# 1AC – Pay for Delay

### 1

#### Contention 1 is Drug Prices –

#### Best new studies prove that U.S. drug prices have skyrocketed in recent years because of lack of competition. That shuts off access to vital drugs and balloons household and federal debts.

Feldman 8/27 – Distinguished Professor of Law Chair & Director of the Center for Innovation, UC Hastings Law

Robin Feldman, Arthur J. Goldberg Distinguished Professor of Law, Albert Abramson ’54 Distinguished Professor of Law Chair, and Director of the Center for Innovation, The Price Tag of 'Pay-for-Delay', UC Hastings Research Paper Forthcoming, 27 Aug 2021, https://papers.ssrn.com/sol3/papers.cfm?abstract\_id=3846484

The skyrocketing price of prescription medication continues to plague the pharmaceutical industry. For example, an analysis of one million Medicare patients between 2010 and 2017 found that the average dosage-unit price of brand-name drugs increased by 313 percent even after accounting for rebates.2 [FN 2] 2 Robin Feldman, The Devil in the Tiers, J.L. & BIOSCI. 1, 19 (2021). The RAND Corporation found in 2021 that the price of brand-name prescription drugs in the U.S. is 256 percent of the prices in thirty-two OECD countries combined, ranging from 170 percent of prices in Mexico to 779 percent of prices in Turkey (ANDREW W. MULCAHY ET AL., RAND CORP., INTERNATIONAL PRESCRIPTION DRUG PRICE COMPARISONS: CURRENT EMPIRICAL ESTIMATES AND COMPARISONS WITH PREVIOUS STUDIES 26 (2021), <https://www.rand.org/content/dam/rand/pubs/research_reports/RR2900/RR2956/RAND_RR2956.pdf>). [End FN] Similarly, one in four Americans have difficulty affording their medications, and three in ten say costs have prohibited them from taking their medications as prescribed.3 With rising out-of-pocket costs and patients dangerously rationing medication, these prices are causing real pain for American patients. Diabetic patients, for example, paid nearly $6000 a year out of pocket for insulin in 2016, and patients with arthritis saw the price of Humira rise to $1552 a month in 2019.4 As difficult as the burdens are for any patient, the burden of paying high prices lands particularly hard on lower-income groups, threatening access to life-saving treatments and creating further gaps in equity across society.

Since the passage of legislation in the early 1980s, the nation has pinned its hopes on the disciplining effects of generic drugs. Generics are expected to enter the market rapidly when a drug’s patent protection expires, driving prices down to competitive levels.5 Something, however, is seriously amiss. Although generics continue to enter the market in record numbers, drug prices, out-of-of pocket costs, and real spending on drugs continue to soar unabated. The pharmaceutical industry is a complex and convoluted market, with significant distortions and inefficiencies.6 Among these problems, however, one cannot expect generic competitors to create a disciplining effect on prices, if brand companies are able to collude with their generic competitors.

In a landmark decision nearly a decade ago, the Supreme Court opened the door for antitrust suits against brand and generic pharmaceutical companies who engage in collusive settlements to delay the time for the generic to come to market. With these “pay-for-delay” agreements, brand-name companies offer prospective generic competitors cash in exchange for the generic’s promise not to enter the market until an agreed-upon date. Laying the groundwork for the lawsuit that would eventually lead to the Actavis decision, the Federal Trade Commission (FTC) published a study estimating that pay-for-delay agreements cost American consumers $3.5 billion annually, a figure that has been cited repeatedly by scholars and policy-makers alike.7 Similar concerns led Congress, in 2003, to require that brand and generic manufacturers file settlement agreements concerning the manufacture, marketing, or sale of generic drugs with the FTC and tasked the FTC with publishing an annual report on the state of pay-for-delay. 8

As this article will demonstrate, the $3.5 billion figure vastly understates the landscape. To understand the state of pay-for-delay agreements, this article leverages a range of methodologies to present an in-depth examination of the burden that pay-for-delay imposes, both on individual patients and society at large. Specifically, the analysis demonstrates the cost of unavailable generic options in drug markets that suffer pay-for-delay schemes. The findings are alarming, and far exceed the FTC estimate.

● Pay-for-delay settlements cost the U.S. population at least $6.4 billion annually: Calculations ranged from $6.4 billion to as high as $36.1 billion per year in total costs based on list prices, as the postponement of generic options required the continued usage of expensive brands.

● Pay-for-delay settlements saddled American patients with more than $600 million in annual out-of-pocket costs: Patients each year collectively paid between $610 million and $2.8 billion more out-of-pocket as a result of pay-for-delay.

● Pay-for-delay settlements cost the Medicare Part D program at least $2.3 billion annually: The government paid between $2.3 and $13.1 billion more each year to fund Part D because of pay-for-delay.

Moreover, although the Supreme Court’s landmark decision in Actavis opened the door for antitrust litigation, courts have failed to utilize the pathway provided. This article explores the modern legal landscape that has instead emerged since the Supreme Court’s historic pronouncement.

The article proceeds as follows. Part I describes pay-for-delay agreements, exploring the literature on the potential harm of such agreements among pharmaceutical competitors. Part II presents a new analysis demonstrating that the cost of pay-for-delay to American consumers is far greater than anyone has recognized, and well beyond the $3.5 billion figure cited by the FTC in 2010. We applied six different methodologies to provide as fair and broad a view as possible. The range of methodologies show that at a minimum, the cost of pay-for-delay settlements on the U.S. population between 2006 and 2017 is a minimum of $6.4 billion per year—almost double that of the FTC’s estimate. The methodology with the largest result suggests that the cost could be as high as $36 billion per year—10 times higher. Part III argues that courts are allowing this costly problem to flourish unchecked. This part reviews pay-for-delay decisions since Actavis, arguing that the courts have failed to properly analyze such cases from the perspective of all three notions inherent in the words “pay,” “for,” and “delay.” Finally, Part IV offers a path forward through the doctrinal haze.

#### Budgetary overstretch driven by healthcare causes global instability.

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(Stuart S., “Global Power: Key Issues,” in *The Future of US Global Power: Delusions of Decline*, Palgrave, p. 57-58)

In the first instance, structural26 budget deficits are more likely to be symptoms of incipient overstretch then prima facie evidence of national decline. Overstretch suggests a need to realign commitments and resources, hence spending and revenues. In principle, persistently large deficits demand adjustments that need not materially impact the underlying drivers of longer-term prosperity. In contrast, if fiscal imbalances prove sufficiently chronic, they can eventually trigger growth-inhibiting alterations in microeconomic incentives. In such cases, incipient overstretch can mutate into a more primary threat to the system's underlying dynamism.

In its classical formulation, “imperial overstretch” refers to unrestrained and exorbitant foreign military campaigns. The latter can be said to redound to the detriment of great powers by crowding out more productive capital investments. Yet in contrast to widespread impression, the US fiscal challenge does not primarily reflect out-of-control defense spending and the burden of foreign entanglements. If this were the case, then the feasibility of financing an ever-expanding global power projection would be brought into question. This neither minimizes the sizable resources the US commits to military-related spending nor denies that cutbacks in such spending can help facilitate overall fiscal adjustment. Rather, the point is that an endemic failure to rein in explosive economy-wide health care costs with the latter's implications for public sector health insurance programs – the real fiscal challenge – will do more to endanger macroeconomic stability and eventually erode the material foundation of US power (see chapter 8).

By viewing (health-care driven) fiscal deficits as a necessary manifestation of overstretch is misguided for a more basic reason. The root of the US fiscal problem involves unsustainable commitments – particularly in the area of health expenditure – made by government to its citizens. It is decidedly not a question of any dearth of national resources to adequately meet the health needs of the population at large. As the richest country in the world, the US possesses more than enough resources to achieve this goal. The relevant political and social question is whether the population’s basic health requirements are best met via ever-expanding entitlements requiring increasingly higher levels of taxation.

#### Monopoly drug pricing is the primary driver of U.S. healthcare spending – AND, monopoly rent-seeking does not benefit R&D.

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Ezekiel J. Emanuel, 3-23-2019, "Big Pharma’s Go-To Defense of Soaring Drug Prices Doesn’t Add Up," Atlantic, https://www.theatlantic.com/health/archive/2019/03/drug-prices-high-cost-research-and-development/585253/

**How is it that pharmaceutical companies can charge patients $100,000, $200,000, or even $500,000 a year for drugs—many of which are not even curative?**

Abiraterone, for instance, is a drug used to treat metastatic prostate cancer. The Food and Drug Administration initially approved it in 2011 to treat patients who failed to respond to previous chemotherapy. It does not cure anyone. The research suggests that in previously treated patients with metastatic prostate cancer, the drug extends life on average by four months. (Last year, the FDA approved giving abiraterone to men with prostate cancer who had not received previous treatment.) At its lowest price, it costs about $10,000 a month.

Abiraterone is manufactured under the brand name Zytiga by Johnson & Johnson. To justify the price, the company pointed me to its “2017 Janssen U.S. Transparency Report,” which states: “We have an obligation to ensure that the sale of our medicines provides us with the resources necessary to invest in future research and development.” In other words, the prices are necessary to fund expensive research projects to generate new drugs.

This explanation is common among industry executives. To many Americans, it can seem plausible and compelling. It’s easy to conjure images of scientific researchers in their protective gear and goggles carefully dropping precious liquids into an array of Erlenmeyer flasks, searching for a new cure for cancer or Alzheimer’s. But invoking high research costs to justify high drug prices is deceptive.

No matter the metric, drug prices in the United States are extreme. Many drugs cost more than $120,000 a year. A few are even closing in on $1 million. The Department of Health and Human Services estimates that Americans spent more than $460 billion on drugs—16.7 percent of total health-care spending—in 2016, the last year for which there are definitive data. On average, citizens of other rich countries spend 56 percent of what

Excessive drug prices are the single biggest category of health-care overspending in the United States compared with Europe, well beyond high administrative costs or excessive use of CT and MRI scans. And unlike almost every other product, drug prices continue to rapidly rise over time. HHS estimates that over the next decade, drug prices will rise 6.3 percent each year, while other health-care costs will rise 5.5 percent. Basic economic principles suggest that drug prices should be going down, not up: For most drugs, manufacturing volumes are increasing, and little new research is being conducted on those already on the market.

Reducing these high drug prices has become a major political concern—and a rare bipartisan cause for Democrats and Republicans to rally around, albeit with disagreement about how to actually get it done. In his State of the Union address last month, President Donald Trump called the price discrepancy between the United States and other countries “unacceptable” and “unfair,” and vowed to “stop it fast.” In a Senate Finance Committee hearing on drug pricing a few weeks later, Senator Ron Wyden of Oregon compared the way the drugmaker AbbVie protects the exclusivity of one of its drugs to the way Gollum protects his ring.

Yet every time Congress debates doing something about drug prices, the industry—and the advocacy groups it funds—vociferously returns to the point that lower prices will thwart innovative research. The fear of missing a cure for Alzheimer’s or Lou Gehrig’s disease or depression contributes to stalling reform. But there are many reasons to question the widely held notion that high drug prices and innovative research are inextricably linked.

The most telling data on a disconnect between drug prices and research costs has received almost no public attention. Peter Bach, a researcher at Memorial Sloan Kettering, and his colleagues compared prices of the top 20 best-selling drugs in the United States to the prices in Europe and Canada. They found that the cumulative revenue from the price difference on just these 20 drugs more than covers all the drug research and development costs conducted by the 15 drug companies that make those drugs—and then some.

To be more precise, after accounting for the costs of all research—about $80 billion a year—drug companies had $40 billion more from the top 20 drugs alone, all of which went straight to profits, not research. More excess profit comes from the next 100 or 200 brand-name drugs.

Drug companies tend to say they are unique in needing to spend a higher proportion of their capital on research than almost any other industry. But of all the companies in the world, the one that invests the most in research and development is not a drug company. It’s Amazon. The online retailer spends about $20 billion a year on R&D, despite being renowned for both low prices and low profits. Among the 25 worldwide companies that spend the most on research and development—all more than $5 billion a year—seven are pharmaceutical manufacturers, but eight are automobile or automobile-parts companies with profit margins under 10 percent. Amazon’s operating margin is under 5 percent. Meanwhile, the top 25 pharmaceutical companies reported a “healthy average operating margin of 22 percent” at the end of 2017, according to an analysis by GlobalData.

If you watch television, you know part of the answer to where this extra money is going: sales and advertising. Of the 10 largest pharmaceutical companies, only one spends more on research than on marketing its products. But it’s hard to figure out what it actually costs drug companies to conduct the research required to get FDA approval and bring a single drug to market. The pharmaceutical industry and its advocates tend to peg the cost of creating and bringing to market just one new drug at $2.6 billion. This figure comes from a cost report published in October 2016 by the Tufts Center for the Study of Drug Development.

There are several reasons to suspect that number is unreliable. According to the Tufts Center’s website, more than a quarter of its budget comes from “unrestricted grants” from pharmaceutical companies and their partners. And no one can verify Tufts’ analyses and claims: The authors say the data come from research spending on 106 drugs produced by 10 of the top 50 multinational pharmaceutical companies, but the underlying data are deemed proprietary and confidential.

Tufts also uses a cost-accounting methodology that appears to significantly inflate its estimate. About 45 percent of Tufts’ $2.6 billion figure is attributed to the amount companies would pay to lenders and shareholders for the capital they invest in research. Tufts uses an interest rate of 10.5 percent a year, but investment bankers tend to use just 6 percent in their economic models. That one change would reduce the Tufts estimate by about a quarter of its total figure. That’s not to mention other factors the Tufts team leaves out that reduce the cost of drug development, such as tax credits the federal government offers for research and development.

When asked about these issues, the report’s chief author, Joseph DiMasi, noted that one other study with public data, published in 2009, comes to similar results. He argues that even if we exclude the cost of capital, $1.4 billion per FDA-approved drug is a high price—and the cost has been growing at about 8.5 percent annually.

But in November 2017, a study published in JAMA Internal Medicine examined the costs of developing 10 cancer drugs approved by the FDA from 2006 to 2015 and provided a strong contrast to the Tufts study from a year before. Its authors, from Memorial Sloan Kettering and the Oregon Health and Science University, used annual financial disclosures from the Securities and Exchange Commission for companies that had only one cancer drug approved but had on average three or four other drugs in development. They found that companies took an average of 7.3 years to win FDA approval, at a median cost of $648 million. Only two drugs had research costs over $1 billion. Adding in the cost of capital at 7 percent increased the median research and development cost to $757 million—less than a third of the Tufts estimate.

Pharmaceutical companies often claim that the research costs of unsuccessful drugs also have to be taken into account. After all, 90 percent of all drugs that enter human testing fail. But most of these failures occur early and at relatively low costs. About 40 percent of drugs fail in preliminary Phase I studies, which assess a drug’s safety in humans and typically cost just $25 million a drug. Of the drugs that clear this first phase of testing, about 70 percent fail during Phase II studies, which assess whether a drug does what it is supposed to do. The research costs of these studies are still relatively low compared with overall R&D costs—on average, under $60 million a study.

The 2017 JAMA Internal Medicine study incorporated all research costs on drugs not yet on the market into its final calculations. The pharmaceutical companies it examined had an average drug success rate of 23 percent, which the Tufts researchers argue is too high to accurately represent the amount of money that failed drugs would usually add to a company’s research costs. But cancer drugs, specifically, do have a success rate of 20 to 25 percent—so the selection of only successful companies does not seem to be the difference.

Joaquin Duato, the vice chairman of Johnson & Johnson’s executive committee, argues that critics fail to deal with the realities of drug R&D. He told me that last year, Johnson & Johnson had $41 billion in prescription-drug sales, of which $8.4 billion went to R&D and $4.5 billion went to sales and marketing. Other costs included manufacturing, finance, IT, taxes, and more. This funds research on 100 candidate drugs, which result in one or two FDA approvals a year. “For drug companies, the return on capital is in the mid-teens, which is nowhere near tech-company returns,” Duato said.

Nevertheless, some former pharmaceutical-company executives say that research costs do not determine drug prices—and they explain how. In his book A Call to Action, Hank McKinnell, a past CEO of Pfizer, wrote under the heading “The Fallacy of Recapturing R&D Costs”:

How do we decide what to charge? It’s basically the same as pricing a car … A number of factors go into the mix. These factors consider cost of business, competition, patent status, anticipated volume, and, most important, our estimate of the income generated by sales of the product. It is the anticipated income stream, rather than repayment of sunk costs, that is the primary determinant of price.

Raymond Gilmartin, a former Merck CEO, once said to The Wall Street Journal: “The price of medicines is not determined by their research costs. Instead, it is determined by their value in preventing and treating disease.”

Exorbitant drug prices have two bad effects. First, high costs mean that lots of patients are unable to take their medications. A recent study in the Journal of Clinical Oncology assessed patients’ access to 38 different oral cancer drugs and found that 13 percent of cancer patients did not buy approved chemotherapy drugs if they had a co-payment of $10 a month, while 67 percent did not when they had to pay $2,000 or more. Another study showed that 25 percent of diabetic patient underuse their insulin because of cost.

Second, the high drug prices distort research priorities, emphasizing financial gains and not health gains. Cancer drugs are routinely priced at about $120,000 to $150,000 a year, and more than 600 cancer drugs are now being tested on humans. This can lead to great societal benefits: The United States is expected to face 1.76 million new cancer cases and more than 600,000 cancer deaths in 2019 alone. But many of the drugs that companies are pursuing have low promise, where the health gains are small—weeks of added life, not big cures. While even this short extra time can be valuable to individual families, too much investment in oncology means not enough in drugs for other illnesses whose treatments cannot be so highly priced.

Consider antibiotics. The Centers for Disease Control and Prevention ranks antibiotic-resistant infections as one of the nation’s top health threats. An estimated 2 million Americans become infected with such bacteria each year, and 23,000 die. A superbug that is resistant to all known antibiotics is an imminent threat. Yet because antibiotics are generally cheap, for most pharmaceutical and biotechnology companies they are not a primary focus. The Pew Charitable Trusts reports that only about 42 new antibiotics with the potential to treat serious bacterial infections were in clinical development for the U.S. market in December 2018. Six hundred drugs for cancer and only 42 for serious infections seems like profit maximization, not a case of sensible research priorities that reflects “value in preventing and treating disease.”

The simple explanation for excessive drug prices is monopoly pricing. Through patent protection and FDA marketing exclusivity, the U.S. government grants pharmaceutical companies a monopoly on brand-name drugs. But monopolies are a recipe for excessive prices. A company will raise prices until its profits start to drop.

To address the problem of high prices and reduced access to drugs, Johnson & Johnson advocates eliminating rebates to pharmacy benefit managers and insurers, which would increase price transparency and lower patient co-pays. But it would not necessarily lower total drug prices. The proposal avoids the standard economic response to monopoly pricing: price regulation. Every other developed country regulates drug prices, often through price negotiations pegged to cost-effectiveness analysis or some other measure of clinical benefit.

Will R&D go down if the United States follows this model? Not necessarily. Remember, the high drug prices fund R&D but also marketing, manufacturing, administrative expenses, and profits at the companies. Lower revenue from lower drug prices could reduce marketing, administration, and excessive profits before R&D costs have to be reduced.

Where cuts are made is up to drug companies. Their claims of lower R&D costs appear designed to generate fear, but as some former executives themselves have acknowledged, there is no necessary link between a decline in drug prices and a decline in R&D. Drug companies could make other choices that maximally improve the health of all Americans.

#### Specifically – Biologics account for 93% of the cost.

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Avik Roy, 3-8-2019, "Biologic Medicines: The Biggest Driver Of Rising Drug Prices," Forbes, https://www.forbes.com/sites/theapothecary/2019/03/08/biologic-medicines-the-biggest-driver-of-rising-drug-prices/?sh=16fb5a2618b0

The topic of high prescription drug prices is now the dominant policy issue on Capitol Hill. The new Congress has held a half-dozen hearings on the topic. But one issue that is at the heart of high prices has attracted little attention: the role of biologic drugs in rising drug costs.

In 2017, according to data from the IQVIA Institute, biologic drugs represented 2 percent of all U.S. prescriptions, but 37 percent of net drug spending. Since 2014, biologic drugs account for nearly all of the growth in net drug spending: 93 percent of it, in fact.

Why is that? And what are biologic drugs in the first place? I’ll try to explain.

The FDA regulates traditional and biologic drugs differently

In the old days, most FDA-approved drugs are what we call small molecules: traditional medicines with relatively simple chemical structures. For example, Lipitor (atorvastatin), a best-selling cholesterol-lowering drug, is comprised of 76 atoms, and is exceedingly cheap to manufacture. On the other hand, biologic drugs (or large molecules) like monoclonal antibodies are complex proteins, manufactured in living cells: a costlier process. Humira (adalimumab), the nation’s top drug by revenue, contains 20,067 atoms.

Biologic drugs are the wheelhouse of the biotechnology industry. Innovators in the 1970s and 1980s, like Genentech and Amgen, learned how to insert modified DNA sequences into harvested hamster cells, in order to make genetically engineered proteins that could treat diseases. For example, Epogen, Amgen’s first blockbuster drug, is a genetically engineered version of human erythropoietin: a protein that stimulates your bone marrow to produce more red blood cells. Because erythropoietin is normally produced in the kidney, people with kidney disease often have anemia that can be treated with Epogen.

Because biologic drugs are manufactured using different techniques than traditional, small molecule drugs, Congress and the FDA have chosen to regulate these two categories in different ways. Traditional drugs are governed by the Food, Drug, and Cosmetic Act: the law that originally created the Food and Drug Administration. Biologic medicines are governed by a different law, the Public Health Service Act.

In both cases, the FDA expects drugmakers to conduct clinical trials that demonstrate that a new drug is safe and effective. In both cases, the FDA scrutinizes manufacturing plants to ensure that medicines are consistently made from batch to batch.

Where things really change, in terms of FDA regulation, is after drugs have been on the market for a long time, with patents about to expire.

#### And – It’s a leading cause of death and suffering in the United States – Causes over 100,000 deaths per year from Medicare patients alone, and millions more suffer.

WestHealth 20 – Citing new study

New Study Predicts More Than 1.1 Million Deaths Among Medicare Recipients Due to the Inability to Afford Their Medications: Beneficiaries skipping medications is causing early death and worsening medical conditions that will cost Medicare an extra $177.4 billion over the next 10 years, Nov. 19, 2020, https://www.westhealth.org/press-release/study-predicts-1-million-deaths-due-to-high-cost-prescription-drugs/

More than 1.1 million Medicare patients could die over the next decade because they cannot afford to pay for their prescription medications, according to a new study released today by the West Health Policy Center, a nonprofit and nonpartisan policy research group.

If current drug pricing trends and associated cost-sharing continue, researchers estimate cost-related non-adherence to drug therapy will result in the premature deaths of 112,000 beneficiaries a year, making it a leading cause of death in the U.S., ahead of diabetes, influenza, pneumonia, and kidney disease. Millions more will suffer worsening health conditions and run up medical expenses that will cost Medicare an additional $177.4 billion by 2030 or $18 billion a year for the next 10 years.

### 2

#### Contention 2 is Innovation –

#### Disruptive innovation is structurally plummeting now despite skyrocketing prices. Direct govt. intervention would be a disaster, BUT a better competition regime that recalibrates patent incentives would solve both concerns.

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Robin Feldman, Arthur J. Goldberg Distinguished Professor of Law, Albert Abramson ’54 Distinguished Professor of Law Chair, and Director of the Center for Innovation, May your drug price be evergreen, *Journal of Law and the Biosciences*, Volume 5, Issue 3, December 2018, pp. 590–647, https://doi.org/10.1093/jlb/lsy022

Out of the 106 top-selling drugs from between 2005 and 2014, more than 70% had their protection cliff extended at least once and more than 50% had their protection cliff extended more than once. The magnitude of the behavior highlights the extent to which stifling competition has become the norm in the pharmaceutical industry. When more than 70% of best-selling drugs had their protection extended, it is clearly the go-to approach for profitability.149

One can easily anticipate such maneuvering to continue going forward, particularly given the top-selling drugs going off patent. Between 2014 and 2020, an estimated $253 billion in worldwide drug sales is at risk due to expiration of patents on blockbuster drugs.150 Without societal action, the future is likely to look like more of the same.

V. SOLUTIONS

As described in the opening of this article, the intellectual property system in general and the patent system in particular are designed to provide an opportunity for innovators to garner a return. Competition may be held in abeyance for a limited time, but those who receive the benefit must pay for the privilege by disclosing sufficient information that competitors will be able to step in. This design reflects the deeply rooted notion that providing a period of exclusivity for inventors is intended to rebound to the benefit of society as a whole, not simply to the benefit of the inventors. The patent protection should end, returning the market to a competitive state.

This foundational structure of the patent system—one that delicately balances innovation and competition—is crumbling, whittled away across time as one good idea after another creates a special carve-out. Each carve-out, standing on its own, presents an appealing cause. Together, however, the result is a complete undermining of the system for pharmaceutical innovation as the repeated addition of protections, one after another, pushes competition further into the future, threatening innovation in the process. The behavior is not limited to a few bad apples. Our research reveals that it is endemic to the pharmaceutical industry.

In short, this is not an image of innovation and competitive entry. It is an image of a system that provides for repeated creation of competition-free zones, pushing a competitive market further and further out into the future. The problem is not only pervasive and persistent, but it is also growing across time.

The impact created by these repeated competition zones is not some abstract problem that our grandchildren may face. Rather, the nation's pharmaceutical system is in crisis today, with prices soaring to heights that distort both individual and government budgets.151 These dire circumstances bring calls for price controls, for government marching in to direct drug production, and for other strong measures.152 The US Government's history of directly managing pharmaceutical innovation, however, has been disappointing. In fact, prior to the Bayh-Dole Act of 1980, the federal government took responsibility for handing out licenses for innovation developed through government-funded research. Bayh-Dole shifted that responsibility from the federal government to universities, precisely because the government failed so miserably in this role. There is little reason to expect a different result this time.153

Competition is a powerful and effective tool, however, and paving the way for competition whenever it is possible remains the optimal approach. When the government itself bestows benefits that are stifling competition, society has both an obligation and an opportunity to act. One cannot, however, enter into such action lightly; it must be designed with thought and care. Pharmaceutical research and development are expensive, and companies must have sufficient incentive to travel down that risky road. Nevertheless, by incentivizing game-playing rather than innovation, society has clearly missed the mark.

#### Artificially shielding so-called “weak patents” from scrutiny creates an enormous perverse incentive to avoid big breakthroughs in favor of pseudo-innovation. Real breakthroughs are hard and expensive, so companies that can profit by avoiding it will.

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Einer Elhauge & Alex Krueger, “Solving the Patent Settlement Puzzle,” Texas Law Review, Vol. 91:283

Exceeding the optimal patent exclusion period is likewise inefficient for several reasons. First, the economic literature shows that patent profits that exceed the optimal level result in excessive investments in innovation that reduce social welfare compared to the optimal investments in innovation. Second, excessive patent protection can produce a net reduction in innovation by precluding subsequent innovations by others.

Third, settlements that over-reward the patent holder with a longer exclusion period than it deserves reduce the net reward for true innovation by increasing the reward more for less-deserving patents than for more deserving patents. As the proof below shows and the Second Circuit has already pointed out, settlements that exclude entry increase patent-holder profits more for weaker patents than for stronger patents. For example, the holder of a weak patent that is only 5% likely to be deemed a valid innovation could use such a settlement to secure exclusion throughout the entire patent term, even though its patent is 95% likely to be deemed a non-innovation, while the holder of an ironclad patent that is 100% likely to be deemed a true innovation could not increase its exclusion period through settlement because it would already expect 100% exclusion from litigation. Thus, settlements with an excessive exclusion period reduce the net reward for investing in a true innovation that leads to a stronger patent rather than in a pseudo-innovation that leads to a weaker patent. When a firm faces a choice between investing in true innovation or pseudo-innovation, this artificially reduced net reward for true innovation will distort its choice, and can reduce the rate of true innovation because it is generally harder, more costly, or less certain than pseudo-innovation.

For example suppose that a true innovation will produce a gross patent reward of $1 billion, but that the net reward for this true innovation is only $400 million because the firm can instead get $600 million in the same market by creating a pseudo-innovation that it can convert into a long exclusion period using a reverse payment settlement. Suppose further that the true innovation requires a $500 million investment, but the pseudo-innovation requires no investment. Then the true innovation will be deterred because the excessive reward for the pseudo-innovation reduces the net reward for true innovation below the investment required for it. Therefore, settlements that over-reward patent holders with longer exclusion periods than they deserve can actually decrease incentives to invest in true innovation. More generally, by reducing the net reward for investing in stronger patents rather than weaker patents, settlements that provide excessive exclusion periods distort investment choices away from the stronger patents that are more likely to reflect real innovation. In all three ways summarized above, settlements that exceed the optimal patent exclusion period will undermine optimal innovation incentives. For the purpose of antitrust analysis of these settlements, it is best to assume that substantive patent law is optimal. Although scholars sometimes argue that current patent law upholds too many patents, or too few, some balance must be struck. Even if one believes that current patent law does not strike the correct balance, the correct solution is to reform patent law, not to allow courts in antitrust cases to second-guess patent law doctrine and try to offset it imperfectly for the limited set of cases that produce patent settlements that raise antitrust issues. This second-guessing approach would not work both because it would require litigating the optimality of the patent system in every antitrust case that involved patent rights (not just reverse payment settlement cases), and because it would alter the innovation reward in the odd subset of cases that lead to such antitrust suits, which would distort firm incentives in choosing among possible innovations. Therefore, antitrust analysis of patent settlements should assume the optimality of patent law. Given that Congress and the courts have crafted the substantive doctrines that determine the probability that a patent would be found valid and infringed, the amount of exclusion that the patent holder deserves on the merits is equal to the probability that the patent would be found valid and infringed times the remaining patent term. To formalize this, call the probability that the patent will be found valid and infringed 0, and normalize the remaining patent term so that it spans from 0 to 1. For example, if 100 months remained on the patent term, then 100 months would be 1.0 on the normalized scale, 50 months would be 0.5, 10 months would be 0.1, and so forth. According to patent law, the patent holder deserves exclusivity for 9 of the remaining patent period because 9 percent of the time it deserves exclusivity for the entire period and 1 - 0 percent of the time it deserves no exclusivity. This means that if a settlement exclusion period T (again on the normalized 0 to 1 timeline) is greater than 0, then T exceeds the optimal patent exclusion period, and thus gives the patent holder more exclusivity and patent reward than it deserves. For example, if the remaining patent term is 100 months, and the probability of patent victory is 0.5, then the settlement exclusion period exceeds the optimal patent exclusion period only if T> 0.5; in other words, if the settlement excludes entry for more than 50 months. This measure entitles the patent holder to all the expected profits it would get if patent litigation were instant and costless, and thus enables patent holders to reap any legitimate settlement benefits that come from avoiding the delay and cost of litigation.

#### Specifically – Increasing competition is key to drive the revolution in biologics. Those are ground-breaking new treatments derived from living organisms, such as new vaccine tech and bacteriophages.

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Carrier, Michael A. "Don't Die! How Biosimilar Disparagement Violates Antitrust Law." Northwestern University Law Review Online, 115, 2020-2021, p. 119-145. HeinOnline, <https://heinonline.org/HOL/P?h=hein.journals/nulro115&i=119>.

Competition is the key to low prices in the pharmaceutical industry. For decades, Americans have benefitted from affordable generic versions of brand-name drugs. But now, as biologics enter the market, we stand on the precipice of a revolution. In fact, biologics, which can cost patients hundreds of thousands of dollars per year, are predicted to be the "fastest growing segment of drug spending in the coming years."1

The hope, then, is that competition from follow-on products, known as biosimilars, will lower prices for patients. But pharmaceutical companies' campaign of biosimilar disparagement threatens to block this goal. Biologics are large, complex molecules derived from living organisms, most commonly proteins.2 According to the FDA, biologics "often represent the cutting-edge of biomedical research and, in time, may offer the most effective means to treat a variety of medical illnesses and conditions" that have "no other treatments available."3 Monoclonal antibodies, the most frequently developed type of biologic,4 include blockbuster products such as infection-reducing Neulasta, 5 as well as Humira and Remicade,7 both of which treat arthritis, colitis, and Crohn's disease. In targeting unhealthy cells without harming healthy cells, monoclonal antibodies have dramatically increased survival rates.9 Other types of biologics include vaccines, blood products, and gene therapies.10

#### Because they’re living, they are uniquely complex and expensive to synthesize, and no two are exactly alike

Carrier and Minniti 18 - Distinguished Professor, Rutgers Law School, Rutgers Law School, J.D. 2017

Michael A. Carrier and Carl J. Minniti III, BIOLOGICS: THE NEW ANTITRUST FRONTIER, UNIVERSITY OF ILLINOIS LAW REVIEW, 1/12/2018, <https://www.illinoislawreview.org/wp-content/uploads/2018/01/Carrier.pdf>

The science underlying biologics is profoundly different from that of small-molecule drugs. Small molecules are created through a series of chemical reactions known as chemical synthesis. This process is relatively predictable, allowing generics to imitate brand drugs at low cost. Put another way, brands and generics can put the same pieces of a puzzle together in the same way to create the same image. Biologics, in contrast, blow up that paradigm, emphasizing not the individual pieces of the puzzle but the way the puzzle is constructed. Because “the product is the process” and the use of living cells to create biologics is inherently sensitive, there is higher variability and follow-ons cannot precisely replicate the original product. Challenges in biologic development stem from not only the complexity of the molecule but also from changes during the product’s maturation. Unlike the “single and mono-molecular entity” making up small molecules, the final form of biologics is “a complex mix of the same protein molecule under various structurally close [protein-varying] isoforms.” The complicated nature of biologic development is revealed by the uncertainties in the structure of a protein, a typical biologic. A protein includes four structural levels: primary, secondary, tertiary, and quaternary. The primary structure consists of the amino acid sequence, which is essential for biologic activity. Even though drug developers can replicate an amino acid sequence, individualized production and purification methods result in unpredictable structural folding at the secondary, tertiary, and quaternary levels (each of which addresses larger three-dimensional structures). This unpredictability has dramatic effects, determining whether a drug confers therapeutic or toxic effects. Adding to the complexity, even if a biosimilar manufacturer could replicate the structure of the biologic, post-translational modifications to the structure could result in undetectable differences causing adverse patient reactions. Most therapeutic proteins induce a reflexive antibody response against the therapy introduced into the patient’s body. For that reason, immunogenicity—a triggered unwanted immune response—plays a critical role in biologic development. As a patient’s body attempts to fight off foreign proteins, certain product-related factors elicit particular responses, including molecule design, impurities, and post-translational modifications. The development of biologics is particularly difficult and unpredictable because the immunogenic response to proteins cannot be replicated in animal models to simulate an immune response in humans. If variability in biologic development and immunogenicity is a concern for the biologic manufacturer in making its own product, a follow-on maker will confront even higher hurdles. While these entities can rely on patent disclosures and other materials in the public domain, they will lack access to critical information the biologic manufacturer protects as a trade secret. Because biologics are “so closely defined by their manufacturing process,” this secrecy blocks competition. Finally, the effects of complexity and secrecy are exacerbated by the difficulty of even analyzing a protein’s structure. The ability to use analytic techniques to demonstrate clinical comparability is more limited than for small-molecule drugs, with a biosimilar manufacturer not able to show that its product is identical to the biologic product. Unlike generic versions of small-molecule drugs, which are chemically identical to brand versions, the structural variability and complexity inherent in biologic development cause follow-on versions to strive for, at most, similarity. These differences have direct effects on the relevant markets.

C. Markets

Biologics’ complexity is accompanied by their timeliness, with a follow-on biosimilars market poised to explode. This development is even more crucial given that many blockbuster small-molecule drugs are in the midst of losing patent protection, with nearly $200 billion in brand sales subject to generic competition by 2025. The end of a “golden age” for small-molecule block- busters has resulted in drug companies developing biologics, planning to receive as much as 50% of their revenues from the medications in the near future. Such a development will be profitable, with an average daily cost of $45 for a biologic vastly exceeding that of a $2 daily cost for a small-molecule drug. The biologic market, worth $46 billion in 2002, is expected to increase to $390 billion worldwide by 2020. The top-selling U.S. drug of 2015, immune system-treating biologic Humira, amassed more than $8 billion in sales. Other top-selling biologics include arthritis-treating Enbrel (nearly $6 billion) and arthritis-, Crohn’s disease-, and colitis-treating Remicade (more than $4 billion). The rise of biologics could be met with an onslaught of biosimilars, with biologics worth $67 billion in global sales witnessing the expiration of patents by 2020. But despite the clear market opportunity, biosimilar introduction has been relatively slow. One fundamental reason is that, unlike generics requiring expenditures of roughly $2 million, biosimilar development, involving more intensive and uncertain research and development, costs as much as $200 million. Congress enacted the Biologics Price Competition and Innovation Act of 2009 (“BPCIA”) in 2010, but it took until 2015 for the FDA to approve the first biosimilar: Zarxio, Sandoz’s follow-on version of Amgen’s billion-dollar neutropenia (anti-infection) therapy, Neupogen. As of the date of this Article, the FDA has approved only seven biosimilars. In addition to Zarxio, Mvasi received approval as a biosimilar to the $6.75 billion cancer therapy Avastin, and five biosimilars are follow-on versions of three blockbuster inflammatory disease treatments, each in the top ten drugs sold in the United States: (1) Amjevita and Cyltezo, biosimilars to the $8.3 billion Humira; (2) Erelzi, a biosimilar to the $5.9 billion Enbrel; and (3) Inflectra and Renflexis, biosimilars to the $4.6 billion Remicade. Early indications point to biosimilars lowering costs. For example, both Zarxio and Inflectra are sold at a 15% discount from the biologic price. And according to Renflexis sponsor Merck, the biosimilar product “will be introduced in the U.S. at a list price (wholesaler acquisition cost) of $753.39, representing a 35% discount off the current list price of Remicade.” In the small-molecule setting, the entry of a single generic modestly lowers price. As the previous paragraph showed, early returns from the biosimilars market are analogous. But while the entry of multiple small-molecule generics results in significant price erosion (50% with 2 generics and 75% with at least 6), we predict that the reductions may be more modest given attempts to recoup biosimilar development costs, which greatly exceed those incurred by generics. The market effects of biologics and biosimilars also will be shaped by the relevant laws and regulations.

#### Two scenarios.

#### Scenario A is Breakthroughs –

#### COVID is only the first warning shot. Continued vaccine development is key to survival

--Note: EID = Emerging Infectious Disease

Excler et al. 21 – Jean-Louis Excler, International Vaccine Institute, Seoul, Republic of Korea; Melanie Saville, Coalition for Epidemic Preparedness Innovations (CEPI), London, UK; Seth Berkley, Gavi, the Vaccine Alliance, Geneva, Switzerland; Jerome H. Kim, International Vaccine Institute, Seoul, Republic of Korea

Jean-Louis Excler, Melanie Saville, Seth Berkley, and Jerome H. Kim, "Vaccine development for emerging infectious diseases," Nat Med 27, 591–600, 4-12-2021, <https://www.nature.com/articles/s41591-021-01301-0>

Newly emerging and reemerging infectious viral diseases have threatened humanity throughout history. Several interlaced and synergistic factors including demographic trends and high-density urbanization, modernization favoring high mobility of people by all modes of transportation, large gatherings, altered human behaviors, environmental changes with modification of ecosystems and inadequate global public health mechanisms have accelerated both the emergence and spread of animal viruses as existential human threats. In 1918, at the time of the ‘Spanish flu’, the world population was estimated at 1.8 billion. It is projected to reach 9.9 billion by 2050, an increase of more than 25% from the current 2020 population of 7.8 billion (https://www.worldometers.info). The novel severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) responsible for the coronavirus disease 2019 (COVID-19) pandemic1,2,3 engulfed the entire world in less than 6 months, with high mortality in the elderly and those with associated comorbidities. The pandemic has severely disrupted the world economy. Short of lockdowns, the only means of control have been limited to series of mitigation measures such as self-distancing, wearing masks, travel restrictions and avoiding gatherings, all imperfect and constraining. Now with more than 100 million people infected and more than 2 million deaths, it seems that the addition of vaccine(s) to existing countermeasures holds the best hope for pandemic control. Taken together, these reasons compel researchers and policymakers to be vigilant, reexamine the approach to surveillance and management of emerging infectious disease threats, and revisit global mechanisms for the control of pandemic disease4,5.

Emerging and reemerging infectious diseases

The appearance of new infectious diseases has been recognized for millennia, well before the discovery of causative infectious agents. Despite advances in development of countermeasures (diagnostics, therapeutics and vaccines), world travel and increased global interdependence have added layers of complexity to containing these infectious diseases. Emerging infectious diseases (EIDs) are threats to human health and global stability6,7. A review of emerging pandemic diseases throughout history offers a perspective on the emergence and characteristics of coronavirus epidemics, with emphasis on the SARS-CoV-2 pandemic8,9. As human societies grow in size and complexity, an endless variety of opportunities is created for infectious agents to emerge into the unfilled ecologic niches we continue to create. To illustrate this constant vulnerability of populations to emerging and reemerging pathogens and their respective risks to rapidly evolve into devastating outbreaks and pandemics, a partial list of emerging viral infectious diseases that occurred between 1900 and 2020 is shown in Table 1.

[[Figure Omitted]]

Although nonemerging infectious diseases (not listed in Table 1), two other major mosquito-borne viral infections are yellow fever and dengue. Yellow fever, known for centuries and an Aedes mosquito-borne disease, is endemic in more than 40 countries across Africa and South America. Since 2016, several yellow fever outbreaks have occurred in Angola, Democratic Republic of Congo, Nigeria and Brazil to cite a few10, raising major concerns about the adequacy of yellow fever vaccine supply. Four live attenuated vaccines derived from the live attenuated yellow fever strain (17D)11 and prequalified by the WHO (World Health Organization) are available12.

