

# NOTE

## DELEGATING SAFETY: BOEING AND THE PROBLEM OF SELF-REGULATION

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*Investigations into the Boeing 737 MAX 8 crashes in 2018 and 2019 suggest that the aircraft’s deficiencies resulted from Boeing succumbing to market pressures and rushing to production in a bid to compete with Airbus. Critics also faulted the Federal Aviation Administration (FAA) for delegating the testing of the new aircraft to Boeing itself and essentially allowing the company to certify its own plane. This practice—self-regulation—is not new and results in important cost-savings to governments. But is it wise to delegate—or deregulate—regulation itself? Using the FAA and the Boeing crashes as a case study, this Note suggests that safety is distinct from other privatized services and that it cannot be delegated in the way that it currently is. Solutions to flaws in the FAA’s current regulatory scheme are discussed, including tort law, judicial oversight, self-regulatory organizations, internationalization, and increased agency funding for the FAA. Ultimately, this Note concludes that government of some kind is necessary when safety is at stake—in particular in the aviation industry.*

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#### INTRODUCTION: WHEN REGULATORS DELEGATE REGULATION

On October 29, 2018 and March 10, 2019, two Boeing 737 MAX 8 aircraft crashed.<sup>1</sup> The aircraft were new deliveries of Boeing's newest 737 model to Ethiopian Airlines and to Lion Air, an Indonesian airline.<sup>2</sup> These accidents took place half a world and half a year apart, but preliminary reports showed that the planes' final minutes had followed a similar flight pattern before crashing—wherein the pilots fought to maintain altitude before the aircraft nosedived—prompting suspicions that there was a common cause.<sup>3</sup> Investigations soon began into faults in the 737's updated design and into its new onboard computer system (known as MCAS).<sup>4</sup> It was subsequently revealed that MCAS served to compensate

<sup>1</sup> Hannah Beech & Muktitu Suhartono, *Between Two Boeing Crashes, Days of Silence and Mistrust*, N.Y. TIMES (Apr. 2, 2019), <https://www.nytimes.com/2019/04/02/world/asia/boeing-max-8-lion-air.html>.

<sup>2</sup> See *id.*

<sup>3</sup> *Id.*

<sup>4</sup> Dominic Gates & Mike Baker, *The Inside Story of MCAS: How Boeing's 737 MAX System Gained Power and Lost Safeguards*, SEATTLE TIMES (June 22, 2019, 2:00 PM), <https://>

for deficiencies in the plane's design and that pilots and regulators had not been adequately informed of, or trained to use, the system.<sup>5</sup> Moreover, critics of Boeing's failure to prevent each of these crashes pointed to the pressure that Boeing had faced to compete with Airbus's new A320neo model: they faulted these for leading Boeing to cut regulatory and engineering corners in order to rush to production.<sup>6</sup> At a congressional hearing on October 30, 2019, Boeing's CEO, Dennis Muilenburg, was bombarded with questions about what Boeing had known about the plane's design faults prior to the accidents; it was implied that the company had engaged in a coverup and had failed to fix the problem following the first crash.<sup>7</sup> Members of Congress asked Mr. Muilenburg whether Boeing believed that safety could be sold as a non-standard add-on feature.<sup>8</sup> Moreover, members of the panel remarked, both with positive and negative connotation, that Boeing is in the business of selling safety.<sup>9</sup>

What does it mean to be in the "business of selling safety?" On the one hand, this statement can be interpreted to mean that safety can be sold as an add-on feature that airlines can pay extra to have onboard.<sup>10</sup> This seems to have been the case for some fail-safe systems that the doomed aircraft lacked—that Boeing is in the business of selling safety features as a commodity.<sup>11</sup> On the other hand, the statement can be interpreted to mean that safety is integral to the very nature of Boeing's products—that Boeing is in the business of selling not merely planes, but rather *safe* planes. The choice between selling these two types of product indicates that Boeing may have two obligations that are at odds: an obligation to generate revenue for its shareholders and an obligation to provide a safe product to its purchasers and to the end-consumer—the passenger.

Certainly, Boeing's aircraft will not sell unless they are safe, but critics argue that other market pressures, namely Boeing's race to compete with Airbus' new A320neo, led to the MAX's faults.<sup>12</sup> It seems that the MAX was rolled out with as few design changes as possible in order

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[www.seattletimes.com/seattle-news/times-watchdog/the-inside-story-of-mcas-how-boeings-737-max-system-gained-power-and-lost-safeguards/](http://www.seattletimes.com/seattle-news/times-watchdog/the-inside-story-of-mcas-how-boeings-737-max-system-gained-power-and-lost-safeguards/).

<sup>5</sup> *Id.*; Beech & Suhartono, *supra* note 1.

<sup>6</sup> David Gelles et al., *Boeing Was 'Go, Go, Go' to Beat Airbus with the 737 Max*, N.Y. TIMES (Mar. 23, 2019), <https://www.nytimes.com/2019/03/23/business/boeing-737-max-crash.html>.

<sup>7</sup> See *The Boeing 737 MAX: Examining the Design, Development, and Marketing of the Aircraft: Hearing Before the Comm. on Transportation & Infrastructure*, 116th Cong. 4, 41, 275–88 (2019) [hereinafter *Boeing 737 MAX Hearing*].

<sup>8</sup> See *id.* at 110.

<sup>9</sup> See, e.g., *id.* at 56.

<sup>10</sup> See *id.* at 108.

<sup>11</sup> See *id.* at 3, 29–30.

<sup>12</sup> See Gelles et al., *supra* note 6.

to speed up design, certification, and production.<sup>13</sup> By keeping the new plane similar to the old design, the Federal Aviation Administration (FAA) could consider it a derivative of the original Boeing 737 certification from the 1960s;<sup>14</sup> Boeing could then sidestep the lengthy and expensive certification process for new aircraft.<sup>15</sup> This strategy, however, inevitably led to engineering deficiencies. The new fuel-efficient engines were larger,<sup>16</sup> so installing them on the preexisting wing design (which sits low on the plane's body) was inappropriate and led to the plane stalling—where its nose would tilt up to a dangerous angle—in flight tests.<sup>17</sup> As a result, the MCAS system was installed to automatically sense stalling and compensate for it.<sup>18</sup> The desire to avoid recertification and extensive pilot retraining in turn led Boeing to omit any mention of MCAS from pilot manuals and to tell carriers that the plane handled essentially the same as the old model did.<sup>19</sup> If this version of events is accepted, then these deficiencies were caused by a tension between the market and the concept of safety. Other countries' airline regulatory bodies, such as Brazil's, determined that MCAS was a material difference that needed to be included in their country's pilot materials, yet Boeing did not include it in American training manuals and the FAA also did not mandate its inclusion.<sup>20</sup> This leads to the question of where the FAA was during this process and what its relationship was to Boeing. In fact, critics say that the FAA had delegated the testing of the new aircraft to Boeing itself and essentially allowed the company to certify its own plane.<sup>21</sup>

However, this practice—referred to as self-regulation—is not new, nor is it unique to the airline industry. Indeed, as of December 2019, the United States Department of Agriculture has shifted responsibility for

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<sup>13</sup> See *id.*

<sup>14</sup> See 14 C.F.R. § 21.19 (2020) (detailing when a change would require application for a new type certificate); see also Jack Nicas & Julie Creswell, *Boeing's 737 Max: 1960s Design, 1990s Computing Power and Paper Manuals*, N.Y. TIMES (Apr. 8, 2019), <https://www.nytimes.com/2019/04/08/business/boeing-737-max-.html>; Ralph Vartabedian, *Must Reads: How a 50-Year-Old Design Came Back to Haunt Boeing with Its Troubled 737 Max Jet*, L.A. TIMES (Mar. 15, 2019, 6:00 AM), <https://www.latimes.com/local/california/la-fi-boeing-max-design-20190315-story.html>.

<sup>15</sup> See Nicas & Creswell, *supra* note 14.

<sup>16</sup> *Id.*

<sup>17</sup> *Id.*

<sup>18</sup> *Id.*

<sup>19</sup> See James Glanz et al., *After a Lion Air 737 Max Crashed in October, Questions About the Plane Arose*, N.Y. TIMES (Feb. 3, 2019), <https://www.nytimes.com/2019/02/03/world/asia/lion-air-plane-crash-pilots.html>.

<sup>20</sup> See *id.*; Nicas & Creswell, *supra* note 14; JOINT AUTHS. TECHNICAL REV., BOEING 737 MAX FLIGHT CONTROL SYSTEM OBSERVATIONS, FINDINGS, AND RECOMMENDATIONS XI (2019).

