## 1AC

### Blockchain---1AC

#### Advantage 1---BLOCKCHAIN

#### Blockchain development is inevitable, but beyond the scope of antitrust---the law’s narrow focus on the ‘firm’ is fundamentally inapplicable, creating an anticompetitive environment that’ll centralize applications and limit uptake

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5 A WIN-WIN THEORY

The creation of a legal fiction around blockchain nuclei will benefit both antitrust and blockchain communities. By facilitating the enforcement of the rule of law, blockchain participants will indeed be able to enforce antitrust laws or be sanctioned when infringing them.

5.1 A Win for Antitrust

The theory of granularity helps create a legal fiction for public permissionless blockchains and private ones (whose governance is not vertical). Surely, other legal fictions will be proposed in the coming years. Regardless of its name, creating a legal fiction is a prerequisite for applying the rule of law to blockchain layer 1. The ability to do so is crucial.

First, the creation of a legal fiction ensures that blockchains do not escape antitrust enforcement for theoretical reasons. This is a prerequisite before discussing the technical barriers to enforce antitrust against illegal practices (see the following chapters). Second, assigning liability to the right entity ensures that whoever controls blockchains will have a strong(er) incentive to comply with legal requirements. The urge to play by the rules is always stronger when one knows that the rules could actually be enforced. As such, antitrust will not only protect actors that lie outside of blockchain ecosystems; it will also protect those inside the blockchain who cannot stop the anticompetitive practices. Antitrust will free blockchain layer 1 from these practices.

5.2 A Win for Blockchain

Creating a distinct legal fiction centered on blockchains’ nucleus will present an important step forward for related ecosystems. First, the creation of such fiction will attribute rights to blockchains’ nuclei. This will legitimize collaboration between blockchain participants in the nucleus that would otherwise have been prohibited. Indeed, I have explained that antitrust law defines a legal fiction (e.g., the firm) and then applies only to the effects that occur outside of it. Decisions that produce an effect outside of the blockchain nucleus will be submitted to antitrust law. In contrast, decisions taken by the nucleus whose effects are purely internal to that entity will be exempt from antitrust scrutiny.98

Second, creating a legal fiction will increase legal certainty pertaining to the application of antitrust law and regulation. Decades of research suggest that doing so will encourage investments,99 and will make entrepreneurs want to “embark” on the creation of innovative products and services.100 Blockchain communities say so themselves: regulatory issues and accompanying legal uncertainty are the most important reasons preventing greater investment and adoption of blockchain technology.101 The sooner a legal fiction is created, the better for the ecosystem. In its absence, one could imagine court decisions holding all blockchain participants liable for wrongdoings, even though most of them will not have the power to prevent these illegal practices.

Finally, the creation of a legal fiction will give the nucleus the right to institute legal actions and claim damages in cases of antitrust violation, whether caused by another nucleus or a non-blockchain entity. Going back to Christopher Stone’s writing, blockchain’s legal fictions will be able to institute legal actions in their name; courts will calculate injury to them, and relief will be run to their benefit. For example, one could imagine that a blockchain layer 1 (illegally) excluded from the market by another blockchain that engaged in predatory pricing could introduce a valid claim before the courts or antitrust agencies. In the following chapters, I will explain how this will play out when it comes to collusion and monopolization practices.

For all these reasons, creating an antitrust-related legal fiction will be invaluable for blockchain ecosystems and, ultimately, for decentralization. It will protect them from illegal practices that could hinder blockchain’s capacity to decentralize the economy. There is no doubt that centralized companies will multiply illegal behaviors toward blockchain ecosystems in the years to come, as we will see in the coming chapters. Being recognized as a legal entity will allow them to protect their interests and innovate toward decentralization.

6 CHAPTER SUMMARY AND BEYOND

In this chapter, 1 have used the theory of granularity to open the blockchain “black box.” First, I have discussed blockchain governance and shown how the influence of different participants neutralize their position. As no block- chain participant can control the blockchain by itself - and ensure its survival - I have explained that a group of participants may want to come together to achieve common goals. By doing so, they free themselves from other participants’ constraints and end up forming the blockchain nucleus.

The blockchain nucleus gives rise to an entity that should benefit from rights, but could also be held liable for illegal conducts. I have shown how this would work by analyzing relevant markets and market power, evaluating anticompetitive practices and assigning liability.

#### Anticompetitive exclusions and lack of legal certainty over the applicability of antitrust dry up investment and innovation, artificially centralizing digital ecosystems---applying antitrust solves

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2 THE SPECTER OF NEUTRALIZATION

I hope to have convinced readers that antitrust law and blockchain contribute to similar, if not identical, objectives (i.e., preserving agents’ ability to act freely in the market, which entails the decentralization of decision-making processes).42 For that reason, one might expect that both communities would work hand in hand to achieve decentralization. And yet, despite pursuing a common goal, blockchain and antitrust may end up canceling each other out. Here’s why.

2.1 One Goal, Two Methods

Blockchain seeks the decentralization of decision making by eliminating intermediaries, while antitrust aims to achieve it by eliminating anticompetitive practices. They converge toward the same objective. That said, one should not be candid about how easy it will be to make them cooperate. First, the Sherman Act is concerned with trusts43 - hence the name “anti-trust”. Since there is no trustee in the sense of a third-party fiduciary in blockchain’s first layers, the target of antitrust laws is absent.44 Blockchain may thus undermine the *raison d'etre* of antitrust law, which will trigger epidermal reactions.

Furthermore, blockchain and antitrust may at times attack each other. Blockchain may be used to implement anticompetitive practices and be enforcement resistant, while antitrust may reinforce the role of intermediaries in the economy (by protecting them from different forms of anticompetitive exclusions) and label various blockchain behaviors as anticompetitive - regardless of the overall usefulness of these blockchain features.

In fact, antitrust law and blockchain ecosystems seek decentralization at two different levels. Antitrust law prohibits certain categories of conduct, creating tensions with tech communities without focusing much on digital architectures. Blockchain, on the contrary, seeks to decentralize by providing its users with a specific digital architecture. It does not prohibit (anticompetitive) practices where code allows. This creates tensions between them, as I show in Part 2 of this book. Their cooperation will require the identification of ways to deal with these mutual provocations, as I will explain in Part 3.

As things stand, both of these communities exhibit what Veblen called “trained incapacity” - the difficulty to think beyond a set of constraints and assumptions. Policymakers tend to believe that the law should be the most important constraint organizing our lives. For that reason, legal rules are often applied without looking for ways to coordinate with other constraints, including digital architectures.45 In the meantime, blockchain communities tend to view legal enforcement as an adversary, and not as an ally. As John Perry Barlow stated in 1996: “I ask you of the past to leave us alone. You are not welcome among us. You have no sovereignty where we gather.” After all, the law liberates, but it also implies illegality, lawsuits, liability assignment and sanctions. The antitrust and blockchain communities will gain from over- coming these biases.

2.2 The (Long) Road Ahead

If we want antitrust and blockchain to collaborate on a long-term basis, we need to talk about the problems that their cooperation will encounter along the way. The challenge before us is intricate.46 On the one hand, it is a matter of getting legal minds to recognize that technology can help achieve objectives that the law cannot achieve on its own. There are three reasons for this. First, blockchain provides a technical approach to the subject. It serves as a framework for decentralizing the economy by default, while antitrust mostly applies ex post by correcting past behaviors.47

Second, antitrust agencies’ detection rate remains low, meaning that illegal behavior often goes unpunished.48 And enforcement is costly, which makes it impossible to pursue all potentially illegal practices. This is particularly problematic in a world where illegal practices can be implemented through coding that quietly and immediately affects billions of users. Also, the rule of law is (unfortunately) inapplicable in some places. This is the case when the state bypasses legal constraints,49 and when jurisdictions are mutually unfriendly and do not enforce foreign laws.50 For example, enforcement of U.S. court judgments abroad can prove especially difficult in light of divergent rules on jurisdiction, requirements for special service of process, reciprocity and some foreign countries’ public policy concerns,51 including in Europe.52

Finally, antitrust law is complex and cannot be fully mastered by all companies - the compliance costs are high and many firms unwittingly infringe the law. Blockchains could therefore supplement antitrust by creating an architecture that leads to fewer anticompetitive practices.

On the other hand, blockchain communities would gain from working with (not against) antitrust law enforcers. That is because antitrust would eliminate practices that artificially centralize blockchain ecosystems and that blockchain architecture cannot stop or prevent. 1 will analyze them in Part 2. Doing so would also provide legal certainty, thus fostering investments and benefiting all the actors involved in commercial activities that rely on blockchain. For these reasons, one should think of antitrust and blockchain as allies - not enemies - as they both seek the same objective, while presenting complementary strengths and defects. Doing so would lead policymakers to promote and implement a new “law + technology” approach that recognizes that the benefits of cooperation outweigh those of one-off confrontations. A game theorist would represent that approach as illustrated in Figure 5.1.

#### Decentralizing the blockchain allows scalable transaction validation

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2 BLOCKCHAIN INTERNAL FACTORS

The evolution of blockchain also depends on internal balances in terms of design and governance. Overall, choices that will be made within each blockchain will prove important for their evolution. As I show, it all comes down to human interactions.

2.1 The Trifecta: Intra-blockchain Evolution

A blockchain trilemma has emerged in the literature over the last several years. It can be summed up as follows: ensuring blockchain’s decentralization, scal- ability and security entails tradeoffs, at least in the short term. Although this makes sense on a technical level, it does not capture the entirety of our subject. Let us take a closer look. I have discussed decentralization at length through- out this book. It is blockchain’s central feature, in terms of both architecture and philosophy. “Scalability” refers to the ability to validate large volumes of transactions rapidly. Last, blockchain’s security hinges upon its ability to maintain integrity: that only desirable transactions take place - for example, by preventing double spending.42

To a certain extent, we have seen together that the mechanisms that ensure decentralization at different blockchain layers may conflict with security.43 This is what Awemany’s story in Chapter 1 revealed. Decentralization implies the distribution of power, limiting the ability to act unilaterally in case of an emergency. At the same time, decentralization can also affect the scalability of blockchain: Proof of Work is decentralized by nature, but it prevents the rapid validation of large transaction numbers. Conversely, a private blockchain can restrict access to the ledger or certain functions, raising security and scalability issues.44

In the long run, however, these three objectives are mutually reinforcing. The more a blockchain is decentralized, the more it stands out from the centralized platforms and services that readers know only too well. By differentiating themselves, blockchains attract users by offering a different value proposition. In turn, this generates scalability. The same goes for security, as the more participants use a public blockchain, the harder it becomes to alter the registry or perform a 51 percent attack. The blockchain trilemma is thus useful for thinking about what needs to be done, but it cannot provide a coherent analytical framework in the long term. It will become less relevant with technical advances, to the point where some blockchains will maximize these three objectives. Those who manage to do so will prosper.

#### Scaling blockchain unlocks its use for energy, waste, and supply chain sustainability---extinction

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Two years ago nobody talked about blockchain. Now the distributed ledger technology behind cryptocurrencies like bitcoin is suddenly everywhere.

Enthusiastic experts predict that in the coming 10 years, blockchain will change the way we do everything, from financial markets to health records to supply chain management, and so much more. It's near impossible to name all the applications for the new technologies, but here are a few that will contribute to making our world a better place (or even save the planet).

Energy

Most visible for average users will be the impact of blockchain on the energy sector. The power grids of today are usually centralized oligopolies dependent on a very small selection of power sources (i.e. a few nuclear plants, augmented by oil and gas).

That means long distribution lines, bad management of demand, and susceptibility to power outages during earthquakes and other natural disasters.

A peer-to-peer blockchain-based energy system would reduce the need to transmit electricity over long distances. It will certainly reduce the need to store energy in inefficient ways, which means fewer batteries, for example, which are expensive and need a lot of raw materials whose extraction often causes massive pollution. Imagine if every house had a solar panel and a wind turbine, or produced electricity from new smart materials on the outer walls.

Add road surfaces that produce kinetic or solar energy, and add in all the existing infrastructure like nuclear plants, oil or coal. Now imagine every one of these sources could trade with every other source, all managed automatically by a computer system, with unfalsifiable records based on blockchain. And everyone gets paid for it into their digital wallet. This is the future of energy.

Waste Recycling

Current systems for recycling are often cumbersome and don't give enough incentives to participate. Even the best intentions fall foul to human greed and laziness.

Here then is the future of recycling: you identify yourself with your smartphone at any recycling station and deposit your empty bottles (or batteries etc.). The system scans what you deposit and credits your electronic wallet.

If done right, this system could enable users in countries without local recycling industries to get paid the same way as users in locations with large recycling operations.

Companies could set up recycling plants and literally collect garbage from anywhere in the world. It would make it easy to transparently track data like volume, cost, shipping data, and profit, and to evaluate the impact of each location, company, or individual participating in the program.

Think one step further and the recycling containers could be fitted with solar drone technology and fly themselves to the recycling center when full.

Supply Chain Management

The way we transport goods around the world is wasteful and damages the environment. Industry 4.0 is bringing us a revolution of already connected devices; 3D printing means more decentralized manufacturing in much smaller batches.

Blockchains can be used to track products from the manufacturer to the shelf and help prevent waste, inefficiency, fraud, and unethical practices by making supply chains more transparent.

They improve shipping ways, volumes, avoid empty shipments and will thus allow for fewer ships and trucks. Combined with drones and solar-powered airships we could even see pollutant-free solar shipments of individual consignments over long distances, secured, tracked and paid for through blockchain technology.

Or think about this: a blockchain enabled 3D-printer as a public service, secured, tracked, and monetized through blockchain.

The food industry is forging ahead hear with the tracking of origin and transportation paths of food.

Environmental Protection

From waste and transportation, it is an easy jump to the overall enforcement of environmental protection. Blockchain is ideally suited to manage records and incentives.

In can be difficult to track the real impact of environmental protection plans, agreements, or even international treaties. Very often incentives are misaligned, or corporate interests and even criminal elements prevent successful implementation.

Blockchain could discourage stakeholders from reneging on their commitments, misreporting progress, or giving in to pressure from nefarious players, because the technology would allow the reliable tracking of important environmental data.

After all, data in the public ledger of the blockchain is transparent and traceable forever. Environmental protection is at its core a contractual problem. Just like blockchain will revolutionize the storage and manipulation of legal records, it will reduce or eliminate fraud and manipulation of environmental schemes.

Development programs

Like environmental protection, development programs are contracts between remote parties that need to be enforced.

When you donate to a charity, non-profit, development program or similar entity, you hardly ever know what really happens with your money. Bureaucracy, corruption, and inefficiency are still common in the charity space. Blockchain technology can ensure that money intended to be a reward for conservation, or a payment to a specific cause, does not disappear into unintended pockets through bureaucratic labyrinths.

Blockchain-based money could even be released automatically to the correct parties in response to meeting specific environmental targets. This is particularly relevant in countries without modern banking structures. In particular, there are several schemes under consideration for the tracking of water usage in very dry areas of the planet.

Carbon Tax

In the current system, the environmental impact of each product is difficult to determine, and its carbon footprint is not factored into the price.

This means that there is little incentive for consumers to buy products with a low carbon footprint, and little incentive for companies to sell such products.

Tracking the carbon footprint of each product using the blockchain would protect this data from tampering, and it can be used to determine the amount of carbon tax to be charged on at the point of sale. If a product with a big carbon footprint is more expensive to buy, this would encourage buyers to buy products that are more environmentally friendly, and would therefore encourage companies to restructure their supply chains to meet the demand for such products.

Such a blockchain-based reputation system would compute a score for each company and product. This would make manufacturing more transparent, and discourage wasteful and environmentally unfriendly practices.

You could automatically see (e.g. by scanning a barcode on a product), if it was made by an environmentally sound low-carbon facility, or a wasteful polluter.

Access to credit

Just as it tracks financial payments and all the data mentioned above, blockchains could be configured to manage access to credit.

This would enable millions of people to escape poverty, by giving them easy access to small amounts of money and start their own business. Unlike the micro-finance banking model, such a credit blockchain would be entirely transparent and thus safe from abuse.

Summary

In short, blockchain technology allows the management of incentives.

Consumers, companies, and governments would immediately see the direct effects of their actions on the planet. The blockchain can be used to transparently track a variety of data like the carbon footprint of each product, the greenhouse gas or waste emissions of a factory, or a company's overall history of compliance to environmental standards.

Companies and individuals can be incentivized to act in an environmentally sustainable way through the availability of information, tokenized credits being issued for taking certain actions, or blockchain-based reputation systems.

There are many hurdles to overcome. We still do not know if the blockchain is really as safe and unhackable as promised. As a cybersecurity consultant I spoke to for this article said: "sooner or later, everything will be hacked."

There are still doubts about the usability of blockchain for micro-transaction, due to the time proof-of-work takes, and the energy cost associated with computing.

The final hurdle is the willingness of governments to change, and the willingness of participants to live in such a transparent world.

But I believe that managing incentives on the micro-level with blockchain could completely change the drivers of our economy, and benefit not only us but the future generations living on our planet.

#### Decentralized and competitive blockchain’s vital to IoT effectiveness

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1.2 Blockchain and Other Technologies (Collaboration)

1.2.1 Blockchain and the Internet of Things

Technologies tend to accelerate each other,30 and for that reason, it is useful to analyze how they interact. Blockchain has direct implications for quantum computing, 3D printing, biotech and nanotechnologies, among others.31 In the subsequent developments, I will limit myself to discussing the IoT and AI, as blockchains may serve as an infrastructure for these two technologies, therefore shaping their use and developments.

To put it simply, the IoT is all about connecting the analog world to the digital one. Physical products are equipped with sensors or connectors that can send information or be controlled by online applications. There are over 20 billion IoT devices in circulation today and this number will likely triple by 2025.32 Each of these devices generates information that is then turned into data, thus accelerating the already exponential production of data. In fact, the world is expected to produce six times as much data in 2025 as in 2019.33

Blockchains could boost IoT. First, blockchains could be used as the infrastructure layer on top of which IoT ecosystems are built. Second, blockchains, combined with algorithms, could help monitoring devices and spot anomalies. Should, for example, a product malfunction, blockchain ledgers could help identifying why-without permitting the constructor to tamper it. Third, smart contracts could allow IoT devices to interact with each other on specified terms and ensure that they stick to them.34 Most of all, blockchain technology provides IoT systems with security. By eliminating a single point of failure, blockchains ensure continuity even when a server is down. Not so surprisingly, 86 percent of blockchain adopters are combining the technology with IoT solutions and this number will likely grow in the future.35

If blockchain technology does indeed become the infrastructure upon which most IoT systems are built, it will be necessary to ensure that the technology’s internal layers are free from economic coercion. If not, artificial forms of centralization will impact IoT markets - for example, notably through anticompetitive practices that affect the validation of transactions or that raise prices. We can find a direct relationship between these external applications and blockchain’s fourth and fifth layers.

#### IoT prevents pollinator collapse---extinction

Tash Bandeira 20, Reporter at Ubibots, an Engineering Services Firm, “Saving the Bees with IoT”, Ubidots, 7/15/2020, https://ubidots.com/blog/saving-the-bees-with-iot/

Sometime in late 2006, beekeepers across North America started seeing drastically high losses among their western honey bee colonies. Less dramatic disappearances were also observed in Europe and around the world, causing significant losses in agricultural crops that depend on bee pollination to survive.

Now known as Colony Collapse Disorder (CCD), these sudden losses occur when most of a colony’s worker bees leave their queen and plenty of honey and pollen reserves behind. With few dead bees found nearby, the phenomena didn’t correspond to any previously known causes of bee death.

Without worker bees, hives die out and the repercussions go far beyond honey shortages. We see significant agricultural losses and accompanying economic effects worldwide. Approximately 75% of our food supply depends directly on honey bee pollination, which corresponds to a global worth of hundreds of billions of dollars. And with no end in sight for CCD, there’s a lot at stake in the bee crisis.

Scientists have yet to settle on a single cause for the decline - attributing it to a combination of pesticides, disease, nutritional deficiencies, and commercial beekeeping itself - so it’s unlikely there’ll be a simple resolution. The EU voted to ban the use of neonicotinoid pesticides in 2018 but in lieu of global policy change, innovative IoT solutions have already shown serious promise for helping bees survive.

The Internet of Stings

Being able to know when a colony is in trouble and act quickly is imperative to beekeeping. Traditionally, this has meant regular check-ins with the hive, a practice that comes with some disruption to bee life. But with IoT solutions that incorporate wireless in-hive sensors, beekeepers can better keep tabs on their colonies in real time and from a distance.

At the Polytech Sorbonne University in Paris, a student developed a precision beekeeping box that can take temperature, humidity and weight readings, as well as detect the presence of a queen bee. With the data displayed on their Ubidots dashboard, beekeepers can then take steps to decrease resource consumption and increase productivity.

In Costa Rica, college students developed the Ubidots-powered Internet De Las Abejas, a project aimed at controlling varroa mites. Varroas stick to bees, suck their hemolinph, and spread the diseases they carry - posing a major threat to honey bee health. In better controlling them, beekeepers can improve the quality of life of their hives, while also increasing honey production and pollen mobility.

Another approach, developed by researchers in Manchester, is the tagging of bees with RFID chips to track their movements. With location data, beekeepers can follow their comings and goings to better understand and predict their behavior. Grad students in Canada have also been studying the use of sensor data to listen in on beehives and detect communication patterns in the buzz.

But easily the biggest buzz in IoT-enabled solutions is the development of robot bees, or pollination drones. Straight out of a “Black Mirror” episode, RoboBees were introduced by Harvard University researchers in 2013. While their first iterations were limited to flying and hovering, they can now swim underwater and stick to various surfaces. Robotic bees of the future could potentially work farms like their natural counterparts, pollinating crops and helping offset population losses.

No matter what form our ‘IoBees’ solutions take, the collecting and sharing of data will give us profound insights into their lives. Researchers and IoT Entrepreneurs all over the world are realizing the potential of aggregating this data into IoT dashboards, creating IoT solutions that can be commercially offered to either the farmers or research institutions.

Such array of projects aimed at tackling the bee crisis shows the powerful potential for IoT to help save the bees that feed our world.

#### Federal antitrust signals a balanced, light-touch approach that reinvigorates U.S. global leadership on blockchain

Matt Sandgren 21, Former Staff Director of the Senate Republican High-Tech Task Force, Former Senior Counsel on the Senate Judiciary Committee, Final Chief of Staff to Senator Orrin G. Hatch, Executive Director of the Orrin G. Hatch Foundation, “How New Regulations from Washington Could Lead to a Blockchain Brain Drain”, The Hill, 10/27/2021, https://thehill.com/blogs/congress-blog/technology/578834-how-new-regulations-from-washington-could-lead-to-a-blockchain

The internet is what it is today—with its ability to connect people across countries, time zones, and cultures—thanks to the friendly regulatory climate it was born into. Sadly, the regulatory climate of 2021 is far less welcoming to disruptive technologies. This is bad news for the future of U.S. innovation and the emerging blockchain industry.

Whether Washington takes a heavy-handed or a light-touch approach to crypto regulation over the next few months could make a multitrillion-dollar difference over the next few years. To understand how much we stand to lose as a result of bad blockchain policy, it’s first important to understand just how much we have gained as a result of good internet policy in the ’90s.

It’s easy to forget that the success of today’s internet behemoths was anything but certain in the early years of the tech boom. During the Dotcom Bubble of the late '90s, for example, many companies were dismissed as scams (and some of them were). But even the most promising companies were still seen as speculative bets, and their stock prices were subject to extreme volatility.

It’s also easy to forget that the very concept of the internet was foreign to most people in its early years. By today’s standards, it was slow, overly complex, and difficult to use by anyone without a strong technical background. Many dismissed the internet as a fad, including Nobel Prize-winning economist Paul Krugman, who made this prediction in 1998: “By 2005 or so, it will become clear that the internet’s impact on the economy has been no greater than the fax machine’s.”

Noted.

“A scam,” “a fad,” “a bubble,” “overly complex,” “too volatile.” Does any of this sound familiar? History doesn’t rhyme so much as it plagiarizes. And it’s impossible to ignore that the crypto skeptics of today use the same vocabulary as the internet naysayers of yesteryear.

Now imagine if U.S. policymakers had heeded the words of the internet’s critics in the mid-to-late ’90s. Imagine if they had cracked down on e-commerce, digital publishing, and fledgling social media platforms to preserve the old way of doing things. Imagine if they had shaped regulations to stem the free flow of physical goods, ideas, and information made possible by the internet.

The American people would have missed out on trillions of dollars in economic opportunity—and the bounties of the digital age would have gone to countries with more tech-friendly policies.

This is the risk we face today.

We find ourselves at the dawn of a new age of American innovation. Like the internet before it, crypto has the potential to redefine everything we know about how business, politics, media, finance, and even relationships work. But if legislators give in to crypto’s critics by taking a draconian approach to regulation, the U.S. will fail to reap the economic rewards of this world-changing technology—and entrepreneurs will flee to friendlier shores.

Even now, the stage is being set for a blockchain brain drain. Take the Senate-passed infrastructure bill, which includes a provision that would define crypto miners, validators, and even software developers as “brokers,” requiring them to report information to the IRS about anonymous blockchain participants that they would have no way of obtaining. In effect, this provision would kill the nascent DeFi (decentralized finance) industry and make it almost impossible for everyday Americans to invest in new cryptocurrencies. In other words, this latest move sends a hostile message to blockchain advocates: “We don’t want you here.”

At best, the Senate proposal belies a gross misunderstanding of how cryptocurrencies work; at worst, it exposes regulatory capture and the willingness of legislators to give in to special interests.

Sadly, the threat of bad regulation doesn’t end there. SEC Chair Gary Gensler has expressed his belief that many digital assets are not commodities but securities and should be regulated as such. Following this same logic, he’s signaled his intent to crack down on the use of stable coins—cryptocurrencies pegged to the value of the U.S. dollar. Americans are using stable coins to earn 4 to 8 percent APY on their savings through various lending programs. But the SEC wants to put a stop to these lending programs, ostensibly “to protect investors.” (What’s unclear is which government agency will protect investors from the unlimited money printing that is devaluing their dollar savings at a rate of 5.3 percent per year.)

Washington has gotten off on the wrong foot when it comes to crypto. But it’s not too late to correct course.

Regulation of crypto is not necessarily a bad thing. In fact, it’s a key step on the path to mainstream adoption. It’s critical, however, that policymakers shape regulation in a way that minimizes the risks of this new technology without eliminating its benefits. Congress found a way to do this with the internet in the ’90s. Section 230—while far from perfect and in need of reform today—paved the way for a flexible regulatory environment that allowed for many online companies to thrive. In the famous words of Jeff Kosseff, Section 230 contains “the 26 words that created the internet” (and, it’s worth adding, “trillions of dollars in economic wealth”).

Indeed, regulatory clarity is key to extracting maximum value from the emerging crypto economy, whether that value comes from DeFi protocols, decentralized forms of social media, tokenized assets, NFTs, or some other application of blockchain technology that we can’t even imagine today.

As policymakers seek to find the right balance on regulation, they should remember that the U.S. didn’t become the tech capital of the world by choking innovators with red tape. The U.S. became what it is today by taking a prudential approach to regulation—one that enabled the entrepreneurial spirit.

This is the same entrepreneurial spirit that inspired the private sector technological advances that made the Apollo moon landing possible. It’s the same spirit that brought about smartphones millions of times more powerful than the Apollo 11 guidance computers. And it’s the same spirit that has motivated a group of visionaries to push the boundaries of the digital frontier through blockchain technology.

Will Washington’s leaders stifle that spirit to the detriment of our economy and our reputation as a global leader in innovation? Or will they nourish that spirit to usher in the next chapter of the digital revolution?

Let’s hope they choose the latter.

#### That allows international standard-setting that leverages it for public benefits internationally

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Despite the striking fact that most of the programmers the U.S. has ever known are alive and working today, despite the fact that the U.S.’s technical capabilities are growing exponentially, despite that, the vast stretches of the unknown and the unanswered and the unfinished still far outstrip our collective comprehension.

No man can fully grasp how far and how fast we have come, but condense, if you will, the 50,000 years of man’s recorded history in a time span of but a half-century. Stated in these terms, we know little about the first 40 years, except at the end of them man had learned to use the skins of animals to cover them. Then 10 years ago, under this standard, man emerged from his caves to construct other kinds of shelter. Five years ago man learned to write and use a cart with wheels. The printing press came this year, and two months ago, the steam engine provided a new source of power. Last month electric lights and telephones and automobiles and airplanes became available. Only last week did we develop penicillin and television. Two days ago the internet browser was introduced. And earlier today, Satoshi wrote his white paper.

This is a breathtaking pace, and such a pace cannot help but create new ills as it dispels old, new ignorance, new problems. Now, when refer to “Crypto”, I mean the four technologies (blockchain, cryptocurrency, smart contracts, and zero knowledge proof), which collectively enable decentralization, all fueled by community. Surely these technologies promise disruption and high reward.

So it is not surprising that when it comes to Crypto our government would have us stay where we are a little longer to rest, to wait. But this city of New York, and this country of the United States was not built by those who waited and rested and wished to look behind them. Technological breakthroughs are driven by those who move forward — and we will continue to do so.

If this capsule history of our progress teaches us anything, it is that man, in his quest for knowledge and progress, is determined and cannot be deterred. The development of Crypto will go ahead, whether the U.S. regulators joins in or not. And I believe Crypto is one of the great adventures of all time, and no nation which expects to lead the world in technology can expect to lead while staying behind in the development of Crypto.

Our forefathers made certain that the U.S. rode the first waves of the industrial revolutions, the first waves of modern invention, and the first wave of the internet. This generation does not intend to founder in the backwash of the coming age of Crypto. We mean to be a part of it — we mean to lead it. For the eyes of the world will increasingly look at Bitcoin and blockchain and beyond. And those of us in Crypto are working to see it governed by a banner of freedom. We have vowed that we shall not see Crypto filled with scammers, but with scalable protocols that make the world a better place.

Yet the promise of Crypto can best be fulfilled if we in this Nation are there, and leading the way. In short, our leadership in technology, our hopes for a better future, our obligations to ourselves as well as others, all require us to make this effort, to solve these mysteries, to solve them for the good of all men, and to become the world’s leading Crypto nation.

We set sail on this new sea because there is new knowledge to be gained, and new rights to be won, and they must be won and used for the progress of all people. For Crypto, like all of technology, has no conscience of its own. Whether it will become a force for good or ill depends on [hu]man[s], and only if the United States occupies a position of pre-eminence can we help decide how this new technology evolves. I do not say that we should or will go unregulated against the misuse of Crypto any more than we go unprotected against the hostile use of cyber warfare. But I do say that Crypto can be developed and mastered without repeating the mistakes of past regulatory overreach.

Crypto’s development deserves the best of all [hu]mankind and its opportunity for community. But why, some say, Crypto? Why choose this as our next computing platform? And they may well ask why climb the highest mountain? Why, 75 years ago, fly the Atlantic?

We choose to to develop Crypto, and do the other things, not because they are easy, but because they are hard, because the goal of decentralization will serve to organize and measure the best of our energies and skills, because that challenge is one that we are willing to accept, one we are unwilling to postpone, and one which we intend to win.

It is for these reasons that I’m concerned by the inaction of our government to provide greater regulatory clarity. In the last months, we’ve seen progress in scaling like the Lightning Network. We’ve seen securities infrastructure like Templum and OpenFinance and Polymath being built.

To be sure, from a regulatory standpoint, we are behind. But we should not stay behind. This year, we should make up and move ahead. The growth of our science and education will be enriched by new knowledge of Crypto, by new decentralized governance mechanisms, by new token economics.

The Crypto community itself, while still in its infancy, has already created a great number of new companies, and tens of thousands of new jobs. Crypto is generating new demands in investment and skilled personnel, and New York and the U.S. can share greatly in this growth.

To be sure, all this comes with uncertainty of the role of government and fiat in the future. I recognize that the belief in Crypto’s potential is in some measure an act of faith , for we do not now know what benefits await us.

But I believe that we can develop a decentralized currency that can be used as a means of exchange. I believe we can leverage blockchain technology to provide identity for the 23 million children on this planet without identity papers. I believe we can use these technologies for voting purposes, and ensuring our elected officials follow through on their promises.

However, if we’re going to do all those things, and countless other positive things for mankind, then we must pass accommodating regulations. I‘m encouraged that New York and the United States are playing a big part in the development of Crypto,. With more regulatory clarity, we can solidify our leading position in Crypto, the greatest adventure on which [hu]man[ity] has ever embarked.

#### Globally collaborative blockchains prevent nuclear war from miscalc, accidents, and arms racing AND build global co-op, stopping existential threats

Dr. Lyndon Burford 21, PhD in Politics and International Relations from the University of Auckland, Visiting Research Associate at the Centre for Science and Security Studies at King’s College London, Member of the New Technologies for Peace Working Group, a Part of the Vatican’s COVID-19 Commission, “Could Blockchain Technology Help Advance Nuclear Disarmament?”, Medium International Affairs Blog, 2/19/2021, https://medium.com/international-affairs-blog/could-blockchain-technology-help-advance-nuclear-disarmament-6efaab35e277

New and maturing technologies are often seen as possible drivers of conflict, not least in the context of rising nuclear risks. In 2019, for example, the UK House of Lords Select Committee on International Relations concluded, “The risk of the use of nuclear weapons has increased, in the context of rising inter-state competition, a more multipolar world, and the development of new capabilities and technologies.” In a recent policy report published by the Centre for Science and Security Studies at King’s College London, I explored the flipside of that coin. The trust machine: blockchain in nuclear disarmament and arms control verification looks at how blockchain technology could help to reduce nuclear risks, by strengthening systems to verify the dismantlement of nuclear warheads.

The ‘trust machine’

Blockchain is best known as the technology that underpins the cryptocurrency Bitcoin, but it already has a wide range of alternative uses in areas such as medicine, transport, manufacturing, finance and governance. During the COVID-19 crisis, blockchain was used to produce a cheap, reliable solution for contact tracing. In Syria, blockchain is being used to create a permanent record of potential war crimes, increasing the security and integrity of the data and strengthening its admissibility as evidence in future war crimes prosecutions.

Contests of legitimacy and value: the Treaty on the Prohibition of Nuclear Weapons and the logic of…

Blockchain is a de-centralized, digital record-keeping technology. It combines cryptography and social/economic incentives to build a shared, permanent, and virtually un-hackable record of events, without needing to trust a third party authority to manage the data. Unlike Bitcoin, which is a ‘public’ network that allows anyone to interact with it, a private blockchain creates a ‘permissioned’ network of participants who collectively store and manage data in a way that allows them to maintain extremely high confidence in the integrity of the data. The result is a shared, digital record of events — a blockchain — that is practically immutable, establishing a single, collective, and irrefutable ‘truth’ about the nature and sequence of events within the network. In a post-truth world, blockchain thus offers an invaluable technical foundation for cooperation among parties that have a limited basis to trust each other, leading to its nickname, ‘the trust machine’.

Blockchain as a disarmament mechanism

At present, extremely low levels of international trust hamper efforts to advance nuclear disarmament. The ongoing development of new nuclear weapons, warheads and increasingly capable ballistic missile defences are undermining the theories and practices of deterrence, and point to the resurgence of a spiral of mistrust that characterized the Cold War nuclear arms race. Developing robust, multilateral verification tools and processes could help to mitigate the trust deficit. It would enable countries to pursue their shared interests in nuclear disarmament — reduced costs, less chance of escalation and nuclear use, greater scope to cooperate on global threats like climate change and pandemics — by increasing confidence that other countries are fulfilling their disarmament commitments in good faith. One way to strengthen verification would be to use a private blockchain to manage and store the data that a disarmament process creates.

In a verified disarmament process, parties need to track and record things like the status and movements of individual inspectors and weapon parts, and the status and material holdings of different facilities. These activities create large amounts of data that need to be stored in a secure, permanent and transparent manner that also allows for its easy retrieval by permissioned actors. The core attributes of blockchain correspond closely to these requirements. The technology would allow parties to maintain very high confidence in the immutability of verification data, creating a strong technical foundation for future cooperation from a shared, trusted baseline.

International collaborations like the 25-country International Partnership for Nuclear Disarmament Verification and the Quad Nuclear Verification Partnership (made up of Norway, Sweden, the United Kingdom and the United States) are already exploring how nuclear-armed and non-nuclear-armed states can cooperate in verifying the dismantlement of nuclear warheads without revealing sensitive information. Blockchain could complement their approach, enabling countries to create a permanent, immutable record of verification data.

Nuclear weapons threaten the survival of humanity and divert tens of billions of dollars each year away from efforts to address other collective security challenges like mitigating and adapting to climate change and responding to pandemics like COVID-19. As such, we all share an interest in disarmament processes that can reduce the likelihood of deliberate or accidental nuclear explosions and free up urgently needed resources for other global security priorities. We owe it to ourselves and to future generations to consider all options that could help to advance nuclear disarmament. In addressing the regular obstacle of distrust between the nuclear powers, blockchain is one technological option that we should be exploring.

#### Policy must be certain and originate at the federal level to signal U.S. commitment to accommodative blockchain policy

Michele Benedetto Neitz 21, Professor of Law at the Golden Gate University School of Law, Member of the California Blockchain Working Group, Affiliated Scholar at LexLab at the U.C. Hastings College of the Law, “How to Regulate Blockchain's Real-Life Applications: Lessons from the California Blockchain Working Group”, Jurimetrics Journal, 61 Jurimetrics J. 185, Winter 2021, Lexis

A. Why Create Laws Related to Blockchain Technology?

1. Protecting the Public from Harm

Blockchain technology is a complicated field, and innovation in this space is developing rapidly. This innovation will occur regardless of a legislature's reluctance or willingness to draft laws to regulate this industry. As state and federal legislators are struggling to define a regulatory scheme, members of the public who are excited about the possibilities of investing in something new like digital assets may suffer from harm.

This has, of course, already happened in various ways. In a recent high-profile example, members of the public were invited to invest in initial coin offerings (ICOs), buying tokens as a way to invest in start-up companies. 25 One study reported that approximately 78 percent of the ICOs offered in 2017 were actually scams. 26 In the United States, 33 percent of ICO investors believe that ICO operators "deceived them or withheld information from them." 27 The ICO market significantly cooled as federal prosecutors and the SEC began aggressively taking action against leaders of fraudulent ICOs, demonstrating how regulatory enforcement can indeed protect investors from harm. 28

[\*190] However, cryptocurrency scams are persisting beyond the ICO craze. The FTC recently warned the public that scammers are continually finding new ways to "trick people." 29 Members of the public are clearly at risk of a multitude of foreseeable--and unforeseeable--problems as applications of this technology develop, including fraudulent investments, breaches of privacy on blockchain platforms, digital identity theft, and insufficient data protection. Given these threats to the public, it is not appropriate for regulators to dawdle as blockchain applications continue to rapidly advance.

2. Attracting Innovation

While they work to protect the public, legislators and regulators can also use laws to signal their commitment to attracting blockchain-related companies to their locations. Some jurisdictions, including countries like Estonia and Switzerland 30 and U.S. states like Wyoming, 31 have already implemented regulatory schemes designed to win the interjurisdictional competition for blockchain business. 32

The resulting tension between protecting the public while promoting innovation lies at the heart of regulating digital assets and other applications of blockchain technology, as discussed in more detail in Section III.A. Despite the need for blockchain-related regulation, numerous challenges exist for lawmakers seeking to draft laws in this area--starting with the fact that the word "blockchain" does not have a commonly understood definition.