Dengue is an increasing global public health threat with the four dengue virus types (DENV1–4) now cocirculating in most dengue endemic areas. Population growth, an expansion of areas hospitable for Aedes mosquito species and the ease of travel have all contributed to a steady rise in dengue infections and disease. Dengue is common in more than 100 countries around the world. Each year, up to 400 million people acquire dengue. Approximately 100 million people get sick from infection, and 22,000 die from severe dengue. Most seriously affected by outbreaks are the Americas, South/Southeast Asia and the Western Pacific; Asia represents ~70% of the global burden of disease (https://www.cdc.gov/dengue). Several vaccines have been developed13. A single dengue vaccine, Sanofi Pasteur’s Dengvaxia based on the yellow fever 17D backbone, has been licensed in 20 countries, but uptake has been poor. A safety signal in dengue-seronegative vaccine recipients stimulated an international review of the vaccine performance profile, new WHO recommendations for use and controversy in the Philippines involving the government, regulatory agencies, Sanofi Pasteur, clinicians responsible for testing and administering the vaccine, and the parents of vaccinated children14.

Two bacterial diseases, old scourges of humanity, are endemic and responsible for recurrent outbreaks and are increasingly antimicrobial resistant. Cholera, caused by pathogenic strains of Vibrio cholerae, is currently in its seventh global pandemic since 1817; notably, the seventh pandemic started in 196115. Global mortality due to cholera infection remains high, mainly due to delay in rehydrating patients. The global burden of cholera is estimated to be between 1.4 and 4.3 million cases with about 21,000–143,000 deaths per year, mostly in Asia and Africa. Tragic outbreaks have occurred in Yemen and Haiti. Adding to rehydration therapy, antibiotics have been used in the treatment of cholera to shorten the duration of diarrhea and to limit bacterial spread. Over the years, antimicrobial resistance developed in Asia and Africa to many useful antibiotics including chloramphenicol, furazolidone, trimethoprim-sulfamethoxazole, nalidixic acid, tetracycline and fluoroquinolones. Several vaccines have been developed and WHO prequalified; these vaccines constitute a Gavi-supported global stockpile for rapid deployment during outbreaks16.

Typhoid fever is a severe disease caused by the Gram-negative bacterium Salmonella enterica subsp. enterica serovar Typhi (S. Typhi). Antimicrobial-resistant S. Typhi strains have become increasingly common. The first large-scale emergence and spread of a novel extensively drug-resistant (XDR) S. Typhi clone was first reported in Sindh, Pakistan17,18, and has subsequently been reported in India, Bangladesh, Nepal, the Philippines, Iraq and Guatemala19,20. The world is in a critical period as XDR S. Typhi has appeared in densely populated areas. The successful development of improved typhoid vaccines (conjugation of the Vi polysaccharide with a carrier protein) with increased immunogenicity and efficacy including in children less than 2 years of age will facilitate the control of typhoid, in particular in XDR areas by decreasing the incidence of typhoid fever cases needing antibiotic treatment21,22.

A model of vaccine development for emerging infectious diseases

The understanding of emerging infectious diseases has evolved over the past two decades. A look back at the SARS-CoV outbreak in 2002 shows that—despite a small number of deaths and infections—its high mortality and transmissibility caused significant global disruption (see Table 1). The epidemic ended as work on vaccines was initiated. Since then, the disease has not reappeared—wet markets were closed and transmission to humans from civets ceased. Consequently, work on vaccines against SARS-CoV ended and its funding was cut. Only a whole inactivated vaccine23 and a DNA vaccine24 were tested in phase 1 clinical trials.

Following a traditional research and development pipeline, it takes between 5 and 10 years to develop a vaccine for an infectious agent. This approach is not well suited for the needs imposed by the emergence of a new pathogen during an epidemic. Figure 1 shows a comparison of the epidemic curves and vaccine development timelines between the 2014 West African Ebola outbreak and COVID-19. The 2014 Ebola epidemic lasted more than 24 months with 11,325 deaths and was sufficiently prolonged to enable the development and testing of vaccines for Ebola, with efficacy being shown for one vaccine (of several) toward the end of the epidemic25,26. What makes the COVID-19 pandemic remarkable is that the whole research and development pipeline, from the first SARS-CoV-2 viral sequenced to interim analyses of vaccine efficacy trials, was accomplished in just under 300 days27. Amid increasing concerns about unmitigated transmission during the 2013–2016 Western African Ebola outbreak in mid-2014, WHO urged acceleration of the development and evaluation of candidate vaccines25. To ensure that manufacturers would take the Ebola vaccine to full development and deployment, Gavi, the Vaccine Alliance, publicly announced support of up to US$300 million for vaccine purchase and followed that announcement with an advance purchase agreement. Ironically, there had been Ebola vaccines previously developed and tested for biodefense purposes in nonhuman primates, but this previous work was neither ‘ready’ for clinical trials during the epidemic nor considered commercially attractive enough to finish development28.

[[Figure Omitted]]

From these perceived shortcomings in vaccine development during public health emergencies arose the Coalition for Epidemic Preparedness Innovations (CEPI), a not-for-profit organization dedicated to timely vaccine development capabilities in anticipation of epidemics29,30. CEPI initially focused on diseases chosen from a list of WHO priority pathogens for EIDs—Middle East respiratory syndrome (MERS), Lassa fever, Nipah, Rift Valley fever (RVF) and chikungunya. The goal of CEPI was to advance candidate vaccines through phase 2 and to prepare stockpiles of vaccine against eventual use/testing under epidemic circumstances. CEPI had also prepared for ‘disease X’ by investing in innovative rapid response platforms that could move from sequence to clinical trials in weeks rather than months or years, such as mRNA and DNA technology, platforms that were useful when COVID-19 was declared a global health emergency in January 2020, and a pandemic in March 202031,32.

CEPI has been able to fund several vaccine development efforts, among them product development by Moderna, Inovio, Oxford–AstraZeneca and Novavax. Providing upfront funding helped these groups to advance vaccine candidates to clinical trials and develop scaled manufacturing processes in parallel, minimizing financial risk to vaccine developers. The launch of the larger US-funded Operation Warp Speed33 further provided companies with funding—reducing risks associated with rapid vaccine development and securing initial commitments in vaccine doses.

Vaccine platforms and vaccines for emerging infectious diseases

Vaccines are the cornerstone of the management of infectious disease outbreaks and are the surest means to defuse pandemic and epidemic risk. The faster a vaccine is deployed, the faster an outbreak can be controlled. As discussed in the previous section, the standard vaccine development cycle is not suited to the needs of explosive pandemics. New vaccine platform technologies however may shorten that cycle and make it possible for multiple vaccines to be more rapidly developed, tested and produced34. Table 2 provides examples of the most important technical vaccine platforms for vaccines developed or under development for emerging viral infectious diseases. Two COVID-19 vaccines were developed using mRNA technology (Pfizer–BioNTech35 and Moderna36), both showing safety and high efficacy, and now with US Food and Drug Administration (FDA) emergency use authorization (EUA)37,38 and European Medicines Agency (EMA) conditional marketing authorization39,40. While innovative and encouraging for other EIDs, it is too early to assert that mRNA vaccines represent a universal vaccine approach that could be broadly applied to other EIDs (such as bacterial or enteric pathogens). While COVID-19 mRNA vaccines are a useful proof of concept, gathering lessons from their large-scale deployment and effectiveness studies still requires more work and time.

[[Figure Omitted]]

While several DNA vaccines are licensed for veterinary applications, and DNA vaccines have shown safety and immunogenicity in human clinical trials, no DNA vaccine has reached licensure for use in humans41. Recombinant proteins vary greatly in design for the same pathogen (for example, subunit, virus-like particles) and are often formulated with adjuvants but have longer development times. Virus-like particle-based vaccines used for hepatitis B and human papillomavirus are safe, highly immunogenic, efficacious and easy to manufacture in large quantity. The technology is also easily transferable. Whole inactivated pathogens (for example, SARS-CoV-2, polio, cholera) or live attenuated vaccines (for example, SARS-CoV-2, polio, chikungunya) are unique to each pathogen. Depending on the pathogen, these vaccines also may require biosafety level 3 manufacturing (at least for COVID-19 and polio), which may limit the possibility of technology transfer for increasing the global manufacturing capacity.

Other vaccines are based on recombinant vector platforms, subdivided into nonreplicating vectors (for example, adenovirus 5 (Ad5), Ad26, chimpanzee adenovirus-derived ChAdOx, highly attenuated vectors like modified vaccinia Ankara (MVA)) and live attenuated vectors such as the measles-based vector or the vesicular stomatitis virus (VSV) vector. Either each vector is designed with specific inserts for the pathogen targeted, or the same vector can be designed with different inserts for the same disease. The development of the Merck Ebola vaccine is an example. ERVEBO is a live attenuated, recombinant VSV-based, chimeric-vector vaccine, where the VSV envelope G protein was deleted and replaced by the envelope glycoprotein of Zaire ebolavirus. ERVEBO is safe and highly efficacious, now approved by the US FDA and the EMA, and WHO prequalified, making VSV an attractive ‘platform’ for COVID-19 and perhaps for other EID vaccines26 although the −70 °C ultracold chain storage requirement still presents a challenge.

Other equally important considerations are speed of development, ease of manufacture and scale-up, ease of logistics (presentation, storage conditions and administration), technology transfer to other manufacturers to ensure worldwide supply, and cost of goods. Viral vectors such as Ad5, Ad26 and MVA have been used in HIV as well as in Ebola vaccines42. Finally, regulatory authorities do not approve platforms but vaccines. Each vaccine is different. However, with each use of a specific technology, regulatory agencies may, over time, become more comfortable with underlying technology and the overall safety and efficacy of the vaccine platform, allowing expedited review and approvals in the context of a pandemic43. With COVID-19, it meant that the regulatory authorities could permit expedited review of ‘platform’ technologies, such as RNA and DNA, that had been used (for other conditions) and had safety profiles in hundreds of people.

#### It’s a constant arms race.

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David M. Morens and Anthony S. Fauci, "Emerging Infectious Diseases: Threats to Human Health and Global Stability," PLoS Pathog 9(7): e1003467, 7-4-2013, <https://journals.plos.org/plospathogens/article?id=10.1371/journal.ppat.1003467>

Will We Ever Eliminate Emerging Infectious Diseases?

While it has become possible to eradicate certain infectious diseases (smallpox and the veterinary disease rinderpest), and to significantly control many others (dracunculiasis, measles, and polio, among others), it seems unlikely that we will eliminate most emerging infectious diseases in the foreseeable future. Pathogenic microorganisms can undergo rapid genetic changes, leading to new phenotypic properties that take advantage of changing host and environmental opportunities. Influenza viruses serve as a good example of emerging and reemerging infectious agents in their ability to rapidly evolve in response to changing host and environmental circumstances via multiple genetic mechanisms. New “founder” influenza viruses [21] appear periodically, cause a pandemic, raise widespread population immunity, and then, in response to human immune pressures, evolve and persist for decades using multiple genetic evolutionary mechanisms to sustain continual immune escape. The 1918 influenza pandemic virus is one example: over the past 95 years, its descendants have evolved continually by antigenic drift, intra-subtypic reassortment, and antigenic shift, the latter producing new pandemics in 1957 and 1968 [14]. Even the genetically complex 2009 pandemic H1N1 influenza virus is a descendant of the 1918 virus [14]. Such continuous genetic hyper-evolution forces us to develop new influenza vaccines containing new antigens on an annual basis.

In the meantime, new human diseases keep emerging. As noted, in late 2012 the novel MERS coronavirus emerged in Saudi Arabia [13], and in early 2013 a new H7N9 avian influenza virus became epizootic in Eastern China, causing 132 spillover infections of humans (as of June 7, 2013), with 28 percent case fatality [10], [22]. Its pandemic potential, if any, remains to be determined. Whether or not such outbreaks become more widespread, they nonetheless attract global attention and require significant international effort to monitor and contain. Microbial advantages can be met and overcome only by aggressive vigilance, ongoing dedicated research, and rapid development and deployment of such countermeasures as surveillance tools, diagnostics, drugs, and vaccines.

We appear to be entering a new era in which several important emerging, reemerging, and stable infectious diseases are becoming better controlled (e.g., hepatitis B, rabies, Haemophilus influenzae type B, and even to some extent HIV/AIDS). However, our success in stopping the many new emerging diseases that will inevitably appear is not assured. We have many tools in our armamentarium, including preparedness plans and stockpiles of drugs and vaccines. But each new disease brings unique challenges, forcing us to continually adapt to ever-shifting threats [1]–[10], [23]. The battle against emerging infectious diseases is a continual process; winning does not mean stamping out every last disease, but rather getting out ahead of the next one.

#### The tempo and threat level is rising faster than ever, so we must update our innovation system. Evolutionary pandemics will pose a greater threat than climate change and nuclear war

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In 2003 a doctor with SARS unknowingly infected several guests while staying at a Hong Kong hotel, and overnight the virus reached across the globe. China is currently battling a bird flu that kills nearly half of the people infected. If Ebola, which transmits through fluids, were spread by air, or if Zika, which has reached over 50 countries, were as deadly as Ebola, we would be facing an unprecedented catastrophe. An uncontrolled outbreak or bioterror attack could result in a contagion that kills over 30 million people.

We fear it is only a matter of time before we face a deadlier and more contagious pathogen, yet the threat of a deadly pandemic remains dangerously overlooked. Pandemics now occur with greater frequency, due to factors such as climate change, urbanization, and international travel. Other factors, such as a weak World Health Organization and potentially massive cuts to funding for U.S. scientific research and foreign aid, including funding for the United Nations, stand to deepen our vulnerability. We also face the specter of novel and mutated pathogens that could spread and kill faster than diseases we have seen before. With the advent of genome-editing technologies, bioterrorists could artificially engineer new plagues, a threat that Ashton Carter, the former U.S. secretary of defense, thinks could rival nuclear weapons in deadliness.

The two of us have advised the president of Guinea on stopping Ebola. In addition, we have worked on ways to contain the spread of Zika and have informally advised U.S. and international organizations on the matter. Our experiences tell us that the world is unprepared for these threats.

We urgently need to change this trajectory. We can start by learning four lessons from the gaps exposed by the Ebola and Zika pandemics.

Faster Vaccine Development

The most effective way to stop pandemics is with vaccines. However, with Ebola there was no vaccine, and only now, years later, has one proven effective. This has been the case with Zika, too. Though there has been rapid progress in developing and getting a vaccine to market, it is not fast enough, and Zika has already spread worldwide.

Many other diseases do not have vaccines, and developing them takes too long when a pandemic is already under way. We need faster pipelines, such as the one that the Coalition for Epidemic Preparedness Innovations is trying to create, to preemptively develop vaccines for diseases predicted to cause outbreaks in the near future.

Point-of-Care Diagnostics

Even with such efforts, vaccines will not be ready for many diseases and would not even be an option for novel or artificially engineered pathogens. With no vaccine for Ebola, our next best strategy was to identify who was infected as quickly as possible and isolate them before they infected others. Because Ebola’s symptoms were identical to common illnesses like malaria, diagnosis required laboratory testing that could not be easily scaled. As a result, many patients were only tested after several days of being contagious and infecting others. Some were never tested at all, and about 40% of patients in Ebola treatment centers did not actually have Ebola.

Many dangerous pathogens similarly require laboratory testing that is difficult to scale. Florida, for example, has not been able to expand testing for Zika, so pregnant women wait weeks to know if their babies might be affected. What’s needed are point-of-care diagnostics that, like pregnancy tests, can be used by frontline responders or patients themselves to detect infection right away, where they live. These tests already exist for many diseases, and the technology behind them is well-established. However, the process for their validation is slow and messy. Point-of-care diagnostics for Ebola, for example, were available but never used because of such bottlenecks.

Greater Global Coordination

We need stronger global coordination. The responsibility for controlling pandemics is fragmented, spread across too many players with no unifying authority. In Guinea we forged a response out of an amalgam of over 30 organizations, each of which had its own priorities. In Ebola’s aftermath, there have been calls for a mechanism for responding to pandemics similar to the advance planning and training that NATO has in place for its numerous members to respond to military threats in a quick, coordinated fashion.

This is the right thinking, but we are far from seeing it happen. The errors that allowed Ebola to become a crisis replayed with Zika, and the WHO, which should anchor global action, continues to suffer from a lack of credibility.

Stronger Local Health Systems

International actors are essential but cannot parachute into countries and navigate local dynamics quickly enough to contain outbreaks. In Guinea it took months to establish the ground game needed to stop the pandemic, with Ebola continuing to spread in the meantime. We need to help developing countries establish health systems that can provide routine care and, when needed, coordinate with international responders to contain new outbreaks.

Local health systems could be established for about half of the $3.6 billion ultimately spent on creating an Ebola response from scratch. Access to routine care is also essential for knowing when an outbreak is taking root and establishing trust. For months, Ebola spread before anyone knew it was happening, and then lingered because communities who had never had basic health care doubted the intentions of foreigners flooding into their villages. The turning point in the pandemic came when they began to trust what they were hearing about Ebola and understood what they needed to do to halt its spread: identify those exposed and safely bury the dead.

With Ebola and Zika, we lacked these four things — vaccines, diagnostics, global coordination, and local health systems — which are still urgently needed. However, prevailing political headwinds in the United States, which has played a key role in combatting pandemics around the world, threaten to make things worse. The Trump administration is seeking drastic budget cuts in funding for foreign aid and scientific research. The U.S. State Department and U.S. Agency for International Development may lose over one-third of their budgets, including half of the funding the U.S. usually provides to the UN. The National Institutes of Health, which has been on the vanguard of vaccines and diagnostics research, may also face cuts. The Centers for Disease Control and Prevention, which has been at the forefront of responding to outbreaks, remains without a director, and, if the Affordable Care Act is repealed, would lose $891 million, 12% of its overall budget, provided to it for immunization programs, monitoring and responding to outbreaks, and other public health initiatives.

Investing in our ability to prevent and contain pandemics through revitalized national and international institutions should be our shared goal. However, if U.S. agencies become less able to respond to pandemics, leading institutions from other nations, such as Institut Pasteur and the National Institute of Health and Medical Research in France, the Wellcome Trust and London School of Hygiene and Tropical Medicine in the UK, and nongovernmental organizations (NGOs have done instrumental research and response work in previous pandemics), would need to step in to fill the void.

There is no border wall against disease. Pandemics are an existential threat on par with climate change and nuclear conflict. We are at a critical crossroads, where we must either take the steps needed to prepare for this threat or become even more vulnerable. It is only a matter of time before we are hit by a deadlier, more contagious pandemic. Will we be ready?

#### Scenario B is Leadership –

#### The U.S. remains ahead of China in biotech now, BUT declining innovation will change that – It’s the 21st century equivalent of nuclear power

Moore 21 – Lecturer in Political Science, UPenn; previously served at the State Dept.

Scott Moore, author of *Rethinking China’s Rise: How to Compete and Cooperate on the Environment, Technology, and Beyond*, In Biotech, the Industry of the Future, the U.S. Is Way Ahead of China, February 17, 2021, <https://www.lawfareblog.com/biotech-industry-future-us-way-ahead-china>

A continuing refrain from Washington in recent years has been that the United States is falling behind China in the development of critical emerging technologies. In some fields, this may be true. But not in biotechnology. To be sure, China’s biotech sector is growing at a torrid pace, and some of its firms are becoming leaders in certain areas, such as cancer treatment. Yet the U.S. retains a dominant position in research, development and commercialization, accounting for almost half of all biotech patents filed from 1999 to 2013. The triumph of its biotechnology industry during the coronavirus pandemic, producing two highly effective vaccines using an entirely new approach based on messenger RNA, and in record time, shows that the U.S.’s competitive edge in biotechnology remains largely intact. And that has important implications as Washington gears up for a sustained period of geopolitical competition with Beijing.

Biotech is such a critical area for technological competition between the U.S. and China because it is transforming fields from medicine to military power. The great advances of the 19th century, like chemical fertilizers, resulted from mastering chemistry. In the 20th century, mastery of physics led to nuclear energy—and, more ominously, nuclear weapons. In the 21st century, biology offers a similar mix of peril and promise. This was illustrated dramatically by the award of the 2020 Nobel Prize for the discovery of an enzyme system known as CRISPR-Cas9, which allows an organism’s genomes to be edited with high precision. It is a transformational breakthrough. But while CRISPR shows great promise in the development of new cures for long-untreatable diseases, it could also lead to a whole new generation of deadly bioweapons.

That’s a prospect that increasingly alarms U.S. intelligence officials. In 2016, then-Director of National Intelligence James Clapper warned Congress that “[r]esearch 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.” Although Clapper didn’t name specific countries, it soon became clear that he was referring mainly to China. Four years later, his successor, John Ratcliffe, issued a far more pointed warning that “China has even conducted human testing on members of the People’s Liberation Army in hope of developing soldiers with biologically enhanced capabilities. There are no ethical boundaries to Beijing’s pursuit of power.” Such capabilities are almost certainly only speculative—but they underscore why biotech leadership is so important for national security as well as economic competitiveness.

Beijing has long envied the United States’s dominant position in biotechnology and spent heavily to overtake it. Biotech has been a priority sector for state investment since the 1980s, and by one estimate Beijing had poured some $100 billion into the sector by 2018. Nowhere did it lavish more attention or invest more of its propaganda power than in developing a coronavirus vaccine. State media have spent months crowing that “China is working around the clock for breakthroughs in COVID-19 vaccines.” Yet despite this push, China’s vaccine program quickly took on a Potemkin air. In February 2020, barely two months after the onset of the pandemic and after a supposedly crash vaccine effort, a military doctor stood in front of a Chinese flag to receive what was billed as an experimental vaccine dose but was widely suspected to be a staged photo op. Now, having spent months talking up its two primary vaccine candidates to developing countries like Brazil and Indonesia, both of which have entered into purchase agreements with Chinese biotech firms, Chinese officials face severe mistrust among their nation’s overseas partners.

For China’s leaders, the disappointing returns on their big bet on biotechnology look likely to cause them more headaches at home as well as abroad—there are already signs that affluent Chinese place more trust in foreign-developed coronavirus vaccines than the homegrown ones produced at such great expense. For U.S. officials, though, China’s relative underperformance in vaccine development presents an opportunity to reassert the United States’s leadership in biotechnology and public health and bolster the nation’s depleted soft power in the process. The Biden administration has already signaled it will reengage in multilateral bodies such as the World Health Organization.

Yet the U.S. shouldn’t stop there. Washington should begin thinking now about how to emulate the success of the President’s Emergency Plan for AIDS Relief (PEPFAR)—which, though imperfect, is widely regarded as one of the most successful single public health interventions in history—to address growing disparities in access to coronavirus vaccines between countries. At the moment, vaccine supplies are controlled largely by rich countries, creating the risk of moral and public health failure if the gap persists. While COVID-19, the respiratory disease caused by the novel coronavirus, differs in many respects from AIDS, PEPFAR combined research, prevention, and access to therapeutics. Developing a comparable institutional structure to close the coronavirus vaccine access gap is the right thing to do—but it would also go a long way to restoring America’s battered global reputation.

At the same time, the United States can’t afford to rest on its laurels in biotechnology, or any other field. Aside from China, other nations like Singapore and Israel have also invested heavily to develop their biotechnology sectors, with Israel in particular giving rise to a thriving biotech industry. U.S. public investment in basic scientific research and development has meanwhile been on the decline for decades, and there are worrying signs that America’s once world-beating innovation ecosystem is less productive, and less entrepreneurial, than it once was. Despite strengths in translational research, moreover, the frontiers of biology increasingly sit at the intersection with other disciplines like computer science, meaning that funding agencies, universities and other organizations need to break down disciplinary silos. Boosting support for biotechnology research, while reforming how that money is used, will go a long way toward shoring up the United States’s leading position in the global biotech sector.

The U.S. biotechnology sector also faces other threats, not least growing espionage and intellectual property theft by foreign actors, especially those linked to China. Several high-profile cases brought by the U.S. Department of Justice’s China Initiative have involved biotechnology researchers, and American biotech firms have been top targets for cyber theft and intrusion. Sustained outreach to researchers and research institutions is critical to preventing such theft. But efforts to clamp down on the threats posed by espionage and intellectual property theft can easily go too far and must preserve the researcher mobility and data-sharing that is essential to doing cutting-edge science.

Beyond its shores, the United States should work with its partners and allies to enhance export controls on dual-use biotechnology—used for both peaceful and military gain—especially DNA templates. Many forms of genetic material and synthetic biology products are already subject to U.S. export controls, but gaps remain, and screening for genetic sequence orders relies primarily on voluntary regulation by biotech firms. Better coordinating export controls among major economies and U.S. allies can dramatically reduce the risk of sophisticated bioweapons development in the decades to come.

When it comes to biotechnology, the industry of the future, the U.S. remains well ahead of its rivals, including China. That’s something Americans can, and should, take pride in. But the U.S. must make proactive investments and undertake significant reforms now to ensure that things stay that way.

#### Biotech lead will be the key determinant

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Rob Carlson, also managing director at Bioeconomy Capital, an early-stage venture capital firm; and Chad Sbragia, also former director of the China Research Group for the U.S. Marine Corps and now a research staff member at the Institute for Defense Analyses; and Kate Sixt, also assistant director of the Strategy, Forces and Resources Division at the Institute for Defense Analyses, where she leads the Chemical, Biological, Radiological, and Nuclear Analysis group; BEYOND BIOLOGICAL DEFENSE: MAINTAINING THE U.S. BIOTECHNOLOGY ADVANTAGE, 14 September 2021, https://warontherocks.com/2021/09/beyond-biological-defense-maintaining-the-u-s-biotechnology-advantage/

From 2007 to 2008, tainted supplies of Chinese-manufactured heparin, a common blood thinner, led to 81 deaths across the United States. This should have been a wake-up call to the Department of Defense. Over the last two decades, biotechnology has become a key component of American supply chains, perhaps accounting for 20 percent of the chemicals the U.S. military uses. Those supply chains now span the globe and contain a significant amount of material produced in China. Remarkably, the full extent of the military’s dependence on Chinese biotechnology is unknown because the U.S. government is not assessing it. These dependencies extend beyond pharmaceuticals to fundamentals such as solvents and polymers. Just try and paint an aircraft without xylenes. If you’ve never thought about how difficult it would be, well that’s exactly the problem.

The Department of Defense has historically viewed biotechnology narrowly in relation to military medicine and biodefense. As a result, the vital role of biotechnology in military readiness and national security remains poorly understood. Biowarfare and bioterrorism are real risks, but approaching the nation’s biotechnology security needs only in these terms will leave the country ever more vulnerable.

China, by contrast, has been integrating biotechnology into its strategic development and elevating biotechnology to a key component of national security. China’s military-civil fusion development strategy makes biotechnology a core priority for the People’s Liberation Army. This strategy has one goal: to bring together China’s civilian and military industrial bases in order to better project power. To that end, China has cornered supply chains in multiple sectors, including pharmaceuticals ingredients and other important chemicals.

Stephanie Rogers, the Defense Department’s acting principal director for biotechnology, recently declared that “the nation that leads the world in biotechnology will accrue enduring economic, societal, and defense gains.” Unfortunately, this awareness has yet to be reflected in government policy. Biotechnology security is national security — for the United States and for China. The Department of Defense should recognize biotechnology’s role as a foundational technology and make biotechnology development and supply chain security a priority.

Maintaining America’s Biotechnology Advantage

Biotechnology in the United States is a significant contributor to the economy. By one estimate, in 2017, U.S. biotechnology revenues exceeded $400 billion, or 2 percent of gross domestic product, substantially surpassing better-measured sectors such as mining. Bioeconomy revenues have grown at an average rate of 10 percent annually for two decades. Notably, U.S. biotechnology revenues alone were approximately equal to worldwide semiconductor revenues for 2017. Biotechnology now supplies critical medicines, and, as more than 90 percent of the corn and soy grown in the United States is genetically modified, biotechnology feeds the armed forces. Industrial biotechnology is responsible for upward of 20 percent of chemicals produced in the United States, suggesting a similar proportion of chemicals used in the military are also biologically derived. And these impressive figures may still be significant underestimates: Using a different methodology, the U.S. National Academy of Sciences recently concluded that the biotechnology industry contributes 5 to 7 percent of U.S. gross domestic product. Biotechnology, therefore, may already constitute an even larger share of the military supply chain.

As biotechnology continues to mature, its contribution to physical and economic security will become even more significant. Tools are now being deployed that enable the engineering and biomanufacturing of materials that will eventually not only displace petrochemicals but also surpass them in production scale and performance. Over the next ten to twenty years, biological production could soon supply up to 60 percent of physical inputs across the global economy, and biotechnology could have a “direct economic impact of up to $4 trillion a year.”

While the United States is arguably still leading in biotechnology, it risks losing this lead to China. In China, biotechnology is a national development and a security matter. China’s Innovation Driven Development Strategy emphasizes biotechnology’s essential role in the country’s economic development, while the Military-Civil Fusion Development Strategy seeks to ensure that biotechnology research is also oriented toward the country’s military and broader security goals. Chinese biotechnology revenues are reported to be of a similar size to those in the United States, although they are subject to even lesser clarity in reporting.

While China continues its licit and illicit acquisition efforts targeting the U.S. biotechnology sector, it is also shifting its attention to domestic innovation. In time, this will provide the People’s Liberation Army with new capabilities and increase both America’s and the Pentagon’s reliance on Chinese biotechnology products.

Recommendations As early as 1958, the Department of Commerce was tracking the economic contribution of semiconductors, even though they made up less than 0.1 percent of the gross domestic product. Yet, today, the U.S. government has made no equivalent effort to track the much more significant role of biotechnology. This illiteracy is a national security issue. American and Chinese bioeconomies are in competition, and Beijing asserts that it is investing with the intent to take, and to then maintain, the lead. To sustain America’s advantage, the U.S. Department of Defense should better understand its reliance on biotechnology and increase investment in it accordingly. The Pentagon’s recent investment in the BioIndustrial Manufacturing and Design Ecosystem is a notable step in the right direction. However, the seven-year budget for this project is approximately the cost of a single F-35A. For an investment that could impact the entire defense supply chain, this is inadequate. We recommend the following plan of action for the Department of Defense to take its place alongside the Departments of Commerce and State in the broader interagency effort to secure America’s biotechnology advantage. First, in close coordination with the Department of Commerce, the Department of Defense should make a systematic effort to better understand the role of biotechnology in the economy, supply chains, and manufacturing. This, in turn, should inform additional oversight and regulatory controls. The responsibility to understand, prepare for, and respond to biotechnology threats is balkanized, spread across at least nine departments and agencies. Vulnerabilities in the bioeconomy will affect the Department of Defense in terms of readiness, soldier health, and the ability to fulfill missions. Addressing those vulnerabilities begins with a sustained, comprehensive effort to understand the role of biotechnology in industry today, as well as how that industry contributes to defense supply chains, and how military acquisition policy shapes biotechnology. To that end, the Pentagon should work with the Department of Commerce to create domestic reporting codes for biotechnology revenues and employment for the quarterly and annual economic census, and further incorporate those codes into the North American Industrial Classification System. Institutionalizing the gathering of these data is the first step toward sustainable policymaking and rational spending. The Department of Commerce should then consider adding import/export controls on biotechnology, while avoiding overly broad restrictions that suffocate innovation. Protecting foundational technologies using the Foreign Investment Risk Review Modernization Act and Export Control Reform Act will be critical for securing biotechnology. However, biotechnology competition is not exclusive to commercial activities. The Pentagon should assess critical vulnerabilities and dependencies to assist the other agencies in bringing China’s foreign biotechnology access in line with standards in other major markets. The Department of Defense has been asked to document and secure supply chains critical to defense applications and to the overall U.S. economy. This should also apply to biotechnology. Current Pentagon efforts to expand domestic biological manufacturing capabilities are an important start, but a broader effort is needed. An empowered deputy national security adviser could help oversee the relationship between the Pentagon and the National Economic Council to promote and secure the military’s broader technology needs. Second, the Department of Defense should better study the accomplishments and intent of China, especially the Chinese military, in developing biotechnology as a strategic technology. Once the Department of Defense better understands critical U.S. biotechnology dependencies on China, it can begin the work of reducing them. This requires an interagency examination to identify cross-cutting resources, develop mitigation strategies, formulate best practices to bolster innovation, and expand outreach to allies and partners to reduce systemic gaps China could exploit. Partnership with industry and allies will allow the U.S. government to understand and counter Beijing’s efforts to distort commercial activity in its favor. To this end, the Department of Defense should mirror the National Security Council’s effort by creating an emerging technology portfolio within Office of the Under Secretary of Defense-Policy. While other technology offices in the Department of Defense are internally focused, an entity in this office that concentrates externally on foundational technology competition is required. Such an office may be able to address uncertainties in assessments of Chinese biotechnology revenues and capabilities. Finally, in coordination with the Department of State, the Department of Defense should identify opportunities for dialogue with the People’s Liberation Army about biotechnology-related security issues. It is time to include biotechnology in the dialogue mechanisms that compose bilateral U.S. defense relations with the People’s Liberation Army. This dialogue should prioritize the ethics of biotechnology in the context of future conflicts, the escalatory risks this technology creates, and the possibility of cooperation where the interests of the two nations intersect. Both sides should work toward a common understanding related to ethics, policies, and standards when operationalizing biotechnology. This will help avoid miscalculation and promote strategic stability. Unlike the U.S. government, Chinese leadership has a carefully considered position on the importance of biosafety and “biological problems” in national security. While these problems are understood to encompass traditional weapons concerns, they also extend to the health of the entire natural world in the context of ever-expanding applications of biotechnology. This position might provide an opportunity for constructive engagement at a time when tensions are rising. Conclusion The Pentagon needs to expand its approach to biotechnology beyond biodefense. If China maintains biological warfare aspirations, by all means address those. But defense planners should also address China’s broader approach to biotechnology and its integrated approach to civil-military fusion.

Securing biotechnology secures the nation. Maintaining the U.S. lead in biotechnology is critical to the nation’s economic and military resilience in war, peace, and the gray zone short of conflict. This requires better biotechnology collaboration — within the U.S. government, with allies and partners, and even, where possible, with competitors.

#### World go boom

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Mira Rapp-Hooper, Stephen A. Schwarzman Fellow at the Council on Foreign Relations, 2020, Saving America’s Alliances: The United States Still Needs the System That Put It on Top, Foreign Affairs

The stakes of failing to reform the alliance system could scarcely be higher. If Washington does not act, it will miss the opportunity to protect its dearest interests on relatively favorable terms, before China’s growing power and Russia’s revanchism undermine the system’s proven guarantees. The reform agenda recommended here is vast, but it is far less burdensome than a U.S. foreign policy that cannot rely on allies. The United States can no more go it alone now than it could in the immediate postwar years. Whether the United States has alliances or not, American security and prosperity will still require an open and independent Asia and Europe. Even if Washington pulled back from both theaters, the United States would still face cyberattacks, financial and infrastructural disruptions, and assaults on its democratic institutions. And by retrenching, Washington would lose whatever readiness for conflict it currently has. If the country later joined a war abroad, it would have to do so only after significant time delays and without the allied cooperation that might have allowed it to prevail. Put simply, the United States might fall into a conflict that it could have instead deterred—one now waged with hypersonic speed and destruction.

#### Strong commercial innovation will be the key

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THE SINO-AMERICAN RACE FOR TECHNOLOGY LEADERSHIP, 2021, <https://warontherocks.com/2021/04/the-sino-american-race-for-technology-leadership/>

Setting the right foundation is crucial. Sound analytical judgments about China’s policies, plans, and prospects, along with a new framework for the relationship, are the starting point. Neither wholesale confrontation nor wholesale engagement are adequate to address U.S. concerns, but the relationship should be stable for this approach to have any chance of success. The view that economic competitiveness, innovation, and democratic norms are core components of national security should drive the development of a comprehensive strategy into which discrete policies of pressure, negotiation, multilateralism, high-level dialogue, and domestic measures fit. Industry should work closely with the government to ensure this perspective underpins U.S. policy, and the government should recognize that industry is central to the United States winning the technology race and therefore should get a vote on how to run it.

Out-competing and out-innovating China requires that America remain the world’s most attractive innovation hub, enticing the best talent, drawing in the most venture capital, and generating the largest revenues to support U.S. leadership of technology’s newest frontiers. It means continuing to “move fast and break things.” The ethos that made America a technology superpower can keep it so. It also means injecting some strategic realism into U.S. policy. As former Secretary of Defense William Cohen put it, China’s actions have caused the United States to say, “we can’t do business the way we’ve been doing business,” but, “we still have to do business.”

### 3

#### Contention 3 is Solvency.

#### Most recent evidence proves that pharma companies are rampantly preventing drug competition by compensating one another not to challenge their weak patents, creating *de facto* monopolies. That is because antitrust law DOES forbid SOME direct payments, but currently ALLOWS more complex anticompetitive deals of this kind. Creates a huge perverse incentive to hide the ball.

Feldman 8/27 – Distinguished Professor of Law Chair & Director of the Center for Innovation, UC Hastings Law

Robin Feldman, Arthur J. Goldberg Distinguished Professor of Law, Albert Abramson ’54 Distinguished Professor of Law Chair, and Director of the Center for Innovation, The Price Tag of 'Pay-for-Delay', UC Hastings Research Paper Forthcoming, 27 Aug 2021, https://papers.ssrn.com/sol3/papers.cfm?abstract\_id=3846484

Our empirical results highlight the fact that pay-for-delay is a far more costly problem than previously recognized. The Supreme Court opened the door to deal with these settlements in Actavis, but in applying the decision, lower courts, competition agencies, and relevant parties have struggled with each of the three aspects of the phrase: “pay,” “for,” and “delay.” Despite the opinion’s expectation that lower courts would be able to provide structure to the rule of reason in a pay-for-delay inquiry, 125 that structure has not materialized in a meaningful manner. The problem arises in part from the nature of the rule of reason inquiry and in part from the forms of deals that have emerged. Although it is possible that the Justices never intended to allow pay-for-delay cases to move forward, the tone of the opinion belies such a cynical interpretation.

A. What Constitutes “Pay”

One might imagine that the notion of “pay” would be simple. Nevertheless, some courts have struggled with the question of what might constitute an exchange of value and whether the notion of payment can extend beyond cash. Beyond the notion of what types of value might be included in the notion of pay, the way in which the inquiry unfolds has created obstacles for parties and competition authorities to actually measure value in a way that would be satisfactory under a rule of reason analysis.

In particular, some parties have asserted that cash is king. From this perspective, the only exchange of value that might matter would be dollars changing hands. In the immediate wake of Actavis, some courts initially failed to recognize non-cash forms of compensation—such as no-authorized-generic clauses—as unexplained payments from brands to generics.126 Although higher courts eventually rectified decisions in Lamictal and Loestrin, for example, expanding the Actavis precedent to include methods of payments other than cash,127 damage was done. Effectively permitting certain forms of pay-for-delay—even temporarily—serves to incentivize similarly designed anticompetitive deals, at great cost to patients and society. 128 Protracted court battles also present a significant drain on regulatory bandwidth, particularly when every instance of anticompetitive conduct must be demonstrated to the courts.

In the sophisticated world of modern commerce, however, there are many ways to provide value beyond simply handing over bags stuffed with bills. For example, one of the most valuable assets for an entering generic is the 180-day period in which the first filing generic can enter the market free of competition from other generics. Generic companies may earn a substantial portion of their profit during this period of time.129 Brand-name companies, however, found a way to make that period of time into an asset that can substitute for a cash payment.

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126 See, e.g., In re Loestrin 24 Fe Antitrust Litig., 45 F. Supp. 3d 180 (D.R.I. 2014), vacated and remanded, 814 F.3d 538 (1st Cir. 2016); In re Lamictal Direct Purchaser Antitrust Litig., 18 F. Supp. 3d 560 (D.N.J. 2014), vacated and remanded sub nom. King Drug Co. of Florence v. Smithkline Beecham Corp., 791 F.3d 388 (3d Cir. 2015). The payment in the settlement litigated in Actavis was a cash transfer from the brand to the generic; subsequent pay-for-delay settlements have featured payment forms that are less easily enumerated, such as no-authorized generic agreements. In this case, the brand company—in lieu of a cash payment—agrees to not launch an authorized generic during the first-filing generic company’s 180-day exclusivity period, thereby boosting the generic company’s revenues.

128 Evidence since Actavis suggests that pharmaceutical companies hew closely to guidelines implied by court decisions. According to the FTC 2017 report, only 3 of 20 agreements with explicit compensation exceeded the $7M allowed by Actavis for litigation fees; moreover, following a spate of court cases finding that a no-AG promise amounted to anticompetitive payment, 2017 saw no settlement agreements that included a no-AG clause. See Betsy Lordan, FTC Staf Issues FY 2017 Report on Branded Drug Firms' Patent Settlements with Generic Competitors, FTC (Dec. 3, 2020), <https://www.ftc.gov/news-events/press-releases/2020/12/ftc-staff-issues-fy-2017-report-branded-drug-firms-patent>

[End FN]

The scheme springs from the fact that although a generic must obtain FDA approval to enter the market, the brand-name company already has such an approval in its pocket. Thus, the brand-name company may market its own generic version of a drug—called an authorized generic or a branded generic—without the need for a lengthy approval process.130 Although the Hatch-Waxman system does not explicitly provide for authorized generics in its legislation, court rulings have affirmed that nothing prevents the innovator company from marketing an authorized generic version of their branded drug.131

The launch of an authorized generic has significant consequences for a first-filing generic. According to the FTC, competing with an authorized generic can cost a generic first-filer up to 45% of its revenue during the exclusivity period.132 The ability to remove that threat becomes an asset that the brand-name company can hand to the generic, in exchange for an agreement to stay off the market. A brand-name company can promise not to introduce an authorized generic, particularly during the valuable 180-day period. The deal is a little like old movies portraying protectionist rackets, in which the neighborhood shakedown artist says, “Nice front window you have there. Be a real shame if it got smashed in.” Here, a brand-name company can say the equivalent of, “Nice 180-day exclusivity period. Be a real shame if you lost half of it. Tell you what, just stay off the market for a while, and it is all yours.”