<sup>21</sup> Brian Naylor, *Not Just Airplanes: Why the Government Often Lets Industry Regulate Itself*, NPR (Apr. 4, 2019, 5:01 AM), <https://www.npr.org/2019/04/04/709431845/faa-is-not-alone-in-allowing-industry-to-self-regulate>.

food safety inspection in pork plants to the pork industry itself.<sup>22</sup> Under this plan, federal inspectors will be cut by 40% and replaced with plant employees whose training is at the discretion of their employers.<sup>23</sup> A similar practice in the poultry industry dates back to the Obama administration.<sup>24</sup> Moreover, the Trump administration rolled back regulations implemented after the Deepwater Horizon disaster that tasked the Department of Interior's Bureau of Safety and Environmental Enforcement (BSEE) with mandating that oil-well operators hire independent third-party safety inspectors.<sup>25</sup> Specifically, the FAA's self-regulation model has been criticized by the Government Accountability Office, the government's own watchdog, since the 1990s.<sup>26</sup> Yet, it is a widespread practice, particularly among agencies that regulate only one industry.<sup>27</sup> Such agencies include the FAA, the Nuclear Regulatory Commission (NRC), the Federal Railroad Administration, the BSEE (as mentioned above), and the Food and Drug Administration (FDA).<sup>28</sup>

A number of problems not limited to planes falling out of the sky come to mind in a system where industries—by necessity motivated by profit and shaped by the demands of the market—are left predominantly to their own devices. Regulation has many benefits, but deregulation does as well. So, what can we deregulate, and under what circumstances? And can we delegate—or deregulate—regulation itself? In the aviation safety context, technological limitations, the circular airline-manufacturer relationship, safety measures (airlines and manufacturers need to be profitable in order to afford to implement expensive safety measures whose implementation reduces the companies' profitability), and the chaotic nature of the universe (commonly manifesting as birds colliding with plane engines) make the cost of perfect safety prohibitive for both carriers and consumers. As a result, we must consider the acceptable level of safety that should be required and who should decide and enforce such safety standards. In pursuit of answers, I will examine the

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<sup>22</sup> Kimberly Kindy, *Pork Industry to Gain Power Over Inspections*, L.A. TIMES (Apr. 3, 2019, 7:17 AM), <https://www.latimes.com/business/la-fi-pork-industry-hogs-plants-trump-regulations-20190403-story.html>.

<sup>23</sup> See 9 C.F.R. §§ 309.19, 310.1(b)(3) (2020).

<sup>24</sup> See 9 C.F.R. pts. 381, 500 (2020); Kindy, *supra* note 22.

<sup>25</sup> Naylor, *supra* note 21.

<sup>26</sup> *Id.*

<sup>27</sup> See *id.*

<sup>28</sup> The NRC permits energy companies to inspect their own reactors; the Federal Railroad Administration allows the industry to self-certify its conductors and engineers; the BSEE allows offshore oil rigs to self-certify; and the FDA is reliant on pharmaceutical and medical device manufacturers to test their products because the agency is not equipped to keep up with the market demand for oversight. *Id.*; James O. Ellis Jr., Annenberg Distinguished Visiting Fellow, Hoover Inst., Self-Regulatory Lessons From the US Commercial Nuclear Power Industry: Why Does It Work and Why Can't It Be Replicated? (May 12, 2015), <https://cisac.fsi.stanford.edu/events/cisac-seminar-admiral-james-o-ellis>.

relationship between regulation, self-regulation, and the market. I ultimately suggest that safety is distinct from other privatized services and that it cannot be delegated in the form that it currently has. Solutions to flaws in the current regulatory scheme will therefore be discussed. Despite cost and institutional barriers, the government must remain involved when safety is at stake, but that does not preclude partnership with private industry.

## I. BACKGROUND: PRIVATIZATION AND SELF-REGULATION

### A. *A Brief History of Privatization and Airline Deregulation*

The term “privatization” describes the ownership of industries or sectors by independent, private entities, rather than by state-owned entities.<sup>29</sup> While “marketization” and “deregulation” are also accurate terms for what happens during privatization, “*privatization* [original emphasis] may be used to describe an entity or activity that was always privately owned but has moved from a heavily regulated status to a less regulated one.”<sup>30</sup>

Following the Great Depression, privatization became less widespread as governments around the world took on more active roles in their national economies.<sup>31</sup> Governments believed that state ownership would promote development in fundamental public service areas where the private sector did not see profit,<sup>32</sup> for example, in the areas of public transportation and utilities.<sup>33</sup> In the United States, the government’s role in the economy generally (but not exclusively) took the form of regulation rather than ownership of industries.<sup>34</sup>

Privatization increased in the 1970s through the 1990s.<sup>35</sup> This trend first began with the airline industry’s deregulation, coupled with the dismantling of the Civil Aeronautics Board.<sup>36</sup> This benefitted consumers: between 1978 and 2000, fares were reduced by half and flight frequency and scheduling improved.<sup>37</sup> Airlines also became more efficient in unforeseen ways: fleets became fuel-efficient, computer reservation systems were developed, and statistical models began to profile passengers

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<sup>29</sup> See Jack M. Beermann, *Privatization and Political Accountability*, 28 FORDHAM URB. L.J. 1507, 1508 (2001).

<sup>30</sup> *Id.*

<sup>31</sup> See WORLD BANK, *ECONOMIC GROWTH IN THE 1990S: LEARNING FROM A DECADE OF REFORM* 164 (2005).

<sup>32</sup> See *id.*

<sup>33</sup> See *id.* at 164–65.

<sup>34</sup> See *id.* at 164.

<sup>35</sup> *Id.*

<sup>36</sup> *Id.*

<sup>37</sup> *Id.*

and sell flights.<sup>38</sup> As a result, the decade between 1977 and 1987 saw passenger mileage double while the industry employed only half as many employees.<sup>39</sup> Other newly privatized areas saw similar benefits; for example, increased competition in the telephone and mobile phone industries reduced prices for consumers.<sup>40</sup> As a result, public sentiment about deregulation increased.<sup>41</sup>

## B. *The Delegation of Regulation*

### 1. The Federal Aviation Administration's Mandate

Through the Civil Aeronautics Act of 1938, Congress established the Civil Aeronautics Authority to regulate air-traffic and airfares.<sup>42</sup> In 1940, President Roosevelt divided this agency into two agencies, charging each with one of those two mandates.<sup>43</sup> The Civil Aeronautics Administration, which regulated air traffic, was renamed the FAA in 1966 and placed under the authority of the newly created Department of Transportation.<sup>44</sup>

Today's FAA has two roles: it manages the nation's air traffic control system, and it promulgates and enforces air safety regulations.<sup>45</sup> These regulations are codified in the Federal Air Regulations (FARs) under Title 14 of the Code of Federal Regulations.<sup>46</sup> The FARs predominantly address air traffic control, pilot certification and flight schools, aircraft certification and regulation, mechanic licensing, and airline licensing (determined by fitness to operate a business and to comply with laws and regulations).<sup>47</sup> Aircraft certification encompasses airline design regulations, which address minimum safety design standards, conformity between production and prototype, and maintenance standards necessary to keep aircraft within the FARs' minimum safety standards.<sup>48</sup> These regulations also address airlines' duty to inspect, maintain, and repair their

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<sup>38</sup> *Id.*

<sup>39</sup> *Id.*

<sup>40</sup> *See id.*

<sup>41</sup> *See id.*

<sup>42</sup> Civil Aeronautics Act of 1938, Pub. L. No. 75-706, 52 Stat. 973, 980–81.

<sup>43</sup> *A Brief History of the FAA*, FED. AVIATION ADMIN., [https://www.faa.gov/about/history/brief\\_history/](https://www.faa.gov/about/history/brief_history/) (last updated Jan. 4, 2017).

<sup>44</sup> *See* Department of Transportation Act, Pub. L. No. 89-670, 80 Stat. 931 (1966).

<sup>45</sup> Jeffrey M. Jakubiak, Note, *Maintaining Air Safety at Less Cost: A Plan for Replacing FAA Safety Regulations with Strict Liability*, 6 CORNELL J. L. & PUB. POL'Y 421, 424–25 (1997).

<sup>46</sup> *See, e.g.*, 14 C.F.R. §§ 21.13, 91.103, 119.5 (2020) (regarding who is eligible for a type certificate, preflight procedures pilots must follow, and certifications to be an air carrier or commercial operator, respectively).

<sup>47</sup> 14 C.F.R. pts. 21, 91, 119 (2020).