B. The Legislative Definition Problem

What is the legal definition of blockchain? This simple question has proved to be exceedingly difficult to answer. States considering blockchain legislation have focused on different characteristics of this new technology, meaning that "[d]efinitions in legislation introduced in 2018 in California, Florida, Nebraska and Tennessee differ[ed] from those of industry groups and from each other." 33 In some cases, the definitions were in conflict. 34 These inconsistent definitions [\*191] are problematic, as they "actually introduce legal uncertainty where it did not previously exist, and invite unnecessary and expensive litigation." 35

A clear definition of blockchain is necessary for legislative purposes as well, as it is required to help a jurisdiction create clear policies. 36 Moreover, a state's definition should enable policymakers and the public to focus on "the most unique value that the technology can deliver. It should be accessible to and understandable by the public, and yet technically specific enough to ensure that the [jurisdiction] can reap maximum benefit." 37 With such a high bar, legislators have understandably struggled to construct a working definition for this new technology.

The California Blockchain Working Group, after much discussion and debate, created a new definition of blockchain in 2020 for state legislative purposes:

"Blockchain" is a domain of technology used to build decentralized systems that increase the verifiability of data shared among a group of participants that may not necessarily have a pre-existing trust relationship.

Any such system must include one or more "distributed ledgers," specialized datastores that provide a mathematically verifiable ordering of transactions recorded in the datastore. It may also include "smart contracts" that allow participants to automate pre-agreed business processes. These smart contracts are implemented by embedding software in transactions recorded in the datastore. 38

The New York Senate took a simpler approach, defining blockchain as "a mathematically secured, chronological, and decentralized consensus ledger or database, whether maintained via internet interaction, peer-to-peer network, or otherwise used to authenticate, record, share and synchronize transactions in their respective electronic ledgers or databases." 39

Both of these definitions are technically correct, and they both reflect the policy decisions of their respective states. For example, California deliberately used the more flexible term "datastore," instead of "record" or "log," to reflect the verifiability of data shared amongst participants, the many use cases of this type of ledger, and the fact that many datastores could exist at once. 40

[\*192] One could argue that the lack of a uniform statutory definition is partly responsible for the patchwork nature of state blockchain regulation. After all, without a similar definition, it is nearly impossible to set policy goals and pass parallel legislation in multiple jurisdictions. However, the problem of inconsistent definitions is just the tip of the iceberg of interjurisdictional competition. 41 This competition is unlikely to subside even if the federal government or the Uniform Law Commission enacted a well-accepted, standardized definition of blockchain technology.

C. The Fast Pace of Blockchain Technology Development

Law always moves slower than technology. 42 This is partly because lawmakers and agencies can "struggle to capture emerging technologies in dusty regulatory frameworks." 43 For example, securities laws drafted in the 1930s could not have anticipated the sale of digital assets. 44 Even more recently drafted laws and regulations relating to the Internet do not fit blockchain technology. 45 Lawmakers must decide whether to fit this revolutionary technology within existing legal frameworks or start all over with new legislative schemes.

The constantly evolving nature of blockchain technology presents another challenge. This "industry is in its early stages of maturation," making it difficult to determine the initial policy choices that would lead to effective regulation. 46 There are also technical concerns still lurking within blockchain technology, such as locating the "weak points" that might be "gamed by bad actors," which could give rise to unanticipated legal problems. 47

Finally, even at this early stage, lawmakers must consider which aspects of the technology are important enough to regulate. Some of these are obvious, such as cryptocurrency and other forms of digital assets that involve sales to members of the public. But even within this category, it is "still too early to tell exactly which of the drivers of digital asset excitement is dominant," putting [\*193] "regulatory bodies in a tough position." 48 In this way, the wide variety of blockchain projects and the speed at which they are developing creates an additional barrier to effective regulation.

As an example, imagine a developer creates a brand-new digital asset and offers it to the public. How should regulators approach the regulation of this asset? Should regulators first consider the substance of the project, its connection to a decentralized ledger, its effect on consumers' privacy and security, or its potential to evade anti-money laundering and "[k]now [y]our [c]ustomer" laws 49 (or all of the above)? An effective regulatory scheme would need to include rules that are flexible enough to manage future technical developments as well as today's technologies. Otherwise, laws may need to be reconsidered and amended whenever a new technical application emerges.

D. Blockchain Technology's High Learning Curve for Lawmakers

Blockchain technology can be complicated and intimidating, and few lawmakers have training in computer science. A 2016 survey found only that only four of the 535 members of Congress had formal computer science degrees. 50 While the technical aspects of blockchain can be difficult to explain, most legislators can learn enough to understand the fundamentals. 51

New York's State Senate offers a case in point. The Senate's technical advisor reported that in 2019, "staffers and senators asked basic questions about blockchain and distributed ledger technology, prompting [the technical advisor] to develop an explainer presentation." 52 One year later, in 2020, many of the senators "appear more comfortable with the technology, which helps them see the value of [potential] legislation." 53

Legislators need not dive into minor technical details of blockchain to be able to regulate it. It is more important for legislators to focus on the function of blockchain and its practical applications, asking not "what is blockchain?" but [\*194] "what can blockchain do?" 54 Policymakers should focus on the use cases of blockchain, rather than its underlying technology. 55

Professor Angela Walch offered prescriptive recommendations for regulators learning about blockchain, advising them to cultivate their expertise (including self-education), consult with other regulators, follow the activity of standards organizations and academia, and "[w]atch and [l]earn" as the technology stabilizes. 56 Professor Walch also counsels lawmakers to "[a]dopt a [c]ritical [m]indset" in this educational process, to ensure they are not unduly influenced by hype or unreliable sources. 57

Legislators could also learn more about blockchain through the use of legislative working groups or task forces. For example, California's Blockchain Working Group drafted a report in accessible language, enabling state legislators to learn more about the technology and its potential applications for California in one comprehensive document. 58 The federal government has tried to follow this path. In 2019, a bipartisan group of senators proposed a bill directing the Secretary of Commerce to establish a federal Blockchain Working Group in 2019. 59 However, the bill, entitled the "Blockchain Promotion Act," is still currently in committee. 60

As a law professor who taught the first Blockchain and the Law class in San Francisco, I can anecdotally report that blockchain and cryptocurrencies are not easy concepts for nontechnical learners to grasp. However, over the course of one semester, my law students (most of whom did not have any technical training beforehand) were able to draft final reports and presentations not just describing the technology, but also analyzing the use cases deploying the technology. With a bit of time and effort, state and federal lawmakers can understand the potential for blockchain to transform their jurisdictions.

II. FIVE FACTORS FOR LEGISLATIVE CONSIDERATION

In light of the difficult nature of regulating blockchain, this Part offers five factors lawmakers should consider as they work to draft blockchain and crypto regulation.

[\*195] A. Policy Decision: Innovation vs. Protecting the Public Interest

In an ideal world, governments would be able to promote both innovation and the public interest. In reality, however, legislators usually need to debate and choose whether they will prioritize innovative technological development or consumer/public protection. This is especially true in the context of blockchain, since the public perception of blockchain varies widely. Many members of the public first heard of blockchain through Bitcoin, the digital currency. But early illegal use cases of blockchain technology also made headlines, including the infamous Silk Road darknet marketplace 61 and repeated cases of fraudulent theft through Initial Coin Offerings. 62 While the technology is neutral, blockchain can be used in malicious ways that harm the public. 63 Even well-meaning technology can implicate privacy and data protection concerns. 64

It is therefore "essential for both the industry and society that consumers and the capital market are protected from abuse." 65 No state or federal jurisdiction should enable blockchain technology to develop without guardrails to protect the public. The question is where those guardrails should lie. If states wait too long to regulate, the public may be harmed, and the costs of imposing requirements on industries that have already been established will be too great. However, if states develop restrictive regulations too early or the laws "become onerous," 66 businesses will relocate to more friendly jurisdictions. States in this position risk killing off innovation or pushing it to other states. 67 [FOOTNOTE] Blockchain businesses will move for regulatory reasons. See Daniel Kuhn, The Cryptocurrency Act of 2020 Is 'Dead on Arrival,' Washington Tells Sponsors, COINDESK (Mar. 11, 2020, 1:19 P.M.), https://www.coindesk.com/the-cryptocurrency-act-of-2020-is-dead-on-arrival-washington-dc-tells-sponsors [https://perma.cc/AP8X-KULR] ("Many projects are simply choosing to move elsewhere" because of regulatory uncertainty.). [END FOOTNOTE]

Part of the reason blockchain technology's applications are so challenging to regulate is that it "is difficult, if not impossible, for regulators to construct a framework that achieves clear rules, market integrity, and financial innovation." 68 This complex question explains the spirit of experimentation among states discussed in Part V, with some choosing restrictive regulatory structures, some choosing permissive approaches, and others choosing the middle. Regardless [\*196] of a jurisdiction's ultimate direction, legislators drafting blockchain legislation must evaluate how to protect the public while encouraging creative technological development.

B. Ethical Considerations

California was the first (and so far, the only) state to consider ethical considerations in the early stages of regulation. This author published the first law review article analyzing ethics in the blockchain industry in December 2019, 69 and also served as the primary drafter of the Ethical Considerations section in California's Blockchain Working Group report. 70

Depending on the type of blockchain at issue, numerous ethical issues may come up for regulators. For example, the increasing centralization of permissionless blockchains and the rise of permissioned blockchains may raise concerns about personal ethics, such as bias and conflicts of interest. As trends suggest that governance of blockchain systems is moving toward centralization, 71 individuals may have power to influence decisions made on that blockchain. If so, there is a potential for that individual's bias and conflicts of interest to come into play. 72

Although ethical discussions around blockchain appear slower to develop than the technology itself, several paradigms have been put forth advocating ethical considerations in this industry. 73 For example, the World Economic Forum recently asked participants and policymakers to sign on to its "Presidio Principles," an agreement to consider transparency and accessibility, agency and interoperability, privacy and security, and accountability and governance. 74 MIT's Digital Currency Initiative included the topic of blockchain ethics at its 2019 "Cryptoeconomics Systems Summit." 75

[\*197] In addition, the Beeck Center for Social Impact + Innovation at Georgetown University published the "Blockchain Ethical Design Framework," with a focus on six "root issues": "governance, identity, access, verification and authentication, ownership of data, and security." 76 This structure more specifically applies to developers, and is not a code of conduct or a legislative model, but it reiterates the idea that "we all share the responsibility to . . . demand intentional ethical approaches in the design and application of data and technology for social good." 77

California's Blockchain Working Group considered ethical issues related to social impact, including fairness, equity, accessibility, trust and transparency, and sustainability. 78 The Group proposed an ethical framework for the adoption of blockchain technology that is directed toward lawmakers as well as industry players. 79 This framework encompasses three main principles:

i. Address key ethical design goals

a) Seek societal benefit: Maximize good and minimize bad. b) Equity: Does this benefit all Californians, or only a few? c) Efficiency and effectiveness: How can we achieve ethical design and use cases without slowing innovation?

ii. Consider ethical uses of blockchain technology

a) Fairness: Is this technology designed and deployed in a fair, nondiscriminatory manner? b) Accessibility: Design to include the most vulnerable user. c) Responsibility: Anticipate and design for all possible uses. d) Sustainability: Create technology to advance sustainability, public health, and corporate social responsibility.

iii. Minimize unintended consequences

a) Are there unintended biases or conflicts in the design or use of this technology? 80 [\*198] b) Are any populations being unintentionally harmed by the way this technology is developing? c) Does this technology promote violations of local, national, or international law? 81

This useful framework offers guidance to regulators seeking to make sure they do not inadvertently violate ethical considerations, especially with hastily drafted legislation. Two examples illustrate the usefulness of this approach. First, it could be relatively easy to create a certification process for blockchain developers who provide services to the State of California. But will that certification process limit approval to developers with degrees from elite institutions? This type of action would raise equity concerns, as the blockchain industry should be working more toward diversity in gender, cultural backgrounds, and perspectives of industry participants. Second, could companies who advance environmentally sustainable blockchain development receive tax credits from the state? Although different jurisdictions may embrace different ethical principles, legislators should discuss these issues as they contemplate ways to regulate this new technology.

C. Transparency

Since "the rule of law requires transparency," 82 jurisdictions in the United States are governed by transparency laws. The federal government's administrative agencies must abide by the Administrative Procedure Act, which (among other things) orders federal agencies to act "transparently and fairly." 83 California's Bagley-Keene Act requires state boards or commissions (including working groups) to "publicly notice their meetings, prepare agendas, accept public testimony and conduct their meetings in public unless specifically authorized to meet in closed session." 84

Legislators are likely already aware of the government transparency laws in their jurisdiction, but there are other reasons transparency is especially important in the context of blockchain regulation. First, all stakeholders should be given the opportunity to weigh in on laws governing this nascent industry. 85 The industry players on the front line have valuable perspectives to share with legislators, and input from various stakeholders will create more efficient regulation. Moreover, the technology is moving quickly, and there may be applications of blockchain in development that legislators do not even know about yet. As the Cryptocurrency Act of 2020 revealed, 86 drafting laws without the collaboration of diverse stakeholders is ineffective.

[\*199] Second, although blockchain technology may eventually touch all areas of business, members of the public may be unaware of blockchain technology's potential. Legislative debates could double as community education opportunities, allowing people who would not ordinarily be interested in blockchain to attend Working Group meetings, task force briefings, and other public discussions of this new technology. Such meetings could be advertised to nontechnical professions and community organizations, and should be held in easily accessible public places and online. Legislators themselves could reach out to their nontechnical constituents and offer ways to connect them to educators and leaders in the blockchain industry. Such transparency could create a culture of innovation in a particular jurisdiction, while increasing public credibility for whatever regulations eventually develop.

D. Interjurisdictional Competition

States have been competing with each other since the beginning of the republic, and the competition has not decreased as our economy has become more complex. 87 In corporate law, interjurisdictional competitions are a common affair. The state that "wins" the race, creating the environment to attract the most businesses to that state, can secure both tax revenue and additional jobs for state residents. Delaware indisputably won the fight for corporate charters among states, with over 1.5 million legal entities, including 67 percent of all Fortune 500 corporations, incorporated there. 88 The reasons for Delaware's success include specialized legislation that is updated each year to adapt to technical and other changes, as well as a corporate-specific chancery court that can move cases quickly along. 89

When Limited Liability Companies (LLCs) were created in Wyoming in 1977, another interjurisdictional race was on. 90 Despite concerns that interstate LLCs would have problems without uniform LLC statutes among the states, "most states enacted LLC statutes before efforts to develop standardize statutes came to fruition." 91 As a result, only twelve states ultimately adopted uniform acts, and there is less uniformity for LLC statutes than for other business forms. 92

The same is happening now with statutes related to blockchain technology. States who can win the race to attract blockchain businesses to incorporate and domicile in their state can earn more than just increased tax revenues from start-up companies. Such a state could also create a reputation for being friendly to [\*200] technological innovation, a reputation that would have impacts beyond blockchain technology. For this reason, some states (including Wyoming, the first state to draft LLC statutes in 1977) jumped out first to enact permissive blockchain-and crypto-friendly regulations. 93

Before enacting regulations, however, state legislatures should ensure they are clear on the policies underlying those regulations. For example, as discussed in Section II.A above, states should consciously strike a balance between protecting the public and encouraging innovation. Without establishing prioritized policies in advance, a state may win the interjurisdictional competition in the short term but create unintended consequences, such as unnecessary litigation or public harm, in the long term.

E. Uniformity

As a member of the California Blockchain Working Group, this author asked industry leaders in late 2019 what they preferred to see in blockchain regulation. Each of them clearly and unequivocally stated that uniformity of regulation across the United States would be good for business. It would be much easier for blockchain businesses to plan and expand their operations if states were aligned on regulatory issues, particularly in the area of digital assets.

The Uniform Law Commission (ULC) has made several attempts to create a standardized approach to digital asset regulation. 94 In 2017, the ULC proposed the Uniform Regulation of Virtual-Currency Businesses Act to provide "a statutory framework for the regulation of companies engaging in 'virtual-currency business activity.'" 95 An accompanying "Supplemental Act" in 2018 provided rules related to commercial law and the Uniform Commercial Code. 96

These model acts had a short and controversial lifespan. No state enacted the model legislation, and only a handful of states introduced it. 97 Wyoming actively resisted the ULC's request to withdraw Wyoming's pending blockchain [\*201] legislation in favor of adopting the ULC's approach. 98 Wyoming's legislators noted that the ULC's model acts had not yet been enacted by any jurisdictions, and explained why they considered Wyoming's regulatory approach to be the superior one. 99 One month later, the ULC recognized the need to convene a committee to study how the Uniform Commercial Code could be amended in order to "deal with emerging technologies." 100 The ULC urged "states to refrain from enacting legislation pending the result of the committee's work," 101 an act suggesting that the ULC recognized flaws in its proposed acts. 102 Given the ongoing interjurisdictional race described in Section II.D, it seems absurd to ask states to wait on enacting blockchain legislation.

As of December 2020, only one state (Louisiana) had passed a virtual currency licensing statute based on the ULC's uniform act. 103 It is clear that, much like the race for corporate and LLC charters, the uniformity train has left this station. In the absence of federal legislation or effective model acts, states have already invested time and energy into drafting new laws. States like Wyoming, which has "actively decided to lead the charge in ensuring solvent, blockchain based" companies, 104 will not willingly give up their leading positions in this area.

III. THE CURRENT UNEASY MIX OF FEDERAL AND STATE BLOCKCHAIN REGULATION

Federal and state regulators are struggling to keep up with the fast pace of blockchain technology development. This Part will demonstrate how this struggle is creating a wide variety of regulatory approaches.

[\*202] A. Patchwork Agency Regulation

The federal government's attempt to regulate blockchain technology, particularly cryptocurrencies, is (to put it bluntly) a mess. Federal authorities interpret laws relating to blockchain and cryptocurrencies differently. 105 This confusing, piecemeal approach is epitomized by the struggle to determine how to even classify digital currency for regulatory purposes. The Internal Revenue Service (IRS) views cryptocurrency as property, the Securities and Exchange Commission (SEC) classifies such currencies as securities, and the Commodity Futures Trading Commission (CFTC) considers cryptocurrency to be a commodity. 106 There is clearly a need for a unified methodology, even just within blockchain's narrow use case of cryptocurrencies, but this confusion is not a surprising result when "neither Congress nor the SEC has formally elucidated which digital assets are securities and which are not." 107

Different agencies are sending different messages, creating "regulatory whiplash." 108 Some, like the CFTC, are inclined toward experimentation to support blockchain and cryptocurrency development, while others are more cautious. 109 All of the agencies seeking to regulate blockchain technology and its applications would benefit from consideration of the five factors listed in Part III. Below is a short explanation of three distinctive agency approaches.

[\*203] 1. SEC Safe Harbor Provision--A Work in Progress

The SEC missed its chance to establish a clear regulatory framework early in the life span of blockchain technology, instead adopting an approach characterized by delay and a series of reversals on important decisions. 110 The SEC's delay "simultaneously encouraged unscrupulous actors to take advantage of ambiguous regulations" and issue fraudulent tokens to Americans, while "driving away conscientious developers and entrepreneurs" to places with more developed laws. 111 The SEC's attempt to clarify its position in a limited area with the April 2019 issuance of a "Framework for 'Investment Analysis' of Digital Assets" has been called "too little too late." 112

In the meantime, SEC Commissioner Hester Peirce has earned the nickname "Crypto Mom." 113 In early 2020, she offered her take on the legislative problems related to blockchain technology, saying "[i]t is important to write rules that well-intentioned people can follow. When we see people struggling to find a way both to comply with the law and accomplish their laudable objectives, we need to ask ourselves whether the law should change to enable them to pursue their efforts in confidence that they are doing so legally." 114 Peirce clearly views law and regulation as a way to promote, not thwart, the development of blockchain and its use cases.

In February 2020, Peirce proposed a safe harbor provision for firms in the cryptocurrency space selling tokens to the public. 115 Peirce described her proposal as recognizing "the need to achieve the investor protection objectives of the securities laws, as well as the need to provide the regulatory flexibility that allows innovation to flourish." 116 The safe harbor proposal includes disclosure requirements for issuers and good faith obligations to ensure that token issuers are not fly-by-night companies. It also sets forth rules related to the purpose of token issuances and efforts to create liquidity for token users. 117

[\*204] The idea underlying the proposal is to "give new projects some breathing room where they can do their work without fear of being fined, arrested or having their offices raided." 118 This also filters "out the bogus projects that have no intention of building a workable, decentralized product." 119 Peirce appears to be seeking a way to protect consumers from unscrupulous token issuers while allowing companies to move forward with technical developments.

Many members of the blockchain industry welcomed the safe harbor proposal. The General Counsel for a cryptocurrency exchange declared, "Today we both congratulate and thank SEC Commissioner Hester Peirce . . . . This is a great day for the blockchain industry and the United States." 120 But the proposed safe harbor is just that: a proposal. It is not yet law, and may never become law. 121 Even so, the willingness of Commissioner Peirce to think outside of the box with this proposal has reinforced her reputation (and her nickname) within the blockchain community.

2. The Federal Reserve's Digital Dollar

The Federal Reserve revealed in February 2020 that it was working toward a potential central bank digital currency (CBDC). 122 A CBDC, colloquially [\*205] known as a "digital dollar," is not a token based on a decentralized blockchain. 123 It would instead be a "debt notation on a centralized ledger maintained by the Federal Reserve," which would use a centralized database to track consumer or business balances. 124 Individuals could "access funds through digital dollar wallets, which would also be managed by the Fed." 125

Although the digital dollar is different from a crypto asset on a blockchain, the policy issues at hand are quite similar. The Federal Reserve recognizes that these policies include financial stability and legal considerations, such as privacy concerns and protections for data and digital identity safety. However, the Federal Reserve clearly wishes to be on the cutting edge of the digital dollar debate, with one of its members noting that "it is essential that we remain on the frontier of research and policy development regarding CBDC." 126

At the time, there was pressure on the Federal Reserve to begin researching a digital dollar. China is creating a digital yuan, 127 and some argue that the United States is already "falling behind" other countries in developing a CBDC. 128 In addition, the surprise release of Facebook's Libra in 2019 (now rebranded as "Diem") apparently inspired the Federal Reserve to accelerate its research on the potential of a CBDC. 129 The arrival of the COVID-19 pandemic expedited the discussion, as millions of people around the world moved toward cashless payments. 130

The discussion of a digital dollar jumped quickly during the pandemic from the Federal Reserve to Congress. Drafts of congressional emergency pandemic relief legislation in March 2020 included a digital dollar concept to speed up the delivery of stimulus payments. 131 A Congressional Task Force on Financial [\*206] Technology held hearings on the issue in June 2020. 132 Indeed, "the question might be not if digital currencies will find their way into the financial system, but when--and how." 133 As federal lawmakers move toward the creation and regulation of a CBDC, they should be pondering how to encourage innovation while protecting consumers. In addition, anyone involved with the CBDC should consider transparency issues involving the input of multiple stakeholders, as well as ethical considerations such as concerns for unbanked populations.

3. Treasury Department Regulations to Increase Cryptocurrency Transparency

Unlike SEC Commissioner Hester Peirce and the Federal Reserve, U.S. Treasury Secretary Steven Mnuchin has taken a more cautious (and arguably negative) approach to cryptocurrency. 134 In February 2020, Secretary Mnuchin told the Senate Finance Committee that the Treasury Department would be enacting "stricter regulations around digital currencies to help expose 'secret' accounts and other nefarious activities." 135 Although Mnuchin acknowledged that "[w]e want to make sure that blockchain technology moves forward," he also noted that "[w]e want to make sure cryptocurrencies aren't used for the equivalent of old Swiss secret number bank accounts." 136

The goal of Treasury regulations will be to "ensure law enforcement can see where the money is flowing, and that it's not used for money laundering." 137 A March 2020 press release from the Treasury Department announced that the Department had held a meeting of "industry thought leaders and compliance [\*207] experts" on the issue of cryptocurrency regulation. 138 The press release also explained that as these regulations develop, Treasury will remain focused on preventing illegal conduct by "money launderers, terrorist financiers, and other bad actors." 139 The repeated use of such negative terms indicates the Department's adverse stance toward cryptocurrencies, as well as an example of lawmakers and regulators "still cling[ing] to an outdated trope where cryptocurrencies are used to underwrite criminal activity." 140

What can we make of this patchwork approach to regulation among U.S. federal agencies? Some may argue that it is better for the federal government to allow the blockchain industry and cryptocurrency markets to evolve before finalizing a regulatory structure. There can also be benefits to regulatory divergence, such as enhanced innovation as agencies compete to become the preferred regulator in a particular field. However, the absence of "intelligent rules and regulations that provide a clear and predictable framework for investors, issuers, and their lawyers" is complicating that evolution. 141 How can lawyers advise clients--such as start-up companies desiring to operate in the cryptocurrency sphere or offer tokens to investors--if it is unclear how such assets would be regulated? Policymakers are not sufficiently considering important factors, including transparency and uniformity, under this current approach.

Perhaps the problem is a lack of unity among federal agencies, who appear to be tripping over themselves to get in on the digital asset regulatory action. Federal policymakers may be concerned that they are not yet educated enough to make cohesive decisions about overarching regulatory frameworks, or they are waiting for Congress to step up. In any case, this confusion at the federal level is wreaking havoc on the blockchain industry in the United States. Innovative companies must risk inadvertently violating regulations (and having to pay the ensuing fines) just to push the industry forward. 142 Alternatively, companies are choosing to leave the U.S for other jurisdictions with better regulatory [\*208] clarity. 143 Piecemeal regulation among federal agencies is "not a substitute for transparent legislation or judicial rulings to guide market participants." 144

### Antitrust---1AC

#### Advantage 2---FTC

#### FTC credibility is tanked by both unwillingness to launch bold antitrust AND a track record of losing in court, but Khan’s appointment is a window to revamp its policy

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Since taking over at the FTC, Khan has quickly begun to remodel it. Some of these changes look like technical internal reforms, while others are major policy statements. Almost all have been fiercely opposed by Republicans and the business community.

In the past few weeks, Khan has begun holding commission meetings in public - something Democrats say makes the commission more open to scrutiny, but which the two Republican commissioners say makes it harder for them to negotiate compromises.

She has banned staff from making public appearances such as conference panel sessions, saying the commission has too much work to do. She has passed a rule which allows FTC staff greater leeway to pursue investigations in certain priority areas, giving them the power to issue their own subpoenas for documents and testimony.

Khan is also promising to help rewrite the US merger guidelines, a complex set of documents laying out what kinds of evidence regulators look for when deciding whether a merger is illegal.

And, in a pair of crucial decisions, she and her fellow Democratic commissioners voted to rescind two key FTC policy statements.

The first was written in 1995 during Bill Clinton's first term as president, and deemed that companies that had previously proposed unlawful mergers no longer had to notify the FTC before completing future transactions in the same market.

By undoing that policy, Khan said she hoped to stop companies simply trying again and again to complete a merger even after it had been rejected by regulators. The second statement was written in 2015 during the Obama administration and set down limits on when the FTC would prosecute a company for socalled "unfair methods of competition".

"These changes are going to make dealmakers think about things differently," says one senior Democrat working for the commission. "They are not filing an application, we are investigating as to whether there is a violation of the law. That is a fundamentally different way of thinking about things."

Meanwhile, the White House has given the FTC the even bigger task of helping rewrite the rules that underpin the American economy. Under the terms of a sweeping order signed by Biden last month, the commission has been asked to devise rules which would ban companies from stopping employees moving to rivals, and prevent pharmaceutical companies from paying generic rivals not to enter a certain market for a period of time.

The moves have delighted progressives, who say Khan's willingness to push through reform quickly shows she is serious about putting the commission back at the heart of Washington rulemaking and enforcement.

"The commission has been lazy," says Matt Stoller, director of research at the American Economic Liberties Project and a former colleague of Khan at the Open Markets Institute. "It has been a place where you send political cronies who don't have to do any work if they don't want to.

"This is such a different form of politics from the normal bullshit."

Republican concerns But if the reforms have pleased Khan's supporters, they have worried conservatives who say the commission lacks both the legal authority and the institutional capacity to do what is being asked of it.

For example, Khan says she wants to renew the commission's appetite for bringing cases against companies for "unfair methods of competition" - a vague category of corporate behaviour which allows the FTC to act even when there is no merger in question or when a company is not large enough to be a monopoly. She and fellow progressives argue that by not pursuing such cases the FTC has taken away one of its most powerful weapons.

Such behaviour is often very hard to prove, however. When the FTC charged Abbott Labs in 1994 with trying to rig a bid to supply the Puerto Rico government with infant formula, for example, it alleged the company's choice not to bid in one of the rounds provided evidence of collusion with rivals. Abbott Labs' lawyers, however, successfully used game theory to explain why a "no bid" could in fact have made rational economic sense.

More controversial is the idea that the commission is going to start writing wide-ranging new rules of its own, as envisioned in Biden's competition order. This would test the limits of the FTC's powers in both court and on Capitol Hill, critics say, and could end in Congress clipping its wings as it did in 1980 when the FTC was forced to subject its rules to Congressional review.

Sean Heather, senior vice-president for antitrust at the US Chamber of Commerce, says: "The FTC is writing its own rules and acting as prosecutor, judge and jury. This is deeply concerning for a regulatory agency with broad powers."

Christine Wilson says: "I believe competition rulemaking is institutional suicide."

If Khan wanted an indication of how courts might view her approach, she got one within weeks of taking over the commission. In June, a federal judge dismissed the commission's complaint against Facebook, its most high-profile in years.

The commission had argued the social media company had engaged in anti-competitive conduct for years, including by buying up potential rivals such as WhatsApp and Instagram. In June, however, a federal judge ruled the commission had failed to prove that Facebook had monopoly power.

Khan's critics worry that if the commission loses a series of high-profile court cases it will fatally undermine its authority. "If you lose enough cases your credibility evaporates," says William Kovacic, a former Republican chair of the commission. "You can lose it all - not right away, but you can lose it all."

For Khan's supporters, however, this criticism borders on the absurd. "Don't you think the FTC is already seen as weak?" says Rohit Chopra, a Democratic commissioner.

Progressives argue the FTC has for years only enforced competition rules against large companies in a fraction of the cases it should have. "Do you think there are only 10 anti-competitive mergers a year?" says Chopra. "I'm not sure it can get any worse."

"The FTC can put together legal teams that can match the best in the bar, punch for punch, in a major case," says Kovacic. "But the number of those teams is a couple, it is not 10."

For years the commission's budget and staffing levels have been chipped away. It now has roughly 50 per cent of the staff it had in 1980 and is currently trying to review a record number of mergers. In the first nine months of this fiscal year, the FTC received 2,573 notifications ahead of a large merger - already 50 per cent more than were received in the whole of last year.

Last week, the commission published a statement warning that it would not be able to review all mergers within 30 days of a notification being made, as required by law. Instead, the FTC said, if it had not had time to review a merger before it took place, it would reserve the right to take action even after it had been completed.

The commission is also facing an uphill battle to retain staff. Some people say they feel demoralised by the pace of change and irritated they have not yet met their new chair - something Khan's allies say is an unfortunate result of the pandemic. "There are only so many times you can hear that your institution has failed for years before you start to doubt your place in it," says one staff member.

#### Specifically---blockchain is a key priority

Dr. David Morris 21, PhD in Media Studies from the University of Iowa, Former Academic Sociologist of Technology, CoinDesk’s Chief Insights Columnist, “Biden’s New FTC Chair Could Be a Big Web 3.0 Ally”, The Crypto Daily News, 6/16/2021, https://thecryptodailynews.com/2021/06/bidens-new-ftc-chair-could-be-a-big-web-3-0-ally/

Yesterday, the Biden administration named Lina Khan, a 32-year-old Columbia Law professor, as the brand new head of the Federal Trade Commission. Khan, who would be the youngest FTC head ever, is called a fierce critic of massive tech monopolies like Amazon. While there’s typically a knee-jerk resistance to regulation and regulators amongst blockchain advocates, Khan’s considerations make her a potential ally on huge points like privateness. Her antimonopoly work might additionally create substantial market alternatives for brand new sorts of tech companies – together with these constructing decentralized techniques and “Web 3.0.”

Enforcing U.S. antitrust regulation is a main a part of the FTC’s mandate, and Khan might be greatest identified for serving to redefine simply what a “monopoly” is. She has been essential, together with throughout seven years on the Open Markets Institute, in growing and selling the concept a firm could be a monopoly even when its practices drive prices down – even, the truth is, if its product is free to customers. That principle largely hinges on how the companies collect and use knowledge: Khan has been among the many loudest critics of the way in which Amazon makes use of knowledge gathered by its storefront, akin to by leveraging sales data to compete with third-party sellers who’re, a minimum of buyers, its prospects.

#### Failing to control blockchain violations will outstrip federal enforcement capacity, making traditional antitrust completely ineffective

Drew Stanko 21, JD Candidate at St. John's University School of Law, BS in Economics from Villanova University, “Recent Developments and the Need for Nuance”, Journal of Civil Rights & Economic Development, 4/8/2021, https://www.jcred.org/shortreads/efforts-to-modernize-antitrust

I. IS NEW SCHOOL OFFICIALLY HERE?

In January 2007, the Economic Analysis Group at the Department of Justice Antitrust Division published a Discussion Paper entitled "Does Antitrust Need to be Modernized?" The paper reviewed whether "globalization and rapid technological change" necessitated changing federal antitrust laws. This Discussion Paper has proven prescient; it identified as a "key issue" the growing need for improving antitrust enforcement of alleged exclusionary conduct related to intellectual property.

Bipartisan support for antitrust reform has grown immensely since January 2007 due to heightened market concentration and Mergers & Acquisitions (M&A) rates in an increasingly complex digital economy. Senator Amy Klobuchar introduced antitrust reform legislation in February that would provide substantial funding increases to the FTC and the DOJ Antitrust Division, and the Biden Administration appears to be supporting efforts to modernize antitrust enforcement.

Recently, President Biden indicated intent to name two prominent "New School" antitrust attorneys and scholars, Lina Khan and Tim Wu, to positions in his administration. Kahn, who rose to prominence as a student at Yale Law School for "Amazon's Antitrust Paradox" and has since held positions at the Open Markets Institute and the FTC, will reportedly be nominated to serve as the Commissioner of the Federal Trade Commission. Wu is famous for coining the term "net neutrality" and authoring "The Curse of Bigness: Antitrust in the New Gilded Age," and he will serve on the National Economic Council as a special assistant to the president for technology and competition policy. Kahn and Wu have helped establish and develop the "New School" of antitrust jurisprudence, and both have taught related courses at Columbia Law School. Generally, the New School aims to prioritize "innovation, entrepreneurship, privacy, freedom of the press, and economic and civil liberties" rather than strictly focusing on "consumer welfare."

II. SENATOR KLOBUCHAR'S COMPETITION AND ANTITRUST LAW REFORM ACT:

Senator Amy Klobuchar, who spoke passionately about her concerns related to antitrust enforcement throughout her Presidential campaign, introduced antitrust reform legislation in February.

Sen. Klobuchar's proposal, the Competition and Antitrust Law Reform Act, aims to "give federal enforcers the resources they need [to] . . . strengthen prohibitions on anticompetitive conduct and mergers, and make additional reforms to improve enforcement." In order to accomplish these goals, the proposal would provide increased funding for the DOJ Antitrust Division and the FTC and would create a new FTC "Market Analysis" Bureau. While these structural and administrative reforms may receive bipartisan support, Sen. Klobuchar's proposal would also substantially alter the legal standards used to evaluate antitrust challenges under the Sherman and Clayton Acts, a change likely to be met with pushback by conservative economists and lawmakers. Sen. Klobuchar's proposal aims to accomplish important goals, but some argue the Sherman and Clayton Act amendments included in the legislation would "add friction to M&A Activity, stalling capital markets, reducing innovation and investment, and frustrating economic growth."

1. CLAYTON ACT REFORMS

Senator Klobuchar's proposal would modify the Clayton Act to "restore its original intent by amending it to include reference to 'exclusionary conduct.'" The legislation would define exclusionary conduct as "any conduct that would materially disadvantage . . . actual or potential competitors, or foreclose the ability of or incentive to compete." Currently, antitrust challenges require the plaintiff provide prima facie evidence that alleged anticompetitive effects of proposed mergers would result, and "proponents of the merger are then permitted to rebut by providing evidence that the merger will not have the feared anticompetitive effects."

The amendments would shift the presumption that "exclusionary conduct" presents a violative "appreciable risk" where such conduct is taken by a firm with a market share greater than 50% or otherwise wields significant market power. In turn, the burden would be on firms to prove the procompetitive market effects of the challenged conduct or merger rather than on the challenging entity to establish the anticompetitive impacts of the conduct that would result.

While it is important that antitrust reform efforts prioritize enforcement of anticompetitive exclusionary conduct, the legislation arguably defines the term overbroadly. Accordingly, the proposal may result in disincentivizing innovation that would ultimately benefit consumers and the overall economy. By presuming the illegality of any conduct taken by large firms that disincentivizes market entry or competition, the proposal risks unintentionally penalizing firms for achieving beneficial economies of scale or otherwise innovating to provide higher quality products more cheaply than competitors. Arguably, threatening firms with costly antitrust litigation whenever they undertake innovative conduct that negatively impacts competitors risks disrupting market incentives and stalling economic growth.

2. SHERMAN ACT REFORMS

Similarly, the Sherman Act would be modified to allow civil penalties of either 15% or 30% of a firm's US revenues for anticompetitive exclusionary conduct. Sen. Klobuchar has indicated that civil penalties are necessary because the existing remedies—injunctions, equitable monetary relief, and private damages—have not sufficiently deterred anticompetitive conduct. This may be true, but civil penalties of this size likewise risk stifling and disincentivizing innovation.

3. FUNDING ENFORCEMENT AGENCIES, FINANCING NEW "MARKET ANALYSIS BUREAU"

While the Sherman and Clayton Act reforms are unlikely to garner significant support from conservative lawmakers, the funding increases and creation of the FTC Market Analysis Bureau are more likely to win bipartisan support.

Increasing the funding available to the FTC and the DOJ would enable the agencies to hire more attorneys and would finance the creation of the Market Analysis Bureau. The MA Bureau would supplement the FTC's existing Competition, Consumer Protection, and Economics Bureaus. It would be tasked with conducting market, industry, and retrospective merger analyses aimed at helping the FTC develop a better understanding of the competitive conditions and underlying economic dynamics affecting complex markets. The creation of the MA Bureau is likely to gain support because it would demonstrate a commitment to ensuring continued reliance on empirical analyses rather than judicial or political discretion. Accordingly, these reforms would likely bolster enforcement efforts without necessarily adopting the "Big is Bad" approach that has historically divided lawyers and economists.

III. MODERNIZING ANTITRUST ECONOMICS

The Market Analysis Bureau would theoretically improve enforcement agencies' understanding of the economics underlying complex markets. This would provide enforcers with the tools needed to prosecute anticompetitive conduct that may have otherwise skirted enforcement due to the difficulty of establishing the negative economic effects of the conduct in question.

The complexity of the digital economy and increasing market concentration has made it more difficult for prosecutors to prove these anticompetitive results, but advances in machine learning and computational antitrust may assist in identifying and consistently enforcing antitrust violations.

While computational antitrust is certainly in its nascent stages of development, the early returns from Stanford's new Computational Antitrust Project are promising. The project's seminal article, authored by Project Director Thibault Schrepel, defines computational antitrust as a "new domain of legal informatics which seeks to develop computational methods for the automation of antitrust procedures and improvement of antitrust analysis." There are more than fifty global antitrust enforcement agencies participating in the project, including both the US FTC and the DOJ Antitrust Division.

Schrepel situates computational antitrust within "Antitrust 3.0," which he explains "is emerging but remains incomplete." At the core of Antitrust 3.0 is the goal of developing consistent enforcement frameworks designed to combat anticompetitive conduct in digital markets.