As courts and competition authorities have become suspicious of these “no-authorized-generic” agreements, companies have developed ever-more-complex variations on the theme. Rather than explicitly promise to not compete by producing an authorized generic, a brand-name company can promise not to license any third parties to make authorized generics, while reserving the right to make an authorized generic itself. If the brand manufacturer has a limited track record of launching authorized generics, this agreement can have the same effect as the no-authorized generic clause.133 In yet another variation, the brand and generic can enter into an agreement in which the generic is obligated to pay a royalty amount, but that royalty will decline if the brand-name company launches a competing authorized generic.134

In other complicated variants, brand-name companies may give the generic who agrees to stay off the market a license to make an authorized generic version of their brand drug, with the generic paying a royalty to the brand.135 Particularly if the royalty payment that the generic must pay is less than the market value of the benefit, that excess value may be camouflaging a “reverse” flow of payments in exchange for the generic’s agreement to stay off the market.136

Courts and competition authorities now generally recognize that no-authorized-generic agreements can constitute a form of payment for the purposes of pay-for-delay, although it took some time to reach that point.137 Nevertheless, the law has not fully absorbed the anticompetitive potential of the complex variations. These convoluted variants are difficult to tease out, let alone establish sufficient proof through the rule of reason standards, making obfuscation a successful strategy. For example, the most-recent FTC reports showed 226 agreements between brand and generic companies that year, 138 a significant increase from the 170 settlements just two years prior.

139 Ninety percent of those agreements included a transfer of patent rights that were not at issue in the lawsuit. Many of these could easily constitute a transfer of value.140 Challenging even a simple no-authorized-generic agreement is no easy task. For example, although the judicial definition of payment now includes “no-authorized-generic” agreements,141 private plaintiffs or the government bears the burden of evaluating and presenting the terms of a no-authorized-generic agreement in terms of cash value.142 The requirement follows the logic that in order to demonstrate the unreasonably large nature of a payment, as the Actavis decision specified, plaintiffs generally are required to translate that agreement into a specific, quantifiable value to the court’s satisfaction. Thus, a plaintiff who wishes to challenge even a simple no-authorized-generic agreement as anticompetitive must be prepared to engage in an expensive and lengthy court battle, with no consistent approach to valuation.143 Consider the Effexor case.

The district court in Effexor rejected the plaintiffs’ valuation of a no-authorized-generic agreement, which was based on an estimation of what an authorized generic cost the generic manufacturer of a different drug with nearly identical sales.144 Plaintiffs were able to obtain a reversal on appeal,145 but obtaining the appellate decision, however, took three years beyond the time that had already passed for the trial court ruling. The more a deal reaches behind the back and around the ears, the harder it is tease out the value transfer and pin down a specific dollar equivalent.

[FN 141]

141 See, e.g., United Food & Com. Workers Loc. 1776 & Participating Emps. Health & Welfare Fund v. Teikoku Pharma USA, Inc., 74 F. Supp. 3d 1052, 1070 (N.D. Cal. 2014) (“I agree with the bulk of the recent decisions holding that courts need not restrict the definition of “payments” under Actavis to cash. See, e.g., In re Nexium (Esomeprazole) Antitrust Litig., 968 F.Supp.2d 367, 382 (D.Mass.2013) (rejecting a motion to dismiss because a no-authorized-generic term could be a payment for the delay because a broader definition of payment “serves the purpose of aligning the law with modern-day realities.”)”); see also Time Ins. Co. v. Astrazeneca AB, 52 F. Supp. 3d 705, 710 (E.D. Pa. 2014) (“reverse payments deemed anti-competitive pursuant to Actavis may take forms other than cash payments” when considering a no-authorized-generic agreement); King Drug, 791 F.3d at 403 (“We do not believe Actavis 's holding can be limited to reverse payments of cash. For the following reasons, we think that a no-AG agreement, when it represents an unexplained large transfer of value from the patent holder to the alleged infringer, may be subject to antitrust scrutiny under the rule of reason.”).

142 See Feldman & Misra, Fatal Attraction, supra note 8, at 259-260 (explaining how the often-onerous burden of proving anticompetitive harm under rule of reason rests on the plaintiffs); see also Feldman, Defensive Leveraging, supra note 51 (describing the difficulty of successfully pleading a rule of reason case).

[End FN]

The 2003 Medicare Modernization Act requires generic-brand agreements to be submitted to the FTC for review, 146 and the reports the FTC publishes from these insights can point other investigators to possible anticompetitive conduct.147 However, the FTC is limited in its resources to investigate individual cases; reports are frequently beset by publishing delays, offer only annualized statistics, and may fail to adequately appreciate the nuanced, rapidly evolving techniques used by drug companies.148

For example, in December 2020 the FTC finally released its annual report covering the year 2017. The report lists as examples of “possible compensation” arrangements including: declining royalty structures,149 AG licensing to subsequent filers, and agreements to not license AGs to third parties.150 The FTC declines to assess the anticompetitive quality of these arrangements as “beyond the scope of this report.”151 The report also finds zero cases of the no-authorized-generic agreements so prevalent a decade earlier. 152

It would be naïve, however, to assume that the end of simple no-authorized-generic clauses marks the end of authorized generics in pay-for-delay. Rather, anecdotal evidence suggests that the character of brand-generic patent settlements is simply changing in response to the spate of court rulings finding that no-authorized-generic clauses constitute payment under Actavis. 153

B. What Constitutes “For”

Similar to the notion of what constitutes “pay,” courts and agencies have struggled over whether a transfer of value in an agreement constitutes a payment for staying off the market or simply a payment for legitimate value provided by the generic.

Side deals come in many shapes and sizes including: 1) arrangements to promote other drugs in the firms’ portfolios; 154 2) licensing deals that allow the brand or generic to manufacture the other party’s drug;155 3) agreements authorizing the generic to manufacture and/or sell a brand’s “authorized generic” without filing for generic approval; 4) research and development collaboration on future projects; and 5) deals to supply the brand company with raw materials for manufacturing.156 Such side deals are rarely found outside the settlement context. According to one prominent academic in the field, “many—such as an arrangement by which a brand relies on a generic for its marketing expertise—belie common sense.”157

The valuation of agreements featuring noncash provisions is further complicated by the fact that the details of these settlements are kept secret.158 This shroud of secrecy makes it difficult to identify and quantify the value of noncash settlements. Even if the presence of side deals is suspected, plaintiffs will rarely, if ever, have access to the terms of those agreements. Several district courts have already dismissed pay-for-delay litigation for failing to plausibly allege a large and unjustified payment.159 For example, the district court in Actos dismissed the indirect purchasers’ claims that Takeda engaged in anticompetitive conduct by entering into settlement agreements with generic manufacturers.160 While the court shared the majority view that Actavis was not limited to settlements dealing with pure cash, it also held that to find an unlawful reverse payment involving non-cash settlement terms, the court “must be able to estimate the value of the term, at least to the extent of determining whether it is “large” and “unjustified.””161 Because the plaintiffs could not explain the basis for their assertions nor offer any method of calculating the value of the licensing side deal, there was no factual basis for the court to reasonably estimate the value of the settlement terms and evaluate the settlements’ alleged anticompetitive effect.

The legality of settlements featuring side deals continues to be challenged. While the majority view is that side deals are not immune to antitrust scrutiny, plaintiffs still bear the burden of pleading information sufficient to estimate the value of these agreements. To describe the task of determining whether these terms are “large” and “unjustified” as difficult is an understatement.

It is interesting to note that although the FTC’s reports on pay-for-delay settlements for fiscal years 2015162 and 2016163 reported no side deals, the most recent report for fiscal year 2017 listed three settlements with side deals.164 These side deals included an agreement in which the brand manufacturer assigned the generic manufacturer five patents unrelated to the litigated product at no cost, another in which the generic sold intellectual property related to the litigated product to the brand manufacturer, and a third in which the brand manufacturer acquired the generic manufacturer's potentially competing 505(b)(2) product that was the subject of the patent litigation.165 These indicators suggest there is reason for concern that side deals can be used to hide payments for delay and that courts and agencies would be unable to ferret out any anticompetitive conduct.

C. What Constitutes “Delay”

Creating a full sweep, courts have also struggled with the question of what constitutes delay. The uncertainty centers on whether an agreement in which the generic enters before the patents expire should be considered delay. Supporters of pay-for-delay settlements routinely argue that such settlements can be procompetitive because they facilitate early entry of a generic before a branded drug’s patents have expired.166

In such instances, consumers would benefit from lower prices sooner than if the Paragraph IV challenge had never taken place. In Actavis, the Supreme Court recognized this procompetitive potential, commenting that early entry settlements, or settlements permitting the patent challenger to enter the market before the patent expires, could “bring about competition . . . to the consumer’s benefit.”167

That argument, however, assumes the patent is valid and infringed.168 Various studies suggest that assumption is unwarranted. For example, a 2002 Federal Trade Commission report found that considering all the patent infringement cases between generic and brand manufacturers between 1992 and 2000, generic applicants prevailed in a staggering 73 percent of cases.169 Similarly, an academic analysis of Federal Circuit decisions between 2002 and 2004 in which the court made a final ruling on the merits of a pharmaceutical patent claim found that generic challengers had a 70 percent success rate.170

In a more recent analysis, a study of patent lawsuits filed in a federal district court between 2008 and 2009 found that accused infringers won 74 percent of the definitive merits rulings while patentees won only 26 percent of the time.171

In fact, the FDA has gone so far as to provide a registry of disputed patent information in order to address inaccurate or extraneous patent listings on new drugs.172 As the author has previously written, “one can never assume that just because a company holds a patent that the patent is either valid or validly applied to the drug at issue.”173

A patent that is invalid or not infringed would have no power to stop entry. Thus, if the generic had pursued the litigation to conclusion, the result could easily have moved the patent barrier out of the way, allowing the generic to enter right away. As a result, it would be nonsensical to say that there is no delay if the parties agreed to stay out of the market until the expiration date of a noninfringed patent. Nevertheless, some courts have failed to contemplate that possibility in analyzing agreements.

Consider In re Humira. 174 Plaintiffs alleged that AbbVie’s settlement agreements with biosimilar manufacturers, in which the biologic company granted licenses for biosimilars to market the Humira biosimilar in Europe in 2018 while delaying entry into the U.S. market until 2023, constituted an unlawful pay-for-delay scheme.175

In dismissing the lawsuit, the district court found that the settlements were permissible because they allowed AbbVie’s rivals to enter the U.S. market before the patents on Humira (the latest of which expires in 2039) expired.176 The court failed to recognize, however, that the settlements eliminated the possibility that the biosimilars might have entered the U.S. market earlier than the stipulated date if they had pursued the litigation to conclusion and prevailed. As with many cases, the patents might not have been valid or validly applied.

#### Plan: The United States federal government should increase prohibitions on anticompetitive reverse settlements of biologics.

#### And – So-called “pay for delay” deals in the biologics context specifically do not yet fall within the legal scope of antitrust – But logically, they ought to

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January 12, 2018, “BIOLOGICS: THE NEW ANTITRUST FRONTIER,” https://www.illinoislawreview.org/wp-content/uploads/2018/01/Carrier.pdf

In determining the appropriate antitrust analysis of settlements, an initial question centers on the application of FTC v. Actavis. We believe that, in a broad holding of general applicability, Actavis confirmed antitrust law’s vital role in evaluating the legality of settlements involving payment and delayed entry. The Court relied on **an array of previous cases to confirm that its precedents “make clear** that patent-related settlements can sometimes violate the antitrust laws.”

To be sure, the Court was not offering an antitrust assessment of biologic settlements. Nor could it have given that no court—even now, several years later—has considered settlements under the BPCIA. But we believe the **setting** of **complex pharmaceutical regulation under the BPCIA easily offers sufficient similarities to the Hatch-Waxman Act** to allow application of Actavis’s broad principles. In addition, payment to avoid the risk of biosimilar competition presents the same concerns highlighted in Actavis.

The linchpin in the antitrust analysis of settlements is whether a generic is excluded from the market based on a patent or payment. Exclusion based on a patent generally does not present antitrust concern because it is commonly understood that patent-term split agreements, by which brands and generics divide the remaining patent term by selecting a time for generic entry, do not violate the antitrust laws. The reason is that the parties’ compromise on the entry date reflects the odds of success in patent litigation. The greater the likelihood the patent is valid and infringed, the later in the period generic entry would be expected. The lower the likelihood, the earlier entry would be expected. A brand, however, is likely to gain additional exclusivity not explained by a patent by supplementing the parties’ entry-date agreement with a payment to the generic.

The same distinction between patent and payment should apply in the setting of biologics. The biologic manufacturer is entitled to rely on its patent to exclude a generic. But **it should not be able to pay a biosimilar to gain additional delay.** In determining whether there is payment, the court should consider, as one of us has explained before, whether the biologic manufacturer conveys “a type of consideration not available as a direct consequence of winning the lawsuit.” If the biosimilar manufacturer is able to obtain such consideration, “its exclusion from the market cannot be traced to the strength of the [biologic] patent.” In such a case, “the [biologic maker] is providing compensation beyond what even a valid and infringed patent would justify.”224 And, presenting antitrust concern, the biosimilar delays entering the market because of this payment.

One example of a form of payment that could arise in this setting involves a biosimilar’s access to a biologic’s distribution or reimbursement networks. In contrast to distribution through wholesalers and specialty distributors (each of which obtains a portion of revenues, reducing a biosimilar’s profitability), biologics could offer access to a “manufacturer direct” channel which, in selling directly to purchasers (e.g., specialty pharmacies and large hospitals), removes the “middleman.” Setting up an efficient supply chain is difficult and expensive, and not all biologics will be able to implement such a scheme. As a result, if a biologic has already set up direct distribution, one form of payment to a biosimilar could be access to, and integration into, the valuable network, which it would not be able to obtain through patent litigation.

Another type of payment could involve Group Purchasing Organizations (“GPOs”) or Pharmacy Benefit Managers (“PBMs”). GPOs are collections of providers that pool resources to maximize economies of scale in drug purchasing and sometimes function as distributors, gaining control over products offered to downstream purchasers.228 PBMs also manage prescription drug pro

[FOOTNOTES BEGIN]

221. HERBERT HOVENKAMP, MARK D. JANIS, MARK A. LEMLEY, CHRISTOPHER R. LESLIE, & MICHAEL A. CARRIER, IP AND ANTITRUST: AN ANALYSIS OF ANTITRUST PRINCIPLES APPLIED TO INTELLECTUAL PROPERTY LAW § 16.01[f] (3d ed. 2016). 222. Carrier, Payment After Actavis, supra note 219, at 9. 223. Id. 224. Id. 225. Id. 226. NIAZI, supra note 21, at 354–56; see also Jack McCain, Connecting Patients with Specialty Products, BIOTECHNOLOGY HEALTHCARE, Summer 2012, at 8, https://www.ncbi.nlm.nih.gov/pmc/articles/ PMC3411231/. 227. NIAZI, supra note 21, at 354–56. 228. Id. at 352, 353.

[FOOTNOTES END]

grams for downstream buyers and, in some cases, after negotiating rebates with manufacturers, limit the drugs sold under their plans. This latter role ensures that they “are very important” to a biosimilar manufacturer in controlling access to a biosimilar product.

We envision a scenario by which a settlement could include payment in the form of a biologic bringing a biosimilar under its umbrella, granting access to certain GPO and PBM agreements to which it would otherwise not have access.

Where there is payment, the court should consider its size. The Actavis Court compared the payment’s size to litigation costs. It stated that payments that “amount to no more than a rough approximation of the litigation expenses saved through the settlement” could be justified. Litigation costs in the biologics setting will generally be higher than in the small-molecule setting. In contrast to litigation in the Hatch-Waxman setting, with a generic in the initial stage only needing to review the Orange Book, law firms must conduct substantial pre-application investigations to identify patents that could be raised in the patent dance.

Finally, where there is at-risk entry, a settlement could include a “payment” from the biologic to the biosimilar, but that payment could constitute a legitimate forgiveness of damages. This presents **a nuanced case** that could be explained by the results of patent litigation. In other words, if the biologic wins, it is entitled to recover damages from the biosimilar. But if the biosimilar wins, it will not be required to pay anything. As a result, a biologic firm’s partial waiver of damages that the biosimilar could have owed falls within the range of what the latter could have obtained through successful litigation. In short, just like it has done in the Hatch-Waxman setting, the distinction between patent and payment can provide an appropriate framework for the antitrust analysis of settlements between biologics and biosimilars.

#### That solves.

#### First – The plan prohibits all anticompetitive pay-for-delay deals. It establishes a presumption of illegality, which can be rebutted by a defendant if and only if they can conclusively prove that the deal bolstered competition. That flips their incentive structure.

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Robin Feldman, Arthur J. Goldberg Distinguished Professor of Law, Albert Abramson ’54 Distinguished Professor of Law Chair, and Director of the Center for Innovation, The Price Tag of 'Pay-for-Delay', UC Hastings Research Paper Forthcoming, 27 Aug 2021, https://papers.ssrn.com/sol3/papers.cfm?abstract\_id=3846484

There is an old saying in the field of psychology that insanity is doing the same thing over and over again while expecting to get a different result. After watching plaintiffs and competition authorities struggle to satisfy the rule of reason in order to establish a pay-for-delay case, it is clear that continuing down the same path is unlikely to be fruitful.

The rule of reason, untethered, is a meandering test that cannot even be described in a simple sentence. The formulation rises from the 1918 Board of Trade case:

“The true test of legality is whether the restraint imposed is such as merely regulates and perhaps thereby promotes competition or whether it is such as may suppress or even destroy competition. To determine that question the court must ordinarily consider the facts peculiar to the business to which the restraint is applied; its conditions before and after the restraint was imposed; the nature of the restraint and its effect, actual or probable. The history of the restraint, the evil believed to exist, the reason for adopting the particular remedy, the purpose or end sought to be attained, are all relevant facts. This is not because a good intention will save an otherwise objectionable regulation or the reverse; but because knowledge of intent may help the court to interpret facts and to predict consequences.”177

Application of the rule in practice is no less nebulous than its formulation, despite the fact that courts add numbers to each of the various steps. The Supreme Court itself has called the rule of reason complex and burdensome. The intricate requirements of the rule, not to mention the burden it places both on parties and the courts,178 make the rule of reason particularly ill-suited for examining the ever-increasing number of agreements between brand and generic competitors. Although some scholars have argued that the rule of reason should be shelved entirely, such a broad-scale change is unnecessary for these purposes.

Pinning pay-for-delay reform squarely on an outright ban may not prove tenable, and other commentators have proposed intriguing alternatives. By one policy, for instance, if companies are unable to prove that their patent infringement settlement value was less than the cost of litigation and other services, then all that the generic company can receive is what it would be entitled to by a court ruling that a brand patent is invalid or not infringed.179

In other words, all the brand company can promise is what the court would give the generic company if the parties proceeded with the patent infringement litigation, and the generic won. No-authorized-generic clauses, among other creative anticompetitive ploys, would be presumed illegal by this framework. At the same time, it would permit patent settlements to remain where they are potentially procompetitive, eliminating unnecessary litigation between drug companies. Other prospective solutions seek to improve upon the fines used currently to disincentivize pay-for-delay conduct. As our analysis demonstrates, even companies fined by the FTC for pay-for-delay may profit handsomely from the practice.180 Considering the failure of fines to sufficiently discourage pay-for-delay, some scholars have advanced alternative punishments for cited drug companies. For instance, a first-filing generic company that agreed to postpone production in exchange for a no-authorized-generic clause could be stripped of its 180-day exclusivity period.181 Additional legislation might stipulate that brand companies forfeit the chance to earn additional non-patent regulatory exclusivities for a drug whose monopoly period they paid off competitors to extend. This way, instead of simply reducing the profits of offending drug-makers, the repercussions of pay-for-delay redound as social benefit.

Despite potential remedy-related reforms, however, the most important change needed pertains to evaluating the anticompetitive nature of the agreement itself. The landmark decision in Actavis expressed optimism that courts would be able to manage the analysis in a more structured manner. That reality has not materialized. To resolve the problem, one should return to the basic notion that agreements between competitors are strongly disfavored under antitrust law.

Given that agreements between competitors are disfavored, the test for agreements between brands and generics in the context of Hatch-Waxman litigation should begin with a presumption that the agreement is anticompetitive. This approach respects the essential design of the Hatch-Waxman system to ensure rapid entry of generic drugs, in part, by providing an incentive for generic drug companies to challenge patents that are invalid or invalidly applied.182 Only when the public interest is clearly served should the presumption fall.

#### Second – Settlements which either delay entry or are based on weak patents would be found anticompetitive. That uniquely solves circumvention, and restores the patent system to its intended calibration, lowering prices and spurring real innovation.

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Gerard F. Anderson, PhD; Laura Karas, MD, MPH, Dept. of Health Policy & Mgmt. in the JHU Bloomberg School of Public Health; and Robin Feldman, Arthur J. Goldberg Distinguished Professor of Law and Director of the Center for Innovation at UC Hastings Law, Visiting Professor at UCLA Law, Pharmaceutical “Pay-for-Delay” Reexamined: A Dwindling Practice or a Persistent Problem?, 71 Hastings L. J. 959 (May 2020), <https://hastingslawjournal.org/wp-content/uploads/Karas-et-al.-71.4.pdf>

We propose several substantive changes to the antitrust approach to pay-for-delay settlements.

First, the key criterion in determining an unlawful agreement should be the existence of a restriction on generic entry—not the size or presence of a value transfer—considered in light of the strength of the category of patent in question. Arguably, the legitimacy of a pay-for-delay settlement is predicated on the strength of the underlying patent; in other words, pay-for-delay is only a problem insofar as the patent to which the deal relates is invalid or aimed at the wrong product, since the generic could enter the market immediately upon that determination. Much is at stake in these deals; several years of lost patent protection could translate into several billions of dollars of lost savings for the brand company. 57 Pay-for-delay agreements tend to settle litigation over a “secondary patent,” which is a patent on some feature of a drug other than the active pharmaceutical ingredient, such as a production process, a method of treatment, a salt or crystalline form, a new delivery mechanism, a new formulation, or even an ancillary aspect of a drug, such as the pill’s coating.58 Evidence shows that secondary patents form part of a deliberate strategy to prolong a drug’s effective period of patent protection.59 Though few patent cases reach a final decision on validity,60 secondary drug patents are frequently found invalid when challenged.61 Thus, secondary patents may over-reward a pharmaceutical drug’s actual innovative contribution with unwarranted extensions of effective patent protection, and both the brand and generic companies may have a good sense of the likelihood that a disputed secondary patent will survive a court challenge. For this reason, the category of the patent in question in a pay-for-delay agreement is highly germane to a meaningful examination of the potential illegality of the deal.

Next, the United States should move closer to a presumptive standard in evaluating pay-for-delay settlements in order to achieve more efficient and effective antitrust enforcement. The pay-for-delay bills introduced in Congress will help achieve that goal, as would adopting a standard similar to that of the European Union that places emphasis on an agreement’s aim to restrict competition rather than downstream effects on the marketplace.62 Although intent can be difficult to establish under U.S. law—particularly if plaintiffs must find smoking-gun evidence of subjective intent—those difficulties can be overcome by designing standards that use objective criteria as a means of inferring a company’s likely intent. The category of patent and the failure to sue on the core chemical or biological patent could be part of those objective criteria. The reluctance to call pay-for-delay presumptively illegal in the United States reflects a desire to preserve the freedom to settle and to avoid clogging the courts with costly and protracted patent litigation. However, the current approach to pay-for-delay favors industry over patients, and unless the approach is changed, drug prices will remain supra-competitive for periods longer than the HatchWaxman regulatory regime intended. In addition, deterring the litigation in the first place would reduce the burden on the courts, as well as the burden on society.

Finally, regulatory disincentives may be a more effective deterrent of payfor-delay deals than monetary penalties. For example, the FTC and FDA could jointly prohibit a generic company that is found to have participated in pay-fordelay from eligibility for the 180-day exclusivity period for any Abbreviated New Drug Application (ANDA) that it files in the ensuing five years. Without exclusive marketing rights as the first generic to file an ANDA, the generic company stands to lose the bulk of its profits on any generic drug launched in that five-year period. By enticing generic companies with profitable settlements, brand companies have co-opted the paragraph IV challenge, initially intended to enable generic companies to challenge weak or invalid patents.63 As a penalty for participation in pay-for-delay deals, the generic company could be prohibited from filing a paragraph IV certification on any ANDA for a certain number of years, effectively making the company ineligible for the 180-day exclusivity period and shutting them out of pay-for-delay settlements—at least those arising from patent litigation. Regulatory disincentives can counterbalance the “carrots” in the Hatch-Waxman Act, thereby rewarding innovation and hastening competition when the time is ripe.

CONCLUSION

Settlement agreements to end patent disputes are common and not in and of themselves indicative or suggestive of antitrust infringement. Often, settlements are a favored alternative to continuing costly litigation. However, pay-for-delay settlements come at a steep cost to patients by delaying the entry of less expensive generic alternatives to brand drugs. The ability to wield competition laws effectively against these settlements is of major importance to regulators, policymakers, and patients. Shifting the focus of antitrust scrutiny to restrictions on generic entry vis-à-vis the strength of the category of underlying patent, and creating disincentives for generic companies to acquiesce to pay-for-delay deals, will help grease the wheels of the Hatch-Waxman Act and accelerate the path to affordable drug prices for U.S. patients.

#### Third – That is an unsurprising change, and zero risk of doctrinal spillover to other patent issues, other industries, or other antitrust rules. The patent and pharma statutes provide a clear legal basis for distinguishing.

--Short tag: Plan is a tailored remedy and distinguishable – Solves, not disruptive, no spillover

Hemphill 6 – Associate Professor of Law, Columbia

C. Scott Hemphill, JD & MA in Econ-Stanford, MSc in Econ-LSE, AB-Harvard, Paying For Delay: Pharmaceutical Patent Settlement As a Regulatory Design Problem, 81 N.Y.U. L. Rev. 1553 (Nov. 2006), <https://www.nyulawreview.org/wp-content/uploads/2018/08/NYULawReview-81-5-Hemphill.pdf>

The particular shape of congressional intervention in the balance between innovation and access, together with important industry-specific features of the pay-for-delay problem in pharmaceuticals, serve to undercut the Patent Act-based case for an exception to the ordinary operation of antitrust law. The argument applies in different ways to the innovator-focused and infringer-focused arguments for an exception.

With respect to innovators, the practice in question is a poor fit with Patent Act policy, because permitting pay-for-delay settlements is a highly innovation-inefficient means of increasing the incentive to innovate. To see this, consider as a benchmark a competitive practice that had the effect of increasing the length of the patent term at no incremental expense to the patentee. Arranging a longer term might be expected to increase producer profits and consumer allocative losses in equal measure (assuming, among other things, that the pro ducer faces the same demand curve in each period). If the social bene efits of innovation increase proportionately with profits, then the ratio between innovation and deadweight loss is unchanged with respect to term length.

If instead, as is frequently presumed, additional profits have a declining impact upon the social benefits of incremental innovation, then a longer term entails a lower ratio-that is, less innovation "bang" for the additional deadweight loss "buck." Such a practice is difficult to justify by reference to Patent Act policy, for the reason introduced in Part III.A. Congress's selection of a particular patent term length implements a choice about the balance between innova tion and acceptable deadweight loss. If Congress had chosen a longer term, it would have implemented a more innovation-protective policy with respect to patentees; but Congress did not do that. A "reason able effectuation" of the Patent Act's innovation protectiveness does not require permitting a practice that is less innovation-efficient than, but otherwise identical to, a major innovation-protective term of the Patent Act. Therefore, to the extent that a privately-arranged term lengthening is less innovation-efficient than the current period of exclusivity, it cannot be insulated from antitrust attack by reference to the policies of the Patent Act.217

Pay-for-delay settlements resemble an increase in effective term length, but in an important respect they are even less innovation-effi cient. In exchange for receiving a reprieve from competition, the pat entee must make a sizable payment. This payment reduces its profits and hence the incremental innovation incentive gained by arranging for the extension. 218 This deficit in innovation efficiency makes the agreements more difficult to justify as a reasonable effectuation of the Patent Act. In short, the Patent Act's general policy of innovation protectiveness has, at best, a weak claim to insulating pay-for-delay settlements from antitrust attack.

Moving from the general case of patents to the specific case of pharmaceuticals further weakens the argument for insulation. As already noted, antitrust is *in pari materia* not only with patent law, but with industry-specific regulation as well. Compared to the Patent Act, the Hatch-Waxman Act provides within its domain a more specific and hence more relevant account of the congressionally implemented balance between innovation and competition.

The balance set by the Hatch-Waxman Act is a deliberate effort to promote consumer access through litigated challenges. For most drugs, the Hatch-Waxman Act is less innovation-protective than the Patent Act; as noted previously, the tax on blockbusters is a conces sion to consumer access at the expense of innovation. For a few drugs, it is actually more innovation-protective, thanks to the innovation sub sidy provided by the industry-specific delays. In either case, the ordi nary operation of the Act sets a particular balance between innovation and competition. The balance set for a particular drug is disrupted by a settlement favoring somewhat more innovation at the further expense of consumer access.

The disruption to the congressional balance caused by settlement, moreover, is difficult to understand in a way consistent with the Hatch-Waxman scheme. With the Patent Act, a general norm in favor of innovation might at least be relied upon; by contrast, the Hatch Waxman Act provides a calibrated outcome for different types of drugs. The Patent Act is silent about the role of litigation and the extent to which litigation can be avoided in the interest of preserving profits. In the Hatch-Waxman Act, by contrast, the promotion and delay of litigation are central preoccupations of the regulatory regime. An open-ended permission for innovators to set innovation policy by self-help is less plausible, as Congress has taken explicit steps to fill those gaps. Since litigation is the instrument by which the regulatory arrangement accomplishes its ends, it is difficult to argue that an end run on the instrument is consistent with the scheme. And given that the regime explicitly provides for innovation protection in certain cases-an effective lengthening of the patent term for certain drugs, but a limited one-it is implausible to attribute to that regime a toler ance for an additional, highly innovation-inefficient means to accrue additional profits.

The infringer's argument against antitrust liability is also weaker in the pharmaceutical context, compared to the general case. First, the generic firm lacks an innovator's interest. The generic firms simply make use of the Hatch-Waxman scheme to offer a bio equivalent drug. Even if a Patent Act policy favoring innovation helps some infringers, it cannot be thought to apply here.

Limiting the generic firm's ability to extract a benefit from unpromising litigation has some effect on an infringer's incentives, though not on its innovation incentives. To be clear, a limitation on settlement does not force the generic firm to see the litigation to com pletion-it can simply walk away from the suit.219 But a limitation on consumer-disregarding settlements does lower the value of the generic firm's abandonment option,220 an option that matters most when a party develops new information about its prospects during the course of litigation. The difference in reward implies that some marginal challenges will not be brought. There is little reason, however, to think that preserving the full value of this option is necessary to effec tuate a Hatch-Waxman Act policy of promoting challenges, not least because the incentive to challenge is already so large.

Second, and again unlike many infringers outside the pharmaceu tical context, the generic firm has deliberately stepped, not stumbled, into the infringement controversy. It does not move in uncertain ter rain filled with hidden patent dangers; the patents protecting pharma ceutical innovations are open and notorious, compiled in an FDA publication, Approved Drug Products with Therapeutic Equivalence, commonly known as the "Orange Book. ' '221 The generic firm volun teers for and seeks out the challenge by filing the Paragraph IV certifi cation, which invites a lawsuit by the innovator.222 Here, and unusually, Congress has recruited and offered to compensate generic firms to bring patent challenges. Far from being unwilling private attorneys general, generic firms have been deputized, in effect, to act on the public's behalf. The explicit use of litigation to achieve the balance undercuts the preference for settlement sometimes discerned in ordinary patent policy.

In summary, the analysis in this Part reinforces the conclusion from Part II that pay-for-delay settlements are properly accorded a presumption of illegality as unreasonable restraints of trade. It also undermines, in a domain-specific way, the patent policy arguments sometimes thought to justify a patent-based exception to antitrust as a general matter. Finally, the analysis offers industry-specific support for the proposition that pharmaceutical consumers do indeed have an entitlement to the average level of competition implied by litigation, a proposition more difficult to sustain as a general matter.

CONCLUSION

Examining pay-for-delay settlements from the perspective of regulatory design yields two main results. First, the industry-specific bounty renders feasible an allocatively harmful settlement in a surprisingly wide array of circumstances. Because only the first-filing generic firm has potential access to the exclusivity period, an innovator has an especially strong incentive to pay to neutralize that source of potential competition. Because a guaranteed bounty is a valuable source of compensation to a first-filing generic firm, settlements that divide the remaining patent term confer a noncash payment for delay. Allowing an innovator to make multimillion dollar payments up to the amount of saved litigation expense exacerbates the allocative harm.

Second, the Hatch-Waxman Act produces a specific pattern of encouragement to and limitations upon innovative activity. That industry-specific pattern, rather than the arguably innovation-protecttive policy of the Patent Act, provides the basis for an *in pari materia* analysis with antitrust law. The Hatch-Waxman Act's calibration between innovation and competition is disrupted if firms are free to engage in self-help. The resulting disruption is difficult to square with the policies that animate the Hatch-Waxman Act, particularly in light of the inefficiency of pay-for-delay settlements as a means to provide additional reward to innovators.

Beyond the analysis of pay-for-delay settlements and other competitive practices in the pharmaceutical industry, a careful engagement with regulatory facts and economic theory within a specific industry is a promising method of antitrust analysis. The approach advanced here requires a close look at the economic effects of the regulation and the legislative instrument by which it achieves those effects. The project entails two distinct though related inquiries: an inquiry into industry economics, including the technology of innovation and the dynamics of competition, and an inquiry into the effects of industry-specific regulation.

Such an economically aware and institutionally informed examination is particularly important in industries that are in a process of deregulation. Such industries are an area of renewed interest in antitrust, as exemplified by their inclusion in the work of the commission recently set up by Congress to consider alterations to existing antitrust aw. 223 Deregulation enlarges the domain of antitrust, as Herbert Hovenkamp has noted;224 it does so in part by altering the contours of liability. In some industries, the process of deregulation has occurred in an incomplete fashion, and partial deregulation may give rise to heightened antitrust concern.

Under partial deregulation, the regulatory regime manages the balance between innovation and competition by decentralized mechanisms, rather than by the central command of price regulation. Under full regulation, there may be little role for antitrust, given its redundancy upon a regulator actively managing the antitrust function. Under partial deregulation, however, redundancy is less likely. The use of a decentralized mechanism by Congress risks nullification by unilateral or concerted action by self-interested firms, with allocatively harmful effects. Where the mechanism is not well preserved by the industry-specific regulatory agency, there may be a heightened role for antitrust intervention.

One virtue of an industry-focused approach is the presence of built-in limiting principles. An antitrust decisionmaker can resolve one set of cases without having to reconsider an entire category of conduct. For example, a court can resolve pay-for-delay settlements in the pharmaceutical industry-a set of cases of great theoretical significance and practical importance-without reconsidering the relationship of antitrust and patent generally. Another consequence, of course, is that we therefore lack an answer to broader questions—here, whether consumer-disregarding settlements of patent litigation in other industries are actionable as antitrust violations. But in an area of legal and economic inquiry so complex, and in which we lack even basic information about the facts on the ground in other industries, including the prevalence and structure of such settlements, this limitation is a virtue rather than a vice.

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#### Retrenchment is uniquely bad at a level they don’t assume – triggers every impact

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For seven decades, U.S. grand strategy was characterized by a bipartisan consensus on the United States’ global role. Although successive administrations had major disagreements over the details, Democrats and Republicans alike backed a system of alliances, the forward positioning of forces, a relatively open international economy, and, albeit imperfectly, the principles of freedom, human rights, and democracy. Today, that consensus has broken down.

President Donald Trump has questioned the utility of the United States’ alliances and its forward military presence in Europe, Asia, and the Middle East. He has displayed little regard for a shared community of free societies and is drawn to authoritarian leaders. So far, Trump’s views are not shared by the vast majority of leading Republicans. Almost all leading Democrats, for their part, are committed to the United States’ traditional role in Europe and Asia, if not in the Middle East. Trump has struggled to convert his worldview into policy, and in many respects, his administration has increased U.S. military commitments. But if Trump wins reelection, that could change quickly, as he would feel more empowered and Washington would need to adjust to the reality that Americans had reconfirmed their support for a more inward-looking approach to world affairs. At a private speech in November, according to press reports, John Bolton, Trump’s former national security adviser, even predicted that Trump could pull out of NATO in a second term. The receptiveness of the American people to Trump’s “America first” rhetoric has revealed that there is a market for a foreign policy in which the United States plays a smaller role in the world.

Amid the shifting political winds, a growing chorus of voices in the policy community, from the left and the right, is calling for a strategy of global retrenchment, whereby the United States would withdraw its forces from around the world and reduce its security commitments. Leading scholars and policy experts, such as Barry Posen and Ian Bremmer, have called on the United States to significantly reduce its role in Europe and Asia, including withdrawing from NATO. In 2019, a new think tank, the Quincy Institute for Responsible Statecraft, set up shop, with funding from the conservative Charles Koch Foundation and the liberal philanthropist George Soros. Its mission, in its own words, is to advocate “a new foreign policy centered on diplomatic engagement and military restraint.”

Global retrenchment is fast emerging as the most coherent and ready-made alternative to the United States’ postwar strategy. Yet pursuing it would be a grave mistake. By dissolving U.S. alliances and ending the forward presence of U.S. forces, this strategy would destabilize the regional security orders in Europe and Asia. It would also increase the risk of nuclear proliferation, empower right-wing nationalists in Europe, and aggravate the threat of major-power conflict.

This is not to say that U.S. strategy should never change. The United States has regularly increased and decreased its presence around the world as threats have risen and ebbed. Even though Washington followed a strategy of containment throughout the Cold War, that took various forms, which meant the difference between war and peace in Vietnam, between an arms race and arms control, and between détente and an all-out attempt to defeat the Soviets. After the fall of the Soviet Union, the United States changed course again, expanding its alliances to include many countries that had previously been part of the Warsaw Pact.

Likewise, the United States will now have to do less in some areas and more in others as it shifts its focus from counterterrorism and reform in the Middle East toward great-power competition with China and Russia. But advocates of global retrenchment are not so much proposing changes within a strategy as they are calling for the wholesale replacement of one that has been in place since World War II. What the United States needs now is a careful pruning of its overseas commitments—not the indiscriminate abandonment of a strategy that has served it well for decades.

RETRENCHMENT REDUX

Support for retrenchment stems from the view that the United States has overextended itself in countries that have little bearing on its national interest. According to this perspective, which is closely associated with the realist school of international relations, the United States is fundamentally secure thanks to its geography, nuclear arsenal, and military advantage. Yet the country has nonetheless chosen to pursue a strategy of “liberal hegemony,” using force in an unwise attempt to perpetuate a liberal international order (one that, as evidenced by U.S. support for authoritarian regimes, is not so liberal, after all). Washington, the argument goes, has distracted itself with costly overseas commitments and interventions that breed resentment and encourage free-riding abroad.

Critics of the status quo argue that the United States must take two steps to change its ways. The first is retrenchment itself: the action of withdrawing from many of the United States’ existing commitments, such as the ongoing military interventions in the Middle East and one-sided alliances in Europe and Asia. The second is restraint: the strategy of defining U.S. interests narrowly, refusing to launch wars unless vital interests are directly threatened and Congress authorizes such action, compelling other nations to take care of their own security, and relying more on diplomatic, economic, and political tools.

In practice, this approach means ending U.S. military operations in Afghanistan, withdrawing U.S. forces from the Middle East, relying on an over-the-horizon force that can uphold U.S. national interests, and no longer taking on responsibility for the security of other states. As for alliances, Posen has argued that the United States should abandon the mutual-defense provision of NATO, replace the organization “with a new, more limited security cooperation agreement,” and reduce U.S. commitments to Japan, South Korea, and Taiwan. On the question of China, realists have split in recent years. Some, such as the scholar John Mearsheimer, contend that even as the United States retrenches elsewhere, in Asia, it must contain the threat of China, whereas others, such as Posen, argue that nations in the region are perfectly capable of doing the job themselves.

Since Trump’s election, some progressive foreign policy thinkers have joined the retrenchment camp. They diverge from other progressives, who advocate maintaining the United States’ current role. Like the realists, progressive retrenchers hold the view that the United States is safe because of its geography and the size of its military. Where these progressives break from the realists, however, is on the question of what will happen if the United States pulls back. While the realists favoring retrenchment have few illusions about the sort of regional competition that will break out in the absence of U.S. dominance, the progressives expect that the world will become more peaceful and cooperative, because Washington can still manage tensions through diplomatic, economic, and political tools. The immediate focus of the progressives is the so-called forever wars—U.S. military involvement in Afghanistan, Iraq, Syria, and the broader war on terrorism—as well as the defense budget and overseas bases.

Although the progressives have a less developed vision of how to implement retrenchment than the realists, they do provide some guideposts. Stephen Wertheim, a co-founder of the Quincy Institute, has called for bringing home many of the U.S. soldiers serving abroad, “leaving small forces to protect commercial sea lanes,” as part of an effort to “deprive presidents of the temptation to answer every problem with a violent solution.” He argues that U.S. allies may believe that the United States has been inflating regional threats and thus conclude that they do not need to increase their conventional or nuclear forces. Another progressive thinker, Peter Beinart, has argued that the United States should accept Chinese and Russian spheres of influence, a strategy that would include abandoning Taiwan.

IS LESS REALLY MORE?

The realists and the progressives arguing for retrenchment differ in their assumptions, logic, and intentions. The realists tend to be more pessimistic about the prospects for peace and frame their arguments in hardheaded terms, whereas the progressives downplay the consequences of American withdrawal and make a moral case against the current grand strategy. But they share a common claim: that the United States would be better off if it dramatically reduced its global military footprint and security commitments.