<sup>48</sup> *See, e.g.*, 14 C.F.R. §§ 21.15, 21.144, 21.181 (2020) (regarding how to apply for a type certificate, the transferability of production certificates, and the duration of airworthiness certificates, respectively).

aircraft.<sup>49</sup> The codified safety standards provide the minimum requirements, but the FAA is supposed to take a more active role in certifying and licensing airlines and aircraft.<sup>50</sup> The procedure that governs most aircraft manufacturing is found in Part 21 of the FARs.<sup>51</sup> First, the manufacturer must produce a document called the Type Inspection Report.<sup>52</sup> Based on the report and testing, the FAA then issues a Type Certificate.<sup>53</sup> The manufacturer next obtains a Production Certificate based on its produced prototypes.<sup>54</sup> Once the production model is deemed “airworthy,” the manufacturer may finally obtain the Standard Airworthiness Certificate necessary for commercial production and sale.<sup>55</sup>

There are two key issues with this procedure. First, because aircraft certification encompasses only minimal requirements for airworthiness, the FARs do not state what is optimum for aircraft design, nor do they establish the current state of the art.<sup>56</sup> These determinations are left up to the manufacturer, who must comply with outdated regulations while simultaneously attempting to implement new technology that might be incompatible with the minimal standards.<sup>57</sup> Thus, because the industry is heavily regulated by an imperfect system, there are high potential efficiency gains from deregulation,<sup>58</sup> for both industry actors and the government.

Second, the Aviation Act permits the FAA to delegate its certifying authority.<sup>59</sup> Since 1950, the FAA has indeed delegated its mandated authority to certify aircraft to manufacturers who have obtained Type and Production Certificates.<sup>60</sup> This is called Organization Designation Authorization (ODA), previously Delegation Option Authorization; under

<sup>49</sup> See 14 C.F.R. §§ 91.401–91.421 (2020).

<sup>50</sup> See Jakubiak, *supra* note 45, at 425.

<sup>51</sup> See, e.g., 14 C.F.R. §§ 21.33, 21.93, 21.173 (2020) (regarding inspecting and testing procedures for type certificates, classification of changes in type design, and eligibility for airworthiness certificates, respectively); see also William F. Maready, *Liability of the United States for Unwarranted Certification of Aircraft—The View of the Manufacturer*, 11 F. (A.B.A. SEC. INS., NEGL. & COMP. L.) 558, 559, 561 (1976).

<sup>52</sup> 14 C.F.R. §§ 21.15, 21.21 (2020); *FAA Conformity Determination Training Standard*, FED. AVIATION ADMIN., [https://www.faa.gov/other\\_visit/aviation\\_industry/designees\\_delegations/delegated\\_organizations/media/Initial\\_Conformity\\_Training\\_Standard.pdf](https://www.faa.gov/other_visit/aviation_industry/designees_delegations/delegated_organizations/media/Initial_Conformity_Training_Standard.pdf) (last updated June 6, 2017); see also Maready, *supra* note 51, at 561.

<sup>53</sup> 14 C.F.R. §§ 21.21–21.29 (2020).

<sup>54</sup> See 14 C.F.R. §§ 21.131–21.150 (2020).

<sup>55</sup> See 14 C.F.R. §21.183 (2020).

<sup>56</sup> Maready, *supra* note 51, at 560–61.

<sup>57</sup> See *id.* at 561.

<sup>58</sup> See Jakubiak, *supra* note 45, at 435–36, 438.

<sup>59</sup> 49 U.S.C. § 44702(d) (2018).

<sup>60</sup> *Delegation and Designee Background*, FED. AVIATION ADMIN., [https://www.faa.gov/about/history/deldes\\_background/](https://www.faa.gov/about/history/deldes_background/) (last updated May 5, 2016); see also 14 C.F.R. §§ 21.183(a), (b) (2020) (regarding aircraft certification under a production certificate and type certificate, respectively).



this scheme, the manufacturer designates a representative to sign the Standard Airworthiness Certificate<sup>61</sup> in lieu of the FAA. The Type and Production certificates have unlimited lives: a manufacturer may continue to manufacture aircraft and designate them as airworthy “so long as no changes are made which are of sufficient substance to cause the [FAA] to require a new Type Certificate.”<sup>62</sup>

## 2. Self-Regulation: The Delegation of Regulation to Private Parties

When parties that are meant to be regulated by government agencies are instead permitted to regulate themselves, this is called self-regulation.<sup>63</sup> There are two types of self-regulation. The first is self-regulation carried out by individual companies or industries, which is the case with Boeing and other aircraft manufacturers under ODA.<sup>64</sup> Under this type of self-regulation, a private company or industry has regulatory roles delegated to it by the regulating agency. The agency may, as a result, retain varied and discretionary levels of oversight under this scheme. Here, Boeing, the only commercial civil aircraft manufacturer based in the United States, has been permitted to decide if and how to comply with federal regulations, and the FAA took Boeing at its word in regard to testing and design viability.<sup>65</sup> As a result, the entirety of American civil aircraft manufacturing was left to its own self-regulatory devices.

The second type of self-regulation is carried out by so-called self-regulating organizations.<sup>66</sup> These organizations shift regulation away from the government to private organizations that may then take on the role of government agencies in regulating an industry. Self-regulating organizations may promulgate their own rules and enforce regulations within the industry, allowing the industry as a whole to govern itself.<sup>67</sup> One example of an industry that is relatively successfully governed by a

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<sup>61</sup> See 14 C.F.R. § 183.31 (2020); *Airworthiness Certification Overview*, Fed. Aviation Admin., [https://www.faa.gov/aircraft/air\\_cert/airworthiness\\_certification/aw\\_overview/](https://www.faa.gov/aircraft/air_cert/airworthiness_certification/aw_overview/) (last updated Mar. 28, 2019).

<sup>62</sup> See Maready, *supra* note 51, at 562; see also 14 C.F.R. § 21.19 (regarding changes which require a new type certification).

<sup>63</sup> See generally Harold I. Abramson, *A Fifth Branch of Government: The Private Regulators and Their Constitutionality*, 16 HASTINGS CONST. L.Q. 165 (1989).

<sup>64</sup> See *id.* at 169.

<sup>65</sup> *Boeing 737 MAX Hearing*, *supra* note 7, at 3, 4, 21; CONG. RSCH. SERV., R41925, CHALLENGE TO THE BOEING-AIRBUS DUOPOLY IN CIVIL AIRCRAFT: ISSUES FOR COMPETITIVENESS I (2011); Pete Kasperowicz, *Capt. Sullenberger: 737 MAX Crashes Reveal ‘Cozy’ Relationship Between Boeing, FAA*, WASH. EXAM’R (Mar. 20, 2019, 8:26 AM), <https://www.washingtonexaminer.com/news/capt-sullenberger-737-max-crashes-reveal-cozy-relationship-between-boeing-faa>.

<sup>66</sup> See Abramson, *supra* note 63, at 170–71.

<sup>67</sup> See *id.*

self-regulating organization is the nuclear industry.<sup>68</sup> This industry has likely been successful at self-regulating safety because nuclear energy producers (in addition to the public) all benefit from compliance with high safety standards that prevent nuclear fallout.<sup>69</sup> The threat posed by nuclear accidents thus helps to keep all parties accountable and in compliance. I suggest that a regulatory structure for the aviation industry that more closely resembles that of self-regulatory organizations, rather than of individual self-regulation, would be more conducive to ensuring that public policy's safety goals are satisfied.

### 3. Accountability: Who is Responsible Under Regulatory and Self-regulatory Schemes?

There are four main types of accountability outlined in scholarship: legal (to the courts), political (to elected bodies and the electorate), administrative (to the requisite agency), and financial (to a company's stakeholders).<sup>70</sup> Accountability provides a framework to promote the public interest, to demand justification for actions and policies, and to amend errors.<sup>71</sup> Adequate accountability has two integral elements: responsibility for one's own acts or the acts of others, and the presence of a specific person to whom one is answerable.<sup>72</sup> This second element is particularly important, and particularly hard to establish, when dealing with privatized actors<sup>73</sup>—notably in the context of individual self-regulation.

As a result of the varied ways of achieving accountability, regulation may be broadly defined and may go beyond what we might traditionally consider to be regulation. We may typically think of regulation as the rules promulgated by government agencies, or of the laws passed by the legislative branch of government (which might then go on to be enforced by government agencies).<sup>74</sup> But regulation is also promulgated by oft-overlooked state agencies.<sup>75</sup> Moreover, accountability can also be achieved through judicial review.<sup>76</sup> Regulation routinely takes the form

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<sup>68</sup> Interview with Joshua C. Macey, Assistant Professor of Law, Cornell Law School, in Ithaca, N.Y. (Sept. 2019).