IV. OUTLOOK

In "The End of Antitrust History Revisted," Kahn "reviews" Wu's The Curse of Bigness and explains that the "task facing reformers is to translate their critiques into a positive vision, including legal rules and analytical frameworks." These analytical frameworks will be critical to ensuring that antitrust law promotes free market economics, rather than subjects firms to inconsistent judicial interpretation and prosecutorial discretion.

The majority of federal antitrust law applicable today was authored prior to 1915, and the unique challenges associated with prosecuting exclusionary conduct in digital markets have presented concerns for nearly twenty years. While bipartisan support for antitrust reform and emerging scholarship both provide legitimate reason to be optimistic about efforts to modernize federal antitrust law, it is important that reforms are nuanced enough to confront the complex problems they are enacted to address.

Accordingly, while Senator Klobuchar's proposal is certainly "well-intentioned," the budgetary reforms and creation of the Market Analysis Bureau should be separated from and passed without the proposed Sherman and Clayton Act amendments included in the legislation. The newly-appointed experts in the Biden Administration should be afforded the requisite resources to capitalize on the promise of New School antitrust jurisprudence and the development of Antitrust 3.0. By providing these resources, those leading antitrust modernization efforts will be equipped with the tools needed to create nuanced legal frameworks that reflect modern critiques and ensure consistent enforcement practices.

#### This will create a legitimacy crisis that threatens the foundational credibility of the FTC

Dr. Thibault Schrepel 19, PhD in Antitrust Law from Université Paris-Saclay, LLM in International Law and Legal Studies from the Brooklyn Law School, Associate Professor of Law at VU Amsterdam University, Faculty Affiliate and Creator and Director of the Computational Antitrust Project at the Stanford University CodeX Center, “Collusion by Blockchain and Smart Contracts”, Harvard Journal of Law and Technology, 33 Harv. J. Law & Tec 117, Fall 2019, Lexis

V. CONCLUSION

Blockchain is a new and yet little-explored territory. It is, amongst other things, the Amazon 228 of tomorrow's collusive agreements: full of different life forms and new possibilities, the technology will give rise to unidentified creatures and dangerous species that we do not really know how to approach.

I have first shown that blockchain will be used to enhance the functioning of collusive agreements as we know them and that new forms of collusion linked to the technology conditions of access and use will appear as well. Second, blockchain will increase the stability of collusive agreements, providing them with a good life. Depending on whether the blockchain is public or private, a double paradox could emerge. One paradox is related to the visibility of all practices to colluders while ensuring their opacity to non-colluders. The other is associated with the fact that collusive agreements will be more robust during their lifetime by eliminating a large proportion of deviant behaviors, but will die in more brutal ways.

For these reasons, one can expect an increase in the number of collusive agreements along with an increase in their profitability, but not necessarily in their duration. The number of leniency applications may also drop because blockchain will reinforce trust during the lifetime of collusive agreements. This is largely due to the potential use of smart contracts because once again, "[o]ne of the greatest checks on crime is not the cruelty of punishments, but their inevitability," 229 which is precisely what smart contracts provide by automating punishments.

[\*164] The time has now come to detect collusion by blockchain and smart contracts, however difficult that may be. I have shown that some blockchains are more likely to induce collusive agreements than others. Antitrust and competition authorities may start with focusing their efforts on these blockchains and creating safe harbors for the others, for instance, by ensuring that no sanction will be imposed under antitrust and competition law for a specified number of years. Antitrust and competition authorities may also, when sending questionnaires to undertakings, ask whether they use blockchain, and if so, what type of blockchain, using which consensus, and for what purpose.

But perhaps it is even more urgent to adapt existing legal toolboxes before they become entirely ineffective, which implies considering a "law is code" approach and, generally speaking, transforming part of antitrust and competition law to become allies to blockchain core developers rather than mere threats. 230 It is said that "it is tempting, if the only tool you have is a hammer, to treat everything as if it were a nail." 231 As true as this statement is, all we have in existing laws is one size of pliers. With the wrong tools, the most sophisticated technology requiring great precision will not be as adjusted as it could be. Antitrust and competition agencies are currently not equipped to fight collusive agreements by blockchain. This may cause a legitimacy crisis for antitrust and competition law that may become ineffective sooner than expected. Indeed, it is more than likely that the use of current regulatory tools will be prevented by the technical characteristics of blockchain. Agencies further need to start analyzing code and software programming. Without doing so, most illegal activities on blockchain will remain safe. The same is true for all practices outside of blockchain which use the Internet. To date, antitrust and competition agencies refuse to analyze the programming of platforms and software. This creates a legal loophole and encourages companies to commit anti-competitive strategies precisely here. 232

Without fundamental research on this subject, palliatives will continue to be present, risking the survival of blockchain 233-- or antitrust [\*165] and competition law. 234 Some propose the creation of an identity management system so that the real identities of blockchain users can be revealed. 235 Others have suggested "adding a regulatory node in the blockchain" to spy on it 236 or imposing fines to the core developers when blockchain is used for illegal activities. 237 Going even further, it has been said that public blockchains "governed by international institutions from the legal tradition" such as the United Nations should be created. 238 But in fact, these solutions are either ineffective or would jeopardize the utility of the technology as its applications rely on the key characteristics that I have exposed in our introduction and that would be challenged by these various initiatives. Let us recall first and foremost that blockchain is a fundamental technology that may create good for the world. 239 The creation of safe harbors 240 and regulatory sandboxes 241 will enable competition agencies to respond quickly to the challenges posed by blockchain, but in the end, only a re-conceptualization of the law will provide a satisfactory answer. 242 Without it, antitrust and competition law will face a second legitimacy crisis arising from the absence of decentralized regulatory mechanisms. After all, how can decentralized transactions be properly regulated by pyramidal rules and institutions?

#### Failure of FTC crushes the effectiveness of the agency

William E. Kovacic 15, Global Competition Professor of Law and Policy at the George Washington University Law School and Non-Executive Director of the United Kingdom Competition and Markets Authority, “Creating A Respected Brand: How Regulatory Agencies Signal Quality”, George Mason Law Review, 22 Geo. Mason L. Rev. 237, Lexis

Introduction

One determinant of a government agency's effectiveness is its reputation, or "brand." Much like a commercial enterprise, an agency develops a brand that signals quality to various observers. A good reputation can help the agency recruit skilled personnel, gain deference from courts, build credibility with business managers, and build popular support that can yield larger budgets and enhancements to its powers. An agency with a strong brand stands a greater chance of being effective than one with a weak brand.

This Essay considers how branding can affect the performance of the Federal Trade Commission ("FTC") and other agencies responsible for economic regulation. It analyzes how investments in building a good brand enable the regulatory agency to signal quality to various observers - insiders such as agency staff and outsiders such as businesses, consumer groups, courts, and legislators. Part I of this Essay defines the concept of a brand for public agencies. Part II then discusses why an agency's brand can be important to its effectiveness and identifies what types of agency activities either enhance or degrade an agency's brand.

The examination of agency branding has several purposes. One aim is to improve our understanding of how public agencies build a reputation, and to study the role of reputation in determining effectiveness. A closely related goal is to give public officials a better understanding of how they should approach the task of deciding what their agencies must do to prosper.

A further aim is to underscore the impact of institutional design and managerial incentives on agency performance and to illuminate how design choices and incentive schemes influence the development of a well-respected, coherent agency brand. Various design choices - for example, whether to give the competition agency a single function or a multi-purpose substantive mandate, whether to govern the agency by a single executive or [\*238] by a board, whether to integrate the tasks of prosecution and adjudication in a single body or to unbundle them among distinct entities - affect the capacity of the agency to enhance the quality of its brand. Incentives that give incumbent leaders reason to make investments in long-term agency capacity and quality have the same effects.

I. Brands and Public Institutions

Public institutions, such as competition or consumer protection agencies, build reputations or "brands" that the agency's own employees and external observers associate with the agency. 1 Brands perform two functions for the public agency. The first function is informational. 2 A good brand conveys a good sense of what an agency does. It communicates, at least in a general way, the scope of the agency's responsibilities and the aims that motivate the agency in the exercise of its powers.

A brand also signals institutional quality. For an agency such as the FTC, the foundations for a good brand are sound substantive programs (e.g., cases, regulations, reports), sound procedures (e.g., meaningful disclosure of information, rigorous testing of evidence, regular assessment of outcomes), strong capabilities (e.g., deep expertise in economics and law), and a healthy culture (e.g., thoughtfulness, integrity, courage, and a commitment to continuous improvement). 3 For several reasons, explained below, a strong brand is a valuable asset for a regulatory agency.

#### FTC credibility’s key to global cooperation to contain spyware

Ari Schwartz 12, Deputy Director of the Center for Democracy and Technology, “Federal Trade Commission Reauthorization”, Hearing Before the Subcommittee on Interstate Commerce, Trade, and Tourism of the Committee on Commerce, Science, and Transportation United States Senate One Hundred Tenth Congress First Session, Government Printing Office, https://www.govinfo.gov/content/pkg/CHRG-110shrg75970/html/CHRG-110shrg75970.htm

Mr. Schwartz. Thank you very much, Chairman Dorgan. Thank you for holding this public hearing today and inviting CDT to participate.

As more consumers' services move online, consumer protection agencies are facing new challenges. The Federal Trade Commission has played a leadership role to meet these challenges, including overcoming such difficulties as locating the perpetrators of online schemes, keeping up with the rapid pace of technological evolution, and following the increasing financial motivation of Internet fraudsters.

In particular, the FTC has been the lead law enforcement agency in the world in the fight against spyware. Spyware has become one of the most serious threats to the Internet's future. Consumer Reports magazine estimates that consumers will lose $1.7 billion this year to spyware attacks alone. The magazine estimates that almost 1 million consumers simply gave up fixing their spyware-riddled computers and had to throw them away.

The good news is that consumer losses are down dramatically from 2006, when they peaked at $2.6 billion. The main reasons for this decrease in the spyware threat are, first, the improvement in anti-spyware technology; second, the public pressure on companies advertising with nuisance or harmful adware; and, finally, the enforcement of consumer protection law, led by the work of the FTC and some State attorneys general.

The FTC recognized the profound threat posed by the rising tide of spyware early, and actively moved to limit its spread. The Commission has been the leading enforcer against spyware, pursuing 11 cases to fruition in the past two and a half years, including three based, at least in part, on the petitions brought my organization, the Center for Democracy and Technology. CDT has learned, through our own research, that, as consumer fraud increases, the FTC's ability to work internationally becomes more important. Congress passed the SAFE WEB Act late last year to provide the FTC powers to promote international cooperation. The FTC's ability to use this new law, and staff resources that it will need, will be very important to monitor.

#### Spyware norms are solidifying but require strong U.S. leadership---success stops human rights crackdowns that escalate to global war

Marietje Schaake 11-10, International Policy Director at Stanford University’s Cyber Policy Center, Senior Advisor for Tech & Geopolitics at Eurasia Group, President of the Cyberpeace Institute, “We Need a New Global Standard to Curb Intrusive Spyware”, Financial Times, 11/10/2021, Lexis

After more than a decade, democratic governments are finally waking up to the hazards of commercial spyware. Recent media coverage has exposed how authoritarian regimes are using NSO Group’s Pegasus software to spy on journalists and politicians. The EU has now tightened its rules on the export of surveillance technology, and the US Department of Commerce last week determined that Israel-based NSO Group and three other hacking companies were “engaging in activities that are contrary to the national security or foreign policy interests of the United States”. However, these modest steps do not go far enough: what’s needed is a global standard to reign in technologies that violate the rights to privacy, free assembly as well as free expression.

From ~~crippling~~ [devastating] ransomware to questionable neural algorithms which use AI to identify suspicious non-verbal activity, to face and emotion-detecting technologies, there is a proliferation of software applications which conflict with liberal democratic values.

Traditionally, export controls are imposed on products that threaten national security, such as those that could boost the manufacture of nuclear weapons. The EU has recently extended its export regime to include spyware technologies, and added human rights violations as a criterion for potential harm. But since the NSO Group is based outside the EU, it lies outside Brussels’ jurisdiction. Without a wider international agreement, options for curbing these companies are limited.

The absence of global restrictions brings further credibility risks: how can liberal democracies lobby against human rights abuses by authoritarian regimes, when they are in effect permitting the development and marketing of digital weapons?

While restricting exports may help prevent the flow of intrusive technologies from democracies to dictatorships, imports and domestic uses remain unaddressed. The Pegasus Project revealed how, in the heart of the EU, Hungarian prime minister Viktor Orban has deployed commercial surveillance systems to target the few remaining independent media outlets within his own country.

Even some democratic states, such as the Netherlands, are guilty of procuring hacking and surveillance systems, but do not disclose which ones. Undoubtedly, they will claim these are only ever used to track down the most serious criminal and terror suspects. Yet this lends credibility and capital to an exceedingly harmful industry. If democracies are serious about curbing surveillance, they should exercise greater transparency and lead by example.

More than ad hoc measures or restrictions applied to individual companies, the US should partner with the EU and other willing countries to set a new international standard for the use of, and trade in, spyware. This would be a tangible outcome for President Biden’s upcoming Summit for Democracy, a US-led virtual meeting in early December aimed at preventing authoritarianism, fighting corruption, and promoting human rights.

Beyond spyware, a variety of other technologies deserve greater scrutiny and regulation. Illegitimate mass surveillance systems, facial recognition software and tools used for illegal cyber operations are traded across borders to facilitate repression, conflict, and instability. Poor cyber security is now a source of systematic risk which threatens national resilience. Greater co-ordination is necessary to ensure that technologies which are currently legal do not provide the means for widespread rights violations.

Moreover, an international agreement between democratic states against malicious uses of technology will help set multilateral norms. UN human rights experts this week raised the alarm once more about how tech companies serve as modern-day “mercenaries”. “Private actors provide a wide range of military and security services in cyber space, including data collection, intelligence and surveillance,” they warned.

In the future, a licensing requirement should be the default for tech companies that contravene the human rights standard of democratic states. This would ensure better controls of end use and exports. Regulation would also allow for mapping of how software is being deployed, and enable greater transparency. Equally, companies should strengthen their own risk-management. The very credibility of democracies is at stake when tech companies can undermine global security unhindered.

#### FTC leadership on blockchain establishes a model for other countries to apply to AI and machine learning

Bojana Bellamy 19, President of Hunton Andrews Kurth LLP’s Center for Information Policy Leadership; Terry Calvani with the Freshfields Law Firm, Former Commissioner and acting Chairman at the Federal Trade Commission; Eduardo Perez Motta, Senior Partner at the SIA Law and Economics Firm and Former President of the Mexican Competition Authority, COFECE, and, also, a Former Chair of the International Competition Network, Rod Sims, Chairman of the Australian Competition and Consumer Commission; Andy Wyckoff, Director of the OECD’s Directorate for Science, Technology, and Innovation, “The FTC’s Role in a Changing World,” FTC, 3/26/2019, https://www.ftc.gov/news-events/events-calendar/ftc-hearing-11-competition-consumer-protection-21st-century

And I think it is important that we, in Europe, do not believe that our way is the only way and I think we must be also humble to take on some of the US best examples. But then the US also, we've got expectations, the US federal privacy debate is going to sort of stir up and come up with perhaps some new ways of dealing with some of these issues. So I think building on that respect for differences, but also what brings us together is really a good way forward. I talked about some of the joint policy initiatives. I really think this would be a great way to bring us together. Think about facial recognition or blockchain or machine learning or Internet of Things, drones, all of that would be amazing.

For example, a case study to bring us to work on something which is proactive, which isn't kind of reactive, confrontational, adversarial, but actually we're creating something better for the world ahead. Of course, cooperation and enforcement is important and I think, as some in Europe, do not believe any of the complaints end up in the right hands. I think that's where the FTC can also help and ensure that the EU-led complaints that are sent to the US actually get heard properly and get enforced potentially or there is a feedback loop back. I think that would be helpful as well.

And then the final point I would like to add, which is something around -- more around, as Eduardo has said, about the leadership role of FTC. I really think actually FTC has got something to teach other regulators just because of its breadth and sort of experience in being a tough enforcer. Those of you who were in privacy for many years used to remember -- people used to say -- Europeans used to say, if only we had the FTC enforcement in the European law that would be the best combination.

So we always looked up to FTC as to how they enforce the law, how they manage, and I think that's something that FTC can really take on a great role, particularly with European regulators, who now have got similar enforcement powers. But, frankly, and I apologize, I know it's going to be online, they don't have the know-how, how to actually use these powers in the best way.

We've seen some Draconian enforcement in the EU without proper due diligence, without proper process, without proper transparency and proper lessons learned why that fine has been applied in this way and why it hasn't been applied that way. And I think this is something, Rod, I think you slightly talked about that. That is where I think FTC can help also, frankly, technically bring the other regulators a little bit up to higher level simply because of its standing and experience in enforcement.

MR. TRITELL: Thank you. I think we have a wonderful example how your questions can really stimulate the panel. (Laughter.)

MR. TRITELL: So feel free, please, to find those cards and send them up here and enhance the show.

So we're talking about conversions and joint projects of an exciting nature. One. way to potentially move those forward is through the vehicles of international organizations. Our hearings have touched many times on the OECD, ICN, ICPEN, we have UNCTAD, regional organizations like APAC, various privacy groups. There's a big menu of these venues, but resources are finite.

Let me ask where in surveying that spectrum do you think the. FTC should allocate, its resources and what should they seek to accomplish in some of these important international fora? Rod?

MR. SIMS: Well, I wouldn't mind just -- I'll answer that question, but it's just backing up to what --

MR. TRITELL: Or come back to any other point, please.

MR. SIMS: Well, what Bojana just said, the -- we notice this quite a lot in our consumer work because we are a consumer and a competition regulator, and because most of our staff do both competition and consumer work, we don't separate them out. I think we're fairly unique in that. But it just strengthens that process, that know-how in competition, which you've got to have to be in the game.

When you translate that into consumer work, it's just so immensely powerful. I think, on average, we would take larger companies to court for breaches of consumer law than we do for competition law. We've recently taken Ford, Hines, Apple to court for breaches of our consumer law. We've got large fines.

Perhaps the biggest development in Australia is we've just convinced the government, under the heading of advocacy, to align the penalties for breaches of competition law and consumer law. So now the penalties will be the same. Previously, the. penalties were much lower for consumer law, which is a terrible thing.

The harm you can do through misleading consumers is visibly as bad as it can be from cartels. There is just no doubt about that. I can give you numerous examples. So I just want to back up that point, that the strength of being the regulator that does a number of things is important. I guess it leads into my point that I think ICPEN is the organization that perhaps needs that extra bit of work, whether it's capacity building with new jurisdictions, whether it's more coordinated action amongst the members, whether it's common approaches and practices, but really just raising up the profile of consumer work.

I have to say I continually get irritated when I'm at international meetings, you get the sense that competition work is held to be in some way superior to consumer work. That is complete, rubbish. They are. equally important. If you want your market economy to work for the benefit of consumers, you need effective competition law and you need effective consumer law. They can both equally do great harm.

And so I just think we've got to raise it up.

MR. TRITELL: I think you have a sub silentio round of applause in the room there, Rod. (Laughter.)

MR. TRITELL: Not to mention from Bojana who mentioned privacy --

MS. BELLAMY: And privacy as well. So we --

MR. TRITELL: -- which we think of as part of our consumer protection.

MR. SIMS: I can't talk about privacy, but --

MS. BELLAMY: The three-headed Medusa. It's the three heads, right?

MR. SIMS: But I would happily push it to privacy, absolutely. Well, the same point applies and it was Bojana's point that got me in there. The same point applies.

MR. TRITELL: Would anybody else like to come in on where, we should focus our efforts in the international organizations.

Eduardo, you talked about maybe we. ought to be going to the next step. So if you'd like to elaborate on that.

MR. MOTTA: Well, yes. I could, in a very general way, elaborate a little bit more on that. Let me first -- let me start with the main features of the ICN. The main features of the ICN, in my view, is that it's a soft law organization, it's a consensus organization. It's a consensus organization. That goes very much in line with what happens in the WTO. It could be risky, but that's the reality.

It's a beautiful system, organization, it's a beautiful network. It uses, very efficiently, the communication technologies and so on. And the main products that are created by the ICN are this best international practices standards, practical guides and toolkits, and they organize workshops for members. I mean, that's in a very general and a schematic way.

Well, the first question is that has been, in my view, the ICN has been one of the most efficient networks I have ever seen, international networks that I have ever seen. When I compare how the ICN was created and what was the situation in the context of the WTO discussion on trade and competition, which was one of the elements that provoked the creation of the ICN, and if you see that, that was 2001 more or less -- I think it was 2001 with 15 members in the ICN.

Today, they have more than 114 members. In 2001, the WTO was working generally well. We were in the middle -- in the start of a new round, the Doha Round. At that time, the ICN was created and the ICN has been much more effective, frankly, than organizations like the WTO.

But my point here is that the international context in which we are living is highly complicated. I mean, there are a lot of nationalistic pressures, national champions, pressure from different countries, developed and developing countries at the same time. That has become, I would say, a more systemic, risky problem for markets. And that doesn't mean -- I mean, the most important elements is how to show that markets in a competition scenery is one of the most important instruments you have in order to create not only efficiency in your economy, but also equality of opportunities for economic players, for economic agents, but also at the same time a quality of opportunities for consumers.

So in that situation is where I think it is needed to give an additional impulse to an international organization like -- or an international network like the. ICN. And maybe -- I mean, I'm basically suggesting to reflect on the possibility to create a new organization, a new international organization of -- this could be consumer and competition agencies. And that should be a more -- in my view, should be a more formal organization in order to generate an international pressure for the evaluation and valuation of the importance of markets in that context, in the context of competition.

So to think about the possibility of having a formal and permanent secretariat, that makes a difference because today what you have is the members are the secretariat itself. So it's difficult to differentiate what a jurisdiction is saying or what the organization is saying because the word is the same. So in my view, you need someone that is more independent than the agencies in order to advocate for competition in different jurisdictions.

It has to be a product, in my view, from an international agreement with some cooperation mechanism, but also some monetary mechanism. That's the most -- I mean, this is a difficult task. I'm not saying that it is not. It's a real challenge. But, frankly, what we. are living internationally is a challenge, itself today.

Sorry for taking --

MR. TRITELL: No, no, a lot of food for our continued thought. Andy, from the OECD perspective, what role can you see from the OECD and how can the FTC effectively engage within the OECD, for example, in the consumer committee or in the privacy activities of the organization?

MR. WYCKOFf: I'll touch on that in just one second. Eduardo provokes me because my part of the OECD has done a lot on telecom dereg, particularly in Mexico. Here's maybe an example we can begin to think about because we. did something in 2012. It helped inform the decisions in the regulatory reform that went on in creating an independent regulator even then. We followed up in 2017 and looked at implementation. What really went on? And that's now become a lessons learned that the rest of the region now is beginning to look at. So I think there's a model for what he's saying.

The FTC -- I speak under the Chair here of my Consumer Policy Committee, Hugh Stevenson, already plays a huge leadership role at the OECD. There's two areas if I had to put on my Christmas list from FTC, where I would like to see them push. One is on this evidence base that many people have talked about. We love statistics at the OECD and comparative --

MS. BELLAMY: Data.

MR. WYCKOFF: Data. Comparative indicators, and can we begin to look at things as we get, for example, like data breach laws from around the world. Can we begin to compare these and get some -- it may not be apples to apples, but at least fruit to fruit to look at.

The other is really leadership work that happened in 2010 again led by the FTC on our consumer policy toolkit. I think they began to open the thinking on both behavioral economics and the informational economics, which I think is important. And following up on that -- and we've begun to do some work on consumer attitudes towards trust. It goes to what people are saying. It may not be such big differences as people think, but also doing some more experimental work, such as on personalized pricing, which we're beginning to see proliferate in many different areas. These are areas where I think there's a lot of international interest and where the FTC could play a leading role.

MR. TRITELL: Well, leading right into our next topic, which is the FTC’s leadership role, I think that there was a point in time when the FTC had so much longer and deeper experience in some of these areas that it was a default and natural leader. Now, we live in a very multipolar world in all of these disciplines, and it prompts me to wonder what does it mean to be a leader in this environment. Is it important for the FTC to be perceived as and to be a thought and policy leader? If so, how can the FTC exercise effective leadership internationally, including on emerging issues and with agencies that operate in very different environments?

So let me just run down the table for anybody who would like to offer thoughts on this study with Bojana.

MS. BELLAMY: Yeah, sure. So I’ve got a very long wish list, which I will submit in writing probably to my friends at FTC. But, Andy, to continue where you kind of stopped, I would really love the FTC -- I think there is some leadership vacuum first, let me say, in the privacy regulatory community at the moment, and I think FTC would be very well placed to fill that vacuum, together with some other across the world are kind of wanting to seek that new leadership role.

So one area where I would like to see some work would be in the area of fairness, fair processing, fairness and unfairness, you know. In the majority of data privacy laws we have requirements with fair processing, yet nobody knows what it means. Yet here, FTC statute and work is based on unfair trade practices. There is unfairness methodology that FTC can teach us a lot in this world of AI and machine learning as to what creates harms to consumers, what and how do we measure that and how we, as organizations, think what is fair and what is not fair.

I think this will be a great opportunity not just for bilateral, multilateral regulatory corporation, but together with the organizations who are implementing this in the practice as well. FTC anonymization test, again for those of you in the privacy geek community is still standing the test of time where frankly everybody else says there’s no such things as anonymous data because everything about me doesn’t matter. If you know who I am, but you know everything about me, that’s good enough to identify me. Well, I think FTC has done some really great thinking in the past and we need to revive that leadership and kind of, again, convergence with some others.

Risk-based approach to regulation and enforcement and investigation is something that I think FTC again is best placed to teach the rest of the world. We live in a world where data is everywhere. Every company, to your point, is today a data company, Rod. I mean, I keep hearing this from manufacturing companies to financial companies who say we are data and tech companies today. So in that world, we really need different ways of approaching that.

And then a final point, I would like to say that this whole topic of incentivizing what good looks like and rewarding good behaviors, I think there is something about that that we need to exploit more. I’ve been head of privacy for a huge multinational company for 12 years, and trust me, when we got good praises from a regulator, that gave me a bigger budget, that gave me more standing internally, that got me to speak to the CEO and the board much quicker than any penalty and any fine did.

I think realizing what motivates companies and motivates people to behave well and be good corporate citizens in this new interconnected world, I think there is work to be done there. And I do remember FTC consent decrees that I have read as I was a practitioner, every single consent decree said to me, here is how they reward companies who actually do something while in privacy. That’s what DOJ said. Data -- I think somebody mentioned before, that’s what the SEC does, that’s what US sentencing guidelines do.

#### There’s a narrow window to establish international norms for safe development---the FTC’s key

Jessica Newman 21, Research Fellow at the UC Berkeley Center for Long-Term Cybersecurity, AI Policy Specialist with the Future of Life Institute, Research Advisor with The Future Society, 2016-17 International and Global Affairs Student Fellow at Harvard’s Belfer Center, MPP from Harvard University, BA from the University of California, Berkeley, “Cooperation on Artificial Intelligence”, Georgetown Journal on International Affairs, 7/13/2021, https://gjia.georgetown.edu/2021/07/13/now-is-the-time-for-transatlantic-cooperation-on-artificial-intelligence/

The European Union and the United States have not always agreed on the regulation of digital technologies, but closer cooperation is needed to prevent the proliferation of harmful artificial intelligence and to help shape global AI norms that support democratic values, equity, and human rights. The recent launch of the EU-US Trade and Technology Council, together with the new EU AI regulatory proposal, provide a critical window of opportunity for deeper engagement.

Many assume that the European Union is the world’s technology watchdog, while in contrast the United States is an unruly digital Wild West. Media, policymakers, and the general public have been quick to fit the long-awaited EU regulatory proposal on artificial intelligence (the Artificial Intelligence Act, or AIA) into this bifurcated framing. Journalists have suggested that the AIA may “widen the regulatory gulf” between the EU and the US when it comes to reining in the riskiest AI applications. Researchers have called it “a direct challenge to Silicon Valley’s common view that law should leave emerging technology alone.”

However, this framing of a “gulf” between the EU and US on AI regulations is both overstated and counterproductive. The under-regulated AI industry is hurting Americans and Europeans alike, and AI’s risks, like algorithmic amplification of polarization and extremism, cut across borders. Not only do the allies’ perspectives align on various issues, but they are actively courting further cooperation on common challenges.

In mid-June, US President Joe Biden and European Commission President Ursula von der Leyen launched an EU-US Trade and Technology Council (TTC) at the US-EU Summit in Brussels. The TTC comprises ten working groups, with issues including standards cooperation for emerging technologies, data governance and technology platforms, and the threat posed to human rights by technology’s misuse. It remains to be seen, however, how much either ally will invest in this Council or how effective the TTC will be at advancing cooperation on critical AI issues going forward.

The release of the AIA, and the more recent launch of the TTC, present critical and time-sensitive opportunities for engagement. Failing to take advantage of this opportunity for transatlantic cooperation on AI would be a mistake with wide-ranging consequences for both AI and the state of democracy.

Divergent Approaches?

The EU’s proposed AI regulation differs from previous US federal government attempts by establishing oversight mechanisms to mitigate the risks of AI systems. The AIA views some applications of AI, such as AI-based social scoring, as presenting unacceptable risks that must be banned outright because they pose a clear threat to people’s safety and rights. It considers other applications, like using AI to evaluate eligibility for public services or a job, high risk because of their impact on people’s livelihoods and the potential for bias. High risk AI systems are subject to significant obligations before they can be placed on the market.

In contrast, a 2020 memo from the White House Office of Management and Budget on Guidance for Regulation of AI highlights a distrust of regulation that defined the Trump Administration’s approach to AI policy. The memo states, “Federal agencies must avoid regulatory or non-regulatory actions that needlessly hamper AI innovation and growth.” The memo also suggests that AI’s risks should be considered alongside potential benefits.

However, there has been a shift in the US AI policy environment under the Biden Administration, with louder calls for accountability and regulation. Although Biden has yet to make AI a priority, there is greater recognition of the risks the technology can pose and signals that the administration will take AI policy seriously. Vice President Harris has previously endorsed a bill to establish federal AI policy and has criticized the ways that AI can perpetuate bias. An Executive Order signed on Biden’s first day in office established an Equitable Data Working Group and the appointment of Dr. Alondra Nelson to lead the Office of Science and Technology Policy promises a commitment to pursue equitable AI.

The US does already have some protections in place against high-risk AI systems. Real-time biometric surveillance by law enforcement, prohibited in the AIA with some exceptions, has already been banned by numerous cities in the US. A statement of intent issued by the Federal Trade Commission the same week as the AIA release explains that AI products are not outside the scope of its consumer protection laws. Companies will need to adhere to FTC guidelines to ensure AI systems are transparent, explainable, fair, and empirically sound.

In fact, some have asserted that the FTC’s notice has more teeth than the AIA in the near-term. For example, the FTC has committed to holding companies accountable for preventing the proliferation of racially-biased or unreliable algorithms. Meanwhile, it may take years for individual EU member states to adopt the AIA, lessening the immediate impact on Big Tech compared to what some had expected. Under the AIA, most AI technology will not be subject to any regulation and while producers of high-risk AI systems face regulatory requirements it appears that assessments will not be made available to the public. In short, the EU approach may be less of a “burden” than some feared, while the US policy landscape may be less permissive than it may first appear.

More important than the US’s and EU’s willingness to establish regulatory frameworks is the significant overlap in what their frameworks intend to accomplish. The US and EU aim for not only the development of AI, but the development of trustworthy AI. Both have adopted the OECD AI Principles, which provide common benchmarks on issues including sustainable development, human rights, democratic values and diversity, and accountability, among others. The US’s and EU’s support of the Principles has helped to establish a shared language for global AI norms and governance.

Cooperation as a Strategic Goal

Greater transatlantic cooperation on AI is a stated goal of both the US and the EU. A European Commission program for a transatlantic agenda from December 2020 first proposed the EU-US Trade and Technology Council. The Council was an opportunity for allies to work together on critical technologies and to encourage the establishment of digital governance that promotes shared values of human dignity, individual rights, and democratic principles. The agenda described this as “a once-in-a-generation opportunity.”

The US has also highlighted the importance of international cooperation on AI, most recently by accepting the EU’s invitation to launch the TTC. The US has launched the National AI Initiative which intends to support further opportunities for cooperation with strategic allies on research and development, assessment, and resources for trustworthy AI systems. “International Cooperation” is also one of the six strategic pillars outlined on the newly re-launched AI.gov website detailing US AI priorities.

Transatlantic cooperation is widely supported by US industry stakeholders, in part to promote regulatory compatibility. For example, the TTC was endorsed in a blog post by Karan Bhatia, Google’s Vice President of Government Affairs & Public Policy, and in a statement of support from the Information Technology Industry Council. The final report from the National Security Commission on Artificial Intelligence (NSCAI), a multistakeholder group including numerous AI industry leaders, also has a chapter on creating a favorable international technology order. The NSCAI advises the US to establish an International Science and Technology Strategy and argues that “like-minded countries must work together to advance an international rules-based order, protect free and open societies, and unleash economic innovation.”

Given the allies’ many common goals, the AIA should not be seen as a challenge to the US. Instead, the proposal is an important first step and an opportunity to prevent AI uses that violate human safety and fundamental rights. The US and EU can now work together to further clarify and prevent high-risk AI uses, and establish shared AI standards. While the recently-launched TTC provides a valuable platform for this work and will support regulatory policy cooperation and convergence, a handful of working groups only partially focused on AI may struggle to meet these objectives. Additional pathways that deserve consideration include increasing capacity for information sharing and pooling resources for larger scale research on critical topics.

Why Now?

As governments scrambled to control the spread of COVID-19, many turned to AI technologies for help – to better understand the virus, track outbreaks, and help provide care. In some cases, this has justified the implementation of pervasive surveillance systems, which are now being used for troubling ends. As just one example, a facial recognition camera network in Moscow, originally implemented to help enforce quarantine restrictions, was later used to detain dozens of protestors voicing opposition to President Vladimir Putin. AI-enabled surveillance systems have proliferated across the globe, and the scale and scope of “digital authoritarianism” has increased for years, amplified by the use of AI to automate censorship and surveillance systems.

While the United States has worked to develop standards and principles for the use of AI around the world and sought to protect human rights and fundamental freedoms, these actions have failed to stop the misuse of AI. Concrete cooperation with the European Union, which has been lacking, could create a stronger alliance to counter the rising wave of digital authoritarianism. The launch of the TTC shows that President Joe Biden understands this dynamic. He recently said the “transatlantic alliance is back,” and explicitly highlighted the need to shape the rules that will govern the advance of AI, among other consequential technologies.

Importantly, greater transatlantic cooperation on AI is not just in the self-interest of the US and the EU; it can benefit democracies and human rights around the world. The alliance will be even stronger if it looks outward and facilitates international, inclusive dialogues, including with countries from the Global South. Fostering an equitable and responsible digital future requires incorporating critical, yet underrepresented, voices into AI governance discussions and decision-making.

Forgoing greater cooperation on AI between the US and EU would be a shortsighted mistake. There is a narrow window of opportunity to prevent the proliferation of harmful AI and to help shape global AI norms. The time for transatlantic cooperation on AI is now.

#### Extinction

Karina Vold 21, Philosopher of Cognitive Science and Artificial Intelligence & Assistant Professor at the University of Toronto's Institute for the History and Philosophy of Science and Technology, & Daniel R. Harris, Retired Lawyer and Foreign Service Officer at the US Department of State, “How Does Artificial Intelligence Pose an Existential Risk?,” Oxford Handbook of Digital Ethics, Ed. C. Veliz., pp 1-34

4.1 AI Race Dynamics: Corner-cutting Safety

An AI race between powerful actors could have an adverse effect on AI safety, a subfield aimed at finding technical solutions to building “advanced AI systems that are safe and beneficial” (Dafoe, 2018, 25; Cave & Ó hÉigeartaigh, 2018; Bostrom, 2017; Armstrong et al., 2016; Bostrom, 2014). Dafoe (2018, 43), for example, argues that it is plausible that such a race would provide strong incentives for researchers to trade-off safety in order to increase the chances of gaining a relative advantage over a competitor.21 In Bostrom’s (2017) view, competitive races would disincentivize two options for a frontrunner: (a) slowing down or pausing the development of an AI system and (b) implementing safety-related performance handicapping. Both, he argues, have worrying consequences for AI safety.

(a) Bostrom (2017, 5) considers a case in which a solution to the control problem (C1) is dependent upon the components of an AI system to which it will be applied, such that it is only possible to invent or install a necessary control mechanism after the system has been developed to a significantly high degree. He contends that, in situations like these, it is vital that a team is able to pause further development until the required safety work can be performed (ibid). Yet, if implementing these controls requires a substantial amount of additional time and resources, then in a tight competitive race dynamic, any team that decides to initiate this safety work would likely surrender its lead to a competitor who forgoes doing so (ibid). If competitors don’t reach an agreement on safety standards, then it is possible that a “risk-race to the bottom” could arise, driving each team to take increasing risks by investing minimally in safety (Bostrom, 2014, 247).

(b) Bostrom (2017, 5-6) also considers possible scenarios in which the “mechanisms needed to make an AI safe reduces the AI’s effectiveness”. These include cases in which a safe AI would run at a considerably slower speed than an unsafe one, or those in which implementing a safety mechanism necessitates the curtailing of an AI’s capabilities (ibid). If the AI race were to confer large strategic and economic benefits to frontrunners, then teams would be disincentivized from implementing these sorts of safety mechanisms. The same, however, does not necessarily hold true of less competitive race dynamics; that is, ones in which a competitor has a significant lead over others (ibid). Under these conditions, it is conceivable that there could be enough of a time advantage that frontrunners could unilaterally apply performance handicapping safety measures without relinquishing their lead (ibid).

It is relatively uncontroversial to suggest that reducing investment in AI safety could lead to a host of associated dangers. Improper safety precautions could produce all kinds of unintended harms from misstated objectives or from specification gaming, for example. They could also lead to a higher prevalence of AI system vulnerabilities which are intentionally exploited by malicious actors for destructive ends, as in the case of adversarial examples (see Brundage et al., 2018). But does AI safety corner-cutting reach the threshold of an Xrisk? Certainly not directly, but there are at least some circumstances under which it would do so indirectly. Recall that Chalmers (2010) argues there could be defeaters that obstruct the self-amplifying capabilities of an advanced AI, which could in turn forestall the occurrence of an intelligence explosion. Scenario (a) above made the case that a competitive AI race would disincentivize researchers from investing in developing safety precautions aimed at preventing an intelligence explosion (e.g., motivational defeaters). Thus, in cases in which an AI race is centred on the development of artificial general intelligence, a seed AI with the capacity to self-improve, or even an advanced narrow AI (as per §3.1), a competitive race dynamic could pose an indirect Xrisk insofar as it contributes to a set of conditions that elevate the risk of a control problem occurring (Bostrom, 2014, 246; 2017, 5).

4.2 AI Race Dynamics: Conflict Between AI Competitors

The mere narrative of an AI race could also, under certain conditions, increase the risk of military conflict between competing groups. Cave & Ó hÉigeartaigh (2018) argue that AI race narratives which frame the future trajectory of AI development in terms of technological advantage could “increase the risk of competition in AI causing real conflict (overt or covert)”. The militarized language typical of race dynamics may encourage competitors to view each other “as threats or even enemies” (ibid, 3).22 If a government believes that an adversary is pursuing a strategic advantage in AI that could result in their technological dominance, then this alone could provide a motivating reason to use aggression against the adversary (ibid; Bostrom, 2014). An AI race narrative could thus lead to crisis escalation between states. However, the resulting conflict, should it arise, need not directly involve AI systems. And it's an open question whether said conflict would meet the Xrisk threshold. Under conditions where it does (perhaps nuclear war), the contributions of AI as a technology would at best be indirect.