This is a false promise, for a number of reasons. First, retrenchment would worsen regional security competition in Europe and Asia. The realists recognize that the U.S. military presence in Europe and Asia does dampen security competition, but they claim that it does so at too high a price—and one that, at any rate, should be paid by U.S. allies in the regions themselves. Although pulling back would invite regional security competition, realist retrenchers admit, the United States could be safer in a more dangerous world because regional rivals would check one another. This is a perilous gambit, however, because regional conflicts often end up implicating U.S. interests. They might thus end up drawing the United States back in after it has left—resulting in a much more dangerous venture than heading off the conflict in the first place by staying. Realist retrenchment reveals a hubris that the United States can control consequences and prevent crises from erupting into war.

A U.S. pullback from Europe or Asia is more likely to embolden regional powers.

The progressives’ view of regional security is similarly flawed. These retrenchers reject the idea that regional security competition will intensify if the United States leaves. In fact, they argue, U.S. alliances often promote competition, as in the Middle East, where U.S. support for Saudi Arabia and the United Arab Emirates has emboldened those countries in their cold war with Iran. But this logic does not apply to Europe or Asia, where U.S. allies have behaved responsibly. A U.S. pullback from those places is more likely to embolden the regional powers. Since 2008, Russia has invaded two of its neighbors that are not members of NATO, and if the Baltic states were no longer protected by a U.S. security guarantee, it is conceivable that Russia would test the boundaries with gray-zone warfare. In East Asia, a U.S. withdrawal would force Japan to increase its defense capabilities and change its constitution to enable it to compete with China on its own, straining relations with South Korea.

The second problem with retrenchment involves nuclear proliferation. If the United States pulled out of NATO or ended its alliance with Japan, as many realist advocates of retrenchment recommend, some of its allies, no longer protected by the U.S. nuclear umbrella, would be tempted to acquire nuclear weapons of their own. Unlike the progressives for retrenchment, the realists are comfortable with that result, since they see deterrence as a stabilizing force. Most Americans are not so sanguine, and rightly so. There are good reasons to worry about nuclear proliferation: nuclear materials could end up in the hands of terrorists, states with less experience might be more prone to nuclear accidents, and nuclear powers in close proximity have shorter response times and thus conflicts among them have a greater chance of spiraling into escalation.

Third, retrenchment would heighten nationalism and xenophobia. In Europe, a U.S. withdrawal would send the message that every country must fend for itself. It would therefore empower the far-right groups already making this claim—such as the Alternative for Germany, the League in Italy, and the National Front in France—while undermining the centrist democratic leaders there who told their populations that they could rely on the United States and NATO. As a result, Washington would lose leverage over the domestic politics of individual allies, particularly younger and more fragile democracies such as Poland. And since these nationalist populist groups are almost always protectionist, retrenchment would damage U.S. economic interests, as well. Even more alarming, many of the right-wing nationalists that retrenchment would empower have called for greater accommodation of China and Russia.

A fourth problem concerns regional stability after global retrenchment. The most likely end state is a spheres-of-influence system, whereby China and Russia dominate their neighbors, but such an order is inherently unstable. The lines of demarcation for such spheres tend to be unclear, and there is no guarantee that China and Russia will not seek to move them outward over time. Moreover, the United States cannot simply grant other major powers a sphere of influence—the countries that would fall into those realms have agency, too. If the United States ceded Taiwan to China, for example, the Taiwanese people could say no. The current U.S. policy toward the country is working and may be sustainable. Withdrawing support from Taiwan against its will would plunge cross-strait relations into chaos. The entire idea of letting regional powers have their own spheres of influence has an imperial air that is at odds with modern principles of sovereignty and international law.

A fifth problem with retrenchment is that it lacks domestic support. The American people may favor greater burden sharing, but there is no evidence that they are onboard with a withdrawal from Europe and Asia. As a survey conducted in 2019 by the Chicago Council on Global Affairs found, seven out of ten Americans believe that maintaining military superiority makes the United States safer, and almost three-quarters think that alliances contribute to U.S. security. A 2019 Eurasia Group Foundation poll found that over 60 percent of Americans want to maintain or increase defense spending. As it became apparent that China and Russia would benefit from this shift toward retrenchment, and as the United States’ democratic allies objected to its withdrawal, the domestic political backlash would grow. One result could be a prolonged foreign policy debate that would cause the United States to oscillate between retrenchment and reengagement, creating uncertainty about its commitments and thus raising the risk of miscalculation by Washington, its allies, or its rivals.

Realist and progressive retrenchers like to argue that the architects of the United States’ postwar foreign policy naively sought to remake the world in its image. But the real revisionists are those who argue for retrenchment, a geopolitical experiment of unprecedented scale in modern history. If this camp were to have its way, Europe and Asia—two stable, peaceful, and prosperous regions that form the two main pillars of the U.S.-led order—would be plunged into an era of uncertainty.

#### Aff impacts structurally outweigh – read a history book and stick with the devil you know

Brooks and Wohlforth 16 – Professor of Government at Dartmouth College, PhD from Yale University

Stephen Brooks, and William C. Wohlforth, Daniel Webster Professor of Government in the Dartmouth College Department of Government, *America Abroad: Why the Sole Superpower Should Not Pull Back from the World*, Oxford, New York: Oxford UPress (2016), pp. 195-196

Ultimately, the United States’ globe-girdling grand strategy is the devil we know, and a world with a disengaged United States is the devil we don’t know. Retrenchment would in essence entail a massive experiment: How would the world work without a globally engaged America? That raises a critical question: What are the things that proponents of disengagement must presume will go right in order for their recommended strategic posture to really be less costly and less risky than deep engagement? Retrenchment proponents do not answer in any detail. This silence is telling, for their most penetrating criticisms of deep engagement are not about the cost/benefit ratio of sustaining the grand strategy itself but are instead about the temptations of moving beyond it or responding to its challenges in a suboptimally escalatory manner. Any effort to pull back from the world would also present the United States with temptations and potential challenges of implementation; it is just harder to call them to mind because we have no relevant recent experience with this kind of foreign policy stance.

#### China’s rise wouldn’t be peaceful – detailed reading of motivations proves they’re moving strategically in response to U.S. presence and decline emboldens them

Mastro 15 – Professor of IR & Security Studies at Georgetown University

Oriana Skylar Mastro, assistant professor at the Edmund A. Walsh School of Foreign Service, Georgetown University, Why Chinese Assertiveness is Here to Stay, The Washington Quarterly 37:4, pp. 151–170, <http://dx.doi.org/10.1080/0163660X.2014.1002161>

As Chinese political, economic, and military power continues to grow at impressive rates, the impact of Chinese external behavior on the region has correspondingly increased. Since 2010, it has become commonplace for observers to refer to Chinese foreign policy behavior as abrasive, muscular, or assertive. However, China’s heightened willingness to rely on coercive diplomacy—or the simultaneous use of diplomacy and limited use of force to accomplish one’s objectives—began much earlier with the Impeccable incident in March 2009.1 In this case, five Chinese vessels shadowed and aggressively maneuvered in dangerously close proximity to the U.S. Naval Ship Impeccable.2 In the following months, commentators predicted that China would moderate its behavior in the face of regional backlash. Instead, instances of Chinese platforms maneuvering in a dangerous and unprofessional manner only became more frequent. Whether Chinese foreign policy has become more assertiveness and the implications of such a shift are the source of great debate among China hands. Analysts Thomas Fingar and Fan Jishe argue that stability still characterizes U.S.–China bilateral relations because the ties between the two countries are more extensive, varied, prioritized, and interdependent than ever before.3 Harvard professor Alastair Iain Johnston argues that pundits overstate the change because they underestimate how assertive China has been in the past— demonstrating that Chinese official discourse on sovereignty and territorial issues has been relatively consistent over the past fifteen years.4 Others argue that the narrative does not go far enough. Australian analyst Jeffrey Reeves articulated that accusations of assertiveness too narrowly focus on China’s THE WASHINGTON QUARTERLY & WINTER 2015 151expansive territorial claims, disruptive diplomacy in ASEAN, and growing use of economic sanctions, while ignoring other policies that contribute to regional instability—specifically Beijing’s reliance on economic ties to advance its relations with smaller developing countries in Asia.5 Commentators admittedly tend to ignore areas of cooperative Chinese actions such as convergence in U.S. and Chinese voting on the UN Security Council and increasing U.S. exports to China.6 Former State Department official Thomas Christensen cautions that China’s counterproductive policies toward its neighbors and the United States are better understood as reactive and conservative, rather than assertive and innovative.7 Qin Yaqing, a professor at China Foreign Affairs University, postulates that China’s main strategic policies— emphasis on U.S.–China relations, rejecting alliances, reliance on economic diplomacy—will continue even as some policies change. For instance, we could see an emphasis on core interests like sovereignty and territorial integrity, even over economic development.8 While true that Chinese diplomacy may not have, on the whole, become more assertive, most agree that in the area of maritime disputes, China has demonstrated an increased willingness to threaten and use limited force to promote its sovereignty claims. The dangerous Chinese interception of U.S. Navy planes conducting routine patrols above the South China Sea in late August 2014 is only the latest of countless instances of China credibly communicating its threats by increasing the risk of accident.9 Many U.S. strategists were hopeful that Beijing would moderate its behavior because, they argue, this more muscular approach to maritime disputes has obviously proved counterproductive and detrimental to China’s own interests. China’s muscle-flexing has driven allies such as Japan, the Philippines, and Australia into a closer alliance with the United States.10 A recent Pew poll demonstrated that 70 percent of respondents in the Philippines, Japan, Vietnam, South Korea, and India expressed concern over potential conflict with China.11 “The Chinese,” said Rob Taylor, a close advisor to Australian Prime Minister Tony Abbott, “with their current foreign policy, as distinct from what they were doing over a decade ago—is [sic] genuinely counterproductive.”12 Given the Western consensus that, as The Economist wrote, “it would be hard to construct a foreign policy better designed to undermine China’s long-term interests,”13 and that fundamentally China “has no wish to be branded an international outlaw,”14 as Wall Street Journal columnist Andrew Browne pointed out, many are waiting for a reversion to previous policies. China has been credibly communicating its threats by increasing the risk of accident. Oriana Skylar Mastro 152 THE WASHINGTON QUARTERLY & WINTER 2015 Unfortunately, such a shift back is unlikely. China’s reliance on coercion, both in the form of deterrence and compellence, over maritime disputes is likely to persist for the foreseeable future for two reasons. First, Chinese assertiveness is the result of a deliberate strategic decision central to Beijing’s overarching antiaccess/area denial (A2/AD) strategy. The Economist refers to anti-access as “the ability to prevent an opposing force from entering an area of operations.” The objective of area denial, on the other hand, is not prevention but disruption—to compel the desired behavior by “impos[ing] severe costs on the enemy’s freedom of action once it has [gained access].”15 While it seems counterintuitive, China is actually hoping to prevent balancingby being assertive, and operationally it is trying to create a domestic and international environment that will limit U.S. ability to intervene effectively in a given conflict. Second, there are influential and loud voices in China that believe such a strategy has been working, and is better than the alternatives. Such arguments are not without merit. While a few countries’ view of China is worsening, a median of 49 percent of the world’s publics surveyed in a 2014 poll still hold a positive view of China overall.16 Xi Jinping himself has articulated more hardline policies concerning territorial disputes, and Chinese assertiveness has noticeably increased under his watch. Additionally, the costs of any negative perceptions are unclear—even Australia has been hesitant to be drawn into the diplomatic fray given its close economic relationship with China.17 And even if countries are unhappy, it is hard to ignore the fact that China’s tactic of “exploit[ing] perceived provocations in disputed areas by other countries…to change the status quo in its favour,” as the International Crisis Group puts it, has been largely successful in strengthening China’s claims.18 In short, Chinese assertiveness is here to stay, and U.S. strategy needs to adjust accordingly. Specifically, I lay out three areas of Cold War-era concepts that the United States needs to jettison if it hopes to protect regional interests and avoid conflict if possible. Asia’s Own Balancing Most U.S. strategists and scholars argue that Chinese muscular behavior in its territorial disputes has been counterproductive in that China’s relations with its neighbors, and therefore Beijing’s security environment, have deteriorated as a result. Many concluded that Beijing was learning similar lessons and would adjust its foreign policy accordingly. China’s relentless pursuit of its territorial Unfortunately, a shift back from Chinese coercion is unlikely for two reasons. Why Chinese Assertiveness is Here to Stay THE WASHINGTON QUARTERLY & WINTER 2015 153claims has hardened the position of its neighbors and hurt its international image.19 According to a 2014 Center for Strategic and International Studies (CSIS) poll of strategic elites in eleven countries, 61 percent of respondents felt China had a negative impact on regional security.20 More and more, regional actors’ anxiety about Beijing’s long-term intentions is encouraging them to conduct their own balancing. Such behavior includes external balancing, such as improving ties with the United States and other major players in the region, as well as internally strengthening and modernizing their own militaries.21 We can see this internal balancing in the defense spending of Asian countries, which spent a total of $287.4 billion on defense in 2012. This total represents the first time that Asian defense spending exceeded total European defense spending, including both NATO and non-NATO countries.22 Further, from 2008–2012, Asia and Oceania accounted for 47 percent of global imports of major conventional weapons, with India, South Korea, and Singapore—first, fourth, and fifth, respectively—all in the top five of importers of major conventional weapons worldwide.23 Real (inflation-adjusted) defense spending in India, Japan, and South Korea increased from 2000 to 2011 by 47, 46, and 67 percent, respectively, an increase too large to be explained by natural modernization trends.24 Moreover, the reversal of downward spending trends in 2008 and subsequent accelerated increases, coupled with focus on investment in naval and air forces, suggest such spending trends are partly in response to China.25 The Asia–Pacific will comprise 26 percent—nearly $200 billion—of global maritime security builds in the next 20 years, represented largely by shipbuilding.26 India has been the largest importer of weapons for the past five years and has more active duty military personnel than any other Asian country except China. India’s defense budget rose to $46.8 billion in 2012, and it is projected that by 2020 India will become the fourth-greatest defense spender in the world, overtaking Japan, France, and Britain.27 Even South Korea, a much smaller country, boosted its defense budget by 67 percent from $17.1 billion in 2000 to $28.6 billion in 2011.28 In terms of external balancing, many countries are strengthening their ties with the United States. In 2013, the United States and Vietnam established a comprehensive partnership, and subsequently have frequently worked together, for example to mobilize a multinational response in 2010 to China’s perceived attempts to promote its maritime claims in the South China Sea.29 In April 2014, the Philippines and the United States signed an Enhanced Defense Cooperation Agreement that, among other things, allows the United States to base troops there on a rotational basis for the first time in 20 years.30 Later in 2014, Australia and the United States signed a 25-year agreement allowing 2500 U.S. Marines and USAF personnel to train there and inter-operate with Australian forces.31 Oriana Skylar Mastro 154 THE WASHINGTON QUARTERLY & WINTER 2015Japan has perhaps made the greatest changes by incrementally raising its defense budget, extending its security perimeter, improving its armaments, and considering boosting the status of the Self-Defense Forces (SDF) by extending its operational range. Japanese defense spending in 2013 increased for the first time in eleven years by 40 billion yen from the previous fiscal year to 4.7358 trillion yen.32 Japanese Prime Minister Shinzo Abe announced in July 2014 a reinterpretation of the Peace Constitution to allow, for the first time in sixty years, collective self-defense. This means that Japan’s military may engage in hostilities to come to the aid of friendly countries, such as the United States, even when Japan itself has not been attacked.33 In addition to strengthening relations with the United States, Asian countries are also expanding their ties with one another. To cite just a few examples, South Korea and Japan are gradually moving from security dialogue toward closer intelligence and defense cooperation. While a painful history limits the level of trust between the two countries, officials in Seoul and Tokyo are quietly moving ahead with strengthening both bilateral relations and trilateral cooperation with the United States. Korea is also becoming a major economic partner, arms provider, and trainer for select Southeast Asian states including Indonesia and Vietnam. Japan and India have also upgraded bilateral defense ties and have pledged to enhance cooperation, especially in the realm of maritime security; to that end, the two countries held the first purely bilateral joint naval exercise off the Bay of Tokyo in June 2012. Japan and Australia have signed an accord to cross-service logistics for military platforms. Japan has also moved to improve defense relations with Vietnam and the Philippines. Due to China’s sensitivities, Australia tends to downplay its cooperation with Japan, but it is far more vocal about strengthening ties with India, Indonesia, Singapore, Vietnam, and Thailand. Japan, Australia, and ASEAN members increasingly seek after India, with its “Look East” policy, recast in November 2014 by Prime Minister Modi as its “Act East” policy, and blue-water naval power. India provides arms and professional military training, especially of junior officers, to Vietnam, and Hanoi has granted India berthing rights at its Nha Trang port.34 A Deliberate Strategy Chinese assertive behavior is here to stay because it is the manifestation of a deliberate long-term strategy. Many scholars are more comfortable arguing that a rogue military, a need to cater to Chinese nationalism, or individual leadership traits explain Chinese assertiveness because those explanations suggest China’s dangerous and provocative behavior is a temporary paroxysm.35 But the speeches of Chinese President Xi Jinping, Chinese Premier Li Keqiang, and Chinese Foreign Minister Wang Yi highlight the belief that unfriendly, and even hostile, powers are besieging China, especially in the maritime sphere. Wang Yi has emphasized that China periodically exercises restraint, but must stand its ground when provoked in territorial disputes.36 In a May 2013 speech in Germany, Li Keqiang suggested that Chinese assertiveness is even in defense of the post-World War II international system. Though a tenuous connection, Li basically insinuates that China’s active pursuit of its East China Sea claims supports the world order laid out in the Potsdam Declaration of 1945.37 And in recent months, Xi himself has publicly stressed the critical importance of a strong military to a successful foreign policy and dismissed the option of passivity.38 Remaining firm is the preferred official Chinese approach. Xi Jinping has also emphasized the importance of prioritizing the economic interests of countries that support Chinese core interests, even if it comes at a relative cost economically.39 Past economic goals solely prioritized making money, with little consideration to strategic factors—but today, Chinese leaders are starting to think about how they can use the immense economic benefit of doing business with China in order to gain political influence. The political priority seems to be defending maritime sovereignty above all else. Historically, upholding maritime sovereignty has been critical to a nation’s success, and therefore China should follow a similar trajectory of building a powerful navy that can protect its commercial interests.40 Researchers at Peking University pulled together extensive statistics to demonstrate how important maritime territory is for Chinese economic, and therefore national, interests. They argue that China must utilize available resources to defend vital sea lanes, which include military, diplomatic, and economic wherewithal.41 Meanwhile, China’s top leadership stresses that in spite of China’s assertiveness in maritime disputes, other countries need not worry about China’s rise because it does not seek hegemony or promote imperialism. An anonymous analysis published in the Hong Kong Economic Times of Xi Jinping’s November speech concludes that his foreign policy approach is tough and unyielding, though not unnecessarily aggressive.42 China is unlikely to shift strategies away from relying on coercion and manipulating risk to achieve its territorial objectives not only because the top leadership publicly promotes them, but also because they correspond well with China’s overarching strategy of active defense (jiji fangyu). Active defense is the operational component of Jiang Zemin’s National Military Strategic Guidelines for the New Period (xin shiqi guojia junshi zhanlue fangzhen), which serves as “the highest level of strategic guidance for all PLA military operations during war and preparation for war during peacetime.”43 Specifically, the guidelines Oriana Skylar Mastro 156 THE WASHINGTON QUARTERLY & WINTER 2015 necessitate developing capabilities to deter, deny, disrupt, and delay the deployment of U.S. forces into the Chinese theater—hence the Western nomenclature A2/AD. These can be leveraged to accomplish Chinese goals in its maritime disputes through four distinct but interrelated pathways: 1. geographic: increasing the distance and time required for U.S. forces to arrive in theater from areas of safety before China achieves its political objectives; 2. kinetic: degrading the U.S. military’s ability to penetrate anti-access environments with an enhanced conventional precision strike system, consisting mainly of cruise and ballistic missiles as well as attacks on key enabling capabilities such as space-based networks that enable C4ISR (Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance) missions; 3. political: exploiting perceived weaknesses in political support and resolve of U.S. allies and friends, thereby keeping the United States out because countries will not allow it to base there; and 4. deterrent: making involvement so costly that the United States opts out of responding, or responds minimally, in a given contingency.44 Assertiveness is therefore, in many ways, the logical extension of this Chinese strategy as it grows more confident in the capabilities it has been developing over the last twenty years as part of this active defense strategy. While the strategic objective is the same for each of the pillars, the theory of victory of the first two pillars is significantly different from that of the latter two. Kinetic and geographic aspects rely largely on brute force in that China could theoretically accomplish its goals by force alone, without any collaboration from the United States.45 Take this hypothetical example—if in the early stages of a conflict, China attacks U.S. bases in Japan, cratering runaways and burying aircraft, no amount of U.S. resolve will make those planes fly. In this case, the United States may want to support a Taiwan contingency but be unable to do so. Coercive strategies, meanwhile, rely on the collaboration of the opponent; one can only succeed if the other side concedes. If China instead lobs missiles at U.S. bases every other day until the United States agrees to halt surveillance operations in the South China Sea, this is coercion. The political and deterrent (third and fourth) pillars are thus harder to grasp because their theory of victory relies on compliance. They are premised on the belief that China can convince countries not to put up a fight by manipulating risk and imposing costs. Chinese assertiveness in maritime disputes since 2009 is largely coercive in nature, and therefore tends to fall under these last two pillars. While the kinetic and geographic components of China’s active defense approach have received the most attention in Washington policy circles, the more elusive political and deterrent A2/AD pillars can be just as effective, if not more so, in undermining U.S. ability to project power in the region to intervene in a maritime dispute. The political pillar refers to the idea that, in a conflict, China will pressure countries with military threats or economic inducements to limit or deny the U.S. use of facilities necessary for power projection into the East China Sea, South China Sea, or Taiwan Strait. As Congressional Research Service naval expert Ronald O’Rourke convincingly argues, “To threaten regional bases and logistics points, China could employ SRBM/MRBMs [shortrange and medium-range ballistic missiles], land-attack cruise missiles, special operations forces, and computer network attack (CNA). Strike aircraft, when enabled by aerial refueling, could simultaneously engage distant targets using air-launched cruise missiles equipped with a variety of terminal-homing warheads.”46 Even during peacetime, though most countries want the United States to remain in the region, the priority on stability above all else may translate to nations throughout the region pressuring the United States to accept a greater degree of parity with China, thereby displacing U.S. influence, and perhaps eventually presence, in the region to a certain degree. An example of such efforts came from Chinese defense strategist and retired senior military officer Song Xiaojun. In a May 2012 opinion piece, Song warned Australia that it could not reconcile its close economic relationship with China with the fact that it relies on the United States for security, and would have to, at some point, choose which country to prioritize in its foreign-policy decision making. He argued that “Australia has to find a godfather sooner or later,” and whom Canberra chooses “depends on who is more powerful based on the strategic environment.”47 An editorial in a nationalist Chinese state-run newspaper also responded to the news that the United States will station 2500 Marines in Darwin with the warning that Canberra is risking getting itself “caught in the cross fire” between China and the United States.48 The deterrent A2/AD pillar—perhaps the most important and most difficult to counter—posits that Washington may opt out of responding in a number of contingencies, for example maritime disputes, given that China’s active defense initiatives exceed the political costs for the United States. This could involve deterring a U.S. intervention decision altogether, or involve a Beijing-directed preemptive strike on U.S. forces attempting to deploy to the region, in the hopes of delivering the necessary psychological shock to the United States, its allies, and friends in the region. China’s public response to the 2012 U.S. declaration that it will rebalance toward Asia reflects China’s beliefs underpinning the deterrent pillar. The main theme found throughout Chinese media sources has been that the United States is too weak-willed to carry through its policies, which are in any case ill-advised. The Chinese media further claims that the past ten years of U.S. war in Southwest Asia has eroded the U.S. sphere of influence and has seriously affected the state of U.S. regional hegemony in the western Pacific.49 Chinese writers also note that, while the United States may want, theoretically, to return to being the main force in the Asia–Pacific, its economic dependence on China and its relative depletion of resources imply that it will fail to fulfill its proclamations and promises.50 In short, so the argument goes, while the United States wants to protect vital regional interests in East Asia, its desire to do so at an acceptable cost trumps all other considerations. Concordant with this view, China believes it can increase the real and perceived costs of intervention and successfully convince the United States to restrain itself in maritime disputes and other regional contingencies. The ultimate aim of China’s assertiveness, therefore, is effectively to convince the United States to self-impose an anti-access doctrine in any conflict involving Chinese territorial interests. China’s Positive Assessment of Assertiveness The positive internal assessment of China’s assertiveness strategy is the second reason why Beijing is unlikely to change course. In part because of all this evident reaction to Chinese behavior, Chinese scholars and strategists themselves are debating the relative merits and risks associated with Chinese assertiveness, a strategy that Xi Jinping himself articulated in an October 2013 speech at the foreign affairs conference of the Chinese Communist Party as striving for achievement (fenfayouwei).51 Since 1990, China had adhered to Deng Xiaoping’s maxim of keeping a low profile while still getting things done (taoguangyouhui, yousuozuowei). Many Chinese scholars warn against jettisoning this strategy.52 But domestic support for a more assertive, confident, proactive foreign policy is growing. Even scholars that prefer to stay loyal to Deng’s maxim say it’s time to stress the second part, “actively getting something done” (yousuozuowei). Chinese proponents rely on two main rationales supporting the shift in foreign policy approach that provide insight into what lies ahead. First, the previous policy of taoguangyouhui was insufficient to protect national interests because it did not persuade others to respect China’s interests in the region. Second, while some admit that the United States and neighboring countries are uncomfortable with the new approach, they argue it is more practical and effective than reverting to a China that suffers disgraces and insults in order to “bide time.” As China’s power grows, its leaders are prioritizing strategies that they think command respect and will persuade others to increasingly accommodate Chinese preferences. Many Chinese thinkers complain that the potential benefits of keeping a low profile—a positive international image or greater support and friendship from neighboring countries—have failed to come to fruition.53 Neighboring powers were suspicious of China’s rise long before the foreign policy shift, and the behavior of other South China Sea claimants during that period suggest that an “unprincipled” strategy like biding time does not command respect.54 According to Fudan University researcher Zhao Huasheng, while China will promote policies that resolve disputes in a reasonable way, core interests cannot “be shelved” to be dealt with at a later date, regardless of how much turmoil they cause now.55 Other voices add that placating others did not keep Vietnam and the Philippines from violating China’s sovereignty, or Japanese Prime Minister Shinzo Abe from visiting the Yasukuni shrine.56 One prominent scholar from the Chinese Academy of Social Sciences (CASS) commented in a recent interview that China had tensions with its neighbors even when its strategy was pliant, flexible, and gentle, because contemporary security issues result from China’s rise.57 As one Chinese major general argued, principles of harmonious co-existence and peaceful development do not resonate with many countries, and China’s promotion of these ideas was like “playing the zither to a cow”—ineffective.58 While Chinese strategists recognize that other regional actors are unhappy with the shift, they also argue that both China domestically and other countries internationally are still in the process of acclimating to China’s new foreign policy approach. These strategists argue that the palpable anxiety of the United States and some neighboring countries is completely understandable, but does not suggest the strategy is ineffective. The argument goes something like this: countries are used to a weak and accommodating (renru fuzhong) China, so they are understandably startled by China’s recent tendency to push back.59 In other words, they will adjust, but the strategy should not change. According to an article in the Chinese nationalistic newspaper The Global Times, China’s comprehensive national power has reached a point where it is time “to actively get something done,” the latter part of Deng’s biding time maxim.60 Many pair their support for this more proactive foreign policy approach with words of caution—China needs to learn how to use its power so as to command respect without being unnecessarily quarrelsome or prideful. This is a critical period for China’s rise, and the last thing the country needs is to provoke robust balancing designed to thwart China’s rise.61 Oriana Skylar Mastro One of the greatest proponents of the “striving for achievement” strategy, Tsinghua University professor Yan Xuetong, argues that the strategy has actually contributed greatly to improvements in China’s international situation.62 When China was laying low, focusing on economic development and attempting to expand its soft power, countries were still anxious about Chinese intentions and increasingly saw China as a threat. But, Yan argues, countries like the United States and Japan will inevitably see China as a threat, because China will likely replace them as the region’s strongest and richest country, respectively. Contrary to Western arguments, Yan believes that major competitors have been accommodating China’s preferences more and more, largely due to China’s increased assertiveness. He cites U.S. acceptance of the November 2013 announcement of an Air Defense Identification Zone (ADIZ); Washington’s moderate reaction to the December 2013 Cowpens incident, in which a PLAN Amphibious Dock Ship maneuvered dangerously close to the U.S. ship; and President Obama’s downgrading of his February 2014 visit with the Dalai Lama to the Map Room instead of the Oval office as examples of the strategy’s success. 63 He also argues that bilateral relations are more stable with the United States because both Beijing and Washington now admit to a structural conflict, and therefore preclude unreasonable expectations for favorable actions that then lead to overreaction and disappointment.64 The key for continued success, he argues, is to seek strategic partnerships with countries not based on where China can make the most money, but on which countries have the most clout strategically. There are differing opinions on the relative merits of various strategies, but as one Chinese scholar warned, China must show a united front so as not to send the wrong message of confusion or lack of consensus to the outside world.65 As an opinion piece in China’s nationalist newspaper The Global Times argues, the international community wants China to be a responsible stakeholder and proactive in some areas, but “swallow its anger” in others. It goes on to say that even if China tried to adhere to these expectations, this would only convince the international community that China is weak and can be bullied, the wrong message to send and the wrong strategy to implement if the goal is protecting Chinese sovereignty and territorial integrity.66 This suggests that even if some Chinese thinkers disagreed with this interpretation of assertiveness leading to great foreign policy achievements, Chinese leaders may bury this dissent and double down on its preferred methods of promoting foreign policy interests regardless. U.S. Strategic Response: What More Can Be Done? If China’s tendency to rely on coercive diplomacy to promote its territorial claims indeed persists, as I have argued, what does that mean for U.S. policy? Many officials are hoping that balancing within Asia and positive trends in other aspects of the bilateral relationship will prove sufficient to manage China’s abrasive behavior in territorial disputes. Secretary of State John Kerry argued that creating sustainable growth, enhancing economic ties, and empowering the individual to improve their communities will ensure peace and prosperity in the Asia–Pacific.67 The idea that engagement and partnership will shape China’s choices and change how the leadership defines its national interests and the best way to promote them is also a strong theme among U.S. officials. The current ambassador to China, Max Baucus, put forth his plan to “partner with China as it emerges as a global power and encourage it to act responsibly in resolving international disputes, respecting human rights, and protecting the environment.”68 Everyone agrees that engagement should not be abandoned. Former Undersecretary of Defense for Policy Miche`le Flournoy argued, “abandoning efforts to engage with China would likely accelerate Beijing’s assertiveness and run counter to a wide range of U.S. economic and security interests.”69 Thomas Christensen posits that the United States can empower moderate elites in China by “consistently offer[ing] China an active role in multilateral cooperative efforts.”70 George Washington University professor Robert Sutter argues, “through constructive engagement with their Chinese counterparts, U.S. leaders can demonstrate the long-term benefits Beijing would enjoy from a Chinese regional posture that eschews egregious pressure, intimidation, and zero-sum competition and embraces existing world norms that hold promise for uninterrupted Chinese development.”71 Scholars, policymakers, and officials stress that containment, defined as “attempting to suppress [China’s] growth by isolating Beijing from its neighbors and the world” is not the answer.72 But containment is not the only Cold War paradigm that deserves casting off given the contemporary challenges of a rising China. Many scholars have offered specific recommendations on how to address these challenges, with most designed to impose costs to compel a change in Chinese assertive behavior. But such measures are unlikely to be implemented effectively, or at all, until policymakers and strategists abandon two different elements of a Cold War mentality: overly relying on a strong forward military presence for a credible deterrent and fixating on de-escalation in crises. In its place, U.S. officials must accept risk without being reckless, and it must permit the possibility of escalation while maintaining stability. The U.S. mindset needs to shift to accept greater risk without being reckless. Military power alone does not guarantee a credible deterrent. U.S. efforts to bolster its military presence in the Asia–Pacific—a central pillar of the rebalancing strategy—counter the geographic, kinetic and political pillars of China’s A2/AD strategy. For example, the United States is forward-deploying more assets in the region, such as the Marine Air Ground Task Force Detachment already deployed to Australia as well as the stated goal of positioning 60 percent of all U.S. warships to the Asia–Pacific by 2020. This addresses the geographic pillar. Attempts to address the kinetic pillar include new operational concepts such as Air-Sea Battle, which “relies on highly integrated and tightly coordinated operations across war-fighting domains” in order “to disrupt and destroy enemy A2-AD networks and their defensive and offensive guided weapons systems in order to enable US freedom of action to conduct concurrent and follow-on operations.”73 Bolstering U.S. alliances with Japan, South Korea, Australia, the Philippines, and Thailand, as well as partnerships with Indonesia, Malaysia, India, Singapore, Vietnam, and New Zealand are critical components to U.S. efforts to ensure political access and support in the region. These efforts are commendable—the United States rightly works to preserve its military superiority and retain its ability to project power in the region. During the Cold War, when the greatest pacing threats were land conflicts, forward deploying U.S. forces in Europe and Asia were sufficient to demonstrate the credibility of the U.S. commitment to peace in those regions. But China is currently testing the waters not because its leaders are uncertain about the balance of power, but because they are probing the balance of resolve. This means that staying ahead in terms of military might is insufficient in contemporary East Asia. China’s strategists are betting that the side with the strongest military does not necessarily win the war—the foundation of the deterrent pillar of its A2/AD strategy. Indeed, China’s experience in fighting the Korean War proves that a country willing to sacrifice blood and treasure can overcome a technologically superior opponent. The belief that balance of resolve drives outcomes more so than the balance of power is the foundation of China’s new, more assertive strategy; but U.S. responses to date have failed to account for it. Canned demonstrations of U.S. power fail to address the fundamental uncertainty concerning U.S. willingness, not ability, to fight. The U.S. focus on de-escalation in all situations only exacerbates this issue. The Cold War experience solidified the Western narrative stemming from World War I that inadvertent escalation causes major war, and therefore crisis management is the key to maintaining peace.74 This has created a situation in which the main U.S. goal has been de-escalation in each crisis or incident with Beijing. But Chinese leaders do not share this mindset—they believe leaders deliberately control the escalation process and therefore wars happen because leaders decide at a given juncture that the best option is to fight.75 China is masterful at chipping away at U.S. credibility through advancing militarization and coercive diplomacy. It often uses limited military action to credibly signal its willingness to escalate if its demands are not met. Strategist Thomas Schelling theoretically captured this approach when he wrote it is “the sheer inability to predict the consequences of our actions and to keep things under control … that can intimidate the enemy.”76 Because China introduces risk for exactly this reason, the U.S. focus on deescalation through crisis management is unlikely to produce any change in Chinese behavior—if anything it will only encourage greater provocations. Beijing has identified the U.S. fear of inadvertent escalation, and is exploiting it to compel the United States to give in to its demands and preferences. In this way, the U.S. focus on de-escalation may actually be the source of instability by rewarding and encouraging further Chinese provocations. To signal to China that the United States will not opt out of a conflict, Washington must signal willingness to escalate to higher levels of conflict when China is directly and purposely testing U.S. resolve. This may include reducing channels of communication during a conflict, or involving additional regional actors, to credibly demonstrate that China will not be able to use asymmetry of resolve to its advantage. The current mindset—that crisis management is the answer in all scenarios— will be difficult to dislodge, given the tendency among U.S. military ranks to focus on worst-case “great battle” scenarios. While realistic in Cold War operational planning, decision makers should consider instead the less violent and prolonged engagements that characterize Chinese coercive diplomacy when evaluating risk and reward, such as the 1962 Sino–Indian War or the 1974 Battle of the Paracel Islands. The idea that any conflict with China would escalate to a major war, destroy the global economy, and perhaps even escalate to a nuclear exchange has no foundation in Chinese thinking, and causes the United States to concede in even the smallest encounters. While the Chinese leadership has proven to be more risk-acceptant than the United States (or perhaps more accurately, to assess the risks to be less than those perceived by U.S. strategists), Xi still wants to avoid an armed conflict at this stage. In his November 2014 keynote address at the Central Foreign Affairs Work Conference, he noted that China remains in a period of strategic opportunity in which efforts should be made to maintain the benign strategic environment so as to focus on internal development.77 Ultimately, the U.S. regional objective must be peace and stability at an acceptable cost. Given this, it is critical to understand the four components of China’s A2/AD strategy, the strategic foundation for China’s recent assertiveness, and how best to maintain the U.S. position as a Pacific power. In addition to regularly attending meetings in the region and developing new technology, new platforms, and new operational concepts designed to defeat China’s A2/AD strategy, the United States needs to break free of its Cold Warbased paradigm paralysis and rethink conceptions of limited war, escalation, and risk. Scolding China and imposing symbolic costs for each maritime incident is unlikely to inspire the corrective change U.S. thinkers are hoping for. The United States needs to fundamentally change its approach by accepting higher risk and allowing for the possibility of escalation—both vertically in force as well as horizontally to include other countries. This admittedly is a difficult balance, especially given the need to avoid emboldening U.S. allies to take actions that run contrary to U.S. interests. But only by mastering these two balancing acts—focusing on balancing resolve, rather than forces, and prioritizing stability over crisis management—will the United States be able to maintain peace and stability in East Asia without sacrificing U.S. or allied interests.

#### You should be highly skeptical --- most alleged BRI benefits never materialize

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Josh, 11/19. “China’s Belt and Road Initiative is tying the world together—but what's the end game?” https://archpaper.com/2019/11/chinas-belt-and-road-initiative/

The Chinese government optimistically refers to the BRI as a 21st-century Silk Road, one that harmoniously links economies and increases prosperity for dozens of countries and billions of people, representing up to 60 percent of the world’s economic output. China pitches these projects to host countries as tools of economic development. Analysts say that success, for China and BRI partners alike, depends on far more than concrete and steel. The onus falls on host countries to make use of China’s largesse. Efficient trade relies on everything from effective local governance to the mobility of workers to the mitigation of environmental impacts. In the case of partners like Belarus (sometimes referred to as Europe’s last dictatorship) whose governments are unstable, corrupt, or underdeveloped, reforms may pose greater challenges than does the development of megaprojects.

In many cases, benefits to host countries have not materialized. Many projects use little local expertise or labor; rather, they are boons for Chinese engineering firms, construction companies, and suppliers such as steel and concrete manufacturers. Once built, they take on a nearly colonial tenor, moving raw materials out of host countries and moving Chinese goods into them. And no matter how economists feel about BRI projects, the initiative has already alarmed environmentalists. The number and physical size of projects promise to remake urban landscapes, alter—and destroy—natural landscapes, and consume untold millions of tons of natural resources, building materials, and fossil fuels. Chinese environmental laws and practices are also notoriously lax compared to those in the U.S. and Europe. In 2017 the World Wildlife Fund (WWF) issued a report documenting BRI projects’ numerous incursions into sensitive habitats. WWF identified “high impacts” throughout nearly all of Southeast Asia and “moderate impacts” in BRI corridors in Central Asia. BRI projects have also been associated with increases in the use of coal for power production in many host countries.

Beyond environmental effects, even when host countries own their assets, they are indebted to Chinese financiers. Reports indicate that many countries cannot pay off construction loans, leaving them indebted to China indefinitely. Many projects have turned into white elephants. Mattala Rajapaksa International Airport in Sri Lanka was designed to accommodate one million passengers per year. Though fully operational, Mattala currently serves zero passengers, while also servicing $190 million in debt to Chinese banks. Having been a relatively poor, developing country so recently, China likely understands the pressure points of the Myanmars and Mozambiques of the world better than any other global power does.

The Center for Global Development estimates that as many as eight countries involved with the BRI are already at risk of debt distress. Some countries are in debt to China by a factor of as much as 20 percent of their GDPs. Others are now approaching BRI proposals more gingerly than they might have when the program launched. Malaysia recently canceled $22 billion in BRI projects; other countries, particularly Kenya and Mozambique, are pushing back against proposals and renegotiating deals. Ultimately, economic domination via financing may not be a great strategy—flush with cash though they may be, Chinese banks want returns on their investments no less than Western banks do. Then again, even if they aren’t repaid, the Chinese state might still get what it wants in the form of global influence.

In other words, the BRI is as much a geopolitical experiment as it is an economic development strategy.

#### Doesn’t solve and makes tensions worse

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Richard, with Jiayi Zhou, February. “The Silk Road Economic Belt: Considering security implications and EU–China cooperation prospects.” https://www.sipri.org/sites/default/files/The-Silk-Road-Economic-Belt-Executive-Summary.pdf

1. In both Central Asia and South Asia (specifically Pakistan), the Belt could exacerbate governance problems, primarily economic accountability and corruption. It could also potentially help to keep regimes in place that have a poor democratic or developmental track record and exacerbate structural elements of instability. It may, however, stimulate greater stability if the local governments can utilize Belt capital to foster inclusive and sustainable socioeconomic growth.

2. In Central Asia, the Belt could potentially stimulate greater cooperative efforts and political will among states to effectively address underlying regional hazards in the interest of mutual economic benefit.

3. In South Asia, the Belt’s China–Pakistan Economic Corridor (CPEC), has raised political temperatures between India and Pakistan. India strictly opposes CPEC, and while the Belt is not a harbinger of new conflict, it has so far intensified historic competition over influence in South Asia. Furthermore, at this stage, the Belt has little potential to help thaw relations between Pakistan and Afghanistan, but there may be prospects for this over the medium to long term.

4. For now, the Belt does not structurally conflict with Russian security or Eurasian Economic Union (EEU) objectives, whether nationally or in Central Asia.

