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ARTICLE

AI STRICT LIABILITY VIS-À-VIS AI MONOPOLIZATION

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Some argue that applying a strict liability regime on AI-inflicted damages may allow well-financed big AI companies to monopolize the industry. They hypothesize that a strict liability regime would expose AI companies to significant legal liability. Since small AI companies lack the necessary resources to pay for damages inflicted by their AI technology, a strict liability regime could erect barriers to entry for these small companies. Ultimately, the argument continues, such a regime would give a small group of companies a virtual monopoly on the AI industry. Thus, some conclude that strict liability

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For the purpose of this Article, the definition of AI is the one set in Section 238(g) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019, Pub. L. No. 115232, 132 Stat. 1636, 1695 (Aug. 13, 2018) (codified at 10 U.S.C. § 2358, note): "(1) Any artificial system that performs tasks under varying and unpredictable circumstances without significant human oversight, or that can learn from experience and improve performance when exposed to data sets.; (2) An artificial system developed in computer software, physical hardware, or other context that solves tasks requiring human-like perception, cognition, planning, learning, communication, or physical action.; (3) An artificial system designed to think or act like a human, including cognitive architectures and neural networks.; (4) A set of techniques, including machine learning, that is designed to approximate a cognitive task.; (5) An artificial system designed to act rationally, including an intelligent software agent or embodied robot that achieves goals using perception, planning, reasoning, learning, communicating, decision-making, and acting." *See also*, Bryan Casey & Mark A. Lemley, *You Might Be a Robot*, 105 CORNELL L. REV. 287(2020).

inherently stifles innovation and should not be applied to emerging technologies, such as AI.

This Article maintains that legislators should adopt a strict liability regime, and it rejects the above argument for two reasons. First, there is no substantial connection between a strict liability regime and the AI monopolization that is already underway. Second, insurance policies could mitigate the effects a strict liability regime may have on the capabilities of small AI companies to enter and compete in this important market. Therefore, the ongoing process of monopolization of the AI market should not by itself render strict liability a non-viable regime when AI-inflicted damages occur.

I. INTRODUCTION

Products and services that are based on artificial intelligence (AI) have caused, and still cause, damages. This can be seen in the case of autonomous vehicles, which have already led to casualties. For instance, in March 2018 in Tempe, Arizona, a self-driving Uber car struck and killed Elaine Herzberg while a human was sitting in the driver's seat.[1] The investigation of the accident discovered that the car recognized the pedestrian prior to the collision but did not take any active measures to stop itself or alert the driver.[2] Other examples

1. Troy Griggs & Daisuke Wakabayashi, *How a Self-Driving Uber Killed a Pedestrian in Arizona*, THE N.Y. TIMES (Mar. 21, 2018), www.nytimes.com/interactive/2018/03/20/us/self-driving-uber-pedestrian-killed.html.

2. Chaim Gartenberg, *Safety Driver of Fatal Self-Driving Uber Crash Was Reportedly Watching Hulu at Time of Accident*, THE VERGE (Jun. 22, 2018),

include a robotic security guard running over and injuring a toddler in a shopping center,[3] an AI chatbot making slanderous comments online,[4] and hiring algorithms discriminating against minorities.[5]

Who should be held liable for the damages caused in these scenarios, and under what liability regime? These important questions stand at the center of an ongoing dispute.[6] Some scholars, including myself, call for the application of a strict liability regime rather than a negligence one. This is because unique features of AI, chief amongst them the 'black-box' issue,[7] hamper our ability to

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www.theverge.com/2018/6/22/17492320/safety-driver-self-driving-uber-crash-hulu-police-report.

3. Steven Hoffer, *300-Pound Security Robot Runs Over Toddler at California Shopping Center*, HUFFPOST (July 13, 2016), www.huffpost.com/entry/security-robot-toddler_n_57863670e4b03fc3ee4e8f3a.

4. *See, e.g.*, the case of Tay: Elle Hunt, *Tay, Microsoft's AI Chatbot, Gets a Crash Course in Racism from Twitter*, THE GUARDIAN (Mar. 24, 2016), www.theguardian.com/technology/2016/mar/24/tay-microsofts-ai-chatbot-gets-a-crash-course-in-racism-from-twitter.

5. This leads to disparate impact. *See, e.g.* Jeffrey Dastin, *Amazon Scraps Secret AI Recruiting Tool that Showed Bias Against Women*, REUTERS (Oct. 9, 2018), www.reuters.com/article/us-amazon-com-jobs-automation-insight/amazon-scraps-secret-ai-recruiting-tool-that-showed-bias-against-women-idUSKCN1MK08G; Jon Reed, *Is AI an Asset to Hiring, or Will it Bring us Down a Sinkhole of Algorithmic Bias?*, DIGINOMICA (Dec. 12, 2018), www.diginomica.com/2018/12/12/is-ai-an-asset-to-hiring-or-will-it-bring-us-down-a-sinkhole-of-algorithmic-bias; Karen Higginbottom, *The Pros and Cons of Algorithms in Recruitment*, FORBES (Oct. 19, 2018), www.forbes.com/sites/karenhigginbottom/2018/10/19/the-pros-and-cons-of-algorithms-in-recruitment/#29a92be37340; Ashley Nunes, *In 2019, We Should Beware the Robo-Interviewer*, THE GLOBE & MAIL (Jan. 4, 2019), www.theglobeandmail.com/opinion/article-in-2019-we-should-beware-the-robo-interviewer; Ignacio Cofone, *Algorithmic Discrimination Is an Information Problem*, 70 HASTINGS L.J. 1389 (2019).

6. *See, e.g.*, Gary E. Marchant & Rachel A. Lindor, *The Coming Collision Between Autonomous Vehicles and the Liability System*, 52 SANTA CLARA L. REV. 1321, 1323 (2012); F. Patrick Hubbard, *"Sophisticated Robots": Balancing Liability, Regulation, and Innovation*, 66 FLA. L. REV. 1803, 1820 (2015); Sunghyo Kim, *Crashed Software: Assessing Product Liability for Software Defects in Automated Vehicles*, 16 DUKE L. & TECH. REV. 300 (2017); Bryant Walker Smith, *Automated Driving and Product Liability*, 2017 MICH. ST. L. REV. 1; Karni A. Chagal-Feferkorn, *Am I an Algorithm or a Product? When Products Liability Should Apply to Algorithmic Decision-Makers*, 30 STAN L. & POL'Y REV. 61 (2019); Kenneth S. Abraham & Robert L. Rabin, *Automated Vehicles and Manufacturer Responsibility for Accidents: A New Legal Regime for a New Era*, 105 VA. L. REV. 127, 139 (2019); Andrew D. Selbst, *Negligence and AI's Human Users*, 100 B.U. L. REV. 1315 (2020); Tim Engelhardt, *Who Pays? On Artificial Agents, Human Rights and Tort Law*, *in* RESEARCH HANDBOOK ON HUMAN RIGHTS AND DIGITAL TECHNOLOGY: GLOBAL POLITICS, LAW AND INTERNATIONAL RELATIONS 268, 277 (2019); Matthew U. Scherer, *Of Wild Beasts and Digital Analogues: The Legal Status of Autonomous Systems*, 19 NEV. L.J. 259, 280 (2018).

7. The term "black-box" in the context of AI refers to the notion that neither the users nor the programmers can fully understand the process and justification

predict and establish a legal nexus between the accident and a liable human party.[8]

Other scholars use antitrust laws to argue against the application of a strict liability regime for AI-inflicted damages, claiming that it would exacerbate current monopolization in the AI industry. Applying a strict liability regime, they contend, will present a significant barrier for those wishing to enter the AI industry.[9] This is because small companies will not be able to endure the financial burden associated with a strict liability regime, unlike big AI companies which have the necessary financial resources.

This Article rejects this argument against strict liability for two reasons. First, there is not a strong and substantial connection between a strict liability regime and the monopolization of AI. Second, insurance law has and will continue to have an important role as a hedging tool meant to encourage companies to proactively take risks, especially in the field of emerging technologies. In this sense, insurance operates as an instrument to level the playing field. This Article delves into these arguments, which suggest that policymakers should not reject a strict liability regime based on concerns about the ongoing monopolization of the AI market.

The Article is organized as follows. Part I will briefly discuss why strict liability is the appropriate regime when AI-inflicted damages occur and, hence, why one should care if this liability regime were to be rejected. Part II will discuss the argument this Article aims to refute, which argues against applying a strict liability regime based on the claim that it will have a stifling effect on the AI industry. In the process, this Part will review other industries in which a strict liability standard applies and does not cause or deepen a monopolization problem. Part III will present two main reasons why the suggested relationship between a strict liability regime and the monopolization of the AI industry should be rejected. In the process, this Part will discuss the lack of evidence connecting this liability regime to monopolization. Furthermore, it will discuss the unique features

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which stand at the basis of an AI decision-making process. This is because in various methods of AI (such as machine learning and neural networks) the algorithm is self-taught, based on existing databases, and the decision-making process is not transparent. *See* Anat Lior, *The AI Accident Network: Artificial Intelligence Liability Meets Network Theory*, 95 TUL. L. REV. 1, 6 (2020). *See also*, Jason Bloomberg, *Don't Trust Artificial Intelligence? Time to Open the AI 'Black-Box'*, FORBES (Sep. 16, 2018), www.forbes.com/sites/jasonbloomberg/2018/09/16/dont-trust-artificial-intelligence-time-to-open-the-ai-black-box/#69410d83b4a7.

8. This article will not focus on this question, but rather take as an assumption the preferability of a strict liability regime. For more *see supra* note 7.

9. *See, e.g.*, Yavar Bathaee, *The Artificial Intelligence Black Box and the Failure of Intent and Causation*, 31 HARV. J.L. & TECH. 889 (2018); Abiel Garcia, *Antitrust is Already Equipped to Handle "Big Data" Issues*, 28 NO. 1 COMPETITION: J. ANTI., UCL & PRIVACY SEC. CAL. L. ASSOC. 1 (2018).

insurance law has to offer, which enable it to reduce the threat of AI monopolization once a strict liability regime applies. This Article's main purposes are to refute the alleged connection between a strict liability regime and AI monopolization and to argue for a strict liability regime as the appropriate liability regime in an AI context.

II. STRICT LIABILITY AS THE APPROPRIATE AI LIABILITY REGIME

Some scholars, including myself, have advocated for the application of a strict liability regime for AI-inflicted harms. Before reviewing my stance on the applicability of strict liability, a brief review of the broader literature proposing strict liability as an AI regime is in order.

Those who advocate for a strict liability regime for AI entities often begin by analogizing to the product liability context. In the product liability regime, manufacturers are held strictly liable for damages arising out of defects in their products.[10] In general terms, the argument for strict liability is that it saves the transaction costs of complex and lengthy litigation and places the blame on the actor in the best position to absorb or transfer the costs, who may or may not be an entity with deep pockets. A strict liability regime may even encourage innovation, if it provides manufacturers with a certain, predictable legal framework to operate in.[11] Moreover, because many AI algorithms are 'black boxes,' the concept of algorithmic negligence[12] is far too complex and opaque to be analyzed and evaluated by judges and juries.[13] Thus, in this context, a negligence regime is harder to implement than a strict liability regime.[14]

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10. *See, e.g.*, Kim, *supra* note 7; Smith, *supra* note 7; Chagal-Feferkorn, *supra* note 7.

11. David C. Vladeck, *Machines Without Principals: Liability Rules and Artificial Intelligence*, 89 WASH. L. REV. 117, 147 (2014).

12. FRANK PASQUALE, THE BLACK BOX SOCIETY 40 (2015).

13. For a breakdown of the elements of negligence in an AI context *see* Omri Rachum-Twaig, *Whose Robots Is It Anyway?: Liability of Artificial-Intelligence-Based Robots*, 2020 U. ILL. L. REV. 1141, 1159 (2020). Negligence requires evaluating whether a risk is reasonable, which is usually determined by a cost-benefit analysis. This is a difficult analysis to perform in an AI context, since harms are usually inflicted with no direct human involvement. If we wish to apply this reasonableness paradigm, we must first decide what constitutes a "reasonable AI entity" and determine how we can pour content into this fiction in a way that would enable us to create legal standards to examine AI liability and reasonableness. For more on why negligence is not the appropriate liability regime see Lior, *supra* note 8.

14. *See also*, Selbst, *supra* note 7, in which he identifies problems to the application of negligence on AI entities and reaches the conclusion that "The use of AI decision-assistance tools is rapidly accelerating. Some people will make errors using AI tools, and others will be hurt. Negligence law exists to ensure that people harmed by others' actions have recourse if we consider those actions blameworthy. If we want to ensure that plaintiffs can continue to recover for AI-related injuries,

I have written at length elsewhere about the reasons why I advocate for strict liability.[15] However, it is important to briefly review this reasoning before discussing the alleged correlation between strict liability and AI monopolization. In doing so, we will understand why it is important to adopt a strict liability regime and why one should not reject it due to AI monopolization concerns.