<sup>69</sup> See, e.g., 10 C.F.R. §§ 1.1, 11.5, 11.32, 20.1002 (2020) (regarding the creation and authority of the NRC; policy of the NRC in regard to granting eligibility to access special nuclear material; criminal penalties for violating NRC regulations; and the scope of the standards for protection against radiation); see also Ellis Jr. *supra* note 28.

<sup>70</sup> See, e.g., Catherine Donnelly, *Privatization and Welfare: A Comparative Perspective*, 5 L. & ETHICS HUM. RTS. 335, 344–46 (2011).

<sup>71</sup> *Id.* at 344.

<sup>72</sup> *Id.* at 343.

<sup>73</sup> See *id.* at 344.

<sup>74</sup> See Barak Orbach, *What Is Regulation?*, 30 YALE J. ON REGUL. BULL. 1, 6 (2012).

<sup>75</sup> See, e.g., Donnelly, *supra* note 70, at 352.

<sup>76</sup> See *id.* at 345.

of federal and state courts enforcing and making the law.<sup>77</sup> This judicial type of regulation includes relying on statutory and common law sources in areas like corporate law, criminal law, and tort law. Although these are not regulations promulgated by a regulatory agency, these laws serve to regulate industry action. For example, private individuals bringing injury suits against pharmaceutical companies, even when they do not prevail, serve to put the tortfeasor (and its peers) on notice of what behavior is unacceptable, regardless of whether the misdeed is found in the Code of Federal Regulations or in a criminal statute.<sup>78</sup> Such legal action also informs parties of what behavior could potentially expose them to unwanted liability in the future. Thus, regulation is also the domain of the judiciary and of the *individual*. Moreover, in this way, regulation has both a top-down as well as a bottom-up nature.<sup>79</sup>

## II. ANALYSIS: THE DELEGATION OF SAFETY

### A. *The Pros and Cons to Privatizing Regulation*

#### 1. Can We Delegate, and Can We Delegate Regulation?: The Nondelegation Doctrine

The Supreme Court has, on a number of occasions, invalidated delegations to private parties. The Court in *Schechter Poultry* held that Congress could not delegate its legislative authority to private parties just because such groups were familiar with the problems at hand.<sup>80</sup> However, it bears noting that the Supreme Court has declined to exercise the nondelegation doctrine since the 1930s and that the Court in *Gundy* (2019) indicated that the nondelegation doctrine could return as a result of the composition of the Court in 2019.<sup>81</sup>

Agencies might also be seen as a violation of the separation of powers doctrine. One potentially viable solution to agencies' internal problems, especially those relating to conflicts of interest, is a "rigid application of the separation of powers doctrine," under which all administrative agencies would be broken down into their respective legislative, executive, and judicial functions, and each function then "reassigned as

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<sup>77</sup> Interview with Avihay Dorfman, Visiting Professor of Law, Cornell Law School, in Ithaca N.Y. (Sept. 2019).

<sup>78</sup> *Id.*

<sup>79</sup> *Id.*

<sup>80</sup> *A.L.A. Schechter Poultry Corp. v. United States*, 295 U.S. 495, 537 (1935).

<sup>81</sup> Justice Alito, concurring, noted that "If a majority of this Court were willing to reconsider the approach we have taken for the past 84 years, I would support that effort," but that since a majority had not, he would instead vote to affirm. A majority might now emerge following the confirmation of Justice Barrett, as Justices Gorsuch, Roberts, Thomas, and Kavanaugh—the conservative bloc—dissented in *Gundy*. See *Gundy v. United States*, 139 S. Ct. 2116, 2120 (2019); see also Interview with Joshua C. Macey, Assistant Professor, Cornell Law School, in Ithaca, N.Y. (Oct. 2019).

separate organizations under the three corresponding branches of government.”<sup>82</sup> However, this solution seems inefficient and therefore impractical to actually implement. Moreover, not permitting any type of delegation, including the delegation of regulation, does not seem to be in the best interests of helping the government efficiently and effectively fulfill its functions and obligations.

## 2. Why Do We Delegate Regulation?

The efficiency and productivity gains following the deregulation of the economic aspects of the airline industry in the 1970s are emblematic of the benefits of deregulation. Delegating regulation has a number of benefits for both the regulated—who is better positioned to make determinations about risk, innovation, technology, and cost savings versus cost expenditures—and for the regulator—who will experience cost savings and a more manageable administrative load by delegating this function to industry experts.<sup>83</sup> Indeed, experts are likely to be attracted to private industry because of its position on the cutting edge (as opposed to the government, whose knowledge often stagnates) and because of the higher salaries typical of the private sector.<sup>84</sup>

Most importantly, agencies simply lack the resources to singlehandedly regulate entire industries; for example, the FDA could not reasonably conduct its own second-opinion testing and trials for every drug and medical device that it needs to certify.<sup>85</sup> To do so would be incredibly expensive for the government, would be a logistical behemoth of nightmarish proportions, and would increase the time that it takes for lifesaving technology and medications to reach the consumers who need them.<sup>86</sup> Most importantly, as is the case for the FAA, agencies often lack the expertise necessary to independently comprehend every cutting edge scientific or engineering innovation that is put before them.<sup>87</sup> There is not enough funding for these agencies to have “the resources or the technological capacity to keep up with the rapidly evolving industries that they’re charged with overseeing,”<sup>88</sup> despite their large federal budgetary

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<sup>82</sup> Vale Krenik, *No One Can Serve Two Masters: A Separation of Powers Solution for Conflicts of Interest within the Department of Health and Human Services*, 12 TEX. WESLEYAN L. REV. 585, 625 (2006).

<sup>83</sup> See *supra* Part I.A.

<sup>84</sup> See Naylor, *supra* note 21.

<sup>85</sup> See *id.*

<sup>86</sup> See *id.*

<sup>87</sup> See *id.*

<sup>88</sup> *Id.*

allocations.<sup>89</sup> As a result, the FAA cannot keep up.<sup>90</sup> Many of the agency's regulations are thus not effective at promoting safety, its employees lack the expertise necessary to adequately regulate the industry, and the FAA is "so understaffed that whatever regulations it does implement are unlikely to be closely monitored by inspectors."<sup>91</sup> For these reasons, the FAA "does not carry out most detailed inspection work. Instead, the FAA delegates most of it to airplane manufacturers and to commercial carriers."<sup>92</sup> The cost-savings and the benefits of delegating to industry experts when it comes to aviation safety are thus abundantly clear.

At the same time, this type of delegation is deeply problematic; indeed, members of a 1995 Oversight Hearing believed that the FAA's failure to implement timely regulations resulted in many fatal airplane accidents.<sup>93</sup> Following the 2018–19 Boeing crashes, the FAA's acting director told Congress that the agency would need close to another two billion dollars (a small number in the grand scale of government expenditures) and 10,000 additional employees in order to conduct its own certification tests and to end its reliance on the aircraft manufacturing industry.<sup>94</sup>

In addition, the FAA's structure creates conflicts of interests for its regulators because the agency's very nature has competing internal goals.<sup>95</sup> The Federal Aviation Act requires the FAA to promote air safety, as well as to encourage civil aeronautics and air commerce.<sup>96</sup> There is a clash here between safety and the market: The agency must on one hand ensure that aircraft and airlines do not endanger their consumers, but it must on the other hand craft its regulations and enforcement so as to not adversely impact air commerce. Further entanglement also ex-

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<sup>89</sup> Indeed, by 2019 the FAA's budget had risen to \$17.5 billion. FED. AVIATION ADMIN., FAA'S FISCAL YEAR 2019 SUMMARY OF PERFORMANCE AND FINANCIAL INFORMATION 1 (2019). Moreover, the many billions of dollars that the FAA receives is a relatively small number in comparison to the Department of Defense, for example, which received \$686 billion in 2019. See Press Release, Dep't of Defense, DoD Releases Fiscal Year 2019 Budget Proposal (Feb. 12, 2018), <https://www.defense.gov/Newsroom/Releases/Release/Article/1438798/dod-releases-fiscal-year-2019-budget-proposal/>.

<sup>90</sup> Dominic Gates, *Flawed Analysis, Failed Oversight: How Boeing, FAA Certified the Suspect 737 MAX Flight Control System*, SEATTLE TIMES (Mar. 17, 2019, 6:00 AM), <https://www.seattletimes.com/business/boeing-aerospace/failed-certification-faa-missed-safety-issues-in-the-737-max-system-implicated-in-the-lion-air-crash/>.

<sup>91</sup> Jakubiak, *supra* note 45, at 422.

<sup>92</sup> *Id.* (footnote omitted).