More specific local sources of insecurity in Central and South Asia exist with or without Belt presence. They are not easily resolved on their own accord, and the Belt is, at the very least, an opportunity to begin to address these common challenges.

#### BRI expansion enables China to export nuclear reactors and gain market dominance

USCC 19 – Permanent commission of 13 experts on US-China policy, in end-of-year report to Congress

US-China Economic and Security Review Commission, Chaired by Carolyn Bartholomew, worked at senior levels in the U.S. Congress, serving as counsel, legislative director, and chief of staff to Nancy Pelosi with particular expertise on US-China relations and WMD prolif, with 12 other expert members, REPORT TO CONGRESS of the U.S.-CHINA ECONOMIC AND SECURITY REVIEW COMMISSION ONE HUNDRED SIXTEENTH CONGRESS FIRST SESSION, NOVEMBER 2019, https://www.uscc.gov/sites/default/files/2019-11/Chapter%204%20Section%203%20-%20China%E2%80%99s%20Ambitions%20in%20Space%20-%20Contesting%20the%20Final%20Frontier.pdf

In addition to transport and digital infrastructure projects, China has used BRI to build future export markets for its nuclear reactors and raise its international profile. At present, China has only exported its indigenously developed Hualong One reactor to Pakistan and is negotiating construction of a reactor in Argentina.171 However, it has signed agreements to establish future cooperation with several sub-Saharan African countries, including Kenya, Sudan, and Uganda.172 These agreements either explicitly involve China exporting its Hualong One reactor, or lay the groundwork for China to become a major exporter of components and services like waste disposal and personnel training.173 China General Nuclear Power Group (CGN) has also submitted a proposal to build a small plant in Namibia, where it also owns and operates the world’s second-largest uranium mine.174 China has also formed partnerships with advanced economies to gain know-how and increase its credibility as an exporter, most notably CGN partnering with Électricité de France to finance the Hinkley C Reactor in the UK.\* 175

Influence in Fourth Generation of Reactors

Chinese nuclear companies are also keen to gain a foothold in the fourth generation of nuclear reactors,† and have sought out partnerships to develop advanced reactors and gain influence in international steering bodies.176 Seattle-based reactor designer TerraPower was developing an advanced reactor with China National Nuclear Corporation, but shelved the project in response to October 2018 regulations from the U.S. Department of Energy on nuclear technology transfers to China. China National Nuclear Corporation is also developing two advanced reactors with CANDU, a subsidiary of the Canadian engineering firm SNC-Lavalin.177

\*The planned reactor at Hinkley Point C has been met with fierce pushback from within the UK due to high costs, questions over safety, and concerns about a Chinese company owning a 33 percent stake in critical infrastructure, as well as alarm over GCN’s 2016 espionage indictment for attempting to steal U.S. nuclear technology. The U.S. Department of Commerce added CGN to the Entity List in August 2019, and the Department of Energy introduced a presumption of denial for exports to CGN in October 2018, citing concerns that civilian technology was being diverted to military use. Christian Shepherd, “US Blacklists Chinese Nuclear Company Over Theft of Military Tech,” Financial Times, August 15, 2019; Holly Watt, “Hinkley Point: the ‘Dreadful Deal’ Behind the World’s Most Expensive Power Plant,” Guardian, December 21, 2017.

†The third generation of nuclear power included Westinghouse’s AP-1000. The international body overseeing the third generation, the Multinational Design Evaluation Program, was launched by the U.S. Nuclear Regulatory Agency and France’s Nuclear Safety Authority. World Nuclear Association, “Generation IV Nuclear Reactors,” April 2019.

A latecomer to the Generation-IV International Forum, an international body working to identify six types of reactors for the next generation of nuclear technology, China is trying to increase its influence through investing heavily in domestic trials of the reactors under consideration.178 Lower demonstration costs from Chinese nuclear power firms’ readiness to fund R&D and China’s robust domestic supply chain for reactor components make it an attractive destination to test new reactor designs.179

U.S.-China Competition in Nuclear Power

Historically, the United States was a leading exporter of nuclear power technologies and exercised a dominant role in setting global nuclear governance norms through its own Nuclear Regulatory Commission and multilateral bodies like the International Atomic Energy Agency.180 While the United States retains leadership in advanced reactor design, the decline of the United States’ reactor components production and lack of domestic demand make it likely that advanced reactor demonstration will occur in other markets.181

Between decreased exports and low domestic appetite for R&D of advanced reactors, the United States is in danger of losing technological leadership and its influence in international rule setting for nuclear safety and security.182 Additionally, because of the high costs of installation and long lifecycle of reactors, if the United States does not participate in the next wave of global reactor installation, it will likely be cut off from reentering lost markets for decades.183

#### Causes prolif

Banks, 16 – a former U.S. diplomat and CIA analyst, the executive vice president of the American Council for Capital Formation (ACCF) in Washington, DC.

George David, 6/14. “More Iran Nuclear Deals Likely Without U.S. Nuclear Energy Renaissance.” <https://morningconsult.com/opinions/iran-nuclear-deals-likely-without-u-s-nuclear-energy-renaissance/>

In stark contrast, Chinese leaders, who appreciate the strategic value of nuclear technology, are playing it smart. In China’s dealings with Westinghouse, for example, Beijing leveraged its market power to gain a transfer of key technology that was developed with the help of U.S. taxpayers. With that one deed, Westinghouse gave a boost to China’s goal of capturing a global monopoly in nuclear energy exports. It also effectively destroyed thousands of potential U.S. jobs in states like Pennsylvania.

Beijing is likely to succeed. China was a nuclear technology backwater only 15 years ago with only three commercial reactors, compared to more than 100 in America. Today, China has 32 reactors with 22 under construction. By 2030, the country is projected to generate 150 gigawatts of power from nuclear energy (roughly equivalent to Germany’s total capacity in electricity), while the U.S. nuclear fleet is expected to shrink by 20 percent or more. In little more than a decade, China could have twice the number of reactors than the United States.

This development will have major negative implications for America as China gains a competitive advantage in deploying nuclear technology globally. It goes without saying that countries with vibrant nuclear industries will have greater influence in shaping the world’s non-proliferation and nuclear safety regimes. Foreign governments seeking to build a nuclear plant – and potentially using a program as a means to develop bombs – will go to Beijing for approval, not to Washington. Americans will have to watch as China determines which countries join the nuclear club.

With nuclear dominance, Beijing could have an increased ability to use technology transfer as a means of increasing its influence in key strategic areas, including the Middle East. On the national security front, China – rather than rely on a decades-long program to catch up militarily with America – could move to more rapidly check U.S. power by transferring nuclear technology and know-how to U.S. rivals.

Despite joining the Non Proliferation Treaty, the Comprehensive Nuclear Test Ban Treaty, and the Nuclear Suppliers Group, China’s proliferation record has not been spotless. Recent research from the International Assessment and Strategy Center suggests that Beijing has helped Pakistan’s nuclear weapons program. While China may have genuine problems with enforcement and compliance of its export control regulations, it’s also likely that some Chinese leaders view proliferation as a valid strategy in checking U.S. military superiority.

America cannot afford for China to enjoy a dominance in nuclear technology nor should it stand by helplessly as U.S. companies transfer technology and jobs to foreign markets. Washington needs to recognize that our nuclear program is a national asset before it’s too late.

#### Extinction

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Should we worry about the spread of nuclear weapons? At first glance, this might appear to be an absurd question. After all, nuclear weapons are the most powerful weapons ever created by humankind. A single nuclear weapon could vaporize large portions of a major metropolitan area, killing millions of people, and a full-scale nuclear war between superpowers could end life on Earth as we know it. For decades during the Cold War, the public feared nuclear war and post-apocalyptic nuclear war scenarios became a subject of fascination and terror in popular culture. Meanwhile, scholars carefully theorized the dangers of nuclear weapons and policymakers made nuclear nonproliferation a top national priority. To this day, the spread of nuclear weapons to additional countries remains a foremost concern of US leaders. Indeed, in his 2014 annual threat assessment to the US Congress, Director of National Intelligence James Clapper argued that nuclear proliferation poses one of the greatest threats to US national security.1 Many academics, however, question the threat posed by the spread of nuclear weapons. Students of international politics known as ‘proliferation optimists’ argue that the spread of nuclear weapons might actually be beneficial because it deters great power war and produces greater levels of international stability.2 2 Scott D. Sagan and Kenneth N. Waltz, The Spread of Nuclear Weapons: A Debate (New York: Norton 1997); David J. Karl, ‘Proliferation Optimism and Pessimism Revisited’, Journal of Strategic Studies 34/4 (Aug. 2011), 619–41. View all notes While these arguments remain provocative, they are far from new. The idea that a few nuclear weapons are sufficient to deter a larger adversary and keep the peace has its origins in the early strategic thinking of the 1940s. Moreover, a critical review of this literature demonstrates that many of these arguments are less sound than they initially appear. This essay argues that, contrary to the claims of the optimists, the spread of nuclear weapons poses a grave threat to international peace and to US national security. It begins with a brief review of the intellectual history of proliferation optimism to show how parochial interests and resource-constrained environments incentivized strategic thinkers in France and in the US Navy to develop and promote key pillars of the proliferation optimism school. Next, it identifies the core weaknesses of proliferation optimism as a comprehensive framework for understanding the effects of nuclear proliferation on international politics, including its: oversimplification of nuclear deterrence theory and corresponding underestimation of the potential for nuclear war, internal logical contradictions, and limited ability to speak to the concerns of policymakers. Finally, it articulates the myriad threats posed by nuclear proliferation, including: nuclear war, nuclear terrorism, global and regional instability, constrained US freedom of action, weakened alliances, and the further proliferation of nuclear weapons. In so doing, this essay makes several contributions to our understanding of proliferation optimism and nuclear weapons proliferation. First, it proposes a novel argument about how bureaucratic considerations and resource constraints were conducive to the intellectual diffusion of proliferation optimism. Second, it responds to recent calls for proliferation pessimists to stop ‘playing small ball’ and to rebut head on proliferation optimists’ core claims about nuclear deterrence theory and stability.3 3 Frank Gavin, ‘The Ivory Tower–Policy Gap in the Nuclear Proliferation Debate’, Journal of Strategic Studies 35/4 (Aug. 2012), 573–600. View all notes Third, this essay reviews the many reasons why US officials should oppose the spread of nuclear weapons, regardless of whether optimists are correct in their central claims about nuclear weapons and international stability. While many of these threats have been identified and reviewed in greater detail by others, this essay aims to usefully bring them together in a single work as part of an overarching critique of the proliferation optimism position. An Intellectual History of Proliferation Optimism The origins of the key pillars of proliferation optimism can be found in early Cold War debates about nuclear strategy. These pillars include the ideas that a small nuclear arsenal capable of targeting an enemy’s cities is sufficient for deterring a powerful adversary and that nuclear wars, because they would be so devastating for everyone involved, will never be fought. These ideas stood in stark contrast to other strands of deterrence thinking that emphasized the importance of nuclear force posture, counterforce targeting, strategic instability, nuclear brinkmanship, inadvertent and accidental nuclear escalation, and limited nuclear wars.4 4 Lawrence Freedman. The Evolution of Nuclear Strategy (New York: Palgrave Macmillan 2003). View all notes It is noteworthy that some (but by no means all) of the most influential early advocates of minimum deterrence and proliferation optimism (indeed, as we will see below, these ideas are mutually reinforcing) cannot truly be understood without reference to the parochial interests and resource-constrained environments in which the strategic thinkers who developed them operated. Early Academic Writing Shortly after the first use of nuclear weapons on Hiroshima and Nagasaki, US strategists began to grapple with the question of what the atomic bomb meant for international peace and security. The first answer given is one that presaged the contemporary proliferation optimism literature, namely, that nuclear weapons are an ‘absolute weapon’ that are terrifyingly destructive, invulnerable to enemy attack, and that render great power war obsolete.5 5 See, for example, Bernard Brodie, The Absolute Weapons: Atomic Power and World Order (New York: Harcourt Brace Jovanovich 1946). View all notes Perhaps the first person to articulate this position was University of Chicago economist Jacob Viner in a speech to the American Philosophical Society in Philadelphia on 16 November 1945 – just months after the first use of nuclear weapons on Hiroshima and Nagasaki.6 6 Jacob Viner, ‘The Implications of the Atomic Bomb for International Relations’, Proceedings of the American Philosophical Society, delivered 16 Nov. 1945. View all notes In the speech, Viner argued that counterforce nuclear targeting would be useless and disarming first strikes impossible. In doing so, he laid the basis for subsequent claims about a minimum nuclear posture being sufficient to deter a more powerful adversary. Viner argued, ‘the atomic bomb, unlike battleships, artillery, airplanes, and soldiers, are not an effective weapon against its own kind. A superior bomb cannot neutralize the inferior bomb of an enemy.’ Viner went on to argue that the awesome destructive power of nuclear weapons would induce great caution in leaders and possibly produce peace among the major powers. In his words, ‘the universal recognition that if war does break out, there can be no assurance that the atomic bombs will not be resorted to may make statesmen and people determined to avoid war even where in the absence of the atomic bomb, they would regard it as the only possible procedure under the circumstances for resolving a dispute or a clash of interests’.7 7 Ibid. View all notes The proliferation optimism position received further elaboration a few months later in Bernard Brodie’s classic book The Absolute Weapon.8 8 Brodie, The Absolute Weapon. View all notes In great detail, Brodie explained the basic features of the minimum deterrence and proliferation optimism position. He argued that nuclear weapons are invulnerable, ruling out the possibility of an enemy launching a splendid first strike. He also claimed that nuclear weapons have such terrifying effects that they would make war too costly to wage, potentially leading to peace. In his most oft-quoted line, Brodie declared, ‘Thus far the chief purpose of our military establishment has been to win wars. From now on its chief purpose must be to avert them.’9 9 Ibid. View all notes Unlike most optimists writing today, however, Brodie was a fairly pessimistic optimist, holding that nuclear weapons could stabilize great power politics while simultaneously fearing a nontrivial risk of nuclear exchange. Brodie’s most optimistic notions were soon countered in what would become an early incarnation of the optimism-pessimism debate, predating the now-famous Waltz-Sagan debate by over 30 years.10 10 Sagan and Waltz, The Spread of Nuclear Weapons. View all notes Beginning with a series of basing studies done for the Department of Defense, Albert Wohlstetter, an American strategist working at the RAND Corporation in Santa Monica, California, argued that nuclear weapons are not as invulnerable as they appeared to optimists like Brodie. Rather, he argued that the ‘balance of terror’ that optimists had written so eloquently about, was actually quite ‘delicate’.11 11 Albert Wohlstetter, The Delicate Balance of Terror(Santa Monica, CA: RAND Corporation 1958). View all notes He demonstrated that US nuclear forces were potentially vulnerable to a Soviet first strike and that this vulnerability could tempt Moscow to launch a nuclear war. His study led to a number of improvements in the survivability of US nuclear forces, including the moving of US air bases beyond the range of Soviet bombers and the hardening of ballistic missile silos. More importantly for our purposes, however, Wohlstetter’s study also undermined a key pillar of proliferation optimism. If nuclear forces were potentially vulnerable, then an enemy might be encouraged to attack, and it was not a great leap from this insight to argue that the spread of nuclear weapons would not necessarily contribute to peace. Just as a belief in minimum deterrence supports the idea of a nuclear peace, attention to nuclear vulnerability and counterforce nuclear war necessarily leads to proliferation pessimism. Indeed, it is difficult to find analysts who simultaneously believe that the details of nuclear force posture matter and that the spread of nuclear weapons is inherently stabilizing. It should come as no surprise, therefore, that Albert Wohlstetter was a proliferation pessimist. In subsequent writing, Wohlstetter catalogued the potential downsides of nuclear proliferation for US interests, even if nuclear weapons spread to friendly states, such as America’s NATO allies.12 12 Albert Wohlstetter, ‘Nuclear Sharing: NATO and the N+1 Country’, Foreign Affairs 39/3 (April 1961), 355-87. View all notes First, he identified nuclear war as a potential problem. A few nuclear weapons would not be enough for deterrence, but rather ‘The problem of deterring a major power requires a continuing effort because the requirements for deterrence will change with the counter-measures taken by the major power.’13 13 Ibid. View all notes But, if that investment was not made, deterrence could fail and nuclear war could result. Second, Wohlstetter worried that the spread of nuclear weapons within the NATO alliance would undermine alliance cohesion by making the allied states less interdependent. Third, Wohlstetter forecasted that the spread of nuclear weapons would lead to the further spread of nuclear weapons. He criticized US decisionmakers for calculating the pros and cons of nuclear proliferation to an ‘Nth’ state without also figuring in the potential negative consequences of what he called the ‘N+1 problem.’14 14 Ibid. View all notes The optimism-pessimism debate did not remain relegated to the ivory tower for long, however. Shortly thereafter, influential actors in government began adapting the ideas of proliferation optimism to fit their strategic circumstances and advance their parochial interests. The French Force de Frappe In 1960, France entered the nuclear club with its first nuclear test.15 15 Lawrence Scheinman, Atomic Energy Policy in France under the Fourth Republic (Princeton UP 1965). View all notes French leaders, including President Charles de Gaulle, did not believe that France could rely on the United States and NATO to provide for France’s security. As de Gaulle would famously ask, would Washington really be willing to trade New York for Paris in a nuclear war? France, therefore, acquired an indigenous nuclear weapons capability that would allow Paris to pursue a more independent foreign policy. Having developed the bomb, however, French strategic and military thinkers were soon confronted with a new problem: how would they use their nuclear weapons? In the early and mid-1960s, France began developing a nuclear doctrine. At the same time that US and Soviet thinkers began articulating the aspects of nuclear doctrine that would come to characterize the superpower nuclear competition throughout the Cold War (counterforce nuclear targeting, limited nuclear options, the importance of assured destruction, the advantages provided by nuclear superiority, and the pursuit of active and passive defenses), France, a medium power operating with fewer resources than the superpowers, was compelled to develop a more modest nuclear strategy. In large part due to its limited means, France developed a minimal deterrent doctrine, in which French military planners aimed to be able to threaten significant damage to Soviet cities in the event of a Soviet invasion of France.16 16 Bruno Tertais, ‘Destruction Assuree: The Origins and Development of French Nuclear Strategy, 1945–1982’, in Henry D. Sokolski (ed.), Getting MAD: Nuclear Mutual Assured Destruction, Its Origins and Practice (Carlisle, PA: Strategic Studies Institute 2004). View all notes Unlike the superpowers, France did not have the luxury of working down from strategy to capabilities, but instead had to work backwards, developing strategy around given capabilities. As French strategic thinker General Pierre-Marie Gallois put it, France pursued a nuclear ‘strategy of the means’.17 17 Ibid., 95. View all notes In the words of de Gaulle, ‘we do not have the ambition to make a force as powerful as those of the Americans or Soviets, but a force proportionate to our means, our needs, and our size’.18 18 Ibid., 86. View all notes Accordingly, the key pillars of French doctrine reflected France’s resource constraints. ‘Deterrence of the strong by the weak’ was the belief that a small state can deter a much larger adversary as long as the smaller state has the ability to conduct a countervalue nuclear attack against the larger state’s cities.19 19 Ibid., 64. View all notes ‘Sufficiency’ was the idea that a small number of nuclear weapons was sufficient for deterrence and that anything more was unnecessary.20 20 Ibid., 86. View all notes France’s small size and lack of strategic depth prevented it from adopting the warfighting postures of the superpowers. As Gallois put it, ‘France has nothing to cede that would not be herself.’21 21 Pierre Marie Gallois, Le Sablier du Siecle: memoires (Lausanne: L’Age d’homme 1999), 402. View all notes France’s vulnerability, therefore, demanded that France launch an immediate and full-scale nuclear attack at the initiation of any hostilities. Unable to build a large enough arsenal to maintain an assured destruction capability against the Soviet Union, France aimed only, according to Gallois, to ‘tear an arm’ off the aggressor.22 22 Tertais, 83. View all notes While US Secretary of Defense Robert McNamara famously assessed that destroying large portions of the Soviet population and economy was necessary to deter Moscow, French thinkers thought that the Soviet Union could be deterred if France could inflict damage on the Soviet Union roughly equivalent to the destruction of the entire country of France. In the words of one French official, ‘French nuclear forces have been calculated to permit reaching a population of the adversary of the same order as that of our own country. If France were destroyed, our adversary would lose the equivalent of France.’23 23 Ibid., 82. View all notes A lack of adequate delivery vehicles also prevented France from following a counterforce strategy. France’s plans for the development of a land-based intercontinental ballistic missile (ICBM) were canceled due to their expense, leaving Paris with a countervalue option only. As strategist Raymond Barre described, ‘it was the less costly option…France, a medium-sized nation with limited resources, cannot pretend seeking parity with the two great nuclear powers. The only way which is opened to us is that of the current strategy.’24 24 Ibid., 96. View all notes Like proliferation optimists on the other side of the Atlantic, French strategists believed that if a small nuclear arsenal in France could deter the Soviet Union, then the spread of nuclear weapons elsewhere could have a pacifying effect on international politics more broadly. As Gallois argued, a nuclear arsenal ‘increases the risk, counsels discretion, and consequently strengthens the strategy of dissuasion. As atomic armament grows more widespread … the notion of dissuasion will also become more common, each nation practicing it according to its means … It will not be long before we may have to give up war altogether.’25 25 Pierre Marie Gallois, Stratégie de l’âge nucléaire (Paris: François-Xavier de Guibert 1960). View all notes Unsurprisingly, the first generation of proliferation pessimists in the United States was skeptical of French strategy and doctrine. Albert Wohlstetter assessed that if the United States, a global superpower, struggled to develop a survivable nuclear arsenal capable of deterring the Soviet Union, then France, a much smaller power, did not stand a chance of developing a truly independent deterrent. At the end of the day, thought Wohlstetter, ‘The burden of deterring a general war as distinct from limited wars is still likely to be on the United States and therefore, so far as our allies are concerned, on the alliance.’26 26 Wohlstetter, ‘Nuclear sharing’. View all notes In sum, the notion that a few nuclear weapons would be sufficient to deter great power war was warmly welcomed and advocated by strategic thinkers in Paris. France’s resource-constrained environment prevented it from adopting anything other than a minimum deterrent posture. France was not the only place, however, where minimum deterrence was advocated in response to the available means. Polaris In the late 1950s and early 1960s, a similar minimum deterrence strand was developing among US nuclear strategists.27 27 This section draws heavily from Harvey M. Sapolsky, ‘The US Navy’s Fleet Ballistic Missile Program and Finite Deterrence’, in Henry D. Sokolski, Getting MAD: Nuclear Mutual Assured Destruction, Its Origins and Practice (Carlisle, PA: Strategic Studies Institute 2004). View all notes Like in France, circumstances would compel military planners, this time in the US Navy, to argue that a few nuclear weapons would be sufficient to deter a more powerful foe, helping to pave the way for subsequent generations of proliferation optimists. In the early days of the Cold War, the US Navy was the only major US military service cut out of the strategic nuclear mission. This would have major implications for service budgets and inter-service rivalries as nuclear capabilities were of paramount importance in the superpowers’ Cold War rivalry and the Navy wanted a foothold in the nuclear game. The Navy sought to edge its way into a role by developing ‘super carriers,’ aircraft carriers suitable for nuclear-armed fighters to take off and land, but the program was cancelled by President Truman in 1949. Then, in the mid-1950s, under the leadership of Admiral Arleigh Burke, the Navy began developing the innovative Polaris submarine launch ballistic missile system (SLBM). Polaris provided the Navy with a nuclear role. Indeed, Burke argued that Polaris’s unique advantages, its greater survivability in particular, made it a candidate to replace the more vulnerable fixed ICBMs operated by the Air Force. Critics in other services soon countered, however, that SLBMs did not meet the requirements of US nuclear strategy. SLBMs, unlike bombers and land-based ICBMs, were not accurate enough to engage in counterforce targeting. Moreover, there were too few submarines to bring sufficient firepower to bear to guarantee an assured destruction capability against the Soviet Union. The Navy could not credibly argue that Polaris had capabilities that it did not have, but they could, and did, challenge the prevailing logic of deterrence. In a prize-winning essay, Paul Bracken, a naval commander working under Burke, coined the term ‘finite deterrence’. Bracken, and eventually Burke, argued that the massive nuclear attacks and counterforce targeting envisioned by the Air Force and the Army were unnecessary. Rather, they claimed that a few survivable nuclear weapons capable of destroying enemy soft targets – the precise capabilities provided by Polaris – were sufficient for deterrence. In the end, Burke and the Navy were only partially successful in their bureaucratic battle. While SLBMs became a central element of US nuclear force structure, they did not replace bombers and ICBMs. Arguments about maintaining superiority across the entire spectrum of capabilities were more persuasive in the context of a heating up Cold War. Nevertheless, the ideas of ‘finite’ and ‘minimum deterrence’, developed by Bracken and Burke, motivated in no small part by a desire to advance the Navy’s position in an inter-service competition are alive and well in the writings of today’s proliferation optimists. Contemporary Academic Writing Proliferation optimism received what may have been its clearest articulation by Kenneth Waltz in his seminal 1981 Adelphi paper, ‘The Spread of Nuclear Weapons: More May Be Better’.28 28 Kenneth Waltz, ‘The Spread of Nuclear Weapons: More May Be Better’, Adelphi Papers 171 (London: International Institute for Strategic Studies 1981). View all notes In this, and subsequent works, Waltz argued that the spread of nuclear weapons has beneficial effects on international politics. He maintained that states, fearing a catastrophic nuclear war, will be deterred from going to war with other nuclear-armed states. As more and more states acquire nuclear weapons, therefore, there are fewer states against which other states will be willing to wage war. The spread of nuclear weapons, according to Waltz, leads to greater levels of international stability. Looking to the empirical record, he argued that the introduction of nuclear weapons in 1945 coincided with an unprecedented period of peace among the great powers. While the United States and the Soviet Union engaged in many proxy wars in peripheral geographic regions during the Cold War, they never engaged in direct combat. And, despite regional scuffles involving nuclear-armed states in the Middle East, South Asia, and East Asia, none of these conflicts resulted in a major theater war. This lid on the intensity of conflict, according to Waltz, was the direct result of the stabilizing effect of nuclear weapons. Following in the path blazed by the strategic thinkers reviewed above, Waltz argued that the requirements for deterrence are not high. He argued that, contrary to the behavior of the Cold War superpowers, a state need not build a large arsenal with multiple survivable delivery vehicles in order to deter its adversaries. Rather, he claimed that a minimum deterrent posture of few nuclear weapons is sufficient for deterrence. Indeed, he went even further, asserting that any state will be deterred even if it merely suspects its opponent might have a few nuclear weapons because the costs of getting it wrong are simply too high. Not even nuclear accident is a concern according to Waltz because leaders in nuclear-armed states understand that if they ever lost control of nuclear weapons, the nuclear retaliation they could suffer in response would be catastrophic. Nuclear-armed states, therefore, have strong incentives to maintain tight control over their nuclear weapons. Not even new nuclear states, which lack experience managing nuclear arsenals, would ever allow nuclear weapons to be used or to fall into the wrong hands. Following Waltz, many other scholars have subsequently advanced arguments in the proliferation optimism school.29 29 For a review of these debates as they pertain to South Asia, see Karl, ‘Proliferation Optimism and Pessimism Revisited’. View all notes Indeed, in 2012, Waltz himself argued that nuclear proliferation to Iran would not present a serious threat because a nuclear-armed Iran could be deterred.30 30 Kenneth Waltz, ‘Why Iran Should Get the Bomb’, Foreign Affairs (July/Aug. 2012), 2–4. View all notes Proliferation through Rose-Colored Glasses The proliferation optimist position has a distinguished pedigree, and provides a useful rationale for actors interested in developing strategic deterrence with limited means, but it provides a weaker intellectual framework for comprehensively understanding the likely effects of nuclear proliferation on international politics. Scott Sagan and other contemporary proliferation pessimists have provided systematic and thoroughgoing critiques of the proliferation optimism position.31 31 Sagan and Waltz, The Spread of Nuclear Weapons. View all notes Sagan shows that the spread of nuclear weapons leads to greater levels of international instability because: states might conduct preventive strikes on the nuclear facilities of proliferant states, proliferant states might not take the necessary steps to build a secure, second-strike capability, and organizational pathologies within nuclear states could lead to accidental or inadvertent nuclear launch.32 32 Gavin, ‘The Ivory Tower-Policy Gap’. View all notes As Frank Gavin writes in his review of the optimism/pessimism debate, ‘The real problem, however, is that Sagan plays small ball in his debate with Waltz, conceding the big issues. Why not challenge Waltz on his core arguments about deterrence and stability?’33 33 Ibid., 597. View all notes Rather than repeat the substantial efforts of previous pessimists, therefore, I will take up Gavin’s challenge and focus on three big issues. In particular, this section maintains that proliferation optimists: present an oversimplified version of nuclear deterrence theory, follow a line of argumentation that contains an internal logical contradiction, and do not address the concerns of US foreign policymakers. First and foremost, proliferation optimists present an oversimplified view of nuclear deterrence theory. Optimists argue that since the advent of Mutually Assured Destruction (MAD), any nuclear war would mean national suicide and, therefore, no rational leader would ever choose to start one. Furthermore, they argue that the requirements for rationality are not high. Rather, leaders must value their own survival and the survival of their nation and understand that intentionally launching a nuclear war would threaten those values. Many analysts and policymakers attempt to challenge the optimists on their own turf and question whether the leaders of potential proliferant states are fully rational.34 34 For more, see Robert Litwak, Outlier States: American Strategies to Change, Contain, or Engage Regimes (Baltimore: Johns Hopkins 2012). View all notes Yet, these debates overlook the fact that, apart from the optimists, leading nuclear deterrence theorists believe that nuclear proliferation contributes to a real risk of nuclear war even in a situation of MAD among rational states.35 35 Robert Powell, ‘Nuclear Brinkmanship with Two-Sided Incomplete Information’, American Political Science Review 82/1 (1988), 155–78; Robert Powell, ‘Nuclear Deterrence and the Strategy of Limited Retaliation’, American Political Science Review 83/2 (1989), 503–19. View all notes Moreover, realizing that nuclear war is possible does not depend on peculiar beliefs about the possibility of escaping MAD.36 36 Charles Glaser, Analyzing Strategic Nuclear Policy (Princeton UP 1990). View all notes Rather, as we will discuss below, these theorists understand that some risk of nuclear war is necessary in order for deterrence to function. To be sure, in the 1940s, Viner, Brodie, and others argued that MAD rendered war among major powers obsolete, but nuclear deterrence theory soon advanced beyond that simple understanding.37 37 Brodie, The Absolute Weapon. View all notes After all, great power political competition does not end with nuclear weapons. And nuclear-armed states still seek to threaten nuclear-armed adversaries. States cannot credibly threaten to launch a suicidal nuclear war, but they still want to coerce their adversaries. This leads to a credibility problem: how can states credibly threaten a nuclear-armed opponent? Since the 1960s, academic nuclear deterrence theory has been devoted almost exclusively to answering this question.38 38 Robert Powell, Nuclear Deterrence Theory: The Search for Credibility (New York: Cambridge UP 1990). View all notes And their answers do not give us reasons to be optimistic. Thomas Schelling was the first to devise a rational means by which states can threaten nuclear-armed opponents.39 39 Thomas Schelling, Arms and Influence (New Haven, CT: Yale UP Press 1966). View all notes He argued that leaders cannot credibly threaten to intentionally launch a suicidal nuclear war, but they can make a ‘threat that leaves something to chance’.40 40 Ibid. View all notes They can engage in a process, the nuclear crisis, which increases the risk of nuclear war in an attempt to force a less resolved adversary to back down. As states escalate a nuclear crisis there is an increasing probability that the conflict will spiral out of control and result in an inadvertent or accidental nuclear exchange. As long as the benefit of winning the crisis is greater than the incremental increase in the risk of nuclear war, however, threats to escalate nuclear crises are inherently credible. In these games of nuclear brinkmanship, the state that is willing to run the greatest risk of nuclear war before backing down will win the crisis, as long as it does not end in catastrophe. It is for this reason that Thomas Schelling called great power politics in the nuclear era a ‘competition in risk taking’.41 41 Ibid. View all notes This does not mean that states eagerly bid up the risk of nuclear war. Rather, they face gut-wrenching decisions at each stage of the crisis. They can quit the crisis to avoid nuclear war, but only by ceding an important geopolitical issue to an opponent. Or they can the escalate the crisis in an attempt to prevail, but only at the risk of suffering a possible nuclear exchange. Since 1945 there were have been 20 high stakes nuclear crises in which ‘rational’ states like the United States run a frighteningly-real risk of nuclear war.42 42 Matthew Kroenig, ‘Nuclear Superiority and the Balance of Resolve’, International Organization 67/1 (2013) 141–71. View all notes By asking whether states can be deterred, therefore, proliferation optimists are asking the wrong question. The right question to ask is: what risk of nuclear war is a specific state willing to run against a particular opponent in a given crisis? Optimists are likely correct when they assert that a nuclear-armed Iran will not intentionally commit national suicide by launching a bolt-from-the-blue nuclear attack on the United States or Israel. This does not mean that Iran will never use nuclear weapons, however. Indeed, it is almost inconceivable to think that a nuclear-armed Iran would not, at some point, find itself in a crisis with another nuclear-armed power. It is also inconceivable that in those circumstances, Iran would not be willing to run some risk of nuclear war in order to achieve its objectives. If a nuclear-armed Iran and the United States or Israel were to have a geopolitical conflict in the future, over the internal politics of Syria, an Israeli conflict with Iran’s client Hizballah, the US presence in the Persian Gulf, shipping through the Strait of Hormuz, or some other issue, do we believe that Iran would immediately capitulate? Or is it possible that Iran would push back, possibly brandishing nuclear weapons in an attempt to coerce its adversaries? If the latter, there is a risk that proliferation to Iran could result in nuclear war and proliferation optimists are wrong to dismiss it out of hand. An optimist might counter that nuclear weapons will never be used, even in a crisis situation, because states have such a strong incentive, namely national survival, to ensure that nuclear weapons are not used. But this objection ignores the fact that leaders operate under competing pressures. Leaders in nuclear-armed states also have strong incentives to convince their adversaries that nuclear weapons might be used. Historically we have seen that leaders take actions in crises, such as placing nuclear weapons on high alert and delegating nuclear launch authority to low-level commanders, to purposely increase the risk of nuclear war in an attempt to force less-resolved opponents to back down. Moreover, not even the optimists’ first principles about the irrelevance of nuclear posture stand up to scrutiny. Not all nuclear wars would be equally devastating.43 43 See for example, Herman Kahn, On Thermonuclear War (New York: Greenwood Press 1978). View all notes Any nuclear exchange would have devastating consequences no doubt, but, if a crisis were to spiral out of control and result in nuclear war, any sane leader would rather face a country with five nuclear weapons than one with 5,000. Similarly, any sane leader would be willing to run a greater risk of nuclear war against the former state than against the latter. Indeed, scholars have demonstrated that states are willing to run greater risks and are, therefore, more likely to win nuclear crises when they enjoy nuclear superiority over their opponents.44 44 Kroenig, ‘Nuclear Superiority and the Balance of Resolve.’ View all notes Proliferation optimists might be correct that no rational leader would choose to launch a suicidal nuclear war, but, depending on the context, any sane leader would almost certainly be willing to risk one. Nuclear deterrence theorists have also proposed a second scenario under which rational leaders would be willing to instigate a nuclear exchange: limited nuclear war.45 45 Klaus Knorr Limited Strategic War (New York: Praeger 1962); Powell, ‘Nuclear Deterrence and the Strategy of Limited Retaliation’, 503–19. View all notes For example, by launching a single nuclear weapon against a small city, a nuclear-armed state could signal its willingness to escalate a crisis, while leaving its adversary with enough left to lose to deter the adversary from launching a full-scale nuclear response. In a future crisis between China and the United States, for example, China could choose to launch a nuclear strike on a US military base in East Asia to demonstrate its seriousness. In that situation, with the continental United States intact, would Washington choose to launch a full-scale nuclear war on China that could result in the destruction of many American cities? Or would it back down? China might decide to strike after calculating that Washington would prefer a humiliating retreat over a full-scale nuclear war. If launching a limited nuclear war could be a rational strategic move under certain circumstances, it then follows that the spread of nuclear weapons increases the risk of nuclear use. To be sure, some strategic thinkers, including Henry Kissinger, advocated limited nuclear war as a viable strategy only to recant the position later due to fears of uncontrollable escalation. Yet, this does not change the fact that leading nuclear deterrence theorists maintain that limited nuclear war is possible among rational leaders in a MAD world.46 46 Powell, ‘Nuclear Deterrence and the Strategy of Limited Retaliation’. View all notes In sum, proliferation optimists present an oversimplified conception of nuclear deterrence theory. Leading academic deterrence theorists maintain that the spread of nuclear weapons could lead to nuclear use in games of nuclear brinkmanship and through the exercise of limited nuclear options even among rational leaders in a situation of MAD. Indeed, they understand that a risk of nuclear war is necessary in order for nuclear deterrence to function, which leads us to our next point. The second weakness in the proliferation optimist argument is that it rests on an internal logical contradiction. This might come as a surprise to some, given that optimists are sometimes portrayed as hard-headed thinkers, following their premises to their logical conclusions. But, the contradiction at the heart of the optimist argument is glaring and simple to understand: either the probability of nuclear war is zero, or it is nonzero, but it cannot be both. If the probability of nuclear war is zero, then nuclear weapons should have no deterrent effect. States will not be deterred by a nuclear war that could never occur and states should be willing to intentionally launch large-scale conventional wars against nuclear-armed states. In this case, proliferation optimists cannot conclude that the spread of nuclear weapons is stabilizing. If, on the other hand, the probability of nuclear war is nonzero, then there is a real danger that the spread of nuclear weapons will result in a catastrophic nuclear war. In this case, proliferation optimists cannot conclude that nuclear weapons will never be used. This is true whether the risk of nuclear war is exogenous or endogenous to the behavior of the actors involved; the probability of nuclear war simply cannot be both zero and nonzero. In sum, either the spread of nuclear weapons raises the risk of nuclear war and, in so doing, deters large-scale conventional conflict. Or there is no danger that nuclear weapons will ever be used and the spread of nuclear weapons does not increase international stability. But, despite the claims of many proliferation optimists, it is nonsensical to argue that nuclear weapons will never be used and to simultaneously claim that their spread contributes to international stability. As was argued above, the most obvious way out of this dilemma is to concede that nuclear proliferation does indeed raise the risk of nuclear war. The third and final shortcoming of proliferation optimism is that it is not a useful guide for the formulation of US foreign policy. Optimists argue that US officials should not worry about the spread of nuclear weapons because new nuclear states can be deterred. Indeed, they argue that ‘more may be better’. In making these arguments, however, optimists confuse stability with the national interest. Optimists focus narrowly on whether the spread of nuclear weapons increases or decreases international stability, but policymakers must focus on how the spread of nuclear weapons affects a broad array of US interests. Even if the spread of nuclear weapons contributes to greater levels of international stability (and our above discussion suggests it might not) it does not necessarily follow that the spread of nuclear weapons is in the United States’, or any other state’s, interest. As we will discuss in much more detail in the following section, states have good reason to fear nuclear proliferation for many other reasons. US officials must worry about how the spread of nuclear weapons might: increase the risk of nuclear war, embolden the proliferant state, contribute to further proliferation, threaten the security of allies, put upward pressure on oil prices, constrain US military and political freedom of action, and detrimentally effect many other national goals. Moreover, increased international stability itself often runs counter to US interests. As I have argued elsewhere, one of the most consequential effects of nuclear proliferation is to constrain the freedom of action of the militarily most powerful states.47 47 Matthew Kroenig, Exporting the Bomb: Technology Transfer and the Spread of Nuclear Weapons (Ithaca, NY: Cornell UP 2010). View all notes Stability resulting from mutual nuclear deterrence means that more often than not, it will be the United States that will be deterred. If stability is obtained only because Washington is deterred from using force against an adversary in a situation where using force could advance national goals, stability harms, rather than advances, US national interests. US officials have publicly discussed the possibility of using force against Iran in various contingencies, but the United States would be less willing to use force against a nuclear-armed Iran. Optimists might counter that this point only reinforces their argument about proliferation leading to stability. Indeed, they are correct that proliferation would likely induce caution in US leaders. This point does not in any way undermine, however, the above critiques. Nuclear proliferation that constrains the United States would necessarily be accompanied by an increased risk of nuclear war. In addition, and more germane to this section, optimists are wrong to conclude that the United States should not worry about the spread of nuclear weapons because it contributes to stability. Rather, the United States has good reason to oppose nuclear proliferation for precisely this reason. In short, the optimists have brought an important perspective to the nonproliferation debate. Their arguments are provocative and they raise the bar for those who wish to argue that the spread of nuclear weapons is a problem. Nevertheless, their counterintuitive arguments are plagued by an under appreciation of the nuances of nuclear deterrence theory, a glaring logical contradiction, and a failure to address the concerns of US policymakers. Proliferation optimism, therefore, falls well short of a coherent intellectual framework and it cannot wish away the enormous security challenges posed by the spread of the world’s most dangerous weapons. These myriad threats will be considered in the next section. Why Nuclear Proliferation Is a Problem The spread of nuclear weapons poses at least six severe threats to international peace and security including: nuclear war, nuclear terrorism, global and regional instability, constrained US freedom of action, weakened alliances, and further nuclear proliferation. Each of these threats has received extensive treatment elsewhere and this review is not intended to replicate or even necessarily to improve upon these previous efforts. Rather the goals of this section are more modest: to usefully bring together and recap the many reasons why we should be pessimistic about the likely consequences of nuclear proliferation. Many of these threats will be illuminated with a discussion of a case of much contemporary concern: Iran’s advanced nuclear program. Nuclear War The greatest threat posed by the spread of nuclear weapons is nuclear war. The more states in possession of nuclear weapons, the greater the probability that somewhere, someday, there will be a catastrophic nuclear war. To date, nuclear weapons have only been used in warfare once. In 1945, the United States used nuclear weapons on Hiroshima and Nagasaki, bringing World War II to a close. Many analysts point to the 65-plus-year tradition of nuclear non-use as evidence that nuclear weapons are unusable, but it would be naïve to think that nuclear weapons will never be used again simply because they have not been used for some time. After all, analysts in the 1990s argued that worldwide economic downturns like the Great Depression were a thing of the past, only to be surprised by the dot-com bubble bursting later in the decade and the Great Recession of the late 2000s.48 48 Steven Weber, ‘The End of the Business Cycle?’, Foreign Affairs 76/4 (July/Aug. 1997), 65–82. View all notes This author, for one, would be surprised if nuclear weapons are not used again sometime in his lifetime. Before reaching a state of MAD, new nuclear states go through a transition period in which they lack a secure-second strike capability. In this context, one or both states might believe that it has an incentive to use nuclear weapons first. For example, if Iran acquires nuclear weapons, neither Iran, nor its nuclear-armed rival, Israel, will have a secure, second-strike capability. Even though it is believed to have a large arsenal, given its small size and lack of strategic depth, Israel might not be confident that it could absorb a nuclear strike and respond with a devastating counterstrike. Similarly, Iran might eventually be able to build a large and survivable nuclear arsenal, but, when it first crosses the nuclear threshold, Tehran will have a small and vulnerable nuclear force. In these pre-MAD situations, there are at least three ways that nuclear war could occur. First, the state with the nuclear advantage might believe it has a splendid first strike capability. In a crisis, Israel might, therefore, decide to launch a preventive nuclear strike to disarm Iran’s nuclear capabilities. Indeed, this incentive might be further increased by Israel’s aggressive strategic culture that emphasizes preemptive action. Second, the state with a small and vulnerable nuclear arsenal, in this case Iran, might feel use them or lose them pressures. That is, in a crisis, Iran might decide to strike first rather than risk having its entire nuclear arsenal destroyed. Third, as Thomas Schelling has argued, nuclear war could result due to the reciprocal fear of surprise attack.49 49 Thomas Schelling, ‘Reciprocal Fear of Surprise Attack’, (Santa Monica, CA: RAND Paper 1958). View all notes If there are advantages to striking first, one state might start a nuclear war in the belief that war is inevitable and that it would be better to go first than to go second. Fortunately, there is no historic evidence of this dynamic occurring in a nuclear context, but it is still possible. In an Israeli–Iranian crisis, for example, Israel and Iran might both prefer to avoid a nuclear war, but decide to strike first rather than suffer a devastating first attack from an opponent. Even in a world of MAD, however, when both sides have secure, second-strike capabilities, there is still a risk of nuclear war. Rational deterrence theory assumes nuclear-armed states are governed by rational leaders who would not intentionally launch a suicidal nuclear war. This assumption appears to have applied to past and current nuclear powers, but there is no guarantee that it will continue to hold in the future. Iran’s theocratic government, despite its inflammatory rhetoric, has followed a fairly pragmatic foreign policy since 1979, but it contains leaders who hold millenarian religious worldviews and could one day ascend to power. We cannot rule out the possibility that, as nuclear weapons continue to spread, some leader somewhere will choose to launch a nuclear war, knowing full well that it could result in self-destruction. One does not need to resort to irrationality, however, to imagine nuclear war under MAD. Nuclear weapons may deter leaders from intentionally launching full-scale wars, but they do not mean the end of international politics. As was discussed above, nuclear-armed states still have conflicts of interest and leaders still seek to coerce nuclear-armed adversaries. Leaders might, therefore, choose to launch a limited nuclear war.50 50 Knorr, Limited Strategic War. View all notes This strategy might be especially attractive to states in a position of conventional inferiority that might have an incentive to escalate a crisis quickly to the nuclear level. During the Cold War, the United States planned to use nuclear weapons first to stop a Soviet invasion of Western Europe given NATO’s conventional inferiority.51 51 Of course there is no guarantee that Washington would have used nuclear weapons as planned in the event of actual conflict. It should be noted that US nuclear threats were intended not only to deter the Soviet Union, but also to reassure NATO partners and dissuade them from seeking independent nuclear forces. View all notes As Russia’s conventional power has deteriorated since the end of the Cold War, Moscow has come to rely more heavily on nuclear weapons in its military doctrine. Indeed, Russian strategy calls for the use of nuclear weapons early in a conflict (something that most Western strategists would consider to be escalatory) as a way to de-escalate a crisis. Similarly, Pakistan’s military plans for nuclear use in the event of an invasion from conventionally stronger India. And finally, Chinese generals openly talk about the possibility of nuclear use against a US superpower in a possible East Asia contingency. Second, as was also discussed above, leaders can make a ‘threat that leaves something to chance’.52 52 Schelling, Arms and Influence. View all notes They can initiate a nuclear crisis. By playing these risky games of nuclear brinkmanship, states can increase the risk of nuclear war in an attempt to force a less resolved adversary to back down. Historical crises have not resulted in nuclear war, but many of them, including the 1962 Cuban Missile Crisis, have come close. And scholars have documented historical incidents when accidents nearly led to war.53 53 Scott Sagan, The Limits of Safety: Organizations, Accidents, and Nuclear Weapons (Princeton UP 1993). View all notes When we think about future nuclear crisis dyads, such as Iran and Israel, with fewer sources of stability than existed during the Cold War, we can see that there is a real risk that a future crisis could result in a devastating nuclear exchange.