4.3 Global Disruption: Destabilization of Nuclear Deterrents

Another type of crisis escalation associated with AI is the potential destabilizing impact the technology could have on global strategic stability;23 in particular, its capacity to destabilize nuclear deterrence strategies (Giest & Lohn, 2018; Rickli, 2019; Sauer, 2019; Groll, 2018; Zwetsloot & Dafoe, 2019). In general, deterrence relies both on states possessing secure second-strike capabilities (Zwetsloot & Dafoe, 2019) and, at the same time, on a state's inability to locate, with certainty, an adversary’s nuclear second-strike forces (Rickli, 2019). This could change, however, with advances in AI (ibid). For example, AI-enabled surveillance and reconnaissance systems, unmanned underwater vehicles, and data analysis could allow a state to both closely track and destroy an adversary’s previously hidden nuclear-powered ballistic missile submarines (Zwetsloot & Dafoe, 2019). If their second-strike nuclear capabilities were to become vulnerable to a first strike, then a pre- emptive nuclear strike would, in theory, become a viable strategy under certain scenarios (Giest & Lohn, 2018).

In Zwetsloot & Dafoe’s (2019) view, “the fear that nuclear systems could be insecure would, in turn, create pressures for states— including defensively motivated ones—to pre-emptively escalate during a crisis”. What is perhaps most alarming is that the aforementioned AI systems need not actually exist to have a destabilizing impact on nuclear deterrence (Rickli, 2019; Groll, 2018; Giest & Lohn, 2018). As Rickli (2019, 95) points out, “[b]y its very nature, nuclear deterrence is highly psychological and relies on the perception of the adversary’s capabilities and intentions”. Thus, the “simple misperception of the adversary’s AI capabilities is destabilizing in itself” (ibid). This potential for AI to destabilize nuclear deterrence represents yet another kind of indirect global catastrophic, and perhaps even existential, risk insofar as the destabilization could contribute to nuclear conflict escalation.

5. Weaponization of AI

Much like the more recent set of growing concerns around an AI arms race, there have also been growing concerns around the weaponization of AI. We use “weaponization” to encompass many possible scenarios, from malicious actors or a malicious AI itself, to the use of fully autonomous lethal weapons. And we will discuss each of these possibilities in turn. In §5.1 we discuss malicious actors and in §5.2 we discuss lethal autonomous weapons. We have combined this diverse range of scenarios for two reasons. First, while the previous Xrisk scenarios discussed (CPAX and an AI race) could emerge without malicious intentions from anyone involved (e.g., engineers or governments), the scenarios we discuss here do for the most part assume some kind of malicious intent on the part of some actor. They are what Zwetsloot & Dafoe (2019,) call a misuse risk. Second, the threats we discuss here are not particularly unique to AI, unlike those in previous sections. The control problem, for example, is distinctive of AI as a technology, in the sense that the problem did not exist before we began building intelligent systems. On the other hand, many technologies can be weaponized. In this respect, AI is no different. It is because AI is potentially so powerful that its misuse in a complex and high impact environment, such as warfare, could pose an Xrisk.

5.1 Malicious Actors

In discussing CPAX, we focused on accidental risk scenarios—where no one involved wants to bring about harm, but the mere act of building an advanced AI system creates an Xrisk. But AI could also be deliberately misused. These can include things like exploiting software vulnerabilities, for example, through automated hacking or adversarial examples; generating political discord or misinformation with synthetic media; or initiating physical attacks using drones or automated weapons (see Brundage et al., 2018). For these scenarios to reach the threshold of Xrisk (in terms of ‘scope’), however, a beyond catastrophic amount of damage would have to be done. Perhaps one instructs an AI system to suck up all the oxygen in the air, to launch all the nuclear weapons in a nation’s arsenal, or to invent a deadly airborne biological virus. Or perhaps a lone actor is able to use AI to hack critical infrastructures, including some that manage large-scale projects, such as the satellites that orbit Earth. It does not take much creativity to drum up a scenario in which an AI system, if put in the wrong hands, could pose an Xrisk. But the Xrisk posed by AI in these cases is likely to be indirect—where AI is just one link in the causal chain, perhaps even a distal one. This involvement of malicious actors is one of the more common concerns around the weaponization of AI. Automated systems that have war- fighting capacities or that are in anyway linked to nuclear missile systems could become likely targets of malicious actors aiming to cause widespread harm. This threat is serious, but the theoretical nature of the threat is straightforward relative to those posed in CPAX, for example.

One further novel outcome of AI would be if the system itself malfunctions. Any technology can malfunction, and in the case of an AI system that had control over real-world weapons systems the consequences of a malfunction could be severe (see Robillard, this volume). We’ll discuss this potential scenario a bit more in the next section. A final related possibility here would be for the AI to itself turn malicious. This would be unlike any other technology in the past. But since AI is a kind of intelligent agent, there is this possibility. Cotton- Barratt et al. (2020), for example, describe a hypothetical scenario in which an intelligence explosion produces a powerful AI that wipes out human beings in order to pre-empt any interference with its own objectives. They describe this as a direct Xrisk (by contrast, we described CPAX scenarios as indirect), presumably because they describe the AI as deliberately wiping out humanity. However, if the system has agency in a meaningful sense, such that it is making these kinds of deliberate malicious decisions, then this seems to assume it has something akin to consciousness or strong intentionality. In general we are far from developing anything like artificial consciousness and this is not to say that these scenarios should be dismissed altogether, but many experts agree that there are serious challenges confronting the possibility of AI possessing these cognitive capacities (e.g., Searle, 1980; Koch and Tonini, 2017; Koch, 2019; Dehaene et al., 2017).

5.2 Lethal Autonomous Weapons

One other form of weaponization of AI that is sometimes discussed as a potential source of Xrisk are lethal autonomous weapons systems (LAWS). LAWS include systems that can locate, select, and engage targets without any human intervention (Roff, 2014; Russell, 2015; Robillard, this volume). Much of the debate around the ethics of LAWS has focused on whether their use would violate human dignity (Lim, 2019; Rosert & Sauer, 2019; Sharkey, 2019), whether they could leave critical responsibility gaps in warfare (Sparrow, 2007; Robillard, this volume), or whether they could undermine the principles of just war theory, such as noncombatant immunity (Roff, 2014), for example. These concerns, among others, have led many to call for a ban on their use (FLI ,2017). These concerns are certainly very serious and more near term (as some LAWS already exist) than the speculative scenarios discussed in CPAX. But do LAWS really present an Xrisk? It seems that if they do, they do so indirectly. Consider two possible scenarios.

(a) One concern around LAWS is that they will ease the cost of engaging in war, making it more likely that tensions between rival states rise to military engagement. In this case, LAWS would be used as an instrument to carry out the ends of some malicious actor. This is because, for now, humans continue to play a significant role in directing the behaviour of LAWS, though it is likely that we will see a steady increase in the autonomy of future systems (Brundage et al., 2018). Now, it could be that this kind of warfare leads to Xrisks, but this would require a causal chain that includes political disruption, perhaps failing states, and widespread mass murder. None of these scenarios are impossible, of course, and they present serious risks. But we have tried to focus this chapter on Xrisks that are novel to AI as a technology and, even though we view the risks of LAWS as extremely important, they ultimately present similar kinds of risks as nuclear weapons do. To the extent that LAWS have a destabilizing impact on norms and practices in warfare, for example, we think that scenarios similar to those discussed in §4.3 are possible—LAWS might escalate an ongoing crisis, or moreover, the mere perception that an adversary has LAWS might escalate a crisis.

(b) A second scenario, described by Geoffrey Hinton, is that killer drones, equipped with explosives and deep learning neural net technology, could (somehow) learn to function independently of their human controllers (Robinson, 2016), and the system could then go on a rampage and destroy humanity. The bracketed “somehow” here is a critical piece of the story. Perhaps the control system has been hacked, in which case we are back to the malicious actor scenario described in §5.1. Or perhaps there is a malfunction, of the sort also described in §5.1. In this latter case, the malfunction could manifest in the form of a “hard takeoff” in which the system undergoes rapid recursive self-improvement (unintended by the designers) and then develops goals that are inimical to human interests. In such a case, we would be at the start of an intelligence explosion and would confront the kind of Xrisk already characterized by CPAX (§3). Our only point here is that upon closer examination, it's hard to see how this scenario looks distinct from ones previously discussed. Hence, the weaponization of AI can pose an indirect Xrisk in several different ways. In general, the more control an automated system has over weaponized systems that can cause real-world destruction, the greater risk there is of that system becoming a target for attack by malicious actors or of there being greater harm due to any accidental system malfunction.

6. Conclusion

Humanity is facing an increasing number of existential threats, many of which are of our own creation. Thankfully, there are also an increasing number of scholars, from a wide range of fields, studying the nature of these risks and strategizing how to mitigate them. But the field of Xrisk studies is still relatively young. There are significant debates being had over how to define the concept of Xrisk, how to understand its sources, and what methodologies should be used to assess these risks. When it comes to Xrisks from AI, these debates continue. Early concerns around AI Xrisks focused on the possibility of an intelligence explosion and the subsequent pathway to a scenario in which a powerful superintelligent AI has misaligned objectives from humanity. These concerns have not gone away, but they have evolved over time. This chapter has provided an up- to-date critical survey of these arguments, both old and new, looking at different foreseeable pathways towards AI Xrisk, possible global disruptions resulting from the emergence of an AI race dynamic between nations, and the weaponization of AI. In particular, we have tried to make the structures of each of these concerns more explicit, such that readers can begin to critically engage with them.

#### The plan solves:

#### 1. Updating---prohibiting violations in the infrastructure level establishes a collaborative relationship between blockchain and antitrust that infuses technological principles into legal enforcement

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1.2 Enforcement

1.2.1 Not this...

Enforcement is the second pillar of a collaborative approach between law and tech, antitrust and blockchain. I realize that this may seem counterintuitive; enforcement is, by definition, confrontational. In reality, distinct types of enforcement can lead to varying degrees of confrontation: some harm the entire blockchain, while others target the sole perpetrators of illegal practices. One should avoid the former, as it would reduce blockchain’s usefulness and thus deprive policymakers and regulators of an important ally. It is in the interests of both communities to encourage the latter.

I concluded the first part of this book by underlining that making law and tech work toward the same objective implied bearing with some assaults by each on the other. This means that blockchain communities should not only tolerate antitrust sanctions, but also facilitate them, because they ultimately lead to further decentralization. It also means that antitrust agencies and courts should direct their enforcement activities in a specific way. Overall, they should seek to preserve blockchain. This will be challenging, as agencies generally conduct their enforcement activities one case after the other, without such a long-term objective. That being said, agencies could still achieve the overall goal of enabling blockchain technology to flourish while ensuring case-by-case enforcement.

For that, agencies should avoid enforcement activities against practices that directly arise from the intrinsic characteristics of a blockchain. For example, public permissionless blockchains distribute information throughout the marketplace, including the number of transactions implemented by specific users, the fees being paid and so on. This transparency could lead to antitrust concerns, especially when it comes to tacit collusion.14 Nevertheless, because this essential feature makes markets more fluid and mitigates information asymmetry,15 enforcement activities should not be directed at it.

The same goes for the opacity that blockchains create. As we have seen together, the identity of a blockchain’s participants and the content of their transactions are protected by encryption. Yet one should not consider this a relevant element in European competition law for presuming the intention to collude (moral component), for systematically making cartelization on block- chain a restriction “by object” rather than “by effect,” or for easing the burden of proof on antitrust agencies. Doing so would deter legal uses of blockchain.

More generally, it is important to underline that all blockchain participants agree to the same set of rules. That should not be seen as an illegal agreement between them, even though it affects their economic behavior. Agreeing to the same rules is, in fact, necessary for blockchain’s survival, as it creates consistency in the blockchain ledger in the absence of central coordination. It solves the Byzantine Generals Problem, according to which a central power is always needed to coordinate actions and maximize outcomes. That applies to forks, which should only rarely be seen as illegal (as I discussed in Chapter 8), because they create checks and balances within each blockchain. Let me reiterate that without consensus regarding the rules and their modification, the whole system would collapse, as the ledger integrity could not be maintained. All practices engaged by the blockchain nucleus to ensure survival, such as their forks and modifications of the core client, should thus be presumptively legal as far as antitrust enforcement is concerned.

1.2.2 ...but that!

I recommend that antitrust agencies focus their enforcement activities on practices that affect the “real space”, and on practices that defeat blockchain’s purpose.

As I discussed in Chapters 9 and 11, the first type of practice covers the use of blockchains to support firms’ efforts to collude or monopolize markets. These practices have a strong and direct impact on consumers. Detecting this type of behavior will require proactive actions by antitrust agencies. If they engage in such actions, enforcement in the field will increase consumer welfare.

The second category concerns practices that centralize blockchain ecosystems artificially. More specifically, agencies should target practices that centralize the infrastructure level of a blockchain. As I have explained, that level has a critical influence on the decentralization of other levels. Prohibiting artificial forms of centralization at that layer will free most of the ecosystem from coercive forms of power. In doing so, it will make blockchain a more potent ally to antitrust law. Furthermore, this type of enforcement will prove increasingly important over time. If blockchain adoption continues to increase, it could very well become a key infrastructure for the world economy. At that point in time, the artificial centralization of blockchain will become antitrust agencies’ top enforcement priority.

Overall, directing enforcement activities toward these two types of practices would free blockchain, and its economic ramifications, from the most restrictive practices without diminishing its usefulness or creating resentment within blockchain communities. Antitrust would thus become the ally of blockchain ecosystems and would start being perceived as such.

#### 2. Leadership---going bold builds FTC’s brand and secures a foothold for future experimentation

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Introduction

A core failing of today's administrative state and modern administrative law scholarship is the lack of imagination as to how agencies should operate. On the conventional telling, public agencies follow specific grants of regulatory authority, use the traditional tools of notice-and-comment rulemaking and adjudication, and are checked by judicial review. In reality, however, effective administration depends on entrepreneurial leadership that can spearhead policy experimentation and trial-and-error problem-solving, including the development of regulatory programs that use non-traditional tools.

Entrepreneurial administration takes place both at public agencies and private entities, each of which can address regulatory challenges and earn regulatory authority as a result. Consider, for example, that Energy Star, a successful program that has encouraged the manufacture and sale of energy efficient appliances, is developed and overseen by the Environmental Protection Agency ("EPA"). 1 After the EPA established the program, Congress codified it and, eventually, other countries followed suit. 2 By contrast, the successful and complementary program encouraging the construction of energy efficient buildings, the well-respected Leadership in Energy and Environmental Design ("LEED") standard, was developed and is overseen by a private organization. 3 After it was developed, a number of governmental authorities endorsed it and [\*2013] have encouraged LEED-certified construction projects with both carrots 4 and sticks. 5 Significantly, although neither the Energy Star program nor the LEED standard were originally anticipated by any regulatory statute, both have had tremendous impacts.

The Energy Star and LEED case studies exemplify the sort of innovative regulatory strategies taking root in the modern administrative state. 6 Despite the importance of entrepreneurial administration in practice, scholars have failed to examine the role of entrepreneurial leadership in spurring policy innovation and earning regulatory authority for an agency (or private entity). 7 This oversight is most unfortunate in the case of technologically developing fields where experimental regulatory strategies - as opposed to traditional notice-and-comment rulemaking or adjudication - are often essential. 8 In short, administrative law needs an account of agency action that explains why entrepreneurial leadership matters in government and how agencies should operate. 9

[\*2014] This Article: explains that the conventional view of agency behavior - following the specific direction of Congress or the President and using notice-and-comment rulemaking or adjudication processes - does not capture how public agencies and private entities develop innovative regulatory strategies and earn regulatory authority as a result. In particular, this Article: explains how governmental agencies like the EPA and private entities like the United States Green Building Council ("USGBC") (which oversees the LEED standard) depend on entrepreneurial leadership to develop experimental regulatory strategies. It also explains how, in the wake of such experiments, legislative bodies have the opportunity to evaluate regulatory innovations in practice before deciding whether to embrace, revise, reject, or merely tolerate them. To be sure, such experimental strategies are not always preferable to traditional administrative rulemaking and adjudication, but considering experimental strategies and evaluating whether they would be more effective than traditional regulatory approaches is.

Legal scholarship on experimental regulation is well-developed in the context of states serving as laboratories of democracy. 10 Scholars have not, however, discussed the significant role that federal agencies and private bodies can play in experimenting with regulatory strategies in advance of congressional action. 11 Scholars have also failed to examine the role of entrepreneurial leadership in developing successful experiments. This Article: does just that, highlighting the importance of entrepreneurial leadership in government, discussing a number of [\*2015] emerging regulatory experiments, and suggesting how Congress should evaluate such experiments.

This Article: proceeds in four parts. Part I examines the traditional model of regulation and the emerging alternative models of agency action through co-regulation, developing best practices through convening, and encouraging private regulation. In so doing, it underscores that entrepreneurial leadership and a culture of experimentation and trial-and-error learning is essential to developing the best solution. Part II discusses the relevant criteria for evaluating such experiments and examines potential objections to the earned regulatory authority model. Part III discusses four case studies of experimental regulatory strategies: (1) the USGBC's development of the LEED standard; (2) the Federal Trade Commission's ("FTC") oversight of information privacy and data security practices; (3) the National Institute of Standards and Technology's ("NIST") development of a strategy for cybersecurity readiness; and (4) the Department of Health and Human Services' ("HHS") oversight of electronic health records. In all of these cases, the private body or federal agency acted to oversee an emerging technology or issue (often in advance of explicit congressional direction and guidance), allowing Congress to observe the strategy in action and evaluate it after the fact. Part IV examines the concept of policy entrepreneurship, explaining both the barriers and opportunities it faces in the modern administrative state.

I. The Traditional Model and Emerging Realities

The traditional model of regulation relies on notice-and-comment rulemaking and agency adjudication. 12 Under this model, the output - the starting point for traditional administrative law analysis - is generally a form of positive law developed and enforced by a government agency through traditional tools (rulemaking or adjudication). 13 As Professors Charles Sabel and William Simon have observed, this model, "pejoratively called command and control, is identified with rule-bound bureaucracy and deference to ineffable expertise." 14

The traditional model can be depicted neatly as a hierarchy. 15 Congress sets a specific policy direction and empowers an administrative agency to implement that policy. The agency, in turn, uses either its rulemaking or adjudication authority to implement that direction. Finally, owing to the agency's expertise and congressional authorization, courts review the agency's action with deference.

[\*2016] Driven by technological changes and globalization, regulatory agencies increasingly are looking to alternative regulatory strategies, many of which fit under the "New Governance" label. 16 In some cases, innovative regulators experiment with new approaches to address emerging issues and fill gaps in the existing regulatory regime. In other cases, an agency might experiment with a co-regulatory strategy (where the agency integrates its authority with private sector efforts); exercise its authority in creative ways, such as developing best practices through convenings; or rely on private regulation. In that last category, as is the case with Energy Star, the government agency (or private entity, for that matter) can certify compliance with best practices, thereby sharing valuable information with the public and shaping norms of behavior. 17 In each of the above examples, the regulatory agency acts not within a hierarchy, but within a network. 18

[\*2017] The traditional, hierarchical model follows a familiar, step-wise approach to regulation. 19 The first step is establishing a standard of conduct. 20 The second step is implementing that standard of conduct, generally through a monitoring regime. 21 The final step is enforcement, in which parties are sanctioned for any failures to comply with the rules. 22 This model of regulatory action still holds strong in some areas, but it is no longer - and should not be - the exclusive strategy for addressing emerging policy issues.

In the emerging, networked environment, regulatory agencies find themselves with a range of options and tools for developing standards of conduct, monitoring behavior in the marketplace, and enforcing or encouraging compliance. The conversation around such emerging solutions has taken a number of forms, sometimes under the headings of "responsive regulation," "experimentalism," or "New Governance." However framed, there is a pressing need for more adaptable approaches that can operate effectively in technologically changing environments or in fields where the circumstances differ across geographic (or other) contexts. 23 To address emerging challenges, regulatory agencies will increasingly be called upon to experiment with non-traditional regulatory strategies, requiring legislatures to monitor and evaluate the effectiveness of innovative regulatory initiatives after the fact.

A. The Limits of the Traditional Regulatory Approach

The traditional model of regulation is coming under strain in the face of increasing globalization and technological change. 24 Consider, for example, the traditional model of drug and medical device approval used by the Food and Drug Administration ("FDA"). The legacy model of regulation envisioned the FDA reviewing a drug and making an up-or-down decision on whether to approve the marketing of the drug. 25 By putting all of the pressure on the front [\*2018] end (ex ante), the legacy model creates two sets of challenges: (1) the pre-approval process takes a long time, costs a lot of money, and, in some cases, unnecessarily delays access to potentially beneficial drugs; and (2) the lack of a post-approval review process allows drugs to "be marketed despite evidence that they were doing unanticipated harm." 26 Unfortunately, the second type of error - a lack of responsiveness to on-the-ground realities - reinforces the first type of error, creating more pressure on the FDA to withhold approval until it satisfies itself that the relevant drug or device will not cause harm. 27

Congress is well aware of the limits of traditional ex ante regulation. In the food and drug arena, it has worked to update the FDA's model of regulation. In the Food and Drug Administration Amendments of 2007, for example, Congress gave the FDA increased flexibility to approve drugs and require ongoing research as to how the drugs work, called for an improved Adverse Event Report System at the agency, and mandated a framework for monitoring drug efficacy in practice. 28 More recently, the FDA established fast-tracks for approving drugs and medical devices that promise life-saving breakthroughs. 29 As the FDA explained with respect to the medical device review process, "reducing premarket data requirements while increasing postmarket requirements for devices subject to a [Pre-Market Approval], when appropriate, can assist the FDA in making medical devices available to patients sooner than if following the traditional premarket review pathway." 30

[\*2019] This Article: , while sympathetic to the need to reform existing regulatory structures, does not focus on this issue. 31 Rather, it explains how considerable flexibility for a range of alternative options exists within current structures and is already being used by agencies and private entities to great effect. As such, this Article: describes the underappreciated model of earned regulatory authority, calls for a more self-conscious use of this model, and explains how agencies can spearhead and implement this model successfully through entrepreneurial leadership and a culture of trial-and-error problem solving. 32

The role of a more imaginative approach to regulation relates back to the "responsive regulation" movement led by Ayres and Braithwaite. On their account, regulatory strategies can be conceptualized as an "enforcement pyramid," with "persuasion" on the bottom and "license revocation" at the top (as the regulatory equivalent of the death penalty for a regulated firm). 33 In all cases, a responsive regulation approach emphasizes dialogue and engagement around the impact of regulatory efforts in practice. 34 In so doing, it underscores that regulators need not always use their traditional tools (notice-and-comment rulemaking and adjudication). Rather than reflexively adopting traditional approaches, regulatory agencies can (1) embrace and oversee self-regulation (enforced self-regulation or co-regulation), (2) convene stakeholders to develop best practices, or (3) persuade parties to develop private regulatory initiatives. The next three Sections discuss each strategy in turn.

[\*2020]

B. The Promise of Co-Regulation

Even when using its traditional authority, an agency can operate more nimbly and effectively by integrating its efforts with private bodies who have expertise in the field. Where that integration involves the explicit embrace, oversight, and enforcement of actions by private bodies, the model of regulation is aptly described as "co-regulation." 35 For a successful use of co-regulation, consider the FCC's use of frequency coordinators to assign rights to use the wireless spectrum. As I have explained previously:

One notable self-regulatory program that the FCC has overseen is the use of frequency coordinators, which manage voluntary cooperation in the use of point-to-point microwave links and private land mobile radio systems. In that context, the coordinator evaluates requests for new licenses and certifies that such new licenses will not cause undue interference to established users. Consequently, while the FCC is the authority that grants or denies licenses as a formal matter, it routinely relies on and defers to the judgment of the frequency coordinator. This deference to the frequency coordinator facilitates cooperation around the use of the relevant licenses. 36

The importance of this co-regulation model is that the FCC's delegation of authority enables practical problem-solving on the ground by the frequency coordinator. As Dale Hatfield, a former Chief Engineer at the FCC, explained, this system works because it encourages the local engineers to "sit down together, solve these problems, and say let's figure out how to do it," limiting the need for the FCC to use its backstop authority. 37

The FTC's partnership with the Better Business Bureau's National Advertising Division ("NAD") operates in a functionally similar fashion to the FCC's use of frequency coordinators. 38 Notably, the NAD has developed an [\*2021] effective model of dispute resolution around misleading advertising issues, deciding an array of issues and referring cases, where necessary and appropriate, to the FTC. 39 Because the NAD has developed such a trusted program, FTC leaders have praised its work and relied on it to carry the laboring oar in this area, 40 leaving the FTC's residual authority as a backstop. In particular, the NAD refers cases to the FTC where a party refuses to participate in its process or comply with a decision. 41

Learning from the NAD model, the European Union is working with the European Advertising Standards Alliance to develop a similar approach to overseeing false advertising claims. 42 In this case, however, the governmental authority is actively involved in developing and supporting this body rather than integrating its work after the body developed on its own. 43 In short, government can either embrace existing bodies as part of a co-regulation strategy or stimulate and steer the development of new ones.

C. The Role of Best Practices and Agency Convened Efforts

For many regulatory agencies, the opportunity to act as a "convenor," to develop best practices, and to create "soft law" or norms is an important part of their mission. As former FTC Chair Bill Kovacic explained with regard to the FTC, "Congress gave the FTC capacity to serve as a convenor - to engage in a diverse array of activities that facilitate norms development," including "what we now call "soft law' measures (e.g., self-regulatory standards, proposed guidelines)." 44 In particular, Congress specifically authorized the FTC to collect information and develop reports on topics not immediately related to cases or regulatory matters before the Commission. 45 In Kovacic's view, the FTC has used its convening authority effectively, "improving understanding, building consensus, and supplying focal points for norms development" through thoughtful reports that distill key issues. 46

[\*2022] For a range of agencies, the role of developing and championing best practices is on the rise, 47 reflecting a number of trends. First, many agencies find themselves without sufficient authority to promulgate binding rules as new technologies emerge. Second, even where an agency may have formal authority, it might be reluctant to use it in the face of an emerging technology where it needs to act more quickly than formal notice-and-comment rulemaking allows. Third, the agency may lack sufficient confidence that a prescriptive rule is warranted and thus leaves open a range of options, merely narrowing the field of possibilities and pointing entities in the right direction. 48

To develop best practices effectively, an agency must invest significant resources in the enterprise. Stated generally, this effort involves "horizontal modeling rather than hierarchical direction" and is "a method of regulation in which central administrators provide advice and disseminate information, instead of mandating a one-size-fits-all regulatory scheme." 49 In an increasing number of cases, best practices focus not only on U.S. firms, but also those across the world, requiring that the regulatory agency coordinate its international counterparts. 50 Moreover, to develop emerging best practices, it is important that agency staff take the time to learn the details of "the regulated entities first-hand, develop a strong sense of emerging processes, and … [share] knowledge of these processes with staff at other locations." 51

Where an agency (or a private entity) identifies and disseminates a best practice, it acts as a "norm entrepreneur." 52 As discussed in Part III, the FTC has performed this role in the online privacy and data security contexts, articulating and recommending a set of best practices. 53 One virtue of this role - like soft law more generally - is that it may well make the adoption of more formal regulation less necessary. 54 To the extent that the articulation of the relevant [\*2023] norm itself does not overcome the collective action problem and catalyze compliance with a norm, a certification regime (like Energy Star) for those who are compliant (along with naming and shaming) might do so.

One path for catalyzing compliance, which can be labeled as "jawboning" or "threats," involves the use of apparent legal authority - say, opening up an investigation - to achieve a desired result. In a provocative article, Professor Tim Wu defends the use of "threats," calling for norm entrepreneurship by agency leaders and the development of limiting principles for the practice. 55 In criticizing Wu's argument, some commentators have characterized it as condoning lawless conduct. 56 In that spirit, I previously criticized the FCC's use of its merger review authority to secure outcomes in other contexts that were not specifically related to the merger. 57 I also called the FCC's use of "arm twisting" controversial when done without full transparency and a willingness to take formal action. 58 Finally, I noted that the tactic is "dangerous" if the agency is not willing and able to follow through with formal regulation if the called-for behavior does not take place, as the meaningless nature of the threat will become plain and the agency will lose credibility. 59

Any agency that develops best practices should be aware of the potential risks of such an effort. For starters, if an agency's identified best practices are allowed to become stale, some private actors might stick with them and fail to improve their practice. Second, given that there is no judicial oversight of best practices development, 60 it is important that agencies pre-commit to a level of procedural regularity and fairness in how they develop them. Third, without either carrots or sticks related to best practices, an agency may find it difficult to generate attention or catalyze compliance. 61

[\*2024]

D. Private Regulation

As exemplified by the LEED building standard, a private regulatory initiative can drive behavior toward a social goal. Given the need to respond to emerging issues more adaptably than traditional regulatory processes allow, public agencies may be tempted to rely on private bodies. 62 In the internet environment, for example, a range of issues are managed by multi-stakeholder organizations, which use "dialogue to develop voluntary norms and best practices." 63 Similarly, in the environmental field, a range of "private activity generates pressure on environmental behavior without resulting in a statute, regulation, agency enforcement action, or court decision for review by scholars and policymakers." 64

The role of private, multi-stakeholder efforts in internet governance is the U.S. government's official policy. 65 Since the development of the internet's basic technical standards in the 1980s and 1990s by groups like the Internet Engineering Task Force ("IETF") and the World Wide Web Consortium ("W3C"), "these entities have largely established the norms and standards for the global internet, but they are little known to the general public." 66 The U.S. government recently fully embraced this model, recognizing the need for internet policy and governance issues to be developed in an adaptable and global fashion. 67 This embrace includes supporting the Internet Corporation for Assigned Names and Numbers ("ICANN") as an independent, international body to oversee the internet's numbering system. 68

In the internet context, two private regulatory efforts bear notice, as both exist in tandem with legal and regulatory oversight. First, the Copyright Alert System (overseen by the Center for Copyright Information) was a cooperative effort between broadband providers and content providers focused on addressing [\*2025] piracy in peer-to-peer networks. 69 This initiative, which existed for four years, 70 provided some measure of guidance to the broadband industry on what sort of "repeat infringer" policy was reasonable. 71 In light of recent court decisions holding a broadband provider liable for failing to develop an appropriate repeat infringer policy, the guidance from this organization could be considered best practice and protect a provider from liability, 72 although its cessation of operations may limit its impact. Second, the Broadband Internet Technical Advisory Group ("BITAG") is a multi-stakeholder organization that seeks to define best practices and broadband network management ahead of any FCC action under its network neutrality regime. 73 In its most recent regulatory decision on network neutrality, the FCC highlighted its openness to "obtaining objective advice from industry standard-setting bodies or similar organizations," specifically citing BITAG as an example. 74

Both the Center for Copyright Information and BITAG relied on a mix of industry representatives and public interest advocates and operated in an open, transparent, and consensus-based manner. 75 Like frequency coordinators and the [\*2026] NAD, the bodies confronted the challenge of earning their legitimacy and claim to regulatory authority. If such efforts succeeded, the FCC and copyright courts would regard their guidance as meaningful, just as the FTC and courts do with respect to the actions of the NAD. 76

In the environmental realm, the Marine Stewardship Council ("MSC") is an instructive case study on how a multi-stakeholder private regulatory initiative can have a major impact. The MSC, founded by the World Wildlife Fund and Unilever, was launched to address the concern about fisheries operating in a sustainable fashion. 77 As one commentator explained, "the MSC administers standards for sustainable fisheries, updates the standards periodically with input from a stakeholder advisory group, evaluates fisheries, and allows those fisheries that meet certain criteria to label their fish as MSC-certified." 78 The MSC standard focuses on three core concerns: (1) maintaining sustainable fish stocks; (2) minimizing any adverse environmental impact; and (3) managing the fishery effectively, including compliance with relevant legal requirements. 79 Under the MSC-administered regime, independent private auditors must assess compliance with the relevant standards and compliant products can be labeled as such. 80 Indeed, the MSC regime allows any organization with concerns related to certification to make a formal objection during the certification process. 81

[\*2027] The MSC provides a powerful example of how private regulation can work even when not reinforced by public regulation. 82 By 2012, sixty percent of the fish caught in U.S. fisheries for human consumption were MSC-certified and major corporations, such as Wal-Mart and McDonald's, had committed to selling only MSC-certified, wild-caught fish. 83 Moreover, the MSC's private regime drove compliance with the nonbinding Code of Conduct, developed by the United Nations Food and Agriculture Organization, by making it part of its requirements. 84 After surveying this regime and formal regulatory efforts to address the issue, one commentator concluded that the MSC model was more successful than traditional regulatory efforts in this area and that "private regulation is best situated to address the complex problem of fisheries depletion." 85

In short, private regulatory efforts, such as those led by multi-stakeholder organizations, can influence private behavior whether they operate in tandem with public regulatory oversight or in a vacuum created by a lack of regulatory oversight. Whether they operate in the backdrop of public oversight or as a standalone effort, private bodies need to establish their legitimacy to influence behavior on the ground. To do so, they must have sufficient independence from those they oversee, enabling both regulators and consumers to trust their judgments (including determinations of compliance). 86

[\*2028]

E. Hacking the Bureaucracy

In most situations, Congress and agencies think along traditional lines and agency leaders continue on the established path of agency regulation, under-utilizing the alternative models discussed above. 87 There are a number of reasons for this dynamic, including the power of "path dependency and bureaucratic entrenchment." 88 Even more powerfully, the incentives for policymakers are often to avoid Type 1 errors - those visible errors of commission - that arise when trying a new strategy that might fail. By contrast, the hidden Type 2 errors - ones of omission - are permissible and a regular feature of bureaucratic inertia. 89

On one account, the challenge of leading a bureaucracy is captured by the reality that governmental employees, who enjoy civil service protection, can tell their politically-selected leaders, "I was here long before you arrived and will be here long after you are gone." In practice, such explicit defiance is the exception. Regardless of whether bureaucratic inertia is willful or based on an entrenched tradition governmental agencies are built to continue the same course. Consequently, any course corrections require energetic leadership. 90 And governmental employees are generally conditioned "to be quiet, take orders, and do their jobs in a repetitive way." 91 On the positive side, governmental employees tend to have a service orientation and are mission driven, meaning [\*2029] that effective engagement around the mission and purpose of the agenda can catalyze innovation and collaboration. 92

Bureaucratic inertia and autopilot administration not only prevent innovative programs from being developed, but also can lead existing programs to be administered badly. Take, for example, the development of the healthcare.gov website. After Congress passed the Affordable Care Act, a health care economist, David Cutler, encouraged the White House to treat the administration of the law more like "launching a start-up than passing a law." 93 In particular, Cutler made clear that the default strategy - using the existing personnel at the Center for Medicare and Medicaid Services ("CMS") - for administering the law was a recipe for failure. 94 In an assessment ignored by the White House, he explained that CMS "is demoralized, the best people have left, IT services are antiquated, and there are fewer employees than in 1981, despite a much larger burden." 95

Cutler's call for an entrepreneurial approach to implementing the Affordable Care Act was rejected by President Obama. 96 Perhaps fearing the need to manage political warfare with House Republicans or responding to the HHS' interest in protecting its turf, President Obama agreed to, in Cutler's words, pile "new responsibilities onto a broken system." 97 As this episode underscores, even when the current system is flawed, the pressure to use it is powerful. As a result, the healthcare.gov website cost $ 800 million to develop, whereas Twitter, which serves a similar number of users and is of comparable complexity, cost only $ 60 million. 98

The redeeming part of the healthcare.gov story is that it demonstrates that treating a government project like a startup can work. After the failed rollout of healthcare.gov (which only enabled six people to sign up for insurance on its first day), President Obama essentially embraced Cutler's recommendation, [\*2030] authorizing Todd Park, Mikey Dickerson, and a team of entrepreneurs to operate in a new structure that was called "tech surge." 99 This project, like a good startup, approached the challenge of building an effective website from first principles. Rather than ask how the government had done IT projects before, the team innovated (for government) in a number of important ways, including using Amazon Web Services to support the site. 100 In developing the new website, it broke from the traditional bureaucratic process of "waterfall" development (where every step is prescribed and locked-in) and used "agile" development (where the process is iterative and evolves along the way). 101 Finally, the team built a login system for $ 4 million (with annual maintenance costs of $ 1 million) to replace the initial version that did not work well and cost $ 250 million to build (with $ 70 million annual maintenance costs). 102

In an important legacy of this effort, Park and Dickerson continued to work in government after fixing healthcare.gov, developing the new U.S. Digital Service ("USDS"). 103 The goal of the USDS is to lure a range of talented technology professionals to the federal government, including data scientists, product managers, and product designers. 104 The USDS, in turn, provides guidance to government agencies on questions like how they can use Amazon Web Services. 105 In short, the USDS supports entrepreneurial leadership in government; and as Park said, it develops "people who can hack the technology, as well as people who can hack the bureaucracy." 106

The healthcare.gov story now has two parts. The first is the cautionary tale about government's traditional inertial default setting - that is, to do things as they were done before. The second underscores that entrepreneurial leadership [\*2031] in government is both possible and important, and can lead to transformative results. 107

The positive legacy of the healthcare.gov story is that entrepreneurial leaders in government can free their agencies from "the mental grip of conventional structures on the capacity to consider alternatives." 108 In so doing, such leaders can facilitate the development of alternative regulatory strategies. Similarly, governmental agencies face the challenge of overcoming the institutional bias that "experts may myopically focus on issues within their area of expertise and thereby fail to recognize that a decision would benefit from accessing other bodies of knowledge or ways of thinking." 109 In short, an important role of entrepreneurial leadership in government is to examine issues through the lens of first principles. 110

The concept of policy entrepreneurship recognizes that an entrepreneurial mindset and skillset can be applied to governance to foster innovative results. Professor Adam Sheingate, for example, defines the concept as the "skillful manipulation of politics [that] somehow results in the creation of a new policy or a new bureaucratic agency, creates a new institution, or transforms an existing one." 111 This type of leadership can also be seen in the development of, for example, the MSC program, the FTC's oversight of online privacy, and the Energy Star program. In a world where the best solutions may well require new models of regulation, it is critical that agency leaders experiment with new solutions. 112

[\*2032] A significant hurdle for entrepreneurial leadership in government - and a foundation of the inertial default setting - is the lack of acceptance of failure as an outcome. In practice, this means that governmental agencies often reflexively turn to traditional regulatory models and do not consider untested alternatives (often out of fear of failure). 113 This instinct mirrors the old private sector saw that "nobody got fired for buying IBM." 114 Citing the fear of failure and risk aversion, former Massachusetts Governor Deval Patrick explained, "there may be no industry less susceptible to innovation than government." 115 There are, however, exceptions, including the Defense Advanced Research Projects Agency ("DARPA"), which makes a conscious effort to promote a "risk-taking and failure-tolerant culture." 116

In the entrepreneurship environment, failure is a normal state, providing data, an opportunity to iterate, and a spur to refine a product offering. 117 Consequently, entrepreneurs celebrate the need to "fail fast" on new experiments by trying them on a small scale and determining as quickly as possible whether they can work. 118 As two advocates of innovation in government put it, "[a] [\*2033] culture of innovation means continuously exploring and adopting new processes in an ecosystem where risk is incentivized, not precluded." 119 Similarly, entrepreneurial leadership in government authorizes calculated risk-taking and, more importantly, provides cover for trial-and-error learning when the trials do not produce the envisioned results. 120 Unfortunately, leaders who support experimentation and are willing to accept the inevitable failures, are the exception, not the rule. 121

The basic entrepreneurial methodology of experiment-measure-iterate is captured in Eric Ries's classic book, The Lean Startup. 122 A core thesis of the book, widely accepted in the entrepreneurial community (and ignored by most legal scholars), 123 is that companies should develop and market a "minimum viable product," solicit feedback from actual customers, and improve it based on that data. 124 At Facebook, this philosophy was adopted and embodied in its mantra, "done is better than perfect." Citing that mantra, one commentator explained that "had Facebook waited so much as a year to perfect its model, the company might very well be where MySpace is today." 125

The Ries philosophy is famously captured in a feedback loop representing the cycle of innovation. 126 The core idea is to embrace experimentation, gather data [\*2034] (whether it signals success or failure), and iterate. 127 The lean startup model, represented by the following diagram, focuses on taking ideas from prototype to feedback to improvement: 128

This lean startup model echoes the style of software development championed by open source software, which calls for releasing code that can be viewed and improved by a community of users and developers. In what Eric Raymond dubbed "Linus's Law," in honor of the founder and coordinator of Linux, the open source maxim is "given enough eyeballs, all bugs are shallow." 129 This approach has spread far beyond open source, enabling "business webs where focused companies partner others to innovate and create value." 130 Although this [\*2035] approach and a commitment to prototyping and testing solutions is novel in government, it is starting to take root, with promising results. 131

With respect to the fear of failure, government operates quite differently than the entrepreneurial world. In government, the perceived costs of failure are sufficiently high that many governmental leaders decline to introduce a new initiative for fear it will fail or refuse to admit that an existing program is failing, even though that admission is a necessary predicate for improvement. To be sure, there are cases like the initial healthcare.gov rollout where the failure is readily apparent and must be fixed. In other cases, however, governmental leaders stand by programs where the data backing up its effectiveness is either uncertain or doubtful.

