on enterprises, it strikes at the organizational foundation of systemic crime.42 RICO's civil sanctions authorize treble damages and reasonable attorney's fees, and may subject violators to reorganization, divestiture, and other equitable remedies.43 RICO also subjects violators to enhanced criminal penalties that include fines, imprisonment, and forfeiture of assets.4 4

RICO generally prohibits four types of enterprise-related activity:45 investing income derived from a pattern of racketeering activity in an interstate enterprise (section 1962(a));46 acquiring or maintaining an interest in an interstate enterprise through a pattern of racketeering activity (section 1962(b));47 conducting the affairs of an enterprise through a pattern of racketeering activity (section 1962(c));48 and conspiring to vio-late any of the preceding provisions (section 1962(d)).4 9

Each of these terms is defined more specifically elsewhere in the statute. Racketeering activity, for example, encompasses a broad range of offenses, including white collar crimes such as mail fraud, wire fraud, and securities fraud.50 To trigger RICO liability, such activity usually must constitute a "pat- tern"--a minimum of two racketeering acts occurring within a ten-year period 5 1-- and must have some connection with an "en- terprise" 52 that affects "interstate or foreign commerce."53 RICO defines enterprise broadly to include both licit and illicit entities, 4 and subjects to liability "any individual or entity ca- pable of holding a legal or beneficial interest in property."595 In civil actions, such violators are liable to anyone injured in busi-ness or property by reason of statutory misconduct 5 6

Moreover, just as RICO does not exclude legitimate businesses from its scope,57 neither the statutory language nor case law excludes businesses not located domestically. 8 Only recently, however, has RICO been used against foreign violators.5 9 Because RICO targets activity recognized as criminal in most nations,60 it may not be vulnerable to some foreign criticism historically directed against extraterritorial litigation.6 1 Given RICO's controversial domestic status,62 however, its ex- traterritorial extension is likely to encounter hostility from both United States and foreign critics. Controversy surround- ing RICO stems, for example, from its opponents' argument that the "racketeering" label is prejudicial to defendants and provides unfair leverage in settlement negotiations.63 Critics also claim that the availability of treble damages encourages ex- tortionate civil claims and permits windfall recoveries.64 In ad- dition, the use of RICO against defendants other than stereotypical mobsters provokes attacks on the statute and con- tinual attempts at reform by white-collar institutions.65

RICO does not merit these criticisms.65 Moreover, given the pervasive nature of fraud,6 7 the statute warrants both domestic and extraterritorial application.63 For example, foreign groups have engaged in schemes that systematically defraud United States citizens.6 9 Such foreign activity harms its victims in the United States no less than does fraudulent activity of do- mestic origin.

## 6

#### The FTC will enforce ‘right to repair’ now---it spurs growth and innovation, particularly in agriculture.

Minter ’21 [Adam; July 11; Columnist and author; Bloomberg, “Americans Must Reclaim Their Right to Repair,” <https://www.bloomberg.com/opinion/articles/2021-07-11/americans-must-reclaim-their-right-to-repair>]

When the Apple II personal computer was shipped in 1977, it came with a [detailed manual](https://archive.org/details/Apple_II_Mini_Manual/page/n49/mode/2up) for upgrading and repairing the device. Parts were readily available from Apple Inc. (and, later, other manufacturers), and if Apple owners didn’t want to fix or upgrade at home, they could find plenty of small, competitive repair businesses to do the work for them.

That was then. These days, Apple’s products arrive sealed shut, often with [proprietary screws](https://www.ifixit.com/News/9905/bit-history-the-pentalobe). Service manuals, circuit-board schematics and repair parts are [reserved](https://www.ifixit.com/News/43179/apple-endangers-our-business-model-gets-a-repairability-point-for-it) for Apple’s technicians, shops and a handful of “authorized” partners. With no access to parts, manuals or indie repair shops, consumers pay much more to keep their devices running.

President Joe Biden’s new executive order to promote competition encourages the Federal Trade Commission to end such anti-competitive repair monopolies. It’s a contentious move. Apple and the makers of other technological products from farm tractors to [35mm cameras](https://www.ifixit.com/News/1349/how-nikon-is-killing-camera-repair) argue that their repair monopolies are good for consumers. But as these monopolies have grown, their toll on consumers, the environment and American productivity and innovation has risen. Biden’s recognition of a “right to repair” can help lower these costs and, at the same time, spur new kinds of growth across the economy.

Repair has always been a part of American life. The first prairie farmers had no option but to repair their own carts and plows. When mechanization came along, farmers became expert technicians — so skilled that companies often consulted them on tractor designs. During the past 15 years, as computers have been integrated into expensive farm equipment, that relationship has broken down. The handful of remaining implement manufacturers make sure that only dealerships, with specialized software tools, can diagnose problems. Those same tools are often also needed to install parts and authorize repairs.

The costs to farmers can be significant. Paying a Deere & Co dealership to plug in a computer to clear an error code on a tractor or combine can cost [hundreds of dollars](https://www.vice.com/en/article/xykkkd/why-american-farmers-are-hacking-their-tractors-with-ukrainian-firmware) — not including transporting the tractor to the dealership. Worse, by limiting access to crucial diagnostic and repair tools, manufacturers cause significant delays during harvest, planting and other busy periods. At certain times, a piece of equipment immobilized for even a few hours can cost a farmer thousands of dollars.

As farmers lose money, farm manufacturers with parts and service businesses [profit handsomely](https://uspirg.org/feature/usp/deere-headlights). From 2013 to 2019, Deere & Co annual sales of new equipment declined 19%, to $23.7 billion, while sales of parts increased 22%, to $6.7 billion. Harvester manufacturers aren’t the only ones who’ve spotted a growth market in restricting access to repair. In 2019, Apple’s Tim Cook [conceded](https://www.apple.com/newsroom/2019/01/letter-from-tim-cook-to-apple-investors/) that lower-cost iPhone battery replacements had negatively impacted new iPhone sales. More expensive repairs, on the other hand, lead customers to think they may as well buy a new phone.

That’s bad for the buyers of Apple’s expensive new phones and even worse for lower-income consumers who rely on secondhand devices. Lack of competition in repair markets raises the cost of owning older devices, and ultimately accelerates their untimely, wasteful disposal.

The first calls to roll back manufacturer restrictions on repair, in the early 2010s, were focused on cars. But the problem now encompasses everything from phones to farm equipment. Since 2014, [32 states](https://www.repair.org/legislation) have considered so-called Fair Repair bills. Earlier this year, the New York legislature became the [first](https://states.repair.org/states/newyork/) to pass one.

But manufacturers have pushed hard to defeat such legislation. In 2017, Apple warned Nebraska lawmakers that Fair Repair “would make it very easy for hackers to relocate to Nebraska.” [TechNet](http://technet.org/), a trade group that represents Apple, Amazon Inc. and Google, has [warned](https://www.bloomberg.com/news/articles/2021-05-20/microsoft-and-apple-wage-war-on-gadget-right-to-repair-laws) several states that Fair Repair legislation would somehow jeopardize the safety of devices. (TechNet did not respond to requests for examples of such consumer safety threats.)

The federal government has not bought these arguments. In May, the Federal Trade Commission [reported](https://www.ftc.gov/news-events/blogs/business-blog/2021/05/nixing-fix-report-explores-consumer-repair-issues) that “many of the explanations manufacturers gave for repair restrictions aren’t well-founded.” Biden’s executive order now encourages the FTC to “limit powerful equipment manufacturers from restricting people’s ability to use independent repair shops or do DIY repairs.”

#### A] FTC is definitely involved

Warin 13, PD, Partner @ (“The Global Reach of American Criminal Law ,” <https://www.gibsondunn.com/wp-content/uploads/documents/publications/Warin-TheGlobalReachofAmericanCriminalLaw-0213.pdf>

U.S. antitrust law has a similarly broad reach—for corporations and individuals. U.S. courts and enforcement agencies have long held that the Sherman Antitrust Act12—the main federal statute prohibiting anti-competitive conduct—applies to foreign conduct that is intended to produce and did produce substantial effect in the United States. DOJ and the United States’ Federal Trade Commission (“FTC”) enforce the federal antitrust laws, including the Sherman Antitrust Act.13 DOJ prosecutes antitrust violations both as criminal and civil offenses; the FTC prosecutes them only as civil offenses. Criminal prosecution may lead to severe penalties. Corporations convicted of a criminal violation of the Sherman Antitrust Act can be fined up to $100,000,000; and individuals can be fined up to $1,000,000 and receive a prison sentence of up to ten years. Several key U.S. court decisions recognize the extraterritorial reach of the U.S. antitrust laws. In a 1945 civil antitrust action, a U.S. appellate court held in United States v. Aluminum Co. of America14 that conduct perpetrated abroad could violate the Sherman Act if it was “intended to affect imports and did affect them.”15 In 1982, U.S. Congress adopted the Foreign Trade Antitrust Improvement Act (“FTAIA”)16 to limit the application of the Sherman Act in cases in which there was no effect on U.S. commerce. The FTAIA provided that the Sherman Act applied to foreign conduct (other than import commerce) that “has a direct, substantial, and reasonably foreseeable effect” on U.S. commerce. Eleven years later, the U.S. Supreme Court stated in with respect to import commerce that it was “well established . . . that the Sherman Act applies to foreign conduct that was meant to produce and did in fact produce some substantial effect in the United States.”17 In 1997, an appellate court extended this extraterritoriality test to a criminal matter involving a pricefixing conspiracy that occurred entirely in Japan.18 DOJ and the FTC reflected these principles in their 1995 guidance regarding their “international enforcement policy.”19 The 1995 Antitrust Enforcement Guidelines for International Operations firmly state that “[a]nticompetitive conduct that affects U.S. domestic or foreign commerce may violate the U.S. antitrust laws regardless of where such conduct occurs or the nationality of the parties involved.”20 DOJ has been successful in bringing criminal enforcement actions against foreign corporations and individuals. For example, Mitsubishi Corporation was found guilty of aiding and abetting a criminal violation of Section 1 of the Sherman Antitrust Act involving a price-fixing conspiracy among graphite electrode producers.21 Mitsubishi encouraged its 50%-owned U.S. producer of graphite electrodes to fix prices, participate in cartel meetings, sell products at fixed prices, and conceal the cartel activity. Mitsubishi was sentenced to a $134 million fine, one of the largest in the history of U.S. criminal antitrust enforcement. In another example, DOJ obtained convictions last year against Taiwanese company AU Optronics Corporation, its U.S. subsidiary, and two executives for fixing the prices of LCD panels sold into the United States, as agreed during meetings with their competitors occurring in Taiwan.22 AU Optronics was fined $500 million—“matching the largest fine imposed against a company for violating U.S. antitrust laws”—the gain that the jury found the company derived from the conspiracy, as well as was required to adopt an antitrust compliance program and retain an independent compliance monitor.23 The two Taiwanese executives were each sentenced to three years in prison and fined $200,000.24 Earlier that year, two Japanese suppliers of auto parts—Yazaki Corporation and DENSO Corporation—agreed to plead guilty and to pay criminal fines of $470 million and $78 million, respectively, for their roles in multiple auto parts price-fixing and bid-rigging conspiracies.25 Yazaki’s fine was the second largest criminal fine secured by DOJ’s Antitrust Division for a Sherman Act violation.26 This was also one of the many cartel investigations in which the Antitrust Division cooperated closely with foreign cartel authorities, including the European Commission, the Canadian Competition Bureau, and the Japanese Fair Trade Commission.27 With respect to individuals, DOJ continues to state that it is “committed to ensuring the culpable foreign nationals, just like U.S. co-conspirators, serve jail sentences in order to resolve their criminal liability.”28 In FY 2011, foreign executives faced average prison sentences of 10 months for antitrust violations.29 In FY 2012, DOJ continued to obtain long prison sentences for foreign nationals, including a 24-month sentence for two executives of Japan-based Yazaki Corporation, who voluntarily submitted to U.S. jurisdiction, imposed in connection with their involvement in international conspiracies to fix prices for auto parts sold to automobile manufacturers in the United States.30 Overall, approximately 97% of the $6.4 billion in criminal antitrust fines imposed in the United States from FY1997 to the end of FY2011 were “in connection with the prosecution of international cartel activity” and “51 foreign defendants from France, Germany, Japan, South Korea, Taiwan, the Netherlands, Norway, Sweden, Switzerland, and the United Kingdom” received prison sentences during the same period.31

#### B] Coordination between departments.

Macy & Lee 17, \*Creighton J., Attorney, Baker McKenzie. Formerly served as chief of staff and senior counsel in the Department of Justice Antitrust Division, working as a senior advisor to the acting assistant attorney general on civil and criminal antitrust enforcement and policy matters, as well as budget and personnel issues. \*\*Craig Y., Attorney, Baker McKenzie. Leads the Firm’s global cartel task force (12-14-2017, "When Merger Review Turns Criminal", *American Bar Association*, https://www.americanbar.org/groups/business\_law/publications/blt/2017/12/07\_lee/)

But that separation of criminal and civil enforcement sections at the Antitrust Division does not create walls or silos. The different criminal offices often work together on large investigations and trials. Similarly, the size of many civil investigations requires pulling resources from the various civil sections, as well as from the Antitrust Division’s Appellate, International, and Competition Policy and Advocacy sections. But the collaboration does not end there. Coordination between the civil and criminal sections is the norm. Section managers meet regularly to discuss matters and often consult on an informal basis. Cross‑pollination occurs at the trial attorney level as attorneys are detailed to other sections for specific matters or periods of time. And understanding this collaboration between the civil and criminal sections is vital to attorneys and their clients subject to the merger review process. A recent case not only shows how in sync the Antitrust Division’s criminal and civil sections are, but also highlights the implications of that collaboration.

#### c] Increasing private litigation causes Congress to gut agency budgets

**Crane 19**, Professor of Law at the University of Michigan Law School. (Daniel A., "Toward a Realistic Comparative Assessment of Private Antitrust Enforcement", In *Reconciling Efficiency and Equity: A Global Challenge for Competition Policy*, pg. 352, Cambridge University Press, Accessible at: <https://repository.law.umich.edu/book_chapters/137/>)

Still, with antitrust budgets quite **limited** and **politically dependent** in many newer antitrust enforcement jurisdictions, it would not be surprising to see a rise in privateantitrust enforcement correspond with a **decrease in** **public** **funding**. Politicians **eager to cut budgets** may see **little need** for **generosity** to public agencies as to a public good supplied **amply supplied** by private markets. At any rate, as private enforcement grows throughout the world, it will be important to understand how, if at all, this affects legislatures’ willingness to fund competition authorities.

#### Extinction.

Castellaw ’18 [John; March 14; Lieutenant General in the United States Marine Corps, member of the Center for Climate and Security’s Advisory Board, teaching fellow in the College of Business and Global Affairs at the University of Tennessee; Senate Committee on Foreign Relations, “Why Food Security Matters,” <https://www.foreign.senate.gov/imo/media/doc/031418_Castellaw_Testimony.pdf>]

Food Security Is Critical to Our National Security

The United States faces many threats to our National Security. These threats include continuing wars with extremist elements such as ISIS and potential wars with rogue state North Korea or regional nuclear power Iran. The heated economic and diplomatic competition with Russia and a surging China could spiral out of control. Concurrently, we face threats to our future security posed by growing civil strife, famine, and refugee and migration challenges which create incubators for extremist and anti-American government factions. Our response cannot be one dimensional but instead must be nuanced and comprehensive, employing “hard” as well as “soft” power in a National Security Strategy combining all elements of National Power, including a Food Security Strategy.

An American Food Security Strategy is an imperative factor in reducing the multiple threats impacting our National wellbeing. Recent history has shown that reliable food supplies and stable prices produce more stable and secure countries. Conversely, food insecurity, particularly in poorer countries, can lead to instability, unrest, and violence. Food insecurity drives mass migration around the world from the Middle East, to Africa, to Southeast Asia, destabilizing neighboring populations, generating conflicts, and threatening our own security by disrupting our economic, military, and diplomatic relationships. Food system shocks from extreme food-price volatility can be correlated with protests and riots. Food price related protests toppled governments in Haiti and Madagascar in 2007 and 2008. In 2010 and in 2011, food prices and grievances related to food policy were one of the major drivers of the Arab Spring uprisings.

These conclusions are based on my decades of experience while serving as a Marine around the world and from a lifetime as a steward of the soil on my family farm in Tennessee. I see food security strategy in military terms as either being “defensive” or “offensive”. “Defensive” includes those actions we take to protect our agricultural infrastructure including crops, livestock and the food chain here in the United States. Conversely, the “Offensive” side of food security takes the initiative to deal with food security issues overseas and this is where I will spend most of my time today.

There is a good reason for our success on the “defensive” here at home in ensuring our own food security. As my good friend and former Tennessee Deputy Agriculture Commissioner Louis Buck points out to me, American agriculture has always been about public/private enterprise. The Morrill Act of 1862 – showing our Country’s foresight and confidence in the future even in the dark days of our Civil War – created our Land Grant University model of teaching, research and extension. And equally importantly, we have a private sector that values individual initiative, unleashing an unparalleled vitality. With that vitality driving innovation, our farmers and ranchers leverage the expertise and information from the public sector to manage risks and seek profits from deployed capital. But above all, American farmers and ranchers are our “citizen soldiers” on the front lines here at home fighting to guarantee our food security.

America is also blessed with fertile soil, water availability, moderate climate, and the advanced technology to successfully utilize our abundance. Whether I walk the corn fields of Indiana or the cotton fields of Tennessee, I see agricultural technology in use that is amazing. Soon after I retired from the Marines and came home to the family farm, I climbed into the cab of a self-propelled sprayer. Settling into the seat was like strapping into the cockpit of one of the aircraft I flew, except the sprayer had more computing power and better data links. All these factors, public and private, natural and manmade, hard work and innovation, combine to provide the American people with the widest choices in the world of wholesome foods to eat and clothes to wear.