## T – Industry-Wide

#### Counterinterp – “Expand the scope” means broadening the range of claims that can be brought

Barrera 96 – J.D., Wayne State University Law School

Lise A. Barrera, “Is the Courtroom the New Front for the Resolution of Publishing Disputes?,” The Wayne Law Review, Vol. 42, Summer 1996, LexisNexis

It is important to note the distinction between the expansion of the scope of section 43(a) and the standard that courts apply in granting relief to claims under this section. The scope of section 43(a) allows plaintiffs to claim the section provides them with protection and thus should grant them relief. The expansion of the scope allows a much broader range of claims to be brought legitimately under section 43(a). Once the scope of the statute allows the claim to be brought, the courts apply a standard to the claim in order to determine whether a plaintiff should be granted relief.22 The standard applied is also the product of years of judicial interpretation. While the scope of section 43(a) is expanding, however, the standard for relief seems to be becoming higher and harder to meet.

## T - Prohibit

#### Plan creates liability for activity not currently prohibited

Marmaro 21 – JD, Columbia

Morgan Marmaro, Editor-in-Chief, Colum. J.L. & Soc. Probs, Law Clerk, Freshfields Bruckhaus & Deringer LLP, JD-Columbia, 54 Colum. J.L. & Soc. Probs 169, <http://blogs2.law.columbia.edu/jlsp/wp-content/uploads/sites/8/2021/02/Volume-54-Marmaro.pdf>

A class action, In re Humira (Adalimumab) Antitrust Litiga-tion,46 alleges that AbbVie’s multiple agreements are actually mar-ket allocating agreements and settlements qualifying as reverse payments. As of this writing, the In re Humira litigation is under-going appeal after a district court ruled in favor of AbbVie, noting that while the behaviors seem unsavory, they were legal “exploited advantages” derived from the current regulatory system.47 The court went further astray, finding that the agreements were not anticompetitive, and in contradiction with Actavis’s rejection of the scope of the patent doctrine, did so by relying upon the alleged strength of AbbVie’s Humira patents.48 But neither the parties nor the Court in In re Humira questioned the basic application of Ac-tavis to the agreements in this case. Though the In re Humira district court dismissed the case in favor of defendants,49 this Note argues that the In re Humira district court was correct to engage in an Actavis analysis but did so incorrectly.

[FN 47]

47. Id. at 819 (“The legal and regulatory backdrop for patented biologic drugs, together with a well-resourced litigation strategy, gave AbbVie the ability to maintain control over Humira. Plaintiffs say that AbbVie’s plan to extend its power over Humira amounts to a scheme to violate federal and state antitrust laws. But what plaintiffs describe is not an antitrust violation. AbbVie has exploited advantages conferred on it through lawful practices and to the extent this has kept prices high for Humira, existing antitrust doctrine does not prohibit it.”).

#### Increase is to make greater

Merriam Webster, No Date

https://www.merriam-webster.com/dictionary/increase

Definition of increase (Entry 1 of 2)

intransitive verb

1: to become progressively greater (as in size, amount, number, or intensity)

2: to multiply by the production of young

transitive verb

1: to make greater : AUGMENT

2obsolete : ENRICH

#### Prohibitions are implemented via legal tests—the threshold of the test determines how much or how little conduct is prohibited

Mark S. Popofsky, Antitrust Partner at Ropes and Gray, Served as Senior Counsel to DOJ Antitrust Division, Adjunct Professor of Advanced Antitrust Law and Economics at Harvard Law School and the Georgetown University Law Center, 2016, Section 2 and the Rule of Reason: Report from the Front, CPI Antitrust Chronicle March 2016 (1)

Courts remain, in the words of one observer, mired in an “exclusionary conduct ‘definition’ war.”2 Applying Section 2’s broad prohibition on “monopolizing” conduct requires courts to select a governing legal test. Section 2 legal tests run the spectrum from rules of per se legality to rules of near per se illegality.3 Courts, nonetheless, largely apply two dominant paradigms. The first consists of legal tests based on bright-line rules or safe harbors. Familiar examples include the Brooke Group4 below-cost price test for analyzing predatory pricing claims and the Aspen/Trinko5 “profit sacrifice” test for refusals to deal. Developing bright-line rules for Section 2, proponents argue, promotes business certainty and reduces the risk of chilling otherwise procompetitive conduct. The second paradigm is rule of reason balancing. Arguably the default Section 2 legal test,6 courts and commentators have described Section 2’s rule of reason in various ways: as mandating a step-wise approach, as requiring a balancing of pro- and anticompetitive effects, or (to borrow from Section 1) a framework for generating the enquiry “meet for the case.”7 However the rule of reason is expressed, its champions contend, its flexibility and fact-intensive approach permits courts to identify anticompetitive conduct without the under-inclusion that is an admitted feature of safe harbors and other bright-line rules.

## FTC CP

#### CP fails—courts reject section 5 assertions

Crane, Professor of Law, University of Michigan, ‘10

(Daniel, “Reflections on Section 5 of the FTC Act and the FTC's Case Against Intel,” Competition Pol'y Int'l Antitrust Chron. 2, no. 2)

In recent years, the Commission has frequently tied itself to the Sherman Act.11 Why would it choose to accept that baggage? Of late, the FTC has been shell-shocked by its treatment in the courts when it has invoked an independent Section 5. There is a wide gulf between the theoretical availability of an expansive Section 5 and actual judicial affirmation of FTC decisions to enjoin behavior that would not violate the Sherman Act. The courts have frequently quashed the FTC’s efforts to develop an independent Section 5, even while paying lip service to the independence principle.12 As Bill Kovacic remarked during his opening comments at the FTC’s October 2008 workshop on the meaning of Section 5, it is difficult to find even ten successfully litigated Section 5 antitrust cases over the Commission’s nearly hundred-year history.13

The reason is institutional. Courts tend to be jealous of their jurisdiction. To cite a venerable precedent to which we will return at end, courts are loathe to abandon their prerogative “to say what the law is.”14 In an early decision—subsequently overruled but never quite forgotten—the Supreme Court applied a Marbury v. Madison thematic to the FTC: “The words ‘unfair competition’ are not defined by the statute and their exact meaning is in dispute. It is for the courts, not the commission, ultimately to determine as a matter of law what they include.”15 Courts are wary of agency assertions that the agency should be accorded independent space to develop legal norms. As Bob Pitofsky has explained, a construction of Section 5 that would make the same behavior lawful at the Department of Justice and unlawful at the FTC is “untenable.”16

So this is where we are today: Legal doctrine theoretically allows space for an independent Section 5 and there are good policy reasons for some movement away from the constraints of the Sherman Act, but great care needs to be taken in the formulation of a “separation strategy.” It simply will not do for the FTC to declare independence from the Sherman Act and then proceed to formulate its own antitrust policy.17 As Commissioner Rosch recognizes in his statement dissenting from the Commission’s decision to bring an independent Sherman Act Section 2 “tag-along” action, the Commission must not merely assert independence from the Sherman Act, but explain the principles that justify departure from Sherman Act norms in each relevant case.18 A “just trust us, we’re the FTC,” strategy has no chance of success in the courts.

#### Perm do the CP

Landman 99 – B.A., M.B.A., J.D. Fellow, Roskilde University,

Lawrence B. Landman, “Innovation and the Structure of Competition: Future Markets in European and American Law; Part III,” Journal of the Patent and Trademark Office Society, Vol. 81, 1999, LexisNexis

National Cooperative Research and Production Act, supra note 12, § 4302. "The antitrust laws," as Congress defines them in the Act, include the Sherman Act, the Clayton Act, and the Federal Trade Commission Act. See id. § 4301 (a)(1); and S. Rep., supra note 67, § 1. The statute therefore does not say that the agencies may only find innovation markets when determining if a transaction violates § 7 of the Clayton Act. The NCRPA simply incorporates innovation markets into the rule of reason. The agencies and courts apply the rule of reason when determining whether transactions violate the Clayton Act, the Sherman Act, and Federal Trade Commission Act. Implicitly, therefore, the NCRPA also allows the agencies to find innovation markets when determining if a joint venture violates the Sherman Act or Federal Trade Commission Act.

#### Undermines legal clarity

Pitofsky, 54th Chairman of the Federal Trade Commission, Professor of Law at the Georgetown University Law Center, ‘08

(Bob, FTC Workshop, Remarks of Robert Pitofsky, Official Transcript at 64-65, https://www.ftc.gov/sites/default/files/documents/public\_events/section-5-ftc-act-competition-statute/transcript.pdf)

Second, there are three Supreme Court cases that say unfairness means something besides beyond the Sherman and the Clayton Act -- Sperry, Indiana Federation, Brown Shoe -- and I don=t think that we ought to just ignore three Supreme Court cases.

On the other hand, I believe one must be very, very cautious about using Section 5. It is not a roving mandate to the Commission to go around doing good from an antitrust point of view. Why? Because the private sector has to have an idea of what the law is and it’s just not fair to interpret unfairness in unpredictable ways.

Second, it produces a situation in which behavior that’s illegal at the FTC is legal at the DoJ. I think that’s untenable. Especially if Congress has rejected the particular unfairness idea that the Commission is advocating, I think that’s untenable. And, most important, I think if the Commission gets very aggressive about unfairness it will lose its hard earned reputation of being careful, balanced, active. I think the Commission is in a better state today, in terms of Congress’s views of the agency and published views of the agency, than at almost any time -- and I think abusing unfairness is the way to lose that position.

## Cap K

#### Our political economy is better – sweeping rejection destroys progress and innovation, but aff avoids the totalizing defense of neolib the K is about

Coniglio, antitrust attorney in the Washington, DC office of Sidley Austin LLP, ‘20

(Joseph V., “Economizing the Totalitarian Temptation: A Risk-Averse Liberal Realism for Political Economy and Competition Policy in a Post-Neoliberal Society,” 59 Santa Clara L. Rev. 703)

The implication of the foregoing is that the most pressing task for competition policymakers may not involve a rethinking of first principles. The principles of neoliberal competition policy may have ultimately been proven justified by an unprecedented period of economic growth, technological progress and reductions in poverty, and should presumably remain operative as long as they remain the best framework for bringing about these ends. Neither, as we have suggested, must the capitalist entrepreneur be lost in the process. The totalitarian temptation to submit to general state control of the economy-whether it be in the form of communism from below or fascism from above should be resisted so as to preserve and build upon the great prosperity Western Civilization has managed to achieve.

This statement will no doubt be highly unsatisfactory to many critics of neoliberalism who seek more fundamental and revolutionary changes. Surely, they suggest, there must be some principled basis for critiquing the neoliberal status quo with which so many are frustrated. Indeed, there very well may be, and none of the arguments in this article should be understood to the contrary. The goal of this article has been limited to a tailored defense of neoliberal principles only as they relate to competition policy, broadly understood. It does not suggest that neoliberal monetary, trade, and fiscal policies are also sound-let alone a neoliberal social order, where all the core institutions within society are organized according to the neoliberal principles of wealthmaximization, empiricism, and the rest.129 This is to say that even if neoliberalism is a sound theory as applied to the area of competition policy, neoliberal monetary policy, for example, may be problematic and a just target for contemporary critics. Similarly, claiming that competition policy should be enforced using a consumer welfare standard does not mean that all the organs of law and civil society should be oriented to maximize wealth or consumer welfare, even if this economic inquiry is nonetheless informative. 30 It is well known that several prominent neoliberals have expanded the neoliberal policy apparatus beyond the regulation of market capitalism with which antitrust is concerned to domains typically understood to be beyond a purely utilitarian purview.' 3 ' However, whatever the merits of these broader neoliberal policy programs, the competition policy baby, so to speak, should not be thrown out with the bathwater.

Consider the charge that neoliberal policies have increased wealth inequality in the United States. Some commentators attempt to link this increased inequality with a decline in competition'3 2 and, by implication, consumer welfare competition policy. Notwithstanding the interest such theories appeared to have garnered from highly distinguished economists and policymakers, such as Nobel Laureate Joe Stiglitz,133 one might alternatively consider whether increasing wealth inequality and the resultant social strife are far more a result of policies in other areas, such as monetary policy. 134 At the same time as Chicago School antitrust policy took root, the American economy began to undergo sustained expansions in the money supply and reductions in interest rates that, at least in theory, disproportionately reward the owners of financial assets, who are more likely to be wealthy. 135

#### Only market incentives produce truly innovative technology – state planning can give you a lab but it cannot fiat the formula for new biologics or figure out which ones are needed

Janeway, board of directors of the U.S. Social Science Research Council and co-founder of the Institute for New Economic Thinking, ‘12

(William, Doing Capitalism in the Innovation Economy, pg. 273-277)

All of the stages of development are dependent to some degree on speculative forays into the unknown. None lends itself to optimal management in accord with a strict accounting of expected returns relative to costs incurred, whether conducted by a central planner or an established, profit-making enterprise. When scientific advance was funded by the profits of the great corporations through the first half of the twentieth century, the costs of the central research labs could no more be rationalized by the calculus of prospective financial returns than could the costs of the National Science Foundation (NSF) or the Defense Advanced Research Projects Agency (DARPA) or the National Institutes of Health (NIH) – which is why they were all required to shift resources toward explicitly applied research and development when profits came under pressure. Thus, the prime and critical constituent elements of the Innovation Economy are sources of funding decoupled from concern for economic return. This is clearly so with respect to the unfettered pursuit of scientific curiosity, but support for such research may be fully available from the state only during transient moments of national self-confidence when economic competition seems least threatening. Perversely, investment in scientific research is likely to be challenged as the nation’s competitive position weakens. So the Haldane principle, invoked in Britain to defend the autonomy of scientific research from political pressures, dates back to the First World War, when the sun still did not set on the British Empire. It was radically revised by the Rothschild Report in post-Empire 1971 to draw a bright line between pure and applied research and to subject the latter to the test of a customer–contractor relationship.3 In the United States, Vannevar Bush’s vision of public investment in science transcended near-term considerations of return, economic or political. Two generations later, the NIH and NSF are collaborating under the tortuous acronym STAR METRICS – “Science and Technology for America’s Reinvestment: Measuring the Effects of Research on Innovation, Competitiveness and Science” – in response to “increasing pressure to document the results of … research investments in a scientific manner and to quantify how much of the work is linked to innovation.”4 The attempt to manage scientific research in narrow pursuit of “value for money” can be expected to reduce its potential for creative exploration of the unknown. As I learned from my engagement with computing, the state has directly and indirectly accelerated construction of technology platforms to support the speculative exploits of entrepreneurs and the capitalists who finance them. Financial bubbles, in which returns are decoupled from the economic fundamentals, are the complementary engine of Schumpeterian waste. There are some examples of efficient deployment of new technological infrastructure: the construction of the French railroad system under state direction *was a model* of engineering efficiency and proceeded pari passu with the railroad systems in Britain and the United States, but without their duplicative waste. But, regardless of how potentially revolutionary networks have been planned, their financing has exploited the essential and inevitable herding behavior of investors. And, for the final phase of the Innovation Economy, there is no substitute for the speculative wastefulness of financial markets and the proliferation of hosts of hopeful commercial monsters funded thereby to explore the new economic space. When the great technology corporations were still funding basic research in their central labs, their monopoly positions in the markets they served inhibited their ability to exploit the technologies derived therefrom. Three times I directly observed signal examples of such failure. During the 1980s, I witnessed repeated instances of “fumbling the future” at Xerox when none of the innovations delivered by PARC could measure up to the profits of the entrenched, patent-protected copier business.5 Like all investors in the birth of client–server computing, I was an indirect beneficiary of AT&T’s failure to capitalize on the extraordinary information technologies created within its Unix Systems Laboratory. And at BEA, I was both the direct beneficiary of AT&T’s invention of Tuxedo and, in equal measure, of IBM’s inability to sacrifice the profits from its proprietary products to compete directly in the new world of open and distributed computing. Joseph Schumpeter expressed the view that large firms have an inherent advantage in innovation relative to smaller enterprises.6 But, as Josh Lerner summarizes the experience of the biotech and internet revolutions: “The enabling technologies were developed with government funds at academic institutions and research laboratories. It was the small entrants … who first seized upon the commercial opportunities.”7 In defiance of Schumpeter’s expectation, economic innovation has not been effectively bureaucratized by the great corporations. Rather, it tends to be delivered by new companies. But funding those new companies depends on access to financiers who have access to financial markets prone to speculative excess. This is the lesson both of my professional life as a practitioner and of my research into the sources of venture capital returns. And it is a lesson drawn not only from the most recent iteration of the Innovation Economy or from the long-term development of the British and American economies. Even in the bank-based industrial economies of Germany and Japan, the stock exchange played a critical role in funding aggressive investment in frontier technologies during their initial high-growth decades of the late nineteenth and early twentieth centuries.8 The vast expansion of the German and Japanese banking systems took place to finance post-Second World War recovery, precisely when innovation was a distraction from the defined task of literally reconstructing the physical assets of the economy. The most recent new economy – the digital economy in whose development I have passed my professional career – was built through the combined forces of state funding of research and speculative financing of the companies created to transform the fruits of research into commercial goods and services. But the discrediting of LBJ’s Great Society in the context of Vietnam, followed by the stagflation of the 1970s, opened the door to the return of market fundamentalism as a constraint on state initiatives.

#### The “imminent collapse unless alt” narrative is wrong—enough time to address existential risk without discarding capitalism

Wade, Professor of Global Political Economy at the Department of International Development, London School of Economics, ‘21

(Robert H., “What is the Harm in Forecasting Catastrophe due to Man-Made Global Warming?” July 22, <https://www.globalpolicyjournal.com/blog/22/07/2021/what-harm-forecasting-catastrophe-due-man-made-global-warming>)

When parts of western Germany, Belgium and Netherlands have just experienced catastrophic floods and the Pacific northwest has recently broken heat records, it is counter-intuitive to challenge the prevailing pessimism about global warming – captured for example by the Financial Times columnist Martin Wolf who says, “Given this signal failure [to vaccinate against Covid in line with the global interest], it is impossible to imagine we will do much more than fiddle while the planet burns.”

The danger of this mindset is that it encourages inflation of the threat-language far beyond the credible science, so that the future cannot be discussed except in terms of a choice between “disaster”, “catastrophe”, “planetary extinction” on the one hand or impossibly fast reforms to how humanity lives, works and governs, on the other.

Every sensible person agrees that (1) global warming has been happening over most of the second half of the twentieth century and on into the twenty first, and (2) most of it to date is due to greenhouse gas emissions. What could be called the “mainstream view” of climate change goes much further, onto uncertain epistemological ground: (3) man-made global warming is the main cause of all kinds of disagreeable events – including extreme weather, rising seas, and much more; (4) humanity faces impending catastrophe unless we undertake far-reaching changes to how we live, work and govern in order to cut CO2 emissions and dematerialize economies (“net zero by 2050”).

This essay identifies some of the weaknesses in the evidence presented in support of the mainstream view, including weaknesses in the claim that 97% of climate scientists believe in anthropogenic global warming, in the claim that global temperatures will rise much faster than they have been rising, and in the (implicit) claim that the horrifying worst-case scenario presented by the Intergovernmental Panel on Climate Change represents the likely scenario to 2100 in the absence of radical actions starting now. It identifies the incentive mechanisms that produce the exaggerations and sustain wide credence in them. At the end it considers the question: does highlighting the doomsday exaggerations serve to reduce the political and public pressures for necessary ameliorative action, in a world where powerful fossil lobbies seek to block or delay such action for reasons independent of “evidence”? To what extent must mass publics be “panicked” in order to induce enough collective political, business and family action to substantially slow the growth of greenhouse gas emissions?

Policy Recommendations

Every sensible person agrees that (1) global warming has been happening over most of the second half of the twentieth century and on into the twenty first, and (2) most of it to date is due to greenhouse gas emissions.

But too much policy discussion about global warming is polarized and locked into a “syndrome of exaggeration”. The mainstream view talks of coming disaster, catastrophe, even extinction, short of urgent and massive action on a global scale. But it is easy to question the empirical basis of this forecast – not least the long history of repeated wild exaggerations of disaster relative to what later transpired. In response an active but small “sceptical” community exaggerates its scepticism. The two sides make a syndrome in that the behaviour of each confirms the negative expectations of the other.

What is now strangely urgent is to calm down the present climate hysteria so that safety-first resource allocation and consumption decisions can be made without “climate” being the touchstone of the very future of humanity, the current idol of the ancient human longing for Salvation in anxious times, the pathway for all the ingredients of a better world.

The essay suggests changes in the budget and mandate of the Intergovernmental Panel on Climate Change; more action by learned societies in calling to account the wild exaggerators; beefing up the Loss and Damage pillar of the Paris Agreement; boosting investment in “clean coal” technologies as well as renewables, and linking coal-power retirement to the coming on stream of attractive alternatives; creating central planning capacity at national and international levels (eg in multilateral development banks) to integrate investment decisions in energy, transport, buildings, industry and agriculture; and last but not least, respecting the principle of free speech while maintaining the standards of civil discourse.

Every sensible person agrees that (1) global warming has been happening over most of the second half of the twentieth century and on into the twenty first, and (2) most of it to date is due to greenhouse gas emissions. Many go on to say that (3) global warming is the cause of all kinds of disagreeable events – including extreme weather, rising seas, and much more; and that (4) humanity faces impending catastrophe short of far-reaching changes to how we live, work and govern in order to cut CO2 emissions and dematerialize economies. This could now be described – with only a little exaggeration – as the mainstream view.

The Impending Catastrophe

Here are examples of people and organizations claiming that catastrophe for humanity and the biosphere lies ahead if the people of developed and developing countries alike do not make radical changes soon.

The New York Times reported after the G7 Summit in June 2021 that “Mr Biden was once again part of a unanimous consensus that the world needs to take drastic action to prevent a climate disaster”. The report explains that “… the world needs to urgently cut emissions if it has any chance of keeping average global temperatures from rising above 1.5C compared with preindustrial levels. That’s the threshold beyond which experts say the planet will experience catastrophic, irreversible damage.”

US climate envoy John Kerry delivered a dire warning on 12 May 2021 on “the mounting costs … of global warming and of a more volatile climate”. 2020’s tally of “22 hurricanes, floods, droughts and wildfires shattered the previous annual record of 16 such events, and that was set only 4 years ago…. You don’t have to be a scientist to begin to feel that we’re looking at a trend line.”

Christiana Figueres, former executive secretary of the UN Framework Convention on Climate Change and pivotal figure in the Paris Agreement, declared in 2020, “It is only over the next 10 years from here to 2030 that we can influence what is going to happen. The scary thing is that after 2030 it basically doesn’t really matter what humans do. We will be in danger of those tipping points having a domino effect on each other and we will lose total control.” (1)

Some more examples:

Kevin Drun, 2019: “[The Green New Deal] would only change the dates for planetary suicide by a decade or so. It’s nowhere near enough even if we do it ”.

Professor Frank Fenner, microbiologist, ANU, 2010: “We’re going to become extinct. Whatever we do now is too late”

John Davies, geophysicist, senior researcher at the Cold Climate Housing Research Center, 2014: “With business as usual life on earth is largely doomed”.

James Hansen, former Director, NASA Goddard Institute for Space Studies, testifying at a Congressional hearing on global warming in 2008: “We’re toast if we don’t get on to a very different path. This is the last chance” to avoid mass extinctions, ecosystem collapse and dramatic sea level rises. “We [scientists] see a tipping point occurring right before our eyes. The Arctic is the first tipping point and it’s occurring exactly the way we said it would.” In five to 10 years [by 2013-2018], the Arctic will be free of ice in the summer.

James Hansen, testimony at Congressional hearing, 1988: “world's leading climate expert [Hansen] predicts lower Manhattan underwater by 2018”

Dr Michael Mann, Penn State: “We’re talking about literally giving up on our coastal cities of the world and moving inland”

United Nations Environment Programme, 2005: “Fifty million climate refugees by 2010.” (2)

United Nations Environment Programme, 2011: “60 million environmental refugees by 2020”

The Guardian carried a front-page story in 2004 headlined, “Now the Pentagon tells Bush: climate change will destroy us”. The by-line reads: “Secret report warns of rioting and nuclear war. Britain will be ‘Siberian’ in less than 20 years. Threat to the world is greater than terrorism”. The text continues, “A secret report, suppressed by US defence chiefs…, warns that major European cities will be sunk beneath rising seas as Britain is plunged into a ‘Siberian’ climate by 2020. Nuclear conflict, mega-droughts, famine and widespread rioting will erupt across the world.” (Emphases added).

Remember that in the 1960s and 1970s many experts forecast an immanent Ice Age. For example, 1970: “Ice age by 2000”. 1971: “New Ice Age coming by 2020 or 2030.” 1976: “Scientific consensus planet cooling famines imminent”. 1978: “No end in sight to 30 year cooling trend”.

The Climate Change Consensus

The diagnoses and prescriptions in the above statements express an underlying consensus.

Human actions (mainly burning fossil fuels and changing land use) are causing rising concentration of atmospheric CO2 (and other greenhouse gases, GHG),

Rises in man-made GHG are causing rising global temperatures in atmosphere and seas, and

This temperature rise poses not just a serious threat to humanity and the whole biosphere, but an existential threat.

In other words, the existence of humans and many other species is at stake if we do not succeed in drastically cutting CO2 emissions as the way to reduce the atmospheric concentration of GHG and thereby slow or reverse the rise in global temperature. In the oft used phrase, humanity faces an “existential crisis” induced by climate change caused by human actions. Implied but not normally stated, there are no benefits from higher concentrations of CO2 or higher temperature to be weighed against costs. Also implied but not normally stated, we must act to stop climate change regardless of cost, because the costs might include deep disruption of human civilization or even extinction.

We have to think of avoiding climate change as the global equivalent of avoiding explosions at nuclear power plants (Chernobyl, Fukushima). We invest heavily in safety-first measures in order to reduce the probability of a nuclear explosion to a very low level because the costs of a nuclear explosion are so huge. The same logic applies at the level of climate, in terms of the costs of average temperature rising by more than ~ 1.5 C from “pre-industrial”.

This is the Anthropogenic Global Warming Consensus, or Climate Change Consensus (CCC) for short. I use “consensus” in the same sense as “the Washington Consensus” about best policy for developing countries, the phrase coined by John Williamson in 1990.

The CCC is now well anchored into international agreements (such as the Paris Declaration), national policy, and increasingly corporate strategy too. The periodic Assessment Reports of the Intergovernmental Panel on Climate Change (IPCC) reaffirm it, particularly in the Summary for Policymakers. Financial Times journalist Pilita Clark observed, “The world has rarely seen any environmental idea take off like the push to cut greenhouse gas emissions to net zero. A fringe concept six years ago, it has gone mainstream so quickly that more than 60 percent of countries now have some sort of net zero goal, along with investors managing nearly $37tn and at least 20 percent of the 2,000 largest publicly listed companies. The International Energy Agency [IEA] warns in a striking net zero report today that all new oil, gas and coal projects and exploration must stop if global warming is to stay below 1.5C.”

Scientific support comes from the fact that 97% of climate scientists agree that man-made greenhouse gases have been responsible for “most” of the warming of the Earth’s average temperature over the second half of the twentieth century. The 3% who are sceptical are not highly regarded scientists and some are in the pay of fossil fuel interests.

In the face of this scientific, interstate, and corporate agreement about the necessity of a global Big Push to cut CO2 emissions fast, developing countries and China carry a heavy responsibility, because they are the major source of global CO2 emissions, mainly from their consumption of fossil fuels. They must quickly follow the developed countries in investing on a massive scale in sources of renewable energy, whose prices are falling fast. Developed countries will offer large-scale financing and technical assistance for them to make the switch – in the developed countries’ self-interest.

It is true that developed countries put up most of the stock of greenhouse gases now in the atmosphere as they used fossil fuels to power their ascent to the top of the global hierarchy of income and wealth over the past two centuries. But that gives developing countries, even though they remain well down the income hierarchy, no justification for saying that they therefore have the right to carbon space for powering their economic development – because continuing to use relatively accessible, cheap and reliable fossil-fuel energy to power their growth pushes all humanity and the biosphere towards ruin.

Do Virtually all Climate Scientists Agree with the CCC?

It is widely cited that “97% of climate scientists agree warming is man-made”; or more exactly, “97% of science papers taking a position on climate change say it is man-made”. The conclusion is frequently amped up to “a 97% consensus that ‘humans are causing a global warming crisis’”.

Note that this last statement – with “crisis” – is not the same as the previous two, but all three statements tend to be conflated, so that people agreeing with “most recent warming is man-made” tend to be scored as agreeing that global warming is a crisis, which commonly gets inflated into agreeing that it is an existential crisis or the existential crisis.

Note that these statements of “consensus” do not specify the time period.

Note also that “high consensus” in science is only a weak criterion of “truth” in science – but the 97% figure is often deployed as evidence of the “truth” that warming is man-made. Of course, it is worth knowing to what extent there are “widely accepted truths” in any field. But problems come when the “fact” of consensus is established in a clearly tendentious way.

A standard source of the claim that 97% of climate scientists agree that global warming is man-made is the study by John Cook et al. (2013). The study rated about 12,000 abstracts of peer-reviewed papers published between 1991 and 2011. The rating was done by 12 volunteers, each abstract was rated by two people, making 24,000 ratings. The ratings were in three categories: (1) implicit or explicit endorsement of human-caused global warming; (2) no opinion; (3) implicit or explicit rejection or minimization of the human influence. About 4,000 abstracts took a position on the cause of global warming, 97.1% of which endorsed human-caused global warming.

Notice that this should not be, but commonly is translated as “97% of climate scientists endorse …”. Notice too that the abstracts were not rated as to whether they stressed greenhouse gases or man-made changes in land use and land cover; the implicit assumption is, man-made greenhouse gases are the cause of warming. Finally, notice that the abstracts were not rated as to whether they endorsed the idea of a global warming crisis or catastrophe; only as to whether they endorsed the idea of human causes of global warming.

A Wikipedia essay describes the study as “a landmark climate research paper [which] found that 97.1% of climate scientists supported the hypothesis of anthropogenic global warming (AGW). As of March 2021, the paper has received at least 1,270,076 downloads.”

There is an obvious question. Does “endorsement of human-caused global warming” mean warming caused 100% by human actions, or 75%, or 50%, or 25%? Any of these may be consistent with “climate change is man-made”. By leaving the degree of causation by humans open, thumbs can be put on the scales to yield the conclusion that virtually all well-qualified scientists believe that global warming of the past several decades is caused almost entirely by human action (would not be occurring in the absence of that action).

Professor Mike Hulme, professor of Human Geography at the University of Cambridge, concludes: “The ‘97% consensus’ article is poorly conceived, poorly designed and poorly executed.” Analysis by David Legates et al (2015) found that only 0.3% of the sampled papers “endorsed the standard definition of consensus: that most warming since 1950 is anthropogenic”. Research physicist Nicola Scafetta: “Cook et al (2013) is based on a straw man argument because it does not correctly define the IPCC AGW [anthropogenic global warming ] theory, which is NOT that human emissions have contributed 50%+ of the global warming since 1900 but that almost 90-100% of the observed global warming was induced by human emission”. (3)

It is testimony to the apocalyptic emotion behind people’s response to “climate change” and “global warming” that the Cook et al. paper, and others with similar methods, have commanded such credence in the face of evident flaws – notably (1) in fudging the distinction between agreeing that human actions have some role in global warming and agreeing that human actions explain most global warming; (2) in not asking whether – extent to which -- the scientists’ papers identified global warming as a problem, a crisis, an existential crisis, over what time period. (4)

By keeping it vague what the “consensus” agrees on, authors and users of the studies have given the impression that endorsement of “humans are causing global warming” means endorsement that “humans’ enhancement of the greenhouse effect will be dangerous enough to be ‘catastrophic’”, and therefore also means endorsement of the imperative for urgent, radical action on a global scale by governments, firms and families.

It is testimony to the pervasive anxiety of the zeitgeist that such surveys are routinely cited as demonstrating a near-unanimous scientific consensus in favor of radical, far-reaching climate policy (including for energy, food and materials), when the surveys do not even ask the question as to whether the respondent considers that (a) the anthropogenic component of recent warming is dangerous, and (b) dangerous enough to require a global climate policy. The surveys are almost valueless scientifically, but valuable politically.

Upward Bias in Temperature Forecasting Models

The prospect of a coming catastrophe for humanity and the biosphere rests heavily on outputs of climate forecasting models. But as David Legates and co-authors argue, these models “exhibit a strong exaggeration in their results even when narrowly adopting atmospheric carbon dioxide as the sole driver of climate responses…. [General circulation models, such as those of the IPCC, the Intergovernmental Panel on Climate Change] have consistently overestimated the climate sensitivity to rising atmospheric carbon dioxide.”

Ross McKitrick (2020) begins his assessment, “Two new peer-reviewed papers from independent teams confirm that climate models overstate atmospheric warming, and the problem [of overstatement] has gotten worse over time, not better”. One of the papers (by McKitrick and John Christy) examined 38 models, the other, 48 models, used by the Intergovernmental Panel on Climate Change (IPCC), the various US “National Assessments”, the EPA’s “Endangerment Finding”, and more.

McKitrick continues, “Both papers looked at ‘hindcasts’, which are reconstructions of recent historical temperatures in response to observed greenhouse gas emissions and other changes (eg aerosols and solar forcing). Across the two papers it emerges that the models overshoot historical warming from the near-surface through the upper troposphere, in the tropics and globally.” The study based on 48 models for 1998 to 2014 found that they warm on average 4 to 5 times faster than the observations.

McKitrick concludes, “modelling the climate is incredibly difficult, and no one faults the scientific community for finding it a tough problem to solve. But we are all living with the consequences of climate modelers stubbornly using generation after generation of models that exhibit too much surface and tropospheric warming, in addition to running grossly exaggerated forcing scenarios (eg RCP8.5).

“[W]hen the models get the tropical troposphere wrong, it drives potential errors in many other features of the model atmosphere. Even if the original problem was confined to excess warming in the tropical mid-troposphere, it has now expanded into a more pervasive warm bias throughout the global troposphere.

“If the discrepancies in the troposphere were evenly split across models between excess warming and cooling we could chalk it up to noise and uncertainty. But that is not the case: it’s all excess warming…. That’s bias, not uncertainty, and until the modelling community finds a way to fix it, the economics and policy making community are justified in assuming future warming projects are overstated, potentially by a great deal….”

The strong upward bias in temperature forecasts relative to observations compromise the models’ forecasting impacts on ecosystems, including agriculture, by exaggerating the probability of catastrophic effects.

The IPCC makes projections of future global temperatures to the end of century based on various models. They range from a low of 1.4 C to a high of 5.6 C over pre-industrial temperature (roughly 1900). The wide range makes them almost meaningless. The IPCC explains that the wide range results from uncertainty about the magnitude of the feedback between warming and increased rates of evaporation – and David Seckler adds, also about the effects of evaporation on clouds and precipitation. (5)

It is astonishing to learn that the climate models miss a critical component of the climate system -- the hydrological cycle, and specifically clouds, which the IPCC calls the “wild card” in the climate system.

The IPCC’s Worst Case Scenario is commonly used as the Business as Usual without a Radical Policy Action’ Scenario

The IPCC’s Assessment Report 5 (AR5), published in 2014, presented a range of forecasts of global climate out to 2050 and 2100, based on different assumptions about radiative forcing (a measure of how much of the sun’s energy the atmosphere traps). The most extreme – the worst case – was called Representative Concentration Pathway (RCP) 8.5. It assumes ominous reversals in several basic, long-standing trends, all heading in the extremely wrong direction to 2100:

high population growth to reach more than 12 billion people

slow technology development

coal consumption increases by 500 % between 2005 and 2100 (no account taken of supply constraints)

slow GDP growth

fast rise in world poverty

high energy use

high GHG emissions.

temperature forecast: 5 C rise between 2005 and 2100.

RCP 8.5’s vision is horrifying, as worst-case scenarios should be.

A whole wave of literature, in peer-reviewed journals as well as in media, even by IPCC authors, has since presented this worst-case as either “the most likely case” or “the baseline case – business as usual without policy action”. This misleading assumption provoked a recent paper in Nature subtitled: “Stop using the worst-case scenario for climate warming as the most likely outcome” (see also, Chrobak, 2020).

The Politics: How has the CCC become so Dominant

How can we understand the present dominance of the CCC in public and political opinion around the world, despite repeated evidence -- over decades -- of wildly exaggerated forecasts of doom when compared against measured outcomes, and despite the real uncertainties (“known unknowns”) in knowledge about basic mechanisms?

We can identify several mutually reinforcing reasons.