<sup>93</sup> *Id.*; see also *Oversight Hearing on Aviation Safety: Hearing of the Comm. on Com., Sci., and Transp.*, 104th Cong. 4 (1995) (statement of Sen. Pressler).

<sup>94</sup> *Boeing 737 MAX Hearing*, *supra* note 7, at 37–38; Naylor, *supra* note 21.

<sup>95</sup> See 49 U.S.C. § 106 (2018) (establishing the structure and purpose of the FAA); Jakubiak, *supra* note 45, at 422.

<sup>96</sup> Federal Aviation Act of 1958, Pub. L. No. 85-726, 72 Stat. 731, 740; Jakubiak, *supra* note 45, at 422.

ists because agency employees often expect to eventually move into the private sector,<sup>97</sup> where pay is higher and technology is more advanced. In addition, as we have seen in the Trump administration, private industry figures can be appointed to manage the agencies that once regulated them and in which they still have a stake.<sup>98</sup> This entanglement is perhaps also exacerbated by the necessity that the agency employ experts, who are by definition most easily recruited from regulated entities.

Similarly, there are also conflicts of interest for self-regulators because even the most minimal FAA regulations impose a massive burden on companies' finances.<sup>99</sup> In a hearing before the Subcommittee on Aviation, Chairman John Duncan determined that FAA regulations impose a massive cumulative financial burden and have a direct adverse impact on the financial condition of the entire air transportation system.<sup>100</sup> This is in part because new regulations are often just added on top of old regulations instead of replacing them,<sup>101</sup> which is a more complicated endeavor. A thirty year-old report by the National Commission to Ensure a Strong Competitive Airline Industry estimated that federal regulations cost the industry more than \$3.5 billion between 1984 and 1993.<sup>102</sup> This amount is likely much higher today as a result of numerous factors including inflation, increased operating costs due to economic pressures like financial crises and the rising cost of oil, increased regulations stemming from both market globalization and global events like 9/11, and the increased burden of having more regulations to follow as time goes

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<sup>97</sup> See Naylor, *supra* note 21.

<sup>98</sup> For example, Trump's appointee as director of the National Oceanic and Atmospheric Administration (NOAA) was Barry Myers, former CEO of AccuWeather, who retained ties to the company as a result of his family's continued ownership stake. Andrew Freedman & Jason Samenow, *White House Pick to Lead NOAA Withdraws Nomination, Citing Health Concerns*, WASH. POST (Nov. 20, 2019, 11:31 PM), <https://www.washingtonpost.com/weather/2019/11/20/white-house-pick-lead-noaa-withdraws-nomination-citing-health-concerns/>. Similarly, Andrew Wheeler, the current head of the Environmental Protection Agency (EPA), was previously a coal lobbyist. Rebecca Hersher & Colin Dwyer, *Get to Know Andrew Wheeler, Ex-Coal Lobbyist with Inside Track to Lead EPA*, NPR (July 6, 2018, 3:03 PM), <https://www.npr.org/2018/07/06/626525274/get-to-know-andrew-wheeler-ex-coal-lobbyist-with-inside-track-to-lead-epa>. The potential for this type of entanglement exists between the FAA and the airline industry as well.

<sup>99</sup> See Jakubiak, *supra* note 45, at 421.

<sup>100</sup> *Ways to Reduce Unfunded Federal Mandates and Regulatory Burdens on the Aviation Industry Without Affecting the Safety of the Traveling Public: Hearing Before the Subcomm. on Aviation*, 104th Cong. 1–2 (1995) (statement of Hon. John J. Duncan, Jr., Chairman, Subcomm. on Aviation) [hereinafter *Aviation Hearing on Regulatory Burdens*].

<sup>101</sup> Jakubiak, *supra* note 45, at 421–22.

<sup>102</sup> NAT'L COMM'N TO ENSURE A STRONG COMPETITIVE AIRLINE INDUS., CHANGE, CHALLENGE AND COMPETITION: A REPORT TO THE PRESIDENT AND CONGRESS 10 (1993), <https://airlines.org/wp-content/uploads/2016/02/balilesreport.pdf>; *Aviation Hearing on Regulatory Burdens*, *supra* note 100, at 4.

on.<sup>103</sup> As a result, it is reasonable (rather than cynical) to assume that self-regulated industries will cut corners and cut costs wherever they can. As demonstrated by the Boeing crashes, this type of cost-cutting, while benefitting consumers by keeping costs affordable, jeopardizes public safety.

### 3. Agency Capture and Its Dangers in the Aviation Context

Airline industry representatives have a great deal of influence on the FAA and its policies, with some scholars saying that the FAA is a victim of “agency capture.”<sup>104</sup> Through this phenomenon, pressure is on an agency to promote the “private” interests of the group that it is supposed to be regulating at the expense of the public interest, which is supposed to be its primary concern.<sup>105</sup> The notice and comment procedures outlined by the Administrative Procedure Act, while an important part of agency rulemaking that takes into account the insight of concerned parties, are also a way that private interests are taken into account and sometimes impermissibly intrude on agency decision-making.<sup>106</sup> Because of concerns that the FAA might be experiencing agency capture, President Clinton’s Secretary of Transportation called on Congress to reexamine the FAA’s “dual mandate.”<sup>107</sup> This resulted in an amendment to the Transportation Act, which emphasized the FAA’s role in safety, but made no structural changes to the FAA’s mandate, authority, or functions.<sup>108</sup> This remains the state of affairs today.

Notable cases deciding the deference due to administrative agencies’ judgments upon review such as *Overton Park*, *Chevron*, and *State Farm* assume that agency action is entitled to great deference because of agency expertise.<sup>109</sup> However, if agencies are the victims of agency capture, then the “process is dubious, at best, and the relationship between the courts and the agencies would require a dramatic restructuring.”<sup>110</sup> The problem, argues Professor Mark Niles, is that the system’s failings

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<sup>103</sup> See, e.g., Matthew Yglesias, *Why Flying in America Keeps Getting More Miserable, Explained*, Vox: New Money (Apr. 12, 2017, 8:30 AM), <https://www.vox.com/new-money/2017/4/12/15247172/why-airlines-are-terrible>.

<sup>104</sup> Mark C. Niles, *On the Hijacking of Agencies (and Airplanes): The Federal Aviation Administration, “Agency Capture,” and Airline Security*, 10 AM. U.J. GENDER SOC. POL’Y & L. 381, 384 (2002).

<sup>105</sup> *Id.* at 388.

<sup>106</sup> See Administrative Procedure Act, Pub. L. No. 79-404, §§ 4(a)–(b), 60 Stat. 237 (1946) (codified as amended at 5 U.S.C. §§ 553(b)–(c) (2018)); Niles, *supra* note 104, at 389.

<sup>107</sup> *Id.* at 408.

<sup>108</sup> See Federal Aviation Reauthorization Act of 1996, Pub L. No. 104-264, 110 Stat. 3213, 3255; Niles, *supra* note 104, at 408.

<sup>109</sup> See *Chevron, U.S.A., Inc. v. Nat. Res. Def. Council, Inc.* 467 U.S. 837 (1984); *Motor Vehicle Mfrs. Ass’n v. State Farm Mut. Auto. Ins.*, 463 U.S. 29 (1983); *Citizens to Preserve Overton Park, Inc. v. Volpe*, 401 U.S. 402 (1971).

<sup>110</sup> Niles, *supra* note 104, at 396.

are not the result of the “evil acts of individuals,” but rather are demonstrative of institutional breakdowns.<sup>111</sup> However, Niles does not argue that lax regulation will necessarily be the result of agency capture; he argues only that an agency’s regulatory decisions will be made with consideration to what will advantage the regulated group.<sup>112</sup> Nonetheless, it is hard to imagine that such an approach would *not* result in lax regulations and a sequence of events similar to the story unfolding around Boeing.

There are a number of important examples of the dangers in the FAA context of the agency failing to make reasoned judgments, possibly as a result of capture. Notably, prior to 9/11, the National Transportation and Safety Board (NTSB) and other groups made a number of recommendations to the FAA that might have served to prevent the 9/11 attacks.<sup>113</sup> However, the FAA made little progress in implementing them until after disaster struck.<sup>114</sup> It is also key to note that these recommendations were undeniably inconvenient for the parties regulated by the FAA.<sup>115</sup> This is a pattern that the FAA has repeated: From 1967 to 1999, the NTSB issued 11,161 safety recommendations, 3,703 of which were made to the FAA (meaning that about one-third of the NTSB’s recommendations over the course of three decades were directed at improving air safety).<sup>116</sup> Although the FAA had a high rate of acceptance of these recommendations, it had a low rate of implementation and still routinely fails to implement recommendations until after a related accident occurs.<sup>117</sup> In all of these cases, the FAA’s reason for failing to implement the recommendations was “the conclusion that the benefit of additional safety procedures was outweighed by the cost of their implementa-

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<sup>111</sup> *Id.* at 397.