## China Adv

### AT: Dollar Dominance

#### Dollar’s hosed

**Desheng 21** [Gao Desheng, senior executive vice president of Bank of China Johannesburg Branch, Chinese experts on potential dollar collapse: growing bearish consensus, March 2, 2021, https://www.globaltimes.cn/page/202103/1217082.shtml]

The US dollar dominance in global economy is rooted in the currency's credit based on the US' economic strength. However, the US' unlimited quantitative easing (QE) and surging debt levels designed to stimulate its coronavirus-stricken economy has severely eroded the credit of the currency.

Since the COVID-19 pandemic took hold in the US, to stimulate the plunging stock market and prevent a long-term economic recession, the US government has significantly expanded fiscal expenditure and the US Federal Reserve (Fed) has started unlimited QE, injecting excessive liquidity to global economy.

The dollar has been falling steadily since last March. It is down about 12 percent relative to America's major trading partners, and experts believe that there is more to come.

In an article published in January, Stephen Roach, a faculty member at Yale University and former chairman of Morgan Stanley Asia who in September 2020 forecasted that dollar will collapse by the end of 2021, has stuck to his bearish forecast.

The inflation of the US debt, the actual negative interest rate of the dollar, the spread of the pandemic and the gloomy economic prospects have changed the flow of international funds. It has become doubtful whether the US' financial game which has been played for decades can be sustained. It seems only a matter of time for the US dollar to end its hegemony.

#### Or it’s resilient

**Benzinga 21** [February 9, “US Dollar, The Next Short Squeeze Target? Why It's Impossible,” https://www.benzinga.com/short-sellers/21/02/19556343/us-dollar-the-next-short-squeeze-target-why-its-impossible]

US dollar is not a penny stock: The combination of strong Wall Street resilience, strong economic data, as well as 10-year and 30-year T-bond yields unwilling to bow their heads has caught the bears off guard. If they decide to give up and hedge their positions, this would give the U.S. dollar a further boost. Is this enough to talk about a short squeeze? Let's be serious, the forex market is the largest one in the world, with 6,600 billion dollars changing hands every day, and the most traded currency is by far the US dollar, which is not a penny stock.

### AT: Sanctions

#### Their arg for dollar heg being good is that its key to sanctions – those are bad

Nephew et al 18 [Richard is a fellow at the center on global energy policy at Columbia university. He was formerly part of the US negotiating team with Iran and advisor on Iran at the white house. 5/9. "Here’s What to Expect Now That Trump Has Withdrawn From the Iran Nuclear Deal." https://foreignpolicy.com/2018/05/09/heres-what-to-expect-now-that-trump-has-withdrawn-from-the-iran-nuclear-deal/]

There are three interconnected issues to watch as we enter the post-Iran deal environment: the implementation of sanctions, the Iranian nuclear program, and the regional dimension.

Though many of Trump’s cheerleaders believe that the United States can enforce its will on the rest of the planet through brute sanctions pressure, the United States will find it extremely difficult to repeat the success of the 2006 to 2013 sanctions campaigns that brought Iran to the table if it is opposed by most of the international community. The sanctions campaign of that era was based on three interrelated concepts: that sanctions pressure could shift Iranian strategic calculus, that multilateral sanctions pressure would be more effective than unilateral sanctions pressure, and that willing, cooperative, and multilateral pressure would be even better.

This reflected U.S. learning from the late 1990s, when the country sought to push the rest of the world to impose sanctions pressure on Cuba, Libya, and Iran through brute economic force, threatening access to the United States unless countries joined it in isolating those three nations. Those efforts failed, resulting in an acrimonious dispute between the United States and Europe, and instead the United States turned to a multilateral sanctions strategy, starting at the United Nations in 2006 and, in time, incorporating additional resolutions and a coordinated national measures campaign.

The United States helped to galvanize the international community through its own sanctions legislation that incorporated the threat of exclusion from U.S. markets. U.S. financial sanctions, in particular, were built to bypass governments that might otherwise be recalcitrant. But, importantly, the United States used sanctions to cajole and coerce cooperation as one element of a strategy that emphasized diplomacy. Sanctions pressure had a purpose, harnessed to the dual-track strategy that both Presidents George W. Bush and Barack Obama adopted. And sanctions were assembled on the back of Iranian noncompliance with not only the Treaty on the Non-Proliferation of Nuclear Weapons, but also multiple U.N. Security Council and IAEA Board of Governors resolutions.

Today, that clarity does not exist, and there is no stated justification for sanctions reimposition outside of a stated desire on Trump’s part to get a better deal. The Trump administration has offered scant details as to what would constitute such a deal, outside of the absence of any nuclear fuel cycle activities in Iran, for which Trump’s National Security Advisor John Bolton believes only bombing would work.

Getting a “better deal” would require international unity to apply more pressure. But the Trump administration has already poisoned the well, as every key international partner in Europe and Asia opposes walking away from the agreement. And without international support, the United States will be left to the brute economic force strategy that failed in the 1990s.

This will certainly have negative economic impacts on Iran, given the relative benefits of doing business in the United States versus business in Iran. But without active participation and cooperation by the rest of the world, the United States will face a monumental enforcement and implementation burden with scant support. Smuggling and evasion will be a reality of the new sanctions landscape, and though the United States can sanction those who engage in such business practices, it will find the burdens of doing so are far more complicated in the absence of partners willing to shut down such networks on their own.

The loss of international enthusiasm will slow the buildup of pressure on Iran. One illustration makes this point starkly: In 2012, the European Union reduced purchases of Iranian oil from around 700,000 barrels per day to zero barrels per day in six months. This was not the result of U.S. sanctions, but rather an independent European decision, underway before related U.S. sanctions passed Congress. Had European companies instead waited for U.S. sanctions to hit, they would have only followed the pattern of others in Asia, reducing their purchases by 20 percent every 180 days. Taken over time, the work of six months in 2012 would have taken six years to accomplish. The bottom line is that without political support, the U.S. sanctions regime will be a fraction of what it was in 2012.

A slow restart for Iran’s nuclear program

Paradoxically, the weakened sanctions regime will do just enough to push Iran out of the nuclear agreement, without exerting the type of crippling pressure that can result in meaningful concessions. As companies leave Iran and trade significantly decreases, supporters of the nuclear agreement will face increasing pressure from hard-liners to respond and will over time likely begin violating the deal.

Europe has pledged to do its part to avoid this outcome. In anticipation of Trump’s announcement, European leaders have stressed their intention to stick to the agreement. There has been talk of effectively continuing on with the Iran deal, absent the United States. But Europe will not be able to deliver the kind of economic benefits to Iran that the United States brought under the deal, and in the likely event that this attempt begins to fail, then the question will become: How long until Iran restarts its nuclear program?

Iran will likely wait at least some time to pick back up major, provocative aspects of the program. Iranian President Hassan Rouhani and Foreign Minister Javad Zarif will argue in favor of using this moment as an opportunity to split the international coalition arrayed against Iran. “Blame Trump” will have an attractive ring to it, considering his international unpopularity, and this will contribute to at least some consideration of continuing to play victim rather than responding with violations of the Iran deal.

But regime hard-liners will argue that Rouhani and Zarif have led Iran into a sucker’s agreement. These figures will call for an Iranian response that restores pride and fulfills the Rouhani administration’s commitment to restart the program “within hours.”

Depending on who wins this argument in front of the supreme leader, Iran’s nuclear restart will either begin immediately or after the EU and other countries doing business with Iran demonstrate that they are unable to prevent their companies from abandoning Iran. But eventually the nuclear program is likely to restart.

What Iran will choose to do is a matter of considerable opacity, but based on its past behavior we can be confident that it will neither sit on its hands in the face of a major U.S. provocation nor go full bore to a nuclear weapon, thus uniting the international community against it. At the lowest end, it could restart some discrete activities that do not meaningfully push its nuclear program forward (such as production of extra heavy water or research and development centered on uranium centrifuges), intending to avoid provocation while providing hard-liners with something positive to tout. It could go one step further and restart one or two activities (such as the installation of hundreds of older generation uranium centrifuges or enrichment of more than 660 pounds of enriched uranium) or somewhat reduce its cooperation with the IAEA without fully kicking out inspectors. Or it could pursue a more extreme response and reject all of the deal’s restrictions and commitments, arguing that the United States has so badly breached the agreement that there is no point in maintaining even a portion of it.

But most likely, Iran’s ability to break out in pursuit of nuclear weapons will improve, with the delay imposed by the agreement of approximately one year shrinking to months, and possibly weeks. Meanwhile, the IAEA’s access to the program will diminish, and confidence that the United States can prevent Iran from secretly pursuing a covert weapons program will drop. We will find ourselves back in the days of the first decade of the 2000s, with Iran slowly creeping to a nuclear weapon.

A more unstable Middle East

As for the region, the situation will not get better. U.S. allies in Jerusalem and Riyadh will cheer the U.S. decision to walk away from the Iran deal. But they will soon find themselves deeply disappointed. With the nuclear crisis back on the table, the international community’s focus will pivot entirely to the nuclear question and away from Iran’s regional behavior, just as it did for the 15 years prior to the deal. Meanwhile, Trump has talked tough about countering Iran’s behavior in the region, but when it comes to action it is clear that he has little stomach to get involved in a a major regional confrontation with Iran or any coherent strategy for how to push back on Iranian inroads in the region.

Syria is a case in point. The Israelis are increasingly worried about Iran’s establishment of a permanent military presence in the country and have begun taking things into their own hands with increasingly brazen airstrikes that have killed Iranian fighters. Right now, both sides are testing each other’s limits in Syria as Iran has not directly responded to Israeli strikes but has continued to push for an Assad regime offensive in southwest Syria that would bring Shiite militia fighters to Israel’s border.

But rather then use the Syrian theater as an opportunity to push back on Iran, Trump has done precisely the opposite. He has cut off all support for an Obama-era program that supported Syrian opposition fighters near Israel’s border and kept Iran out of the southwest. He has halted $200 million in assistance, much of which was meant to stabilize the areas on Israel and Jordan’s border and keep Iran out. And he has started talking about withdrawing the roughly 2,000 U.S. troops in northeast Syria that helped the United States’ Kurdish allies dramatically roll back the Islamic State. As long as U.S. forces remain in that territory, they dramatically complicate Iran’s ability to move Shiite militia forces between Iraq, Syria, and Lebanon. But if the United States leaves, the field is open to Iran.

In Iraq, the pullout from the Iran deal could not come at a worse time. On May 12, Iraq has national elections. A prolonged period of coalition negotiations, which tend to last months as the various political parties struggle to form a new government, will likely follow. In the past two elections, in 2010 and 2014, a coalition was only able to form when the two most influential outside players, the United States and Iran, quietly acquiesced to a deal, and this will need to happen again. But in the aftermath of the collapse of the agreement, will such an arrangement be possible? Or will both Iran and the United States pursue absolutist positions that lead to prolonged stalemate and instability in Iraq?

### AT: 5G

#### The 5G arms race is corporate propaganda.

Dawson 19 Doug Dawson, president of the company Consulting for Telecommunications Carriers. [There’s No 5G Race, 3-15-2019, https://potsandpansbyccg.com/2019/03/15/the-non-existing-race-for-5g/]

This talk is just more hype and propaganda from the wireless industry that is trying to create a false crisis concerning 5G in order to convince politicians that we need to break our regulatory traditions and give the wireless carriers everything they want. After all, what politician wants to be blamed for the US losing the 5G race? This kind of propaganda works. I was just at an industry trade association show and heard three or four people say that the US needs to win the 5G race. There is no 5G race; there is no 5G war; there is no 5G crisis. Anybody that repeats these phrases is wittingly or unwittingly pushing the lobbying agenda of the big wireless companies. Some clever marketer at one of the cellular carriers invented the imaginary 5G race as a great way to emphasize the importance of 5G. Stop and think about it for a second. 5G is a telecom technology, not some kind of military secret that some countries are going to have, while others will be denied. 5G technology is being developed by a host of multinational vendors that are going to sell it to anybody who wants it. It’s not a race when everybody is allowed to win. If China, or Germany, or Finland makes a 5G breakthrough and implements some aspect of 5G first, within a year that same technology will be in the gear available to everybody. What I really don’t get about this kind of hype and rhetoric is that 5G is basically a new platform for delivering bandwidth. If we are so fired up to not lose the 5G race, then why have we been so complacent about losing the fiber race? The US is far down on the list of countries in terms of our broadband infrastructure. We’ve not deployed fiber optics nearly as quickly as many other countries, and worse we still have millions of households with no broadband and many tens of millions of others with inadequate broadband. That’s the race we need to win because we are keeping whole communities out of the new economy, whch hurts us all. I hope that my readers don’t think I’m against 5G because I’m for any technology that improves access to bandwidth. What I’m against is the industry hype that paints 5G as the technology that will save our country – because it will not. Today, more than 95% of the bandwidth we use is carried over wires, and 5G isn’t going to move that needle much. There are clearly some bandwidth needs that only wireless will solve, but households and businesses are going to continue to rely on wires to move big bandwidth. When I ask wireless engineers about the future they almost all have painted the same picture. Over time we will migrate to a mixture of WiFi and millimeter wave spectrum indoors to move around big data. When virtual and augmented reality was first mentioned a few years ago, one of the big promises we heard was for telepresence, where we’ll be able to meet and talk with remote people as if they are sitting with us. That technology hasn’t moved forward because it requires huge broadband beyond what today’s WiFi routers can deliver. Indoor 5G using millimeter wave spectrum will finally unleash gigabit applications within the home. The current hype for 5G has only one purpose. It’s a slick way for the wireless carriers to push the government to take the actions they want. 5G was raised as one of the reasons to kill net neutrality. It’s being touted as a reason to gut most of the rest of existing telecom legislation. 5G is being used as the reason to give away huge blocks of mid-range spectrum exclusively to the big wireless companies. It’s pretty amazing that the government would give so much away for a technology that will roll out slowly over the next decade. Please think twice before you buy into the 5G hype. It takes about five minutes of thinking to poke a hole in every bit of 5G hype. There is no race for 5G deployment and the US, by definition, can’t be ahead or behind in the so-called race towards 5G. This is just another new broadband technology and the wireless carriers and other entrepreneurs will deploy 5G in the US when it makes economic sense. Instead of giving the wireless companies everything on their wish list, a better strategy by the FCC would be to make sure the country has enough fiber to make 5G work.

## Cartels

### International Antitrust Turn

#### Maintaining respect for other countries is critical to effective international enforcement cooperation – that solves the aff – but the aff makes it impossible

Connolly ‘15 [Robert; Jan. 2015; partner in the Washington, D.C. office of GeyerGorey, LLP; CPI Antitrust Chronicle; “Why the Motorola Mobility Decision was Good for Cartel Enforcement and Deterrence,” https://papers.ssrn.com/sol3/papers.cfm?abstract\_id=2559149]

The initial Seventh Circuit holding, that the conduct in question did not “have a direct, substantial and reasonably foreseeable effect” on U.S. commerce, could have seriously jeopardized the enforcement efforts of the Department of Justice’s Antitrust Division (“Division”). The Court could have reached a decision allowing Motorola Mobility to seek damages in U.S. courts for purchases made overseas by a foreign subsidiary, but that could have created resentment of the United States as the world’s only cartel cop that mattered. (See Section II, below.) The decision to hold only that Motorola Mobility’s claim did not meet the FTAIA’s “gives rise to” requirement was a wise compromise from a policy perspective. Here’s why I think so.

II. INTERNATIONAL COOPERATION HAS LED TO THE EFFECTIVE PREVENTION, DETECTION, AND PROSECUTION OF CARTELS

While there are a few exceptions,3 major private civil damage cases in the international cartel arena have generally been brought only after the Division has obtained guilty pleas or convictions. The Division's ability to obtain guilty pleas has been aided greatly by cooperation from foreign governments in global investigations. Numerous foreign governments filed amicus briefs in Motorola Mobility urging the Court not to reach a decision that would infringe on their sovereignty and undermine their own enforcement of competition laws. For purposes of prosecuting international cartels, as well as for follow-on civil actions, maintaining international cooperation is essential.

Cooperation among antitrust enforcers takes many forms, some public, some not: coordinated dawn raids, assistance in obtaining foreign-located evidence, sharing leads and other non-confidential information, adoption of Mutual Legal Assistance Treaties (“MLATs”), and reducing safe havens from extradition for those who do fix prices.4 “While challenges remain in the area of international cooperation, cooperation among jurisdictions in anti-cartel enforcement continues to become more robust, sophisticated, and effective.”5

The Division has observed that, with each passing day, the antitrust community learns of a foreign government that has enacted a new antitrust law, created a new cartel investigative unit, obtained a record antitrust fine, or adopted a new corporate leniency program. This shared commitment to fighting international cartels has led to the establishment of cooperative relationships among competition law enforcement authorities around the world, leading to more effective investigation and prosecution of international cartels.6

It is probably true that when the Division brought the international lysine price-fixing cartel case against ADM, there was under deterrence of international cartels. ADM was the “supermarket to the world,” yet faced penalties in very few jurisdictions. The United States and European Union were the principal enforcers, imposing fines of just slightly more than $200 million cumulatively. While two ADM executives were sent to prison, no foreign executives were. Indeed, at that time, foreign executives had little to fear from cartel participation—extradition, red notices, and potential jail sentences in other jurisdictions were not yet a reality. More recently, by contrast, many foreign executives involved in the LCD cartel received jail terms as a result of Division prosecutions. Many currently believe jail is the greatest deterrent to cartel behavior.