1. The public demand for negatively-inflected news, especially on climate

News that fits the CCC plays into a more general logic of “If it bleeds, it leads”, meaning that the media tend to deliver negativity – about climate, health, almost anything – because readers and viewers want negatively-inflected stories. Recent research finds that across all types of articles the most popular stories have high negative content. Surprisingly, politics matters little: there is no difference between conservative and liberal outlets in propensity to deliver negativity. Rather, the difference is between media outlets by size and influence: the bigger and more influential the media brand, the stronger the bias towards the negative – showing how good they are at delivering what people want. According to Matthew Yglesias, several recent research studies find that “the kind of stories people like to consume are compulsive rather than satisfying …. You’re clicking and sharing stories about terrible things and raising alarms and listening to the alarms that are being raised by others, and it all feels very compelling precisely because it’s gloomy and alarming …. People like to get mad, then share the content so that peers can share their outrage.”

Climate lends itself well to this negativity bias. Richard Betts, then the head of climate impacts at the Met Office, explained the demand for negative climate stories (BBC News Channel, 11 January 2010, emphasis added ):

“The focus on climate change is now so huge that everybody seems to need to have some link to climate change if they are to attract attention and funding. Hence the increasing tendency to link everything to climate change – whether scientifically proven or not …. I have quite literally had journalists phone me up during an unusually warm spell of weather and ask ‘is this a result of global warming?’ When I say ‘no, not really, it is just weather’, they’ve thanked me very much and then phoned somebody else, and kept trying until they got someone to say yes it was. Talking up of the problem then gives easy ammunition to those who wish to discredit the science.”

Holman Jenkins, in The Wall St Journal (2018), describes the other side of the exaggeration incentive: “Over the past 15 or 20 years the climate beat has been handed over to reporter-activists who’ve decided that climate science is impenetrable but at least nobody ever got fired for exaggerating the risks of climate change.”

Climate scientist Judith Curry identifies a similar logic in the frequent conflation of extreme weather events and “global warming”. “In 2005 [following Hurricane Katrina] the public found it very hard to care about 1 degree or even 4 degrees of warming – heck, the temperatures varied by that much on a day-to-day basis.… However, arguments that a relatively small amount of global warming (order 1 C) could result in more intense hurricanes, well that got their attention…. The activists now had a new weapon in their arsenal – attributing extreme weather events to manmade climate change. The ‘will to act’ seemed tied to alarmism about extreme weather events. Which provides a key political role for unsupported ‘storylines’ about extreme weather events.” The “heat dome” over the Pacific northwest of the US and Canada in June 2021 was generally treated as yet more evidence of “climate change. You would not know it from the coverage, but in Washington and Oregon, the number of days per decade with temperature above 99 F shows no upward trend from 1911-20 to 2011-20. For example, the number of days above 99 F in 1971-80 was more than in 2011-20. Across the US the 1930s was arguably the hottest decade on record; the time of the deadly “Dust Bowl”, summer 1936, was the hottest summer on record between 1895 and 2020.

An attempt to push the distinction between “weather” and “climate” is unwelcome in this context, because it weakens the motivating, mobilising force of “climate” as the boundless enemy that could destroy humanity, like the Biblical Flood. The Climate Apocalypse is imminent, is the motivational message (also see Adler, 2019).

This is the deeper story behind the wild exaggerations of the forecasts and the continued high credibility of those who make them. The exaggerations express the apocalyptic thinking about climate now sweeping the world, including the financial and corporate world. They express a story of humans damaging Nature, and Nature destroying humans in return. These stories themselves express ancient de-creation stories of humans misbehaving in the eyes of God, and God punishing them. The Biblical flood occurred because God decided the people had become wicked, had stopped respecting God and Nature, so He resolved to wipe life off the face of the earth, saving only a breeding pair of each species in order to recreate the world in His image. Much the same story appeared in Sumerian culture long before the Bible, and later in the Quran, expressing a desperate human wish for Salvation.

In our more secular age, apocalyptic theology can rely on Nature in place of God -- Nature invested with God-like powers of punishment and reward.

2. The “political” science of the IPCC

The IPCC was established to provide a properly scientific center of gravity for discussions about climate, and issue regular balanced assessments of the state of scientific climate knowledge. But there are at least two basic problems with the IPCC process. One is that the mandate of the IPCC says that it is “to assess … the scientific, technical and socio-economic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts and options for adaptation and mitigation” (emphasis added). (6) The mandate does not mention to assess the interaction between human and natural causes. It is as though natural causes do not exist. The IPCC’s whole body of work consequently is slanted towards exaggerating human causes of given climate changes, marginalizing the role of natural causes interacting with human causes. Which among other effects leads it to give undue weight to “mitigating” climate change (by changing human actions) relative to “adapting” to climate changes partly induced by natural forces.

The common justification given by IPCC defenders is: natural causes operate only very slowly; the climate is changing fast; therefore the climate changes must be driven by humans, and humans can change their behaviour fast – when forced and sufficiently motivated to do so ( using all the techniques of Machiavelli). This justification underplays the point that some natural causes – eg the Atlantic Multidecadal Oscillation – do change fairly quickly, over decades, with far reaching effects (eg Atlantic Multidecadal Oscillation and its impacts on the Greenland ice sheet).

The second IPCC problem is that this bias to doomsday forecasts – therefore to urgent and far-reaching action -- is intensified in the process of translating from the technical reports to the summaries for policy makers. The translation – done mostly by non-scientists -- tends to downplay uncertainties and up-play certainties in an alarming, even catastrophizing direction. Hence the tendency to treat worst-case scenarios as likely scenarios. Recall the subtitle to the Nature paper, “Stop using the worst-case scenario for climate warming as the most likely outcome” (2020).

3. Logic of decision-making and logic of mobilization

The tendency to treat worst-case scenarios as likely scenarios “in the absence of radical changes to how we live, work and govern” can be understood in terms of the distinction between the logic of decision-making and the logic of mobilization or action. To make the best decision about what to do, one needs to explore a range of possible alternative courses of action, weigh up the pros and cons of each, then decide which is best. But having exposed many people to a range of options, there may be action-sapping disagreement as to which is best. To get a great mass of people to move all in one direction one needs to present them with only two alternatives, one of which is crazy, and pretend to be entirely confident of the two outcomes. (7) If they can be convinced that there are only two alternatives and one is crazy, they will follow.

The Climate Change Consensus expresses the logic of mobilization. It presents two alternatives. “Do nothing (or little)”, which leads to catastrophe, extinction, the planet becomes ungovernable, coastal cities must be abandoned, lower Manhattan will be underwater by 2018. Or else, quickly decarbonize the world economy and push towards a broader dematerialization of lifeways. No prizes for guessing which wins. This is how you mobilize people on a vast scale to do what you think must be done. Or as a US senator from the West once put it, “Managing politicians is like herding wild horses. To get them running in the same direction you have to stampede them.” (8)

4. Left and right politics

While the demand for negatively-inflected news cuts across the political spectrum, political ideology certainly shapes people’s beliefs about climate. Climate change “scepticism” is almost a talisman of the center-right and right, and is strongly promoted by fossil fuel interests. Climate “alarmism” is more pronounced on the center-left and left of the ideological spectrum. It is promoted as a sacred unifying mission by a great global phalanx of left-green civic action organizations (Extinction Rebellion is prominent).

A Guardian article describes the right-wing “sceptical” tactic. “Vested interests have long realized [that people-at-large trust climate scientists on the subject of global warming] and have engaged in a campaign to misinform the public about the scientific consensus. For example, a memo from communications strategist Frank Luntz leaked in 2002 advised Republicans, ‘Should the public come to believe that the scientific issues are settled, their views about global warming will change accordingly. Therefore, you need to continue to make the lack of scientific certainty a primary issue in the debate’. This campaign has been successful… The media has assisted in this public misconception, with most climate stories ‘balanced’ with a ‘sceptic’ perspective. However, this results in making the 2-3% seem like 50%... As a result, people believe scientists are still split about what’s causing global warming, and therefore there is not nearly enough public support or motivation to solve the problem.”

Both sides accuse the other of abusing “the science”. Both sides generate expansive pressures to describe more and more trends, issue more and more prescriptions, without ambiguity and shading, and judge more and more of the other’s claims pre-emptively. Individual issues (eg extreme weather) are not discussed in terms of their own evidence but are packaged together in ideological visions, the better to establish clear moral battle lines, disagreement being moral heresy.

This is the playing out of a larger process of polarization common when scientific disagreements become public. As described by sociologist of science Robert K. Merton, each group then responds to stereotyped versions of the other. “They see in the other’s work primarily what the hostile stereotype has alerted them to see, and then promptly mistake the part for the whole. In this process, each group … becomes less and less motivated to study the work of the other, since there is manifestly little point in doing so. They scan the out-group’s writings just enough to find ammunition for new fusillades.” (9)

The result is a “syndrome of exaggeration”: each side exaggerates evidence in its favour and downplays evidence against, which justifies the other in exaggerating evidence in its favour and downplaying evidence against; and back again. It is a syndrome in that the behaviour of each side confirms the negative expectations of the other. They often go at each other ad hominem, like adolescent school boys, including people who regard themselves as serious scientists. In the digital era members of both sides are able to quickly find one another and the enemy. (10)

Yet to talk of “two sides” is misleading, because the side championing the CCC is by far the dominant. Recall the Financial Times journalist Pilita Clark: “The world has rarely seen any environmental idea take off like the push to cut greenhouse gas emissions to net zero.” For political leaders and increasingly business leaders, being seen to give high value to protecting the public against all the ills attributed to “climate change” – including by pledging big changes to be made long after they leave office -- is a way to show foresight, statesmanship, leading on the front foot. Many right-wing politicians and business leaders now wish to present themselves as fighters against climate change, even as they continue to support fossil-fuel industries.

5. Finance and business interests

There are now powerful industrial interest groups promoting climate alarmism for profit-seeking reasons, including those invested in the switch from fossil fuels to renewables and those invested in the switch from combustion to electrical engines. The CEO of the electric vehicle car company Lucid (a former Tesla engineer) said recently that the transition to an EV world will happen faster than anyone expects, driven by the environmental imperative. He said, “The environment is in crisis. The world needs millions of electric cars tomorrow”. He did not suggest where all the electricity will come from.

Many big players in finance see opportunities for speculative profits by playing up climate dangers. Goldman-Sachs in 2005 authored the firm’s environmental policy, which said “voluntary action alone cannot solve the climate change problem”, from a firm that has consistently opposed government regulation. It and other financial firms supported what Matt Taibbi called “a new commodities bubble disguised as an ‘environmental plan’” – a carbon credit market in the form of cap-and-trade. Coal plants, utilities, natural gas distributors and some other industries are assigned carbon emission limits. To exceed the limits they must buy credits from those who emit less than their limit. As of 2010, the volume of the market in the US was estimated as $1 trillion annually. Goldman and the others were making themselves central actors in the market. The best thing about it is that the emission limits keep being lowered, implying that the price is guaranteed to keep rising, to the benefit of the intermediaries.

On top of all this, the whole “sustainable investing” movement provides opportunities for big profits at the intersection of the already thick alphabet soup of sustainability disclosure regulations (TCFD, SASB, GRI, CDSB among others, in the case of the EU) and the lack of meaningful, reliable data. “At the moment, the risk is that it is ‘garbage in, garbage out’”, says the head of sustainable finance at S&P Global Ratings.

So the fact that the financial sector is “worried” about climate change could be taken to be part of the problem, underlining the need for public authorities to take charge and frame parameters within which private operations produce public benefits. (11)

Conclusion

I have argued that the “plausible” risks of climate change are commonly exaggerated within the climate community. Recall for example, Christiana Figueres, 2020, “The scary thing is that after 2030 it basically doesn’t really matter what humans do”; Kevin Drum, 2019, “[The Green New Deal] would only change the dates for planetary suicide by a decade or so”; Frank Fenner, 2010, “We’re going to become extinct. Whatever we do now is too late.” Many more in the same doomsday vein.

We have seen that the standard global warming models have a powerful built-in bias to exaggerate the rate of future temperature rise, as seen in (most of) them “hindcasting” temperature rises several times faster than actually observed. We have seen that forecasters commonly take “worst-case scenarios” as “likely scenarios in the absence of radical action” (eg reaching net zero carbon emissions by 2050), to the point where Nature recently published a paper sub-titled, “Stop using the worst-case scenario for climate warming as the most likely outcome”.

The dismaying thing is that scientists and advocates have been making catastrophising global warming forecasts of this kind for decades past, normally dated some 10 to 30 years into the future. The due date comes without catastrophe, but never a retrospective holding to account. Rather, on to the next catastrophising forecast another 10 to 30 years ahead. Scientists-writers-activists know the catastrophe forecasts get the attention, the clicks, the research funding. We saw the exaggeration mechanism spelled out by Richard Betts of the BBC, Holman Jenkins of the Wall St Journal, and climate scientist Judith Curry.

The built-in exaggeration of the costs of climate change blunts the parallel with nuclear power plants. We know with high certainty the costs of nuclear explosions. We know the costs of global temperature going above 1.5 C above “pre-industrial” much less certainly, and we can see the mechanisms by which the likely costs are being systematically exaggerated.

On the other hand, there is abundant evidence that even without the doomsday exaggerations the plausible risks of climate change could be very serious, in particular because of the inherent political economy difficulty of getting needed global or regional cooperation when political action is mostly at the level of sovereign nation states (see the G20).

Coal power generation is the single biggest source of GHG emissions, and emissions from coal consumption will probably not fall fast, whatever the promises. First, coal is cheap, accessible and generates reliable power for many developing countries; in Asia, coal alone generates 40 percent of energy consumption, much higher than the world average of 29 percent. (12) Second, developing countries, including China, assert a strong claim on carbon space to power their economic development. They see it partly as a matter of fundamental justice, since developed countries emitted most of the CO2 that is already in the atmosphere and seas as the necessary condition for them becoming developed. Developed countries promise finance and technical assistance on a massive scale to accelerate the energy transition in developing countries – and have a long track record of leaving promises as promises. (See the global distribution of Covid vaccines. See the results of vaunted “voting reform” in the World Bank, leaving the US with 17% and China with 6%.) What is more, the Japanese government plans up to 22 new coal power plants, as it closes nuclear plants in the wake of Fukushima.

Then comes a question: does drawing attention to the doomsday exaggerations of the CCC – “disaster”, “catastrophe”, “extinction”, “fiddling while the planet burns” - serve to reduce the political and public pressures for necessary ameliorative action, in a world where powerful fossil lobbies seek to block or delay such action for reasons independent of “evidence”? Should “Third Way” essays like this one not be published, because “give them (deniers, sceptics) an inch and they will take a mile”? To what extent must mass publics be “panicked” in order to induce enough collective political and business action – national, international – to substantially slow the growth of GHG emissions? If we can sustain emission- and temperature-curbing action only by holding up the certainty of disaster, catastrophe, extinction, then better to let the doomsday exaggerations continue as the necessary condition for that ameliorative action. What is the harm, when the alternative is ruin for humanity and the biosphere?

The danger is that the repeated wild exaggerations produce a public backlash, a discrediting, and a strengthening of the many “deniers” who see “leftists, governments, and the United Nations” as the source of malevolence in the world. A more accurate accounting of the evidence would (hopefully) produce a more calibrated and sustained public and business response.

What to do? (13)

The IPCC should allocate some 10% of its budget to a Red Team, dedicated to independent scrutiny of its evidence and conclusions (especially the Summary for Policymakers). (14) The IPCC should revise its mandate to require it explicitly to focus on interactions between natural forces and human actions, as it is now almost required not to, biassing its assessment of the state of scientific knowledge towards “man-made global warming” as an almost separate system.

Learned societies should more actively seek to understand and publicize the reasons for repeated large-scale discrepancies between “hindcasts” and “forecasts” on the one hand and actual observations on the other, discrepancies strongly biased towards “disaster”.

It is particularly important that the knee-jerk attribution of extreme weather events to global warming be challenged with reference to evidence. Judith Curry explained – quoted earlier -- why CCC advocates have a powerful incentive to attribute cases of extreme weather to global warming, tout court. She has recently written, “Apart from the reduced frequency of the coldest temperatures, the signal of global warming in the statistics of extreme weather events remains much smaller than that from natural climate variability, and is expected to remain so at least until the second half of the 21rst century.” She goes on to amplify a point made earlier about the limits of the climate models used for the IPCC assessment reports: they are driven mainly by predictions of future GHG emissions. They do not include predictions of natural climate variability arising from solar output, volcanic eruptions or evolution of large-scale multi-decadal ocean circulations. They do a particularly poor job of simulating regional and decadal-scale climate variability. (15)

Participants on both sides have to learn the art of respecting the principle of free speech while maintaining the standards of civil discourse.

While I have stressed the CCC’s support for urgent and radical changes to the way we live, work and govern, some CCC champions argue that the world economy could continue on a largely unchanged growth trajectory provided that we switch fast from fossil fuels to renewables. Indeed, this switch is beginning to happen fast, with coal and nuclear energy production unable to compete without subsidies in areas where natural gas, wind and solar resources are readily available.

But to say that life can continue as before provided we substitute renewables for fossil fuels obscures the huge difficulties for many developing countries of getting out of fossil fuels while growing fast enough to reduce the income gap with developed countries.

We must give high priority to investments in “clean coal” technologies, such as carbon capture, storage and use, to make the dirtier coal cleaner in existing and new coal-power plants; and link coal-power retirement to the coming on-stream of attractive alternatives. The multilateral development banks have recently or will soon announce bans on coal power. The G7 leaders meeting in mid 2021 promised to stop using government funds to finance new international coal power plants by the end of 2021. China’s Belt and Road Initiative should increase its pressure on host countries to cut back on dirty coal and boost clean coal and renewables.

A high and immediate priority is to build a robust financing and technical assistance mechanism for help from developed to developing countries. The Paris Agreement instituted a Mitigation pillar and an Adaptation pillar. Intense debate took place around the third, Loss and Damage, the name of a mechanism to compensate for the destruction that Mitigation and Adaptation cannot prevent. Developed countries by and large have sought to marginalize the Loss and Damage pillar, as they have long sought to marginalize Special and Differential Treatment for developing countries in trade and investment agreements. “Finance is something that really rich countries, particularly the US, have made sure that there is no progress and not even discussion on”, remarked Harjeet Singh, senior advisor at Climate Action Network International. (16)

My “forecast” is that in the next two to three decades to midcentury we will make rapid progress in scientific knowledge about weather and climate, helped by longer and more accurate satellite and ocean records and by a new generation of climate models that operate at one to ten kilometers scale (as distinct from the current models’ 50 kilometer scale). We will probably continue to make rapid progress in decoupling GHG from GDP growth, with a combination of state direction-setting and private innovation focused on transformations in energy, transport, buildings, industry and agriculture, using incentives like research and development subsidies and tax credits for technology investment, and penalties for carbon-intensive activities. (17) In transport, this entails coordination across urban planning decisions, public transport investment, future of remote working, infrastructures for electric charging and hydrogen loading. (18) Transformations in these systems are already underway, and the prospect of vast new green investments, supported and under-written by the state, will intensify them. These green investments will open productive investment opportunities previously limited by stagnant wages and rising debt, which have driven investment into increasingly speculative ventures. If by two or three decades ahead it looks as though the second half of this century could well experience globally extreme climate and ocean events, we will be much more knowledgeable about what to do than we are today. (19)

## Adv Cp

#### Picking winners fails – government lacks the incentives and knowledge to pick the best firms

Thierer 8/18 – Adam Thierer is a Senior Research Fellow at the Mercatus Center at George Mason University. He specializes in innovation, entrepreneurialism, Internet, and free-speech issues, with a particular focus on the public policy concerns surrounding emerging technologies.  
Adam Thierer, August 18 2021, “Government Planning and Spending Won’t Replicate Silicon Valley,” Discourse, https://www.discoursemagazine.com/economics/2021/08/18/government-planning-and-spending-wont-replicate-silicon-valley/

Unfortunately, the “if you build it, they will come” mentality surrounding tech clusters and regional innovation hubs doesn’t take into account many economic, political, cultural and geographic challenges. Indeed, the history of previous efforts proves that these things cannot simply be willed into existence through top-down industrial policies, big bureaucracies and a lot of new spending programs. Clusters tend to grow more organically, and efforts by the government to force them are unlikely to meet with any more success than past experiments.

Wishful Thinking About Economic Development Subsidies

“Economic theory offers little reason to think that targeted economic development subsidies benefit the broader communities that ultimately pay for them,” concluded a recent Mercatus Center study on “[The Economics of a Targeted Economic Development Subsidy](https://www.mercatus.org/publications/government-spending/economics-targeted-economic-development-subsidy).” The authors highlighted the extensive economic literature that finds that “the net effect of targeted economic development subsidies is likely to be negative” because “the taxes funding the subsidies will discourage more economic activity than will be encouraged by the subsidies themselves.”

That points to the first problem with governments trying to pick winners: There is no free lunch. Economic development and industrial policy efforts always sound great in theory, but in the end they rely on government-granted privileges—discriminatory tax or regulatory relief, cash subsidies, loans and loan guarantees, in-kind donations and the provision of other valuable goods and services. The costs of these targeted privileges are passed along to those firms and economic sectors without the political clout to get the favors, or just borne by taxpayers more generally.

The second problem with policymakers trying to pick winners is that they’re just not very good at it. Forecasting future market trends and the evolution of technology has always been notoriously difficult, even in the private sector. Lacking a profit motive and business acumen, governments have a much worse track record than investors, regularly picking more losers than winners. This problem has grown more acute today due to “[the pacing problem](https://www.mercatus.org/bridge/commentary/pacing-problem-and-future-technology-regulation),” which refers to the inability of government policies and programs to keep up with the ever-quickening pace of modern technological innovation.

These realities have not stopped policymakers from repeatedly trying to use both direct and indirect subsidies to attract high-tech sectors and talent to specific destinations. But there is no precise recipe for growing tech clusters. And as economists [William R. Kerr](https://www.hbs.edu/competitiveness/faculty/Pages/faculty-profile-details.aspx?profile=wkerr) and [Frédéric Robert-Nicoud](https://www.unige.ch/gsem/en/research/faculty/all/frederic-robert-nicoud/) [note](https://www.aeaweb.org/articles?id=10.1257/jep.34.3.50), “developing even a semi-formal definition is tricky.” Typically, however, a tech cluster includes “an important overall scale of local activity, complemented by spatial density and linkages amongst local firms.”

This is not easily replicated. Indeed, in the U.S. a huge amount of the nation’s high-tech startup activity and venture capital funding is concentrated only in Silicon Valley and eight other big-city areas: New York City, Boston, Los Angeles, Seattle, Washington, D.C., San Diego, Austin and Chicago. Of course, large cities have long possessed many advantages for attracting skilled labor and investors, and they often tend to have a high concentration of universities and research labs, making it far easier for tech clusters to develop in these large urban centers than in rural areas. Fine. But much of the nation is dotted with other large cities. Why can’t they become thriving tech clusters?

This kind of thinking is driving the latest push to create the next great innovation hub. “With federal support, the U.S. can recreate Silicon Valley success nationwide,” [says Steve Case](https://thehill.com/opinion/technology/550262-with-federal-support-the-us-can-recreate-silicon-valley-success-nationwide?rl=1), former head of America Online. [Others argue](https://www.brookings.edu/events/leveraging-regional-tech-hubs-to-advance-racial-equity/) regional tech hubs can help advance economic inclusion and racial equity.

## Sec Reg

#### Non-antitrust agency is bad—massive uncertainty and undermines efficient antitrust enforcement

Huddleston, JD, Former Director of Tech and Innovation Policy at AAF, ‘20

(Jennifer, “Why Technology Should Not Be Regulated Like Finance,” September 30, <https://www.americanactionforum.org/insight/why-technology-should-not-be-regulated-like-finance/>)

Not only have there been calls to mirror regulations from the financial sector in order to change competition policy, a recent paper has proposed creating a new specialized regulatory agency to protect consumers and regulate data. As with calls for a Glass-Steagall for tech, this proposal also finds its inspiration in the financial sector, and specifically in the Consumer Financial Protection Bureau (CFPB) created in the wake of the 2008 financial crisis. This paper by former Federal Communications Commission Chairman Tom Wheeler, Phil Verveer, and Gene Kimmelman suggests the creation of a Digital Platform Agency to regulate a number of aspects of current technology platforms to promote consumer protection. The authors recognize that antitrust is a limited tool that should not be used to address policy concerns beyond its intended competition purposes. The lessons of the CFPB show, however, that creating a new agency to focus on a perceived crisis or focus on a sole industry may create new problems and result in over-regulation that deters beneficial uses of data.

The authors argue that while consumers have benefited from technologies, the current behaviors of Big Tech do not benefit consumers and “there are inadequate public policy tools available to protect consumers and promote competition.” Other advocates for creating such an agency have also pointed to data privacy incidents such as the 2018 Cambridge Analytica scandal as a reason to establish such an agency and take a more interventionalist approach.

Creating a new agency is an approach to data regulation taken by European regulators. This approach has tended to create regulatory burdens that are greater for smaller players and also to raise the cost of doing business more generally. More specific regulation on these issues also presumes that consumers’ prefer the tradeoffs of heightened privacy and limited data usage and does not allow consumers to select products that fit their preferences. For example, as the Center for Data Innovation’s Eline Chivot and Daniel Castro point out, this more regulatory approach and the differences in interpretations among European data protection authorities could increase costs and deter certain applications of algorithms and artificial intelligence. The more aggressive regulatory posture that could come from a new agency may dissuade innovators from considering new data practices by signaling the need to seek regulatory approval and increasing the compliance costs associated with pursuing new ideas.

To be sure, American consumers are not without protection when harm does occur. The Federal Trade Commission (FTC) has been an engaged enforcer when needed for consumer harms caused by digital platforms such as data breaches or unfair and deceptive practices. While there are reforms that could provide greater certainty for consumers, innovators, and regulators (as previously discussed), the current FTC approach of mostly responsive actions balances the tradeoffs involved in many data issues while still protecting consumers when harm occurs. A new agency would likely shift this approach.

#### Links to DA—new agencies leech off of existing expert agencies

Bannan is policy counsel at New America’s Open Technology Institute, focusing on platform accountability and privacy, and Gambhir, New America's Open Technology Institute, ‘21

(Christine and Raj, “Does Data Privacy Need its Own Agency?” <https://d1y8sb8igg2f8e.cloudfront.net/documents/Does_Data_Privacy_Need_its_Own_Agency.pdf>)

After authorization of the entity and confirmation of leadership, a new independent agency will face basic hurdles to set up agency infrastructure and operations that can be mitigated through agency design. A new agency needs office space; internet, email, and phone service; and a complete complement of staff including not only subject matter experts but also everything from human resources to internal information technology specialists. At a prior OTI panel, David Medine, who served as the first chairman of the PCLOB and also previously served as special counsel at the CFPB, argued that a new agency should “sit on the structure of the old agency until it’s ready to separate.” Medine noted that unlike with the PCLOB, the CFPB staff benefited from being able to use Treasury Department payroll, email, and website infrastructure before the agency was ready to stand on its own. The Brown DPA is the only DPA proposal to use this model of operating on the Federal Reserve System infrastructure. Therefore, while it is more feasible for an existing agency to begin its enforcement duties, a DPA could avoid initial operational problems that other new agencies have faced if it utilized an existing agency’s infrastructure.

## DOJ Tradeoff DA

#### All reverse payment cases go to the FTC

Feldman 8/27 – Distinguished Professor of Law Chair & Director of the Center for Innovation, UC Hastings Law

Robin Feldman, Arthur J. Goldberg Distinguished Professor of Law, Albert Abramson ’54 Distinguished Professor of Law Chair, and Director of the Center for Innovation, The Price Tag of 'Pay-for-Delay', UC Hastings Research Paper Forthcoming, 27 Aug 2021, <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3846484>

A presumption offers a variety of advantages to the judiciary and regulatory systems. It would ease the burdens on regulators such as the FTC, which tend to lack the resources needed to scrutinize and, if necessary, litigate each of the dozens of brand-generic settlements that occur annually. 183 [FN 183] 183 See Feldman & Misra, Fatal Attraction, supra note 8, at 260–261 (noting that, although all brand-generic agreements under the Hatch-Waxman Act must be filed with the FTC, the agency’s delays in publishing pay-for-delay reports, and the reports’ relative lack of specificity, suggests limited resources to address the problem of pay-for-delay). [End FN] In addition, by shifting the burden to the companies themselves, a presumption avoids rewarding those who concoct increasingly elaborate schemes. The company would have to establish how a complex and convoluted scheme works and why it is procompetitive.

#### Non-unique and turn – plan reverses current tradeoffs

Feldman 8/27 – Distinguished Professor of Law Chair & Director of the Center for Innovation, UC Hastings Law

Robin Feldman, Arthur J. Goldberg Distinguished Professor of Law, Albert Abramson ’54 Distinguished Professor of Law Chair, and Director of the Center for Innovation, The Price Tag of 'Pay-for-Delay', UC Hastings Research Paper Forthcoming, 27 Aug 2021, <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3846484>

Given that agreements between competitors are disfavored, the test for agreements between brands and generics in the context of Hatch-Waxman litigation should begin with a presumption that the agreement is anticompetitive. This approach respects the essential design of the Hatch-Waxman system to ensure rapid entry of generic drugs, in part, by providing an incentive for generic drug companies to challenge patents that are invalid or invalidly applied.182 Only when the public interest is clearly served should the presumption fall.

A presumption offers a variety of advantages to the judiciary and regulatory systems. It would ease the burdens on regulators such as the FTC, which tend to lack the resources needed to scrutinize and, if necessary, litigate each of the dozens of brand-generic settlements that occur annually. 183 [FN 183] 183 See Feldman & Misra, Fatal Attraction, supra note 8, at 260–261 (noting that, although all brand-generic agreements under the Hatch-Waxman Act must be filed with the FTC, the agency’s delays in publishing pay-for-delay reports, and the reports’ relative lack of specificity, suggests limited resources to address the problem of pay-for-delay). [End FN] In addition, by shifting the burden to the companies themselves, a presumption avoids rewarding those who concoct increasingly elaborate schemes. The company would have to establish how a complex and convoluted scheme works and why it is procompetitive.

#### No link uniqueness – agencies are already taking an aggressive approach in HC

Cornell 9/16 – Head of the U.S. antitrust practice at global antitrust powerhouse Clifford Chance LLP

Tim Cornell, 20 years of antitrust experience, has advocated on behalf of dozens of clients before the US Federal Trade Commission, the US Department of Justice, and the federal courts, with Robert Houck, Peter Mucchetti, and Brian Yin, Antitrust Litigation 2021, Last Updated September 16, 2021, <https://practiceguides.chambers.com/practice-guides/antitrust-litigation-2021/usa/trends-and-developments>

After an eventful year of antitrust litigation related to healthcare in 2020, all indications are that 2021 will be just as action-packed.

In October 2020, subscriber plaintiffs and defendants in the Blue Cross Blue Shield (BCBS) multi-district litigation (MDL) in Alabama reached a preliminary agreement on a USD 2.67 billion settlement fund, along with sweeping reforms aimed at restoring competition in the healthcare insurance industry. The litigation is an amalgamation of claims going back to 2012 accusing dozens of local insurers (so-called "Blues") of using restrictive practices to suppress competition.

Then in January 2021, President Trump signed the Competitive Health Insurance Reform Act, eliminating certain antitrust exemptions health insurers had previously enjoyed under the McCarran Ferguson Act. While these exemptions were limited, commentators have suggested that the availability of the defense may have had a chilling effect on antitrust litigation in healthcare. The plaintiffs' success in the BCBS cases and the elimination of these antitrust protections for health insurers may result in more antitrust cases against health insurers in the next few years.

Meanwhile, the multitude of suits in the long-running generic drug price fixing matters has continued to progress. In July 2020, the federal judge overseeing the multidistrict litigation initially selected the complaint filed by a coalition of 44 state attorneys general against Teva to act as a "bellwether" case (a procedure whereby a representative action among many lawsuits proceeds first to trial to help shape subsequent litigation). But in August 2020, a grand jury indicted Teva on criminal price-fixing charges, as part of the DOJ's ongoing antitrust investigation of the generic drug industry. Concerned for the complications the civil and criminal matters could pose to one another, the court vacated its bellwether selection. In May 2021, the judge instead chose the states' complaint asserting a price fixing conspiracy affecting various dermatology treatments and other drugs. Meanwhile, the DOJ has continued to pursue its own generic drugs investigations, having criminally charged at least seven companies and a number of executives, while indicating that more indictments are expected.

The FTC also has continued to make healthcare a priority for antitrust enforcement. In the Spring of 2020, the FTC announced that it would increase resources it put towards the review of previously consummated healthcare deals, sending requests for information to a number of health insurers that had recently merged. Around the same time, the FTC initiated a challenge of Jefferson Health's proposed acquisition of Albert Einstein Healthcare Network in Philadelphia. In a rare defeat for the agency, a federal court rejected the challenge in December 2020. Seemingly undeterred, however, the FTC has continued to challenge hospital mergers, including in Memphis [In re: Methodist Le Bonheur Healthcare and Tenet Healthcare Corporation, FTC No. 9396] and New Jersey [In re: Hackensack Meridian Health, Inc. and Englewood Healthcare Foundation, FTC No. 9399].

In his 9 July 2021 Executive Order, President Biden continued his administration's focus on antitrust and healthcare issues. The order directs federal agencies to seek solutions to address anticompetitive conditions affecting the US economy, including the high cost of prescription medication and healthcare services, increasing hospital consolidation, and other areas related to healthcare.

## Court Clog

#### Biden’s expanded antitrust enforcement – progressive favorites means litigation is up indefinitely

Dashefsky, Co-Chair of Antitrust & Trade Practices Group, Bass Berry Sims, ‘8/9/21

(Michael G., “Be Prepared: Aggressive Antitrust Enforcement Is Back,” <https://www.bassberry.com/news/aggressive-antitrust-enforcement-is-back/>)

This summer has seen a flurry of bold antitrust announcements from the Biden administration. By issuing a sweeping executive order calling for numerous changes to antitrust enforcement and by naming progressive favorites and prominent Big Tech critics to head the Federal Trade Commission (FTC) and the Antitrust Division of the U.S. Department of Justice (DOJ), President Biden has signaled that federal antitrust policy is entering a new era.

The FTC has already begun carrying out its mandate to reshape antitrust policy. Under the leadership of new Chairwoman Lina Khan, the FTC has moved quickly to eliminate checks on its antitrust enforcement powers. A majority of the FTC’s commissioners have expressly disavowed the agency’s longstanding approaches to policing antitrust violations and have given the new chair unprecedented authority over investigations and rulemakings.

Collectively, the Biden administration and the FTC have sent a clear message to the business community: aggressive antitrust enforcement is back. Companies should expect to see an increase in antitrust investigations, stiffer penalties for violations, more burdensome merger reviews, and new rules targeting a range of industry practices. In this environment, effective antitrust counseling and compliance programs are more important than ever.

#### Nonunique and link-turn

Feldman 8/27 – Distinguished Professor of Law Chair & Director of the Center for Innovation, UC Hastings Law

Robin Feldman, Arthur J. Goldberg Distinguished Professor of Law, Albert Abramson ’54 Distinguished Professor of Law Chair, and Director of the Center for Innovation, The Price Tag of 'Pay-for-Delay', UC Hastings Research Paper Forthcoming, 27 Aug 2021, <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3846484>

Application of the rule in practice is no less nebulous than its formulation, despite the fact that courts add numbers to each of the various steps. The Supreme Court itself has called the rule of reason complex and burdensome. The intricate requirements of the rule, not to mention the burden it places both on parties and the courts,178 make the rule of reason particularly ill-suited for examining the ever-increasing number of agreements between brand and generic competitors. Although some scholars have argued that the rule of reason should be shelved entirely, such a broad-scale change is unnecessary for these purposes.

#### Mechanism and internal link – recent court rulings, litigation, and reaffirmation of quick-look paradigm

Cornell 9/16 – Head of the U.S. antitrust practice at global antitrust powerhouse Clifford Chance LLP

Tim Cornell, 20 years of antitrust experience, has advocated on behalf of dozens of clients before the US Federal Trade Commission, the US Department of Justice, and the federal courts, with Robert Houck, Peter Mucchetti, and Brian Yin, Antitrust Litigation 2021, Last Updated September 16, 2021, <https://practiceguides.chambers.com/practice-guides/antitrust-litigation-2021/usa/trends-and-developments>

NCAA: a Unanimous Decision for a Divided Court

On 21 June 2021, the Supreme Court unanimously held that restrictions imposed by the National Collegiate Athletic Association (NCAA) limiting the "education-related benefits" that member schools could provide to student athletes violated federal antitrust law, re-affirming the virtues of the Court's long-standing "rule of reason" analysis and making clear that the antitrust laws apply to anticompetitive agreements in labor markets. [Nat'l Collegiate Athletic Ass'n v. Alston, 141 S. Ct. 2141 (2021).] While the holding was a major blow to the NCAA, it has important implications beyond college sports—especially for its discussion of how courts could use a "quick look" form of the rule of reason analysis.

In NCAA v. Alston, former and current student-athletes sued the NCAA in class action litigation. They argued that the NCAA's rules restricting compensation were agreements between member schools that unreasonably restrained trade, in violation of Section 1 of the Sherman Act. [15 U.S.C. Section 1.]. The California district court applied a rule of reason analysis, considering:

whether the challenged restraints had substantial anticompetitive effects;

procompetitive rationales; and

whether these procompetitive effects could be achieved through less anticompetitive means.

After trial, the district court upheld the NCAA's restrictions capping undergraduate scholarships and compensation related to athletic performance, accepting that both improve consumer choice among sports enthusiasts by maintaining a distinction between amateur and professional sports. But the court held that the policy limiting "education-related benefits" did not fulfill that objective and violated the law. The Court of Appeals for the Ninth Circuit agreed.

The Supreme Court affirmed. The NCAA argued that the lower courts should have applied an "abbreviated deferential review" of its challenged restraints. Writing for a unanimous Court, Justice Gorsuch explained that the lower courts had properly applied the full rule of reason analysis, given the "complex questions" about the consumer benefits of the challenged policies. In doing so, Justice Gorsuch pointed out that the "market realities" had changed since 1984, when the Court assumed (without deciding) that different NCAA restrictions were justifiable. Justice Kavanaugh's concurrence went further, chastising the NCAA for holding themselves as "above the law" and potentially inviting future plaintiffs to again challenge the NCAA's remaining compensation restrictions (which the plaintiffs had not appealed to the Court).

The majority opinion notably recognised that the "quick look" rule of reason analysis can apply to determine that a challenged restraint is not anticompetitive. Historically, courts have used "quick look" analysis to condemn restraints, when “an observer with even a rudimentary understanding of economics could conclude that the arrangement in question would have an anticompetitive effect.” [Cal. Dental Ass'n v. Fed. Trade Comm'n, 526 U.S. 756, 770 (1999)]. The Court declined to apply the NCAA's requested quick look, but recognised that certain restraints may be "so obviously incapable of harming competition that they require little scrutiny."

While clearly a blow to the NCAA, the opinion will likely have ripple effects in other industries and contexts. It would not be surprising for more parties to advocate for "quick look" rule of reason analysis – particularly to absolve challenged restraints. And on the other end of the spectrum, the Department of Justice has already cited Justice Kavanaugh's concurrence to argue that price-fixing in labor markets should be per se unlawful. All this makes clear that attorneys and clients must be familiar with this case to be prepared when dealing with future antitrust issues.

#### Pay-for-delay – triggers the DA without solving our internal link

Kades 21 – Director of Markets and Competition Policy, Washington Center for Equitable Growth

Michael Kades, A Canary in the Coal Mine for the Failure of U.S. Competition Law: Competition Problems in Prescription Drug Market, Prescription for Change: Cracking Down on Anticompetitive Conduct in Prescription Drug Markets, Subcommittee on Competition Policy, Antitrust, and Consumer Rights, July 13, 2021, https://equitablegrowth.org/a-canary-in-the-coal-mine-for-the-failure-of-u-s-competition-law-competition-problems-in-prescription-drug-market/

In 2013, in the Androgel case (FTC v. Actavis), the Supreme Court rejected the lenient view that patent holders could simply pay potential infringers to stay off the market. According to the Supreme Court, an agreement in which the branded and generic companies eliminate potential competition and share the resulting monopoly profits likely violates the antitrust laws, absent some justification.28 The Supreme Court’s decision has limited pay-for-delay deals. In fiscal year 2017, the most recent year of reported data, the number of potential pay-for-delay deals with significant payments fell to three.29

That success has been incomplete, and it overlooks the cost of enforcement. The Supreme Court approach requires a case-by-case analysis of a practice that virtually always is anticompetitive. That allows companies to find new ways to hide compensation or offer a plethora of alternative justifications for their conduct. Based on the past mistakes and some open hostility to the Supreme Court’s decision, courts could accept one of these defenses and create a costly loophole.

Further, the approach is resource intensive. Indeed, the FTC resolved the Androgel case itself almost 6 years after the Supreme Court decision allowing the case to go forward and more than a decade after the case was filed. The FTC continues to litigate multiple cases against the same parties over the same product.30

# 1AR

## Prices Adv

No cards

## Innovation Adv

#### Cumulative effects –neg explanations can’t account for the effects Chinese activity in the SCS.

Brands 18 – the Henry A. Kissinger Distinguished Professor of Global Affairs at the Johns Hopkins School of Advanced International Studies and a senior fellow at the Center for Strategic and Budget- ary Assessments (CSBA). He previously served as special assistant to the Secretary of Defense for strategic planning from 2015 to 2016

Hal, with Zack Cooper, "Getting Serious About Strategy in the South China Sea," Naval War College Review: Vol. 71 : No. 1 , Article 3.

https://digital-commons.usnwc.edu/nwc-review/vol71/iss1/3

The situation in the South China Sea is both complex and simple. The complexity lies in the fact that this body of water is the subject of multiple disputes among China. Taiwan. Vietnam, the Philippines. Malaysia, Brunei. and most recently Indonesia.3 The simplicity lies in the fact that only one of those claimants—China—has been making a concerted drive for regional primacy.