<sup>112</sup> *See id.* at 401.

<sup>113</sup> *See, e.g.,* WHITE HOUSE COMM’N ON AVIATION SAFETY & SECURITY, FINAL REPORT TO PRESIDENT CLINTON 25–27 (1997); *see also* Niles, *supra* note 104, at 410–11; Robert W. Hahn, *The Economics of Airline Safety and Security: An Analysis of the White House Commission’s Recommendations*, 20 HARV. J.L. & PUB. POL’Y 791, 795–96 (1997).

<sup>114</sup> Niles, *supra* note 104, at 410–11; Micah L. Sifry, *Boodles and Airline Security*, NATION (Oct. 11, 2001), <https://www.thenation.com/article/archive/boodles-and-airline-security/>.

<sup>115</sup> *See* Sifry, *supra* note 114.

<sup>116</sup> Niles, *supra* note 104, at 417; *see also* Safety Recommendations Made to FAA, CASE ANALYSIS AND REPORTING ONLINE (CAROL), <https://data.ntsb.gov/carol-main-public/basic-search> (enter “FAA” under “Addressee name” in the “Safety Recommendations Fields”).

<sup>117</sup> For example, in 1975 the NTSB recommended that commercial airlines be equipped with smoke detectors. Niles, *supra* note 104, at 417. It was not until 1984, when an Air Canada plane’s lavatory fire resulted in the deaths of twenty-three passengers, that the agency required smoke detectors on all new planes. *Id.* When the NTSB recommended in 1988 that a similar requirement be applied to older planes currently in use, the FAA failed to implement the requirement until 1996 when a fire caused an older ValuJet plane to crash. *See id.* There are a number of other examples of this pattern whereby the FAA failed to implement NTSB recommendations (for example, relating to de-icing procedures, radar, runway lighting, and aircraft design flaws) until after a deadly accident. *Id.* at 418



tion”<sup>118</sup>— a cost that falls on the regulated industry far more than on the FAA.

A similar pattern exists within the FAA’s own regulatory activity, where the agency has failed to implement its own regulations until it had no other choice.<sup>119</sup> According to Niles, “[e]ach of these instances provide[s] evidence not merely of agency laxity or insufficient diligence, but of an agency structure that gives substantial weight to the economic impact of regulatory activities on the regulated parties in comparison to other factors.”<sup>120</sup> FAA inspectors also have reported pressure from supervisors and from headquarters when they question the safety of a plane, pilot, maintenance, or training procedures because they know that the company’s CEO will inevitably call and exert pressure.<sup>121</sup> In sum, “[w]hile delegation . . . to private parties is not in and of itself an indication of favoring private interests over public ones, the continued reliance on such a structure, even when it becomes clear that it is ineffective, does suggest a strong preference for private control . . . at the expense of effective regulatory enforcement.”<sup>122</sup>

## B. *Delegating Safety*

### 1. Is Safety Distinctive?

Assuming that agencies can indeed delegate regulation, is there something different about delegating the regulation of air safety as opposed to the regulation of, for example, airfares? Contrary to some scholars, Professor Tony Prosser does not believe that the inherent nature of certain enterprises makes them intrinsically better suited to government regulation.<sup>123</sup> However, the regulation of safety does indeed seem to feel distinct and incompatible with what we might traditionally define as regulation (e.g., the promulgation of rules by a government agency). Deregulating sectors of the economy, such as banking, or types of activity,

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<sup>118</sup> *Id.* at 418.

<sup>119</sup> These include “its exemption of Boeing’s new wide-body 777 from otherwise required tests of engine thrust reversers.” *Id.* at 420. “The FAA also failed to enforce ‘routine’ rules concerning pilot flying time, to reassign FAA safety inspectors after apparent complaints from airlines about the performance of their duties, and to require flight approval for several airlines with long histories of safety violations.” *Id.* (footnotes omitted).

<sup>120</sup> *Id.* at 421.

<sup>121</sup> *See id.* (“‘If we try to ground an airplane belonging to a major airline, we know that the airline’s CEO is going to pick up the phone and call,’ said one inspector, assigned to an airline in Texas. ‘It is almost a given.’”). *Id.*

<sup>122</sup> *Id.* at 422.

<sup>123</sup> *See* Tony Prosser, *Social Limits to Privatization*, 21 *BROOK. J. INT’L L.* 213, 218 (1995) (“It is also clear that the nature of the enterprise . . . will be important in determining the type of privatization which is likely to prove successful. However, the United Kingdom experience shows quite clearly that there is no core of governmental activity which cannot be privatized.”).

such as price-fixing, can have important and sometimes negative impacts on people's lives, but these industries do not directly endanger human life in the same way that lax safety standards do. As a result, the delegation of safety regulation to private parties reads less as increasing government efficiency and more as the government abdicating responsibility for a core aspect of its very ethos. In particular, an important function of government is to ensure that society functions and constituents remain safe. Thus, I would argue that privatizing the regulation of safety features that affect human lives is different, and much more fraught, than privatizing other types of regulation.<sup>124</sup>

## 2. Is Safety a Right?

The present Note, due to its limited scope, will not undertake to argue that safety is a right. However, the delegation of safety regulation may also be different from other types of regulatory delegation because safety is simply a right and a benefit that the government must provide.<sup>125</sup> Why should a government be concerned with national security and military power, but not constitutionally bound to protect its citizens from other threats to their safety? It is possible that there is a constitutional duty to supervise, or that the regulation of interstate commerce should extend to activities with attached safety considerations, or that Due Process' guarantees of life and liberty mandate the regulation of public safety.<sup>126</sup> Indeed, seminal cases such as *Lochner* established that working conditions could not be allowed to indirectly endanger public health or safety.<sup>127</sup> In those cases, states overcame the Constitution's protection of the freedom to contract via the public utility doctrine which treats a corporation that serves a public utility, or that is a natural monopoly, as a special body upon which courts can impose constitutional duties and obligations.<sup>128</sup> Making similar leaps in the aviation context could make sense: Airlines certainly serve a public utility, and Boeing essentially has a monopoly over aircraft manufacturing both within the United

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<sup>124</sup> Although the privatization of healthcare (an industry that involves human lives) has been accepted as the norm in this nation, that industry remains regulated by various private medical organizations and certifying boards, and doctors are held personally accountable through criminal and tort actions. Interview with Avihay Dorfman, Visiting Professor, Cornell Law School, in Ithaca N.Y. (Oct. 2019).

<sup>125</sup> See Ray A. Brown, *Police Power: Legislation for Health and Personal Safety*, 42 HARV. L. REV. 866, 873 (1929).

<sup>126</sup> See U.S. CONST. art. I, § 8, cl. 3; *id.* at amend. XIV § 1.

<sup>127</sup> See *Lochner v. New York*, 198 U.S. 45, 53 (1905) (“[M]ore than ten hours’ steady work each day, from week to week, in a bakery or confectionery establishment, may endanger the health and shorten the lives of the workmen, thereby diminishing their physical and mental capacity to serve the state and to provide for those dependent upon them.”)

<sup>128</sup> See John F. Corrigan Jr., *Torts: Emotional Distress Resulting in Physical Injury*, 13 U. MIA. L. REV. 116, 119–20 (1958); see generally NAT. CONSUMER L. CTR., ACCESS TO UTILITY SERV. § 1.1.5 (6th ed. 2018), <https://library.nclc.org/aus/010105>.

States and globally because its only true competitor is France's Airbus.<sup>129</sup>

Regardless, there is an important public policy argument to be made in favor of safety's distinctiveness. It may not be favorable for all risk to be eliminated from certain industries, including aviation, because doing so would make the cost of flying prohibitive. However, as a matter of public policy, it should be the government's duty to regulate safety to the best of its ability. This is both because of the undeniable public policy interest in protecting human lives and because of the severe, widespread economic impacts of safety failures on both the industry and every industry that relies on it. Therefore, even if we do not have an individual right to government-regulated safety, we may still have a right to government oversight of certain products and industries that are integral to our lives but that pose grave dangers when they go unregulated. This is especially the case when the user—especially in comparison to the government—lacks the control, resources, or expertise to inspect or monitor these industries and has little choice but to use the regulated good despite the risks (today, one cannot reasonably choose not to fly when travelling intercontinentally). The fact that modern-day governments worldwide have been structured to include agencies and legislation that monitor and regulate in the public interest underscores the existence of this interest. Moreover, this common government structure suggests that this role is considered integral to the very nature of government.