Fines have also increased dramatically in the past decade. In the LCD cartel prosecution, AU Optronics alone was fined $500 million in the United States. LCD cartel enforcement actions have been taken by, among others, the United States, European Union, Canada, Korea, Japan, Brazil, and China, and this is likely not the full list. Global fines for price-fixing reached a record high in 2014 of $5.3 billion, which was a 31 percent increase over 2013’s record-breaking total.7 Fines in Asia were also at a record level of $1.7 billion.8

This dramatic expansion of cartel-fighting abilities on a worldwide scale took some time, as did developing a respect for differing views among nations. In the autumn of 1999, the Division hosted the first-ever international meeting of cartel investigators and prosecutors. More than 25 countries sent representatives. An international conference among enforcers has continued, in one form or another, ever since. The International Competition Network (“ICN”), has developed into a mature international organization with 126 agency members from 111 jurisdictions.9 And today there are more than 100 competition agencies worldwide with some form of leniency program. Any cartelist facing government action has a long, and continually growing, list of countries where it must “make peace” if it has committed a cartel violation.

These statistics demonstrate that the Division has been spectacularly successful in exporting the view that “cartels are the supreme evil of antitrust.” During the time I was with the Chief of the Philadelphia Field Office, we hosted delegations from Korea, Japan, and China, as well as had telephone discussions with many other jurisdictions regarding effective cartel enforcement. Other Division field offices did likewise and, of course, the main stop was always Main Justice in Washington, D.C.

Besides advocating condemnation of cartels, the Division also very effectively advocated for the adoption of leniency programs, which have now been adopted almost universally. Having invited the world to join the effort to prohibit and prosecute cartels, and that invitation having been enthusiastically accepted, it is good manners/policy that the competition regimes set up around the globe—which continue to develop—be given due respect and that the views of our partners be given serious consideration.

### **Solvency**

#### Cartels are deterred – most recent evidence prices in aff arguments and concludes that cartels are on the decline.

Verbeke & Buts ‘21 [Alain Verbeke; Caroline Buts; August 2021; Professor of International Business and Strategy, McCaig Chair in Management, University of Calgary; Professor at the department of applied economics of the Vrije Universiteit Brussel; Management and Organization Review, Cambridge University Press; “The Not So Brilliant Future of International Cartels,” https://www.cambridge.org/core/journals/management-and-organization-review/article/not-so-brilliant-future-of-international-cartels/363CC718A5FD54F8BB390B9AB22150B7]

A NOT SO BRILLIANT FUTURE OF INTERNATIONAL CARTELS?

As explained in the previous section, we do not dispute the possibility that international cartels could become more important in the future under carefully defined conditions. We are doubtful, however, even when accepting B&C’s broad definition of this governance mode, that international cartels will gain ground more generally, vis-à-vis other forms of governance in international business, when multinational enterprises face increased political risk.

A key element, and perhaps a surprising one, explaining our doubt about the bright future of cartels is four clear trends in cartel regulation that are now creating significant political risk for international cartel members (admittedly not covering B&C’s benevolent cartels). First, competition policy is now a priority for policy makers around the world, as reflected in the progress made in detecting, investigating, and prosecuting cartels (OECD, 2020; OECD, 2021b). Recently published data indicate that 68% of global cartels (with members from at least two different continents) have been prosecuted by multiple jurisdictions, with average cartel fines being very high at €19.3 million (OECD, 2020).

Second, the consequences of being caught as a cartel member have gradually become more severe and far-reaching, both for the orchestrating and the participating companies, and for the employees involved (Ordóñez-De-Hano, Borrell, & Jiménez, 2018). Depending on the jurisdiction, a wide array of sanctions is now being deployed, including personal fines, trade prohibitions, and prison sentences (these have increased sevenfold over a recent five-year period, OECD, 2020). After a finding of cartel-behavior from the competition authority, the legal battle usually continues in the form of lawsuits for damages whereby victims file claims and may also coordinate their actions, e.g., to recover cartel overcharges (Burke, 2019).

Third, cartel investigations have also become more sophisticated. Leniency policies – providing immunity from fines for the first player who admits to the existence of a cartel and discloses information on its functioning – are on the rise. This powerful tool serves both detection and deterrence purposes in the realm of anticompetitive behavior (Margrethe & Halvorsen, 2020; Marvão & Spagnolo, 2018; Miller, 2009). It incentivizes cartel members to become whistle blowers. Companies will be less likely to join a cartel if they know that its members may be enticed to disclose cartel operations, (Brenner, 2009; Vanhaverbeke & Buts, 2020).

A larger number of agencies than before now also have the mandate to conduct ‘dawn raids’, in order to collect evidence of cartel behavior and they can even enter private premises of employees during their search for incriminating material. In addition, sophisticated econometric analyses have become standard practice to provide evidence of coordinated conduct in industry and to calculate cartel overcharges (Parcu, Monti, & Botta, 2021).

Fourth, competition authorities have invested more in outreach, communicating competition rules through dedicated events, online campaigns, and competition networks. Compliance programs have also been on the rise with an increasing number of mainly large companies investing in compliance training to abide by competition rules (De Stefano, 2018).

The increased efforts to fight anticompetitive agreements in industry are now deterring and destabilizing cartels. Following a substantial increase in the number of cartels that have been ‘caught’, the average life span of these cartels is now going down rapidly (OECD, 2020). The fight against illegal, anticompetitive behavior will intensify further in the near future, rather than governments shifting their focus to contemplate potential benefits. At the same time, the beneficial effects have been widely acknowledged of international collaboration forms that are legally allowed by various competition policy regimes (and are therefore not considered cartels), see for instance Martínez-Noya and Narula (2018) on international R&D cooperation.

#### And the aff can’t solve – simply increasing the likelihood of penalization cannot establish deterrence – every empiric goes neg.

Violante ‘17 [Keith Violante; 2017; Bachelor of Criminology (Florida State University), Juris Doctor (American University, Washington College of Law) Attorney at Nelson, Bryan, and Jones; International Trade and Business Law Review; “Making Deal with the Devil: Are Current Antitrust Sanctions Deterring Cartel Behaviour,” vol. 20]

There is no indication that the drastic increase in criminal and civil penalties under the ACPERA has caused a significant decline in antitrust violations.92 Civil fines are unlikely to effectively deter antitrust violations committed by an individual when the corporation is able to completely internalise the entire fine imposed against the business.93

According to a recent study, average antitrust conspiracies last six years.94 This study suggests that these conspiracies persist for so long because price-fixing is more profitable than was previously thought,95 which in turn suggests the need for greater sanctions. Put simply, this study argues that the decision to commit antitrust violations is driven by a rational cost/benefit analysis. Under this theory, a business will continue to commit antitrust violations so long as it remains profitable.

Critics of this argument suggest that sanctions exist that can prevent antitrust violations.96 Judge Richard Posner proposed that price-fixing is ultimately punished exclusively through corporate fines, and 'only when a company is unable to pay an optimal fine should imprisonment be imposed as a last resort and only if the individuals are unable to pay the fine'. Other practitioners argue that criminalisation of price-fixing offences would be a better deterrence. One argument suggests the 'publicity about severe sentences for price fixing may help educate other corporate executives about the true individual and corporate legal risks of being caught while also contributing to the effectiveness and cost of corporate antitrust compliance programs'.98

However, civil fines, or at least the implementation of them, do not seem to adequately deter antitrust violations. The fluctuation of a corporation's stock price after a firm is indicted for committing an antitrust violation also suggests civil fines provide an inadequate deterrence.99 A well documented empirical regularity is that share values in indicted firms initially fall significantly but the stock price of an overwhelming majority of indicted firms returns to preindictment levels within one year.100 These results are consistent with firms indicted between 1962 and 2000.101 Given the substantially greater corporate fines that were imposed during the latter half of that period, the consistency of the stock price recovery across that time suggests increased sanctions do not significantly deter antitrust violations.102

## 2nc

#### The CP expands RICO’s extraterritorial application without dismantling the presumption against extraterritoriality.

Veneziano ’20 [Alina; May 20; Ph.D. Candidate, King’s College London, UK, LL.M., New York University School of Law, 2019, J.D., Georgetown University Law Center, 2018; Harvard Law School Journal on Legislation, “Investigating the Attendant Circumstances of RICO from Its Early History and Drafting to Transnational Organized Crime and Extraterritorial Applications: A Perspective on U.S. Prosecutions, Ideology, and Globalization,” vol. 58 no. 2; KP]

The Court began its discussion by acknowledging the presumption against extraterritoriality: “Absent clearly expressed congressional intent to the contrary, federal laws will be construed to have only domestic application.”[186] Its purpose is to “avoid the international discord that can result when U.S. law is applied to conduct in foreign countries” and reflects the notion that “Congress generally legislates with domestic concerns in mind.”[187] After briefly describing two significant prior Supreme Court cases dealing with extraterritoriality—Morrison and Kiobel[188]—the Court the articulated a two-step framework based on those cases:

At the first step, we ask whether the presumption against extraterritoriality has been rebutted—that is, whether the statute gives a clear, affirmative indication that it applies extraterritorially. We must ask this question regardless of whether the statute in question regulates conduct, affords relief, or merely confers jurisdiction. If the statute is not extraterritorial, then at the second step we determine whether the case involves a domestic application of the statute, and we do this by looking to the statute’s “focus.” If the conduct relevant to the statute’s focus occurred in the United States, then the case involves a permissible domestic application even if other conduct occurred abroad; but if the conduct relevant to the focus occurred in a foreign country, then the case involves an impermissible extraterritorial application regardless of any other conduct that occurred in U.S. territory.[189]

Like Morrison and Kiobel, the Court in RJR Nabisco asserted that virtually all cases should use the presumption. However, unlike those cases, the Court here found that the presumption had in fact been rebutted for the substantive prohibitions in §1962.[190] Justice Alito based this conclusion on the text of RICO, for which there are several predicates that apply to some foreign conduct.[191] Because of Congress’ incorporation of these predicate offenses into the RICO statute, the Court concluded that “RICO gives a clear, affirmative indication that §1962 applies to foreign racketeering activity—but only to the extent that the predicates alleged in a particular case themselves apply extraterritorially.”[192] Thus, this rule does not apply to all RICO predicates, only to the ones in which the RICO predicates have extraterritorial effect.[193]

Regarding the presumption once more, Justice Alito noted that only a clear indication can rebut the presumption.[194] However, a clear statement is not needed; context can be consulted.[195] And it is with this context that the Court concluded that Congress intended RICO to have extraterritorial effect; in fact, the Court noted that “[t]his unique structure makes RICO the rare statute that clearly evidences extraterritorial effect despite lacking an express statement of extraterritoriality.”[196] Thus, RICO applies to some foreign racketeering activity.[197]

#### It’s impossible

**Babones 15** Salvatore Babones is an associate professor of sociology & social policy at the University of Sydney, Foreign Policy in Focus, March 12, 2015, “Is China a threat? The Devil’s in the details”, http://salvatorebabones.com/is-china-a-threat/

What about regional conflict? China’s growing military certainly sounds like a regional menace. But a menace to whom? Here again the details get in the way of the China threat story. To the east, Japan’s government is responding to Chinese expansion by boosting its own defense spending to record levels, proposing to change its pacifist constitution to allow greater military flexibility, and making a renewed push to resolve the long-standing Kuril Islands dispute with Russia. If Prime Minister Shinzo Abe finally succeeds in making peace with Russia, that would leave China and its ally North Korea as the sole focus for Japan’s entire military capacity. Japan is a rich, technologically advanced country of 127 million people. It can look after itself. For very different reasons, China poses little threat to South Korea. China increasingly views North Korea more as a burden than as an advance column for an attack on the South. And China has recently been courting South Korean technology investment in order to reduce its dependence on Japan. Political relations across the Taiwan Strait are inevitably dominated by questions over the status of Taiwan. Every election in Taiwan sparks talk about and fears of Chinese invasion. But no country in the world has staged a large-scale amphibious assault since the U.S. landings at Incheon, South Korea in 1950. For more than half a century, even American adventures abroad have been small-scale (Grenada) or launched from land bases (Iraq). The Chinese military will never have the capacity to invade Taiwan against armed resistance — not now, not later, not ever. It just can’t be done in the contemporary military context in which a single cruise missile can sink a transport ship carrying thousands of troops. It makes no sense to worry about something that is not technically possible. The Philippines? Why would China want to invade the Philippines? Vietnam, Laos, Myanmar? Ditto, ditto, ditto. China is involved in a plethora of minor border disputes with its neighbors, but none of these involve core territorial interests or serious legal claims that China (or most of its neighbors, for that matter) have historically been interested in pushing. They’re all frozen conflicts that are unlikely ever to thaw.

#### They won’t try it

**Roy 18.** Denny Roy, 7-22-2018, "What would the US do if Beijing decided to take Taiwan by force?," South China Morning Post, https://www.scmp.com/week-asia/geopolitics/article/2156237/what-would-us-do-if-beijing-decided-take-taiwan-force //kent - wh + ybjl

As China’s soft power proves ineffective, Beijing relies more heavily on coercion to force political unification on Taipei. China will continue in the coming years to enlarge the gap between its total military power and that of Taiwan, but this observation does not get at the heart of the problem Beijing faces. Are the US and China headed for war over Taiwan? Beijing might attempt unification through military means other than invading Taiwan, such as capturing smaller islands claimed by Taipei, imposing a blockade of its ports and main airport, launching cyberattacks against its information and communications infrastructure, and cratering parts of the island with missile attacks. The problem for China is that these methods still rely on the Taipei government choosing to surrender. Historically, governments and societies under attack become more defiant rather than submissive. Judging from the reaction of Taiwan’s people to Japanese colonisation beginning in 1895 and to the imposition of Kuomintang rule beginning in 1945, Taiwan would not be an exception. The only sure way to compel Taiwan’s surrender would be for PLA soldiers to occupy Taiwan’s major cities. But even as China’s military capabilities improve, the chances of success in an all-out invasion of Taiwan are low – even if the United States did not intervene on Taiwan’s behalf. China would need to ferry its troops, most of them packed into slow-moving and highly visible ships, across the 160km wide Taiwan Strait, where they would be highly vulnerable to attack, and then unload them and huge amounts of ammunition and other supplies while trudging through sand or mud and under heavy fire. China has the capacity to transport only a few tens of thousands of troops at a time. Much of this force would not make it across the strait. Awaiting the survivors would be 180,000 active duty Taiwanese soldiers plus 1.5 million reservists. If the United States chose to intervene, US aircraft from bases in the region could begin flying missions within hours. China might try to impede this by firing missiles to temporarily knock out runways used by US aircraft, but this would reduce the number of missiles available to hit Taiwan, and also bring Japan’s military forces fully into a war. Even if it won the military campaign, Beijing would face the daunting prospect of trying to rule a society that was accustomed to democratic governance and would be inveterately hostile towards China for generations to come. Tibet would appear quiescent by comparison.

#### It’s empirically denied from every single previous “red line”

**Tiezzi 15** — Shannon Tiezzi, Associate Editor for the Diplomat, Former Research Associate at the US-China Policy Foundation, M.A. in East Asian Regional Studies from Harvard University, B.A. in Chinese Language and Literature from the University of William and Mary, 2015. (“On Taiwan Arms Sales, China's Bark May Be Worse Than Its Bite”, *The Diplomat*, December 18th, 2015, Available Online at: [http://thediplomat.com/2015/12/on-taiwan-arms-sales-chinas-bark-may-be-worse-than-its-bite/Accessed 9-13-16](http://thediplomat.com/2015/12/on-taiwan-arms-sales-chinas-bark-may-be-worse-than-its-bite/Accessed%209-13-16))

Interestingly, the promised sanctions against U.S. firms (which, as is the case today, were always a vague concept) never came. That may be in part because two of the firms involved in the 2010 sale – Boeing and General Electric – have major commercial interests in China. Actually following through on sanctioning these companies would have been a serious escalation in an already-tense relationship. In September 2011, the United States announced a $5.9 billion upgrade package for Taiwan’s F-16A/B fighter jets, to a fairly muted reaction from Beijing. Once again, a vice foreign minister (this time Zhang Zhijun) summoned the U.S. ambassador (then Gary Locke) to lodge a protest. Zhang warned the sale would “inevitably” take a toll on the overall relationship, especially military ties. Yet, even though one Chinese military officer urged China to “take revenge” in an article for the People’s Daily, Beijing didn’t take major steps to retaliate for the sale. A few U.S.-China military contacts were postponed, but nothing on the scale of 2010’s break. Part of that, however, may have been related to timing – Beijing was unwilling to create a huge issue in U.S.-China relations only a few months before a heavily anticipated tour of the United States by then president-in-waiting Xi Jinping. Xi’s February 2012 visit to the U.S. was seen as a display of his foreign policy prowess ahead of his actually assuming China’s top leadership roles; Beijing needed the visit to go off smoothly. Meanwhile, Taiwanese President Ma Ying-jeou, who had spearheaded a warming of cross-strait relations during his first term, faced reelection in January 2012. China’s leadership may have decided to cut Ma a break by not lashing out over the arms sale, in the hopes he would win reelection (and he did). So, with that background, what should we make of this week’s reaction from Beijing? First, it’s interesting that China summoned the U.S. charge d’affaires, rather than Ambassador Max Baucus himself, to lodge its protest – that suggests a more moderate response. Military relations will likely suffer in the short term, but given the intense work both sides have put into institutionalizing those ties since 2011, a serious break a la 2010 would be a huge blow, and likely farther than Beijing wants to go for the smallest Taiwan arms sale yet of the Obama administration. The proposed sanctions on U.S. companies are interesting, as it provides a new lever for Beijing to pull when responding to these arms sales. And despite what many observers dismiss as pro forma responses from China, it should be noted that U.S. arms sales to Taiwan remain the top issue of concern listed by Chinese military officials when discussing the relationship. But Beijing has made the sanctions threat before and not followed through – much as the Obama administration has yet to follow through on its threat to sanction Chinese companies profiting from cyber espionage. The threat alone remains a useful policy tool, and Beijing may again decide that warnings – rather than action – are enough.