Two arguments make clear that a strict liability regime should be applied in the AI context. The first reasons by analogy to the principal-agent context, and the second applies George Fletcher's analytical framework regarding nonreciprocal harms.[16]

First, the AI context is best analogized to a principal-agent context in which "AI entities"[17] are agents, where an AI entity includes machines, robots and algorithms. This analogy makes clear that we should apply the *respondeat superior* doctrine to hold the principals – here, the humans responsible for AI entities – liable for damages caused by their AI agents. A judgement-proof agent will not be held liable for the result of an accident, and its principal becomes the liable party.

This principle has been applied to judgment-proof entities considered "agents" as a legal fiction, including domesticated or wild animals. In order to provide a remedy when an animal does harm, a human guardian, keeper, custodian or owner is found liable instead. Put another way, the identity of that accountable human is reduced to that of a principal who is best able to control and monitor the AI agent's activities. The technical definition of the principal may vary, but a human principal will still be held liable for the actions of the AI entity under his influence and responsibility.

These analogies are fitting as the AI agent is not transparent to the victim, in the sense that the victim cannot take any preventative measures to protect herself when she faces a harmful AI agent. Instead, the principal is in the best position to take proactive actions to prevent potential accidents, mitigate damages, purchase insurance for the AI agent, or strive to attain the optimal level of AI activity. After all, humans impose risks on other humans, but an AI agent is

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we must either intervene soon to help negligence law adapt or find another way to compensate victims." *Id.* at 1376. For a different view, *see* Ryan Abbott, *The Reasonable Computer: Disruptive Paradigm of Tort Liability*, 86 GEO. WASH. L. REV. 1 (2018); Karni Chagal-Feferkorn, *The Reasonable Algorithm*, 2018 U. ILL. J.L. TECH. & POL'Y 111.

15. *See* Anat Lior, *AI Entities as AI Agents: Artificial Intelligence Liability and the AI Respondeat Superior Analogy*, 46 MITCHEL HAMLINE L. REV. 1043 (2020); Lior, *supra* note 8.

16. George P. Fletcher, *Fairness and Utility in Tort Theory*, 85 HARV. L. REV. 537 (1972).

17. The use of this term is derived from its relative neutrality. AI are not always robots nor are they always algorithms.

only a tool that cannot assume legal responsibilities. An AI agent is merely a device in the hands of its principal.

A second argument for applying a strict liability regime is explained by Fletcher's nonreciprocal approach. According to this paradigm, "a victim has a right to recover for injuries caused by a risk greater in degree and different in order from those created by the victim and imposed on the defendant."[18] Restated, one should have a right for recovery for injuries and damages which are a result of a "nonreciprocal risk." If the defendant has generated a "disproportionate, excessive risk of harm, relative to the victim's risk-creating activity,"[19] this approach would find such a defendant strictly liable. Applying this paradigm, AI entities inherently possess the power to inflict greater damages on their environment than the environment can inflict on them, since they do not possess similar rights as humans to be safe and protected from harm.

Furthermore, AI entities are able to interact with their environment more *intensely* than humans can, which results in them presenting greater risks to others. Because AI entities act upon online networks, they possess a unique ability to communicate quickly, repetitively, and across a vast number of platforms simultaneously. Therefore, AI entities pose greater risks than humans—even when they are engaged in similar activities.[20] Because AI entities engage in high levels of repetitive, ubiquitous activity, creating nonreciprocal risks, even all parties take reasonable precautions. Society can give AI businesses an appropriate incentive to reduce these harmful levels of activity by imposing a strict liability regime where the businesses know that they will be held liable for any damages that might occur due to their activities. A negligence regime provides less incentive to reduce these harmful levels of activity, because the negligence analysis only imposes liability if the business fails to take reasonable precautions—even if the business is engaged in inefficiently high levels of a risky activity.[21] Furthermore, a strict liability regime, unlike a negligence regime, enables the common law system to avoid the rigorous and problematic analysis of the "reasonable person" standard, thus minimizing administrative costs.[22] This is especially true in the AI

18. Fletcher, *supra* note 17, at 542.

19. *Id.*

20. *See* Leon E. Wein, *The Responsibility of Intelligent Artifacts: Toward an Automation Jurisprudence*, 6 HARV. J.L. & TECH. 103, 107 (1992) ("[A]utomated devices generate liability of a different order or degree than humans performing an equivalent task . . . .").

21. Steven Shavell, *Liability for Accidents*, *in* HANDBOOK OF LAW AND ECONOMICS 139, 146–47 (2007).

22. GUIDO CALABRESI, THE COSTS OF ACCIDENTS – A LEGAL AND ECONOMIC ANALYSIS 225 (1970).

context where the notions of fault or blameworthiness are difficult to prove in a coherent and holistic manner given the 'black-box' issue.[23]

As AI agents are judgment-proof, regulators can only create the proper incentives to prevent damages and invest in achieving an optimal level of activity by awarding damages against the human principals. This is a worthy goal and can be accomplished via a strict liability regime which takes into consideration the nonreciprocal risks an AI agent imposes and the agent's high levels of activity. A strict liability regime works to promote the protection of individuals who lack the means to protect themselves from the nonreciprocal risks these intelligent but unpredictable entities can inflict.

This Part laid the foundation for why a strict liability regime is appropriate for the AI context. But this is only a secondary goal of this Article; the core argument of this Article is that a strict liability regime should not be rejected in light of the rapid monopolization process currently happening in the AI industry.[24] But first, the argument against strict liability must be presented.

A. The Stifling Effect of a Strict Liability Regime

Given that a strict liability regime would hold a company liable for damages regardless of blame or fault,[25] it seems reasonable to assume that applying such a regime on companies for the damages they inflict, physical or otherwise, would lead to many of the companies with fewer financial resources removing themselves from the market out of fear of bankruptcy. If these less-well-resourced companies will be held liable every time they inflict damage, regardless of their efforts to prevent this damage or enhance the overall safety of their products or services, their ability to create revenue will be heavily compromised and, as a result, their participation in the market will be futile.

This is clearer in the context of tech companies and firms which collect and use big data. Some say that applying a strict liability regime to these companies will surely stifle innovation.[26] The development of

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23. *See supra* note 8.

24. *E.g.*, Sukhayl Niyazov, *AI-powered Monopolies and the New World Order*, MEDIUM (Jun. 27, 2019), www.towardsdatascience.com/ai-powered-monopolies-and-the-new-world-order-1c56cfc76e7d. *See also infra* Part III.2.

25. *See, e.g.*, Guido Calabresi & Jon T. Hirschoff, *Toward a Test for Strict Liability in Torts*, 81 YALE L.J. 1055 (1972); CALABRESI, *supra* note 23; Steven Shavell, *Strict Liability Versus Negligence*, 9 J. LEGAL STUD. 1 (1980); Guido Calabresi, *The Decision for Accidents: An Approach to Nonfault Allocation of Costs*, 78 HARV. L. REV. 713 (1965).

26. For more on the claim of regulation as an obstacle to innovation *see, e.g.*, Gregory Mandel, *Regulating Emerging Technologies*, 1 L., INNOVATION & TECH. 75 (2009); Marchant & Lindor, *supra* note 7, at 1335; Mary L. Lyndon, *Tort Law and Technology*, 12 YALE J. ON REG. 137 (1995); Kyle Graham, *Of Frightened Horses and Autonomous Vehicles: Tort Law and Its Assimilation of Innovations*,

new emergent technologies, some disruptive in nature,[27] is bound to lead to damages while the technology is being developed, adapted, and adopted by consumers and society at large. A strict liability regime may curb companies' ability to develop new technologies that will eventually benefit our society.[28] Furthermore, "in consumer-facing settings, the size and structural market power of a firm may signal to a consumer that a firm can pay for, or distribute the cost of, any injury caused by product failure or that it possesses insurance to cover those injuries."[29] Therefore, it is reasonable to assume that customers will prefer to purchase goods and acquire services from companies that are seen as stronger and more stable brands, to ensure there will be a solvent entity to pay for potential damages.

This fear of stifling innovation can be seen in the legislative context of the aviation and vaccination industries,[30] as well as in Section 230 of the Communications Decency Act (CDA). In these cases, legislators have attempted to mitigate this fear by granting immunity from liability, i.e. applying a no-liability regime to products created by airplane manufacturers, vaccination providers, and online platforms. It is important to note that of course, strict liability and no-liability are not the only options. However, in the context of emerging technologies, the contrast between these opposing regimes highlights the alleged tradeoffs between innovation and consumer protection." The following examples show that legislators often opt for a no-liability regime at first when accommodating new technologies. Thus, briefly examining case studies involving no-liability regimes is useful for understanding the debate over liability regimes in the context of AI.

First, in the aviation context, Congress saw the net social benefit of having an aircraft manufacturing industry and took action to protect it. Congress passed the General Aviation Revitalization Act of 1994,[31]

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52 SANTA CLARA L. REV. 1241 (2012); Matthew U. Scherer, *Regulating Artificial Intelligence Systems: Risks, Challenges, Competencies, and Strategies*, 29 HARV. J.L. & TECH. 353 (2016); Matthew T. Wansley, *Regulation of Emerging Risks*, 69 VAND. L. REV. 401 (2016).

27. Indeed "move fast and break things" was Facebook's internal moto until 2014. Karen Wickre, *What Startups Can Learn from Facebook's Reckless 'Move Fast and Break Things' Mantra*, THE MARKER, marker.medium.com/what-startups-can-learn-from-facebooks-reckless-move-fast-and-break-things-mantra-8dcc93ee3437.

28. For example, in the context of biotechnology markets, *see* Michael D. Stovsky, *Comment, Product Liability Barriers to the Commercialization of Biotechnology*, 6 HIGH TECH. L.J. 363, 379–80 (1991); in the context of genetic privacy violation, *see* Benjamin Sundholm, *Strict Liability for Genetic Privacy Violations in the Age of Big Data*, 49 U. MEM. L. REV. 759 (2019).

29. Bathaee, *supra* note 10, at 932 n. 187.

30. *See* Lior, *supra* note 16, at 1076.

31. General Aviation Revitalization Act of 1994, Pub L. No. 103-298, 108 Stat. 1552 (1994).

granting immunity to manufacturers of small airplanes and their parts from liability for eighteen years in order to ensure that the industry would survive despite liability suits. The immunity period was limited and eventually ended, given the widespread use of airplanes and the stabilization of the industry. Legislators expected manufacturers to take responsibility for accidents caused by their airplanes, given the maturity of the market and its ability to learn and fix its past mistakes.[32]

Second, while the social benefit of vaccinations is also generally undisputed, vaccine manufacturers were previously exposed to many lawsuits until federal preemption laws were put in place to prevent the vaccine industry from becoming bankrupt.[33] After an $8.5 million judgment was awarded in favor of a patient who contracted polio from an oral polio vaccine,[34] Congress intervened and passed the National Childhood Vaccine Injury Act of 1986. This law established a system of regulations and standards for vaccines that limited the liability of manufacturers and established a fund from which money would be taken in case of injury.[35]

When Congress grants immunity via a no-liability regime or a limited liability regime, it will spur innovation but consumers will pay a great cost – these regimes "diminish[], if not eliminate[], the incentives for manufacturers to make marginal improvements in the safety of their products in order to prevent liability."[36] Furthermore, unlike the vaccination industry and to certain extent the aviation industry, it is not yet clear whether AI, as a commodity, will create enough social benefit to be worthy of legal immunity from liability. Even advocating for a no-liability regime could actually hurt the industry's incentive to refine and enhance existing technologies.[37]

For example, in *Bruesewitz v. Wyeth*, a parent of a minor, who was allegedly injured from a DPT (diphtheria, pertussis or "whooping cough," and tetanus) vaccine, sued the manufacturer of the vaccine

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32. For criticism on this grace period *see* Kerry V. Kovarik, *A Good Idea Stretched Too Far: Amending the General Aviation Revitalization Act to Mitigate Unintended Inequities*, 1 SEATTLE U. L. REV. 973 (2008); *The General Aviation Revitalization Act: When it Comes to Product Liability, Don't Believe What They Claim*, PUB. CITIZEN, web.archive.org/web/20180517015506/www.citizen.org/article/general-aviation-act-when-it-comes-product-liability-dont-believe-what-they-claim; Lawrence J. Truitt & Scott E. Tarry, *The Rise and Fall of General Aviation: Product Liability, Market Structure, and Technological Innovation*, 34 TRANS. J. 52 (1995).

33. Weston Kowert, *The Foreseeability of Human-Artificial Intelligence Interactions*, 96 TEX. L. REV. 181, 195–96 (2017); Marchant & Lindor, *supra* note 7, at 1331.

34. Strong v. Am. Cyanamid Co. 261 S.W.3d 493, 521 (Mo. Ct. App. 2007).

35. 42 U.S.C. § 300aa-1 (1986).