Furthermore, public policy also weighs in favor of regulation because of economic factors. As of this Note's completion, Boeing, the United States' only commercial civil aircraft manufacturer, has experienced multiple drops in its stock price, stopped production of the MAX 8, seen all of its sold MAX 8s indefinitely grounded and banned from airspace worldwide, had unfulfilled orders cancelled, been forced to closely review all aspects of the MAX 8,<sup>130</sup> and had its other aircraft models come under scrutiny.<sup>131</sup> Boeing's aircraft are also generally

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<sup>129</sup> See David Slotnick, *How Airbus Became Boeing's Greatest Rival*, BUS. INSIDER (Mar. 18, 2020, 12:29 PM), <https://www.businessinsider.com/airbus-history-boeing-rivalry-2018-4>.

<sup>130</sup> Other potential, but not definite, risks have been uncovered. Boeing must now rectify these in its design and in all existing Max 8s, despite uncertainty about whether these hazards are likely to ever materialize. See *Boeing Loses Big Order for 737 Max Aircraft*, BBC (July 7, 2019), <https://www.bbc.com/news/business-48899588>; Sinéad Baker, *Here Are All the Investigations and Lawsuits That Boeing and the FAA Are Facing After the 737 Max Crashes Killed Almost 350 People*, BUS. INSIDER (June 24, 2019), <https://www.businessinsider.com/boeing-737-max-crisis-list-lawsuits-investigations-faces-faa-2019-5>; *Boeing's Stock Just Dropped the Most Since 9/11 Following Fatal Crash of Second 737*, TIME (Mar. 11, 2019, 10:54 AM), <https://time.com/5549031/boeing-737-stocks-down/>.

<sup>131</sup> Deficiencies in the 787's design and damage to existing 787 aircraft have been uncovered as a result of increased scrutiny of Boeing in general. See Chris Isidore, *Boeing Discloses New Flaw with 787 Jet as Problems Mount*, CNN, <https://www.cnn.com/2020/09/08/business/boeing-787-flaw-orders-deliveries/index.html> (last updated Sept. 8, 2020, 12:55 PM).

under increased scrutiny, with newspapers reporting on cracks in wing-supports and mocking the failure of Boeing's recent space station mission.<sup>132</sup> The company is now also the subject of a federal investigation and of civil litigation at home, in Ethiopia, and in Indonesia.<sup>133</sup> In addition, a number of domestic airlines, such as American Airlines, have been gravely harmed by Boeing's failures as a result of having purchased large numbers of the MAX 8 in order to update and expand its fleets.<sup>134</sup> Companies that supply parts to Boeing for the plane's production have also been harmed, as have their employees and Boeing's own factory employees.<sup>135</sup>

### C. *Potential Solutions to the Problems of Airline Safety Self-regulation*

#### 1. Tort and Criminal Law

Unfortunately, alternative types of "regulation" such as tort liability, product liability, and criminal liability, although very effective means for government oversight of unsafe activity, are inapplicable in many situations, including in the aviation context, due to the complex chain of events and actors involved in aviation accidents. Nonetheless, some solutions to the problems of aviation regulation that have been proposed in these areas of law will be discussed below to better describe this complexity. Most importantly, it is likely that a viable solution applicable to this industry would require a combination of approaches drawing on several areas of law.

#### a. Criminal Law

At the current accident rate "if you were to take a flight every day, odds are you could go 4491 years without an accident."<sup>136</sup> However,

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<sup>132</sup> See Chris Woodyard, *FAA-Ordered Inspection Finds Cracks in Wing Supports of 36 Boeing 737s, Another Setback for Aerospace Giant*, USA TODAY (Oct. 9, 2019, 10:07 PM), <https://www.usatoday.com/story/news/nation/2019/10/09/boeing-737-ng-faa-inspection-wing-support-cracks-36-planes/3926470002/>; Tim Fernholz, *Boeing's Spacecraft Test Failure Points to Broader Problems*, QUARTZ (Feb. 7, 2020), <https://qz.com/1799365/how-boeings-starliner-test-failed/>.

<sup>133</sup> See Baker, *supra* note 130.

<sup>134</sup> Ted Reed, *New Report Puts Impact of Boeing 737 MAX Grounding at \$4.1 Billion*, FORBES (Aug. 10, 2019, 12:18 PM), <https://www.forbes.com/sites/tedreed/2019/08/10/new-report-puts-impact-of-boeing-737-max-grounding-at-41-billion/#70fe35f11fdf>.

<sup>135</sup> See David Yaffe-Bellany, *After Boeing Halts Max Production, Suppliers Wait for Fallout*, N.Y. TIMES (Dec. 18, 2019), <https://www.nytimes.com/2019/12/18/business/boeing-737-max-suppliers.html>.

<sup>136</sup> Steven M. Dejong, *Kant Be Done: A Consideration of the Criminalization of Accidents Within the Retributivist Paradigm*, 11 ISSUES AVIATION L. & POL'Y 341, 348 (2012) (quoting *2010 Aviation Safety Performance*, IATA (Feb. 23, 2011), <http://www.iata.org/pressroom/pr/Documents/2010aviationSafetyPerformance.pdf>.); see also IATA Releases 2019 Airline Safety Report, IATA (April 6, 2019), <https://www.iata.org/en/pressroom/pr/2020-04-06>.

accidents rarely “just” happen: There is a perception that there are people behind them, and in the aftermath of accidents there are demands that those people be held accountable.<sup>137</sup> This has led to an increase in criminal investigations and prosecutions of aircraft accidents.<sup>138</sup> This mode of “regulation” has been criticized for its retributivism and for its potential to “undermine the effectiveness of criminal punishment in instances where it is actually deserved.”<sup>139</sup> Moreover, scholars have argued that it is absurd to criminally prosecute accidents because they lack criminal intent by definition.<sup>140</sup> In addition, parallel civil investigations will often stymie investigations or damage important evidence.<sup>141</sup>

Furthermore, jury involvement is problematic. Dramatic facts, like those present in airline disasters, lead to juries awarding huge verdicts.<sup>142</sup> Such outcomes have massive industry repercussions in the form of increased insurance rates for all industry members, higher prices throughout the industry, and, ultimately, less flying.<sup>143</sup> Critics also say that juries do not have the requisite knowledge of aeronautics to find the FAA’s federal certification process, which has been designed by experts, criminally negligent.<sup>144</sup> In addition, juries undermine the federal government’s role in aviation safety because they “can be swayed by the emotional evidence.”<sup>145</sup> As a result, consumer groups have also questioned the applicability of product liability to aviation.<sup>146</sup> Rather than employ juries in either criminal or tort contexts, some scholars recommend greater involvement of the NTSB in certification and rulemaking, a safety board to

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01/ (“Based on the 2019 fatality risk, on average, a passenger could take a flight every day for 535 years before experiencing an accident with one fatality on board.”).

<sup>137</sup> *Id.* at 341.

<sup>138</sup> *Id.* at 342.

<sup>139</sup> *Id.* Annex 13 to the Chicago Convention, first adopted in 1951, outlines recommended practices in accident inquiries, stating that “[t]he sole objective of the investigation of an accident or incident shall be the prevention of accidents and incidents. It is not the purpose of this activity to apportion blame or liability.” INT’L CIVIL AVIATION ORG., ANNEX 13 – AIRCRAFT ACCIDENT AND INCIDENT INVESTIGATION § 3.1 (11th ed. 2016).

<sup>140</sup> Dejong, *supra* note 136, at 345.

<sup>141</sup> For example, after the crash of an Air France plane during an air show, judicial authorities claimed jurisdiction and confiscated the flight data recorder and cockpit voice recorder from the French accident investigation authority. *Id.* at 349. The judicial authorities subsequently returned these recorders in “a condition that led the safety authorities to suspect that the evidence might have been tampered with.” *Id.* It is also possible that judicial or civil authorities might inadvertently damage important evidence necessary to prevent future accidents of the same sort.

<sup>142</sup> See Geoffrey M. Hand, Comment, *Should Juries Decide Aircraft Design?* Cleveland v. Piper Aircraft Corp. and *Federal Preemption of State Tort Law*, 29 U.S.F. L. REV. 741, 743 (1995).

<sup>143</sup> See *id.* at 775.

<sup>144</sup> See *id.* at 806.

<sup>145</sup> *Id.* at 743.