## 1nr

### OV

#### Iternational antitrust norms currently prioritize comity—that’s key to IP protection because countries with stronger IP laws like SoKo use their antitrust to kill IP protection—kills biotech innovation. Oops they answered the wrong DA—this has nothing to do with protectionism

### 2NC – UQ

#### Courts prioritizing comity now

Masingill ‘18 [Megan; 2018; Senior Staff Member, American University Law Review, J.D. Candidate at American University Washington College of Law; American University Law Review; “Extraterritoriality of Antitrust Law: Applying the Supreme Court's Analysis in RJR Nabisco to Foreign Component Cartels,” vol. 68, iss. 2, https://digitalcommons.wcl.american.edu/cgi/viewcontent.cgi?article=2083&context=aulr]

The RJR Nabisco decision is analogous to, and instructive on, the analysis of extraterritoriality of U.S. antitrust law relating to the FTAIA. The Seventh Circuit’s interpretation of the scope of the FTAIA, as it relates to component cartels, is in line with this recent Supreme Court decision. Though non-binding, the Court’s interpretation of the federal RICO statute provides insight into the proper way to interpret the FTAIA.175

A. Analogizing RICO and the FTAIA

Drawing the analogy between RICO and the FTAIA is possible because the Supreme Court does so itself in RJR Nabisco by relying on antitrust law and previous decisions it has made regarding the extraterritorial reach of federal statutes.176 The Court saw a similarity between the two issues—racketeering and antitrust law—in the RJR Nabisco case and relied on antitrust law and its precedent to determine the extraterritoriality of another federal statute (RICO).177 Though the Court declined to apply the broad application found in the Clayton Act regarding a private right of action, it did so to balance against strong concerns of “international friction” and to rule in accordance with more recent congressional decisions to “reign in” the reach of such laws.178 By not prescribing the scope of the Clayton Act, the Court acknowledged that the purpose of enacting laws like the FTAIA was to narrow the scope of U.S. antitrust law, and that to allow a foreign plaintiff’s recovery would go against current extraterritoriality jurisprudence.179 Accordingly, the Court found that the enactment of the FTAIA, while not independently limiting on RICO, nonetheless discouraged using Sherman Act principles to discern the scope of RICO.180 The Court’s holding to deny a private action for foreign injury from racketeering activity in RJR Nabisco reflects this analysis.181

Additionally, the similarities between RICO and the Sherman Act, to which the FTAIA limits, are apparent—both are federal statutes aimed at counteracting corrupt activity at home and abroad having significant impacts on the commerce of the United States. Further, the relevant discussion surrounding both these statutes centers around the extraterritoriality of a federal U.S. law regarding corrupt practices, whether it be racketeering or price-fixing.182 It is true that the two statutes pertain to separate issues—the RICO statute deals with racketeering activity and the FTAIA with antitrust violations.183 Reducing the laws to their differences, however, is an oversimplified comparison. When reviewing the extraterritoriality of U.S. law, the analysis is the same in every situation, requiring the court to run through the same two-steps outlined in RJR Nabisco.184 Further, in both statutes, the conduct at issue is not the focus of that analysis, but rather the impact of the conduct—the effect on U.S. commerce.185 In fact, the laws do prohibit overlapping conduct, such as conspiracy, and both require a substantive showing that the conduct at issue had a requisite effect on domestic commerce.186

#### SCOTUS is shifting to expand the presumption against extraterritoriality to include antitrust

Bell ‘17 [Luke; March 2017; J.D., Candidate at J. Reuben Clark Law School, Brigham Young University; BYU Law Review; “Boundary Dispute: The Presumption Against Extraterritoriality as Judicial Nondelegation,” vol. 2017, iss. 2, https://digitalcommons.law.byu.edu/cgi/viewcontent.cgi?article=3092&context=lawreview]

In addition to its reluctance to undertake extraterritoriality inquiries with little statutory guidance in other contexts, the Supreme Court may also be rethinking whether the presumption against extraterritoriality should not apply to antitrust cases. The Sherman Act is arguably the best example of a broad delegation of policymaking power from Congress to courts,127 a delegation courts have accepted wholeheartedly. And unlike Title VII and section 10(b), the presumption against extraterritoriality apparently does not apply to antitrust suits under the Sherman Act.128 This, however, may be changing. Justice Alito’s opinion in RJR Nabisco casts doubt on the rationales articulated in antitrust cases decided “before we honed our extraterritoriality jurisprudence in Morrison and Kiobel.”129 Although Justice Alito was discussing cases interpreting the Clayton Act rather than the Sherman Act, his opinion suggests that recent developments in the Court’s extraterritoriality jurisprudence may have altered the playing field for future antitrust cases. This is especially true given that Justice Alito cites private antitrust suits as a source of “considerable controversy in other nations.”130 Justice Scalia’s dissenting opinion in Hartford Fire also seemed to hint at this possibility; if not for the Supreme Court precedent on point, which he begrudgingly followed, Scalia would have applied the presumption against extraterritoriality.131 These indications suggest the Court may not have had its final say on the presumption in relation to antitrust cases.132

[Start Footnote 132]

Of course, any reconsideration of whether the presumption against extraterritoriality applies to the Sherman Act would necessarily involve interpreting Congress’ extraterritorial intent as expressed in the Foreign Trade and Antitrust Improvements Act, 15 U.S.C. § 6a (2012)

[End Footnote 132]

This in turn provides further evidence that the Supreme Court’s willingness to accept congressional invitations to fill large gaps in broad statutes may be decreasing, at least where questions of extraterritoriality are implicated.

### AT: protectionism now

#### This just isn’t about the da lol

### Link

#### The aff causes retaliation, blocking statutes and anti-suit injunctions

Greenfield et al ’15 [Leon Greenfield; Steven Cherry; Perry Lange; Jacquelyn; Spring 2015; Partner at WilmerHale; Partner at Wilmerhale; Counsel at Wilmerhale; Asscoiate at WilmerHale; Antitrust; “Foreign Component Cartels and the U.S. Antitrust Laws: A First Principle Approach,” vol. 29, no. 2]

Most U.S. cartel enforcement actions in the last two decades have involved some element of international coordination among enforcement agencies. 50 Overreaching by the United States could easily threaten foreign political support for cooperation with U.S. antitrust authorities—or for robust antitrust enforcement of any sort—if foreign countries come to believe the United States will intrude on their authority to sanction anticompetitive conduct affecting the operation of their own markets and affecting U.S. markets only indirectly and derivatively. 51 Concern about perceived overreaching by U.S. courts and antitrust agencies has provoked strong protests and opposition from foreign nations, resulting in measures such as blocking statutes, anti-suit injunctions, and other retaliatory conduct. 52 The last two decades have brought about a more cooperative approach by both the United States and its major trading partners abroad, and it would be counterproductive to allow overreach of U.S. antitrust laws in component cartel cases to jeopardize this cooperation. A rational and harmonious system of global competition enforcement should leave each nation the exclusive authority to use competition law to safeguard the process of competition in its own markets, not in the markets of other nations.

#### Blocking statutes ensure corporate reallocations of resources – wrecks innovation

Kava ‘19 [Samuel; 2019; J.D./M.B.A. Candidate, 2020, University of Maryland Francis King Carey School of Law and Johns Hopkins University Carey School of Business; Journal of Business & Technology Law; “The Extraterritorial Application of the Sherman Anti-Trust Act in the Age of Globalization: The Need to Amend the Foreign Trade Antitrust Improvements Act (FTAIA) & Vigorously Apply International Comity;” vol. 15, no. 1, p. 135-164]

In addition, because our world is more integrated, compared to the time when the FTAIA was implemented, the adverse economic effects may be worse if foreign nations pursue modern blocking statutes. To hedge against judicial uncertainty, corporations will likely react by hiring more robust legal teams. By re-allocating money to legal costs, with the hopes of avoiding potential litigation and ensuring compliance with all nations’ laws, corporations would have foregone the opportunity to spend time and money on: (1) scaling its current line of products (which would decrease the price of goods for consumers), (2) enhancing the capabilities of its current line of products (which improve consumer capabilities and increase corporate profits), or (3) creating new and innovative products (which would benefit both consumers and producers). Thus, because corporations would be forced to spend more resources on avoiding litigation rather than research and development with the new blocking statutes, consumers, producers, distributors, and the economy as a whole will be adversely affected.

#### Competition bullying causes blowback

Connolly ‘15 [Robert; Jan. 2015; partner in the Washington, D.C. office of GeyerGorey, LLP; CPI Antitrust Chronicle; “Why the Motorola Mobility Decision was Good for Cartel Enforcement and Deterrence,” https://papers.ssrn.com/sol3/papers.cfm?abstract\_id=2559149]

Continued cooperation among enforcement agencies isn't just important in the areas of cartels, but also in mergers and other competition conduct cases. Thomas O. Barnett, recent head of the Division, stated that global antitrust enforcement could create “burdensome requirements” if “procedures and substantive antitrust analysis diverge across countries, which can lead to inconsistent or even incompatible results.”18 And, in Europe, Joaquín Almunia, the former European Commissioner for Competition, voiced a similar concern, “In this setting, our ability to protect competition on the merits, foster innovation, and keep markets open and fair will depend on how well we manage to establish a common set of principles and goals for our enforcement work.”19

If the United States is seen as a competition bully, the blowback in other areas besides cartels could be far reaching. Of course, core principles should not be abandoned. So, for example, the United States will likely continue to disagree with partners about the treatment of resale price maintenance. But the ability of a U.S. parent to stand in the shoes of its foreign subsidiary in order to press damages claims in the United States is not a core principle. In that area companies may have to simply “vote with their feet” and not set up foreign subsidiaries. An even more simple solution, and simple is usually better, would be for the U.S. parent to make purchases if it does not want to have to seek antitrust remedies under the laws of the country in which its subsidiary is are operating.

#### Preserving the presumption against extraterritoriality is key to maintain comity – the alternative is retaliation

Simmons ‘18 [Jay; 2018; Executive Senior Editor, Southern California Law Review, J.D. Candidate, University of Southern California Gould School of Law; Southern California Law Review; “What's in a Claim: Challenging Criminal Prosecutions under the FTAIA's Domestic Effects Exception,” vol. 92, p. 128-168]

Comity similarly counsels courts in criminal matters under the FTAIA. American laws should not presumptively supplant foreign governments' judgments concerning criminal liability, particularly in an interconnected global marketplace. Application of criminal punishment thus warrants hesitation upon consideration of "good relations with allied nations in a world in turmoil."' ' 35 The principles of fairness and reasonableness help to outline a doctrinally consistent conception of the FTAIA's domestic effects prong, as these principles have historically aided federal courts in crafting remedies and resolving international conflicts. 136

Alternatively, however, comity may counsel in favor of enabling criminal remedies for extraterritorial antitrust violations. For example, leading antitrust commentator Robert Connolly notes, "there is a difference between actions brought by the DOJ and private class action damages," particularly with respect to the extent to which government and private plaintiffs consider "comity considerations. '137 Arguing that "[n]o nation has objected to the DOJ's successful prosecution of foreign companies and even citizens of that country in the LCD panel investigation," and that "the DOJ seriously considers the views of foreign nations before bringing cases," Connolly, an experienced practitioner with decades of experience at the Antitrust Division of the Department of Justice, projects confidence that past practice makes perfect.' 38 This conception of the comity doctrine clearly influenced the court's decision in Motorola Mobility:

[T]he ... court should reach a decision that preserves the ability of the DOJ to protect American consumers and continue to lead the way in prosecuting international cartel s-including appropriate component cartels. The court could also acknowledge the comity concerns of foreign nations and find application of [the indirect purchaser doctrine] a bar to foreign component civil damage cases. 139

This view of comity appears highly limited, however, when cast against the principles underlying the doctrine and the weighty penalties associated with criminal antitrust actions under the Sherman Act. Neither the opinion in Motorola Mobility nor Connolly's commentary acknowledge the limited nature of justifying the extension of American criminal penalties abroad based upon foreign states' as-of-yet unstated approval of a single case arising from a single foreign conspiracy involving only several nations.

Under this view, to defend extraterritorial prosecutions beyond the Crystal Meetings conspiracy, something affirmative or principled is needed-something more than silence from foreign governments in the face of American action. Although coordination with foreign governments provides prima facie evidence that prosecutors can avoid chafing foreign sovereigns while applying the Sherman Act to wholly foreign conduct, the mere acquiescence of foreign states to such conduct should not temper characterization of American prosecutions as potential overreaching. 140 A more reasonable standard would presumptively limit the criminal domain of American prosecutors to domestic markets. This would encourage enhanced criminal enforcement activity by foreign governments, whose interests and authority are often more directly implicated in cases involving disputed extraterritorial conduct.

Fortunately, this is not a new concept. International comity already reflects an ingrained presumption against extraterritorial prosecutions under the Sherman Act. Generally, criminal law reflects social judgments regarding the proper magnitude of punishment acceptable for given violations in market competition and to consumer welfare. Different sovereign jurisdictions may make different judgments regarding whether to criminalize the same putatively anticompetitive conduct.14 1 Moreover, different states punish offenders in different ways for the same crimes.' 42 Variation in criminal punishment among developed nations reflects concomitant variation in social judgments regarding individual moral culpability and foundational precepts to systems of criminal justice. In this vein, from one dominant theoretical perspective, criminal liability confers a judgment of community condemnation of moral culpability.143

Amidst political uncertainty regarding norms of free trade and global economic cooperation, 144 American competition law should privilege the principles of reason and fairness imbued in the comity doctrine. Fairness lies at the heart of American criminal law-particularly when applied in the extraterritorial and criminal contexts. 145 Historical weighing of domestic and foreign sovereignty, which generally informs courts' extraterritorial jurisdiction, should be imported into analysis of the FTAJA's "claim" language in the context of criminal penalties. Certainly, the antitrust laws should not apply extraterritorially in criminal contexts when: (1) the parties are wholly foreign and foreign conduct constitutes the basis for the allegations; (2) direct effects are principally centered abroad; (3) there is a lack of foreseeable purpose to affect or harm domestic commerce; (4) foreign laws and policies conflict with American laws and policies to a high degree; and (5) simultaneous compliance with U.S. and foreign law is impossible.146 The FTAIA's "claim" language therefore naturally compliments the historically entrenched comity doctrine by barring criminal enforcement of the Sherman Act against foreign acts with effects on nonimport domestic commerce. 147

Moreover, the strong presumption against extraterritorial application of federal law clearly applies in the case of criminal actions under the FTAIA. Courts presume that federal statutes do not apply extraterritorially in the absence of express legislative intent to the contrary. 148 To avoid this presumption against extraterritorial application of U.S. law, a plaintiff typically must bring a significant showing before the court of some "clear" expression of legislative intent to invoke the law beyond U.S. sovereign control. 149

#### Cooperation is a matter of degrees – the aff kills the golden goose

Connolly ‘15 [Robert; Jan. 2015; partner in the Washington, D.C. office of GeyerGorey, LLP; CPI Antitrust Chronicle; “Why the Motorola Mobility Decision was Good for Cartel Enforcement and Deterrence,” https://papers.ssrn.com/sol3/papers.cfm?abstract\_id=2559149]

Do I think that had the sovereignty interests of foreign governments (as expressed in their amicus briefs) been ignored in Motorola Mobility, these and other governments would have stopped cooperating in international cartel investigations? Would we return to the days of “blocking” statutes and “claw back” provisions? Probably not. But cooperation is a matter of degree and requires mutual trust and respect between partners. And it is required in a number of areas. The timing of dawn raids is currently a subject of effective international cooperation. Confidentiality of information is another key area of cooperation that have been essential to the proliferation of leniency programs. Even small areas of increased friction in these or other areas could help kill the golden goose—the governmental enforcement actions that precede civil damage cases. Optimal continued cooperation sometimes means respecting partners’ views and processes, even though you’re sure you know best.

### **AT: First and Bush**

#### 1] Doesn’t assume the plan which is an expansion of antitrust

#### 2] our ev is way newer

### AT: Trade Link turn

#### The da isn’t about trade and no reason increasing trade affects IP enfocement

### AT: Murray and 2ac 6

#### This is a neg card—consideration of comity is necessary. The aff is NOT the murray card. Their explanation in cx says nothing about comity concerns being integrated into the balancing test. They just say “we don’t go after random companies” which isn’t even a little bit what the link arg is—it’s just generally about the application of laws extraterritorially

### 2NC – Internal

#### Key to global innovation and tech diffusion

Naghavi & Prarolo 18 [Alireza. Giovanni. Department of Economics, University of Bologna, Bologna, Italy. "Harmonisation and globalisation of intellectual property culture." Page 1864]

While the debate on the protection of IPRs has often been placed in a “North–South” perspective, this paper addresses Southern innovation. We show the different roles IPRs can play for the globalisation of Southern intellectual property depending on the location of enforcement. The aim is to study the relationship between the harmonisation of intellectual property protection culture and the globalisation of the culture of innovation. The road taken brings us to the question whether the harmonisation of IPR protection can stimulate the internationalisation of intellectual property that originates from the South. Observing the engagement of Southern innovators in patenting activities in the North brings the message that this culture has: (i) already travelled to the South; and (ii) is going through a phase of globalisation.

Country-level data on the foreign-patenting activities of NICs in OECD countries reveal that strengthening IPR protection in the South encourages domestic Southern firms to engage in global innovation activities. At the same time, the results reinforced the necessity of a strong IPR regime in the South to attract MNEs and for research activities to be operative there in the first place for the South to eventually engage in patenting activities abroad. In contrast, a stringent IPR regime in the North could hinder foreign patenting by NICs by making it more difficult for innovators from the latter to enter the Northern market. South–North patenting should hence be at their peak if we observe a convergence of protection levels in the two regions. By convergence of IPR protection levels, we do not necessarily mean the need for relaxing IPRs in the North and upgrading them in the South, but a convergence of IPR systems, that is, reaching a rallying point in the implementation of an effective IPR policy to encourage the participation of each country in international innovation activities and the diffusion and use of state of the art technologies across countries. A starting point could be cooperating for the development of reciprocal legal and technical tools aimed at lowering barriers to foreign-patenting activities and improving the quality and transparency of the global patent system in general. In sum, the harmonisation of intellectual property culture leads to its globalization.