36. Marchant & Lindor, *supra* note 7, at 1337.

37. Kowert, *supra* note 34, at 199.

under a product liability claim.[38] The majority opinion, written by Justice Scalia, ruled against the parents and held the National Childhood Vaccine Injury Act preempts all claims against the manufacturer. In her dissent, Justice Sotomayor noted the relationship between immunity and the lack of incentives to innovate. She claimed the majority opinion "leaves a regulatory vacuum in which no one ensures that vaccine manufacturers adequately take account of scientific and technological advancements when designing or distributing their products."[39] Under a no-liability regime, manufacturers may not internalize the damages their products create, and they may fail to update the technology even when it is possible, desirable, and efficient to do so.

Third, Section 230 of the Communication Decency Act (CDA) provides, in practice, immunity for online platforms from tort liability with regards to content published on their platform.[40] This, however, is not what it was originally intended to do – "lawmakers thought they were devising a limited safe harbor from liability for online providers engaged in self-regulation."[41] Legislators wanted "'to encourage telecommunications and information service providers to deploy new technologies and policies' to block or filter offensive material."[42] In other words, the law meant to encourage online platforms to act as 'Good Samaritans' immune from legal consequences if and when they failed in their self-regulation efforts.[43] However, courts have interpreted this section in a way that shields online platforms from liability, even extending this to "services whose business is the active subversion of online decency," which is in conflict with the legislators' original intent.[44] Courts understood this section as a shield which exempts online platforms, such as social media, from liability once tortious content has been posted on their websites.[45] Without § 230, many platforms would likely not be able to offer their services to the public, and websites such as Facebook, Instagram, Twitter and YouTube would be forced to change their current format or even shut down their activity permanently. Supporters of § 230 claim that it is "responsible for the 'extraordinary Internet boom'"[46] and

38. 562 U.S. 223 (2011).

39. *Id.* at 250.

40. 47 U.S.C § 230.

41. Danielle Keats Citron & Benjamin Wittes, *The Internet Will Not Break: Denying Bad Samaritans § 230 Immunity*, 86 FORDHAM L. REV. 401, 403 (2017).

42. *Id.* at 404.

43. *Id.* at 407.

44. *Id.* at 409.

45. *See e.g.*, Kate Klonick, *The New Governors: The People, Rules, and Processes Governing Online Speech*, 131 HARV. L. REV. 1598 (2018); Citron & Wittes, *supra* note 42, at 408.

46. Derek Khanna, *The Law That Gave Us the Modern Internet—and the Campaign to Kill It*, THE ATLANTIC (Sept. 12, 2013), www.theatlantic.com/business/archive/2013/09/the-law-that-gave-us-the-modern-

cancelling it would "sound the death knell to innovation."[47] Similar statements were recently made about President Trump's executive order, "Executive Order on Preventing Online Censorship," which narrowed the application of § 230.[48]

In recent years, however, one can note a slow erosion of the absolute immunity provided by § 230 as it was initially interpreted by courts. The erosion took place through a process of judicial exception-setting. Amazon, for example, can be found liable for defective products sold via its platforms,[49] and Airbnb can be held liable if apartments listed on its website are in violation of zoning or city laws.[50] Furthermore, in 2019, Congress passed legislation which holds websites liable in cases of human trafficking, which goes directly against the statute's purpose of enabling online platforms to act only as mediators.[51] Some scholars have expressly called for a much more limited § 230, claiming that: "to the extent the internet needed a broad liability shield when it was young, it certainly needs it no longer. Innovation on online platforms can at this point coexist with an

internet-and-the-campaign-to-kill-it/279588 (quoting Eric Goldman, *Why the State Attorneys General's Assault on Internet Immunity Is a Terrible Idea*, FORBES (June 27, 2013), www.forbes.com/sites/ericgoldman/2013/06/27/why-the-state-attorneys-generals-assault-on-internet-immunity-is-a-terrible-idea/#1fe29460257b.

47. Citron & Wittes, *supra* note 42, at 410.

48. Exec. Order No. 13,925, Preventing Online Censorship, 85 Fed. Reg. 34,079 (May 28, 2020). For criticism on this order *see e.g.*, Ron Wyden, *I Wrote this Law to Protect Free Speech. Now Trump Wants to Revoke it*, CNN BUS. (June 9, 2020), www.cnn.com/2020/06/09/perspectives/ron-wyden-section-230/index.html; Bobby Allyn, *As Trump Targets Twitter's Legal Shield, Experts Have A Warning*, NPR (May 30, 2020), www.npr.org/2020/05/30/865813960/as-trump-targets-twitters-legal-shield-experts-have-a-warning; Roger McNamee, *Facebook Cannot Fix Itself. But Trump's Effort to Reform Section 230 Is Wrong*, TIME (June 4, 2020), www.time.com/5847963/trump-section-230-executive-order.

49. Colin Lecher, *Amazon Can be Held Liable for Defective Third-Party Products on its Platform, Court Rules*, THE VERGE (July 3, 2019), www.theverge.com/2019/7/3/20681301/amazon-federal-circuit-ruling-liability-defective-products; Annie Palmer, *California Court Rules Amazon Can Be Liable for Defective Goods Sold on its Marketplace*, CNBC (Aug. 13, 2020), www.cnbc.com/2020/08/13/amazon-can-be-held-liable-for-faulty-goods-court-rules.html ("The court said Amazon also can't be shielded from liability through Section 230 of the Communications Decency Act, a law from the 1990s that protects online platforms from being held responsible for content their users post on their sites.").

50. *Airbnb Loses Major Fight over Santa Monica's Rental Law*, L.A. TIMES (Mar. 13, 2019), www.latimes.com/business/la-fi-airbnb-santa-monica-short-term-rental-20190313-story.html.

51. Aja Romano, *A New Law Intended to Curb Sex Trafficking Threatens the Future of the Internet as we Know it*, VOX (July 2, 2018), www.vox.com/culture/2018/4/13/17172762/fosta-sesta-backpage-230-internet-freedom.

expectation that platform companies will behave according to some enforceable standard of conduct."[52]

Thus, the common argument against a strict liability regime is that there would be greater barriers to enter commercial markets given the problematic effect such a regime may have on the resources, ability, and will of entrepreneurs to pursue the development of new technologies or provide services we value as a society. A no-liability regime, which exists in various aforementioned contexts, can in fact eliminate these concerns and facilitate innovation. Danielle Citron referred to this as the 'hyper-vigilant' stage of law's reaction to new technologies: "after the technology's benefits become apparent, the law abruptly reverses course, seeing its earlier awards of liability as threats to technological progress and granting sweeping protection to the firms in the new industry."[53]

As these examples show, however, a no-liability regime raises other concerns even as it sometimes encourages innovation. These concerns demand an assessment of whether the public benefits of innovation justify the no-liability regime. It is still unclear whether companies experimenting with big data and AI should be able to enjoy such a lenient liability regime. Furthermore, as industries mature, legislatures and courts attempt to cut back on the immunities the industry enjoys. Immunity regimes often erode over time, and restrictions which allegedly stifle innovation frequently appear.

Some argue that, since strict liability exposes companies to liability in an expansive range of situations, applying such a regime may lead to a number of big companies dominating the market. These companies are able to compete in the market despite a strict liability regime because they have the financial resources to support themselves when their products or services cause harm. Smaller companies, on the other hand, will face difficulties in entering these markets because they lack the necessary resources and capital to hedge their risks if they are forced to pay many large money judgments, which may happen if they are held strictly liable for the damages their products cause. As the next section demonstrates, this argument is supported by the fact that the AI industry today faces a number of significant antitrust concerns.

B. AI Monopolization

The structure of the AI industry and AI firms themselves can raise antitrust concerns, regardless of how the products and services are used. Today, a select number of private companies are swiftly

52. Citron & Wittes, *supra* note 42, at 410.

53. Danielle Keats Citron, *Cyber Civil Rights*, 89 B.U. L. REV. 61, 115 (2009).

developing the AI industry.[54] Big AI companies can outcompete their peers in the industry because they have vast databases,[55] which they obtained systematically from their users.[56] This ability enables them to execute projects and collaborations with educational and governmental organizations to further develop their business reach and public image.[57] Such means and opportunities are not readily available to smaller companies in the AI field that lack their own large data pools. Thus, small private companies have to purchase this data in order to develop AI interfaces or collaborate with other companies to achieve the same end.[58] Indeed, some propose to reduce the power of big tech companies by "mak[ing] [them] share data with smaller

54. STATISTA DIGITAL MARKET OUTLOOK, IN-DEPTH: ARTIFICIAL INTELLIGENCE 2019 at 102 (2019) (while discussing the competitive landscape, this report focuses on ten leading companies in the AI field, only one of these companies are not located in the US); *How Facebook Became an Advertising Behemoth*, THE ECONOMIST (Apr. 8, 2016), www.economist.com/blogs/economist-explains/2016/04/economist-explains-4; David McLaughlin, *Tech's New Monopolies*, BLOOMBERG (Sept. 10, 2019), www.bloomberg.com/quicktake/why-eu-is-reining-in-tech-giants-while-the-u-s-is-hands-off; Vince Cable, *The Tech Titans Must Have Their Monopoly Broken – And This Is How We Do It*, THE GUARDIAN (Apr. 20, 2018), www.theguardian.com/commentisfree/2018/apr/20/tech-monopoly-apple-facebook-data-extreme-content.

55. *What Companies Are Winning the Race for Artificial Intelligence?*, FORBES (Feb. 24, 2017), www.forbes.com/sites/quora/2017/02/24/what-companies-are-winning-the-race-for-artificial-intelligence/#46ef05a2f5cd.

56. *See generally*, Rebecca Lipman, *Online Privacy and the Invisible Market for Our Data*, 120 PENN ST. L. REV. 777 (2016); Brian Merchant, *Looking Up Symptoms Online? These Companies Are Tracking You*, MOTHERBOARD (Feb. 23, 2015), motherboard.vice.com/read/looking-up-symptoms-online-these-companies-are-collecting-your-data; Charles Duhigg, *How Companies Learn Your Secrets*, N.Y. TIMES (Feb. 16, 2012), www.nytimes.com/2012/02/19/magazine/shopping-habits.html?pagewanted=1&_r=1&hp.

57. *See, e.g.*, the case of Palantir collaboration with ICE, Rosalie Chan, *Here's What You Need to Know about Palantir, the Secretive $20 Billion Data-Analysis Company Whose Work with ICE is Dragging Amazon into Controversy*, BUSINESS INSIDER (July 19, 2019), www.businessinsider.com/palantir-ice-explainer-data-startup-2019-7. *See also* Felicia Wong, *Collaboration Between Tech Companies and Government Should Be to Serve the People*, N.Y. TIMES (Nov. 7, 2016), www.nytimes.com/roomfordebate/2016/10/24/silicon-valley-goes-to-washington/collaboration-between-tech-companies-and-government-should-be-to-serve-the-people. A recent example is the controversy surrounding the usage of facial recognition software by the police following the George Floyd's protests around the US and the world. *See e.g.*, Jay Greene, *Microsoft Won't Sell Police Its Facial-Recognition Technology, Following Similar Moves by Amazon and IBM*, WASH. POST (June 11, 2020), www.washingtonpost.com/technology/2020/06/11/microsoft-facial-recognition.

58. Tom Simonite, *AI and 'Enormous Data' could Make Tech Giants Harder to Topple*, WIRED (July 13, 2017), www.wired.com/story/ai-and-enormous-data-could-make-tech-giants-harder-to-topple.

ones,"[59] or by preventing big companies from combining data they acquire from different sources, as Germany's regulators recently required Facebook to do.[60] Furthermore, the public sector is no better off competing with these big players: not only does it face a disadvantage when it comes to funding and hiring professional human resources, but the public sector is less able to access and use big databases due to the strict regulations that apply.[61]

A report released by the House of Lords Committee in the U.K. recommended a review of the monopolization of data in the AI field by American tech firms that work in the U.K.[62] This committee, of course, prefers growth in the British economy over that of the U.S., but this does not weaken the finding that data is being monopolized.

What's more, big AI companies are purchasing smaller AI startups and projects in early stages of their development, and thus eliminating any future potential competition.[63] These acquisitions demonstrate the desire of these companies to accumulate intellectual property,[64] datasets, and highly trained human resources in the field

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59. Angela Chen, *How to Regulate Big Tech Without Breaking It Up*, MIT TECH. REV. (Jun. 7, 2019), www.technologyreview.com/s/613640/big-tech-monopoly-breakup-amazon-apple-facebook-google-regulation-policy; Viktor Mayer-Schönberger & Thomas Ramge, *A Big Choice for Big Tech*, FOREIGN AFF. (Oct. 2018), www.foreignaffairs.com/articles/world/2018-08-13/big-choice-big-tech.

60. Natasha Singer, *Germany Restricts Facebook's Data Gathering*, N.Y. TIMES (Feb. 7, 2019), www.nytimes.com/2019/02/07/technology/germany-facebook-data.html.

61. Yasar Jarrar, *What is the Role of Government in the Digital Age?*, WORLD ECON. FORUM (Feb. 13, 2017), www.weforum.org/agenda/2017/02/role-of-government-digital-age-data.