For an instructive case of governmental leaders refusing to acknowledge the limitations of a program, consider the case of the EPA's Performance Track program. When created, the program was supposed to highlight those companies with stellar environmental records. 132 In practice, however, it ultimately became, as EPA Administrator Lisa Jackson put it, "just one of those window-dressing programs that has little value." 133 Similarly, the EPA Inspector General criticized the program as ineffective, noting that it did not provide "a new model for achieving" its stated goals and very few companies met their stated goals. 134 Nonetheless, the Bush Administration did not make any real changes to the program before the Obama Administration cancelled it. 135

The Performance Track program story, like the failure to acknowledge the failings of the healthcare.gov website earlier, underscores that the hesitancy to acknowledge failure is a major challenge in governmental administration. If governmental leaders refuse to acknowledge failures, they undermine the ability to learn - and iterate - from mistakes and instead allow failed programs to [\*2036] continue during a period of denial. 136 Or, as Lawrence Summers put it while reflecting on the healthcare.gov debacle, it is crucial to resist the "overwhelming temptation for everyone involved [in a project] to circle the wagons and promise rapid repair so as to hold critics at bay." 137

Another challenging dynamic for governmental leaders to address is the impact of unconscious bias. It is normal for those involved in a project to believe that it is working, following what Nobel Laureate Daniel Kahneman calls "confirmation bias." 138 As one commentator put it, a challenge for those evaluating regulatory experiments is that those "deeply involved in the implementation of a particular regulation are likely to see the benefits of such a project far more clearly than the costs." 139 As commentators have explained, there are a number of strategies for overcoming this bias, including using red team-blue team exercises, appointing a Devil's Advocate, and creating a process for deliberate decisionmaking. 140 Of course, as happened in the Performance Track situation, new leadership is able to bring a fresh perspective. Ideally, however, existing leaders can step back and ask, "if a new leader came in and took a fresh look, what would she do?" 141

[\*2037] The role of entrepreneurial leadership in encouraging candid reflection and criticism is essential. As former FTC Chair Bill Kovacic and David Hyman explain, agencies develop an institutional culture and a reputation (or a brand, as they put it). 142 In some cases, that brand can be one of reliability and commitment to data-driven decisionmaking. An important role of an entrepreneurial leader is to develop and maintain that commitment. In the case of Underwriters Laboratory ("UL"), for example, its early leadership did just that, building up "UL's reputation for reliability by creating organizational structures, administrative routines, and oversight systems designed to prevent mistakes and misconduct." 143 To get past the natural status quo bias, an entrepreneurial leader should welcome diverse ideas, criticism, different options, and experimentation. 144 In Part II, to explain how policy entrepreneurship can earn regulatory authority, I discuss how experimental initiatives need to establish their effectiveness, legitimacy, and accountability to be embraced as lasting regulatory regimes.

#### It also improves overall resource efficiency and investigation accuracy

Almudena Arcelus 21, Principal at Analysis Group, Mihran Yenikomshian, Vice President at Analysis Group, and Noemi Nocera, Associate at Analysis Group, “Mitigating Antitrust Concerns When Competitors Share Data Using Blockchain Technology”, Harvard Journal of Law and Digital Technology, Harv. J.L. & Tech. Dig. (2021), Spring 2021, Lexis

C. Transparency for regulators

Implementing transparency in the network design can improve regulators' ability to investigate claims of antitrust violations. First, blockchain networks could be designed to provide antitrust investigators with a clear audit trail of the life cycle of an asset as it moves through a firm's supply chain, providing critical information to investigators as they assess when and how a firm's products transformed from raw materials to a finished good. Second, networks can be designed to provide investigators with more accurate, reliable, and comprehensive transaction data across an entire firm, rather than the piecemeal and inconsistent data that regulators often receive. Last, we could imagine the development of a blockchain, potentially accessible only by select parties or regulators, that contains industry-wide transaction data, which could provide an unmatched tool for investigators. Furthermore, the standardized data format in a blockchain may lead to faster resolution of potential antitrust investigations.

Whether or not these particular strategies would be effective in a real-world setting will depend on the industry or business context, the design of the blockchain network at issue, and the effectiveness of governance and regulatory oversight.

V. CONCLUSION

Because of its potential to change the way many governments' and firms' services currently operate, blockchain technology has attracted extensive press coverage. Although antitrust concerns exist in relation to blockchain adoption and data sharing between competitors (including access to information, collusion, abuse of dominance, and enforcement), blockchain serves mainly as a data management tool. How it affects competition will depend on network design and regulatory oversight, among other things. When examining antitrust concerns, industry observers as well as regulators should assess blockchain technology according to its specific implementation and its role in the wider framework within which it is used.

### Plan---1AC

#### PLAN

#### The United States federal government should prohibit anticompetitive practices by nucleus participants at the root layer of blockchains.

### Solvency---1AC

#### SOLVENCY

#### Prohibiting anticompetitive practices by the blockchain nucleus of creates a principled basis to apply antitrust to distributed ledgers without over broadening liability for all users

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2 BLOCKCHAIN’S LEGAL FICTION

In this section, I introduce the theory of granularity and outline how it enables the application of antitrust law to blockchains. Transactional by nature, that theory aims to explain public permissionless blockchains beyond the simple cost reduction framework. It seeks to translate accurately the governing reality of such blockchains, creating for the purpose a new legal fiction that encapsulates blockchain without forcing it into inadequate boxes.

2.1 Dynamics of Blockchain Governance

The theory of granularity, to which one may want to provide a semantic explanation, frames blockchain governance as a new transactional institution. By doing so, it fills the gap created by the impossibility of applying the theory of the firm to public permissionless blockchains.

2.1.1 Semantic explanation

In “The Nature of the Firm”, Ronald Coase distinguished between organizations and organisms.3 While firms are organizations, blockchains are clusters of organisms that, by nature, are spontaneous. Their functioning must be analyzed and understood this way so that antitrust and competition law can be properly applied when necessary.

The present chapter introduces the theory of granularity for the purpose. Generally, the notion of granularity defines the size of the smallest element in a system - that is, an organism. Thus, this theory aims to analyze the role played by each component of a blockchain. Unlike the firm, where vertical control is exercised over its components, blockchains are made up of horizontal governance mechanisms. This reinforces the importance of each organism, as one cannot merely assume that they will follow one coordinated direction.4 One must then study blockchain’s smallest organisms, the role they play and their dynamism.5 It is only by analyzing the granularity level that blockchain governance can be properly understood.6

2.1.2 Understanding blockchain governance

Blockchain is a space in which different forms of power are being exercised. However, unlike the firm, in which one exercises a power of command and control, I have explained that no single actor can entirely control a public permissionless blockchain.7 As a result, multiple interests can compete within the same blockchain; they may even be opposed. Blockchain “contribute[s] to the realization of a number of individual objectives which no one knows in their totality”8 For that reason, one must study the different types of power that are generally found within public permissionless blockchains to understand which interests may eventually prevail over others. In doing so, we should keep in mind that “people who think the purpose of blockchains is to completely expunge soft mushy human intuitions and feelings in favor of completely algorithmic governance (emphasis on ‘completely’) are absolutely crazy.”9

I study blockchain power games by analyzing what I have described as the fifth blockchain level in Chapter 4: the governance layer. That level sits on top of more technical ones, and it appears to be central in defining the activities at the levels above. Furthermore, different constraints come into play in blockchain governance - namely, economic, political, logical, sociological, architectural and legal ones. Understanding how these constraints interact is a challenge; but it is essential in order to get a grip on who holds control over blockchain layer 1 and how that power is exercised over other participants.

A distinction between all three categories of public permissionless blockchain participants is helpful in this regard - namely, between founders or core developers (I will often present them together for the sake of simplicity), users and miners. I show that although each blockchain has its specificities, the above-mentioned groups will use the same mechanisms to express their preferences,10 and will encounter the same limits if they act on their own. Eventually, their powers may suffer from four constraints that Lawrence Lessig described with his “pathetic dot theory”: law, markets, social norms and architecture.11

As for private blockchains, I have explained that they mimic that structure to different degrees, depending on their original design. The closer they are to public permissionless blockchains, the less the theory of the firm will be transposable to them. The following developments then become relevant for public permissionless as well as private blockchains.

2.1.2.1 The power of founders and core developers'2

Blockchain founders and core developers are those who implement the original rules of a blockchain.13 They design the code software and determine which consensus protocol will be used.14

Although core developers work on the fourth level of blockchain - its infra- structure - they interact with other blockchain participants at the fifth level. Indeed, one may stress that the blockchain architecture limits their power, as they lose any form of direct control over other participants once they put the blockchain online.15 For most blockchains (but not all!),16 founders and core developers cannot unilaterally impose any changes17 or control who may propose protocol updates.18 For instance, any Bitcoin Improvement Proposals must be voted upon, according to miners’ computing power, before they get implemented.19 Indeed,“[t]he nature of Bitcoin is such that once version 0.1 was released, the core design was set in stone for the rest of its lifetime,”20 unless the majority agrees to change it.

The more participants are included in those voting procedures, the more decentralized that blockchain layer is.21 The opposite is also true. For instance, Decred22 and Tezos23 are cryptocurrencies with more centralized governance systems. One of Tezos’ principal characteristics is the ability to amend its consensus when necessary.24 The presence of off-chain and side-chain governance mechanisms, usually controlled by developers, should also be closely studied.25

It remains that core developers do not control who can use the blockchain at the platform layer26 or who can build applications on top of it.27 That is because blockchain founders and core developers cannot impose changes on the blockchain code, interface, application, data or benefice.28 Their main role is thus close to that of “advisors,”29 but their influence is limited by blockchain participants’ desire to maximize their own benefit, which may lead them, should they disagree with core developers, to refuse the implementation of new rules, to move to a rival ecosystem or to fork the blockchain.30 Social norms further limit them because they may fear not being influential enough to prevent hard forks.

Hard forks result in backward-incompatible software updates. When they do not obtain a sufficiently broad consensus among miners,31 hard forks cause the chain to split in two, permanently. Indeed, miners who do not follow the new block validation requirements will be unable to add their blocks to the latest version of the blockchain, as the core client will automatically reject them as non-compliant. Instead, a new chain of blocks will form, creating a split: two chains following different rules. These forks limit the core developers’ willingness to act against the interests of other participants.32 And core developers may also fear soft forks, although to a lesser degree. Soft forks happen when new rules are implemented, but when the blocks following the original rules are not rejected from the chain. These modifications are backward-compatible, accommodating miners who implement the change and those who do not. Nevertheless, one should underline that these limits on core developers’ power are linked to the decentralized nature of blockchain governance, which is not a necessary feature, but needs to be enacted.33 New blockchains may appear in which greater power is given to the founders and core developers.34

However, such blockchains will suffer from two inherent limits. First, the extent to which a (re)centralized blockchain could thrive remains to be seen.35 Such blockchains could deplete trust by confining power in the hands of a few, thus disincentivizing users from joining them. Second, a (re)centralized block- chain could function less efficiently than a truly decentralized one, because all its participants would no longer be in a position to improve it. This lack of efficiency, even if it only concerned certain types of transactions, could hinder these blockchains - which probably explains why, to this day, they have not prospered.

2.1.2.2 The power of users36

On permissionless public blockchains, users propose new transactions. Anyone can become a user.37 Users exercise substantial power over the blockchain, since their decision to use it (or not) is central to the blockchain’s economic and social value.38 Their influence extends from influencing transaction fees39 to providing additional value by developing and using applications running on top of the platform layer.40 They can also force hard forks on the blockchain.41 However, their power is limited by the fact they cannot (easily) exercise coordinated control, as their actions are highly decentralized and spontaneous.42 This creates an architectural limit and makes their behavior primarily dependent on prices.43

2.1.2.3 The power of miners44

On permissionless public blockchains, miners validate transactions assembled into blocks. Any participant can become a miner.45 Miners follow the rules encoded in the fourth blockchain level (e.g., the Bitcoin Core client).46 They can comply with a different set of rules, but they will then waste computing power by producing an orphaned block, thus losing potential rewards. Following the main client’s rules is miners’ dominant strategy.47 If they coordinate their behavior, miners can influence a blockchain by realizing a 51 percent attack,48 thus forcing a soft fork.49 The risk is higher when miners are grouped into mining pools.50 In such a scenario, the blockchain protocol is changed to loosen the rule-set enforced by full nodes.51 Such a change occurs when enough hashing power, or energy expended to mine a cryptocurrency, is devoted to it.52 The power of miners to start soft forks is nonetheless limited by both the blockchain’s architecture53 and social norms - they must convince blockchain participants operating as nodes to run the new version of the software.54 Miners also suffer from market constraints, as initiating a soft fork may decrease the value of the tokens they own.55 The price mechanism also guides their actions, creating a strong market-related constraint. Finally, even if a fork were created, the new community would have the strenuous task of convincing other users to join it.56 For example, Bitcoin had been forked over 100 times at the time of writing. Over 30 of them are considered failures, while another 29 projects are no longer capable of transacting. Among the remaining forks Just a few are considered valuable.57

2.1.3 The blockchain power game

This overall balance of power, common to all public permissionless block- chains, is the general analytical framework (as illustrated in Figure 7.1) within which to analyze whether one of these groups, on a case-by-case basis, has sufficient influence to qualify as control under antitrust or competition law.

On top of all that, core developers, users and miners may also store a copy of the blockchain ledger. When doing so, their computers are labeled as light nodes if they store only a subset of the blockchain ledger and full nodes if they store a copy of the entire blockchain.58

Although these nodes are passive and cannot be designated as actors in the blockchain, they ensure its integrity. This role carries power. First, blockchain participants who are nodes may alter their copy of the blockchain.59 Second, they may also (threaten to) validate blocks in which there is double spending.60 Their job is indeed to prevent users from spending the same token twice by allowing miners to verify the proposed transaction against a list of previous unspent transaction outputs. They protect blockchains value. However, their power is mainly limited by the fact that they cannot either control or influence transactions.61

This is the blockchain power game. It is well balanced, and technical solutions (called “layer 2” solutions) are constantly provided to maintain that balance. But these solutions are insufficient to maintain balance when different groups of blockchain participants come together to escape these constraints to the detriment of the broader ecosystem. When this occurs, they are exercising control over the blockchain.

2.2 The Blockchain Nucleus

Thus far, the theory of granularity has allowed me to determine the different forms of power enjoyed by blockchain participants. I must now detail how to identify a legal fiction controlling the blockchain.62 To this end, I explain what a blockchain nucleus is and then analyze its influence over other blockchain participants. 1 then describe how to define such a nucleus.

2.2.1 Usefulness and challenges

2.2.1.1 The nucleus

None of the three types of blockchain participants - core developers, users and miners - can impose their power on other groups to the point of taking complete control over the blockchain. Blockchains are indeed decentralized. They prevent the exercise of vertical power, and this differentiates them from firms in which a group, or sometimes even an individual, can control the other participants and “force them to collaborate,” so to speak.

That being said, even with horizontal and decentralized governance, a group of participants may achieve a form of control over the blockchain by collaborating, by circumventing (some of) the constraints imposed on them,63 and by changing them in the long run.64

I contend that such a coalition exists for each blockchain (at least, for the surviving ones),65 and I call it the nucleus. The nucleus includes all the participants who have a personal interest (albeit transiently) to collaborate toward the same long-term goal: ensuring the blockchain’s survival.66 Its members do not compete as they are, together, trying to maintain and expand their blockchain. Their short-term interests may diverge from time to time67 - for example, when two miners are racing to mine new blocks.68 Still, they seek to ensure blockchain integrity and systematically promote the same blockchain instead of other ones.

2.2.1.2 Usefulness

Assessing which participants have joined forces and are thus part of the nucleus is essential to determine who ultimately controls the blockchain. Put differently, it leads to identifying the participants that can be held liable for a breach of antitrust law when it is shown that they have anticompetitively exerted their influence.69 Identifying the nucleus amounts to creating a legal fiction to which the law can be applied, but also to which rights can be granted (see Figure 7.2).

The nucleus should indeed become a legal fiction that can be liable for anticompetitive practices, but also able to claim damages. In that regard, determining the nucleus size will prove central. It will prove useful in cases of anticompetitive practices directed at a blockchain nucleus. When a legal entity - whether a blockchain nucleus or a firm - infringes antitrust law and causes damages to another nucleus, the latter must have the means to introduce a legal action, stand by its rights and claim damages. Assigning liability and granting rights to blockchain ecosystems are thus two sides of the same coin.

3 DEFINING THE NUCLEUS SIZE

Courts and antitrust agencies will face the task of determining the nucleus size. The further away a participant will be from the nucleus’s center, the more difficult it will become to genuinely include her or him in the nucleus. With distance, it will prove harder to show that she or he could have influenced other participants’ behavior. Only a case-by-case analysis can elucidate this question. This analysis should nevertheless be based on concrete and quantifiable frameworks to ensure legal certainty, limit legal errors and reduce regulatory costs. To this end, agencies should focus their investigation on economic agents’ ability to exert a horizontal power of command and control. They should also consider their capacity to interfere with the blockchain’s economic value and influence norms.70

Let me be more specific. The first element that should be factored in to determine which participants are part of the nucleus is the technical ability to exert a horizontal quasi-power of command and control. One must assess each blockchain’s architectural characteristics to determine whether a few users may impose such decisions on others. The more a group of users can control others, the more they can single-handedly contribute to the block- chain’s survival, and therefore be considered part of the nucleus. In fact, the original design of a blockchain can give one of the three groups of users more or less power. It can put them in charge of implementing the execution of transactions, designate them as miners or even enable them to change the design a blockchain’s design unilaterally. Some blockchains might also use several mechanisms based on the platform layer to create governance (whether off-chain or side-chain).71

The second element is the ability of each participant to interfere with the blockchain’s economic value.72 When some users govern the pricing structures, the blockchain’s attractiveness or economic incentives, they have indirect control over the blockchain. This ability can be assessed by looking at technical elements. For instance, the capacity to change the size of each block, which may alter the number and types of transactions, is a sign of control. The same goes for the power to propose modifications to the core code to attract new participants. Finally, the more a participant has invested in the blockchain, the more he has an incentive to control its economic value.73 For that reason, previous investments in a blockchain can show agencies where to look for the nucleus.

The third element is the ability to influence a blockchain’s norms.74 Here, “norms” are defined as the “constraints imposed not through the organized or centralized actions of a state, but through the many slight and sometimes forceful sanctions that members of a community impose on each other”75 - that is, the unwritten rules that one often feels compelled to follow.76 The more a participant can incentivize others to behave in a certain way - on pain of rejection from the community - the more they exercise control over the blockchain’s general direction.77 For example, when core developers can influence other participants into accepting all of the modifications they would like to apply to the core (e.g., by arguing about the necessity for technical upgrades, security failures, bugs...), they effectively pilot part of the blockchain.

4 THE THEORY OF GRANULARITY IN ACTION

The theory of granularity would enable agencies to identify a blockchain’s nucleus. It would thus permit the creation of a legal fiction to which antitrust can be applied. In turn, this would impose new obligations upon blockchain participants while simultaneously giving them new means to challenge anti- competitive behavior. This theory would make it possible to analyze relevant markets and market power in antitrust proceedings. The theory of granularity would also make it possible to impute anticompetitive practices to a given set of blockchain participants.

#### Antitrust is limited by application only to the ‘firm’, defined by vertical control---modifying this with targeted prohibitions prevents blockchain centralization

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The second part of this book is dedicated to artificial centralization - namely, anticompetitive behaviors that take place on blockchains or are facilitated by them. 1 contend that studying these practices is essential to make blockchain and antitrust law function as allies; indeed, no sustainable cooperation is possible without addressing (and preparing for) the situations in which mutual aggressions will occur.

To this end, I first analyze the extent to which antitrust laws are currently applicable to blockchains. I show that the theory of the firm is central to modern antitrust (Chapter 6) and that it cannot be transposed to all blockchains. For that reason, I propose a new approach - dubbed “the theory of granularity”- which allows for the creation of a legal fiction, placing blockchain’s activities (back) under the rule of law (Chapter 7). I explain that implementing that approach would benefit all the players in the blockchain ecosystem. This would clear the way for law enforcers to apply the rule of law and, in turn, would help eliminate the most harmful practices and encourage investments. Once the question of applicability has been cleared up, I turn to how antitrust law could be applied to anticompetitive practices. To this end, I begin by looking at collusive practices, whether they concern the blockchain itself (Chapter 8) or make use of the blockchain to affect the “real space” (Chapter 9). 1 explain that these practices tend to centralize decision making power and thus contribute to the “artificial” centralization of different levels of block- chain ecosystems and the economy.

Part 2 closes by examining abuses of market power. I first show that the analysis of market power on blockchain raises several difficulties, and I offer suggestions to overcome them (Chapter 10). I then analyze the practices that may result from such power and show that they are heterogeneous (Chapter 11). I draw a risk map. Finally, I conclude by studying different forms of blockchain concentration (Chapter 12). I draw a distinction between hostile and mutually agreed concentrations and explain how these may recentralize blockchain.

6. The theory of the firm

1 LEGAL FICTIONS

The concept of “legal fiction” is central to all legal systems, although regulation and court decisions refer to it only infrequently. I first explain its meaning by taking a brief detour through... trees and forests. I then show why it is useful for the present study.

1.1 Trees as a Legal Fiction

Christopher D. Stone is a law professor in the United States. In 1965, after a stint at the University of Chicago,1 he joined the University of Southern California Law School, where he taught several subjects, including public international law and property law. One day in the fall of 1971, as he was nearing the end of a class, he asked his students the following question: “What would a radically different law-driven consciousness look like?” As he walked out of the classroom, down the corridor to his office, he wondered why he had asked such a strange thing. “How could a tree have rights,” after all? Days went by, and still he continued to wonder. He soon became convinced that the answer to his question should be positive and decided to make it known.

In October that same year, he got in touch with the Southern California Law Review's editor in chief. The Supreme Court had taken up a case, Sierra Club v. Morton, that touched upon his question. Although Stone did not think he would be able to publish his article before the case went to trial, he hoped that Justice William O. Douglas - who had agreed to write the preface to a symposium issue of the Review - would at least see the draft of his article. His strategy paid off. Although the Supreme Court decision did not follow his thesis, Justice Douglas wrote a dissent in which he held that: “Contemporary public concern for protecting nature’s ecological equilibrium should lead to the conferral of standing upon environmental objects to sue for their own preservation. See Should Trees Have Standing?”2 In 1974, Stone published a book in which he developed his theory further.

1.2 The Concept of Legal Fiction

Christopher Stone’s book is a pillar of modern thinking on the subject. Of course, the argument concerning what is a legal person - or a legal object to which rights are attributed - did not originate in the 1970s. Since medieval times, scholars have considered what rights should be attributed to corpo- rations3 - a debate they centered on the question of legal fictions. A “legal fiction” is presumably defined as a fact created by courts or legislation to help legal ruling.4 Stone poses three conditions for the creation of a new one:

They are, first, that the thing can institute legal actions at its behest, second, that in determining the granting of legal relief, the court must take injury to it into account; and, third, that relief must run to the benefit of it.5

A company meets these criteria. Legal systems have recognized them as a legal fiction for hundreds of years.6 Corporations are, in the words of John Sherman, “artificial person[s] without fear of death, without a soul to save or body to punish;”7 and yet they are at the center of our modern economies. Not only has the law “been able to exploit to its advantage and to maximize for its needs” the fact that corporations are persons; but also, they can file legal actions, suffer from damages and benefit from relief. One can find traces of that recognition in the Rolls of British Parliament in 1444: “they [the Master and Brethren of the Hospital] by that same name mowe be persones able to purchase Londez and Tenementz of all manere persones.” Here, the Hospital was recognized as a legal fiction.

As for the process of establishing legal fictions - once the criteria are known to be met - three methods have been used,8 whether by the courts (in common law) or by the legislature (in civil law). The first is by assertion, where one thing is declared to be true. For instance, one may say that corporations are persons. The second is by assumption - more specifically, by an irrefutable presumption that may morph into a legal fiction. For instance, one may say that corporations are presumed to be persons. The third is by deeming. Here, X is deemed to be Y, which creates a disconnect between the reality before deeming the fact, and after.

1.3 Legal Fiction and Blockchain

If legal fictions are so convenient, why not create a multitude of them? The first objection is the necessity to agree on the desirability of the objective they ought to achieve. When courts use legal fictions to deny minorities their fundamental rights, the objective is achieved, but society does not come out better.9 The second objection relates to the balance of power. Bentham called legal fictions “the stealing of legislative power” when courts create them. The third objection relates to the difficulty of creating a coherent legal system. Companies are legal persons, and although they can be charged with criminal activity, these crimes are committed by physical entities (persons). One must therefore put in place adequate measures to ensure that any illegal activity by a firm can be put to an end (that its perpetrators cease to act). The fourth and final objection concerns the systematization of the law. The creation of legal fictions leads to the elimination of case-by-case analysis, at least partially. For instance, a firm will always be a legal person. That may create difficulties because it entails giving the firm all the fundamental rights given to us, humans.

On the other hand, creating legal fictions significantly improves legal certainty. First, this applies to the entities directly concerned, which as legal fictions may bring actions under their own name and can thus be compensated for any damage they might unjustly suffer. It also creates legal certainty for all those who interact with these legal fictions, as trading partners can indeed bring legal actions against them. It helps when legal fictions rather than individuals benefit from illegal practices and cases where several individuals are responsible for a behavior. In short, although the creation of legal fictions is an exercise that requires precision, it unlocks a range of potential interactions that can greatly benefit society.

I intend to explain that creating a new legal fiction for blockchains is essential to their decentralization. I have argued that decentralization is the capacity of subjects to determine their competence. That requires recognizing their legal existence before transferring such capacity. Doing so will also allow them to introduce proper legal actions and prevent illegal behaviors being turned against them.

2 THE FIRM IN ANTITRUST

Antitrust’s most common legal fiction is the firm. That legal fiction has developed little since the 1930s and Ronald Coase’s work. For that reason, one may wish to understand its premises to get a grasp of modem antitrust law.

2.1 The Theory of the Firm

The economic literature regarding the emergence of firms emphasizes the importance of transaction costs and the ability to reduce them thanks to top-down control. To this day, that theory has provided the bedrock for modem microeconomic analysis.

2.1.1 Highlights of Ronald Coase’s article

In 1937, when he was 21 years old, Ronald Coase published “The Nature of the Firm.”10 It contains no mathematics and is just 20 pages long, but it remains one of the most-cited publications in economic theory today." One can hardly overstate its impact.12

In it, Coase sought to answer the following question: if markets are efficient, why do firms emerge? Coase responded simply and elegantly, stressing that firms make it easier to organize certain exchanges. Coase introduced the concept of transaction costs without naming it - referring to all the expenses the parties must incur to complete a transaction - and explained that firms exist to minimize these costs.13 Indeed, a transaction involves different costs - the costs of finding economic agents on the market, negotiating, drafting a contract and so on. By internalizing these various externalities, firms reduce the cost of economic transactions. Firms were thus seen as an institutional device for the first time.14 Coase opened the firm “black box.”15

He then explained why firms reduce these costs. His explanations came down to the power of command and control.16 Firms are hierarchically organized: orders and directions are given from the top and trickle down the hierarchy. This reduces the scope for costly opportunistic behavior that might otherwise make transaction unprofitable. Put differently, the reduction of these costs is often achieved by collaboration between employees, while market participants outside the firm are compelled to compete.

In Coase’s words, “in place of the complicated market structure with exchange transactions is substituted the entrepreneur-coordinator, who directs production.”17 Reductions of costs follow, as “by forming an organisation and allowing some authority (an ‘entrepreneur’) to direct the resources, certain marketing costs are saved.”18 Coase thus defines the “firm” as “the system of relationships which comes into existence when the direction of resources is dependent on an entrepreneur.”19 On the contrary, this kind of efficiency is not found in the market, where free economic agents compete under emergent orders. One can thus define the boundary between the firm and the market: where control stops, the firm’s perimeter stops.

Coase particularly emphasized the firm’s ability to deal with contingencies during the performance of a contract. While firms manage long-term relationships, the market mainly permits short-term contracts based on the price mechanism.20 Thus, Coase argued, “it seems improbable that a firm would emerge without the existence of uncertainty”21 in the market. This assumption is based on the theory of incomplete contracts, according to which the contracting parties cannot anticipate all the situations that may arise during their contract’s performance.22 The firm helps in creating a way to settle disputes, which as a result reduces all the upfront costs related to the management of potential conflicts. Here again, Coase put the firm’s ability to exercise control at the center of his demonstration. He was awarded the 1991 Nobel Prize in Economics for “his discovery and clarification of the significance of trans- action costs and property rights for the economy’s institutional structure and functioning.”23

2.1.2 Coase’s impact

Coase’s article put transaction costs at the center of modem economics, making them “the ultimate unit of microeconomic analysis.”24 Although Coase complained in 1988 that the concept was “largely absent from current economic theory,”25 it has transformed the perception of the firm from a pro- duction function into a governance structure.26

This transformation of economic thinking heavily influenced Oliver Williamson, among many others.27 He researched the optimal design of firms28 and helped to open the firm “black box” even further, putting the firm’s “control instruments”29 and the “means by which to infuse order”30 at the center of his analysis. Williamson was awarded the Nobel Prize in Economics in 2009.

Alternative theories to those of Coase have also developed. For instance, incentive theory portrays the firm as an incentive system that uses various instruments combining authority, ownership and compensation to ensure that all employees contribute their best to the firm’s interests.31 The theory holds that firms must adopt institutional arrangements that ensure survival by aligning these incentives. They are thus a nexus of written and unwritten contracts between different economic actors in which each contractual relationship is an agency relationship, whose optimal configuration must be discovered. According to the proponents of this theory, there is no difference in nature between firms and the market. Both are said to depend on contractual relationships that do not imply any exercise of authority or control. As I will explain, none of these alternative theories is currently being used in antitrust and competition law.32

2.2 A Pillar of Modern Antitrust

Although Coase’s theory was developed in the 1930s, modem antitrust is still constructed on the basis of this theory and has not adapted to changes in the nature of firms. Why is that? One may find a satisfying explanation in the fact that the nature of economic hierarchies has changed little to this day. Even the apparition of online platforms and aggregators has not changed the structure consisting of minimizing transaction costs thanks to vertical power. In a nutshell, Coase’s theory is here to stay. As a matter of fact, and as we are about to see, all modem antitrust case laws and regulations are based on the above-mentioned article, whether in the United States or Europe. More specifically, Coase’s theory helps point out where control is being exercised and, therefore, where the firm’s boundaries are. Antitrust and competition law applies to all entities defined accordingly.

2.2.1 The firm’s boundaries in antitrust and competition law

The Sherman Act in the United States and the TFEU in Europe are both the subject of extensive case law. The vast majority of the jurisprudence is not concerned with the question of the firm - that is, the person that is the subject of antitrust and competition law. The firm’s structure has transformed very little since the introduction of these two texts; it has become more complex, but has not changed in nature.33 For that reason, litigation generally involves other issues subject to further disagreement. Nevertheless, blockchain’s emergence forces us to reassess the definition of a “firm,” to analyze whether decentralized groups can be captured by antitrust law as currently conceived or if blockchains should be captured through another theory. In the United States, antitrust provisions apply to all “persons”34 affecting trade and commerce by unlawful restraints and monopolies.35 According to Section 7 of the Sherman Act:

the word ‘person,’ or ‘persons,’ wherever used in sections 1 to 7 of this title shall be deemed to include corporations and associations existing under or authorized by the laws of either the United States, the laws of any of the Territories, the laws of any State, or the laws of any foreign country.36

The text does not further define the term “person”; it simply establishes exemption regimes for which antitrust is not applicable - mainly concerning federal government agencies and instrumentalities.37

The case law is more informative. In *Copperweld*,38 the Supreme Court stressed that although “[n]othing in the literal meaning of [the Sherman Act] excludes coordinated conduct among officers or employees of the same company,”39 there is “general agreement that § 1 is not violated by the internally coordinated conduct of a corporation and one of its unincorporated divisions.” On that basis, the Court held that “there can be little doubt that the operations of a corporate enterprise organized into divisions must be judged as the conduct of a single actor,” therefore exempting these operations from Section 1 of the Sherman Act.

The Supreme Court was dealing with possible intra-group collusion for the first time with this decision.40 One can only guess what would have been its reasoning before Coase’s article (1937). The fact remains that *Copperweld* follows a Coasian logic:41 the firm uses vertical control to save transaction costs; antitrust law must recognize the fact and exempt from Section 1 of the Sherman Act all agreements between two legal entities bound by such a control relationship42 In the words of the Supreme Court:

The intra-enterprise conspiracy doctrine looks to the form of an enterprise’s structure and ignores the reality. Antitrust liability should not depend on whether a corporate subunit is organized as an unincorporated division or a wholly-owned subsidiary. A corporation has complete power to maintain a wholly-owned subsidiary in either form. The economic, legal, or other considerations that lead corporate management to choose one structure over the other are not relevant to whether the enterprise’s conduct seriously threatens competition.

In the end, “courts must examine whether the conduct in question deprives the marketplace of the independent sources of economic control that competition assumes” “when making a single-entity determination.”43 Only when “general corporate actions are guided or determined” by “separate corporate consciousnesses” can two entities be seen as two separate firms in antitrust law.44 One must make no mistake about it: only control makes the firm and defines its scope.45

In Europe, the theory of the firm as defined by Coase is also the basis of modern competition law.46 Article 1 of Protocol 22 to the European Economic Area Agreement defines the “firm” as “any entity carrying out activities of a commercial or economic nature,” but the concept is not properly delimited in the black letter of EU law. However, the case law defines “undertakings” as “every entity engaged in an economic activity, regardless of the legal status of the entity and the way in which it is financed.”47 The legal form of the entity offering the economic activity does not matter.48 In fact, as the CJEU made clear in Shell, “undertakings” are economic units rather than legal units.49 Here again, the concept of undertaking takes Coase’s path-breaking article as a starting point.50

That definition of the “firm” is still incomplete, as it does not define its boundaries. For instance, in Imperial Chemical Industries, the CJEU ruled that the degree to which it carried out “the instructions given” by a company was essential in analyzing the independence of a subsidiary; and that “where a subsidiary does not enjoy real autonomy in determining its course of action in the market,” the prohibitions set out in Article 101 of the TFEU were inapplicable.51 The CJEU further held in Akzo Nobel that “the actual exercise of decisive influence”52 defines firm limits in competition law; and that “it is sufficient for the Commission to prove that the subsidiary is wholly owned by the parent company to presume that the parent exercises a decisive influence over the commercial policy of the subsidiary.”53 In the end, a firm encompasses all the elements over which control is exercised, as in the United States.54 For instance, in Hydrotherm, the CJEU found that a natural person, a limited partnership and another undertaking made up a single economic unit when they were all controlled by the same natural person.55 That logic derives from Coase’s “The Nature of the Firm.”56

2.2.2 The firm as a pillar of antitrust and competition law

The definition of the firm’s boundaries helps in three fundamental steps of antitrust and competition law: (1) determining whether the law should apply; (2) assessing practices; and (3) and assigning liability. First, establishing the firm’s boundaries helps determine the extent to which antitrust and competition law applies. U.S. antitrust law provides several exemptions to different types of entities, which require both the identification of the firm and an understanding of its activities. European competition law applies only to undertakings that carry out an economic activity. Once again, it is then necessary to identify the firm’s boundaries to determine the activities carried out.

Second, establishing the firm’s boundaries is essential when agencies assess the legality of business practices.57 In terms of collusion, U.S. and European courts have recognized that two legal entities that are part of the same eco- nomic unit - that is, the same firm - cannot be held guilty of collusion, as one cannot agree with oneself.58 Antitrust prohibits several forms of cooperation outside the firm, while it always permits cooperation within the firm. The logic is similar in terms of monopolization and abuse of a dominant position. As a company cannot abuse its market power against itself, abuses of power are illegal only when they affect other firms. Above all, defining the boundaries of firms is essential to analyze market power (and thus whether Section 2 of the Sherman Act or Article 102 of the TFEU is applicable to a given case) and the ability to engage in anticompetitive practices. Control indeed confers the firm with the power to implement practices - including the ability to raise prices, which is often central in antitrust cases.

Finally, identifying the boundaries of firms is essential to assign liability.59 Liability for anticompetitive practices rests with the parent company that ultimately controls other entities if such control has been exercised.60 This logic stems from the classic distinction between ownership and control.61

It is safe to assume that antitrust law will capture the activities of blockchain participants at their individual level.62 For example, one could imagine that a miner is considered a company on his own; after all, miners are operating an economic activity. Nevertheless, analyzing whether the entire blockchain layer 1 could be deemed a firm for the purpose of antitrust law is essential if agencies are to understand and apprehend anticompetitive practices that are carried out beyond the simple framework of the individual. For example, suppose a blockchain is implementing practices to exclude another blockchain from the market. In that case, one will want to punish these practices rather than each individual action leading to the entire scheme. I will return to these practices in the coming chapters.

In other words, defining the firm’s boundaries is a necessary step in understanding competitive dynamics, in analyzing practices and eventually, in assigning antitrust liability to the blockchain when, as an entity, it seeks to achieve survival through anticompetitive ways. It is thus essential to carefully consider the elements that are taken into account when defining “firms” under antitrust law. I showed that in the United States, as in Europe, only one element matters: control. This reasoning is problematic when it comes to blockchain.

## 2AC

### Blockchain ADV---2AC

#### Blockchain solves warming.

Daniel Knight 21, Digital Marketing Team at SICCAR, “Can Blockchain Save the Planet? The Role of Distributed Ledger Technology on the Road to Net Zero”, Digital Leaders, 9/29/2021, https://digileaders.com/can-blockchain-save-the-planet-the-role-of-distributed-ledger-technology-on-the-road-to-net-zero/

The latest IPCC report into climate change is yet another reiteration of the urgency of humanity’s dire need to reduce greenhouse gases emissions and invest in sustainable technologies, processes, and infrastructures.

Technologies such as reforesting, rewilding, and direct air capture have showed promise. Governments around the world have also set the target of nations achieving Net Zero, where no more harmful emissions are produced than the amount reabsorbed (most likely through a combination of natural processes such as photosynthesis, and man-made solutions such as carbon capture devices).