#### IPR is key to innovation.

Ervin ’17 [Koren W. Wong-Ervin, Douglas H. Ginsburg, Joshua D. Wright, and Bruce H. Kobayashi; former Counsel for Intellectual Property and International Antitrust at the U.S. Federal Trade Commission; Retired Chief Judge of the DC Court of Appeals, Law Professor at George Mason University; Former Commissioner of the Federal Trade Commissioner, Law Professor at George Mason University; Economics PhD and Law Professor at George Mason University; George Mason University Law & Economics Research Paper Series, “Comment Of The Global Antitrust Institute, Antonin Scalia Law School, George Mason University, On The Anti-Monopoly Commission Of The State Council’s Anti-Monopoly Guidelines Against Abuse Of Intellectual Property Rights,” https://ssrn.com/abstract=2952414]

THE ECONOMICS OF INNOVATION

Economic theory and empirical evidence show that IPRs—a central feature of which is the right to exclude—incentivize the creation of inventions, ideas, and original works.2 They also facilitate the sale and licensing of intellectual property (IP) by defining the scope of property right protection and lowering transaction costs, and they produce incentives to develop alternative technologies as well as improvements and other derivative uses.

The incentive function of IP is illustrated by considering the sale of an invention in the absence of enforceable IPRs. The sale of an invention requires disclosure to the potential buyer. In the absence of enforceable IPRs, the potential buyer—now with knowledge of the invention— has no incentive to purchase or license the invention. This possibility deters the seller from disclosing the invention in the first place. Enforceable property rights solve this problem by allowing the seller to disclose the invention without fear that it will be lawfully appropriated without compensation. The inventor can anticipate the ability to appropriate the returns from investment in producing the invention, which serves as an incentive to invest in producing and to disclose the invention in the first place.

The economic literature also focuses on the related issue of the optimal tradeoff between these incentives and the ability to use the invention.3 Inventions and works protected by IPRs are non-rivalrous, meaning one firm using a specific IPR does not diminish the ability of another firm to use the same IPR. Also, the cost of having another firm use an existing IPR is effectively zero. As a consequence, from a static welfare perspective, it is desirable to disseminate IPRs to every firm (or consumer) that has a positive valuation for the IPR. Of course, doing so would create a strong disincentive to innovate in the first place, to the great detriment of dynamic efficiency, which refers to the gains that result from entirely new ways of doing business. While static efficiency may increase consumer welfare in the short run, economics teaches us that dynamic efficiency, including societal gains from innovation, are an even greater driver of consumer welfare.4

After the investments and competitive effort required to spur breakthrough inventions have been made and proven successful, it can be tempting to carve up the benefits and distribute them throughout the economy. Doing so, however, would harm competition, innovation, and consumers. If the government is too willing to step in and appropriate the gains from innovation and dynamic competition, then potential innovators anticipating such interventions will have weak incentives to risk investment in new inventions. Likewise, if the laws governing abuse of IPRs is uncertain or unpredictable, potential innovators will also have weak incentives to innovate. Our specific recommendations below attempt to identify those specific provisions that are unclear, counterproductive, or do not strike a balance between encouraging the use of existing innovations through the AML and the incentives for investment in new innovation.

#### Strong patent systems solves innovation in every sector

Kline 14 [David Kline, Pulitzer Prize Winning Journalist and Strategic Communications Strategist, “Do Patents Truly Promote Innovation?”, IP WatchDog, 4-15, http://www.ipwatchdog.com/2014/04/15/do-patents-truly-promote-innovation/id=48768/]

In recent years, a great many studies of the real-world impact of patenting on innovation and economic growth (many available for free on ssrn.com) point to its beneficial effects. Arrow (1962), Griliches (1963), Schmookler (1966), Kitch (1977), Reinganum (1981), Tirole (1988), Klemperer (1990), Romer (1990), Giulbert and Shapiro (1990), Grossman and Helpman (1991), Aghion and Howitt (1992), Scotchmer (1999), and Gallini (2002) all found that patents foster ex ante innovation — meaning, they induce people to invent because of the prospect of reward.

Invention, it has been shown, is driven primarily not by genius or happenstance but rather by markets and the expectation of the profit that can be gained by securing the patent rights to new technologies. Zorina Khan of Bowdoin College and the late Kenneth Sokoloff at UCLA found that among the “great inventors” of the 19th century, “their patterns of patenting were procyclical [and] responded to expected profit opportunities.” And as Khan noted elsewhere, “Ordinary people [are] stimulated by higher perceived returns or demand-side incentives to make long-term commitments to inventive activity.”

By contrast, in countries without patent rights, Barro (1995) found that people have an “excessive incentive to copy” and insufficient incentive to invent for themselves. Moser (2004), meanwhile, reported that “inventors in countries without patent laws focus on a small set of industries … while innovation in countries with patent laws [is] much more diversified.”

The evidence that patents foster innovation is not confined solely to the U.S. or even to developed countries. In 2008, a study by the Organization for Economic Co-operation and Development (OECD) found that “stronger levels of patent protection are positively and significantly associated with inflows of high-tech product [and] expenditures on R&D.”

And in a study that attracted wide attention, Shih-Tse Lo of Concordia University in Montreal reported that the reforms strengthening the Taiwanese patent system in 1986 “stimulated additional inventive activity, especially in industries where patent protection is generally regarded as an effective strategy for extracting returns, and in industries which are more R&D intensive. The reforms also seemed to induce additional foreign direct investment in Taiwan.” But such benefits did not accrue across all sectors of the economy. “For industries that chiefly use other mechanisms to extract returns from their innovations, such as [trade] secrecy, the strengthening of patent rights had little effect on their inventive activity.”

In addition to encouraging ex ante innovation, Acemoglu, Bimpikis, and Ozdaglar (2008) discovered that “patents [also] improve the allocation of resources by encouraging rapid experimentation and efficient ex post transfer of knowledge across firms.”

Given that patents grant exclusionary rights, some will be surprised to learn that the patent system is actually one of the most effective tools for knowledge-sharing and technology transfer ever devised. A 2006 study by French economists Francois Leveque and Yann Meniere found that 88 percent of U.S., European, and Japanese businesses rely upon the information disclosed in patents to keep up with technology advances and direct their own R&D efforts.

This is hardly a new phenomenon. The inventor Elias E. Reis reported that when he read in the Official Gazette in 1886 about a patent issued to Elihu Thomson for a new method of electric welding, “there immediately opened up to my mind a field of new applications to which I saw I could apply my system of producing heat in large quantities.” And Thomas Edison was known to frequent the patent office to study other inventors’ patents and spark ideas of his own.

Indeed, new research published last year found that rather than blocking development, Thomas Edison’s seminal 1880 incandescent lamp patent (No. 223,898) actually “stimulated downstream development work” that resulted in “new technologies of commercial significance [including] the Tesla coil, hermetically sealed connectors, chemical vapor deposition process, tungsten lamp filaments and phosphorescent lighting that led to today’s fluorescent lamps.”

As Sokoloff and Naomi Lamoreaux at Yale (1997) observe, “The very act of establishing exclusive property rights in invention not only protected patentees but also promoted the diffusion of information about technology. To see why, imagine a world in which there was no patent system to guarantee inventors property rights to their discoveries. In such a world, inventors would have every incentive to be secretive and to guard jealously their discoveries from competitors [because those discoveries] could, of course, be copied with impunity.

“By contrast,” they noted, “in a world where property rights in invention were protected, the situation would be very different. Inventors would now feel free to promote their discoveries as widely as possible so as to maximize returns either from commercializing their ideas themselves or from [licensing] rights to the idea to others. The protections offered by the patent system would thus be an important stimulus to the exchange of technological information in and of themselves. Moreover, it is likely that the cross-fertilization that resulted from these information flows would be a potent stimulus to technological change.”

#### An effective patent process is key to pharmaceutical innovation

Grabowski et al 15 [Henry G. Grabowski, professor of economics at Duke University, Joseph A. DiMasi is director of economic analysis at the Tufts Center for the Study of Drug Development, Genia Long is a senior advisor at the Analysis Group, “The Roles Of Patents And Research And Development Incentives In Biopharmaceutical Innovation,” Health Affairs, 34.2 (Feb 2015): 302-310. ProQuest]