62. Arjun Kharpal, *Regulators Should Review 'Monopolization' of Data for A.I. by US Tech Firms, British Lawmakers Say*, CNBC (Apr. 16, 2018), www.cnbc.com/2018/04/16/uk-lawmakers-warn-of-data-monopolization-for-ai-by-big-us-tech-firms.html.

63. Vinod Lyengar, *Why AI Consolidation Will Create the Worst Monopoly in US History*, Tech Crunch (Aug. 24, 2016), techcrunch.com/2016/08/24/why-ai-consolidation-will-create-the-worst-monopoly-in-us-history; Josie Wales, *Tech Giants Artificial Intelligence Monopoly Possibly the Most Dangerous in History*, ANTI MEDIA (Oct. 11, 2016), theantimedia.org/tech-giants-ai-dangerous-monopoly. Between 2011 and 2015 alone mergers and acquisitions in the AI field grew seven times more than previous years, see *M&A Activities in Artificial Intelligence Up 7x Since 2011*, CB INSIGHTS (June 26, 2016), www.cbinsights.com/research/artificial-intelligence-mergers-acquisitions-exits/?utm_source=CB+Insights+Newsletter&utm_campaign=5a4d06d24b-MondayNL_6_20_2016&utm_medium=email&utm_term=0_9dc0513989-5a4d06d24b-87538037; Robert Wright, *Google Must be Stopped Before it Becomes an AI Monopoly*, WIRED (Feb. 23, 2018), www.wired.com/story/google-artificial-intelligence-monopoly/.

64. As of March 2019, the number of AI patent applications submitted worldwide is dominated by Microsoft (18,365 patents), IBM (15,046 patents), Samsung (11,243 patents) as well as other big AI companies. *See*, IPlytics GmbH, *Number of Artificial Intelligence (AI) Patent Applications Worldwide as of March 2019, by Company* STATISTA, www.statista.com/statistics/1007919/number-of-ai-

of AI. The effect is that competition is stifled. While we can anticipate mergers and acquisitions (M&A) in almost every market, the M&A deals in the AI sector are unique, because they are agreed upon and executed at a rapid pace, in the early stages of the target company's life cycle, and by an exceedingly small and exclusive number of companies.[65]

This process, which leads to the steady monopolization of the field, may negatively affect the present and future clientele of AI companies.[66] The level of competition in this market has decreased rapidly,[67] which is surprising given AI's relative importance in recent years.[68] This has practically handed over the AI market to a small number of companies who have the financial and professional power to dominate it.[69] Assuming that the predictions prove accurate and AI will be the next big technology to shape our lives,[70] yielding such

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patents-worldwide-by-company (last visited June 22, 2020). Also, measuring from 2010 to July 2019, IBM and Microsoft are the largest machine learning and artificial intelligence (AI) patent owners worldwide from 2010 to July 2019, with 5,570 patents and 5,330 patents, respectively. *See* LexisNexis PatentSight, *Largest Machine Learning and Artificial Intelligence (AI) Patent Owners Worldwide from 2010 to July 2019, by Number of Active Patent Families* STATISTA, www.statista.com/statistics/1032627/worldwide-machine-learning-and-ai-patent-owners-trend (last visited June 22, 2020).

65. Wales, *supra* note 64; *The Race For AI: Here Are the Tech Giants Rushing to Snap Up Artificial Intelligence Startups*, CB INSIGHTS (Sept. 17, 2019), www.cbinsights.com/research/top-acquirers-ai-startups-ma-timeline.

66. This is especially true in the context of consumer-packaged goods, transportation and logistics, which are predominately dominated by big AI companies, unlike retail and financial services industries, *see* James Kossuth & Robert Seamans, *The Competitive Landscape of AI Startups*, HARV. BUS. REV. (Dec. 21, 2018), www.hbr.org/2018/12/the-competitive-landscape-of-ai-startups; James Bessen, Stephen M. Impink, Robert Seamans & Lydia Reichensperger, *The Business of AI Startups* (B.U. Sch. L., L. Econ. Res. Paper, Working Paper No. 11-2018).

67. According to a report order by IBM, in 2018, 37.5% of the worldwide market revenue share was held by eight AI companies, and 62.5% by other companies. *See*, IDC, *Artificial Intelligence (AI) Market Revenue Share Worldwide in 2018, by Vendor* STATISTA, www.statista.com/statistics/1065171/ai-market-share-worldwide-by-vendor (last visited June 22, 2020).

68. *See*, *e.g.*, *AI: 15 Key Moments in the Story of Artificial Intelligence*, BBC, www.bbc.com/timelines/zq376fr (last visited Oct. 25, 2020); Ganesh Sitaraman, *Too Big to Prevail*, FOREIGN AFF. (April 2020), www.foreignaffairs.com/articles/2020-02-10/too-big-prevail.

69. *Google Leads in the Race to Dominate Artificial Intelligence*, THE ECONOMIST (Dec. 17, 2017), www.economist.com/business/2017/12/07/google-leads-in-the-race-to-dominate-artificial-intelligence.

70. Michelle Evans, *Artificial Intelligence is Expected to be the Most Impactful Technology on Commerce*, FORBES (Jan. 16, 2019), www.forbes.com/sites/michelleevans1/2019/01/16/artificial-intelligence-is-expected-to-be-the-most-impactful-technology-on-commerce/#51ce92dd3b23. The number of AI patent application has consistently grown from 2008 to 2018 with 22,913 patents to 78,085, respectively. *See* IPlytics GmbH, *Number of Artificial Intelligence (AI) Patent Applications Worldwide from 2008 to 2018*, STATISTA,

power to a limited number of players, regardless of their size,[71] is worrisome. All of this leads to the claim that "[a]lready, AI talent is concentrated in the hands of a few large firms"[72] and a strict liability regime will only make the situation worse. This Article aims to refute this claim, and we turn to these arguments in the following Part.

III. WHY STRICT LIABILITY WILL NOT LEAD TO AI MONOPOLIZATION

A. Lack of Substantial Connection

There is no substantial connection between a strict liability regime and AI monopolization. This is evident when one considers that, despite the fact that a strict liability regime applies to many dangerous activities in different markets, none of these markets were monopolized by an exclusive number of companies, and many companies are able to enter, operate, and compete in these markets. Examples of this can be found in *abnormally dangerous activities*,[73] such as blasting,[74] gasoline explosions,[75] fireworks injuries,[76] the usage of toxic materials,[77] and more.[78] Strict liability also applies to

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www.statista.com/statistics/1007843/number-of-ai-patent-applications-worldwide (last visited June 23, 2020)). It is also predicted that by 2025 the AI software market worldwide will yield revenues amounting to almost $120 billion. More than 40% of these revenues will be generated in North America. *See*, Tractica, *Revenues from the Artificial Intelligence Software Market Worldwide from 2018 to 2025, by Region (in Billion U.S. Dollars)* STATISTA, www.statista.com/statistics/721747/worldwide-artificial-intelligence-market-by-region (last visited June 23, 2020).

71. It is important to note that small AI startups are more attractive to mid-sized firms who cannot purchase services from big AI companies. *See* Kossuth & Seamans, *supra* note 67 ("Startups selling commercial AI applications also play a unique role providing solutions to mid-sized companies who can't afford to develop their own AI. The large companies making big AI investments largely invest for their own use. But these projects often require large fixed investments. Because of this, small and mid-sized companies cannot afford to make comparable investments and they often lack the IT talent to do so in any case. AI startups can meet the needs of these companies.").

72. Bathaee, *supra* note 10, at 930.

73. RESTATEMENT (THIRD) OF TORTS: LIABILITY FOR PHYSICAL & EMOTIONAL HARM § 20(b)(1)-(2) (AM. LAW INST. 2010).

74. *See*, *e.g.*, Spano v. Perini Corp., 250 N.E.2d 31 (N.Y. 1969).

75. Nat'l Steel Serv. Ctr, Inc. v. Gibbons, 319 N.W.2d 269 (Iowa 1982).

76. Klein v. Pyrodyne Corp., 810 P.2d 917 (Wash. 1991).

77. Luthringer v. Moore, 190 P.2d 1 (Cal. 1948). *See also* Loe v. Lenhardt, 362 P.2d 312 (Or. 1961); In re Hanford Nuclear Reservation Litig., 534 F.3d 986 (9th Cir. 2008) (amended opinion); Ind. Harbor Belt R.R. v. Am. Cyanamid Co., 916 F.2d 1174 (7th Cir. 1990).

78. Recent articles have called to recognize hydraulic fracturing (fracking) as an abnormal dangerous activity. *See e.g.*, Leonard S. Rubin, *Frack to the Future: Considering a Strict Liability Standard for Hydraulic Fracturing Activities*, 3 GEO. WASH. J. ENERGY & ENVIRO. L. 117 (2012). This notion was declined by the state of Kansas in Williams v. Amoco Prod. Co., 734 P.2d 1113 (Kan. 1987).

ownership of wild animals.[79] Yet none of these industries suffers from highly-concentrated markets despite being subject to a strict liability regime.

In the blasting industry, for example, no small group of companies dominates the market. In 2019, 39.5% of the U.S. industry revenue was held by three major companies, whereas other minor players accounted for the remaining 60.5%.[80] The chemical products market is unconcentrated, "with the top two players accounting for less than 5.0% of total industry revenue in 2019."[81] Hazardous waste collection also has a limited concentration, with only 12.5% of the market held by three major players.[82] Further, many private companies and individuals in the U.S. own wild animals, as it is legal in many states.[83] This activity was not dominated by big companies over time, despite being subjected to a strict liability regime.[84]

On the other hand, the nuclear power industry in the U.S. does have a concentrated market – 69.6% of the revenue in 2019 came from three major players in the industry.[85] Furthermore, "over the coming years, market share concentration is anticipated to increase as

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79. *See e.g.*, James H. Donaldson, *Liability Arising from Owning or Harboring Animals*, 36 INS. CONSUL J. 268 (1969).

80. Kush Patel, *Explosives Manufacturing in the US - Competitive Landscape*, IBIS WORLD (Dec. 2019), my.ibisworld.com/download/us/en/industry-archives/502/0/0/pdf/d728ca04-313f-433c-83b9-6147cff9938c.

81. Griffin Holcomb, *Chemical Product Manufacturing in the US – Competitive Landscape,* IBIS WORLD (Aug. 2019), my.ibisworld.com/download/us/en/industry-archives/503/0/0/pdf/3f726d8b-b765-48a4-8a9b-bdd445e7ebac.

82. Nick Masters, *Hazardous Waste Collection – Competitive Landscape*, IBIS WORLD (July 2019), my.ibisworld.com/us/en/industry-specialized/od5031/competitive-landscape.

83. James Jeffrey, *Does the US have a Pet Tiger Problem?*, BBC NEWS (Jun. 11, 2018), www.bbc.com/news/world-us-canada-44444016; Robin Micheli, *Exotic Pets: A Growing American Fad*, CNBC (Feb. 13, 2014), www.cnbc.com/2014/02/10/american-fad.html; Kevin Loria, *Armed Police Freed 11 Tigers, 3 Lions, and 3 Bears from Captivity — and That Was Just the Beginning*, BUS. INSIDER (Mar. 17, 2016), www.businessinsider.com/armed-police-freed-tigers-lions-and-bears-from-captivity-2016-3; See *Map of Private Exotic Pet Ownership Laws*, ANIMAL LEGAL & HIST. CTR., www.animallaw.info/content/map-private-exotic-pet-ownership-laws (last visited Mar. 1, 2021).

84. *See* Karin Brulliard, *The Problem with Exotic Animal Ownership in America*, INDEPENDENT (August 7, 2019), www.independent.co.uk/news/long_reads/science-and-technology/exotic-animal-us-ownership-america-tigers-a9011071.html.

85. Kusk Patel, *Nuclear Power in the US – Competitive Landscape*, IBIS WORLD 3 (Sept. 2019), my.ibisworld.com/download/us/en/industry-archives/1911/0/0/pdf/d0c01c05-be96-402c-a14d-04aae181589e. Dominion Energy Inc. (Market Share: 31.7%); Exelon Corporation (Market Share: 31.5%); and Entergy Corporation (Market Share: 6.4%).

the US government grants permits to existing players that have experience owning and operating a nuclear plant."[86] Thus, barriers to market entry in abnormally dangerous industries are not necessarily created by strict liability. Rather, barriers can be erected if the government prefers to further invest in companies with proven experience.

One might argue that there is a more significant connection between monopolization and a strict liability regime in new emerging technology industries, at least as compared to the more "traditional" fields discussed above. After all, companies with vast resources can invest in new technologies, such as AI, more effectively than their smaller peers because they can afford to wait out the long research and development phase these companies go through prior to their successful entrance to the market.[87] Furthermore, in emerging technologies, unlike the nuclear power industry, there is little advantage to having experience in the field. Therefore, other factors, foreign to the applicable liability regime, may influence the monopolization of a given field.