Blockchain technology does not have the best reputation when it comes to the environment. Cryptocurrency, the most well-known application of blockchain, has caused a boom in highly energy-intensive activities such as bitcoin mining and producing NFTs. However, blockchain is a technology with many other potential uses and could be a useful tool in achieving Net Zero.

The challenges of achieving Net Zero

To have a shot at achieving Net Zero, let alone the ideal “carbon-negative”, we cannot rely solely on technologies—emissions must also be reduced as quickly and as much as possible. This means that public and private organisations of all sizes must review every single process and appliance used to carry out operations and replace them with sustainable ones.

This includes not only internal processes, but those of any suppliers or partner organisations. Every aspect of an organisation’s effect on the environment must be audited. Accessing the vast amount of data that this entails is not only practically difficult, but also risks violating data protection regulations.

Even with technologies and infrastructure that would solve these particular challenges, achieving Net Zero is a difficult task. Without these technologies, however, it may be an impossible one.

How do blockchain technology and DLT work?

Although the terms are often used interchangeably, blockchain technology is just one type of DLT—or Distributed Ledger Technology. DLT describes technologies that store data in decentralised ledgers, with access managed by administrators and/or programmed authorisation rules. Blockchain, and its continually verified encrypted data blocks, is a type of DLT, as is the newer DAG (Directed Acrylic Graphs).

The environmental uses of DLT

The applications of DLT for secure and reliable data sharing are established, with the technology enabling decentralised yet secure data storage. This could minimise the security and logistical challenges of sharing emissions data between organisations, with immutable data accessible for every step of a supply chain and by any organisation that needs it.

With data stored using DLT platforms, transparency could be increased, organisations empowered to make informed decisions on their suppliers and partners, and unscrupulous actors prevented from falsifying data. For example, wealthier nations could be prevented from excluding overseas emissions (such as those from agriculture or manufacturing outsourced to poorer countries) from their national recorded emissions.

Carbon offsetting, one of the procedures that has been explored to help organisations reach Net Zero, has been plagued by practical issues. “Double-counting”—when multiple people or organisations claim ownership of an offset, causing it to be re-used without more carbon-reducing measures being taken—is a particular problem.

Double-counting could become much more difficult with data stored using DLT. Tokens could be created to represent carbon offsets and tracked reliably in a tamper-proof ledger. In fact, a decentralised ledger of carbon credits has been trialled by the Partnership on Transparency in the Paris Agreement.

It is not just accountability and transparency that DLT could provide. Reliable ledgers could enable more efficient and sustainable resource management in energy and water systems. Especially when combined with smart sensors, waste could be curbed and energy use tracked and monitored in real-time across large-scale infrastructures. The potential implications for disaster relief are also significant, with decentralised shared information enabling faster and more targeted responses.

DLT and the future

No technology is likely to reverse climate change alone. As well as tracking emissions, they must be hugely reduced.

DLT is one of numerous tools at our disposal. However, we must have the collective will and organisation to use it the right way. Even decentralised technologies require human input, and those granted access must be trained, knowledgeable, and willing to put the planet above any other short-term interests.

The international collaboration required to save the planet will take immense effort. This is no easy task, but technologies like DLT could make this collaboration more informed, practical, and focused.

### FTC Cred ADV---2AC

#### The plan’s popular

Riley Adams 21, Senior Financial Analyst at Google, CPA, Contributing Writer at Kiplinger, Masters of Science in Applied Economics and Demography from Pennsylvania State University, Bachelor of Arts in Economics and Bachelor of Science in Business Administration and Finance from Centenary College, “How the Infrastructure Bill Could Change Crypto”, Kiplinger, 11/1/2021, https://www.kiplinger.com/investing/cryptocurrency/603692/infrastructure-bill-change-crypto

Though, there appears to be support for narrowing the definition. According to Gouldman, "There's a bipartisan consensus among Democrats and Republicans alike that cryptocurrency should be regulated carefully just as [the United States] did with the regulation in the early days of the internet."

This overly broad choice of language could have damaging effects if left unaltered, hence what has led to the bipartisan consensus (something rarely seen in Washington these days) that it needs to be fixed.

Given the broad bipartisan support, it stands to reason that if an amendment could be allowed to proceed, it would likely pass, fixing the issue.

#### FTC capital is resilient

William E. Kovacic 16, Visiting Professor at King's College London and the Global Competition Professor of Law and Policy at George Washington University Law School, and Marianela Lopez-Galdos, Legal Consultant with the Inter-American Development Bank and the Director of the Global Competition Law Benchmarking Project at the Competition Law Center of the George Washington University Law School, “Explaining Variation in the Implementation of New Regimes”, Law and Contemporary Problems, 79 Law & Contemp. Prob. 85, Lexis

For the most part, an older, better-established, and more experienced agency is more likely to be in a stronger position to respond to such blows and recover. This is because: (a) a better-established and more experienced agency has had more time to build a career staff that provides continuity and stability over time and is able to carry out the work of the agency despite significant disruptions in leadership; 92 and (b) such an agency probably has accumulated reputational capital that it can "spend" in the time of a crisis to maintain its standing in the eyes of external audiences. 93 [FOOTNOTE] 93 See William E. Kovacic & Marc Winerman, The Federal Trade Commission as an Independent Agency: Autonomy, Legitimacy, and Effectiveness, 100 Iowa L. Rev. 2085, 2106-07 (2015) (discussing how competition agencies accumulate and spend political capital). [FOOTNOTE] A relatively newer agency, by contrast, may be more vulnerable to being swept aside or permanently diminished because it has not had the opportunity to build a staff of sufficient depth and experience or to build a reputation that can sustain it in difficult times.

#### Winners win---strong enforcement builds agency capital

William E. Kovacic 15, Global Competition Professor of Law and Policy, George Washington University Law School and Non-Executive Director of the United Kingdom Competition and Markets Authority, “Creating a Respected Brand: How Regulatory Agencies Signal Quality”, George Mason Law Review, 22 Geo. Mason L. Rev. 237, Winter 2015, Lexis

The queue of matters that comes before an antitrust agency is partly determined exogenously and partly endogenously. Mergers provide an illustration. From the perspective of the competition agency, a major cause of merger rates is the state of the economy. In periods of growth and ascending stock values, firms are more likely to undertake mergers than when economic conditions are bleak. 54 The decision to merge, however, also depends on an endogenous factor. The agency's enforcement record and its statements of enforcement intentions shape the perceptions of potential merging parties and their advisors about whether to proceed.

The order in which specific matters come before the agency may affect what the agency decides to do. In the mid-1990s, under the leadership of Robert Pitofsky, the FTC achieved important litigation merger victories in transactions involving office supplies (FTC v. Staples, Inc.) 55 and pharmaceutical distribution systems (FTC v. Cardinal Health, Inc.). 56 Later in the [\*249] decade, the FTC allowed Boeing to purchase McDonnell Douglas without restrictions 57 and permitted several large mergers of petroleum companies (most notably, Exxon's purchase of Mobil) with some divestitures. 58

Let us consider how the FTC might have evaluated Boeing/McDonnell Douglas or Exxon/Mobil if one of these transactions had occurred earlier in Pitofsky's tenure. Would the FTC chairman, who had criticized enforcement policy under the Reagan administration as being too lax, 59 have allowed Boeing to purchase McDonnell Douglas if the deal had been the first major transaction to emerge in, say, 1995? One possible interpretation of FTC merger enforcement policy in the 1990s is that the successful challenges to the Staples and Cardinal Health transactions established the agency's reputation for toughness. The Staples and Cardinal Health decisions, in effect, put reputational and political capital in the bank that the FTC could spend on future decisions not to prosecute. These litigation victories enabled the agency to say, when the Boeing merger and the petroleum deals came along, that it was willing to intervene when

### T---Per Se---2AC

#### ‘Prohibition’ is injunction. That can happen after review.

Sarah E. Light 19, Assistant Professor of Legal Studies and Business Ethics at the The Wharton School at the University of Pennsylvania, “The Law of the Corporation as Environmental Law”, Stanford Law Review, 71 Stan. L. Rev. 137, Lexis

Section 1 of the Sherman Act prohibits "every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce." 159 There are certain kinds of actions that are per se illegal under the antitrust laws, rendering antitrust law an absolute bar. 160 Such actions include price fixing, horizontal boycotts, and output limitations. 161 Courts apply the per se rule when firms aim to "disadvantage competitors by "either directly denying or persuading or coercing suppliers or customers to deny relationships the competitors need in the competitive struggle.'" 162 In the per se unreasonableness context, the plaintiff need not show anticompetitive effect, as harm to competition is presumed. 163

Before the enactment of the Clean Air Act, the federal government invoked antitrust law to end a collusive agreement among major automakers and their industry association to keep pollution control technology from reaching the California market. By 1952, authorities addressing air pollution in Los Angeles County had accepted scientific findings that motor vehicle emissions were the major source of the smog that blanketed the Los Angeles basin. 164 Local officials began to reach out to the major automobile [\*173] manufacturers about research on emissions-control technology. 165 In 1953, the Automobile Manufacturers' Association (AMA), an industry trade group, began a campaign to study the issue and committed to funding research. 166 In 1955, several automobile manufacturers, including the four major manufacturers - General Motors, Ford, Chrysler, and American Motors - entered into a formal cross-licensing agreement to share technological information and data on the development of emission-control technology, 167 an action that later became the subject of antitrust litigation. 168 They announced their decision publicly, garnering some praise for addressing the smog problem. 169

In 1960, California passed the California Motor Vehicle Pollution Control Act. 170 The Act mandated that manufacturers of new cars install emissions-control devices; however, the mandate was only triggered once such devices had been certified by the newly created Motor Vehicle Pollution Control Board. 171 By 1964, the Board had certified four emissions-control devices as meeting the state's standards, triggering the mandate under the Act. 172 Independent firms, rather than the major automakers, had developed these devices. 173 Shortly after the state certified these devices, the major automakers announced that they, too, had developed their own emissions-control technology, 174 arguably so that they would not be required to license technology from other firms. This sequence of events led some officials in California to conclude that the major automakers had conspired to delay making their own technologies publicly available. 175 After Los Angeles County officials asked the U.S. Attorney General to investigate possible collusion, a grand jury was convened. 176

Although the Department of Justice did not file criminal charges, in January 1969 it filed a civil antitrust suit against the AMA and the four major [\*174] automakers, alleging that the defendants had conspired among themselves and with smaller motor vehicle manufacturers "to eliminate competition in the research, development, manufacture and installation of motor vehicle air pollution control equipment, and in the purchase from others of patents and patent rights, covering such equipment," in violation of section 1 of the Sherman Act. 177 In response to the complaint, the defendants argued that their cooperation had actually accelerated the development of emissions-control devices and noted that collaboration was required to ensure that all manufacturers would be able to comply with the increasingly stringent standards. 178 After the lawsuit was filed, a partner in the law firm representing the AMA penned an article 179 explaining that individual consumers had been "unwilling to spend the additional small amount" necessary to purchase vehicles equipped with emissions-reducing devices. 180 Thus:

So far as the installation of devices was concerned, therefore, the manufacturers had a substantial and legitimate interest in cooperating. No company wanted to incur a cost disadvantage, either in terms of an increase in sales price or an adverse effect on vehicle driveability, without some assurance that all manufacturers were incurring similar disadvantages in the marketplace. 181

Arguably, this was as much a problem of the interaction between corporate law and antitrust law in competitive markets as it was one of antitrust law alone. If firms had a broader mandate beyond profit maximization, including to contribute to the public interest, perhaps they would have been more willing to incur a short-term cost disadvantage, even in a competitive market, rather than enter into an agreement to limit competition.

The parties resolved the suit by entering into a consent decree, which required the defendants not to conspire to delay the development of emissions-control devices and to make available without royalties both patent licenses and data on the emissions-control devices they had developed. 182 However, the decree did not require the defendants to admit liability or pay monetary penalties or damages for environmental harm; nor did it require the [\*175] retrofitting of vehicles. 183 Despite the lack of damages or penalties, in this case antitrust law served as a mandate to promote environmental goals, preventing collusion in the market when firms feared that developing an environmental product would put them at a competitive disadvantage.

A second, more recent example of antitrust law serving as an environmental mandate comes from the European Union, not the United States, but the example offers a similar lesson about the potential confluence, rather than conflict, between antitrust principles and environmental goals. In 2011, the European Commission fined two consumer products firms, Unilever and Procter & Gamble, more than 300 million euros combined for entering into an agreement to maintain prices for laundry detergent while the firms switched to selling a more concentrated, environmentally preferable formulation. 184 The firms switched to the more environmentally friendly formulation as a result of their participation in a voluntary industry initiative called the "Code of Good Environmental Practice for Household Laundry Detergents," 185 a classic example of private environmental governance. The voluntary initiative included reducing the amount of detergent needed for each load of laundry, as well as overall product weight and packaging. 186 The industry initiative appropriately did not include any commitments regarding price fixing. 187

However, the firms privately "agreed to keep the price unchanged" when the "products were "compacted'" in a way that might appear to a consumer that he would be able to wash fewer loads of laundry than the compacted product was capable of cleaning. 188 In addition, they engaged in other forms of price collusion, including "restricting their promotional activity" and "deciding not to pass the benefit of cost savings (reduced raw materials, packaging and transport costs) on to consumers." 189 The firms further agreed on direct price [\*176] increases and "exchanged sensitive information on prices and trading conditions, thereby facilitating the various forms of price collusion." 190

In this case, just as in the case of the automakers, antitrust law enforcement served as an environmentally positive mandate. Relying on antitrust law, the European Commission fined these firms for seeking to avoid passing cost savings from an environmentally beneficial product onto consumers. The motivations of the consumer products firms mirrored those of the automakers: In both cases, the firms feared that being the first to market an environmentally preferable product would reduce profits or create a competitive disadvantage vis-a-vis other firms in the marketplace. This example likewise suggests the importance of viewing antitrust law in connection with other fields, such as corporate law. Firms driven by a profit motive experience that motive in the context of a competitive environment. 191

B. Prohibitions and Disincentives: The Antitrust Per Se Rule and the Rule of Reason

While antitrust law can serve as an environmental mandate by prohibiting collusive behavior that keeps environmentally preferable goods from the market, there is also conflict between antitrust law's goals of promoting competition and environmental law's goals of promoting [\*177] conservation. 192 Because antitrust law's per se rule and rule of reason operate on a somewhat fluid continuum, 193 this Subpart discusses the two doctrines together. The per se rule operates as a prohibition, whereas the rule of reason operates as both a prohibition and a disincentive.

As noted above, antitrust law generally prohibits certain types of market activity - price fixing, horizontal boycotts, and output limitations - as illegal per se, and harm to competition is presumed. 194 For example, if an industry association declines to award a seal of approval necessary for a product's sale without any good faith attempt to test the product's performance, but rather simply because that product is manufactured by a competitor, such an action would be illegal per se. 195 Under this Article's framework, a per se violation is thus a prohibition.

The more fact-intensive inquiry under the rule of reason tests "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." 196 While this extremely broad statement might suggest that any fact is relevant to the inquiry, the salient facts under the rule of reason are "those that tend to establish whether a restraint increases or decreases output, or decreases or increases prices." 197 If an anticompetitive effect is found, then the action is illegal and the rule of reason operates, like the per se rule, as a prohibition. 198 The rule of reason can also operate as a disincentive, even if no [\*178] court finds an anticompetitive effect, as uncertainty and litigation risk may discourage firms from undertaking legally permissible, environmentally positive industry collaborations. 199

### T---Subsets---2AC

#### ‘Core antitrust’ is prohibition of conduct that reduces economic welfare

Fiona Scott Morton 19, Theodore Nierenberg Professor of Economics at the Yale School of Management, et al., “Committee for the Study of Digital Platforms Market Structure and Antitrust Subcommittee Report”, George J. Stigler Center for the Study of the Economy and the State The University of Chicago Booth School of Business, 7/1/2019, https://www.chicagobooth.edu/-/media/research/stigler/pdfs/market-structure-report.pdf

i. Basic Principles

Antitrust law is intended to prohibit private conduct by firms that reduces economic welfare. Although application of antitrust principles can be complex and the specific doctrinal embodiments of those principles can seem arcane and arbitrary, at its core US antitrust law is simple.128 It can be summarized in a single sentence: *Private conduct that creates or increases market power, other than by efficiency-based competition on the merits, is illegal*.

#### It can be sector-specific

Dr. Fiona Scott Morton 19, Theodore Nierenberg Professor of Economics at the Yale School of Management, BA from Yale and PhD from MIT, et al., “Committee for the Study of Digital Platforms Market Structure and Antitrust Subcommittee Report”, George J. Stigler Center for the Study of the Economy and the State The University of Chicago Booth School of Business, 7/1/2019, https://www.chicagobooth.edu/-/media/research/stigler/pdfs/market-structure-report.pdf

The risk, of course, is that new legislation will not be enacted by experts committed to sound, economically-focused antitrust. It will be designed by Congress in a politically charged environment subject to pressure from the very companies who stand to lose their market power if subject to increased antitrust oversight, or who benefit if their trading partners are subjected to excessive oversight.

There is more at stake than the risk of flawed legislation. Antitrust law has maintained legitimacy and widespread support for nearly 130 years in part because it applies to all forms of commercial activity and is not perceived as special interest legislation. In our view it is very important that antitrust law not have different rules aimed at different sectors—such as technology151 or agriculture152—that would differentiate industries and undermine political support for antitrust law in general. For this reason, the report outlines a number of useful digital platform interventions that can be undertaken by a sectoral regulator rather than falling to the task of antitrust enforcement.

### States CP---2AC

#### State control of blockchain will be preempted

Patricia Fry 18, Former Chair of the Uniform Electronic Transactions Act Drafting Committee, Former Professor of Law at the University of Missouri-Columbia School of Law, JD from the Southwestern University School of Law, MA from California State University, Northridge, et al., “Joint Statement in Response to State "Smart Contracts" Legislation”, 4/4/2018, https://esignrecords.org/wp-content/uploads/2018/04/Joint-Ltr-State-Smart-Contracts-Legislation.pdf

Cryptographic signatures fall squarely within the definition of "electronic signature" set forth in UETA and ESIGN. Thus, if blockchain technology or smart contract code is used to create or effect an electronic signature, electronic record, or electronic contract, UETA and ESIGN ensure it is valid. Therefore, legislation seeking to define blockchain technology or smart contracts or to ensure smart contracts are legally enforceable, while well-intentioned, is harmful for the following reasons:

1. Redundancy. Redundancy is confusing, unnecessary, and potentially harmful if courts determine the legislature intended a different effect.

2. Inconsistency. Bills introduced in California, New York, Illinois, Nebraska, and Tennessee this year contain definitions of blockchain and smart contract inconsistent with each other (in some cases) and the definition published by the Chamber of Digital Commerce. The potential for a network of conflicting state laws is obvious.

3. Federal Preemption. ESIGN provides that any state law giving special effect to a specific technology is preempted. Moreover, conflicting state laws provide additional incentive for Congress to preempt those laws to remove barriers to interstate commerce.

#### 3. PATCHWORK---state variation’s inevitable AND lacks legitimacy necessary for market certainty

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Antitrust

Competition is alive and well among various types of blockchain platforms. In the public blockchain space, platforms compete for nodes, users, and apps, while individual applications compete with one another for users, investors, and participants. Bitcoin has roughly 50 percent of market share for all cryptocurrencies, with Ethereum following at 10 percent and XRP at 9 percent.204 Private blockchains also compete to offer services to prospective clients. Moreover, blockchain-based business models are competing with traditional business models, especially as they reduce costs and eliminate intermediaries.205

However, blockchain-based applications are not immune to antitrust concerns, such as exclusive dealing, predatory pricing, and other exclusionary abuses.206 This is especially the case when a consortium of entities can choose to include or exclude other members from a blockchain. Standards setting can also elicit antitrust concerns. For example, established standards setting a consensus protocol that favors certain network members over others could be subject to review. Moreover, if nodes on a network gain over 50 percent of computer power in the network, they can steal from other users on the network and set anticompetitive transaction costs. This increase in concentration may one day lead to oversight, either by mining operations themselves or by government to protect against anticompetitive conduct.

General antitrust enforcement is primarily the domain of the U.S. Department of Justice (DOJ) and FTC. However, certain federal regulators and agencies have oversight regarding consolidation in particular sectors (e.g., the Federal Communication Commission oversees certain media consolidations). Sometimes these regulators work in partnership. For example, DOJ reviews mergers of banks with the assistance of the Federal Reserve.

PRINCIPLES TO ADVANCE BLOCKCHAIN

Given the potential of blockchain technology to improve the efficiency and effectiveness of certain processes, policy should tilt toward enabling organizations to experiment with it. The following are 10 principles policymakers should follow as they assess how and when to support and regulate blockchain applications.

1. Ensure Tech Neutrality

Policymakers should adopt technology-neutral rules that neither favor nor disadvantage any particular application or business model in order to create a level playing field for innovation.

Policymakers should strongly support efforts to increase digitization, but be neutral as to what technology is best suited for any particular application.

Policymakers adopting technologies should ensure they take a tech-neutral approach to different applications. Digitizing processes, for example, offers benefits irrespective of the technology being used. Instead, policymakers should look to the unique benefits of a technology and the particular challenges of a project when deciding what technology to adopt. Some projects will require traditional centralized approaches for efficiency, while others may be better suited for distributed, tamper-resistance blockchains. For example, a digitization project that requires many different entities to provide inputs, without any particular entity controlling those inputs, may call for a blockchain.

In addition, regulators should apply the same rules to different technologies used to offer similar products and services. Regulators do not necessarily need regulations simply because blockchain applications are different. When confronting a new technology or business model, regulators should first look to existing rules to see whether they apply to emerging applications, which would create a level playing field between the traditional and emerging technology or business model. Clearly, all technology applications are not the same. The concerns associated with money-laundering abuse from unregulated digital currencies may not be the same as from centralized-database-driven traditional banking. Wherever there are differences in technologies, policymakers should establish rules that recognize the risks that are distinct—or irrelevant—to particular applications.

Unfortunately, some regulators have failed to act in a tech-neutral way when it comes to blockchain-based applications. For example, virtual-currency businesses often function similarly to mobile-payment businesses and international-transfer services. However, when New York drafted its Virtual Currency License, called BitLicense, it subjected virtual-currency businesses to different requirements than similarly situated money senders, such as by requiring more arduous anti-money laundering reporting requirements.207 Policymakers should avoid arbitrary distinctions such as this.

2. Actively Support Blockchain Adoption and Deployment

Policymakers should actively support government adoption and deployment of blockchain, primarily in two ways.

One way is by adopting blockchain applications for their own services. By becoming early adopters, national, subnational, and local governments can promote broader adoption of blockchain. This would also help reduce risks associated with blockchain applications and encourage others to adopt and invest in the technology. These efforts should also include adopting solutions from blockchain companies to improve government operational-reporting, transactions, asset-tracking, supply-chain, management, procurement, and budgetary decisions. For example, the U.S. Department of Health and Human Services recently deployed a blockchain tool to help it buy services and modernize its cloud capabilities, saving money in the process.208

To accomplish this, governments may need to reform their procurement processes. Indeed, the U.S. federal government has outdated and burdensome rules and practices governing how federal agencies may purchase technologies. For example, there are a few methods by which the government can make procurements, including contracts—such as the General Services Administration (GSA) Multiple Award Schedule contracts—and open-market acquisitions.209 Using these contracts, federal agencies establish Blanket Purchase Agreements (BPAs) with contractors to fill ongoing needs for supplies and services. Unless federal IT vendors are able to establish a blockchain solution on an existing BPA, federal procurers are restricted from buying it—except through open-market acquisition.210 Open-market acquisition allows agencies to purchase commercial products and services not already under any federal contract. However, open-market acquisition is a slower process that is subject to additional determinations—such as whether a purchase is “fair and reasonable”—before agencies can purchase new goods or services.211 Furthermore, because it can take six months to a year to update BPAs, by the time the procurement process has resulted in the purchase of a particular product, the next generation of that product has typically already hit the market. This is especially true with rapidly developing technologies, such as blockchain. To reform this process, GSA should establish a blockchain service acquisition unit tasked with facilitating agency procurement of blockchain technology. By developing a core team of government procurement experts for blockchain at GSA, who can advise and facilitate blockchain-related procurement at other agencies, the federal government can ensure it effectively uses blockchain and avoids wasting money on projects that are not viable candidates for the technology.

Second, agencies should reform their internal processes to be able to gather information, better educate themselves, and work directly with companies offering nascent products or services. Many companies are starting to use technologies such as blockchain for regulatory compliance, often referred to as regtech.212 These solutions not only allow businesses to better comply with regulations, they also improve the quality and efficiency of supervision by giving regulators access to modern reporting and analytics infrastructure they can use to find and correct misuse. For example, CFTC has recommended adopting blockchain technology for swaps markets, hoping it will allow for near-real-time oversight.213

In many cases, policymakers will need to authorize agencies to participate in these projects, enabling them to coordinate with companies to better understand them. For example, under its statute, the CFTC is prevented from participating in innovative fintech projects without first having to pay for them.214 As a result, CFTC needs a legal method of either quickly sharing information between the agency, the businesses introducing new technology, and business models or participating in proof-of-concept blockchain applications. To address this issue, Rep. Scott Austin (R-GA) introduced the CFTC Research and Development Modernization Act in 2018 to give CFTC additional flexibility and authority.215 When coordinating with firms, regulators should ensure these processes do not favor individual firms or types of technology, cause substantial harm to consumers, or operate in a way that increases systemic risk.

3. Support Blockchain Research and Development

Government investment in research and development (R&D) has played a key role in developing various other technologies, such as smartphones and the Internet.216 Because early-phase technology research often proves concepts rather than creates commercially viable products, and can exhibit significant spillovers, firms are likely to underinvest. Therefore, national governments should fund R&D for blockchain applications, focusing on underlying technological challenges, such as creating better and more efficient consensus mechanisms, identifying security threats, improving cryptography, scalability, editability, and more. R&D can also help advance related technologies that could improve blockchain applications, such as quantum computing. Moreover, certain problems, such as intellectual property control management over public blockchains, will require additional research and cooperation from the public and private sectors to ensure enforcement.

4. Promote Legal Certainty for Blockchain Applications

For everyday users to place trust in blockchains, they must be confident the information can be used in legal disputes. As this report has shown, blockchains offer the potential to record, secure, and share a ledger of transactions in perpetuity. As a result, entities in both the public and private sectors have embraced the technology. However, whether blockchain transactions and user signatures on blockchain-based accounts are legally binding is not settled law.

In the late-1990s and early 2000s, users were rapidly starting to use the Internet for commerce. But while U.S. laws gave legal legitimacy to “wet” signatures, they did not do the same for digital ones. To remedy this, U.S. states adopted the Uniform Electronic Transactions Act (UETA) in 1999, which set requirements for electronic signatures to be valid.217 UETA allowed electronic records or signatures to satisfy states’ signature requirements as long as all parties to the transaction agreed to proceed electronically. However, only 47 states adopted UETA. To create a universal framework in the United States, in 2000, Congress passed the Electronic Signatures in Global and National Commerce (ESIGN) Act, which enforced provisions of the UETA in all states.218 The ESIGN Act effectively preempts states from creating additional e-signature laws unless they follow the original version of UETA, or specify “alternative procedures or requirements that are consistent with ESIGN, do not give greater legal status to a specific technology within the parameters of ESIGN, and reference ESIGN if enacted after its adoption.”219

However, the legal status of electronic signatures on the blockchain was not laid out in ESIGN or UETA. To give this new technology legal certainty, a few states have passed laws legitimizing blockchain-secured records and signatures under their version of UETA.220 For example, Delaware and Arizona have passed these laws.221 However, ESIGN may preempt states from giving blockchain technology legal legitimacy.222

Just as when signatures went from wet to digital, there is currently a need for standardized law that gives all forms of signatures legal legitimacy. In the short term, Congress should pass a resolution affirming its intention with ESIGN was not to preempt states from giving legal certainty to new technologies. However, Congress should go further and create an amendment to ESIGN that establishes all blockchain-secured records and smart contracts as legal e-signatures.

5. Rules for Blockchain Applications Should Ultimately Be National, Not Subnational

One of the largest challenges of regulating Internet-based business models is they are often subject to the jurisdiction of subnational governments, such as states, that create their own rules and regulations. When compounded, a company offering blockchain-based solutions across the United States could face rules from each state and territory where it operates, not including federal requirements. This system creates unnecessary and unreasonable compliance costs on businesses and threatens the viability of a national market. This issue is especially problematic for blockchain-based payment companies, which must comply with robust state-based compliance regimes.223

#### EXPERTISE---only the FTC can navigate the digital economy

David A. Hyman 19, Professor at Georgetown University Law Center and Former Special Counsel to the Federal Trade Commission, and William E. Kovacic, Global Competition Professor of Law and Policy at the George Washington University Law School, Former General Counsel at the FTC, “Implementing Privacy Policy: Who Should Do What?”, Fordham Intellectual Property, Media, and Entertainment Law Journal, 29 Fordham Intell. Prop. Media & Ent. L.J. 1117, Lexis

The case for making an enhanced FTC the national privacy regulator is straightforward. Of all U.S. privacy implementation institutions, the FTC has unequaled capacity in the form of expert case handling and policy teams and physical resources (including the development, over the past decade, of an internet laboratory to do high-quality forensic work, and the hiring of technology experts to assist in that effort). The agency's capacity also is the product of extensive experience in applying its UDAP authority and enforcing statutes such as the FCRA and COPPA. The FTC has a broad portfolio of policy instruments (litigation, rulemaking, consumer and business education, data collection, the preparation of reports, the convening of conferences), and it has demonstrated its ability to use all of them to good effect in the privacy domain. The FTC's stature as an independent agency gives it additional credibility in the eyes of foreign officials, who generally distrust the vesting of privacy powers in an executive department.

Within an enhanced FTC, privacy policy implementation also would be informed by the Commission's larger experience with consumer protection. The FTC's privacy unit is one part of its Bureau of Consumer Protection, rather than being a self-contained [\*1143] bureau. This reflected the institution's reasonable view that the effort to safeguard consumer interests in "privacy" was one dimension of "consumer protection," rather than a wholly distinct policy realm. Our impression is that many matters that involve privacy issues also raise problems that fit within other areas of the FTC's consumer protection program. The analysis of the "privacy" issue often benefits from perspectives developed in the course of applying the agency's deception and unfairness authority in other cases. The intertwining of privacy issues with other consumer protection concerns in many scenarios has important implications for how the mandate of a privacy agency should be defined. In whatever setting one ultimately might place a "privacy" mandate, we would expect that the host agency would have a mandate that incorporates powers that traditionally have been associated with the FTC's broader consumer protection program. 83

The FTC's expertise in antitrust should also help it develop and enforce privacy policy. Enforcing antitrust law has given the FTC ongoing involvement in multiple high-tech markets--as well as an understanding of how competition can motivate companies to offer better privacy protections. The FTC's work in both consumer protection and antitrust draws upon a Bureau of Economics with over 80 PhDs in economics. 84 The Bureau of Economics has developed considerable skill in sub-disciplines (including behavioral economics) with special application to privacy issues.

### Tax CP---2AC

#### Perm: do the CP. ‘By at least’ means all scope expansions are prohibitions AND taxes ‘prohibit’

Quentin Bryce 5, Queensland Community Foundation, “Philanthropy’s Future in the Smart State”, August 2005,

While there are more than 700,000 Australian nonprofit organisations, fewer than 22,000 are endorsed by the Australian Taxation Office (ATO) as DGRs.4 A common misunderstanding is to think that all charities are DGRs. While there are more than 47,000 ATO endorsed charities, fewer than half of these organisations can be endorsed as DGRs.

The QCF is also prohibited by taxation law from granting to organisations that are prescribed private funds (PPF) or other ancillary funds. The policy reason for this prohibition is that if funds could make grants to each other, their funds could circulate indefinitely without ever being applied to actual good in the community.

#### Taxation is a weak deterrent and embeds indeterminacy---independently, firms will circumvent collection by manipulating prices

Kellen Yent 21, Senior Tax Associate at PwC, LLM in Taxation from the University of Florida, Graduate Tax Program, JD from the University College London (UCL) and BSc in Economics and International Affairs from Florida State University's Honors College, “A Response to “A New Corporate Tax””, 5/10/2021, https://papers.ssrn.com/sol3/papers.cfm?abstract\_id=3910848

Corporate tax policy has had many, often concurrent, policy justifications over the decades, from distributive justice to market stimulation and regulation. Furthermore, there are major political justifications for this a tax, which makes the finding of this exact goal difficult.1 The US Corporate Income Tax (CIT) is not the only tax policy with indeterminate justification, but the addition of such polarized public views on the topic frustrates this endeavor greatly. Brauner rightly points out that the CIT is one of the more popular taxes, politically speaking. 2 Indeed, around 52% of Americans believe that the corporate tax rate should be increased.3 This indicates that around half of the American populace believe that corporations should be paying their fair share, whatever that may be. What qualifies as a fair share, however, is hard to quantify, especially given concerns that such a tax may not actually felt by corporations. Put another way, the incidence of the CIT is not clearly known, and this statement is acknowledged by both critics and proponents of the CIT, even though both will stress this fact differently in order to make it fit their view point. 4 It has been proposed by Avi-Yonah that the corporate tax should be modified to look more like the original CIT that was adopted in 1909. This would mean a steeper progressive rate system and the grand aim of disincentivizing monopolistic behavior.5 This paper seeks to reject this particular modification of the CIT. Though the deterrence of monopolistic behavior is admirable, it may be done better through more direct means and regulatory action. Furthermore, this paper will investigate the other myriad of justifications proposed for the CIT, and then discuss which justifications coincide with the policy aim of taxing wealthy corporate ownership. Taking the view that the actual, correct policy aim of the CIT is to tax corporate shareholders (i.e. the wealthy owners of the corporation), this paper will seek to evaluate all iterations of the CIT (as is and as proposed herein) by such standard.6 Thus the modifications proposed by AviYonah in order to tax monopolies are close to this correct purpose of the CIT, but are a bit too indirect and do not capture all corporate profit. Moreover, this paper will not try to propose a new type of corporate tax; the goal of this paper is to merely discern the best aspects and justifications for the CIT in hopes that it may shed some light on current corporate tax policy and debate.

I. What are the aims of the CIT?

There have been many aims, both suggested and officially stated by economists and academics, for the CIT. However, public opinion on the CIT is the single most important policy driver, as close to half of the adults in the US in 2017 agree that the corporate tax rate should be raised.7 This suggests that most people are in favor of a high (or at least higher) US corporate tax rate in order to make sure large corporations are paying their fair share to the IRS. What is so interesting about this general public insistence of increasing the CIT is the fact that most economists are not actually sure who actually bears the burden of this tax.8 This fact is important, because, as stated at the outset, this paper will evaluate all justifications, policy aims, and reforms to the CIT against the accepted aim that the CIT’s purpose is to tax wealthy stakeholders in corporations. Gravelle suggest it is not easy to understand who bears the incidence, even with sophisticated modeling; the burden of the tax may fall together on corporate shareholders, the corporate workers, and even the consumers. 9 This indeterminacy of the incidence leads to a further indeterminacy of how the CIT actually functions, let alone how the CIT should function.

Avi-Yonah proposes that the CIT should revert back to its original purpose from when it was proposed in 1909, which was the limitation and regulation of corporate behavior and, in a narrower sense, monopolistic tendencies. 10 This is in contrast with what Avi-Yonah calls the “traditional aim,” which is the indirect taxation of rich shareholders (i.e. the aim in which this paper has chosen to evaluate all other justifications and modifications of the CIT). 11 The current CIT provides a tax when income is earned through the corporation (i.e. the shareholders), and not just when those shareholders earn a dividend.12 The current CIT therefore maintains the idea that the income inside the corporation cannot just be held passively by rich shareholders and deferred until it is earned to them through a distribution of dividends, but that it will be taxed as earned to the corporation (i.e. the controllers of the corporation). Taxation on earnings realized is one of the main pillars of US taxation, and can be best exemplified through I.R.C. §1001 (gain on amounts realized). 13 Avi-Yonah, however, suggests that because of the incidence problem mentioned above, there are better ways to target those wealthy shareholders, thus mitigating the incidence issue.14 In his view, the corporate tax was instituted in the early 20th century in order to regulate monopolistic behavior and the accumulation of wealth, by incentivizing corporations to engage in antimonopolistic behavior. 15 Avi-Yonah proposes a completely new corporate tax with such antitrust incentives in mind: the new tax base will be large corporations, the shareholders will be taxed on a mark to market basis, and there will be a tax on the distribution of dividends.16 Importantly, the tax will be highly progressive so as to restrain such large, mega-corporations corporations from forming (and incentivize them to break up). Avi-Yonah states:

I would suggest that the effective tax rate on normal corporate profits…be zero. On super-normal returns, since the main concern is monopolies and quasi-monopolies, the tax should be progressive, with a very high tax rate (e.g., 80%) for profits above a very high threshold (e.g., $10 billion). In between, there should be a series of graduated tax rates, similar to the individual rate schedule before 1980.17

This rate structure would allow very little tax to be paid by the normal/small corporations, thus effectively eliminating corporate tax on that end of the profits spectrum. However, the highly progressive structure captures those massive corporations (such as Big Tech, Big Pharma, etc.) in such a high tax rate that there is little incentive to get so big (or stay so big). Furthermore, under this structure, only the corporations with “super-normal returns” (rents) will be targeted by such a policy, as it is those major corporations who have super-normal returns. This means that anything that is not a return on capital (i.e. normal return) should be taxed. Though Avi-Yonah’s modification to the CIT would still target wealthy stakeholders, it would only target those wealthy stakeholders of monopolies or near monopolies (or those large enough to generate rents). This means that a wealthy shareholder of a medium to small sized corporation with just returns on capital will go untaxed on corporate profits, thus going against this paper’s accepted justification for the CIT: to tax all wealthy shareholders.

The fact that Avi-Yonah’s new corporate will give effectively zero corporate tax on those smaller corporations, or those who only have normal returns on capital, is not inadmissible. Interestingly, some critics of the current CIT would agree with this part of his proposal, and would go further to suggest a total elimination of the CIT or a replacement with something more direct, in the hopes of curbing the aforementioned incidence problems. 18 Entin argues that the incidence of the CIT falls on labor to a large extent.19 He suggests that the classical modeling of incidence misses the allocation of burden falling onto labor, which suppresses investment, productivity, and wages. He also takes issue with how the traditional models use “super-normal” returns to apportion incidence between labor and capital, suggesting that these models include portions that should not be attributed to such “supernormal” returns and which are actually highly sensitive to tax.20 In light of this data, it may be questioned whether a tax on “super-normal” returns is proper for the CIT.