Patents and other forms of intellectual property protection play essential roles in encouraging innovation in biopharmaceuticals. As part of the "21st Century Cures" initiative, Congress is reviewing the policy mechanisms designed to accelerate the discovery, development, and delivery of new treatments. Debate continues about how best to balance patent and intellectual property incentives to encourage innovation, on the one hand, and generic utilization and price competition, on the other hand. We review the current framework for accomplishing these dual objectives and the important role of patents and regulatory exclusivity (together, the patent-based system), given the lengthy, costly, and risky biopharmaceutical research and development process. We summarize existing targeted incentives, such as for orphan drugs and neglected diseases, and we consider the pros and cons of proposed voluntary or mandatory alternatives to the patent-based system, such as prizes and government research and development contracting. We conclude that patents and regulatory exclusivity provisions are likely to remain the core approach to providing incentives for biopharmaceutical research and development. However, prizes and other voluntary supplements could play a useful role in addressing unmet needs and gaps in specific circumstances. Technological innovation is widely recognized as a key determinant of economic and public health progress.1,2 Patents and other forms of intellectual property protection are generally thought to play essential roles in encouraging innovation in biopharmaceuticals. This is because the process of developing a new drug and bringing it to market is long, costly, and risky, and the costs of imitation are low. After a new drug has been approved and is being marketed, its patents protect it from competition from chemically identical entrants (or entrants infringing on other patents) for a period of time. For firms to have an incentive to continue to invest in innovative development efforts, they must have an expectation that they can charge enough during this period to recoup costs and make a profit. After a drug's patent or patents expire, generic rivals can enter the market at greatly reduced development cost and prices, providing added consumer benefit but eroding the innovator drug company's revenues. The Drug Price Competition and Patent Term Restoration Act of 1984 (commonly known as the Hatch- Waxman Act) was designed to balance innovation incentives and generic price competition for new drugs (generally small-molecule chemical drugs, with some large-molecule biologic exceptions) by extending the period of a drug's marketing exclusivity while providing a regulatory framework for generic drug approval. This framework was later changed to encompass so-called biosimilars for large-molecule ( biologic) drugs through the separate Biologics Price Competition and Innovation Act of 2009. Other measures have been enacted to provide research and development (R&D) incentives for antibiotics and drugs to treat orphan diseases and neglected tropical diseases. Discussion continues about whether current innovation incentives are optimal or even adequate, given evolving public health needs and scientific knowledge. For instance, the House Energy and Commerce Committee recently embarked on the "21st Century Cures" initiative,3 following earlier recommendations by the President's Council of Advisors on Science and Technology on responding to challenges in " propelling innovation in drug discovery, development, and evaluation."4 In this context, we discuss the importance of patents and other forms of intellectual property protection to biopharmaceutical innovation, given the unique economic characteristics of drug research and development. We also review the R&D incentives that complement patents in certain circumstances. Finally, we consider the pros and cons of selected voluntary ("opt-in") or mandatory alternatives to the current patent- and regulatory exclusivity-based system (such as prizes or government-contracted drug development) and whether they could better achieve the dual goals of innovation incentives and price competition. The Role Of Patents In Biopharmaceutical Innovation The essential rationale for patent protection for biopharmaceuticals is that long-term benefits in the form of continued future innovation by pioneer or brand-name drug manufacturers outweigh the relatively short-term restrictions on imitative cost competition associated with market exclusivity. Regardless, the entry of other branded agents remains an important source of therapeutic competition during the patent term. Several economic characteristics make patents and intellectual property protection particularly important to innovation incentives for the biopharmaceutical industry.5 The R&D process often takes more than a decade to complete, and according to a recent analysis by Joseph DiMasi and colleagues, per new drug approval ( including failed attempts), it involves more than a billion dollars in out-of-pocket costs.6 Only approximately one in eight drug candidates survive clinical testing.6 As a result of the high risks of failure and the high costs, research and development must be funded by the few successful, on-market products (the top quintile of marketed products provide the dominant share of R&D returns).7,8 Once a new drug's patent term and any regulatory exclusivity provisions have expired, competing manufacturers are allowed to sell generic equivalents that require the investment of only several million dollars and that have a high likelihood of commercial success. Absent intellectual property protections that allow marketing exclusivity, innovative firms would be unlikely to make the costly and risky investments needed to bring a new drug to market. Patents confer the right to exclude competitors for a limited time within a given scope, as defined by patent claims. However, they do not guarantee demand, nor do they prevent competition from nonidentical drugs that treat the same diseases and fall outside the protection of the patents. New products may enter the same therapeutic class with common mechanisms of action but different molecular structures (for example, different statins) or with differing mechanisms of action (such as calcium channel blockers and angiotensin receptor blockers).9 Joseph DiMasi and Laura Faden have found that the time between a first-in-class new drug and subsequent new drugs in the same therapeutic class has been dramatically reduced, from a median of 10.2 years in the 1970s to 2.5 years in the early 2000s.10 Drugs in the same class compete through quality and price for preferred placement on drug formularies and physicians' choices for patient treatment. Patents play an essential role in the economic "ecosystem" of discovery and investment that has developed since the 1980s. Hundreds of start-up firms, often backed by venture capital, have been launched, and a robust innovation market has emerged.11 The value of these development-stage firms is largely determined by their proprietary technologies and the candidate drugs they have in development. As a result, the strength of intellectual property protection plays a key role in funding and partnership opportunities for such firms. Universities also play a key role in the R&D ecosystem because they conduct basic biomedical research supported by sponsored research grants from the National Institutes of Health (NIH) and the National Science Foundation (NSF). The Patent and Trademark Law Amendments Act of 1980 (commonly known as the Bayh-Dole Act) gave universities the right to retain title to patents and discoveries made through federally funded research. This change was designed to encourage technology transfer through industry licensing and the creation of start-up companies. Universities received only 390 patents for their discoveries in 1980,12 compared to 4,296 in 2011, with biotechnology and pharmaceuticals being the top two technology areas (accounting for 36 percent of all university patent awards in 2012).13 University licensing trends have generated debate. For instance, there have been recent proposals to encourage the federal government to "march in" and require a university to license a patent or enforce reduced pricing or other terms.14 The percentage of approved drugs with public-sector patents is relatively small.15 Nevertheless, if the government exercised its march-in rights in this way, that action could have adverse effects on technology transfer activities and earlystage company investment, particularly if it were to disrupt existing expectations of grantees, licensees, and investors.12 There have been four petitions to the NIH requesting it to exercise march-in rights on behalf of the federal government; none has been granted.16 Patents And Exclusivity Provisions For Drugs And Biologics The Hatch- Waxman Act created a low-cost regulatory mechanism for generic drug manufacturers to obtain marketing approval from the Food and Drug Administration (FDA) by submitting an abbreviated new drug application and demonstrating the drug's bioequivalence to the innovative "reference" product. For innovators, the act restores some of the "patent clock" time lost during lengthy clinical trials and FDA review periods. It also provides a five-year regulatory exclusivity period for new molecular entities that runs concurrently with patent term protection, during which time an abbreviated new drug application cannot be submitted (four years in the case of a patent challenge). The act also encourages generic manufacturers to challenge brand-name patents, in that the first company to file an abbreviated new drug application with a patent challenge is eligible to receive 180 days of generic drug market exclusivity, during which time no other generic competitor can enter the market. As a result, patent challenges have become a major factor in generic competition. Exhibit 1 summarizes the main provisions of the Hatch- Waxman Act. The act's effects have been extensively analyzed elsewhere.17,18 Since the 1980s, biologics (large-molecule products such as vaccines, blood or blood components, proteins, and living cells created or modified through a biologic process) have become increasingly significant, both clinically and economically. New chemical drugs receive five years of marketing exclusivity under the Hatch- Waxman Act. In contrast, new biologic products enjoy twelve years of regulatory exclusivity under the Biologics Price Competition and Innovation Act (patents may provide lesser or greater protection). The latter act also created an abbreviated regulatory pathway for so-called biosimilars, with applications under it relying in part on the innovator drug's data on safety and efficacy, together with a framework of provisions regarding regulatory exclusivity and patent challenges (Exhibit 1) .19 There are no 180-day exclusivity periods for patent challenges by biosimilar applicants. Instead, the Biologics Price Competition and Innovation Act mandates an information exchange between the parties and specifies timelines for filing lawsuits and responses after an application is submitted.19 Several biosimilars have been approved in Europe.20 However, biosimilar regulation, development, and competition in the United States are still in the early stages. The FDA recently accepted its first biosimilar application (for Sandoz's filgrastim), and its Oncologic Drugs Advisory Committee has recommended approval. 21 The FDA has not yet issued its decision on whether to approve the drug given the evidence submitted and, if so, whether it will designate it as interchangeable with the reference drug. The different regulatory exclusivity provisions of the Biologics Price Competition and Innovation Act and the Hatch- Waxman Act have stimulated discussions regarding the potential implications of different incentives for R&D investments for small-molecule versus large- molecule projects.22 Another concern is whether, even after taking account of the patent restoration provisions applicable to all new drugs, there are adequate incentives for innovator companies to develop therapies that require particularly large and risky investments, such as oncology therapies for which the FDA requires long-term survival data instead of more easily obtainable surrogate endpoint data for approval.23 Generic Competition And Market Exclusivity Periods Since the passage of the Hatch- Waxman Act, generic competition has flourished, and generics quickly capture dominant shares of prescriptions when patent protection of branded products ends.17,18 Generic drugs accounted for 86 percent of US prescriptions in 2013, compared with only 19 percent in 1984.24 Patent and regulatory exclusivity terms, together with market entry decisions by generic drug firms, determine the market exclusivity period of a new branded drug (the time between the launch of the drug and the launch of its first generic competitor). Because of the time required to conduct clinical trials and earn FDA approval, the market exclusivity period for drugs is generally much shorter than the statutory twenty-year patent life. The most recently calculated average market exclusivity period for new small-molecule drugs that experienced initial generic drug entry in 2011-12 was 12.9 years.17 The average market exclusivity period remained relatively constant between 1995 and 2012, varying between 12.2 and 13.7 years.17 However, other factors have changed, which may lead to reductions over time. For example, patent challenges have become more common in recent years and have occurred much sooner after the originator product's launch date. Specifically, 81 percent of new small-molecule drugs that experienced first generic entry in 2012 had had their patents challenged by potential generic competitors, compared to only 9 percent in 1995.17 There are some indications that this trend may be causing a reduction in market exclusivity periods, especially for higher-revenue drugs.25,26 With the increase in patent challenges, settlements between generic and innovator or brandname firms have permitted the parties to enter into agreements that allow generic entry prior to the patent's expiration and avoid the uncertainties associated with litigation. However, some of these settlements have raised antitrust concerns on the part of the Federal Trade Commission (FTC). After conflicting US district court rulings, in 2013 the US Supreme Court decided in FTC v. Actavis, Inc., that agreements according to which innovator firms provide something of value to generic firms (sometimes referred to as "pay for delay" or "reverse payment" agreements) are neither presumptively lawful nor presumptively unlawful. Instead, they must be evaluated using a "rule of reason" standard.27 Evolving case law on patent challenges and settlements could have important effects on the future behavior of innovator and generic firms. Under the America Invents Act of 2011, the US patent system has transitioned from a "first- toinvent" to a "first-to-file" system, aligning itself with the patent systems in most other countries. The act also provides an additional postpatent grant review pathway for generic firms to challenge the validity of innovators' patents. The impact of these changes on competition is not yet known and remains an important issue for further research. Targeted Exclusivity And Complementary Incentives Congress expanded the innovation policy "tool kit" by enacting special exclusivity incentives to stimulate the development of new drugs and to encourage additional clinical studies in pediatric populations, studies of "orphan" drugs, and studies of antibiotics that address life- threatening illnesses associated with drug-resistant bacteria. These periods supplement baseline patent and regulatory exclusivity periods with additional incentive mechanisms (Exhibit 2). PEDIATRIC STUDIES Patent and regulatory exclusivity periods may be extended by six months under what is known as "pediatric exclusivity." Historically, many drugs commonly prescribed for children had not been studied extensively in pediatric populations, given limited patient populations, recruitment difficulties, and other challenges. As a result, dosing, safety, efficacy, and side-effect information specific to children was largely unavailable to regulators, clinicians, patients, and their families. As part of the Food and Drug Administration Modernization Act of 1997, Congress enacted a six-month exclusivity incentive for pediatric clinical studies that are conducted in response to a written request from the FDA (Exhibit 2). The program has been successful in increasing clinical trial evidence on pediatric outcomes, although some delays in generic entry associated with the extra six months of market exclusivity have been criticized.28 Pediatric exclusivity incentives had been subject to annual five-year evaluations and sunset provisions, but Congress made the incentives permanent in 2012. ORPHAN DRUGS Recognizing that high R&D costs create financial disincentives when the number of potential patients is small, Congress passed the Orphan Drug Act of 1983 (Exhibit 2). The act increases incentives for developing drugs to treat rare diseases (those affecting fewer than 200,000 people in the United States each year). Orphan drug designation provides exclusive marketing rights for seven years from approval, tax credits, government grants, and access to special technical advice from the FDA. The program has been highly successful in increasing the level of drug development investment in rare diseases. Between 1984 and 2011 the FDA granted 2,626 orphan designations for drugs in development, and it approved for mar- keting more than 350 drugs with orphan designations. In contrast, during the ten years before the law's passage, fewer than ten such products were approved and marketed.29 Frank Lichtenberg found that the increase in new orphan drug approvals resulted in a significant reduction in potential years of life lost before age sixty-five resulting from rare diseases in France and the United States.30 ANTIBIOTICS Since the 1990s various health agencies have identified growing antibiotic resistance as a major health threat, but few new antibiotics have been introduced.31 Concerns about resistance have increased. However, reserving new antibiotics as drugs of "last resort" constrains their sales. Together with rising R&D costs and other challenges, this created a disincentive to investment in developing new antibiotics. The Generating Antibiotic Incentives Now (GAIN) Act of 2012 was designed to strengthen the pipeline of antibiotic and antifungal drugs for life-threatening or other serious infections by providing several economic incentives (Exhibit 2). These include a five-year extension of regulatory exclusivity from generic competition (supplementing the five years of exclusivity for new small-molecule drugs under the HatchWaxman Act and any applicable orphan drug and pediatric exclusivity). These drugs are also eligible for the FDA's Fast Track and Priority Review programs. Fast Track status provides more frequent interactions with FDA review teams and the opportunity for a "rolling review," or review of portions of the application before the complete application is submitted. Priority reviews are expected to be completed by the FDA within six months-substantially faster than the ten months required for a standard review. Thirty-five antibiotics have been designated as qualified infectious disease products under the GAIN Act, making them eligible for these incentives, including extended regulatory exclusivity, if the FDA approves them.32 As of December 2014, four had been approved: dalbavancin, tedizolid, oritavancib, and a combination of ceftolozane and tazobactam.33 The FDA is also developing guidance for antibacterial drug development, as called for in the GAIN Act. NEGLECTED DISEASES In cases where an inadequate market exists for a developed drug because of insufficient demand, other mechanisms have been proposed or implemented. These cases include neglected tropical diseases in less developed countries and rare pediatric diseases. \* TRANSFERABLE PRIORITY REVIEW VOUCHERS: The Food and Drug Administration Amendments Act of 2007 authorizes the FDA to award a Priority Review voucher to the manufacturer of a newly approved drug or biologic application that targets any of sixteen specific neglected tropical diseases and that offers major advances in treatment or provides treatment where no adequate therapy has existed (Exhibit 2).34 A bill adding Ebola to the list-the Adding Ebola to the FDA Priority Review Voucher Program Act-was passed by Congress in 2014 and signed into law. The voucher may be transferred or sold to another manufacturer. It entitles the holder to a Priority Review for another product that would not otherwise be eligible for one. To ensure that the additional Priority Review does not displace another drug's Priority Review, the FDA also is paid a user fee by the voucher recipient ( approximately $2.3 million in 2014). In 2012 the program was modified to add rare pediatric diseases on a trial basis, among other changes. Four products (for malaria, tuberculosis, Morquio A syndrome, and leishmaniasis) have thus far earned transferable vouchers. Confirming the potential economic value of a voucher, Gilead Sciences recently announced that it is paying $125 million for the voucher received by Knight Therapeutics, but it has not yet announced for which drug it will be used.35 This follows an earlier announcement by Regeneron and Sanofi that they had purchased a voucher received by BioMarin for $67.5 million and would use it for their injectable cholesterol drug.36 \*ADVANCE MARKET COMMITMENTS: In an advance market commitment (a concept developed by Michael Kremer and others), donors make a long-term contractual pledge to pay a "top-up" price for unit sales of a new vaccine when it is successfully developed and if target countries are willing to pay modest copayments per unit (Exhibit 2).37 In this way, the guarantee of an attractive sustained market is intended to attract sufficient R&D investment and capacity construction. In an initial test in 2007, a number of countries and the Bill & Melinda Gates Foundation committed a combined total of $1.5 billion for pneu- mococcal disease vaccines in late-stage development. And in 2010 GlaxoSmithKline and Pfizer signed commitments to provide thirty million doses of their respective second-generation multistrain pneumococcal vaccines each year during a ten-year contract, which is expected to prevent more than 500,000 child deaths over the decade.38 Alternatives To The Patent-Based System Some critics of the patent-based system have advocated replacing it with prize systems, government contracting, or other options that they argue could better balance the dual objectives of price competition and innovation incentives.39 For instance, legislation-the Medical Innovation Prize Act-was introduced in Congress in 2005 that would substitute a prize approach for patents. As proposed alternatives to the patent system, government spending could be substituted for private R&D spending, directly through government contracts or through a prize system for specified drug innovations.40 Through either method, government expenditures would be funded by additional federal taxes. These would be theoretically offset, at least in part, by lower prices from the immediate "genericization" of all drugs covered by these programs at launch. Proponents of the prize system approach contend that pharmaceutical prices remain significantly above the marginal costs of production (which exclude the high fixed costs of R&D and other up-front investments) and that, as a result, health care costs are higher than they would be in the absence of patents and regulatory exclusivity (at least temporarily, and for drugs that would be developed and launched under such a regime). This means that some patients in need of certain medicines are unable to afford them. These proposals present both theoretical and practical problems, depending on their design and on whether they would be mandatory alternatives or voluntary supplements to the existing intellectual property system. As mandatory alternatives, they would introduce more immediate generic price competition but also risks of reduced innovation incentives, R&D delays, and therefore fewer new therapies' being developed and coming to market. As supplements, depending on their design, they might address important unmet needs and gaps.38 A detailed analysis of alternatives is beyond the scope of this article. However, some of the key issues are summarized briefly below. GOVERNMENT-CONTRACTED DRUG DEVELOPMENT As a widespread replacement for private-sector later-stage R&D investment, direct government purchase through grants and contracts generally would require a degree of centralized information and decision making that critics say would introduce uncertainties and delays into biotechnology's scientific and business environment. Program administrators would face challenges in "picking winners" among constantly changing scientific opportunities and competing organizations. In comparison, NIH grants have focused on basic research and technology transfer, instead of on late-stage drug development, and the grants amount to a fraction of private-sector investment.12 In some cases, however, no effective market exists, and government contracting might provide a necessary complementary incentive to patents. For example, in response to bioterrorism threats, the government has developed funding programs and other initiatives to encourage research and development in the absence of a developed market (Exhibit 2) .41 The importance of consistent and adequate investment in underdeveloped therapies and the public health linkage between developed and less-developed regions is highlighted by recent developments in the spread of Ebola. PRIZE SYSTEMS Prizes have the advantage of rewarding outputs instead of funding inputs (they only pay for success), and in some instances they may attract a wider set of options and market participants, compared to current market incumbents. However, there would be several challenges if they were mandatory replacements for patents. First, prizes generally require clear, prespecified performance criteria, which might not always be possible to define. Second, given that the biopharmaceutical R&D process is particularly long and costly, prizes could be subject to "hold-up" problems. As a result, innovators might fear that, having made substantial nonrecoverable investments over many years, they could see their prizes reduced by legislatures or government agencies because of budget constraints or cost reduction efforts. Early-stage venture-supported research and development would be particularly vulnerable. Third, biomedical progress often occurs incrementally, as successive "best-in-class" drugs are introduced.42 It is also clinically desirable that a variety of agents be available, given sometimes idiosyncratic patient response. Unless an ongoing series of prizes were offered to simulate the effects of such dynamic competition, the benefits of therapeutic on-patent competition would be lost in a "winner-take-all" competition. Voluntary prizes that supplemented the patent system could mitigate many of these problems and maintain market incentives. Noting that prizes are often focused on demonstration projects instead of on widespread access to valued new technologies, Michael Kremer and Heidi Williams suggest incorporating market acceptance features (as in an advance market commitment). They also observe that having voluntary programs supplement patents instead of replacing them would limit the risk of undermining investors' long-term expectations of future rewards, which is critical to current innovation incentives.3

### Impact

#### Biotech solves engineered bioterror---it’s likely and causes extinction

**Maurer 17 –** Stephen M. Maurer, JD from Harvard law School, Director of the Goldman School Project at the University of California, Berkeley on Information Technology and Homeland Security, “Lifeboat Foundation Bioshield”, http://lifeboat.com/ex/bio.shield

Ray Kurzweil says “We have an **existential threat** now in the form of the possibility of a bioengineered malevolent biological virus. With all the talk of bioterrorism, the possibility of a bioengineered bioterrorism agent gets little and inadequate attention. The **tools** and **knowledge** to create a bioengineered pathogen are **more widespread** than the tools and knowledge to create an atomic weapon, yet it could be far more destructive. I’m on the Army Science Advisory Group (a board of five people who advise the Army on science and technology), and the Army is the institution responsible for the nation’s bioterrorism protection. Without revealing anything confidential, I can say that there is acute awareness of these dangers, but there is neither the funding nor national priority to address them in an adequate way.”

Ebola is the common term for a group of viruses belonging to genus Ebolavirus, family Filoviridae, which cause Ebola hemorrhagic fever. The disease can be deadly and encompasses a range of symptoms, usually including vomiting, diarrhea, general body pain, internal and external bleeding, and fever. Mortality rates are generally high, ranging from 50% to 90%, with the cause of death usually due to shock or multiple organ failure. Today more than a quarter of all deaths worldwide — 15 million each year — are due to infectious diseases. These include 4 million from respiratory infections, 3 million from HIV/AIDS, and 2 million from waterborne diseases such as cholera. This is a continuing and intolerable holocaust that, while sparing no class, strikes hardest at the weak, the impoverished, and the young.

The new realities of terrorism and suicide bombers pull us one step further. How would we react to the devastation caused by a virus or bacterium or other pathogen unleashed not by the forces of nature, but intentionally by man?

No intelligence agency, no matter how astute, and no military, no matter how powerful and dedicated, can assure that a small terrorist group using readily available equipment in a small and apparently innocuous setting cannot mount a first-order biological attack. With the rapid advancements in technology, we are rapidly moving from having to worry about state-based biological programs to smaller terrorist-based biological programs.

It’s possible today to synthesize virulent pathogens from scratch, or to engineer and manufacture prions that, introduced undetectably over time into a nation’s food supply, would after a long delay afflict millions with a terrible and often fatal disease. It’s a new world.

Though not as initially dramatic as a nuclear blast, biological warfare is potentially far more destructive than the kind of nuclear attack feasible at the operational level of the terrorist. And biological war is itself distressingly easy to wage.

Regulation

Rules and regulations can slow down development of any bioweapons until the BioShield is complete. We suggest that:

1) All commercial DNA synthesis houses have screening procedures. While most DNA synthesis companies screen orders for dangerous sequences, a few do not. This gives both the synthetic biologist community members and outsiders access to feedstocks for both wild-type and genetically-engineered bioweapons.

2) The government should create and endorse new watch-lists to improve industry screening. Watch-lists are used to check DNA synthesis orders for possible bioweapon sequences and are currently not standardized by any single agency, corporate or governmental. Current lists focus almost exclusively on select agents and toxins. Many other potentially dangerous sequences are not included. Current organism-level lists generate a large number of false positives which must be examined by hand. This makes screening impractical for oligo houses that fill up to one thousand orders per day. The number of false positives will also become a problem for DNA synthesis companies as their businesses grow.

Better software and more specific sequence lists can potentially fix these defects. Such tools would (a) make existing DNA synthesis screening more accurate and sustainable, and (b) allow oligo companies to start their own screening programs.

3) The government should create a confidential hotline for biosafety and biosecurity issues. All experimenters contemplating “experiments of concern” should obtain independent expert advice before proceeding. The hotline should make such advice freely available to all experimenters, including non-members (e.g. hackers) who cannot otherwise obtain such advice from formal university, company, or NIH safety committees. This would either be a parallel mechanism to the system on the ground of Institutional Review Boards (IRBs) that handle this work in academia or the current mechanism should be expanded to handle all experimenters.

The hotline should also encourage researches to investigate and, if necessary, report dangerous behavior. The encouragement should be in the form of rewards for finding any dangerous behavior.

Codes of Conduc

More generally, we think that the idea of codes of conduct for biosecurity is somewhat misleading. Codes of conduct probably make sense for biosafety, because in that case each biologist needs to be continuously thinking about whether his or her experiment is being done safely.

Biosecurity is different. The main thing we want to avoid here is somebody doing an “experiment of concern” that makes weapons radically easier or more effective. This is a one-time decision and most of the knowledge needed to make that judgment does not really involve biology. People have been building bioweapons for fifty years and if you aren’t part of that community it’s very easy to guess wrong about whether your experiment is harmless.

Some time ago, NIH funded a grant to improve our knowledge of how toxic botox really is. Sounds fine. But the experimental method involved figuring out how to stabilize ultrapure botox, which is something that the US and USSR both failed to do in the sixties. Biologists can’t reliably know this kind of history or what’s important, it’s not their subject and its not reasonable for every biologist to learn it.

So we think that the room for codes of conduct is pretty limited. Our suggestions would be:

Get a sanity check. If you think that you have an experiment of concern, then get qualified outside advice. Lifeboat Foundation Scientific Advisory Board member Stephen M. Maurer is working with people at Maryland, Duke, and Northwestern to set up a portal where people can get this advice. We think a public pronouncement that you should always get a qualified outside opinion is important and would stop the practice of doing the experiment and then announcing it to the AP.

Make the community more transparent. If you look at how US intelligence went about deciding whether the Nazis had a bomb project, they used the worldwide physics community to find out who had suddenly stopped teaching or dropped out of sight. So if we can make science communities more transparent, then that’s presumably going to pay dividends later on. You can imagine taking steps like holding reunions, even a community web site with names would be good.

A related point is that there needs to be an understanding of when telling the cops is right and moral — we have a post-McCarthy confusion in this country. If the guy down the hall seems to be doing something strange, I would say you have an ethical obligation to find out. And, more than that, call in the University and ultimately the FBI if you can’t satisfy yourself that nothing bad is going on. We think a public pronouncement that yes, whistle-blowing is commendable would immediately make terrorist projects riskier. This might not be a huge barrier all by itself, but terrorists usually get tripped up on relatively small things. And after the fact, it almost always turns out that people had some inkling what the guy down the hall is doing. So we think it would be worth doing.