In 2009, China surprised regional observers by submitting to the United Na-tions its so-called nine-dash-line map, which claimed up to 90 percent of the South China Sea. Since then. China has become increasingly coercive in deal-ing with its South China Sea neighbors. through measures such as asserting “indisputable sovereignty” over disputed features and seizing effective control of Scarborough Shoal from the Philippines in 2012. Meanwhile, China has up-graded its facilities in the Paracel Islands, particularly the military base on Woody (Yongxing / Phu Lam) Island, which now houses a military-grade airﬁeld, aircraft shelters. and missile batteries. Since 2013, moreover, China has “reclaimed” roughly 3,200 acres of land in the Spratly Islands, compared with just 120 acres for Vietnam and less (or none) for the other claimants.‘ Beijing has created arti-ﬁcial islands and military bases on seven features in the Spratlys. three of which now house three-kilometer-long airﬁelds with aircraft shelters, advanced radars, and point defenses.

In addition to expanding its military footprint. Beijing has announced and enforced fishing and resource-exploitation restrictions in various parts of the South China Sea, empowered its coast guard and maritime militia to interfere with the vessels of other nations, regularly allowed Chinese-ﬂagged fishing boats to exploit endangered species in disputed areas, and made clear that it intends to disregard any legal challenges to its claims. In mid-2016, for instance, Beijing simply brushed aside the ruling of the arbitral tribunal that largely invalidated the nine-dash line and found that many of China's maritime claims and activities were not in accordance with the United Nations Convention on the Law of the Sea.’ Finally. Beijing has become more assertive in challenging foreign activity in the South China Sea by increasing its own military presence in the area, harassing American planes and vessels (as well as those of other countries), and warning Washington against “interfering" in China’s ongoing maritime disputes.6

By any reasonable standard. then, recent years have seen a pattern of Chinese rhetoric and behavior geared toward making Beijing the dominant power in the South China Sea.7 Chinese gains have been incremental rather than sudden, and Beijing has calibrated its actions carefully to avoid triggering a military clash with Washington or galvanizing the region to balance against it. Nonetheless, the cumulative results have been signiﬁcant. “In short order,” writes one former Obama administration ofﬁcial, “China has laid the foundation for control of the South China Sea.”

#### Empirics – Perceptions of US weakness drive Chinese risk-taking in the SCS – 2012 Scarborough incident proves

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Andrew, “Assessing public opinion’s influence on foreign policy: the case of China’s assertive maritime behavior,” Asian Security.

https://doi.org/10.1080/14799855.2018.1437723

Scarborough shoal, 2012: Cumulative effects?

On the morning of April 10, 2012, the Philippines’ naval ship BRP Gregorio del Pilar arrived at Scarborough Shoal, an isolated atoll around 125nm off Luzon, to investigate a group of Chinese ﬁshing boats spotted earlier by an aerial patrol. After anchoring outside the entrance to the shallow mid-ocean lagoon, the warship dispatched armed soldiers on dinghies for a “Visit, Board, Search, and Seizure” operation against the eight ﬁshing vessels. This turned up large quantities of endan-gered giant clams and corals. After collecting photographic evidence, the Philippine soldiers returned to the ship, apparently with the intention of detaining and processing the crews the following day. However, the ﬁshermen used their newly installed Beidou satellite communication system to alert PRC authorities, and late in the afternoon two patrol boats from China’s CMS ﬂeet arrived and took up positions between the Gregorio del Pilar and the ﬁshing boats, thereby physically preventing the arrest?8 Thus began a two-month standoff at sea that ended when the Philippines withdrew its ships ahead of a typhoon, leaving China in control of the disputed reef. Thereafter, Manila refrained from sending its ships back to Scarborough, while Chinese vessels maintained a constant presence. China thus emerged with effective control over the shoal, which it has maintained to the present.”

The Scarborough crisis manifested two assertive shifts in PRC behavior at sea. The ﬁrst was to physically oppose the arrest of the ﬁshing crews, creating the standoff in April. Philippine authorities had detained PRC ﬁsherfolk at Scarborough Shoal numerous times before, but Beijing had not attempted to impose punishment beyond diplomatic protests.“o The second change was the use of coercive on-water measures to take effective control over the atoll from early May onwards. This was accompanied by informal economic sanctions: “quarantining” shipments of Philippine bananas and suspending tourism booked through state-run travel agencies, which have a near-monopoly of the PRC outbound tourism market. The ongoing enforcement of new policies established at this time has involved numerous coercive actions, including the use of powerful water cannons against Philippine vessels approaching the shoal. As an example of both increasing on-water presence and coercive action, then, this case is strongly representative of the PRC’s maritime policy over the past decade.

In light of the palpable wave of public outrage in China over these events, this should be also be a likely case on which to ﬁnd popular nationalism as a major factor behind China’s assertive conduct, as numerous commentators have argued.61 PRC ofﬁcials Fu Ying and Wu Shicun, for example, explain Beijing’s actions as a response to public pressure generated by media coverage of the photographs of the incident.62 However, as detailed below, the party-state’s calibrated ofﬁcial comments and state media coverage suggest China’s authorities made a deliberate choice to channel the public’s attention towards the issue as part of an effort to pressure the Philippines to back down. Tensions among the CCP elite, combined with sustained criticism from nation- alist voices online, may have precluded a more moderate handling of the incident. But strong alternative rationales for China’s conduct leave the potential impact of public opinion on Beijing’s on-water behavior at most marginal.

The voice of the party-state was ever-present throughout the Scarborough Shoal standoff, and it dominated domestic Chinese online and traditional media coverage. The Foreign Ministry’s ofﬁcial transcripts show its spokespersons commented on the issue in 29 consecutive regular press con-ferences from April 11 to May 28, in addition to four separate ad hoc statements. Spokesperson Liu Weimin ﬁrst addressed the situation in the MFA’s April 11 news conference, answering a question about whether China had made diplomatic representations over “so-called law enforcement” by the Philippines. Liu conﬁrmed this, adding that “China’s relevant departments have already dispatched government vessels to Huangyan Island waters, and the Chinese ﬁsherfolk and ﬁshing boats are safe.” A ﬂurry of state media coverage followed, led by CCTV, which reported on the issue in major national news bulletins on four nights between April 11 and 18 - a clear demonstration of the central authorities’ willingness to see domestic audiences following these developments. Liu’s comment shows that, in contrast to the two cases examined previously, the party-state did take the credit for its assertive actions in blocking the arrest of the ﬁshermen. Thus, a nationalist legitimacy ploy passes the ﬁrst test of plausibility as an explanation for China’s conduct.

Four weeks later, as Philippine nationalist groups called for protests outside Chinese embassies around the world over the ongoing standoff, the PRC’s official rhetoric hardened dramatically. The MFA posted a summary of a meeting between Vice Foreign Minister Fu Ying and Philippine diplomats, outlining how Fu had warned “the Philippine side has obviously not realized the serious mistakes it is making.”63 Ominously, the MFA’s account also cited Fu as stating China “has made every kind of preparation to respond to further enlargement of the situation.” MFA spokespersons repeated this language, reiterating that the Philippine government was inciting anti-China protests, and warning of “strong reactions and concerns among Chinese people at home and abroad.” This set off a tsunami of domestic media attention and social media buzz. A headline in the People’s Daily May 9 read, “Philippines’ actions can only reduce ‘likelihood of peaceful solution’" - one of four Scarborough-related pieces on page 3 of the party mouthpiece. The Huanqiu Shibao, a commercial tabloid subsidiary of the People’s Daily with a strong inﬂuence on online discourse, made the same point with characteristic bombast: “Peace will be a miracle if provocation lasts.” CCTV’s 10 pm news bulletin informed the Chinese public that the events had provoked their “intense reaction and attention." Following this, Scarborough Shoal became the leading topic on Sina Weibo for about 24 hours between May 9 and 10. Nationalist sentiments subsequently found expression in mass petitions, hacking attacks, consumer boycotts, a storm of online commenting activity, and even small street protests.“ Yet, this all began well after the PRC began imposing control over the shoal, so this wave of mobilization in May cannot explain the policy shifts on the water."5

If public opinion did contribute to the PRC’s assertive conduct at Scarborough Shoal, the most likely scenario involves a cumulative buildup of nationalist pressure over the preceding months, combined with the elevated elite tensions prevailing at the time. Since mid-2011, Beijing had moderated its on-water behavior and sought to improve ties with both Manila and Hanoi. This had drawn consistent criticism and ridicule in online forums.“5 Beijing handled comparable events in 2011 and 2014 with restraint, despite media publicity and online outrage, so the online nationalist criticism probably did not matter on its own.” But in 2012, in the context of the B0 Xilai scandal and the looming leadership transition at the 18th CCP congress, the accumulation of online criticism may have rendered a low-key handling of the dispute politically untenable. A contemporaneous publicity campaign lauding the CMS ﬂeet, and hawkish rhetoric from PLA propagandist Luo Yuan, could also be read as hints of contending elite interests attempting to leverage public opinion against more moderate opponents.

The fundamental problem with this interpretation is that there is little or no reason to believe any elite groups actually favored a more moderate response. The MFA’s rapid and detailed official responses to the initial incident in April, and its central role in conveying the hawkish rhetoric that drew the wave of nationalist buzz in May, suggest high-level coordination or consensus on how the issue should be handled, both on the water and in public. A review by PLA analysts concluded that public opinion was “attenuated” (tiaokong) effectively during the crisis, successfully avoiding “the irrational result of foreign policy being hijacked by public opinion or sentiments.”68

Compelling alternative rationales for Beijing’s tougher approach make it doubtful that the relevant decision makers would have handled the issue differently in the absence of nationalist pressure. China’s responses to this type of situation had not been tested since 2006, the last time the 69 Philippines had arrested Chinese fishers there, according to Manila’s official records. The inter-vening years had seen a significant shift of material power towards the PRC, compounded by an economic crisis in the United States, the Philippines’ treaty ally. This could only have increased Beijing’s confidence in its ability to successfully prevent the arrests in April, and to take control of 70 the shoal in May, without running an unacceptable risk of military conflict or US intervention. Furthermore, given the protracted duration and remote location of the standoff, the new fleet of high-endurance CMS patrol boats – two of which were fortuitously nearby on a “regular rights defense patrol” on April 10, when the initial incident occurred – were also critical enablers of the policy change. The newly operational Beidou satellite system, with its unique SMS text message transmission function, was also crucial. This demonstrated how improved technological capabilities had augmented the party-state’s ability to administer disputed maritime spaces. With the growth of these general and specific capabilities, it is not surprising that the relevant CCP policymakers’ attitude towards the issue of on-water control of Scarborough Shoal had changed since 2006. Thus, counterfactually, it is unlikely China would have reacted differently even in the absence of popular nationalist involvement in the issue.

## Cap K

#### Innovation is iterative – requires experimentation and collaboration between multiple firms

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Laurence J. Kotlikoff, “Stimulating Innovation in the Biologics Industry: A Balanced Approach to Marketing Exclusivity,” September 2008, http://people.bu.edu/kotlikof/New%20Kotlikoff%20Web%20Page/Kotlikoff\_Innovation\_in\_Biologics21.pdf

Limiting Monopoly Protection to Stimulate Innovation

The importance of successive rounds of innovation — of each innovation building on, but also undermining the monopoly position of the prior round — was dubbed creative destruction by the father of growth theory, Joseph Schumpeter. According to Schumpeter, innovation is the engine of growth, and it’s not pretty. Entrepreneurs must be able to compete and destroy or they will not create. In Schumpeter’s words, “Economic progress, in capitalist society, means turmoil. [What counts is] competition from the new commodity, the new technology, the new source of supply, the new type of organization... competition which... strikes not at the margins of the profits and the outputs of the existing firms, but at their foundations and their very lives.” Paul Romer, today’s leading theorist of economic growth, emphasizes the self-propelled nature of growth — that growth feeds upon itself. “We consistently fail to grasp how many ideas remain to be discovered. Possibilities do not add up. They multiply.”45 Sandwiched between Schumpeter and Romer is the past century’s third great student of economic growth, Nobel laureate Robert Solow. Solow developed growth accounting and showed that innovation (better technology) is a major source of U.S. economic growth. In fact, each innovation is part of a chain. Today’s innovation cannot proceed if yesterday’s is not accessible. And tomorrow’s innovation must wait until today’s innovation is available for use. Moreover, if the current length of monopoly protection suffices to incentivize today’s innovation, extending the length of protection will do nothing to increase current innovation. Instead, it will simply delay future innovation with the economy, over time, falling further and further behind with respect to the level of technology it would otherwise have available. Economists have modeled this process, conceptualizing innovation in a number of different ways. Andrew Horowitz and Edwin Lia wrote a classic paper in 1996, for example, in which they view innovation as moving up a product quality ladder. Higher rungs on the ladder entail better technology and higher quality products. The innovator in their model, which need not be the same person or company through time, can be viewed as holding the top position on the ladder with generics moving up from below. The closer the generics get, the more competition the current innovator faces. This gives the current innovator an incentive to move to yet a higher position on the ladder. Moving up the ladder is innovation, and the more rungs the innovator (or replacement innovator) climbs over a given period of time, the higher the rate of innovation. Patent length in the model corresponds to the amount of time the government keeps the generics from using the latest technology — moving up the ladder to where the prior innovators have been. Once the current patent expires, the generic can move up. But when he does, he finds that the top-rung innovator has innovated to an even higher rung, the position of which is temporarily protected by a new patent. This is not a model of evergreening. Each time the top-rung innovator company innovates, it represents a true improvement in technology — one that comes at a real cost to the company. But it’s only the threat of competition that keeps the top-rung innovator (the near monopolist) innovating. And setting the patent length correctly is critical. As the authors point out, “Patent length either too short, or too long, will weaken innovative incentives.” In particular, patent length that’s too long will lead to more innovation when innovation occurs (the top-rung company will move up more rungs when it realizes it has to innovate to stay ahead because its patent is expiring), but to less frequent innovation. In the extreme, making the patent indefinite kills off innovation entirely; in this case, the top-rung company faces no competitive pressure and would compete only against itself by incurring the cost of inventing a better product. Another classic paper on patent policy is Nancy Gallini’s (1992) Rand Journal article.48 Gallini’s model lets competitors invent around incumbents, but at a cost. If patent length is set too long, competitors realize that they’ll not be able to use existing knowledge in a timely manner and that the only way they can compete is to come up with their own invention. Under these circumstances, this makes private sense, but it also makes social nonsense for the same reason that it makes no sense to re-invent the wheel. Knowledge that’s been acquired at a cost and that can be conveyed at zero cost is knowledge that should be used. Gallini’s paper, in its own way, gets at the cost of patent races alluded to above. Invention that can be monopolized even for a finite period of time represents a prize worth fighting for. But if only one party can win or, in Gallini’s case, if multiple parties can win, but not fully, there can be too much effort put into invention. Again, what’s privately optimal can be socially undesirable.

#### Consensus of academic studies

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Adam Thierer, August 18 2021, “Government Planning and Spending Won’t Replicate Silicon Valley,” Discourse, https://www.discoursemagazine.com/economics/2021/08/18/government-planning-and-spending-wont-replicate-silicon-valley/

Good Intentions Only Get You So Far

While these are noble goals, similar reasoning motivated earlier efforts to spawn innovation hubs, research parks and the like. Setting good intentions aside, however, the government’s past track record has been disappointing. “Despite several attempts, Silicon Valley has not been successfully copied elsewhere,” notes Mark Zachary Taylor, author of “[The Politics of Innovation: Why Some Countries Are Better Than Others at Science and Technology](https://oxford.universitypressscholarship.com/view/10.1093/acprof:oso/9780190464127.001.0001/acprof-9780190464127).” Judge Glock, a senior policy adviser with the Cicero Institute, offers a more [blistering assessment](https://www.city-journal.org/manufacturing-needs-fewer-regulations) of such efforts: “Almost every American state has tried to fund the creation of biotech clusters, projects that almost inevitably end with weeds growing through the parking-lot pavement and a trail of corrupt bargains.”

Glock’s assessment is backed by economic studies of efforts to incubate various types of high-tech hubs or science parks that stretch back over several decades. Twenty years ago, for instance, economist Scott Wallsten [surveyed](https://www.researchgate.net/publication/313726958_The_Role_of_Government_in_Regional_Technology_Development_The_Effects_of_Public_Venture_Capital_and_Science_Parks) government programs through 1997 aimed at promoting regional science and technology parks. He also [reviewed](https://www.researchgate.net/publication/24049109) the effectiveness of [Small Business Innovation Research (SBIR) program](https://www.sbir.gov/) efforts to boost capital investment in this regard. Wallsten found that “neither SBIR funds nor research parks have significant impacts on regional technology indicators. Indeed, the results seem to suggest that SBIR funds chase success, rather than vice versa, while research parks chase failure (regions experiencing reduced economic growth) and do not generally reverse it.”

A decade later, Harvard Business School economist Josh Lerner evaluated dozens of similar targeted development efforts from around the globe in his 2009 book “[Boulevard of Broken Dreams: Why Public Efforts to Boost Entrepreneurship and Venture Capital Have Failed—and What to Do About It](https://press.princeton.edu/books/paperback/9780691154534/boulevard-of-broken-dreams).” He concluded that “for each effective government intervention, there have been dozens, even hundreds, of failures, where substantial public expenditures bore no fruit.”

A major culprit for these failures, Lerner argues, is “outright distortions by special interests” and a vocal “subsidy lobby,” including trade associations and other groups and lobbyists who “are benefiting far more from the subsidies than the entrepreneurs the programs are designed to help.” For example, he found that the Small Business Investment Companies (SBICs)—federally backed risk capital programs sponsored by the Small Business Administration that started in the late 1950s—have included “hundreds of funds whose managers were incompetent or crooked.” Another study he highlights showed that “nine out of ten SBICs violated federal regulations in some way.”

Another [major survey](https://www.journals.uchicago.edu/doi/10.1086/674023) of efforts to create tech clusters was conducted by Aaron Chatterji, Edward Glaeser and William Kerr in 2014. They collected all the research conducted on the topic and concluded that existing evidence “suggests that the regional foundation for growth-enabling innovation is complex and that we should be cautious of single policy solutions that claim to fit all needs.” Furthermore, “even if clusters of entrepreneurship are good for local growth, it is less clear that cities or states have the ability to generate those clusters.” The more targeted the efforts, the more likely failures become, they concluded.

National Efforts Have Not Fared Much Better

These studies focused primarily on state and local governments’ attempts to incentivize the formation of clusters or hubs. There have also been many federal efforts to promote the geographic spread of high-tech sectors and jobs since 2000. In 2008, the Brookings Institution reviewed federal initiatives aimed at stimulating regional innovation and entrepreneurialism [and found that](https://www.brookings.edu/research/clusters-and-competitiveness-a-new-federal-role-for-stimulating-regional-economies/) during fiscal year 2006, the government had spent almost $77 billion across 14 different federal agencies and departments on 250 separate programs. The authors noted that with so many different efforts in play, “a lack of coordination is understandable” and that the programs “have evolved in a wildly ad hoc, idiosyncratic, and uncoordinated fashion.”

But that did not stop such programs from proliferating. In 2012, the [Obama administration launched](https://www.eda.gov/archives/2016/challenges/jobsaccelerator/index.htm) the multiagency Rural Jobs and Innovation Accelerator Challenge and Advanced Manufacturing Jobs and Innovation Accelerator Challenge. This occurred at roughly the same time President Obama was launching his [Startup America initiative](https://obamawhitehouse.archives.gov/economy/business/startup-america). He also signed the JOBS Act (Jump-start Our Business Startups) in 2012. All these efforts included various measures to support the spread of advanced manufacturing and high-tech startups across the U.S. But none of these efforts have borne much fruit so far.

#### U.S. is dematerializing resource usage – market forces incentivize a switch away from resource-intensive practices

-air pollution

-GHGs

-ag

-nitrogen, potassium, phosphorus

-wood

-metal

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Andrew McAfee, “Why Degrowth Is the Worst Idea on the Planet,” *Wired*, 6 October 2020, https://www.wired.com/story/opinion-why-degrowth-is-the-worst-idea-on-the-planet/.

Easing Pollution, Not Exporting It

In some important areas, however, a very different pattern emerged after 1970: Growth continued, but environmental harm decreased. This decoupling occurred first with pollution, and first in the rich world. In the US, for example, aggregate levels of six common air pollutants have declined by 77 percent, even as gross domestic product increased by 285 percent and population by 60 percent. In the UK, annual tonnage of particulate emissions dropped by more than 75 percent between 1970 and 2016, and of the main polluting chemicals by about 85 percent. Similar gains are common across the highest-income countries.

How were these reductions achieved? The two possibilities are cleanup and offshoring. Either rich countries figured out how to reduce their “air pollution per dollar” so much that overall pollution went down even as their economies grew, or they sent so much of their dirty production overseas that the air at home got cleaner. The first of these paths reduces the total burden of human-caused pollution; the second just rearranges it.

The evidence is overwhelming that rich countries cleaned up their air pollution much more than they outsourced it. For one, a great deal of air pollution comes from highway vehicles and power plants, and rich countries haven’t outsourced driving and generating electricity to low-income ones. In fact, high-income countries haven't even offshored most of their industry. The US and UK both manufacture more than they did 50 years ago (at least until the Covid-19 pandemic sharply reduced output), and Germany has been a net exporter since 2000 while continuing to drive down air pollution. The rest of the world has been exporting its manufacturing pollution to Germany (to use degrowthers’ phrasing), yet Germans are breathing cleaner air than they were 20 years ago.

Rich countries have reduced their air pollution not by embracing degrowth or offshoring, but instead by enacting and enforcing smart regulation. As economists Joseph Shapiro and Reed Walker concluded in a 2018 study about the US, “changes in environmental regulation, rather than changes in productivity and trade, account for most of the emissions reductions.” Research about the cleanup of US waters also concludes that well-designed and enforced regulations have successfully reduced pollution.

It is true that the US and other rich countries now import lots of products from China and other nations with higher pollution levels. But if there were no international trade at all, and rich countries had to rely exclusively on their domestic industries to make everything they consume, they’d still have much cleaner air and water than they did 50 years ago. As a 2004 Advances in Economic Analysis and Policy study summarized: “We find no evidence that domestic production of pollution-intensive goods in the US is being replaced by imports from overseas.”

The rich world’s success at decoupling growth from pollution is an inconvenient fact for degrowthers. Even more inconvenient is China's recent success at doing the same. China’s export-led, manufacturing-heavy economy has been growing at meteoric rates, but between 2013 and 2017 air pollution in densely populated areas declined by more than 30 percent. Here again the government mandated and monitored pollution declines and so decoupled growth from an important category of environmental harm.

Prosperity Bends the Curve

China's progress with air pollution is heartening, but it's not surprising to most economists. It's a clear example of the environmental Kuznets curve (EKC) in action. Named for the economist Simon Kuznets, EKC posits a relationship between a country's affluence and the condition of its environment. As GDP per capita rises from an initial low level, so too does environmental damage; but as affluence continues to increase, the harms level off and then start to decline. The EKC is clearly visible in the pollution histories of today's rich countries, and it's now taking shape in China and elsewhere.

Also consider air pollution death rates around the world. As the invaluable website Our World in Data puts it, “Rates have typically fallen across high-income countries: almost everywhere in Europe, but also in Canada, the United States, Australia, New Zealand, Japan, Israel and South Korea and other countries. But rates have also fallen across upper-middle income countries too, including China and Brazil. In low and lower-middle income countries, rates have increased over this period.”

The EKC is a direct refutation of a core idea of degrowth: that environmental harms must always rise as populations and economies do. It's not surprising that today's degrowth advocates rarely discuss the large reductions in air and water pollution that have accompanied higher prosperity in so many places around the world. Instead, degrowthers now focus heavily on one kind of pollution: greenhouse gas emissions.

The claims made are familiar ones: that any apparent reductions in greenhouse gas emissions in rich countries are due to offshoring rather than actual decarbonization. Thanks to the Global Carbon Project, we can see if this is the case. GCP has calculated “consumption-based emissions” for many countries going back to 1990, taking into account imports and exports, yielding the greenhouse gas emissions embodied in all the goods and services consumed in each country each year.

For several of the world's richest countries, including Germany, Italy, France, the UK, and the US, graphs of consumption-based carbon emissions follow the familiar EKC. The US, for example, has 22reduced its total (not per capita) consumption-based CO2 emissions by more than 13 percent since 2007.

These reductions are not mainly due to enhanced regulation. Instead, they've come about because of a combination of tech progress and market forces. Solar and wind power have become much cheaper in recent years and have displaced coal for electricity generation. Natural gas, which when burned emits fewer greenhouse gases per unit of energy than does coal (even after taking methane leakage into account), has also become much cheaper and more abundant in the US as a result of the fracking revolution.

To ensure that these greenhouse gas declines continue to spread and accelerate, we should apply the lessons we've learned from previous pollution reduction success. In particular, we should make it expensive to emit carbon, then watch the emitters work hard to reduce this expense. The best way to do this is with a carbon dividend, which is a tax on carbon emissions where the revenues are not kept by the government but instead are rebated to people as a dividend. William Nordhaus won the 2018 Nobel Prize in economics in part for his work on the carbon dividend, and an open letter advocating its implementation in the US has been signed by more than 3,500 economists. It's an idea whose time has come.

How We Learned to Lighten Up

Tech progress and price pressure aren't just leading to the demise of coal. They're also causing us to exploit the planet less in many other important ways, even as growth continues. In other words, EKCs are not just about pollution any more.

A good place to start examining this broad phenomenon of getting more from less is US agriculture, where we have decades of data on both outputs—crop tonnage—and the key inputs of cropland, water, and fertilizer. Domestic crop tonnage has risen steadily over the years and in 2015 was more than 55 percent higher than in 1980. Over that same period, though, total water used for irrigation declined by 18 percent, total cropland by more than 7 percent. That is, over that 35-year period, US crop agriculture increased its output by more than half while giving an area of land larger than Indiana back to nature and eventually using a Lake Champlain less water each year. This was not accomplished by increasing fertilizer use; total US fertilizer consumption in 2014 (the most recent year for which data are available) was within 2 percent of its 1980 level.

The three main fertilizers of nitrogen, potassium, and phosphorus (NKP) are an interesting case study. Their total US consumption (once other uses in addition to agriculture are taken into account) has declined by 23 percent since 1980, according to the United States Geological Survey. Yet some within the degrowth movement find ways to argue that these declines are also an illusion. These materials thus serve to clearly illustrate the differences in methodology, evidence, and worldview between ecomodernists like myself and degrowthers.

The USGS tracks annual domestic production, imports, and exports of NKP and uses these figures to calculate “apparent consumption” each year. Consumption of each of the three resources has declined by 16 percent or more from their peaks, which occurred no later than 1998. This seems like a clear and convincing example of dematerialization—getting more output from fewer material inputs.

As I argue in my book More From Less, dematerialization doesn’t happen for any complicated or idiosyncratic reason. It happens because resources cost money that companies would rather not spend, and tech progress keeps opening up new ways to produce more output (like crops) while spending less on material inputs (like fertilizers). Modern digital technologies are so good at helping producers get more from less that they're now allowing the US and other technologically sophisticated countries to use less in total of important materials like NKP.

Forest products provide another clear example of dematerialization in the US. Total annual domestic consumption of paper and paperboard peaked in 1999, and of timber in 2002. Both totals have since declined by more than 20 percent. Could these be mirages caused by offshoring that’s not properly captured? That’s highly unlikely, as the country is now onshoring more than it’s offshoring. The US has been a net exporter of forest products since 2009 and is now the world’s largest exporter of these materials.

Is the US economy also dematerializing its use of metals? Probably, but it’s hard to say for sure. The USGS tallies do show dematerialization in steel, aluminum, copper, and other important metals. But these figures don’t include the metals contained in imports of finished goods like cars and computers. America is a net importer of manufactured goods, so it could be that we’re using more metal year after year, but that much of this consumption is “hidden” from official statistics because of imports of heavy, complex products. However, my estimates indicate that this is extremely unlikely and that the country is in fact now reducing its overall consumption of metals.

#### Populism impact is overblown – U.S. democracy is resilient

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Kurt Weyland, “Populism’s Threat to Democracy: Comparative Lessons for the United States,” *Perspectives on Politics*, vol. 18, no. 2, June 2020, pp. 390-391, https://www.cambridge.org/core/journals/perspectives-on-politics/article/populisms-threat-to-democracy-comparative-lessons-for-the-united-states/BF94B9ED2AE558EBCC8682CF4DC08F7A.

Because populist politicians can misuse democracy to abolish democracy, democratic institutions look vulnerable. As both presidential systems (in Peru and Venezuela) and parliamentary systems (in Hungary and Turkey) have fallen, and as chief executives with weak formal attributions have managed to move toward authoritarianism,1 the framework of official rules and procedures may be rather defenseless. Perhaps savvy agency can escape from and overcome virtually any kind of institutional constraints?

As I argue, however, the concerns that even advanced democracies are vulnerable to populist leaders’ corrosive tactics seem exaggerated. Shocked by fascism’s rise during the interwar years and by prominent recent cases of populist moves toward authoritarianism, the burgeoning literature about threats to U.S. democracy overestimates the openness of institutions to legal transformations or forceful para-legal change (see especially Levitsky and Ziblatt 2018). Yet these tragedies affected only new, precarious democracies during the 1920s and 1930s in Europe and institutionally weaker polities in Latin America and Eastern Europe during recent decades. In the interwar era, the longstanding democracies of Northwestern Europe proved immune to fascism (Cornell, Møller, and Skaaning 2017) which bodes well for the longstanding democracies of the advanced industrialized world during the recent upsurge of populism.

In fact, even in the weaker institutional settings of contemporary Latin America and Eastern Europe, many populist leaders have failed with their authoritarian machinations. Observers are overly impressed and scared by the relatively few cases of undemocratic involution. They pay insufficient attention to the many more instances when populist efforts to undermine democracy were blocked; after all, non-cases are by nature less prominent. Yet while studies that examine only the outstanding cases of authoritarian regression can demonstrate “how democracies die” (Levitsky and Ziblatt 2018; similarly Haggard and Kaufman 2019; Przeworski forthcoming, 103-5), they cannot assess the actual likelihood of this tragic outcome and identify the conditions under which it occurs and when not. To overcome this skewed focus and offer a balanced, systematic assessment of the real danger facing liberal democracy, my analysis examines he regime impact of populist chief executives in a comprehensive set of cases from Europe and Latin America (for a somewhat similar effort, see recently Pappas 2019, chap. 4, 7).

This wide-ranging investigation shows that populist efforts to dismantle democratic institutions and promote authoritarianism succeed only under special conditions. Two sets of factors need to coincide. First, institutional weakness provides an opening for the populist suffocation of democracy. Second, a huge resource windfall or clear success in overcoming acute, severe crises gives populist leaders massive support and allows them to remove the remaining obstacles to authoritarian power concentration. When either one of these conditions is absent, populist machinations fail and democracy survives.

One crucial precondition for the populist strangulation of democracy is a weak institutional framework. Some types of institutions are, by configurational design, fairly open to change and thus enable pushy leaders to dismantle democracy in formally legal ways. Other frameworks lack firmness and resilience so that powerful chief executives can bend or break formal rules, override official institutional constraints, and destroy democracy para-legally (Levitsky and Murillo 2009; Brinks, Levitsky, and Murillo 2018). My analysis shows that some kind of institutional weakness, as classified later, is a necessary condition for populists to smother democracy.

Yet even weak institutions hinder populists’ authoritarian machinations. Consequently, democracy succumbed only under a second precondition: when populist politicians won office in countries plagued by acute yet resolvable crises or blessed by huge hydrocarbon windfalls. The enormous benefits that populist leaders can provide as providential saviors from a looming catastrophe or as distributors of extraordinary wealth gave them huge mass support, which allowed them to override political opposition and push through institutional transformations to concentrate power and disable checks and balances. By contrast, populist executives who lacked such largely exogenous opportunities rarely obtained overwhelming backing; therefore, their authoritarian projects ran aground various obstacles, and democracy persisted. Thus, even in weaker institutional settings, democracy’s destruction is difficult and often fails. Populism’s regime impact is much more mixed than recent warnings suggest.

In sum, only a pernicious combination of institutional weakness, which makes democracy vulnerable to populist assaults, and conjunctural opportunities that give populist leaders overwhelming support for authoritarian projects, proves fatal for democracy. Where these conditions do not coincide, populist chief executives have not managed to strangle democracy. The frequency of blocked or failed efforts suggests that populism’s recent upsurge does not pose the grave risks that many observers dread.

In particular, the longstanding democracies of advanced industrialized countries like the United States seem rather safe. First, these nations boast considerable institutional strength, which fosters immunity to populist assaults. Indeed, with the passage of time, democracies achieve a substantial boost in immunity not only against coups, but also against “incumbent takeovers,” which includes suffocation by democratically elected populists (Svolik 2015, 730-34). Due to this significant leap in institutional solidity, liberal regimes that have lasted for about sixty years face only an infinitesimal risk of falling to any authoritarian tricks by elected chief executives. This resilience protects democracies in the West, including the United States. Second, advanced industrialized countries rarely suffer devastating crises (Wibbels 2006), nor are their diversified economies flooded by huge resource windfalls. Therefore, populist leaders cannot garner overwhelming mass support and remove the institutional constraints protecting democracy.

#### Finance is resilient and good—COVID *proves* regs now make it sustainable

ISDA 21 – The International Swaps and Derivatives Association is a trade organization of participants in the market for over-the-counter derivatives.

International Swaps and Derivatives Association, 5-24-2021, "The Role of Financial Markets and Institutions in Supporting the Global Economy During the COVID-19 Pandemic – International Swaps and Derivatives Association," No Publication, https://www.isda.org/2021/05/24/the-role-of-financial-markets-and-institutions-in-supporting-the-global-economy-during-the-covid-19-pandemic/

Foreword

The COVID-19 pandemic arrived suddenly in a world that was unprepared for such an event and impacted the global economy severely and at pace. While global markets have become accustomed to economic shocks over the past century, the COVID-19 pandemic crisis was different in one material respect – it stemmed from a global health crisis that quickly morphed into an economic crisis. The combined force of these crises was unprecedented in many ways as it has severely impacted markets and individuals globally. Millions have been unemployed or furloughed at home. Companies and businesses, especially smaller ones, have been crippled by low or no revenue. Governments at the national and local levels have struggled to meet health care and other needs while facing significant shortfalls in tax revenues. Health care systems in many countries have been severely stretched in meeting patient needs.

In this context, we set out to analyze how financial markets and financial institutions have responded during the crisis in support of the global economy. We looked in particular at three core financial market activities – extending credit, facilitating access to capital and market-making in the secondary markets. In so doing, we focused primarily on the large, international banks that are most active across these areas. Based on this analysis, it is clear that the decade-long implementation of regulatory reform initiatives has significantly enhanced the strength and resiliency of the financial system and banks. This, in turn, has enabled them to play a constructive role in providing financing, facilitating access to capital and supporting the functioning of key markets during the pandemic. It also has enabled financial markets in key jurisdictions to remain open and functioning during this extraordinary time of the COVID-19 health crisis, which has helped to maintain economic stability and market confidence. The implementation of the regulatory reform initiatives has also enabled banks to support the official sector in its emergency relief programs. The impact of these official-sector initiatives on the economy has, as we know, been substantial. So, too, has been the work of investment management firms around the world, which are ultimately the purchasers of primary debt and investors in equity issuance that has helped enable companies and governments to maintain their operations during the COVID-19 crisis.

As with every global crisis, there are opportunities to learn. Policymakers and market participants have voiced the need to assess whether measures should be taken to ensure markets and firms are better prepared to deal with the next crisis. Consequently, this report highlights issues that should be part of a broader, holistic analysis of recent events. The aim is not to provide detailed policy prescriptions, but rather to inform discussions on lessons learned so that our global economies and markets are even better placed the next time we face a major global shock.

Executive summary

The COVID-19 pandemic represents one of the most significant and dramatic shocks to the global economy in modern history. While the origins of the pandemic lie strictly outside the financial system, its impact quickly reverberated throughout the entire economy as lockdowns, work-from-home, social distancing and related measures severely depressed both supply and demand around the globe.

This paper examines several important issues related to the functioning of the financial markets – in particular, the large, global banks and dealers that extend credit, facilitate access to capital and make markets – during the COVID-19 pandemic:

1. How well was the financial system prepared to deal

with the economic turbulence and market volatility

brought on by the pandemic? (Section 1)

2. What impact has the pandemic had on the ability of

firms – corporates and others – to access credit

needed to fund their operations? (Section 2)

3. To what extent has the pandemic impacted the

ability of issuers to access markets to raise capital?

(Section 3)

4. How well have the major financial markets –

including corporate and government securities and

derivatives – functioned during the pandemic?

(Section 4)

The paper includes a high-level discussion of some issues that policymakers and market participants should take into account in undertaking their announced evaluations of the challenges that arose in financial markets during the pandemic. This discussion is contained in each of the individual sections.

The report mainly focuses on the three largest economic regions: the United States (US), Europe (including the United Kingdom (UK)) and Asia-Pacific, particularly Japan. In reading the report, it is important to understand that the way in which markets and banks support the real economy varies significantly by region. All companies, across jurisdictions, rely on bank lending to some extent, especially smaller companies. However, generally speaking, companies in the US and UK rely more significantly on capital markets by issuing bonds and equity to satisfy their financing needs, while companies 1 Bank for International Settlement statistics, Credit to the non-financial sector data set. in Europe and Asia-Pacific typically rely much more heavily on bank lending.

Our key findings can be summarized as follows: Financial system strength and resilience: The past decade of regulatory reform measures ensured that the financial system was extremely well-prepared to address the COVID-19-related turbulence and volatility. Capital and liquidity positions have been substantially strengthened, and counterparty credit risk has been reduced and mitigated through greater adoption of central clearing and collateralization of exposures. This enhanced resilience has supported banks’ ability to provide credit and financial intermediation to the real economy. Accordingly, banks were largely able to absorb and manage, rather than amplify, the economic shock precipitated by the global COVID-19 pandemic. Financial markets in key jurisdictions remained open and functioning, which helped provide stability and confidence.

It is also very important to recognize that the swift and decisive actions of central banks, financial authorities and regulatory agencies were critical in stabilizing markets. These funding programs, liquidity support measures and regulatory adjustment measures have played a crucial role in mitigating the economic fallout from the pandemic, and banks have collaborated efficiently with these authorities in optimizing the effectiveness of these measures and programs.

Access to credit: The sharp and sudden reduction in economic activity brought about by the pandemic created an immediate need for financial services, in particular lending, as companies and governments saw sharp declines in revenue. To offset these revenue shortfalls, companies and governments sought significant amounts of funding to keep their doors open and employees on the payroll while continuing to offer important services and products. This demand was most critical in the volatile early months of the pandemic. According to the Bank for International Settlements (BIS), total bank credit to nonfinancial corporations increased on a global basis by over $2 trillion from yearend 2019 to mid-year 2020.1

In the US, large banks saw their loans and leases in bank credit expand by over $400 billion in a single quarter. Bank lending was also rapid and robust in other major jurisdictions around the globe. In the EU, the UK and Japan, banks satisfied credit demand at three to five times the normal rate for loans during the early months of the crisis. Along with the rapid increase in bank lending, banks saw a significant inflow of deposits. In the US, the deposit base of large banks grew to $9.5 trillion from $7.9 trillion over the first half of 2020.2 Banks in the EU, the UK and Japan also experienced a similar trend of increased deposits. Banks around the globe quickly deployed these resources to extend credit into the economy, in addition to providing a safe haven for these deposits.

Ability to raise capital: While bank lending is an important source of credit and finance in the economy, public securities markets also provide the economy with an important source of funding. The pace of primary market issuance in 2020 was very significant, with global corporate bond issuance increasing by 66% relative to 2019 levels and sovereign bond issues increasing by 36%. This surge in bond issuance was vital to deal with significant revenue shortfalls precipitated by the pandemic; the need to quickly make additional investments to respond to the needs of the pandemic, such as installing partitions and ventilators to ensure safe working conditions; and to fund stimulus, health and social welfare measures.

Primary equity issuance, while initially substantially lower in the early months of the pandemic, rebounded strongly, and in fact the third quarter of 2020 turned out to be the most active third quarter for IPOs over the past twenty years. I Secondary markets and market-making: The need for liquid secondary markets in corporate and government securities is essential to help ensure that investors can manage their financial risks at low cost while reducing the cost of borrowing money by governments and companies. During the pandemic-related market turbulence, there was evidence that some markets experienced relative illiquidity. At the same time, data evidences that during this period large banks increased their inventory holdings to support customer trades and built up their securities holdings across an array of sectors and instruments. They have continued to actively make markets in derivatives, as evidenced by increases in both the notional and gross market values of derivatives positions from year-end 2019 to mid-year 2020 (+8.6% and +33.6%, respectively). Support for government-related programs: The onset of the pandemic necessitated strong and decisive action by governments around the globe. In many cases, 2 Board of Governors of the Federal Reserve System (US), Assets and Liabilities of Large Domestically Chartered Commercial Banks in the United States - H.8. support measures taken by the government have been supported by market participants, including large banks, which played a role in facilitating these programs. Moreover, in some cases, the initial support provided by official-sector efforts to provide an immediate stimulus to markets was followed by substantial increases in private-sector market activity. Finally, and importantly, banks took considerable steps to provide support to households and businesses by temporarily deferring loan repayments and providing additional support measures during the pandemic.

In this crisis, the financial sector and the large financial institutions that provide credit, facilitate access to capital and support secondary markets have been a key part of the solution. In combination, the actions discussed above helped stabilize volatile markets, cushioned the initial impact of the economic shutdown, provided much-needed liquidity to customers and helped to rapidly restore confidence, thereby significantly limiting the extent of the economic impact of the pandemic.