Gordon and Sarada have analyzed the traditional concept of taxing super normal returns in order to come up with a new and improved CIT which better maintains productive efficiency while better taxing the realization of gains to corporations (i.e. to mitigate the deferral factor), suggesting that the role of the corporate tax is solely to mitigate deferral of corporate earned profits. 21 They propose that, in a fully closed economy, corporate tax should be set at a rate that harmonizes with personal income tax, thus eliminating the benefit of deferral to the corporate shareholders. In an open economy, however, productive efficiency will only be maintained if the overall rate of the firm’s income is the same regardless of the jurisdiction in which it is reported.22 Thus, the anti-deferral regimes, which militate towards a higher percentage of profits brought back into the US jurisdiction for taxation purposes, help to increase the effectiveness of the CIT. Gordon and Sarada argue, though, that the distortion between the CIT and personal income tax has lowered the overall effectiveness of income tax as a source of revenue.23 They are instead in favor of a consumption tax as a replacement to personal taxation, and, therefore, the CIT. This would limit the ability to shift personal income into the corporate sector, where the income gets reduced tax rates or deferral, thus capturing those wealthy shareholders much better. 24 This proposal has its merits, as consumption taxes are said to be more direct and just, taxing people on what they consume, instead of what income is earned. Thus, the wealthy, who spend more on expensive or luxury items will be taxed in proportion to their spending. The consumption tax is outside of the scope of this paper, but it should be noted that this approach does have merit. 25

II. Other Traditional Justifications: Revenue Raising and Distributive Justice?

Other rationales for taxing wealthy shareholders indirectly through the CIT include revenue raising and distributive justice. According the to the Tax Policy Center, the corporate income tax raised $230.2 billion in 2019, which equates to about 6.6% of the total federal revenue raised.26 This equates to anywhere between 4-10% of revenue raised in any given year.27 Furthermore, this only equates to about 1-7% of GDP per annum.28 In comparison to the personal income tax and the payroll tax, the CIT brings in substantially less revenue.29 These figures are surprising given its popularity, which Norton suggests may be due to the fact that it does indeed raise revenue, no matter how small in relation to the income tax. However, he suggests that the most compelling reason for the CIT’s popularity is the fact that the incidence, as stated, is not known: because no one political constituency actually sees itself as the primary taxpayer, none are willing to lobby for change.30 This may be a stretch given that 52% of Americans are in favor of high CIT rates, suggesting that the proponents of the CIT may be winning. 31 It should also be noted that the incumbent Biden administration have proposed increase for the CIT rates, solidifying the idea that the CIT is probably here to stay.32 Overall, while there is strong evidence that the CIT is popular, there is also equally strong evidence that such tax does not actually fall on the correct target (i.e. the wealthy), and further that the CIT is not as strong of a revenue raiser as most might believe. Thus, the revenue raising justification might not be particularly on point.

The argument against distributive justice being the primary justification for the CIT is much within the same vein. Distributive justice justifications for the CIT insinuate that such tax is present in order to promote equity and fairness within the tax system. The Tax Justice Network is very concerned with the CIT and states adamantly that the CIT is necessary for a just and democratic society.33 They further suggest the CIT regime helps to curb political and economic inequalities and rebalance distorted economies.34 These are large claims and very hard to measure. However, the evidence provided above on revenue raising indicates that distributive justice (i.e. rebalancing economies) may not be the CIT’s main goal. The amount of revenue raised as a percentage of GDP is incredibly small, and, as stated, the incidence is not actually known, suggesting that fairness considerations are not presently shown, or are at least very muddled.35

III. Is there a correct justification for corporate tax policy aims?

As discussed, it is very hard to find cohesive justifications for the CIT, signifying that there may not be one specific justification for the CIT, or that the CIT may be based on a multitude of rationale. Brauner agrees with the former, stating that any justifications for the current CIT are not convincing given the stated incidence problems and the low percentage of revenue raised. 36 While some are completely against the corporate tax altogether, others like Brauner advocate for a corporate tax in a different form.37 He suggests a “tax on the appreciation of stakes (shares) in publicly traded corporations” with a mirroring look-though tax for shareholders of non-publicly traded corporations.38 This would eliminate the double layer of tax, and put all of the corporate tax liability on the wealthy shareholders, thus eliminating the stated incidence problems. While this system might have the advantage of clearly allocating the burden of the tax to those who should be the target of the CIT (i.e. the wealthy shareholders), there are certain practical problems that might stand in the way.

Looking past the fact that that this would mean a total overhaul of the CIT regime as it stands presently, there may be a conflict with the traditional principles of tax law, namely the concept of taxation upon realized gain (i.e. income earned). 39 This tax would be placed on the appreciation of shares held by an investor or corporate owner. Appreciation on shares is not earned, it is just passive growth of a share price. The income becomes earned when there is an event in which such appreciation can be realized (i.e. sale or other disposition).40 Moreover, even if timing issues are solved (i.e. when such gain on appreciation is to be “realized”), there may be issues with valuation, as publicly traded corporations have volatile market valuations. Closely held corporations might have an even more difficult time in valuing their shares, as there is not a general public valuations index like seen with publicly traded corporations in the stock market; though these private business could be valued at their asset basis potentially. These two issues can be easily solved with conventions,41 but it may be more difficult to deal with issues of depreciation. Manipulating the price of a corporate stock in order to evade tax in certain years may be difficult to regulate and enforce against. Overall, this method of taxation could be implemented with conventions and regulation on the shareholders, which is compelling, given its advantages in fixing the incidence problem. Therefore, this could be a better tool for the taxation of rich shareholders than the current CIT.

#### Blockchain is functionally untaxable AND enables mass evasion

Greg Iacurci 21, personal finance reporter, “Cryptocurrency poses a significant risk of tax evasion,” CNBC, 5/31/2021, <https://www.cnbc.com/2021/05/31/cryptocurrency-poses-a-significant-risk-of-tax-evasion.html>

Virtual currencies like bitcoin and ethereum, which are collectively valued around $2 trillion, offer investors a way to shield income from tax authorities.

In that way, the crypto economy contributes to the U.S. “tax gap” — the difference between tax paid and tax owed, according to the Treasury Department. The White House estimates a $7 trillion gap over the next decade.

The Treasury seems particularly concerned about wealthy Americans who shift taxable assets into the crypto economy to avoid tax.

“Cryptocurrency already poses a significant detection problem by facilitating illegal activity broadly including tax evasion,” according to a Treasury report issued last week, which [outlined the Biden administration’s tax-compliance agenda](https://www.cnbc.com/2021/05/20/biden-tax-plan-calls-for-crackdown-on-wealthy-who-hide-bulk-of-income.html).

Crypto tax evasion

But just how does cryptocurrency lead to tax evasion?

It largely comes down to lax reporting requirements, according to tax experts.

The IRS may not be able to trace crypto income or transactions if they go unreported by exchanges, businesses and other third parties. And that means the income may not be taxed.

“No one has put out clear rules on it, so there’s a lot of non-reporting going on,” according to [Jon Feldhammer](https://www.bakerbotts.com/people/f/feldhammer-jon), a partner at law firm Baker Botts and a former IRS senior litigator.

“Any time you create a path of non-reporting, you create a way to benefit from tax fraud in an untraceable or a much-harder-to-trace way,” he said.

Crypto is fast becoming an alternative to cash as more merchants accept bitcoin and other virtual currencies as payment. But cash is more heavily regulated.

For example, a business that receives more than $10,000 in cash from a customer must file a currency transaction report. This may happen if a consumer buys a car for more than $10,000 in cash, if someone wins big at the casino or if a bank receives a hefty cash deposit.

These reports tell the government that a buyer has lots of money that may or may not be reported on a tax return.

But the same rules don’t apply to crypto. A used-car business that receives $20,000 of bitcoin from a customer doesn’t have to file a currency transaction report; that income may also go untaxed if it’s unreported on the business owner’s tax return, Feldhammer said.

“Despite constituting a relatively small portion of business income today, cryptocurrency transactions are likely to rise in importance in the next decade, especially in the presence of a broad-based financial account reporting regime,” the Treasury report said.

Plus, virtual currencies don’t have to be bought or sold through an exchange, making those transactions more opaque to government officials.

#### Standalone regulatory taxes are unsustainable---only the perm solves

Dr. Kris Bachus 18, Research Manager Climate and Sustainability at the Research Institute for Work and Society, University of Leuven, PhD in Social Science from KU Lueven, MA in Applied Economic Science from KU Leuven, European Master’s in Labor Science from the University College, London, and Frederic Vanswijgenhoven, Research Institute for Work and Society, University of Leuven, Master’s Degree in Comparative and International Politics from KU Leuven, Master’s Degree in Applied Economic Sciences from Universiteit Hasselt, “The Use of Regulatory Taxation as a Policy Instrument for Sustainability Transitions: Old Wine in New Bottles or Unexplored Potential?”, Journal of Environmental Planning and Management, Volume 61, Issue 9, Taylor & Francis

5. Limitations for and barriers to the potential of environmental taxes

Notwithstanding the moderately positive conclusions on the potential of environmental taxation for enhancing transitions, we identify six barriers and limitations that should not be overlooked. First, public and political support for environmental taxation is limited. People dislike taxes in general (Avi-Yonah and Uhlmann 2009), and environmental taxation in particular, because they see it as an illegitimate source of revenue for the government (Green Fiscal Commission 2009). One way of making environmental taxation and green tax reform more acceptable is using insights from behavioural economics. For example, to make people accept a budget-neutral tax reform, the value of what they receive should be higher than the value of what they sacrifice. This phenomenon is called the endowment effect (Kahneman, Knetsch, and Thaler 1991). Second, an environmental tax in a socio-technical system such as the energy system will need to be implemented for a long period (more than 10 years) before it starts living up to its potential, for both technology and practices. However, politically this is a long period, and the environmental tax reforms that survive the first political decision process, are often reversed when a new government takes office. This happened to the Australian carbon tax in 2013 (Carl and Fedor 2016). A rare counterexample is the Swedish carbon tax, which has been in place since 1991 (Daugbjerg and Svendsen 2003). Third, choices made for or against a certain technology or practice will influence policy options in the future (path dependencies) (Rotmans 2003). Misalignment of a tax with the transition vision could result in a lock-in or even system breakdown (van der Brugge and Rotmans 2007; Kemp and Pontoglio 2011), although a subsidy poses a larger risk of a lock-in than a tax. Fourth, the lack of sufficient, appropriate or promising niches is a barrier, because niches that do not perform consistently will not provide any benefits (Sopha, Klöckner, and Hertwich 2013). Fifth, environmental taxes could have some undesired side effects, such as a negative competitiveness impact and a regressive impact. However, those deficiencies can be largely redressed by careful design and compensating measures as part of a green tax reform (Andersen and Ekins 2009; Klenert and Mattauch 2016). Finally, sixth, a stand-alone policy instrument, taxation or other, will always have a number of downsides, part of which can be overcome by using smart instrument and policy mixes (Oikonomou, Flamos, and Grafakos 2014), such as an environmental tax in combination with a large communication campaign explaining the benefits of the tax to citizens, and with revenue recycling, for example, a subsidy, to increase social support.

### Capitalism K---2AC

#### It’s strategic duplicity that implodes capitalism from within. Direct rejection fails.

Dr. Brian Massumi 18, Professor in the Department of Communication Sciences at the University of Montréal, Ph.D. in French Literature from Yale University, and Dr. Erin Manning, Professor of Philosophy and Cinema at Concordia University, Ph.D. in Political Philosophy from University of Hawaii, “A Cryptoeconomy of Affect”, The New Inquiry, 5/14/2018, https://thenewinquiry.com/a-cryptoeconomy-of-affect/

It would be very naive of us to think you could just walk out of capitalism. We’re not that naive. Neoliberalism is our natural environment. We therefore operate with what we call strategic duplicity. This involves recognizing what works in the systems we work against. Which means: We don’t just oppose them head on. We work with them, strategically, while nurturing an alien logic that moves in very different directions. One of the things we know that the university does well is that it attracts really interesting people. The university can facilitate meetings that can change lives. But systemically, it fails. And the systemic failure is getting more and more acute. And so what we imagine is that the Institute, assisted by the 3E Process Seed Bank, will create a new space that might overlap with some of the things the university does well, without being a part of it (or being subsumed by its logic).

MASSUMI.— Going back to the question of value, we want to create an economy around the platform that does not follow any of the usual economic principles. There will be no individual ownership or shares. There will be no units of account, no currency or tokens used internally. The model of activity will not be transactional. Individual interest will not be used as an incentivizer. What there will be is a complex space of relation for people to create intensities of experience together, in emergent excess over what they could have created working separately, or in traditional teams. It’s meant to be self-organizing, with no separate administrative structure or hierarchy, and even no formal decision-making rules. It’s anarchistic in that sense, but through mobilizing a surplus of organizing potential, rather than lacking organization. You could also call it communistic, in the sense that there is no individual value holding. Everything is common.

MANNING.— Undercommon.

MASSUMI.— Yes, undercommonly. The undercommons is Fred Moten and Stefano Harney’s word for emergent collectivity, which is one of our inspirations. We want to foster emergence and process, but at the same time find ways of making it sustainable. That means that the strategic duplicity has to extend to the economy as we currently know it. We have to be parasitical to the capitalist economy, while operating according to a logic that is totally alien to it.

What we’re thinking of is making the collaborative process moving through the platform function according to the radically anti-capitalist principles we were just talking about, centering on the collective production of surplus values of life, and separating that from the dominant economy by a membrane. A membrane creates a separation, but at the same time allows for movements across. It has a certain porosity. The idea is that we would find ways, associated with the affect-o-meter we were describing earlier, to register qualitative shifts in the creative process as it moves over its formative thresholds, and moves back and forth between online operations and offline events. What would be registered is the affective intensity of the production of surplus value of life, its ebbs and flows. The membrane would consist in a translation of those qualitative flows into a numerical expression, which would feed into a cryptocurrency. Basically, we’d be mining crypto with collaborative creative energies—monetizing emergent collectivity. The currency would be “backed” by the confidence we could build in our ability to keep the creative process going and spin it off into other projects, as evidenced by the activities of the Three Ecologies Institute as an experiment in alter-education.

On the side of the membrane facing the monetary economy, we would be producing a recognizable, quantifiable movement of value. But the membrane would shelter the creative process going on inside the platform from being colonized by that logic. We’d try to have the best of both worlds. It would be essential that the currency not be just a speculative vehicle that joins the crowd of coins. Our economic space would have to inhabit an ecology of other economic spaces experimenting with adapting blockchain and post-blockchain autonomous organization to cooperative endeavors. The key, once again, is finding workable solutions to the problem of how to use qualitative analysis to register movements of creative intensity—how to coax numbers into an alliance with qualities of experience. There is a new concept being developed by Nora Bateson that she calls “warm data” that has a similar goal, in relation to basic science, that we’d like to hook into.

MARC.— You want to use blockchain to create a parasitic economy that reappropriates speculative finance to generate profit from collaborative events. You are working within the immaterial level that the movement to occupy public spaces only gestured at, and uses the collaborative spirit common to any movement. Do you consider yourself to be “occupying” the abstract?

MANNING.— If we’re “occupying an abstraction,” we’re doing it in a way that is extraterritorial. All of this is a thought experiment that we want to help sow, but needs to be continued by others, and with others. It will be interesting if it manages to produce process seeds that get away from us and end up going beyond anything that we could have imagined. I’m not sure what Brian would say, but my feeling is that if we’re occupying anything, it’s the imagination. The postcapitalist imagination.

MASSUMI.— Another way of saying it is that we are talking about creating what’s often been called a temporary autonomous zone, but recognizing that we’re all complicit with capital, and not pretending we can just step outside that and go our merry way. If you do that, you only end up carrying unexamined presuppositions with you, and everything breaks down. We want to work from and with that complicity, using strategic duplicity. That doesn’t mean being deceptive. It means working in two registers at once.

We want to create a temporary autonomous zone (TAZ), following anarcho-communist logic, while at the same time being able to articulate it to the existing neoliberal economy, because like it or not, those are the conditions under which we live, and its grip is so tentacular, reaching not only all around us but inside of us, that you have to work hard and with great technique to start loosening the grip. You have to find ways of inhabiting the present, while setting off sparks of futurity that prefigure a postcapitalist world to come. So it’s an occupation in the sense that it’s a cohabitation. The TAZ isn’t a world apart. It’s a pore in the world as it is, in which something else can grow. It’s a relational space that you can enter without the conceit that you’re leaving the existing world. It starts by supplementing, rather than purporting to replace right away. Hopefully that supplementation grows and takes more and more of our cohabitation in, to the point that it can rival the dominant economy.

#### The link is reductive---Antitrust mobilizes social community building---the alt alone fails to attract popular support.

Gerald Berk 19, Professor Emeritus of Political Science at the University of Oregon, Ph.D. in Political Science from the Massachusetts Institute of Technology, “Antimonopoly and the Democrats,” Dissent, 11-25-2019, <https://www.dissentmagazine.org/online_articles/antimonopoly-and-the-democrats>

Democrats are waking up to the realities of economic power. Less than a decade ago, the subject was taboo. Even with the economy in ruins, Democratic leadership saw no option beyond neoliberalism. But since the 2016 primaries, a split has opened up in the party. With it has come a resurgence of antimonopoly politics that neoliberal leaders can no longer ignore.

At first blush, it looks like antimonopoly heightens the conflict between socialists committed to overcoming capitalism and establishment centrists seeking to save it from populist attacks on the left and right. But antimonopoly once contributed to mobilization, coalition building, and sustained reform across the liberal-left spectrum, and it might do so again today.

The Antimonopoly Tradition

Democracy and markets are fragile and demanding systems, easily corrupted by formidable concentrations of power. The antimonopoly tradition recognizes this fragility, and it makes no sharp distinction between economic and political power. Excessive concentrations of political power undermine economic prosperity no less than excessive concentrations of economic power corrupt democracy. The problem for law and public policy in a democracy with markets seems simple: how to check the constant tendency to concentrated power. There’s no clear-cut way to do that, because those who seek to attain power and lock in privilege are endlessly inventive. Under the right conditions, institutions designed to check power can be used to opposite ends. As a result, antimonopoly is far more than an ideology. It is a political project that requires vigilance, action, and constant adaptation.

Reformers have drawn on the antimonopoly tradition—which is far more wide-ranging than just antitrust, a set of policies designed to prevent predatory competition and break up concentrations of economic power—throughout U.S. history. In the 1830s, Jacksonians used it to authorize privatization, dismantling the Second Bank of the United States because it locked in the privilege of an overweening aristocracy. Abolitionists in the 1840s and 1850s drew on the antimonopoly tradition to dismantle the slave power. In the 1880s, populists enacted state antitrust laws to check the growth of corporate power. In the first decades of the twentieth century, Progressives went further, breaking up corporate power and boosting countervailing forces in government, unions, and proprietary enterprise. In the New Deal, the antimonopoly tradition broke the power of banks and industrial corporations and paved the way for regulation, collective bargaining, and welfare provision. In the 1940s, liberals drew on it to outlaw discriminatory pricing and check the predatory power of chain stores. In the 1950s and 1960s, antitrust administrators broke up patent monopolies, opening the way to high technology.

The antimonopoly tradition, as this sketch demonstrates, has enabled diverse political projects. In the first Gilded Age, it provided a challenge to laissez-faire constitutionalism—the legal doctrine that markets were autonomous from politics, and that property and contracts always protected individual liberty. In today’s Gilded Age, the antimonopoly tradition confronts market fundamentalism: the belief that liberty is best realized in market transactions insulated from democratic interference; that it is possible to organize markets effectively without government supervision; and that we ought not worry about concentrations of economic power, either because they are efficient or temporary.

The turn to market fundamentalism had a major impact on the practice of antitrust, severing it from its roots in the antimonopoly tradition. The University of Chicago–trained lawyer Robert Bork, who published The Antitrust Paradox in 1978, convinced Reagan’s Justice Department that antitrust blocked efficient forms of business organization. Left alone, corporations and capital markets could decide better than government regulators whether mergers, hostile takeovers, outsourcing, or breaking up and selling off corporate assets would serve consumers. If the result was concentrated power, so be it. In time, the Democrats agreed that the only goal of antitrust was to protect consumers. By 1992, antitrust had disappeared from their platform for the first time in a century.

The resurgence of the antimonopoly tradition among Democrats indicates a sea change in how they approach economic governance. Rather than limiting debate to after-the-fact redistribution, they have begun to ask how markets and business organizations can be structured to check concentrations of power. Many Democrats are converging on a platform to rebuild a more democratic economy, even as they disagree in fundamental ways over what that means, who should benefit, and how to achieve it. Still, the antimonopoly tradition’s shared appeal could open new possibilities for party politics and reform. This might seem overly optimistic, but a closer look at how the antimonopoly tradition has informed three ideological factions within the Democratic Party—democratic socialists, (neo)liberals, and antimonopolists proper—illustrates the potential for a broader politics focused on challenging concentrated power and building a more democratic economy.

Democratic Socialists

The antimonopoly tradition has already seeped into contemporary democratic socialist politics. From Bernie Sanders’s presidential campaign to the Movement for Black Lives and the Green New Deal, socialists have combined the antimonopoly tradition with class analysis in a mixture fertile for reform.

On its face, the antimonopoly tradition seems at odds with socialism. Why improve markets when they are the site of labor exploitation? Why promote competition when it drives down labor and environmental standards worldwide? Isn’t the resurgence of antitrust yet another effort to save capitalism and coopt the socialist left? All of this might be true, if contemporary socialists conceived of socialism as a uniform system of public ownership of the means of production. But although they seek to decommodify critical areas of economic life (healthcare, education, and housing), many socialists advocate a mixture of economic forms: strong unions, co-determination, labor councils, employee stock ownership plans, cooperatives, credit unions, family farms, and community land trusts. Where public ownership is not a clear substitute for private economic power, many socialists have turned to the antimonopoly tradition to destabilize and prevent that power from accumulating.

Consider socialist proposals for banking. Many prominent democratic socialists support a return to Glass–Steagall, a classically antimonopoly solution to corporate power, rather than public ownership of banking. As Supreme Court Justice Louis Brandeis wrote in Other People’s Money and How Bankers Use It in 1914, allowing bankers to speculate on the savings of depositors was a conflict of interest. It fostered excessive risk-tasking, turned banking into a casino, enriched a small elite, and divided the interests of Wall Street from Main Street. The framers of Glass–Steagall hoped to check these tendencies. In the aftermath of the financial crisis, Sanders called not to nationalize banks that were too-big-to-fail but to break them up. The opposite, he argues, has occurred. The bailouts and the Dodd–Frank Act made banks bigger, fewer, and more powerful.

Socialists combine antimonopoly analysis of banking with class-based, anti-racist, and communitarian action. Black communities, for example, cannot be revitalized without a national credit fund and policies to support locally owned and run black banks. Worker-owned enterprise, cooperatives, and geographically rooted enterprise cannot thrive without renewed attention to community development and rural banks, local credit unions, and revolving credit funds. Socialists acknowledge that none of these alternatives are possible or sustainable without checking the power of the largest financial institutions in the first instance.

Socialists have a similar approach to agricultural policy. Sanders’s plan to revitalize rural America combines class and antimonopoly analysis. The monopolization of agriculture, reads his plan, has devastated family farms and rural communities. In pork production alone, consolidation resulted in an 82 percent decline in the number of hog farms in Iowa between 1982 and 2007. Worse still, corporate agriculture has turned formerly independent farmers into a dependent class through an exploitative system of vertical integration. Dominant meatpackers and chicken processors have taken ownership of livestock. They let out contracts to ranchers and farmers to raise it for cut-rate prices, under rules that foist cost and risk onto the producer. Machinery monopolies make it illegal to for farmers to repair their own equipment. Chemical giants routinely sue farmers for breach of patents.

The first line of defense in Sanders’s plan is not public or collective ownership but to “Enact and enforce [Teddy] Roosevelt-style trust-busting laws to stop monopolization of markets and break-up existing massive agribusiness; Place a moratorium on future mergers of large agribusiness corporations and break-up existing massive agribusinesses;” and enforce rules against exploitive vertical contracts.

The goal of these antitrust policies is not to unleash the free market, but to ensure that farmers receive fair prices and share risks with packers, processors, wholesalers, retailers, and consumers. This mixture of checks on the power of corporations and fair pricing among smaller producers is what Brandeis called “regulated competition.” The goal is to channel rivalry away from the sorts of predatory tactics enacted by big meatpackers into improvements in production processes and products. Like the Green New Deal, which promises to ensure “a commercial environment where every businessperson is free from unfair competition and domination by domestic or international monopolies,” Sanders’s plan promises to improve production by working with farmers and ranchers to remove greenhouse gas emissions from agriculture.

Liberals

Liberals have also begun to draw on the antimonopoly tradition. Among the current Democratic presidential candidates, Amy Klobuchar is the best example of this tendency. A proud student of Robert Bork, Klobuchar is the ranking member of the Subcommittee on Antitrust, Competition Policy and Consumer Rights of the Senate Judiciary Committee.

For all Klobuchar’s commitment to “make antitrust cool again,” she worked hard to keep it walled off from the antimonopoly tradition until very recently. In 2016, Klobuchar introduced two bills to improve antitrust administration. The first made it easier to block mergers that increased consumer prices, lowered product quality, excluded competitors, undermined innovation, or unfairly lowered prices, and shifted the burden of proof from the state to corporations proposing mergers. The second bill, co-sponsored by nine Democrats, was designed to improve Federal Trade Commission (FTC) and Department of Justice (DOJ) capacities to serve consumers.

At the Open Markets Institute, where Barry Lynn and his colleagues have sounded the siren on monopoly power for more than a decade, Klobuchar’s proposals were met with appreciative skepticism: they raised consciousness but perpetuated the failed 1980s idea that the purpose of antimonopoly law is to protect consumers. Antitrust law, they insisted, was written to serve a variety of “political economic goals, primary among these being the defense of democratic institutions from consolidations of power and the defense of the market structures that promote the distribution of opportunity and wealth.”

More recently, Klobuchar has rekindled the antimonopoly tradition. Monopoly power, she now admits, can oppress workers and subcontractors even if consumers are served by low prices. Liberals call this sort of economic domination “monopsony” (or buying power). Klobuchar has promised to scrutinize it as much as consumer domination and to press for antitrust action in two industries where a small number of powerful corporations have suppressed wages and labor unions: airlines and rails.

Klobuchar is not the only Democratic liberal cautiously revisiting the antimonopoly tradition. Neoliberals like Hillary Clinton and Virginia Senator Mark Warner have begun to see monopoly power as an obstacle to their cherished motors of economic growth: entrepreneurship and technological innovation. Where they once blamed democracy and regulation for economic stagnation, they have begun to ask how monopolists use their deep pockets and political power to suppress entrepreneurship, competition, and technological responses to pressing problems like poverty and climate change. During the 2016 campaign, Clinton complained not only that monopolists exacted excessively high prices on pharmaceuticals, air travel, and internet access; she highlighted how they suppressed wages, blocked start-ups, and killed innovative small competitors. She promised to stop corporate concentration anywhere it unfairly limits competition, to close loopholes in the law that protect incumbent businesses, to direct the DOJ and the FTC to study the relationship between market consolidation and stagnating incomes, and to beef up antitrust enforcement. Even Joe Biden, no critic of economic power in the Senate, has expressed his support for more aggressive antitrust enforcement. Like Sanders, his “Plan for Rural America” promises to protect small- and medium-sized farmers and ranchers from the power of chemical, packing, and seed monopolies. Though Biden has yet to fulfill his promise to roll out an antitrust plan, it is hard to imagine he will produce one weaker than Clinton’s in the current political climate.

Antimonopolists

For some Democrats, like Elizabeth Warren and her allies in the Open Markets Institute, the antimonopoly tradition is so central to their politics that they may be thought of as antimonopolists. They have led the drive to bring antimonopoly tradition back into Democratic Party politics. At the time of the bank bailout and the passage of the Dodd–Frank Act, it was Warren who first said that if the nine largest banks were too big to fail, they should be broken up. And, among party leaders, it was Warren who argued most forcefully that the repeal of Glass–Steagall under Clinton had contributed to the financial crisis.

Warren is an antimonopolist who loves markets. She is a is a lawyer who, unlike the Clintons and Klobuchar, resisted indoctrination by Bork’s law-and-economics movement. Although she flirted with these ideas early in her career, studying bankruptcy convinced her that “reality is a lot messier than these theories.” The majority of people who declared bankruptcy, she learned, were thrown into turmoil by health issues, unemployment, or personal crisis, not because they were reckless borrowers. Studying bankruptcy, moreover, revealed the larger problem of the vast expansion of consumer credit to compensate for stagnant wages. Just as progressive legal realists developed a critique of labor contracts a century before, Warren came to view credit contracts as corrupted by structural inequalities. Lenders exploited their power to deceive and manipulate borrowers, collude among themselves, and threaten delinquents.

Warren’s conclusions placed her in opposition to the powerful alliance of conservative legal scholars, foundations, and the financial services industry. She debated bankruptcy law with the dean of the Chicago Law School and fought the credit card industry’s efforts to tighten bankruptcy restrictions. Appointed by Congress to monitor the bank bailout in 2008, Warren saw political corruption, predatory business behavior, and monopoly power everywhere she looked.

Like Progressive Era antimonopolists before her, Warren insists that markets are not self-regulating entities autonomous from law and politics. Markets either have good rules or bad rules, either enforced or unenforced. The design and enforcement of these rules make markets more or less egalitarian. In more egalitarian markets, people are likely to make bargains that made them better off; power is more likely to be temporary and less likely to corrupt politics. In autocratic markets, theft becomes legitimate and might makes right.

If structural inequalities undermine the good markets can do and corrupts politics, then it is not enough, say, to improve the FTC’s capacity to monitor Amazon, as liberal technocrats suggest. Amazon amassed and locks in its power by serving as a platform for its vendors and as a competitor to them. It monitors their successes, copies them, and then favors its own subsidiaries until it drives competitors into the ground. When Warren says break up Amazon, she means it should not be allowed to be a platform for other businesses and a competitor against them simultaneously.

The antimonopoly tradition acknowledges the inventiveness of the powerful. That means it is necessary to build countervailing power in the state and civil society. If Congress outlaws mortgages or credit cards whose interest rates can be raised without notice, lenders will invent new predatory instruments—hence the need for a Consumer Finance Agency to monitor fraudulent behavior.

Cory Booker, a child of the black petit bourgeoisie, has also expressed antimonopolist convictions. He watched his parents’ funeral home get driven out of business by predatory competition from corporate chains. The same story, he notes, can be told for black banks, insurance companies, and retailers. Unlike Warren, who came to antimonpolism through professional conviction, Booker came to it the way many Americans have historically: through concrete experiences of predatory competition, which threatened livelihoods, communities, independence, and, in his case, racial self-determination.

Common Ground?

While history has convinced me that antimonopolists better understand the development of U.S. political economy than either Marxists or liberals, it has also convinced me that every political project has its blind spots. Antimonopoly and liberal politics do not address class sufficiently. Socialist proposals are mostly unconcerned about innovation. Liberals are far too complacent about power. Each also has its strengths. Socialists show us how monopoly power oppresses labor, liberals how it impedes innovation and public problem solving, and antimonopolists how we can use existing legal and cultural resources to counter concentrated power and build a more democratic economy.

The antimonopoly tradition has energized a wide spectrum of people in the orbit of the Democratic Party. Combined with other political projects, it can help mobilize young people, small business, minority voters, non-college whites in the Midwest, and rural voters. It is a mistake to gag any version of it, because doing so has the potential to suppress mobilization across the diverse coalition that is the only weapon Democrats have against the Republican Party.

Democrats at war with themselves would do well to keep the antimonopoly tradition’s focus on power and building a more democratic economy in mind, independently and together. Sometimes this will necessitate vigorous debate. At other times, it will necessitate tolerance. Sometimes it will mean the same reforms, such as reinvigorating Glass–Steagall, will be interpreted differently by factions engaged in different political projects. And sometimes, it will mean surprising collaborations, like the one between Bernie Sanders and Chuck Schumer to regulate corporate stock buybacks.

For socialists, liberals, and antimonopolists alike, reinvigorating the antimonopoly tradition will require more than just words. Otherwise mistrust will fester. Socialists will have to support some policies that favor entrepreneurship. Liberals will have to stand up to powerful donors who will be subject to antitrust action. Antimonopolists will have to accept some solutions to monopoly power besides antitrust, such as public ownership or utility regulation. A Democratic Party that figures out how to use the antimonopoly tradition to forge a durable coalition for a more democratic economy may have a bright future.

#### Organizing failure and bureaucracy make the alt unsustainable---but, blockchain unlocks it

Tom Cassauwers 20, Writer for Ozy, Freelance Journalist from Belgium, Currently Writes About Startups, Technology, Social Movements and Latin America, “Who Really Loves Blockchain? Socialists”, Ozy, 12/6/2020, https://www.ozy.com/the-new-and-the-next/who-really-loves-blockchain-socialists/397843/

WHY YOU SHOULD CARE

Cryptocurrencies have traditionally been driven by libertarians. Now socialists are embracing blockchain as a weapon against capitalist states.

Cryptocurrencies and blockchain have traditionally been the preserve of the libertarian right.

A growing number of socialists see blockchain as the weapon their political movement needs, from helping fund protest movements to avoiding sanctions and increasing government accountability.

To many millennials, Adrian’s sharp turn to the left is recognizable.

After graduating from college, he had student debt and a job he describes as shitty, in addition to working as an Uber driver. “I went deeper into left-wing theory during this period,” says Adrian (because Adrian doesn’t want his radical politics to interfere with his life, he asked that we not use his real name). “But I was also searching for ways to make rent. Which made me have a closer look at stocks and eventually cryptocurrencies.”

As Adrian got hooked on blockchain, a whole new world opened up. “It was a wormhole from there,” he says. “I realized we could automate away the capitalists.”

It’s an idea that a small but growing set of left-wingers are exploring. Cryptocurrencies like Bitcoin, blockchain and the underlying technology have traditionally been the preserve of the libertarian right. Many of the field’s leading figures are libertarians, and some of their economic beliefs are foundational for the community.

Socialists, though, are increasingly embracing the potential of blockchain to assist their political plans. This year Cryptocommunism, a book by French philosopher Mark Alizart, was translated into English. Yanis Varoufakis, the former finance minister of Greece and a left-wing icon, has repeatedly mused about the uses of Bitcoin for the left. The socialist government of Venezuelan President Nicolás Maduro started a botched cryptocurrency experiment in 2018 to evade U.S. sanctions. Adrian himself hosts a podcast about cryptocurrencies and has founded a Reddit community called r/CryptoLeftists.

“Leftists often see blockchain as a libertarian toy that’s only good for buying drugs, which I think is wrong,” says Matthew McKeever, executive associate editor of the academic journal Inquiry and a research assistant at the University of Hong Kong. McKeever doesn’t consider himself a socialist, but he has written about the relation between socialism and blockchain. “The technology has elements that deserve attention from the left,” he says.

WITH BLOCKCHAIN, YOU DON’T NEED TO DEPEND ON A CENTRALIZED AUTHORITY.

Broadly speaking, blockchain could serve socialists in two ways. The narrow option is to use blockchain technologies to better organize. A cryptocurrency might be used to allow money transfers to persecuted activists, similar to how Wikileaks received donations in bitcoin after its accounts were blocked for leaking classified information. Nigerian activists have used cryptocurrencies to raise funds for their recent protests against police brutality, after traditional banking channels were shut off. “For socialists, it could be good to organize without taking a detour through large capitalist companies, whose interests are anti-aligned with yours,” says McKeever.

But beyond that, blockchain might also be useful to build a socialist economy. Adrian mentions a hypothetical case in which the government might be able to distribute housing through blockchain and cryptocurrencies.

Capitalism, says Adrian, allows individuals to accumulate infinite amounts of capital, and in turn buy up houses as investments. To transition this to a system based on need, a token, or coin, which gives every citizen the right to a house, could be used. The community would then decide which categories of people are eligible for which houses. A single person, for example, might get a different token, and in turn access to a different selection of houses, than a couple with three children. In this way, blockchain would allow socialists to distribute goods and services without a market. “We need to distribute housing based on need, instead of through the market,” Adrian says.

The Venezuelan experiment with the petro, a cryptocurrency backed up by oil, is the odd one out. The attempt had more to do with evading U.S. sanctions than moving to socialism.

But even beyond Venezuela, traditional libertarians don’t agree with the cryptosocialists’ views. “Cryptocurrency technology is fundamentally libertarian,” says Diego Zuluaga, associate director of financial regulation studies at the libertarian think tank Cato Institute.

For him, libertarianism doesn’t just mean free markets. He argues that cryptocurrencies preserve the ability of individuals to do with their money as they please, instead of centralizing that power. And for Zuluaga, the plans of leftists like Adrian run counter to that fundamental libertarian belief about cryprocurrencies. “Most socialists like hierarchies,” he says. “They just want to replace private sector hierarchies with public sector ones.”

“They don’t know what they’re talking about,” responds Adrian, noting how capitalist economies are still highly centralized. Cryptosocialists argue that turning to blockchain could eliminate bureaucrats from the equation. “With blockchain, you don’t need to depend on a centralized authority,” Adrian says, returning to his housing example. “The alternative is for a socialist government to organize the housing supply, which creates technocratic dependencies.”

Blockchain would also be open source, allowing citizens to review the software underlying government decisions. In a sense, it would help avoid an age-old problem for socialism: that its utopian sentiments tend to get bogged down in stale bureaucracies. To back this up, Adrian references socialist philosopher Friedrich Engels: “He said that we need to transition the state from a government of people, to the administration of things.” Perhaps blockchain is the revolution that socialism needs.

### Court Clog DA---2AC

#### Tons of antitrust now

Jon Swartz 12/28, Senior Reporter for MarketWatch, “Big Tech Heads for ‘A Year of Thousands of Tiny Tech Papercuts,’ But What Antitrust Efforts Could Make Them Bleed?”, MarketWatch, 12/28/2021, https://www.marketwatch.com/story/big-tech-heads-for-a-year-of-thousands-of-tiny-tech-papercuts-but-what-antitrust-efforts-could-make-them-bleed-11640640776

Antitrust enforcement of Big Tech is expected to take place on a scale never before seen in 2022, following years of escalating rhetoric from Washington.

So far, Wall Street has shrugged as the five companies under the microscope — Google parent Alphabet Inc. GOOGL, -0.92% GOOG, -0.91%, Facebook parent Meta Platforms Inc. FB, -2.33%, Apple Inc. AAPL, -0.35%, Amazon.com Inc. AMZN, -1.14%, and, yes, Microsoft Corp. MSFT, -0.88% — have been targeted by governments and rivals across the globe. Despite a steady drumbeat of negative headlines, tech’s quintet of heavy hitters boasted a cumulative market value of nearly $10 trillion as 2021 neared an end, after producing a collective $2.4 trillion in revenue over the past two years of pandemic misery.

The stock prices of tech companies have only been “minorly impacted because investors do not tend to make decisions based on the mere possibility of legislation,” Ashley Baker, director of public policy at the Committee for Justice, told MarketWatch.

Many investors have simply looked back on history and shrugged, according to one Silicon Valley venture capitalist.

“There is more antitrust noise, but investment people remember the Microsoft and IBM IBM, -0.19% [antitrust investigations] in which waves of innovation followed those investigations and proved they did not own the industry,” Alexandra Sasha Johnson, president of Global Tech Symposium, a Silicon Valley investment conference, told MarketWatch. “Until the Big Tech companies buy each other, this is not a problem.”

For more: Big Tech was built by the same type of antitrust actions that could now tear it down

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This could finally change in 2022 as it did in the late 1990s, when some tech companies struck a cautious stance during the Justice Department’s investigation of Microsoft for monopolistic practices, Syed said.

“The difference is that we’re talking about interconnected companies that own an industry versus just one company [with Microsoft],” she said. “And there is bipartisan support, which makes it easier politically.”

More on the antitrust challenges facing Big Tech in 2022

Amazon has mostly avoided antitrust scrutiny, but that may change in 2022

Possible Justice Department lawsuit looms over Apple, which is facing scrutiny worldwide

Google enters 2022 battling antitrust actions on multiple fronts — with more likely to come

Facebook’s acquisitions of Instagram and WhatsApp are antitrust targets, but its metaverse mergers may be the victims

Microsoft has avoided U.S. antitrust scrutiny, but Europe is a different matter

With more than a dozen pieces of anti-tech legislation, a plethora of lawsuits and regulatory fines escalating in the U.S. and abroad, as well as the Biden administration rounding out Big Tech’s nightmare team of government agency heads, 2022 is shaping up as a seminal year for tech regulation after decades of inaction.