First Level Barrie

We call for the development of a “first level barrier” by 1) Stockpiling industrial disposable particulate respirators such as the N95, N99, or N10 types. This mask will prevent the user from being infected, or if already infected, from spreading it to other people. If a plague became serious, it would probably be best for the government to put on TV spots that tell people that your best chance of surviving a plague (natural or otherwise) is to simply stay home. Which, by the way, is also the best way to stop transmission. 2) Installation of intense UV field generators in the HVAC system of aircraft and other public places as described in our report for Virgin Atlantic. 3) Stockpiling of antiviral drugs such as Tamiflu and antibiotics such as Cipro.

Technologies to Combat Biological Viruses

One technology to develop is RNAi-based viral suppression. Also, further strategies for battling viral infections are being developed by biotech and pharma companies, such as research programs focusing on the use of decoy oligonucleotides, aptamers, and other small molecules such as peptides and glycopeptides to inhibit viral fusion with human cell membranes or function. These technologies are new and largely unproven so the important and definitive times are ahead.

Other technologies that should be developed include:

1) Development of rapid detection and identification technology: technologies such as these are being developed, based on electrostatic interactions with unmodified gold nanoparticles, silicon transistors (also described in DNA detection made easy), or DNA pairing with a single strand DNA tethered to an enzyme which becomes activated upon binding to the complementary strand.

2) Development of “smart” materials such as antiviral surface coatings that are being tested for use in face masks and other applications.

3) Further advances in sequencing technologies, ultimately reaching a target of full virus sequencing within hours. As mentioned, identification of the virus used for the development of a vaccine or other treatment for an unknown virus necessitates the rapid sequencing of its entire DNA or RNA genome. Sequencing technology is in widespread use and is constantly decreasing in cost per segment sequenced as well as in the time taken for the sequencing.

The relevant outcomes of development in this field will reduce sample preparation time as well as expand the diversity of materials useful for isolation of viruses to be sequenced (blood, saliva, skin, mucosa). As faster sequencing times and better sequence assembly software are constantly being developed the need for these measures to be specifically undertaken is of lesser importance. Examples for emerging rapid sequencing technologies include nanopore-based sequencing, sequencing based on nano-scale electronic and photonic effects, and sequencing performed using microarray-based fluorescently-tagged polymerase and nucleotides.

4) Software-based treatment design. A longer term and expensive (though ultimately valuable) avenue of research, which would be useful in a variety of medicinal applications, would be the development of a comprehensive software system able to analyze the genetic makeup of a virus as well as the proteins it expresses (its proteome), which could provide specific epitopic or conformational targets to interfere with the production, processing and function of these molecules.

The initial identification of viruses susceptibilities would help determine the most likely effective antiviral treatments based on DNA, RNA, or protein-based interference strategies. Software-based strategies should also allow the identification of the optimal protein sequences to be used as a vaccine, and be able to accelerate the “good guys” response in the “arms race” as further bioengineered, malicious pathogens are developed.

Engineered Bacteria and Prions

Infectious human viruses are almost always either airborne or spread by direct person to person contact. The first mode of propagation of deadly rapidly infective agents would be potentially suicidal in the global sense for a terrorist group or nation. Such infections know no boundaries imposed by nations or ideologies. (It would be possible for a nation or terrorist group with sufficient resources to produce a vaccine that would protect them against such a release… A scary scenario was played out in fiction a few years ago in Rainbow Six by Tom Clancy.) The second mode would be far too slow in any event and good public health counter-measures already exist for slowly propagating infectious agents.

Because it would be suicidal for a terrorist group or nation to use airborne infectious viruses, they may decide to use engineered bacteria or prions instead. (Although suicidal terrorists do exist!) To combat these threats, we propose frequent testing of the water supply, not just for known bacteria but for the biologically necessary consensus DNA sequences that would be present even in engineered organisms. All known toxin-producing sequences should be tested for as well.

We also propose more extensive testing of the meat supply for prion sequences and we are definitely against the current government regulations which prohibit meat processors from doing extra prion tests at their own expense! This testing would be expensive but we are currently doing way too little of it. Additionally, testing air in cities would be useful.

Note that technologies like PCR get cheaper every day and large scale testing of this kind would further reduce the per test cost.

We support development of the prion blood test being developed by Claudio A. Soto’s group. This new test is a million times more sensitive than conventional antibody-based techniques for detecting prions.

Conclusion

It would be more cost effective if those funding the BioShield set specific goals and gave prize money to the people/organizations that accomplished them than simply funding research without such goals.

We propose that we take the measure of this threat and make preparations today to engage it with the force and knowledge adequate to throw it back wherever and however it may strike. It is time to accelerate the development of antiviral and antibacterial technology for the human population. The **way to combat this serious and ever-growing threat** is to **develop broad tools to destroy viruses and bacteria**. We have tools such as those based on RNA interference that can block gene expression. We can now sequence the genes of a new virus in a matter of days, so our goal is within reach!

We call for the creation of new technologies and the enhancement of existing technologies to increase our abilities to detect, identify, and model any emerging or newly identified infective agent, present or future, natural or otherwise — we need to accelerate the expansion of our capacity to engineer vaccines for immunization, and explore the feasibility of other medicinals to cure or circumvent infections, and to manufacture, distribute, and administer what we need in a timely and effective manner that protects us all from the threat of bioengineered malevolent viruses and microbial organisms. Time is running out.

#### And pharma innovation solves disease---extinction

Engelhardt 8 – PhD, MD, Professor of Philosophy @ Rice (Hugo, “Innovation and the Pharmaceutical Industry: Critical Reflections on the Virtues of Profit,” EBrary)

Many are suspicious of, or indeed jealous of, the good fortune of others. Even when profit is gained in the market without fraud and with the consent of all buying and selling goods and services, there is a sense on the part of some that something is wrong if considerable profit is secured. There is even a sense that good fortune in the market, especially if it is very good fortune, is unfair. One might think of such rhetorically disparaging terms as "wind-fall profits". There is also a suspicion of the pursuit of profit because it is often embraced not just because of the material benefits it sought, but because of the hierarchical satisfaction of being more affluent than others. The pursuit of profit in the pharmaceutical and medical-device industries is tor many in particular morally dubious because it is acquired from those who have the bad fortune to be diseased or disabled. Although the suspicion of profit is not well-founded, this suspicion is a major moral and public-policy challenge. Profit in the market for the pharmaceutical and medical-device industries is to be celebrated. This is the case, in that if one is of the view (1) that the presence of additional resources for research and development spurs innovation in the development of pharmaceuticals and med-ical devices (i.e., if one is of the view that the allure of profit is one of the most effective ways not only to acquire resources but productively to direct human energies in their use), (2) that given the limits of altruism and of the willingness of persons to be taxed, the possibility of profits is necessary to secure such resources, (3) that the allure of profits also tends to enhance the creative use of available resources in the pursuit of phar-maceutical and medical-device innovation, and (4) if one judges it to be the case that such innovation is both necessary to maintain the human species in an ever-changing and always dangerous environment in which new microbial and other threats may at any time emerge to threaten human well-being, if not survival (i.e., that such innovation is necessary to prevent increases in morbidity and mortality risks), as well as (5) in order generally to decrease morbidity and mortality risks in the future, it then follows (6) that one should be concerned regarding any policies that decrease the amount of resources and energies available to encourage such innovation. One should indeed be of the view that the possibilities for profit, all things being equal, should be highest in the pharmaceutical and medical-device industries. Yet, there is a suspicion regarding the pursuit of profit in medicine and especially in the pharmaceutical and medical-device industries

#### And it advantage 1 – China will backlash against US companies

Connolly ‘15 [Robert; Jan. 2015; partner in the Washington, D.C. office of GeyerGorey, LLP; CPI Antitrust Chronicle; “Why the Motorola Mobility Decision was Good for Cartel Enforcement and Deterrence,” https://papers.ssrn.com/sol3/papers.cfm?abstract\_id=2559149]

Another concern I have related to the reach of the FTAIA is “what’s good for the goose is good for the gander.” Many foreign companies do business in the United States, either directly or through subsidiaries. What would the reaction be of a U.S. company, for example, if it was hauled into court in China for sales made in the United States to a Chinese subsidiary because the subsidiary operating in the United States felt the laws (courts) in China would be more favorable? The quote below, while in relation to FCPA enforcement, expresses my concern better than I can:

It’s most certainly not good economics that one court jurisdiction gets to fine companies from all over the world on fairly tenuous grounds. Who would really like it if Russia’s legal system extended all the way around the world? Or North Korea’s? And I’m pretty sure that the non-reciprocity isn’t good public policy either. Eventually it’s going to start getting up peoples’ noses and they’ll be looking for ways to punish American companies in their own jurisdictions under their own laws. And there won’t be all that much that the U.S. can honestly do to complain about it, given their previous actions.17

### AT: Moore

#### 1] China developed vaccines too—getting a more effective vaccine was just luck

#### 2] Strong IP was key to the vaccine—the aff destroys the advantage that we have

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### 2NC – Turns 5G Adv

#### Undermines U.S. IPR rights – means we lose the 5G race

Abbott ’21 [Alden Abbott, Paul Redmond Michel, Adam Mossoff, Kristen Jakobsen Osenga, and Brian O’Shaughnessy; March 10; the Federal Trade Commission’s General Counsel (2018-2021), adjunct professor at George Mason University, J.D. from Harvard Law School, M.A. in economics from Georgetown University; Retired Chief Judge and United States Circuit Judge of the United States Court of Appeals for the Federal Circuit; Law Professor at George Mason University; Law Professor at the University of Richmond; chair of Dinsmore’s IP Transactions and Licensing Group; the Regulatory Transparency Project, “Aligning Intellectual Property, Antitrust, and National Security Policy,” https://regproject.org/wp-content/uploads/Paper-Aligning-Intellectual-Property-Antitrust-and-National-Security-Policy.pdf]

Although much of the excitement about 5G wireless technology focuses on how it will improve every aspect of our lives – from smart homes to smart cities, from healthcare to food to business to entertainment – this technology is also critical for an often-invisible, but even more critical, application: national security. 5G is a vast improvement over existing mobile technology, with massively increased speeds of data transfer and other enhanced capacities. The benefits this unprecedented speed and capacity will have for the United States military include improved surveillance and reconnaissance systems, new and more accurate methods of command and control, and integrated and streamlined logistics systems for increased efficiency.1 On the other hand, the same technological advancements facilitated by 5G technology may also give rise to new cybersecurity vulnerabilities.

Although it is the future of everything, 5G does not pose a potential problem in some far-off future. Today, the U.S. is already depending on a wide array of 5G technology suppliers for its national security system. For example, the national security programs of the Department of Defense (DOD) rely on continued access to telecommunication products made by companies with security clearance on a range of active classified and unclassified prime government contracts.2 Devices that rely on such wireless technology include those used to command troops in combat, control drones, target smart munitions, and perform other vital military functions.3 Allied partnerships with the U.S. also depend on its efforts to address cybersecurity in the next generation of wireless, 5G, and Internet of things.4

To ensure the safety of the systems on which the U.S. military relies and avoid unknown and unexpected cybersecurity vulnerabilities, the U.S. must remain an active and competitive participant in 5G development. Antitrust policies that undermine the intellectual property rights of U.S. innovators will diminish U.S. companies’ ability to invest in research and development (R&D) and to compete in the global 5G ecosystem. Even more important than increased economic growth, new jobs, and enhanced daily lives, these antitrust policies must be changed for the sake of U.S. national security.

#### Decline allows the Chinese sector to overtake American biotechnology---outweighs all risks.

Moore ’20 [Scott; November 8; director of the Penn Global China Program at the University of Pennsylvania.; Foreign Policy, “China’s Biotech Boom Could Transform Lives—or Destroy Them,” <https://foreignpolicy.com/2019/11/08/cloning-crispr-he-jiankui-china-biotech-boom-could-transform-lives-destroy-them/>]

When James Clapper, the U.S. director of national intelligence at the time, appeared before Congress in early January 2016 for an annual briefing of threats to the United States, he didn’t lack for material. Just a few weeks earlier, North Korea had tested a nuclear device, and Russia had begun deploying cruise missiles that appeared to violate a crucial arms-control agreement. But to the surprise of many experts, Clapper devoted a good chunk of his time to describing a much more exotic threat: biomedical research. Specifically, [Clapper warned](https://thebulletin.org/2016/04/how-genetic-editing-became-a-national-security-threat/), “Research in genome editing conducted by countries with different regulatory or ethical standards than those of Western countries probably increases the risk of the creation of potentially harmful biological agents or products.”

Clapper’s statement didn’t explicitly mention China—but it didn’t need to. As his testimony went on to make clear, while in the 20th century the United States and Soviet Union held the keys to preventing planetary catastrophe, in the 21st the principal players are the United States and China. And while in a previous age keeping Pandora’s box closed meant preventing nuclear war, today it’s about preventing biotech dangers.

In just the past few years, the development of inexpensive gene-editing techniques has democratized biomedical research, producing a biotech bonanza in places such as China and creating a whole new category of security threats in the process, from the use of genetic information to persecute dissidents and minority groups to the development of sophisticated bioweapons.

When it comes to the United States, China, and technology, artificial intelligence tends to grab most of the attention. But policymakers need to come to grips with the even bigger threat of biotechnology—and soon. Fortunately, though, shared concerns about China’s role in biotechnology also provide a rare chance for meaningful and productive engagement in shaping the rules of a new world.

China’s starring role in preventing the 21st century’s biotech perils stems from its skyrocketing investment in biomedical research. Historically, Western countries, and especially the United States, have been the epicenter of research in the life sciences. The United States alone accounted for some [45 percent](https://itif.org/publications/2018/03/26/how-ensure-americas-life-sciences-sector-remains-globally-competitive) of biotech and medical patents filed in the 14-year period ending in 2013. But now, thanks to heavy state-backed investment, China is catching up. Economic plans instituted in 2015 call for the biotechnology sector to account for more than 4 percent of China’s total GDP by 2020, and [estimates suggest](https://www.nature.com/articles/d41586-018-00542-3) that as of 2018, central, provincial, and local governments had already invested over $100 billion in the life sciences. Chinese venture capital and private equity investment in the life sciences, meanwhile, totaled some $45 billion just from 2015 to 2017.

China has also invested considerable effort in competing with countries like the United States for biotech talent. Of some [7,000 researchers recruited](http://www.nature.com/articles/d41586-018-00542-3) under the Thousand Talents Plan since 2008, more than 1,400 specialized in the life sciences. A leading American geneticist, Harris Lewin, has [warned](https://www.wired.com/story/wildebeest-okapi-giraffe-ibex-come-peruse-their-genomes/) that the United States is “starting to fall behind … the Chinese, who have always been good collaborators, [are] now taking the lead.”

For the United States and other Western countries, China’s growing role in biomedical research is raising plenty of concern. Several Chinese researchers have shown a willingness to ignore ethical and regulatory constraints on genetic research. In 2018, He Jiankui became a poster child for scientific irresponsibility when he announced he had edited the genes of two twins in utero without following basic safety protocols. He [reportedly dismissed](https://dev.biologists.org/content/146/3/dev175778) them as guidelines, not laws.

Yet the reaction at home was not what He had hoped for. His research had been made possible by the relatively lax standards of Chinese universities, even as he had kept the true nature of it secret from many involved – while discussing it with a [small group](https://www.nytimes.com/2019/04/16/health/stanford-gene-editing-babies.html) of Western bioethicists and scientists, who stressed their disapproval. It’s not uncommon in China to break the rules and be lauded for the results anyway, whatever the field. For He, though, the vast international attention that came after the story broke cost him his career and possibly [his freedom](https://www.nytimes.com/2019/01/21/world/asia/china-gene-editing-babies-he-jiankui.html?module=inline). Chinese media rushed to stress [official disapproval](https://www.sciencemag.org/news/2019/08/untold-story-circle-trust-behind-world-s-first-gene-edited-babies) of the experiments. Even the [overt purpose](https://www.statnews.com/2019/04/15/jiankui-embryo-editing-ccr5/) of the editing – to ensure that the babies, born to HIV+ mothers, enjoyed protection against the virus – turned out to be scientifically weak.

As China’s biotech sector grows, so too do fears that Chinese researchers like He will be more willing to push the limits of both science and ethics than those in the United States. Earlier this year, Chinese researchers recorded another mind-bending milestone when they [implanted](https://www.technologyreview.com/s/613277/chinese-scientists-have-put-human-brain-genes-in-monkeysand-yes-they-may-be-smarter/) human genes linked to intelligence into monkey embryos—and then said that the monkeys performed better on memory tests.

The dominance of the party-state in China raises serious concerns around biotechnology, especially because it carries increasingly ethnonationalist tone. When in 2018 Chinese researchers created the world’s first primate clones, for example, they dubbed them Zhong Zhong and Hua Hua, from the term zhonghua meaning “The Chinese Nation”—an oddly jingoistic moniker for a pair of monkeys. Chinese government policies often blur the line between eugenics and education, lumped together as improving the “quality” (suzhi) of the population, which received another stamp of official [endorsement](https://twitter.com/globaltimesnews/status/1191681436635451392) following the recent Fourth Plenum. These programs are carried out through the country’s huge so-called family planning bureaucracy—originally established to enforce the one-child policy.

Moreover, Beijing is increasingly extending its formidable social control apparatus into the realm of genetics. While there are considerable restrictions on private firms sharing biomedical data, largely because of an ugly history of [popular discrimination](https://www.theatlantic.com/china/archive/2013/12/chinas-struggle-with-hepatitis-b-discrimination/281994/) against hepatitis carriers, the government has no such restrictions. A [New York Times report](https://www.nytimes.com/2019/02/21/business/china-xinjiang-uighur-dna-thermo-fisher.html) earlier this year suggested, for example, that Chinese authorities had assembled a vast trove of genetic data on Chinese citizens without their consent, with the Uighur minority group having been specifically targeted.