As is evident from the discussion above about AI monopolization, it is hard to successfully establish the claim that strict liability erects significant barriers to entry in the AI market. Scholars and politicians, both in the U.S. and abroad, have not reached agreement on which liability regime will best handle AI inflicted-damages. Some advocate for a strict liability regime, while others advocate for a negligence regime,[88] but no decision has been made so far. Thus, given the already high levels of monopolization in the AI industry, it is difficult to claim that applying a strict liability regime on AI-inflicted damages will have a substantial role in producing monopolization. Even if strict liability would contribute to AI monopolization, by the time that regime is implemented by regulators and the courts, it would probably

86. *Id.*

87. *See e.g.*, DAVID F. BECK, SANDIA NAT'L LAB., TECHNOLOGY DEVELOPMENT LIFE CYCLE PROCESSES (2013), prod-ng.sandia.gov/techlib-noauth/access-control.cgi/2013/133933.pdf.

88. For a discussion in favor of strict liability *see e.g.*, Vladeck, *supra* note 12. For a discussion in favor of negligence *see, e.g.*, Bryan Casey, *Robot Ipsa Loquitur*, 108 GEO. L. REV. 225 (2019). For a discussion about safe harbors *see, e.g.*, Rachum-Twaig, *supra* note 14. *See also* Abbott, *supra* note 15; Chagal-Feferkorn, *supra* note 15; Rebecca Crootof, *International Cybertorts: Expanding State Accountability in Cyberspace*, 103 CORNELL L. REV. 565 (2018); Rebecca Crootof, *War Torts: Accountability for Autonomous Weapons*, 164 U. PA. L. REV. 1347 (2016); Hubbard, *supra* note 7, at 1839; Curtis E.A. Karnow, *The Application of Traditional Tort Theory to Embodied Machine Intelligence*, *in* ROBOT LAW 51, 64 (Ryan Calo, A. Michael Froomkin & Ian Kerr, eds. 2016); William D. Smart, Cindy M. Grimm & Woodrow Hartzog, *An Education Theory of Fault for Autonomous Systems* (unpublished manuscript), http://people.oregonstate.edu/~smartw/library/papers/2017/werobot2017.pdf.

be too late to place any significant blame for the concentrated market on the shoulders of a strict liability regime.

Furthermore, a strict liability regime is only a minor factor in creating barriers to enter the AI market. AI companies are already consolidating rapidly even though the strict liability regime is not yet in place. Much more pressing issues include the lack of resources available to small companies, including big databases which are readily available to the "tech giants,"[89] as well as the fast pace of M&A deals.[90] Rejecting strict liability cannot prevent the ongoing process of AI monopolization. Furthermore, holding these companies liable for their AI-inflicted damages can help stabilize the market and raise awareness of the inherently unpredictable nature of AI in a way that will ensure these companies will be held accountable for their actions.

Moreover, it is difficult to use the genetics and biotechnology industries[91] to argue that imposing strict liability on a market tends to cause the monopolization of that market.[92] AI is unique because it is difficult to develop AI without big data sets.[93] This may explain why corporations – such as Verizon – purchase failed companies like AOL and Yahoo, who have large volumes of data collected over years of activity.[94] For Verizon and others, these big datasets are a

89. Daniel Faggella, *The AI Advantage of the Tech Giants: Amazon, Facebook, and Google*, EMERJ (Dec. 1, 2019), www.emerj.com/ai-executive-guides/ai-advantage-tech-giants-amazon-facebook-google.

90. In 2010, only eight AI start-up companies were purchased worldwide as opposed to 166 in 2018. *See* CB Insights, *Number of Artificial Intelligence (AI) Start-Up Company Acquisitions Worldwide from 2010 to 2019* STATISTA, www.statista.com/statistics/875352/worldwide-artificial-intelligence-startup-acquisitions (last visited Oct. 28, 2020) (stating that the number of M&A deals in this industry grew by 38% from 2016 to 2017 and elaborating on recent M&A deals).

91. *See supra* note 29.

92. It is important to note there is an inherent difference between comparing specific industries, as is done here, and comparing activities with a court-made doctrine, as was done in the beginning of the Part with regards to the doctrine of abnormally dangerous activities. The fact that it is a court-made doctrine provides more flexibility to draw parallels than specific industries do using common law interpretations.

93. EXEC. OFFICE OF THE PRESIDENT, NAT'L SCI. & TECH. COUNCIL, COMM. ON TECH., PREPARING FOR THE FUTURE OF ARTIFICIAL INTELLIGENCE (2016), obamawhitehouse.archives.gov/sites/default/files/whitehouse_files/microsites/ostp/NSTC/preparing_for_the_future_of_ai.pdf.

94. Yahoo has been active since 1994, and AOL since 1991. Mathew Ingram, *Here's Why Verizon Wants to Buy Yahoo So Badly*, FORTUNE (Apr. 19, 2016), www.fortune.com/2016/04/19/verizon-yahoo; Hamza Shaban, *It's Official: Verizon Finally Buys Yahoo*, WASH. POST (Jun. 13, 2017), www.washingtonpost.com/news/the-switch/wp/2017/06/13/its-official-verizon-finally-buys-yahoo; Seth Fiegerman, *Yahoo and AOL Will Form New Company Called . . . Oath*, CNN BUS. (Apr. 3, 2017), money.cnn.com/2017/04/03/technology/verizon-yahoo-aol-oath/index.html.

prerequisite to partaking in the AI industry. In other words, the AI industry has inherent barriers to entry. The best way to deal with these barriers is a combination of antitrust laws, which are the main regulatory avenue for preventing monopolization,[95] and strict regulations of how big companies collect, use, and purchase data.[96]

Industries subject to strict liability regimes may be dominated by a few companies for reasons unrelated to the nature of the strict liability regime. These reasons include the high costs of complying with the law and the potentially large burden of paying for all tort damages caused.[97] Companies may have to expand vast amounts of resources on lawyers and legal consultants in order to ensure compliance with the applicable regulation in their field,[98] especially in today's international commercial markets.[99] The high compliance costs in markets that are considered to be dangerous to individuals and society may explain the existence of barriers to enter some fields, such as the gaming industry,[100] pharmaceutical markets,[101] and manufacturing industries.[102]

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95. For example, by enforcing a definitive and different level of care on big AI companies that gather data exponentially, rather than linearly, the regulator can better prevent the monopolization of data and the market. This is because it will diminish the capability of these big companies to bypass other companies in the market. *See e.g.*, Alina Tugend, *Fervor Grows for Regulating Big Tech*, N.Y. TIMES (Nov. 11, 2019), www.nytimes.com/2019/11/11/business/dealbook/regulating-big-tech-companies.html; Singer, *supra* note 61; Kiran Stacey, *How Washington Plans to Regulate Big Tech*, FIN. TIMES (Jan. 6, 2019), www.ft.com/content/8aa6680e-f4e2-11e8-ae55-df4bf40f9d0d.

96. This can be done via a combination of antitrust law and privacy law, such as Balkin's concept of information fiduciaries, *see* Jack M. Balkin, *Lecture, Information Fiduciaries and the First Amendment*, 49 U.C. DAVIS L. REV. 1183, 1205 (2016); Jack M. Balkin, *Essay, Free Speech in the Algorithmic Society: Big Data, Private Governance, and New School Speech Regulation*, 51 U.C. DAVIS L. REV. 1149, 1160–63 (2018). For an opposing view, *see generally* Lina M. Khan & David E. Pozen, *A Skeptical View of Information Fiduciaries*, 133 HARV. L. REV. 497 (2019).

97. This refers to situations in which a court order awarded a plaintiff a sum of money. This award can be indemnified by insurance companies, as will be explained in Part III.2.

98. Reinier H. Kraakman, *Corporate Liability Strategies and the Costs of Legal Controls*, 93 YALE L.J. 857, 887 (1984).

99. *See, e.g.*, Michelle Egan & Helena Guimarães, *Compliance in the Single Market*, 14 BUS. & POL. 1 (2012); Andrew T. Guzman, *A Compliance-Based Theory of International Law*, 90 CALIF. L. REV. 1823 (2002).

100. *See generally* John K. Maloney, *Global Gaming Compliance*, 8 GAMING L. REV. 119 (2004) (discussing compliance issues in the gaming industry).

101. *See generally* Laurent Granier & Sébastien Trinquard, *Mergers and Barriers to Entry in Pharmaceutical Markets* (LASER Working Papers, 2007.21, 2007).

102. *See generally* Thomas J. Dean & Robert L. Brown, *Pollution Regulation as a Barrier to New Firm Entry: Initial Evidence and Implications for Future Research*, 38 ACAD. MGMT. J. 288 (1995) (discussing the effects pollution regulation may have on a variety of manufacturing industries).

This is less true in the context of AI, given the small number of regulations applicable to AI companies.[103] These limited regulations align with the declared mission of the U.S. to encourage innovation and growth in the AI industry,[104] and to maintain its leadership[105] in this field.[106] Nonetheless, there still may be high compliance costs despite the regulatory void, as AI companies must proactively invest resources to guarantee they are not exposed to liability issues for potential damages their products or services may cause. Given this lack of legislation and the uncertainty it creates, companies are obligated to seek legal advice at every step along the way. This is expensive and such costs raise further barriers to entering this field.

B. Insurance as a Mediation Tool

The beginning of this Article presented the argument that bigger and stronger companies inherently possess a greater capability to purchase "insurance to cover" injuries caused by AI.[107] However, bigger and stronger companies do not have a monopoly over the ability to purchase insurance. Small companies can also signal to their customers that they are able to provide remedies should an accident occur. They can do this via their insurance policies.[108]

This section will begin by examining the role of insurance and how it can benefit emerging industries. It next explains why moral hazard is not a substantial concern, and it concludes with some observations for what AI insurance policies might look like.

1. The Role of Insurance in Emerging Industries

Insurance law is an important tool for managing commercial and personal risks. It enables companies, big and small, to invest in

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103. Though much has been discussed, little has been regulated. *See* Kate Crawford & Jason Schultz, *AI Systems as AI State Actors*, 119 COLUM. L. REV. 1941, 1970 (2019); MEREDITH WHITTAKER, ET AL., AI NOW INST., AI NOW 2018 REPORT 39–40 (2018), ainowinstitute.org/AI_Now_2018_Report.pdf.

104. RUSSELL T. VOUGHT, ACTING DIR., OFFICE OF MGMT. & BUDGET, DRAFT MEM. FOR THE HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES, GUIDANCE FOR REGULATION OF ARTIFICIAL INTELLIGENCE APPLICATIONS (2020), www.whitehouse.gov/wp-content/uploads/2020/01/Draft-OMB-Memo-on-Regulation-of-AI-1-7-19.pdf.

105. Maintaining American Leadership in Artificial Intelligence, 84 Fed. Reg. 3967 (Feb. 11, 2019).

106. Kathleen Walch, *Why the Race For AI Dominance Is More Global than You Think*, FORBES (Feb. 9, 2020), www.forbes.com/sites/cognitiveworld/2020/02/09/why-the-race-for-ai-dominance-is-more-global-than-you-think/#79b831ea121f.

107. *See supra* Part II.1.

108. For more on insuring robotic devices see Andrea Bertolini, *Insurance and Risk Management for Robotic Devices: Identifying the Problems*, 16 GLOBAL JURIST 291 (2016).

research and development and further explore fields characterized by high levels of uncertainty, such as emerging technologies, without constantly fearing bankruptcy.

Since the industrial revolution, emerging technologies have increasingly been a cause for concern. Many scholars have discussed the connection and great influence these technologies had on the evolution and role of tort law.[109] However, insurance law is also an important and often overlooked tool in this context. It enables, for example, the growth and development of emerging technologies despite their inherent risks. This is of great value in the context of the AI industry, given that a strict liability regime will not necessarily stifle innovation in light of the merits insurance law can offer to all companies, regardless of their size.

Like other emerging technologies, such as biotechnology, nanotechnology, and synthetic biology,[110] scientific uncertainty is inherent in AI. This uncertainty may create "fear and concern among members of the public and public interest groups ... and produces a problematic environment for industry plans for investment and development."[111] This fear may lead courts and regulators to apply a strict liability regime on AI-inflicted damages in an attempt to incentivize safer usage and production of these products and services. This phenomenon is not unique to the AI context, but it certainly is more pervasive there than in other emerging technology contexts.[112] Insurance law can help alleviate and mitigate this uncertainty by providing an actuarial instrument to hedge the risks associated with AI, all the more so when a strict liability regime is in effect. The utilization of insurance law can enable small companies to invest their resources and capital in the AI market, even if they will be held strictly liable when damages occur. In this sense, insurance can be used as an instrument to level the playing field upon which big and small AI companies operate.