In rapid succession this year, Biden named and nominated an antitrust team of Tim Wu (to the newly created position of head of competition policy at the National Economic Council), Lina Khan (chair of the Federal Trade Commission) and Jonathan Kanter (head of the antitrust division of the Justice Department). Each is a heralded anti-monopolist advocate who has written extensively on the topic or represented companies making antitrust claims against Big Tech.

The trio have been referred to as members of a “New Brandeis movement,” named after Supreme Court Justice Louis Brandeis, whose decisions limited the power of big business in the early 20th century. With the New Brandeis trifecta in place, and Congress evaluating more than dozen possible anti-tech bills, next year is “shaping up to be the year of Tech Takedown,” Bhaskar Chakravorti, dean of global business at the Fletcher School at Tufts University, told MarketWatch.

More troubling for tech CEOs, he said, are the “many tiny actions at the FTC, Justice Department and Congress that will continue to keep feeding the news cycles with a steady stream of actions” that add up to a “a year of thousands of tiny tech papercuts.”

Big Tech’s treacherous path to antitrust enforcement has three potentially damaging roads: federal agencies challenging acquisitions and mergers; legislation tailored to stimulate competition and curtail the influence of tech’s dominant platforms; and federal and state lawsuits.

Closer scrutiny of M&A activity

The biggest immediate impact from the Biden administration’s all-out assault could be a cooling-off period of frenzied mergers and acquisitions by the biggest players. Regulators have been empowered with examining past deals and more strenuously inspecting tech’s latest purchases.

Major movement is already happening on the M&A front because, as lawyers and executives told MarketWatch, the FTC and Justice Department have new leadership empowered to more closely review and approve mergers while they await legislation and court actions. A non-binding presidential executive order largely seen as aimed at Big Tech announced a policy of greater scrutiny of mergers over the summer, and the FTC and Justice Department each would receive $500 million in new funding to boost staff working on antitrust enforcement as part of the House-passed reconciliation bill awaiting Senate action.

The FTC is signaling greater oversight over deals, requiring affirmative consent on certain transactions, which may prolong uncertainty on merger agreements. The agency has already sued to block the largest semiconductor deal ever — Nvidia Corp.’s NVDA, -0.59% proposed $40 billion acquisition of U.K.-based chip-design provider Arm Ltd., saying the deal would “distort Arm’s incentives in chip markets and allow the combined firm to unfairly undermine Nvidia’s rivals.”

Another FTC antitrust probe, into Meta’s plan to acquire VR fitness app Supernatural for $400 million, is underway, according to a report by The Information.

The Justice Department’s direction is less clear at this point, but signals from Kanter’s confirmation hearing point to “vigorous enforcement” of antitrust laws.

“Personnel is policy. With the trifecta of Khan, Kanter and Wu, there is a new sheriff in town,” Luther Lowe, senior vice president of public policy at Yelp Inc. YELP, -0.66%, told MarketWatch. “Efforts by Amazon and Facebook to recuse Khan, and Google’s attempt to recuse Kanter, is like arsonists asking for firefighters to be removed from a fire.”

#### Litigation’s increasing and inevitable

Seyfarth 21 – Seyfarth Shaw LLP, Approximately 900 Lawyers Across 17 Offices, Seyfarth Shaw LLP Provides Advisory, Litigation, and Transactional Legal Services To Clients Worldwide. “Commercial Litigation Outlook.” 3/31/2021. https://www.seyfarth.com/news-insights/commercial-litigation-outlook.html

The upcoming year promises to be hectic and active on the litigation front. To help our clients anticipate and navigate what’s to come, our subject-matter experts provide insights and analysis on what you can expect. As the nation emerges from the pandemic, clients face the double-whammy of delayed resolution of existing disputes (thanks to court shutdowns) and increased litigation activity across the board. The third quarter of 2020 saw significantly increased lawsuit activity, particularly in the area of real estate litigation. The remainder of 2020 had slightly below average lawsuit filings, which we think was attributable more to delayed filing rather than avoided disputes. Indeed, prognostications from a variety of legalwatchers all agree that lawsuits will be on the rise. The burning question for many is, “when will the courts unclog?” With criminal matters taking precedence, many jurisdictions will remain bogged down with civil suits taking a back seat through the rest of the year. But some jurisdictions are already rebooting jury trials, some remote and, with full vaccine distribution possible by summer, civil trials in unclogged jurisdictions are likely by the third quarter of 2021. As you can read in the full Outlook linked below, electric vehicles are shaking up the automotive franchise world, the flood of real estate disputes will continue past 2021, and regulatory framework will trigger heightened compliance obligations for financial services companies. Other key trends in the commercial litigation space addressed in this issue are: Antitrust Biometric Privacy Laws Cybersecurity Data Protection eDiscovery Health Care Litigation Insurance We hope you find this publication informative. Please contact any of the authors for assistance with any of the issues outlined in this publication.

#### ‘Floodgates’ are fake---established docket control works

Meredith M. Render 20, Professor of Law at the University of Alabama School of Law, JD from the Georgetown University Law Center, BA from Boston College, “Fiduciary Injury and Citizen Enforcement of the Emoluments Clause”, Notre Dame Law Review, 95 Notre Dame L. Rev. 953, January 2020, Lexis

First, as previously discussed, there is reason to be skeptical about the efficacy of the CAP rule in terms of reducing the overall number of cases in the federal courts. 315 Moreover, in addition to the fact that the CAP rule likely does little to reduce the overall number of opportunities for federal courts to judge the behavior of coordinate branches, there is reason to [\*1007] believe that the opening-the-floodgates worry itself is overblown. 316 Not only is the floodgates argument in support of the CAP rule lacking in empirical support, 317 but it may also be lacking in a clear, germane, and substantive content when used by various members of the Court. 318F or example, Professor Marin Levy has observed that "recent cases show the justices vacillating between providing assurances that their decision will not result in a deluge of new claims, and accusing each other of being driven by an improper desire to stave off such a deluge." 319 The floodgate alarm has been used in diverse and internally inconsistent contexts without the mooring benefit of evidentiary support, such that it has taken on more the character of epithet than of a serious constitutional obstacle. 320Justice Ginsburg, writing in dissent, has succinctly summarized this development, stating: "The 'floodgates' argument the Court today embraces has been rehearsed and rejected before." 321

The fact that the floodgate rationale is frequently used to support both sides of a contested determination by the Court suggests that it may lack a stable normative content. 322 The floodgate rationale is, at heart, a prediction about how future litigants will behave if the Court adopts a new rule. Yet the ordinary norms of prediction with their attendant empirical safeguards seem not to obtain. 323 Those invoking the floodgate alarm have not felt [\*1008] obliged to supply evidence of past instances in which the federal courts were in fact "flooded" as the result of similar rule changes, and that the Federal Rules of Civil Procedure were inadequate to address the "flood." 324 Given that members of the Court have so frequently predicted a litigatory deluge as a consequence of a rule change, it would seem a simple matter to confirm that a deluge has, in fact, occurred. 325 However, evidence of past flooding has yet to emerge within the floodgate discourse. 326

It is possible that the reason that the floodgate worry has not been documented may be because it has yet to come to pass. There is ample reason to believe that the Federal Rules of Civil Procedure are generally commensurate to the task of qualitatively stemming the tide of litigation. 327 The Federal Rules of Civil Procedure are designed to weed out duplicative, harassing, frivolous, and meritless cases. 328While no standing rule - including the CAP rule - prevents nonmeritorious cases from being filed in federal court, such cases are generally resolved on a Rule 12(b)(1) motion to dismiss. 329The Rule 12(b)(1) motion to dismiss is also the first opportunity during which a defendant can challenge standing. 330There is no strategic advantage to [\*1009] defendants - in terms of the expenditure of resources - to having a case dismissed for want of standing as compared to any other grounds for dismissal under Rule 12(b)(1). 331Likewise, doctrines and mechanisms designed to conserve both judicial and defendant resources, such as claim preclusion, issue preclusion, abstention, joinder, and case consolidation, all operate to prevent horizonal lawsuits alleging the same nexus of operative facts from going forward simultaneously in multiple district courts - a point that is especially important in the emoluments context where presumably any citizen suit would allege the same operative facts. 332

#### No water wars

Dr. Asit K. Biswas 19, Distinguished Visiting Professor of Engineering at the University of Glasgow, and Dr. Cecilia Tortajada, Senior Research Fellow at the Institute of Water Policy at the Lee Kuan Yew School of Public Policy, Singapore, “Water Crisis and Water Wars: Myths and Realities”, International Journal of Water Resources Development, Volume 35, Issue 5

A direct by-product of the current limited thinking has been the increasing focus on ‘water wars’ between countries because of lack of water. This thinking is both linear and wrong. Simply put, the thinking goes that as countries run out of water because of steadily increasing demand, they may go to war over water over the uses and allocations of transboundary river waters. This unwarranted preoccupation with water wars can be seen by simply referring to Google. As of 20 June, ‘water scarcity’ produces 34.2 million results, and ‘water wars’, 654 million – almost 20 times as many. In fact, an eminent development expert, Ismail Serageldin (2009/2010), former vice president of the World Bank and chairman of the Global Water Partnership, predicted in 1995 that ‘the wars of the next century will be about water.’

The fact is that in the entirety of human history, no two countries have ever gone to war over water. The price of water all over the world is very low, and there is no global market or trade for water, unless one considers bottled water, which represents a miniscule fraction of global water use. All countries are steadily realizing that they have to significantly improve their management practices to reduce the demand for all types of water uses and to control water contamination. No country can increase water availability progressively, constantly and cost-effectively ad infinitum. If countries make determined and sustained efforts to improve water management practices, and there are signs that some are gradually doing so, their water problems can be solved. As Biswas (2006) noted in his Stockholm Water Prize Lecture, ‘if ever there is a war between two countries, it will never be because of water. Perhaps the 10th or 15th reason for the war could be water, but not the first three’. In the future, countries will have to manage their water significantly better, because they will have no other choice. ‘Water wars’ is a myth that has been around for at least four decades. There are no signs that they will occur in the foreseeable future anywhere in the world.

### BBB DA---2AC

#### It won’t pass AND thumpers.

Sean Sullivan 2/18, Reporter Covering the White House for The Washington Post, B.A. from Hamilton College; Seung Min Kim, White House reporter for The Washington Post, M.A. in Journalism from American University, B.S. in Journalism and Political Science from the University of Iowa, “Biden still touts Build Back Better, but what does that mean?,” The Washington Post, 2/18/2022, https://www.washingtonpost.com/politics/2022/02/18/biden-build-back-better-where/

To hear President Biden tell it, his Build Back Better plan is “close” to passing the Senate and delivering relief to Americans struggling with the cost of prescription drugs. He has talked this month of how it would cap child-care costs for many Americans and how utility companies are embracing its climate and energy initiatives.

But it’s not clear such a plan exists anymore, at least in any recognizable form. Behind the scenes, discussions between the White House and key senators on what was once a massive climate and social spending package have virtually evaporated. It’s far from evident what, if any, version of Biden’s once-sweeping proposal could pass this year and what it would include. Would it be a climate plan? A prescription drug initiative? A health-care bill?

According to Biden’s descriptions, it’s all of the above. Yet Biden has also conceded that the proposal will need to be broken into chunks after talks collapsed late last year, and that it is unlikely to include an extension of an expanded child-care tax credit. First lady Jill Biden recently acknowledged that two years of tuition-free community college is no longer part of it — a reality that congressional negotiators have understood for months.

Congress has in many ways moved on to other priorities, and Biden’s forthcoming Supreme Court nomination is expected to occupy the Senate’s attention for much of this spring. Yet Biden sometimes makes it sound as though Build Back Better is on the cusp of passage.

In Culpeper, Va., last week, Biden appeared with Rep. Abigail Spanberger (D-Va.) to speak of cutting prescription drug costs. “In my Build Back Better legislation that, with Abigail’s leadership, passed in the House of Representatives, we can do that,” he said, adding, “Now we just have to get through the United States Senate — and we’re close.”

Democrats' climate plan languishes

During Thursday’s lunch of Senate Democrats attended by White House chief of staff Ron Klain and other top administration officials, the topic of Build Back Better barely surfaced, according to senators in attendance. Rather, the group focused on broad measures to help Americans cut costs, such as a temporary suspension of the gas tax.

A month after the House passed a version of Build Back Better last fall, Sen. Joe Manchin III (D-W.Va.) came out against the package. With the Senate divided 50-50 between Democrats and Republicans and the GOP united against the package, Manchin’s support was, and remains, critical to any deal.

Manchin said this week that “there have been no formal talks for quite a while” on the proposal.

Another centrist senator whose vote is far from certain is Sen. Kyrsten Sinema (D-Ariz.). One official familiar with the situation said there has been no substantive outreach from the administration to Sinema about resuscitating any version of the package, which once stood around $2 trillion. The person spoke on the condition of anonymity to discuss private dynamics.

To some, the president risks sounding like a salesman without a product.

“There’s been a risk from the beginning in setting our sights so high,” Sen. Chris Murphy (D-Conn.) said. “That’s been a built-in risk from the beginning that we decided not to play small ball, that the president decided that this was a moment of crisis for democracy and that required him to go big for American families. That does present the risk of appearing like you got much less than you asked for.”

But, Murphy added: “I think the president needs to continue to talk about this. I think it’d be a mistake to pivot off of a theme that he’s been talking about for a year — putting money into the hands of American families — just because it’s hard to get it done here.”

At times, Biden and the White House use the phrase “Build Back Better agenda” to promote his plans in a larger sense, similar to the way “New Deal” captured the sweep of Franklin D. Roosevelt’s legislative program. At other moments, it is clear Biden is talking specifically about the plan that once totaled $1.9 trillion.

Asked this week about Biden’s intent in repeatedly bringing up Build Back Better, White House press secretary Jen Psaki pointed to the rising costs of goods and services. Inflation threatens to hurt Democrats in this year’s midterm elections, and after initially calling it a “transitory” problem, the Biden administration is now acknowledging more directly the toll high prices are taking on families.

Sometimes the White House appears to be rebranding Build Back Better as an inflation-fighting plan.

“The president continues to bring it up, because, as we talk about the impact of inflation, which most people experience in their daily lives as rising costs, one of the ways that we can address that is by passing legislation that will help lower costs for Americans, whether it’s child care or health care or the cost of prescription drugs,” Psaki said.

As for the prospects of resurrecting Build Back Better, Psaki said that the White House is “continuing to work in lockstep and in partnership with a range of senators. And they’re having their own discussions about moving these efforts forward.”

White House spokesman Andrew Bates said in a statement that “the president and his team are working hard with a wide range of lawmakers on cutting costs for American families, including with regard to prescription drugs and energy,” echoing Biden’s recent focus on climate and drug costs as two major elements of any plan. Bates also stressed that the plan would “reduce the deficit.”

In the absence of direct talks between the White House and pivotal senators, a handful of committee chairmen have stepped in at the behest of Senate Majority Leader Charles E. Schumer (D-N.Y.) to engage directly with Manchin on what type of scaled-back package he might support, according to people familiar with the discussions.

Manchin has signaled that he does not want to negotiate such a bill in earnest until at least March. To appease one of his demands — that any package should move through the regular legislative process — the chairmen are tentatively planning hearings in coming weeks on different parts of a new social spending package, the people said.

The group includes Sen. Ron Wyden (D-Ore.), chairman of the Finance Committee; Sen. Patty Murray (D-Wash.), head of the Health, Education, Labor and Pensions (HELP) Committee; and Sen. Thomas R. Carper (D-Del.), who leads the Committee on Environment and Public Works.

Wyden said that, for the moment, he is not caught up in the exact timing of a bill. “What I’m telling everybody is: 'Look, I’d like to have this done sooner or later,’ ” Wyden said. “So I’m just going to be focused on building the case.”

The House-passed version of Build Back Better would make record investments in combating climate change, and its collapse has unnerved environmental activists and put pressure on Biden to find other ways to demonstrate that he is taking action to protect the environment and fight global warming.

Biden traveled to Ohio on Thursday to promote the bipartisan infrastructure law he signed last year, and during his speech, he highlighted the $1 billion in funding from the law that will go toward cleaning and restoring environmentally degraded sites around the Great Lakes.

Manchin, when he pulled out of negotiations with the White House on Build Back Better last year, voiced concerns about the cost of the package, its climate provisions, its impact on the deficit and its effect on rising inflation. This week, he said he still sees factors that give him pause.

“I saw inflation come a long time ago. I knew the geopolitical unrest was there, and it’s now heightened more than ever, and covid was uncertain,” Manchin said. “So all these uncertainties, we’re saying, wait a minute. This is too much.”

“No one seems to have a timetable, really,” he added, pointing to other congressional priorities, such as a government funding bill, as more urgent.

Beyond the challenges of passing a bill in a midterm election year — and doing so under strict Senate rules limiting what can be passed with a simple majority — looms another question: What should Democrats call the plan now?

#### The plan has unique political support

Riley Adams 21, Senior Financial Analyst at Google, CPA, Contributing Writer at Kiplinger, Masters of Science in Applied Economics and Demography from Pennsylvania State University, Bachelor of Arts in Economics and Bachelor of Science in Business Administration and Finance from Centenary College, “How the Infrastructure Bill Could Change Crypto”, Kiplinger, 11/1/2021, https://www.kiplinger.com/investing/cryptocurrency/603692/infrastructure-bill-change-crypto

Though, there appears to be support for narrowing the definition. According to Gouldman, "There's a bipartisan consensus among Democrats and Republicans alike that cryptocurrency should be regulated carefully just as [the United States] did with the regulation in the early days of the internet."

This overly broad choice of language could have damaging effects if left unaltered, hence what has led to the bipartisan consensus (something rarely seen in Washington these days) that it needs to be fixed.

Given the broad bipartisan support, it stands to reason that if an amendment could be allowed to proceed, it would likely pass, fixing the issue.

#### That shields

Jason Mazzon 18, Professor of Law at the University of Illinois at Urbana-Champaign; Chicago-Kent Law Review, “Above Politics: Congress and the Supreme Court in 2017”, 8/9/2018, Volume 93

Absent, too, in the modern Congress is any real sense that the Supreme Court can be brought to heel: say, by constitutional amendment, by stripping the Court of funding, by hauling in members of the Court to justify their rulings before congressional investigatory committees, by appointing special counsels to review and report back on what the Court does, by impeaching the Justices (or locking them up), or by simply ignoring or defying judicial rulings. Perhaps the Court does not rule in ways that offend enough members of Congress (or their constituents) for them to invest the energy—and political capital—required to generate these sorts of measures. Perhaps, instead, members of Congress do not consider such measures appropriate in our constitutional system. In either case, modesty on the part of Congress is the result, even in an era when a single party controls both the Congress and the White House. The lesson for the Court is that so long as it continues doing—more or less—what is has done in recent years, it has very little to fear from the Congress.

Conclusion

After President Trump nominated Neil Gorsuch to fill the vacancy on the Supreme Court left by the death of Justice Scalia, fifteen House Republicans sponsored a Resolution that “the House firmly supports the nomination of Neil Gorsuch to the Supreme Court” and “the Senate should hold a swift confirmation of this nomination.”229 The proposed resolution died, without further action, in the Committee on the Judiciary. While Gorsuch was, of course, confirmed, the failure of the Republican-controlled House to pass a simple resolution supporting the nomination is telling. After an election season in which the Supreme Court figured very prominently, aside from the Senate’s confirmation of a new Justice, Congress in 2017 accomplished nothing with respect to the Supreme Court. Various bills and resolutions—some sponsored by Republicans, others by Democrats, and some garnering bipartisan support—targeted statutory and constitutional rulings by the Court and sought also to impose new regulations upon the Court’s activities. Even the most modest of these proposals failed to advance through the legislative process and become law. We like to think that the Supreme Court, guided solely by the rule of law, is above politics. The experience of 2017 suggests that the Court may also be above politics in the quite different sense that its rulings and activities are largely immune to political response and redress.

#### Warming won’t be catastrophic.

Dr. Benjamin Zycher 21, Senior Fellow at the American Enterprise Institute, Doctorate in Economics from UCLA, Master in Public Policy from the University of California, Berkeley, and Bachelor of Arts in Political Science from UCLA, Former Senior Economist at the RAND Corporation, Former Adjunct Professor of Economics at the University of California, Los Angeles (UCLA) and at the California State University Channel Islands, and Former Senior Economist at the Jet Propulsion Laboratory, California Institute of Technology, “The Case for Climate Change Realism”, 6/21/2021, https://www.aei.org/articles/the-case-for-climate-change-realism/

Unable to demonstrate that observed climate trends are due to anthropogenic climate change — or even that these events are particularly unusual or concerning — climate catastrophists will often turn to dire predictions about prospective climate phenomena. The problem with such predictions is that they are almost always generated by climate models driven by highly complex sets of assumptions about which there is significant dispute. Worse, these models are notorious for failing to accurately predict already documented changes in climate. As climatologist Patrick Michaels of the Competitive Enterprise Institute notes:

During all periods from 10 years (2006-2015) to 65 (1951-2015) years in length, the observed temperature trend lies in the lower half of the collection of climate model simulations, and for several periods it lies very close (or even below) the 2.5th percentile of all the model runs. Over shorter periods, such as the last two decades, a plethora of mechanisms have been put forth to explain the observed/modeled divergence, but none do so completely and many of the explanations are inconsistent with each other.

Similarly, climatologist John Christy of the University of Alabama in Huntsville observes that almost all of the 102 climate models incorporated into the Coupled Model Intercomparison Project (CMIP) — a tracking effort conducted by the Lawrence Livermore National Laboratory — overstate past and current temperature trends by a factor of two to three, and at times even more. It seems axiomatic to say we should not rely on climate models that are unable to predict the past or the present to make predictions about the distant future.

The overall temperature trend is not the only parameter the models predict poorly. As an example, every CMIP climate model predicts that increases in atmospheric concentrations of greenhouse gas should create an enhanced heating effect in the mid-troposphere over the tropics — that is, at an altitude over the tropics of about 30,000-40,000 feet. The underlying climatology is simple: Most of the tropics is ocean, and as increases in greenhouse-gas concentrations warm the Earth slightly, there should be an increase in the evaporation of ocean water in this region. When the water vapor rises into the mid-troposphere, it condenses, releasing heat. And yet the satellites cannot find this heating effect — a reality suggesting that our understanding of climate and atmospheric phenomena is not as robust as many seem to assume.

The poor predictive record of mainstream climate models is exacerbated by the tendency of the IPCC and U.S. government agencies to assume highly unrealistic future increases in greenhouse-gas concentrations. The IPCC’s 2014 Fifth Assessment Report, for example, uses four alternative “representative concentration pathways” to outline scenarios of increased greenhouse-gas concentrations yielding anthropogenic warming. These scenarios are known as RCP2.6, RCP4.5, RCP6, and RCP8.5. Since 1950, the average annual increase in greenhouse-gas concentrations has been about 1.6 parts per million. The average annual increase from 1985 to 2019 was about 1.9 parts per million, and from 2000 to 2019, it was about 2.2 parts per million. The largest increase that occurred was about 3.4 parts per million in 2016. But the assumed average annual increases in greenhouse-gas concentrations through 2100 under the four RCPs are 1.1, 3.0, 5.5, and an astounding 11.9 parts per million, respectively.

The studies generating the most alarmist predictions are the IPCC’s Special Report on Global Warming of 1.5°C and the U.S. government’s Fourth National Climate Assessment, both of which were published in 2018. Both assume RCP8.5 as the scenario most relevant for policy planning. The average annual greenhouse-gas increase under RCP8.5 is over five times the annual average for 2000-2019 and almost four times the single biggest increase on record. Climatologist Judith Curry, formerly of the Georgia Institute of Technology, describes such a scenario as “borderline impossible.”

RCP6 is certainly more realistic. It predicts a temperature increase of 3 degrees Celsius by 2100 in the average of the CMIP models. But on average, those CMIP models overstate the documented temperature record by a factor of at least two. Ultimately, models with a poor record of successfully accounting for past data and highly unrealistic future greenhouse-gas concentrations should not be considered a reasonable basis for future policy formulation.

## 1AR

### Blockchain ADV---1AR

#### Violators won’t remain anonymous

Dr. Thibault Schrepel 19, PhD in Antitrust Law from Université Paris-Saclay, LLM in International Law and Legal Studies from the Brooklyn Law School, Associate Professor of Law at VU Amsterdam University, Faculty Affiliate and Creator and Director of the Computational Antitrust Project at the Stanford University CodeX Center, “Is Blockchain the Death of Antitrust Law? The Blockchain Antitrust Paradox”, Georgetown Law and Technology Law Review, 3 Geo. L. Tech. Rev. 281, Spring 2019, Lexis

2. What Remains Possible: Law is Code in Practice

Allowing blockchain technology to emerge does not mean that nothing should be done about the illegal practices implemented on it.

First, it should be stressed that in some situations, the identities of users engaged in anticompetitive practices will be reported to antitrust authorities, despite the pseudonymity principle of blockchain. Such a situation arises when the real-life identity of that user is known to other blockchain users. Accordingly, one might imagine a situation in which a company that is part of the production chain where an anti-competitive practice took place, or even an end-consumer, introduces an antitrust complaint. Thus, blockchain and pseudonymity do not protect blockchain users against all types of detection and identification. In fact, the anticompetitive effects caused by one practice on the market may also lead [\*332] an antitrust authority to launch an investigation. 224 Here, a "law is code" approach is not necessary.

### Capitalism K---1AR

#### Any remaining link is offense---the cover of capitalist mechanics creates the space for transformational experiments AND purity is impossible and precludes tangible material gains in the short term

Dr. Brian Massumi 18, Professor in the Department of Communication Sciences at the University of Montréal, Ph.D. in French Literature from Yale University, “99 Theses on the Revaluation of Value: A Postcapitalist Manifesto”, https://manifold.umn.edu/read/99-theses-on-the-revaluation-of-value/section/04cddab4-08cc-40e5-b505-02c26eabd368

T75

To be at all sustainable, even temporarily, the autonomous zones must be able to interface with the existing economy. To do so, they must practice creative duplicity in relation to quantification and economization.

Scholium. Otherwise they will be crushed.

T76

This means that they must play their own differential with capitalist economization. They must be relationally autonomous with regards to it: carving out their own eddy of processual singularity, while at the same time coupling processually with capitalism for the time being (until a tipping point is reached).

Scholium a. Otherwise they will starve.

Scholium b. In any case, they have no choice in this matter, given that complicity is an ontological condition under neoliberal capitalism (T34 Schol. c, T60). They cannot stake out a position outside the capitalist field, because it only has an immanent outside. This in no way means that they will be “all in” it. There is no position of purity from which to oppose capitalism. But by the same token, there is no being all in it (T60 Schol. a). There is power in the duplicitous positioning that is potentially creative. There is no reason in principle creative duplicity cannot immanently leverage postcapitalist difference.

Scholium c. It is not as if not exploring an alter-economy interested in, and in creative tension with, the model of financial capital will avoid complicity. All existing alter-economies interface with the dominant economy in one way or another, of necessity, as does every individual involved in them who has ever earned a wage, bought a product, opened a bank account, or benefited from a pension. The ways in which funding is conventionally obtained for collective projects (government grants, foundation grants, crowdfunding) are all deeply complicit with neoliberalism in their own ways, and come with the added disadvantage that the nonprofit status often involved in those efforts requires a legal organizational structure that repeats the basic characteristics of the corporate model (officers, board of directors, membership conceived as shareholding or stakeholding, annual meetings, etc.) and a day-to-day management structure reproducing the conventional hierarchy (at least on paper). Everyone is already practicing creative duplicity, and short of a global revolution will continue to do so. Historically, even the most radical of revolutions have been recuperated by capital. It cannot be assumed that it will be different the next time around—unless the postcapitalist future is already availably prefigured in the interim. So the issue is not whether to practice creative duplicity, but which complicit duplicities and in what way. There is no a priori reason not to explore all avenues, even the ones that the left traditionally holds under the highest suspicion. Striking a posture of purity will get nowhere. It too easily absolves one of engaging, day to day, hour by hour, with the real conditions of life, as part of an ongoing struggle reaching down to the microlevels of existence. Sustained engagement of that kind is necessary if those conditions are to be sustainably changed. “Certainly now is the time to create money designed to stoke demand for new financial tools for activists, collectives, social movements, artists, refugees, and all who struggle for a life worth living so that they might catch and keep their own value for themselves” (Beller 2017, 10).

#### BC solves oceans, phosphorus and nitrogen cycles, and pollution

Hannah Kulmatycki 21, marine climate biologist who completed her Bachelors from The University of Alberta in Canada and has just completed her Masters in Climate Change with a marine focus from Heriot-Watt University in Scotland. Hannah is a part of the partnerships team for Cyan Planet and runs the ambassador program, “Blockchain in the maritime sector”, <https://blockchainclimate.org/blockchain-in-the-maritime-sector/>, July 19, 2021

Climate change is often associated with rising temperatures and carbon emissions. And to combat it, our intuitive action is to plant trees and take public transport. We should rethink those instincts.

Research tells us that it would be more impactful to focus our attention on the oceans. The Intergovernmental Panel on Climate Change (IPCC): Special report on the ocean and cryosphere in a changing climate (2019) highlights that the oceans cover 71% of the Earth’s surface and contain 97% of the total water on Earth. The oceans are integral for the cycling of essential nutrients like carbon, nitrogen, and phosphorous. And account for over eight times the amount of primary productivity than land does (16 x 1010 tonnes) (Encyclopedia Britannica, 2021, IPCC 2019).

The Earth’s oceans are under attack. Surface temperatures are rising at an unprecedented rate. Causing the polar ice to melt and enormous amounts of water flow into the ocean basins, which degrades and erodes coastlines. The consequences are catastrophic, coastal communities will be underwater, natural habitats will be lost, and ecosystems harmed.

The balance of carbon between the atmosphere and oceans is changing. As the acidity of the oceans increases, they become less inhabitable for many creatures, and the total diversity drops (IPCC, 2019). The oceans fuel life, drive chemical cycles, such as the uptake of nutrients and gases and global export and circulation (Sigman, 2012). By targeting the oceans, we can mitigate the future impacts of climate change. But there is no time to waste.

Blockchain and distributed ledger technologies are already streamlining our mitigation techniques in sectors such as energy, carbon finance, and even biodiversity. However, there are concerns that the energy requirement of blockchain technologies is too high to justify their use in climate change mitigation strategies. For example, the energy needed for the Bitcoin network alone could result in a global temperature increase of 2 °C by 2050 (Howson, 2020). But innovation is addressing these concerns. Climate conscious initiatives such as SolarCoin use blockchain to reward solar installations. And it is hoped that this approach can power blockchain and bitcoin development (Howson, 2020). These developments highlight the progress made, but where does that leave blockchain and the oceans?

Within the maritime industry, which is a fundamental part of the oceanic network, there have been blockchain developments in landing, shipping, smart contracts, marine insurance, financial investment, supply chain, and workflow (MI News Network, 2021). It is a positive start, breaking down barriers within the marine shipping industry and reducing carbon emissions. But more can be done with blockchain to combat the direct impacts of global warming on the ocean. There has been much success through having a collective database where all parties in the maritime and shipping industry have improved the decision-making time, security, and transparency (Crawford, n.d.). The main setbacks noted by the industry so far have been the complexity, where it becomes challenging to incorporate all of the working parts without intermediaries, especially concerning maritime insurance (Crawford, n.d.).

These breakthroughs in shipping are huge, but they are met with concerns about the effect of climate change on biodiversity, the health of the oceans, and the planet as a whole. Distributive ledger technology could promote transparent access to wastewater and emission impacts and facilitate increased market access and commodity exchange (Howson, 2020). Not only would this successfully drive the maritime and marine economy but also regenerate the entire ecosystem (Crawford, n.d.).

The future of blockchain is exciting as it has the potential to aid and regenerate some of the most beautiful places on our planet. In our last-ditch efforts to preserve our marine and terrestrial environments, cutting out the expensive intermediaries is a hurdle we need to overcome.

#### 5--It eliminates worker exploitation AND promotes ecological sustainability

Hannes Gerhardt 20, Associate Professor of Human Geography at the University of West Georgia, “Blockchains: Building Blocks of a Post-Capitalist Future?”, The Transnational Institute Long Reads, 11/6/2020, https://longreads.tni.org/blockchains-post-capitalist-future

The above cases may seem disparate, but they share a common interest in using “cryptographic ledger technology,” often referred to as “blockchain,” as a way of rethinking the valuation inherent in market-based pricing. By offering new, non-capitalist ways of measuring and pursuing value(s), blockchain promises the ability to pursue an alternative economic path to capitalism as we know it. Assuming the social and political power to do so, what would such an endeavor look like?

Valuation within capitalism

Before turning to the technology, it is important to be clear about the dysfunctional value system dominating the current economic order. In Ancient Rome, the thinker Publilius Syrus captured what would later become capitalist dogma when he said, “everything is worth what its purchaser will pay for it.”

Today, the obfuscated workings of the market — Adam Smith’s “invisible hand” — is seen as an omnipotent super-computer cranking out the current value of everything in the form of price. Following Marx, this simple reduction of value to what price it will fetch on the market happened when the basic rationale animating economic interactions shifted from one of pursuing commodity exchanges, facilitated by money (C-M-C), to using commodities as a means to gain more money (M-C-M). Money here becomes the marker of all the value in the world.

Such a valuation system, which is the very foundation of capitalism, leaves no room for any considerations of derived or inherent value, let alone ethical values. The consequences are clear: the reduction of labor to price leads to exploitation; viewing commodities as disconnected from labor results in the alienation of workers and consumers; and the never-ending externalization of environmental costs precipitates the collapse of global ecosystems.

Logically, therefore, any counter-capitalist movement must explore ways in which values — not one sole overarching value — can be re-incorporated into valuation by internalizing aspects of the economy that are generally excluded or hidden from view — both the good and the bad. Today, technology-inspired efforts, as illustrated in the examples above, are being pursued to do precisely this.

Blockchain and beyond

Blockchain is a digital, decentralized database of value-exchange transactions — essentially a ledger. It is open for anyone to see, like a shared Google document. Those who take part in viewing and building the ledger are called nodes. The ledger is established in a linear sequence of encrypted, time-stamped datasets, or “blocks.”

It is almost impossible to tamper with the ledger owing to a number of ingenious security measures, of which the most important is that the blockchain is based on the consent of the majority of nodes, i.e. it is a decentralized, peer-to-peer security system with no central site that could be compromised. The far-reaching contribution blockchain offers is the ability to create and maintain incorruptible records of monetary, product, or labor exchanges, among many other things, with no centralized intermediary such as a bank, a boss, or a government.

We are now also beginning to see the unfolding of second- and third-generation blockchain technologies, which have moved beyond capturing value transfers to establishing entire systems of value exchanges using smart contracts. A smart contract is a blockchain-enabled “if-then” program in which a particular event is triggered if a certain condition is met, which can be assessed by peer-to-peer or automated systems.

For instance, Sensorica’s value accounting system would be based on self-reporting and group verification. The information supplied by fishermen claiming Fishcoin could be assessed via a combination of autonomous sensing equipment, audits and reliance on users’ honor. Smart contracts can also be bound together into larger systems using artificial intelligence (AI) applications to create distributed autonomous organizations. Think here of Sensorica’s entire open value network being coded — from articles of association to bylaws — meaning that its complete production environment would have been created to function autonomously according to specific norms and values.

Despite its potential to make short shrift of centralized rent extractors and bosses, it is important to acknowledge that blockchain is not inherently progressive. In fact, it embodies the libertarian sentiments that are entrenched in capitalism’s market-centered value system. This means that technology-inspired, counter-capitalists have to fundamentally re-design, repurpose and re-govern blockchain’s underlying code.

FairCoin, for instance, successfully circumvented the ridiculous amounts of energy required by the verification system of traditional blockchains by re-coding the procedure through which blocks are added. FairCoin has also embraced open, democratic governance arrangements for managing its code in order to avoid the often opaque and guarded decision-making structures employed in systems like Bitcoin.

Some commons-oriented code writers are even developing cryptographic ledger systems beyond blockchain whereby anonymous, “trustless” networks are replaced by interlinked trusting groups, thereby enabling greater speed and scalability of data processing. One such effort is the biomimicry-inspired “Holochain,” a blockchain-like code described as a “method and reward structure for storing and accessing data and applications among users themselves.”

The ultimate aim of the Holochain project is to overcome the internet’s server-dependent centralization by using the participants’ excess computer processing power and hardware storage to create a true peer-to-peer internet, or “Holo network.”

Such a network will eventually require the widespread adoption of HoloPorts, the hardware that enables computer power sharing, as well as decentralized Holo applications that will run in the Holo network. The Holo apps, or Happs, will generally be aimed at making use of and expanding the peer-to-peer nature of the network, ranging from alternative social media platforms, such as Junto, to energy monitors and distribution systems such as Redgrid.

Re-valuing and de-fetishizing

How could this fancy new code challenge the human and environmental degradations caused by capitalism’s valuation system? We know that the current value system reduces labor to an exploitable commodity. In Sensorica’s open value network, however, the exploitation of labor is directly challenged by creating a value accounting system that is inherently meritocratic and fair, where work done within one project can also be credited if it is picked up by another. It is a commons-based peer-to-peer production arrangement rooted in fundamentally non-capitalist values — collaboration, openness, decentralization — yet one that its proponents believe can compete with and ultimately replace capitalist actors in the marketplace.

Developing such a system has been one of Sensorica’s main goals and it is now seeking blockchain-based solutions to increase its functionality, scalability and security. Holochain is one of the leading contenders to build this infrastructure.

The idea of coding commons-centered environments such as these is also the impetus for the creation of the Economic Space Agency (ECSA), a global collective of counter-capitalist economists and computer scientists seeking to expand and scale up the values-infused production pursued by the likes of Sensorica. According to Tere Vadén at ECSA, the aim is to create environments for economic interaction that “… encode incentive mechanisms and choose specific valuation metrics of non-monetary assemblages (from relationality, trust, and quality to land, labour and material goods) in smart contracts.”

Importantly, the values being coded into these environments, which can expand far past a single enterprise to encompass trans-local economies, are not limited to labor but can also address environmental issues. According to David Dao, a pioneer in employing distributed autonomous organizations to further sustainability, “we now have accessible tools to efficiently engineer economic incentives in a cheap and scalable manner…by distilling (crypto) incentives into code, we are now able to treat economics simply as software .” Driven by this conviction, Dao founded GainForest, which uses a combination of smart contracts to link donors, forest communities and sophisticated verification systems to fund and support sustainable forest stewardship, specifically in the Kayapo Indigenous territories in Brazil.

Beyond exploitation, capitalism creates a sense that goods and services are stand-alone things whose value is directly captured in their price, thereby obscuring how this value is actually derived. This is what Marx called “commodity fetishism.” This view of commodities significantly contributes to workers’ alienation because it breaks down the inter-personal relationship between producer and consumer. It also leads to a disconnect between consumer and nature.

Turning again to Sensorica, the voluntary, empowered and justly remunerated labor that could be made feasible on a large scale through blockchain-enabled, open value networks could be a way to return a sense of ownership of the labor provided. FairCoop is another instance in which workers’ alienation is challenged by facilitating self-employment with the help of the alternative FairCoin cryptocurrency. Similarly, Fishcoin challenges the disconnect between producers and consumers inherent in commodity fetishism through more transparent supply chains.

By meticulously documenting the various stages in production, producers and consumers can develop and respond to the various human and natural dimensions in a given economic activity. The blockchain-based system that reveals the various sources of the seafood we eat, for instance, is a first step in overcoming the obfuscation within existing forms of consumption, while simultaneously serving to track and hence manage the tapped resources. The potential here is significant.