Beijing’s brand of bio-nationalism also directly threatens the United States. U.S. officials have been [warning](https://www.nytimes.com/2019/11/04/health/china-nih-scientists.html) universities and research institutions that the biotech sector is a focal point for Chinese industrial espionage activities in the United States. And this past August, a senior Defense Department official warned Congress that China’s growing role in pharmaceutical manufacturing could allow it to disrupt deliveries of critical battlefield medicines, or potentially even [alter them to harm](https://www.washingtonpost.com/opinions/we-rely-on-china-for-pharmaceutical-drugs-thats-a-security-threat/2019/09/10/5f35e1ce-d3ec-11e9-9343-40db57cf6abd_story.html) U.S. forces.

Yet the biggest risks posed by biotech, for China, the United States, and other countries, pertain to nonstate actors. A critical feature of modern biotech, in contrast to technology like nuclear weapons, is that it’s cheap and easy to develop. A technique known as CRISPR, which the Chinese researcher He used in his illicit gene-editing work, makes it practical for just about anyone to manipulate the genomes of just about any organism they can lay their hands on. CRISPR makes it much simpler to skirt ethical restrictions and terrifyingly straightforward for terrorist groups to develop fearsome biological weapons.

Researchers have already [shown](https://doi.org/10.1371/journal.pone.0188453) it’s possible to reconstruct the smallpox virus, which was eradicated in the real world in the 1970s, for as little as $200,000 using DNA fragments you can order online. If a terrorist or rogue state were to successfully do so, virtually no one alive would have any resistance to the virus—and most stockpiles of the vaccine were destroyed long ago. There is an organization, the [International Gene Synthesis Consortium](https://genesynthesisconsortium.org/), that tries to screen suspicious orders for DNA fragments that might be used to build such bioweapons. And while most of the world’s major DNA synthesis firms belong to the consortium, membership is completely voluntary, and there’s also a [thriving and entirely unregulated](https://www.wired.com/story/synthetic-biology-vaccines-viruses-horsepox/) black market—much of it based in China.

All of this means that biosecurity standards in places like China matter more than ever. After all, if a major bioweapon were to be unleashed, it’s unlikely that any major, globally integrated country could escape unharmed. Fortunately, there are growing signs China is open to better regulation of its biotech sector. In February, the Chinese government announced that “[high risk](https://www.statnews.com/2019/02/27/china-unveils-new-rules-on-biotech-after-gene-editing-scandal/)” biomedical research would be overseen by the State Council, China’s equivalent of the cabinet—a sign of the concern with which Beijing views incidents like the He Jiankui CRISPR scandal. In a further sign of this concern, in August, the Chinese Communist Party announced the creation of a [new committee](http://www.nature.com/articles/d41586-019-02362-5) to advise top leaders on research ethics.

### Impact---Growth---2NC

#### Biopharma is key to economic growth.

IFPMA ’21 [International Federation of Pharmaceutical Manufacturers and Associations; June 25; Trade association that represents pharmaceutical companies around the world; IFPMA, “The Pharmaceutical Industry and Global Health,” https://www.ifpma.org/wp-content/uploads/2021/04/IFPMA-Facts-And-Figures-2021.pdf]

The biopharmaceutical industry makes major contributions to the prosperity of the world economy. It is a robust sector that has been one of the pillars of industrialized economies and is increasingly recognized as an important industry in the developing world as well.

In 2018, the biopharmaceutical industry directly added roughly the GDP of the Netherlands (USD 532 billion)50 to the world economy. In addition to the immediate economic effects it directly generates, industry also supported the global GDP with an additional USD 791 billion triggered by its consumption of intermediate inputs from other sectors through its global value chains. Moreover, the private consumption triggered by directly and indirectly generated income resulted in an extra USD 515 billion of GDP contribution to the global economy through induced effects. Therefore, combining direct, indirect and induced effects, the biopharmaceutical industry’s total contribution to the world’s GDP is USD 1,838 billion.

#### Extinction---recovery caps numerous geopolitical crises.

Baird ’20 [Zoe; October 2020; C.E.O. and President of the Markle Foundation, Member of the Aspen Strategy Group and former Trustee at the Council on Foreign Relations, J.D. and A.B. from the University of California at Berkeley; Domestic and International (Dis)order: A Strategic Response, “Equitable Economic Recovery is a National Security Imperative,” Ch. 13]

A strong and inclusive economy is essential for American national security and global leadership. As the nation seeks to return from a historic economic crisis, the national security community should support an equitable recovery that helps every worker adapt to the seismic shifts underway in our economy.

Broadly shared economic prosperity is a bedrock of America’s economic and political strength—both domestically and in the international arena. A strong and equitable recovery from the economic crisis created by COVID-19 would be a powerful testament to the resilience of the American system and its ability to create prosperity at a time of seismic change and persistent global crisis. Such a recovery could attack the profound economic inequities that have developed over the past several decades. Without bold action to help all workers access good jobs as the economy returns, the United States risks undermining the legitimacy of its institutions and its international standing. The outcome will be a key determinant of America’s national security for years to come.

An equitable recovery requires a national commitment to help all workers obtain good jobs—particularly the two-thirds of adults without a bachelor’s degree and people of color who have been most affected by the crisis and were denied opportunity before it. As the nation engages in a historic debate about how to accelerate economic recovery, ambitious public investment is necessary to put Americans back to work with dignity and opportunity. We need an intentional effort to make sure that the jobs that come back are good jobs with decent wages, benefits, and mobility and to empower workers to access these opportunities in a profoundly changed labor market.

To achieve these goals, American policy makers need to establish job growth strategies that address urgent public needs through major programs in green energy, infrastructure, and health. Alongside these job growth strategies, we need to recognize and develop the talents of workers by creating an adult learning system that meets workers’ needs and develops skills for the digital economy. The national security community must lend its support to this cause. And as it does so, it can bring home the lessons from the advances made in these areas in other countries, particularly our European allies, and consider this a realm of international cooperation and international engagement.

Shared Economic Prosperity Is a National Security Asset

A strong economy is essential to America’s security and diplomatic strategy. Economic strength increases our influence on the global stage, expands markets, and funds a strong and agile military and national defense. Yet it is not enough for America’s economy to be strong for some—prosperity must be broadly shared. Widespread belief in the ability of the American economic system to create economic security and mobility for all—the American Dream— creates credibility and legitimacy for America’s values, governance, and alliances around the world.

After World War II, the United States grew the middle class to historic size and strength. This achievement made America the model of the free world—setting the stage for decades of American political and economic leadership. Domestically, broad participation in the economy is core to the legitimacy of our democracy and the strength of our political institutions. A belief that the economic system works for millions is an important part of creating trust in a democratic government’s ability to meet the needs of the people.

The COVID-19 Crisis Puts Millions of American Workers at Risk

For the last several decades, the American Dream has been on the wane. Opportunity has been increasingly concentrated in the hands of a small share of workers able to access the knowledge economy. Too many Americans, particularly those without four-year degrees, experienced stagnant wages, less stability, and fewer opportunities for advancement.

Since COVID-19 hit, millions have lost their jobs or income and are struggling to meet their basic needs—including food, housing, and medical care.1 The crisis has impacted sectors like hospitality, leisure, and retail, which employ a large share of America’s most economically vulnerable workers, resulting in alarming disparities in unemployment rates along education and racial lines. In August, the unemployment rate for those with a high school degree or less was more than double the rate for those with a bachelor’s degree.2 Black and Hispanic Americans are experiencing disproportionately high unemployment, with the gulf widening as the crisis continues.3

The experience of the Great Recession shows that without intentional effort to drive an inclusive recovery, inequality may get worse: while workers with a high school education or less experienced the majority of job losses, nearly all new jobs went to workers with postsecondary education. Inequalities across racial lines also increased as workers of color worked in the hardest-hit sectors and were slower to recover earnings and income than White workers.4

The Case for an Inclusive Recovery

A recovery that promotes broad economic participation, renewed opportunity, and equity will strengthen American moral and political authority around the world. It will send a strong message about the strength and resilience of democratic government and the American people’s ability to adapt to a changing global economic landscape. An inclusive recovery will reaffirm American leadership as core to the success of our most critical international alliances, which are rooted in the notion of shared destiny and interdependence. For example, NATO, which has been a cornerstone of U.S. foreign policy and a force of global stability for decades, has suffered from American disengagement in recent years. A strong American recovery—coupled with a renewed openness to international collaboration—is core to NATO’s ability to solve shared geopolitical and security challenges. A renewed partnership with our European allies from a position of economic strength will enable us to address global crises such as climate change, global pandemics, and refugees. Together, the United States and Europe can pursue a commitment to investing in workers for shared economic competitiveness, innovation, and long-term prosperity.

The U.S. has unique advantages that give it the tools to emerge from the crisis with tremendous economic strength— including an entrepreneurial spirit and the technological and scientific infrastructure to lead global efforts in developing industries like green energy and biosciences that will shape the international economy for decades to come.

### Impact---Warfighting---2NC

#### Biotechnology is key to warfighting superiority.

Malet ’15 [David; 2015; Professor of International Affairs, Director of the Security Policy Studies Program at George Washington University; Defence Studies Journal, “Captain America in International Relations: The Biotech Revolution in Military Affairs,” <http://davidmalet.com/uploads/Malet_Captain_America.pdf>]

Genetic weapons

Until the end of the twentieth century, bioweapons meant pathogens (and possibly animal delivery systems). The biotech revolution, and particularly the ability to sequence and translate entire genomes, has altered that equation. Some state militaries, notably China’s, are already publicly expressing an interest in attacking targets by reordering their bodily functions through what is known in more benign applications as gene therapy. Planners in the United States also note that:

The long term implications of genomics will present the Army with opportunities and challenges even in the next decade … The Army can, however, promote development of new products and processes that will be consistent with or specific to its missions and needs. This will require that the Army be fully aware of the synergistic effects of biological tools. (Committee 2001, p. 15)

“The goal of gene therapy is to effect a change in the genetic makeup of an individual by introducing new information designed to replace or repair a faulty gene.” This is accomplished by using the same principle employed since the first smallpox vaccination: the use of a harnessed, crippled virus to serve as a “Trojan horse” vector, in this case bearing replacement or supplemental genes to alter cell functioning. Somatic cell therapy affects only the cells of the individual receiving it, and for reasons of ethics and technical feasibility, most therapeutic research has been of this type. But there is also the technique of germline cell therapy, which might “lead to a heritable change that could repair problems for all future generations” (Block, in Drell et al. 1999, pp. 60–62).

Although American military planners are bullish on the potential for gene therapy to improve the lots of wounded servicemen in the near future, the technologies are not yet universally acclaimed nor even accepted. The United States Department of Energy (2009) noted that the FDA “has not yet [as of 2014] approved any human gene therapy product for sale. Current gene therapy is experimental and has not proven very successful in clinical trials. Little progress has been made since the first gene therapy clinical trial began in 1990.” This reaction stems in part from the death and illness of several children who had received gene therapies to treat life-threatening chronic conditions. At the same time, however, researchers elsewhere announced that gene therapy safely and successfully restored partial sight to congenitally blind test subjects. The results were accomplished by inserting healthy copies of a missing gene into patient retina cells via a vector manufactured by a private American company called Targeted Genetics (University College of London 2008).

Vector-delivered gene therapies remain an emerging biotechnology, but cases such as these demonstrate both that vectors can be used to create significant physical alterations in targets, and that these changes can be deadly. The discovery that viruses can be carried airborne for considerable distances even after the droplets of fluid constituting their transmission media have fallen to the ground provides further evidence that vectors might soon be used to deliver genetic therapies – or maladies – to wide target populations (The Medical News 2007). With the genetic maps of entire organisms now available – the full genome for the plague bacterium was decoded in 2001 – it is inevitable that researchers will develop the means to rewrite specified segments of targeted genes (Preston 2009, p. 296).

Direct effect weapons

The United States military is currently developing “a set of design and synthesis processes that will enable the specification of a desired function, and be able to rapidly synthesize a protein that performs the function.” Rather than modifying existing proteins, this biotechnology would allow the creation of new proteins based on specific performance objectives (DARPA, “Protein Design Processes” 1998). The field of genetic protein decoding and engineering of this kind is known as proteomics (Committee 2001, p. 15).

Understanding the functions of proteins is key to opening entirely new frontiers in medicine – and warfare. Already, researchers have destroyed targeted cancer cells by using engineered nanoparticles to deliver genes only to the tumor and not to healthy neighboring tissue. Once the genes were inserted, they stimulated the production of a protein that selectively destroys the cancer (BBC News 2009). However, proteomics also opens a different avenue of potential development in biotechnological attacks in shifting away from infectious agents to targeting human bioregulators, natural substances in the body that control automatic processes such as blood pressure and immune responses. Alibek (1999) claimed that the Soviet Union pursued this research into “direct effect weapons” in the 1980s to circumvent the BWC.

The result would not actually be an illness, but the turning of the body against itself through disruption, and projects along these lines have at least been considered (Huang and Kosal 2008, p. 9, Preston 2009, pp. 313–314). Interfering with some of the body’s neurotransmitters, for example, could cause memory loss, panic disorder, or depression (Dando, in Pearson et al. 2007, pp. 133–134). NATO has listed “chemical technologies that could act on the central nervous system” as “technologies of interest” (Pearson, in Pearson et al. 2007, p. 89).

Chinese researchers Guo and Yang (2005) directly addressed the security applications of such efforts in proteomics, arguing:

Direct-effect weapons … can cause destruction that is both more powerful and more civilized than that caused by conventional killing methods like gunpowder or nuclear weapons … A military attack, therefore, might wound an enemy’s genes, proteins, cells, tissues, and organs, causing more damage than conventional weapons could. However, such devastating, nonlethal effects will require us to pacify the enemy through postwar reconstruction efforts and hatred control … [W]e could create a microbullet out of a 1 micron tungsten or gold ion, on whose surface plasmid DNA or naked DNA could be precipitated, and deliver the bullet via a gunpowder explosion, electron transmission, or high-pressured gas to penetrate the body surface. We could then release DNA molecules to integrate with the host’s cells through blood circulation and cause disease or injury by controlling genes.

Around the same time, an American biodefense expert added that:

If one can disrupt unit loyalty through fear or another emotion, the army would cease to exist as a fighting force. Claustrophobia would make soldiers tear off their protective face mask. Fear, thirst, accelerated heart rate, hypermotility of the gut – these would be the desired peptide effects.

Delivery would be accomplished using engineered pathogens, and their primary role in biowarfare would be as delivery systems for direct effect weapons rather than the transmission of infectious disease (Moreno 2006, pp. 178–179).

The international balance of power

With the emergence of advanced biotechnologies, many of which already exist or are being developed for expressly military purposes, the United States holds the potential for achieving a decisive advantage in power projection capabilities beyond the reach of its current adversaries and most of its likely potential competitors. Besides the United States, other actors are expanding their biotech R&D sectors, notably the emerging great powers China and India, where force planners must consider the usage of bioweapons in Asian theaters of combat in both classical and modern times (Clunan et al. 2008).

China is developing its military capabilities to become a regional power at the least, and advanced biotechnologies could play a role in this effort. “As the Chinese military expands its power projection capabilities, it will concentrate on creating asymmetrical advantages in the face of superior US conventional technology” (NTI 2003).

Chinese military medical researchers have written a number of articles proposing the use of proteomic weapons to engage in non-lethal “precision injury” attacks that could be healed upon enemy surrender as evidence of hegemonic “mercifulness.” Despite the evident offensive strategic potential of such research – one such article is titled “The Command of Biotechnology and Merciful Conquest” – there is still evidence of the constraints of international norms against biowarfare. Indeed, the author claims that biotech warfare approaches “abide by the Biological and Toxin Weapons Convention more effectively, and strike a blow on the traditional bioweapons, therefore welcoming new military progresses and reforms, and changing the notions and civilization level of war” (Guo 2006, pp. 1152–1154).

#### Every hotspot explodes.

Roubini ’17 [Nouriel; January 5; Professor at New York University’s Stern School of Business, Chairman of Roubini Macro Associates, former Senior Economist for International Affairs in the White House's Council of Economic Advisers during the Clinton Administration; We Forum, “Nouriel Roubini: Trump and global peace,” <https://www.weforum.org/agenda/2017/01/nouriel-roubini-trump-and-global-peace-c2f83e32-57da-4cc6-9328-7cb8ca9499b2>]

Meanwhile, an “America first” approach under Trump will likely worsen the longstanding Sunni-Shia proxy wars between Saudi Arabia and Iran. And if the US no longer guarantees its Sunni allies’ security, all regional powers – including Iran, Saudi Arabia, Turkey, and Egypt – might decide that they can defend themselves only by acquiring nuclear weapons, and even more deadly conflict will ensue.

In Asia, US economic and military primacy has provided decades of stability; but a rising China is now challenging the status quo. US President Barack Obama’s strategic “pivot” to Asia depended primarily on enacting the 12-country Trans-Pacific Partnership, which Trump has promised to scrap on his first day in office. Meanwhile, China is quickly strengthening its own economic ties in Asia, the Pacific, and Latin America through its “one belt, one road” policy, the Asian Infrastructure Investment Bank, the New Development Bank (formerly known as the BRICS bank), and its own regional free-trade proposal to rival the TPP.

If the US gives up on its Asian allies such as the Philippines, South Korea, and Taiwan, those countries may have no choice but to prostrate themselves before China; and other US allies, such as Japan and India, may be forced to militarize and challenge China openly. Thus, an American withdrawal from the region could very well eventually precipitate a military conflict there.

As in the 1930s, when protectionist and isolationist US policies hampered global economic growth and trade, and created the conditions for rising revisionist powers to start a world war, similar policy impulses could set the stage for new powers to challenge and undermine the American-led international order. An isolationist Trump administration may see the wide oceans to its east and west, and think that increasingly ambitious powers such as Russia, China, and Iran pose no direct threat to the homeland.

But the US is still a global economic and financial power in a deeply interconnected world. If left unchecked, these countries will eventually be able to threaten core US economic and security interests – at home and abroad – especially if they expand their nuclear and cyberwarfare capacities. The historical record is clear: protectionism, isolationism, and “America first” policies are a recipe for economic and military disaster.