One caveat, however, is that scientific uncertainty surrounding AI will likely at first lead to higher policy premiums, because insurers still do not have enough data to completely understand the actuarial calculation of the risks associated with AI. Insurers offering insurance to AI companies will be taking an immense risk, so they will likely limit their own obligations to their AI industry policyholders. This will

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109. Lyndon, *supra* note 27; Mandel, *supra* note 27; Graham, *supra* note 27; Donald G. Gifford, *Technological Triggers to Tort Revolutions: Steam Locomotives, Autonomous Vehicles, and Accident Compensation*, 11 J. TORT L. 71, 128 (2018).

110. Mandel, *supra* note 27, at 77.

111. *Id.* at 80.

112. *See, e.g.*, DEYI LI & YI DU, ARTIFICIAL INTELLIGENCE WITH UNCERTAINTY (2d ed., 2017); UNCERTAINTY IN ARTIFICIAL INTELLIGENCE (David Heckerman & Abe Mamdan eds., 1993).

lead to high premiums, which may only be financially feasible for big companies.[113] This was the case when cybersecurity insurance first emerged, offering companies insurance policies with respect to their "information security and privacy liability, and business interruption."[114]

Nonetheless, this problem will likely be solved as the life cycle of AI as a commodity progresses. The data gathered from entire fleets of AI companies and their products, such as autonomous vehicles, drones, security robots, and hiring algorithms, can help mitigate this actuarial problem over time.[115] This data will enable insurers to better estimate and understand the risks associated with AI, in turn leading to lower premiums that are more affordable and accessible to smaller AI companies. As AI entities gain more experience and generate more valuable data, insurers can establish risk-adjusted premiums for each AI entity and its activities.[116] Thus, even though policies covering AI activities will be less financially available to small companies, insurance can still be a beneficial hedging tool to these companies.

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113. *See e.g.*, Asaf Lubin, *Public Policy and the Insurability of Cyber Risk*, 6 J.L. TECH. TEX. (forthcoming 2021) (manuscript at 18). These are the atypical early claims which refer to situations in which the initial cases of accidents caused by a new emerging technology may be very different than latter cases after the technology has matured. This leads to different premium rates over time. In the context of tort law, *see* Graham, *supra* note 27, at 1243.

114. Ram Shankar, Siva Kumar & Frank Nagle, *The Case for AI Insurance*, HARV. BUS. REV. (Apr. 29, 2020), www.hbr.org/2020/04/the-case-for-ai-insurance.

115. Especially data which is already available to them via the underwritten process of big AI companies. Insurers will use the power of AI to do so. *See*, *e.g.*, Ramnath Balasubramanian, Ari Libarikian & Doug McElhaney, *Insurance 2030—The Impact of AI on the Future of Insurance*, MCKINSEY & CO. (Apr. 30, 2018), www.mckinsey.com/industries/financial-services/our-insights/insurance-2030-the-impact-of-ai-on-the-future-of-insurance; MICHAEL NAYLOR, INSURANCE TRANSFORMED – TECHNOLOGICAL DISRUPTION (2017); Kevin H. Kelley et al., *Artificial Intelligence: Implications for Social Inflation and Insurance*, 21 RISK MGMT. & INS. REV. 373, 374 (2018) ("insurance companies will apply AI to greatly enhance large data analytics, evolve algorithms with transactional data faster, and combine data in new ways to discover better underwriting risks and appropriately price the risk of various insured's based on the true value of their business risk"); Ronald Richman, *AI in Actuarial Science*, ACTUARIAL SOC'Y 2018 CONVENTION, CAPE TOWN, OCT. 24–25 2018 (2018). *See also*, Sam Lewis, *Insurtech: An Industry Ripe for Disruption*, 1 GEO. L. TECH. REV. 491 (2017); Yehonatan Shiman, *Expected Bad Moral Luck*, 25 CONN. INS. L.J. 117, 153 (2018); Lin Lin & Christopher Chen, *The Promise and Perils of InsurTech*, SING. J. LEGAL STUD. (forthcoming 2020).

116. Geistfeld discussed this in the context of autonomous vehicles. *See* Mark A. Geistfeld, *A Roadmap for Autonomous Vehicles: State Tort Liability, Automobile Insurance, and Federal Safety Regulation*, 105 CALIF. L. REV. 1611, 1659 (2017). Geistfeld discusses the ability of this disclosed "risk-adjusted annual premium" as a measurement to satisfy the manufactures obligation to warn about the inherent risk of a crash. *Id.* at 1623.

After a small company enters the AI market, it takes a long time for the company to make its products and services available.[117] Before that time, the company's products and services cannot harm consumers. This lengthy development stage can provide insurance companies with the time they need to acquire actuarial information from big AI companies. By the time the smaller AI companies make their way into the market, insurers may feel more comfortable charging lower premiums. Moreover, this issue is not unique to the AI market. In other emergent technologies, such as cybersecurity, purchasing an insurance policy was at first expensive. Nonetheless, those fields do not suffer from a monopolization problem today,[118] and the cyber insurance market is considered one of the fastest growing.[119] Thus, this inevitable gap may benefit the bigger players at first, but it is unlikely to create an environment in which it is impossible for small companies to enter and compete in the AI market. The next section discusses other means of ensuring that big companies will still have "skin in the game" and will not be completely protected in a way that could prevent smaller companies from entering the market, such as caps and exclusions.

In order for insurers to lower premiums over time, AI companies must be willing to provide data. This may be problematic in cases where AI companies wish to withhold important information about their AI entities, activities and vulnerabilities fearing, *inter alia*, reputational harms.[120] Ideally, insurance should be built in such a way that prevents this from happening. First, as risk-averse profit-based organizations, big and small AI companies would want to purchase some sort of insurance policies to hedge their activities. And second, in order to purchase that policy, they should be required to provide extensive information about their company. Hiding or omitting information would most likely lead to the insurer's rejection of future

117. For the life-cycle of AI *see* John Thomas, *Operationalizing AI — Managing the End-to-End Lifecycle of AI*, MEDIUM (Jul. 19, 2019), www.medium.com/inside-machine-learning/ai-ops-managing-the-end-to-end-lifecycle-of-ai-3606a59591b0; Eric Broda, *Rethinking the AI / Machine Learning Lifecycle for the Enterprise*, MEDIUM (Jun. 11, 2019), www.towardsdatascience.com/rethinking-ai-machine-learning-model-management-8afeaa31d8f8.

118. *Cyber Security Market Size, Share & Trends Analysis Report By Component, By Security Type, By Solution, By Service, By Deployment, By Organization, By Application, and Segment Forecasts, 2020 – 2027*, GRAND VIEW RESEARCH (June, 2020), www.grandviewresearch.com/industry-analysis/cyber-security-market.

119. *See* Conner Forrest, *Why Cybersecurity is the Fastest-Growing Insurance Market for SMBs*, TECHREPUBLIC (Oct. 12, 2018), www.techrepublic.com/article/why-cybersecurity-is-the-fastest-growing-insurance-market-for-smbs.

120. *See, e.g.*, Paula Vene Smith, *Risks That Hide Behind Reputation and Compliance*, RISK & INS. (Nov. 3, 2014), www.riskandinsurance.com/risks-hide-behind-reputation-compliance.

indemnification claims.[121] Thus, it is in these companies' best interest to provide complete and accurate information to ensure future coverage. Alternatively, legislators can set regulations requiring these companies to provide complete and accurate information, even if they do not plan to purchase insurance.[122] This approach, however, is extremely invasive and will most likely raise privacy concerns. Moreover, enabling such wide-ranging data collection requires legislative intervention. Such intervention seems unlikely given its complexity and the difficulty of imposing such a requirement on each state in light of the McCarran-Ferguson Act,[123] according to which the states have the power to regulate "the business of insurance."[124]

2. Moral Hazard Is Not a Substantial Concern

Insurance law will not completely shield AI companies from the damages they cause. This concern is often expressed using the concept of moral hazard.[125] Moral hazard refers to the fact that insurance inherently removes, or at least reduces, the insured's incentives to prevent harm given the coverage they are entitled to from their insurers. In other words, insurance limits the incentive to reduce risk of loss.[126] John Rappaport explains: "moral hazard captures the concern that people will act less carefully when they (or the entities on behalf of which they act) are covered by insurance. Moral hazard need not entail any perniciousness on the part of the

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121. Garry Marr, *Lying on Your Insurance Policy Will Lead to Trouble Come Claim Time*, FIN. POST (July 10, 2012), business.financialpost.com/personal-finance/lying-on-your-insurance-policy-will-lead-to-trouble-come-claim-time.This practice is well-known in the context of health and life insurance. *See, e.g.*, Steve Brozak, *The 5 Things You Should Know When Your Healthcare Claim Is "Denied"*, FORBES (Oct. 26, 2013), www.forbes.com/sites/stephenbrozak/2013/10/26/the-5-things-you-should-know-when-your-healthcare-claim-is-denied/#55b3af7c296e; Jill Insley, *Life Insurance: Missing Details That Could Leave Your Family Penniless*, THE GUARDIAN (Dec. 3, 2012), www.theguardian.com/money/2012/dec/03/life-insurance-missing-details.

122. For more about insurance regulation *see*, CHRISTOPHER C. FRENCH & ROBERT H. JERRY, II, INSURANCE LAW AND PRACTICE – CASES, MATERIALS, AND EXERCISES 783 (2018).

123. McCarran–Ferguson Act, 15 U.S.C. §§ 1011–1015.

124. Article 2(a) to the McCarran–Ferguson Act. *See also*, FRENCH & JERRY, II, *supra* note 123, at 788; Sasha Romanosky, Lillian Ablon, Andreas Kuehn & Therese Jones, *Content Analysis of Cyber Insurance Policies: How Do Carriers Price Cyber Risk?* 5 J. CYBERSECURITY 3 (2019).

125. *See*, *e.g.*, Tom Baker, *On the Genealogy of Moral Hazard*, 75 TEX. L. REV. 237 (1996); Steven Shavell, *On Moral Hazard and Insurance*, 93 Q.J. ECON. 541 (1979).

126. Kenneth J. Arrow, *Uncertainty and the Welfare Economics of Medical Care*, 53 AM. ECON. REV. 941, 961 (1963). For more on Arrow's work *see* Baker, *supra* note 126, at 267–69.

insured. It is a natural consequence of the incentives that the indemnification arrangement creates."[127]

Critics have pointed to moral hazard to argue against the use of insurance since its emergence. In the past, the insurance mechanism was considered a violation of public policy in light of moral hazard.[128] The basic argument against the use of insurance can be reduced into the catch-phrase "less is more."[129] When the "safety-net" which insureds rely on to hedge against loss is reduced, they become more responsible for their own risk – a mechanism that promotes proactive behavior to better protect their interests. This will prevent an undesirable situation in which insureds are able to make net gains from a loss.

The concept of moral hazard and the economics behind it, however, ignore several crucial points that curtail its influence in the insurance context. For example, moral hazard assumes that money can compensate for every loss and the policyholder is in the best position to reduce harm.[130] In the context of driver's insurance, for example, moral hazard theory would hold that drivers are in the best position to avoid accidents and that car crash victims can be made whole financially. However, some injuries, such as bodily or emotional injuries, cannot be compensated by money alone. Additionally, external factors, such as road infrastructure in the context of car accidents, will never be in the control of the policyholders, even if they will be held strictly liable for the damages caused by these external factors.

Moreover, insurers often set certain *exclusions* with regard to collateral damage. These include bodily and emotional harms caused to third-parties or other entities which are far removed from the policyholder. This is a well-known instrument to keep insureds' "skin in the game" and mitigate potential moral hazard risks.[131] For example, if an AI algorithm was used as part of a cyberattack on a hospital, this could lead to vast collateral damage in the form of patient deaths and emotional harm.[132] The insurance company would set exclusions for

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127. Rappaport, *supra* note 129, at 1554.

128. KENNETH S. ABRAHAM, THE LIABILITY CENTURY: INSURANCE AND TORT LAW FROM THE PROGRESSIVE ERA TO 9/11, at 17 (2008); John Rappaport, *How Private Insurers Regulate Public Policy*, 130 HARV. L. REV. 1539, 1553 (2017).

129. Baker, *supra* note 126, at 238.

130. *Id.* at 277–80.

131. JACOB TURNER, ROBOTS RULES: REGULATING ARTIFICIAL INTELLIGENCE IN THE 21ST CENTURY 117 (2018); Omri Ben-Shahar & Kyle D. Logue, *Outsourcing Regulation: How Insurance Reduces Moral Hazard*, 111 MICH. L. REV. 197, 209, 214–16 (2012).

132. For an example consisting of a DDoS attack on Boston Children's Hospital, *see Jury Convicts Man Who Hacked Boston Children's Hospital and Wayside Youth & Family Support Network*, DEP'T OF JUST. (Aug. 1, 2018),

these types of collateral damage to hedge their risks, since they will not be willing or financially able to provide coverage to all possible damages caused from this sort of attack.[133] Therefore, the fear of moral hazards can be, and in practice is, mitigated because policyholders will be on the hook for these excluded damages, giving them some incentives to take precautions.

Insurers also use caps and premiums to mitigate moral hazard and to better incentivize their policyholders to avoid dangerous behavior. *Caps* essentially place limitations on the amount of money that the liability insurer will be obligated to pay in case an accident occurs and damages transpire.[134] This practice is common, for example, in the field of mandatory automobile liability. In Connecticut, the limit is set at $25,000 per person, and $50,000 per accident.[135] While many people voluntarily purchase automobile liability insurance beyond the minimum requirement, many others do not. The *prima facie* justification for setting a low mandatory bar is to allow people from different socio-economic backgrounds to access fundamental services, such as owning and driving a car. The compensation sums, however, are far greater than the minimum requirement in most automobile accidents. Another goal of caps is to incentivize drivers to internalize the fact that their actions may have severe consequences, in the form of monetary sanctions, if they don't take the necessary precautions. Placing a limitation on the amount of money available for compensation from the insurance company, and requiring the compensation for the rest of the damage to come out of the insured's pocket, minimizes the danger of moral hazard.[136] Caps create an environment that guarantees policyholders will be incentivized to prevent damages to the best of their ability.

Along with caps, deductibles and coinsurance can be useful tools to limit moral hazard.[137] Caps, deductibles, and coinsurance make sure insureds have something to lose if they act recklessly and thus

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www.justice.gov/usao-ma/pr/jury-convicts-man-who-hacked-boston-childrens-hospital-and-wayside-youth-family-support.

133. In general, wide scale events, such as global pandemics, nuclear attacks etc. are excluded or capped by insurers. *See infra* note 156.

134. Tom Baker, *Liability Insurance as Tort Regulation: Six Ways that Liability Insurance Shapes Tort Law in Action*, 12 CONN. INS. L. J. 1, 6 (2005).

135. *See Automobile Coverage Information*, ST. OF CONN. INS. DEP'T, portal.ct.gov/CID/General-Consumer-Information/Automobile-Coverage-Information (last visited Mar. 1, 2021).

136. *See, e.g.*, Baker, *supra* note 126.

137. Ben-Shahar & Logue, *supra* note 132, at 208–09; George L. Priest, *A Principled Approach Toward Insurance Law: The Economics of Insurance and the Current Restatement Project*, 24 GEO. MASON L. REV. 635, 648–50 (2017).

incentivizes them to act more carefully to avoid damages and liability claims.[138]

Another tool to mitigate moral hazard is to impose premiums, including risk-based pricing and underwriting premiums. *Risk-based pricing* refers to a situation in which insurers in a competitive market customize policies based on the risk factors of the party wishing to purchase insurance.[139] This type of pricing "provides an incentive for people to do what they can to reduce exposure to liability claims to avoid higher insurance prices in the future."[140] However, this moral hazard mitigation mechanism comes with some flaws. The process of risk-based pricing may lead to discrimination as the algorithms or datasets used may lead to gender and racial bias.[141] This is an issue, because the insured parties are unable to affect or change the potentially discriminatory algorithms. As a result, this insurance mechanism for channeling AI entities' behavior to be safer and transparent falls short.

However, risk-based pricing which accounts for proxies that are within the control of the insured, such as prior accidents and levels of activity, can be an effective tool to incentivize safe behavior as the insured seeks to avoid paying higher insurance premiums. This is also true in the context of AI companies. As the AI market develops and insurers gain more information about the underlying risks, insurers will be able to better match the premiums they offer to the risks their insureds face. Insurers can persuade their policyholders to act in a manner that is safer for them and for their environment. They are incentivized to exert such pressure because safer behavior on the part of their insureds means more profits for them and less reimbursement claims.

Moreover, after a policy has been sold, insurers can adjust the premium based on their experience with that specific party, also

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138. Tom Baker & Rick Swedloff, *Regulation by Liability Insurance: From Auto to Lawyers Professional Liability*, 60 UCLA L. REV. 1412, 1420 (2013).

139. *Id.* at 1419.

140. *Id.*

141. *See, e.g.*, Joy Buolamwini, *Artificial Intelligence has a Problem with Gender and Racial Bias. Here's How to Solve it*, TIME (Feb. 7, 2019), time.com/5520558/artificial-intelligence-racial-gender-bias/; Matthias Speilkamp, *Inspecting Algorithms for Bias*, MIT TECHNOLOGY REVIEW (June 12, 2017), www.technologyreview.com/s/607955/inspecting-algorithms-for-bias/; Gideon Mann & Cathy O'Neil, *Hiring Algorithms are not Neutral*, HARVARD BUSINESS REVIEW (Dec. 9, 2016), hbr.org/2016/12/hiring-algorithms-are-not-neutral; Cathy O'Neil, *Recidivism Risk Algorithms are Inherently Discriminatory*, MATHBABE (Jan. 4, 2017), mathbabe.org/2017/01/04/recidivism-risk-algorithms-are-inherently-discriminatory/; Claire Cain Miller, *When Algorithms Discriminate*, THE NEW YORK TIMES (Jul. 9, 2015), www.nytimes.com/2015/07/10/upshot/when-algorithms-discriminate.html?_r=0; Moritz Hardt, *How Big Data is Unfair*, MEDIUM (Sep. 26, 2014), medium.com/@mrtz/how-big-data-is-unfair-9aa544d739de; Cofone, *supra* note 6.

known as "experience rating."[142] These adjustments signal to the insured the precise safety measurements she can and should take to reduce costs from expected accidents, and therefore, reduce the premium of her policy. This will affect both her level of care and activity in a way that ensures her behavior is safer to her and her surroundings than if these adjustments had not been carried out.[143]

Premiums can also mitigate moral hazard through insurance *underwriting*, or "the process of evaluating which risks to insure and at what price."[144] This tool is presented separately from risk-based pricing because insurance underwriting allows insurers to collect and provide loss prevention information to the insured *ex ante*, and will not be reflected in price differentials. The decision whether to implement the loss prevention recommendations in their actions will be left up to the insured's discretion. It may be assumed that as risk-averse players, they will want to receive credible loss prevention advice from their insurers, but the ultimate decision is up to them. Therefore, this is a softer tool than risk-based pricing, but it still has the capability to channel the insured's behavior, even though it has less immediate consequences on the premium price. This is particularly true in the context of new emerging technologies, such as AI, because insureds desire loss prevention information in a field that is rather new and unpredictable.

As is evident from the discussion above, insurance as an institution can proactively mitigate the fear of moral hazard by using the terms of its policies as a tool to regulate and channel the behavior of its policyholders. In this way, insurance companies encourage their insureds to proactively prevent damages if they possess the capability to do so. Inherently, insurers influence the behavior of insureds by acting as quasi-regulators.[145] This general idea was referred to by Kenneth Abraham as the "governance conception" of insurance.[146] This concept states that "in some settings, insurance functions like government by influencing policyholders' conduct and protecting them against misfortune," i.e. insurance as a surrogate for

142. Ben-Shahar & Logue, *supra* note 132, at 206.

143. For more on when these measurements will be adopted with regards to care level and activity level, *see id.* at 207–08.

144. Baker & Swedloff, *supra* note 139, at 1420. For example, an underwriting process for an automobile insurance policy involves an underwriter reviewing all the information you provided an insurer, including your driving history, your vehicle accident history etc. This review enables the underwriter to decide if a policy can be issued for you and for what premium.

145. *See, e.g.*, Ben-Shahar & Logue, *supra* note 132, at 199; Baker, *supra* note 135; Baker & Swedloff, *supra* note 139; TURNER, *supra* note 132, at 115.

146. Kenneth S. Abraham, *Four Conceptions of Insurance*, 161 U. PA. L. REV. 653, 683 (2013).

government.[147] The quasi-regulation takes shape when insurance companies incentivize insureds to minimize the risk of harm if they want to be covered by their policy in case of damages.

This claim requires the assumption that insurance companies are in a better position to regulate than traditional regulators. However, this may be a reasonable assumption because insurers have the necessary information to perform such quasi-regulation. The more information insurers have, the better will be at setting premiums, caps, and exclusions.[148] In the context of AI, the information necessary for insurers to be in a position to better regulate is held by various entities.[149] Nonetheless, the invaluable role of insurance companies in commerce is indisputable and unparalleled by any other entity.[150] In other words, insurers are in the best position to gather the necessary information in order to offer insureds certainty in the form of risk-based premiums.

This data collection may take time, including the time necessary to be able to offer affordable premiums to small AI companies. Eventually, though, by using their unique instruments, size, and ability to distribute risks, insurers will be in a better position to regulate and channel the insured parties' behavior. In order to insure a specific risk or loss, such as AI risks, insurers must be confident in (1) their ability to distribute the risk (i.e. risk shifting) and (2) that they are operating in a field large enough to make risk-pooling viable, as "grouping a large number of ventures in a pool increases the probability that the losses suffered by all the ventures will be spread over time."[151] Thus, insurers' ability to act as regulators will improve as they gather more data and establish themselves as important institutions in channeling the behavior of players in the AI industry.

Moral hazards – which remain an inherent barrier to the insurance industry and the economics behind it[152] – should not be

147. *Id.* at 684. Abraham also states that insurance plays, "is a means of supporting the social welfare" of the insureds. *Id.* at 686. For the limitations on viewing insurers as governmental entities *see id.* at 686–93.

148. Ben-Shahar & Logue, *supra* note 132.

149. This may also be visible via the lack of insureds' cooperation due to fear of reputation damages. *See* Geistfeld, *supra* note 117.

150. *See generally*, TOM BAKER & KYLE D. LOGUE, INSURANCE LAW AND POLICY: CASES AND MATERIALS (2017).

151. Michelle E. Boardman, *Known Unknowns: The Illusion of Terrorism Insurance*, 93 GEO. L.J. 783, 813 (2005); ROBERT E. KEETON & ALAN I. WIDISS, INSURANCE LAW §1.3 (1988).

152. A different type of moral hazard, which lays behind the scope of this Article, and is worth mentioning, is the experimentations AI companies conduct on large segments of the population without their knowledge and consent in order to enhance AI technology. In the context of facial recognition, see, for example, Anat Lior, *The Technological "Gaydar" – The Problems with Facial Recognition AI*, YALE J.L. & TECH. BLOG (Jan. 11, 2018) yjolt.org/blog/technological-gaydar-problems-facial-recognition-ai.

ignored.[153] Nonetheless, they are not enough of a concern to undermine the insurance industry as a whole or render it obsolete. Moral hazards can be, and in practice are, mitigated by insurers themselves as they are incentivized to encourage their insureds to avoid reckless behavior and prevent loss when possible. Steps taken by insurers and regulators to safeguard against moral hazards will not destabilize the important tool of insurance.

The previous section discussed industries that have low to medium market concentrations even though a strict liability regime applies. Returning to these examples now, it is interesting to note that markets where insurance policies are prevalent generally do not have monopolies. For example, the blasting, chemical products, hazardous waste collection and wild animal industries do not have mandatory insurance schemes.[154] However, many companies and individuals practicing these activities choose to purchase insurance given the risky nature of the industry and the strict liability regime that applies.[155]

One notable exception to this trend is in the domain of nuclear accidents, for which insurance coverage is mandatory, highly

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153. *See* Michael G. Faure, *Economic Criteria for Compulsory Insurance*, 31 GENEVA PAPERS 149, 157 (2006) ("one should remember that with insurance there will always be the moral hazard problem.").

154. Some regulations do exist in respect to hazardous waste collection given its environmental effects. *See e.g.*, Environmental Protection Agency (EPA) legislation in the matter: Standards Applicable to Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities: Liability Coverage, 40 C.F.R. § 264. Florida also provided guidelines with regards to this activity, *see, Liability Insurance Guidelines for Hazardous Waste and Used Oil Transports*, FLA. DEP'T OF ENV'T. PROTECTION (Oct. 18, 2013), www.floridadep.gov/sites/default/files/InsuranceGuidelines_18Oct13.pdf.

155. Many insurers tailor their policies to companies practicing in these industries. For blasting see, for example, *Blasting, Drilling and Demolition Contractors Liability Insurance*, COMPLETE MKTS., www.completemarkets.com/Blasting-Drilling-and-Demolition-Contractors-Liability-Insurance/Storefronts (last visited Feb. 26, 2021); *Blasting Operations*, SKYSCRAPER INS., www.skyscraperinsurance.com/policies/blasting-operations (stating that "Blasting operations have significant liability exposures and often need insurance protection with high limits"). For chemical products see, for example, Rick J Lindsey, *Liability Insurance for Chemical Manufacturing Businesses*, EVOLUTION INS. BROKERS (Aug 26, 2019), www.eibdirect.com/blog/liability-insurance-for-chemical-manufacturing-businesses; *see also Insurance for Chemical Firms - A Formula for Risk Management Results*, LOCKTON, www.lockton.com/chemical-firms. For hazardous waste collection see, for example, Jessica Huneck, *Insurance for the Administrative Support, Waste Management, and Remediation Industry*, TRUSTED CHOICE (Mar. 23, 2020), www.trustedchoice.com/n/56. For wild animals see, for example, *Exotic Animal Liability Insurance*, XINSURANCE, www.xinsurance.com/risk-class/exotic-pets; *see also* Christine G. Barlow, *Exotic Pets May Require Exotic Insurance Solutions*, NU PROP. CASUALTIES 360 (Mar. 2, 2020), www.propertycasualty360.com/2020/03/02/exotic-pets-may-require-exotic-insurance-solutions/?slreturn=20200406201347#.

regulated, and backed by federal funds.[156] The Price-Anderson Act[157] created a three-tier insurance scheme to handle "claims of members of the public for personal injury and property damage caused by a commercial nuclear power plant accident."[158] The nuclear industry has a medium market concentration despite this mandatory scheme (69.6% is held by major players in the industry). However, it is difficult to draw many inferences from this domain: given the wide-ranging implications and damages a nuclear accident can cause, the industry cannot rely on insurance companies alone[159] and therefore the government intervenes to take the role of a reinsurer.[160]

3. How Insurance Policies Covering AI Should Look

This final section explores the forms that AI insurance policies should take. It begins by examining the features such policies should contain, predicting which risks they will initially cover, and discussing how insurers might go about drafting policies.

AI companies should be able to purchase third-party insurance policies that incorporate liability caps on the amounts for which they would be indemnified against liability.[161] These policies should also include certain exclusions that gradually narrow as the activities carried out by AI entities become clearer and more predictable over time. The exact details of these policies will require risk-based pricing, and a meticulous underwriting process, to better tailor policies to mediate the risks of moral hazard, while still enabling AI companies to innovate and compete.

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156. *Insurance Coverage for Nuclear Accidents*, INSURANCE INFO. INST. (Mar. 17, 2011), www.iii.org/article/insurance-coverage-nuclear-accidents.

157. Atomic Energy Damages Act (Price-Anderson Act), Pub. L. No. 85-256, 71 Stat. 576, 42 U.S.C. § 2210 (2012).

158. *Backgrounder on Nuclear Insurance and Disaster Relief*, U.S. NUCLEAR REG. COMMISSION, www.nrc.gov/reading-rm/doc-collections/fact-sheets/nuclear-insurance.html (last visited Feb. 26, 2021).

159. *See* Boardman, *supra* note 152, at 792–93.

160. The Reinsurance Association of America describe reinsurance as "insurance for insurance companies." Reinsurance is meant to limit the risk of the total loss of insurance companies by limiting its exposure to large events of disasters, *see* REINSURANCE ASS'N OF AMERICA, www.reinsurance.org (last visited Feb. 26, 2021). It is highly disputed if reinsurance, especially federal one, should be adopted by the AI market. Further delving into this exceeds the scope of this Article, which focuses on the interaction of insurance law as a mediation tool with respect to AI monopolization.

161. It is also possible that AI consumers or operators will decide to purchase first-party insurance policies to further hedge their risks for their purchased AI entities. However, this discussion exceeds the scope of this Article, which focuses on the opportunities which stand in front of small AI companies.

At its heart, an insurance policy is a contract between the insurer and the insured.[162] As such, it is important to clarify and identify the types of risks and perils that will be covered by the contract. Some of the harms caused by AI entities will overlap with harms covered by other types of policies,[163] such as property and workers compensation policies, as well as the emerging cyber insurance market.[164] For example, the covered damages in cyber insurance policies broadly include "information security and privacy liability, and business interruption."[165] So cyber insurance will likely cover instances of data leakage and model theft. It will not, however, cover all damage inflicted by AI entities. Most importantly, cyber insurance is not likely to offer coverage for bodily harms, brand damage, discriminatory decisions made by algorithms, or property damage caused by AI entities, as they are not directly related to data breaches or abuse.[166] Therefore, it seems that the AI insurance market will first focus its efforts mostly on these types of harms – bodily injuries and property damage – as it offers policies meant to cover actions carried out by AI entities. It will likely offer expanded coverage over time as more categories of perils potentially inflicted by AI entities are established.[167] Cyber insurance and other similar policies will operate as complementary mechanisms for damages inflicted by AI.

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162. Abraham, *supra* note 147, at 658; Lubin, *supra* note 114, at 30. The nature of the policy as a contract can also be valuable in that it provides a definitive party responsible for indemnification. Thus, minimizing the pervasive inquiry as to who should pay within the AI manufacturing pipeline – the party who has insurance. *See, e.g.*, Lior, *supra* note 16, at 1087.

163. For a visual explanation of this notion in the cyber-insurance context *see* OECD, *Enhancing the Role of Insurance in Cyber Risk Management* (2017), read.oecd-ilibrary.org/finance-and-investment/enhancing-the-role-of-insurance-in-cyber-risk-management_9789264282148-en#page10.

164. *See* Forrest, *supra* note 120.

165. Shankar, Kumar & Nagle, *supra* note 115.

166. A common question that may arise here, or anywhere else in this Article, is how much of a difference will there ultimately be between applying a strict liability regime with insurance, versus a negligence regime in terms of which kinds of costs are internalized by the AI company. In other words, is there a possibility that obtaining insurance policies will ultimately undercut many of the benefits of a strict liability regime. This is an important question that lies beyond the scope of this Article. However, it is important to note that in practice there is still a significant gap between applying a strict liability regime with insurance versus a negligence scheme. The main gap lies in the administrative costs associated with litigating negligence claims as oppose to more quick and efficient interactions between insureds and insurers. Also, strict liability is viewed as focused on adjusting the level of activities, even when an insurance policy is available, whereas a negligence regime focuses on the level of care. These elements have significant influence on the internalization process of AI companies. For more on this see, for example, Alexander B. Lemann, *Coercive Insurance and the Soul of Tort Law*, 105 GEO. L.J. 55 (2016); Steven Shavell, *Liability for Accidents*, HANDBOOK OF LAW AND ECONOMICS 139, 146–47 (2007).

167. *See* Shankar, Kumar & Nagle, *supra* note 115.

Not all AI entities are the same, and they should not be treated as such.[168] For example, damages inflicted by autonomous vehicles are inherently different than those inflicted by smart vacuum cleaners.[169] The nature, capabilities, and goals of each AI entity should be taken into account as part of the underwriting process to ensure an accurate premium will be set based on the AI entity's risk level. This should be rather similar to the underwriting process done today, which takes into account specific details about the user or operator and, more importantly, about the used or operated tool itself. For example, in the context of automobile insurance, insurers inquire about the model of the car, the year it was manufactured, previous accidents, regular maintenance, and so on.[170] Similarly, traits specific to the field in which the AI operates should be used to tailor policies for AI entities.

It is important to note that in some cases, small AI companies will likely become insolvent if they decide to pursue opportunities that will inflict damage in excess of the resources they possess. Unlike big AI companies, small AI companies that make risky choices and fail may incur liabilities that exceed their assets. In these cases, these small companies may decide not to purchase insurance policies because they have nothing to lose. This scenario will likely lead to a market failure in which these small companies cannot compensate victims for the damages they inflict because they lack the necessary resources to do so. In these situations, it is desirable to set a mandatory insurance mechanism.[171] This protects victims and ensures that small companies will not cause damage they cannot pay for.[172]

In the context of AI monopolization, insurance law has significant value, allowing society to reap the benefits of a strict liability regime without the danger of stifling innovation. It enables small companies to purchase insurance policies that hedge most of the risks associated with AI, similar to the way the automobile insurance industry enables large segments of society to purchase and drive a car.[173] When equipped with the limited safety net provided by insurers, these small AI companies will be able to take risks and further develop their AI-

168. *See* Lior, *supra* note 8.

169. Rebecca Crootof, *The Internet of Torts: Expanding Civil Liability Standards to Address Corporate Remote Interference*, 69 DUKE L.J. 583, 607-08 (2019).

170. *See, e.g.*, *Getting Car Insurance: Which Documents Do You Need?*, CARDIRECT (Jun. 13, 2013), www.carsdirect.com/car-insurance/getting-car-insurance-which-documents-do-you-need; Kayda Norman, *Car Insurance Quotes: What You Need to Know*, NERDWALLET (Feb. 19, 2020), www.nerdwallet.com/blog/insurance/instant-car-insurance-quotes-online.

171. Lemann, *supra* note 167.

172. Faure, *supra* note 154, at 150.

173. *See Automobile Coverage Information, supra* note 135 and accompanying text.

based technologies. This will help smaller AI companies to compete with larger ones by minimizing the risk of bankruptcy.[174]

These insurance policies will not cover every imaginable risk posed by AI companies. Some risks will be excluded via caps, exclusions, or risk-based premiums. However, insurance is not meant to provide a complete guarantee, but only a much-needed margin of safety for these companies. It covers enough to allow firms to compete and operate in the market, but does not cover so much as to make them oblivious to the negative results of their actions. Insurance is not a panacea for the financial burdens of strict liability, but it does allow AI companies to compete where strict liability applies, regardless of their size.[175]

IV. CONCLUSION

Big tech companies already have a strong hold over the AI industry.[176] This is the result of many factors, including these companies' ability to draw talent, the vast data pools they were able to collect over the years, and the fact that they possess more financial resources.[177]

Some argue that a strict liability regime may aggravate this monopolization process by erecting greater barriers to enter the market for small companies. Companies that lack the necessary resources may wish to completely avoid entering this market if they will be held strictly liable for damages that are bound to occur given the nature of this new disruptive technology.[178] However, as this Article demonstrated, this argument is not a sufficient justification for

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174. "Insurance is a fundamental tool to enable technology transfer from research to the market and the creation of a new industry." Bertolini, *supra* note 109, at 311.

175. A pragmatic question is raised given the strong lobbying power AI companies possess around the world, and especially in the US. *See* Olivia Solon & Sabrina Siddiqui, *Forget Wall Street – Silicon Valley is the New Political Power in Washington*, THE GUARDIAN (Sep. 3, 2017), www.theguardian.com/technology/2017/sep/03/silicon-valley-politics-lobbying-washington. Insurers as 'repeat players' in litigation can be of immense help in ensuring AI companies will pay for the damages they cause, despite their vast power over the legislative branch (for more on insurers as 'repeat players' see Daniel Schwarcz, *Redesigning Consumer Dispute Resolution: A Case Study of the British and American Approaches to Insurance Claims Conflict*, 83 TUL. L. REV. 735, 765 (2009); Jay M. Feinman, *Incentives for Litigation or Settlement in Large Tort Cases: Responding to Insurance Company Intransigence*, 13 ROGER WILLIAMS U. L. REV. 189, 191 (2008)).

176. *See* Marc Botha, *The 15 Most Important AI Companies in the World*, TOWARDS DATA SCIENCE (Jan. 28, 2019), www.towardsdatascience.com/the-15-most-important-ai-companies-in-the-world-79567c594a11.

177. *See* Faggella, *supra* note 90.

178. Such as the case of the autonomous car killing a pedestrian in Arizona in March 2018. *See* Griggs & Wakabayashi, *supra* note 2.

rejecting the appropriateness of a strict liability regime in an AI liability context.

Furthermore, there is reason to doubt the alleged relationship between a strict liability regime and AI monopolization. Strict liability isn't the driving factor behind monopolization and insurance law also helps mitigate the trend towards monopolization.

Whether the monopoly that big tech companies have over the AI industry should be regulated and enforced[179] is an important and difficult question beyond the scope of this Article.[180] Rather, this Article argues that we should not reject the application of a strict liability regime as part of these regulatory efforts. It is highly doubtful that rejecting strict liability will provide any significant relief for small companies who wish to enter and thrive in this risky but important market.

179. This question gained traction when the tech leaders of Facebook, Google, Apple and Amazon testified in front of Congress this July. *See, e.g.*, Cecilia Kang & David McCabe, *Lawmakers, United in Their Ire, Lash Out at Big Tech's Leaders*, N.Y. TIMES (Jul. 29, 2020), www.nytimes.com/2020/07/29/technology/big-tech-hearing-apple-amazon-facebook-google.html; Tony Romm, *Amazon, Apple, Facebook and Google Grilled on Capitol Hill over their Market Power*, WASH. POST (Jul. 29, 2020), www.washingtonpost.com/technology/2020/07/29/apple-google-facebook-amazon-congress-hearing.

180. *See, e.g.*, Konstantinos Efstathiou, *Breaking Up Big Companies and Market Power Concentration*, BRUEGEL (Apr. 29, 2019), www.bruegel.org/2019/04/breaking-up-big-companies-and-market-power-concentration; Tony Romm, *Companies Burned by Big Tech Plead for Congress to Regulate Apple, Amazon, Facebook and Google*, WASH. POST (Jan. 17, 2020), www.washingtonpost.com/technology/2020/01/17/companies-burned-by-big-tech-plead-congress-regulate-apple-amazon-facebook-google; Angela Chen, *Regulating or Breaking Up Big Tech: An Antitrust Explainer*, MIT TECH. REV. (Jun. 5, 2019), www.technologyreview.com/s/613628/big-tech-breakup-regulation-antitrust-apple-amazon-google-facebook-doj-ftc-policy.