<sup>146</sup> *Id.*

review FAA findings, and an independent accident investigation board to act as a reliable and independent judge.<sup>147</sup>

### b. Federal Tort Doctrine

The government is exposed to negligence liability under the Federal Tort Claims Act.<sup>148</sup> The current aircraft certification process exposes the FAA and the federal government to negligence in several areas, in particular in issuing Type Production and Airworthiness Certificates and in administering ODA.<sup>149</sup> However, attorneys are loath to implead the Government because there is no jury in civil actions in federal courts, attorneys' fees are limited, and there is a restrictive two year statute of limitations.<sup>150</sup> Moreover, after the claim is made, "the plaintiff must wait six months or until the claim is denied before bringing an action against the government. In the meantime, [the] plaintiff might prefer to [get] his action going against the manufacturer and proceed[ ] with discovery."<sup>151</sup>

In addition, the United States has generally not been found liable for negligent certification of aircraft in the past.<sup>152</sup> The federal government has traditionally raised three defenses in such actions: (1) that it does not owe a duty of care to any individual; (2) that under the Federal Tort Claims Act, 28 U.S.C. § 2674, "it performs only a discretionary function in certifying aircraft and issuing certificates and, therefore, has no liability under that exception of the Federal Tort Claims Act, 28 U.S.C. [§] 2680(a);" and (3) "[t]hat any violation of FARs with respect to certification of aircraft is a misrepresentation, for which the United States also has no liability under the misrepresentation exclusion of the Federal Tort Claims Act, 28 U.S.C. [§] 2680(h)."<sup>153</sup> With respect to the last defense, the provisions of the statute exclude "[a]ny claim arising out of . . . misrepresentation,"<sup>154</sup> so the government staunchly maintains that such violations are "merely" misrepresentations. Even when district courts have not been swayed by these defenses, liability has been precluded on proximate cause grounds.<sup>155</sup> The government also seeks to dodge responsibility by claiming that it is not the insurer of the safety of a plane upon issuance of a certification.<sup>156</sup> In *United Scottish Ins. v. United States*, the

<sup>147</sup> See *id.* at 744.

<sup>148</sup> 28 U.S.C. § 2674 (2018); see also Maready, *supra* note 51, at 564.

<sup>149</sup> See Maready, *supra* note 51, at 564.

<sup>150</sup> See 28 U.S.C. §§ 2401, 2402, 2412(d)(2)(A) (2018).

<sup>151</sup> Maready, *supra* note 51, at 565; see also 28 U.S.C. § 2675 (2018).

<sup>152</sup> George N. Tompkins, Jr., *The Liability of the United States for Negligent Certification of Aircraft*, 17 F. (A.B.A. SEC. INS., NEGL. & COMPENSATION L.) 569, 578 (1982); see also 28 U.S.C. § 2680(a) (2018).

<sup>153</sup> See Tompkins, *supra* note 152, at 578; 28 U.S.C. §§ 2674, 2680(a), 2680(h) (2018).

<sup>154</sup> 28 U.S.C. § 2680(h).

<sup>155</sup> See Tompkins, *supra* note 152, at 594.

<sup>156</sup> See *id.* at 578–79.

Ninth Circuit held that the Federal Aviation Regulations did not create an actionable duty to passengers with respect to inspection of aircraft,<sup>157</sup> and in *United States v. Varig Airlines*, the Supreme Court exempted the FAA from suits involving the duty to inspect.<sup>158</sup> In addition, under the Federal Tort Claims Act, the FAA, when using its “discretion,”<sup>159</sup> is immune from liability from accidents that could have been prevented had safety regulations been implemented.<sup>160</sup> Numerous other tort theories have also been insufficient in the eyes of courts.<sup>161</sup> However, as George Tompkins points out, there is great reliance on the government for safety regulation; thus, it is appropriate that there be some kind of accountability for the failure of government representatives to enforce statutory provisions, regulations, and certifications.<sup>162</sup> It is also reasonable to believe that if the FAA had the threat of some kind of liability it would have greater incentive to take prophylactic action rather than to wait for accidents to occur before implementing and enforcing regulations.

### c. Strict Liability in Tort Law

Jeffrey Jakubiak has proposed that replacing some functions of the FAA with a scheme of strict liability in tort would reduce public and private expenditures while maintaining, if not improving, airline safety.<sup>163</sup> Jakubiak writes that “[c]ourts often rationalize that strict tort liability provides manufacturers with incentives to improve the safety of their products”<sup>164</sup> and that the Restatement (Second) of Torts notes that airplane passengers should be considered “user[s]” for that purpose.<sup>165</sup>

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<sup>157</sup> 614 F.2d 188, 195 (9th Cir. 1979).

<sup>158</sup> See 467 U.S. 797, 802, 813–14, 821 (1984).

<sup>159</sup> The FAA is immune from “[a]ny claim based upon an act or omission of an employee of the [g]overnment, exercising due care, in the execution of a statute or regulation . . . whether or not the discretion involved be abused.” 28 U.S.C. § 2680(a).

<sup>160</sup> See Lea Ann Carlisle, *The FAA v. the NTSB: Now That Congress Has Addressed the Federal Aviation Administration’s “Dual Mandate,” Has the FAA Begun Living up to Its Amended Purpose of Making Air Travel Safer, or Is the National Transportation Safety Board Still Doing Its Job Alone?*, 66 J. AIR L. & COM. 741, 750–51 (2001).

<sup>161</sup> Attempts to place liability on the government under Good Samaritan arguments have also been denied by courts, which have noted that this argument would only apply if there was a prior duty to inspect, the inspection had specifically engendered reliance, or Good Samaritan conduct worsened the position of the plaintiffs. Tompkins, *supra* note 152, at 580 n.79. However, the government, by inspecting and certifying aircraft to determine minimum standards, is not rendering a service directly to the passenger, meaning that there is no breach of duty. See *id.* at 581. Moreover, the legislative history of the discretionary function exception to the Federal Tort Claims Act, which bars “[a] claim based upon an act or omission of an employee of the [g]overnment, exercising due care, in the execution of a statute or regulation . . . whether or not the discretion involved be abused[,]” might demonstrate that Congress intended that agencies not be liable for regulating aircraft. *Id.* at 586; 28 U.S.C. § 2680(a).

<sup>162</sup> Tompkins, *supra* note 152, at 600.

<sup>163</sup> See Jakubiak, *supra* note 45, at 436, 438.

<sup>164</sup> *Id.* at 430.

<sup>165</sup> *Id.* at 430–31 & n.81.

Because commercial aviation is no longer considered ultrahazardous as a result of extreme improvements in safety over the past decades, aircraft are no longer subject to strict liability claims, even when on the ground.<sup>166</sup> Instead, carriers must maintain “a very high degree of care when transporting the public.”<sup>167</sup> *Res ipsa loquitur* has also been applied to airline accidents, and some state courts have held that violating the FARs is negligence as a matter of law.<sup>168</sup> However, there is “no federal tort law governing air carrier or manufacturer liability; state law controls.”<sup>169</sup>

It is difficult to attribute air accidents to a single cause because they generally have many contributing factors.<sup>170</sup> These factors are all under the control of airlines. Jakubiak thus proposes that all FAA standards governing air carrier equipment, pilot conduct, and company operations should be eliminated and replaced with a scheme for strict liability in tort.<sup>171</sup> If any injury can be attributed to equipment or personnel error, the airline would then be responsible for an appropriate and standardized value-of-life payment to the victims’ next of kin.<sup>172</sup> The value of life would be established by the NTSB.<sup>173</sup> Jakubiak believes that this scheme would force air carriers to perform a cost-benefit analysis in favor of safety.<sup>174</sup> Because airlines are best equipped and better informed than the government to determine what safety schemes are necessary, they are best positioned to implement these safety measures after a cost-benefit analysis that weighs the NTSB’s value-of-life amount against the cost of the safety measures.<sup>175</sup> Thus, “the NTSB’s only means of affecting an airline’s actions is to alter the value-of-life.”<sup>176</sup> The higher the value-of-

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<sup>166</sup> *See id.* at 431.

<sup>167</sup> *Id.*

<sup>168</sup> *Id.*; *see, e.g.*, *Cox v. Northwest Airlines, Inc.*, 379 F.2d 893, 895 (7th Cir. 1967); *Gerard v. American Airlines, Inc.*, 272 F.2d 35, 36–37 (2d Cir. 1959); *O’Connor v. United States*, 251 F.2d 939, 941 (2d Cir. 1958).

<sup>169</sup> *See* Jakubiak, *supra* note 45, at 431.

<sup>170</sup> In 1988, the U.S. Office of Technology Assessment found that 57% of fatal air accidents between 1975 and 1986 were caused, at least in part, by personnel error, and 34% by equipment failure; when categorizing these accidents by initiating factor alone, personnel error was the initiating factor in 43% of cases and equipment failure was the initiating factor in 26% of cases. *Id.* at 436.

<sup>171</sup> *Id.* at 435–36.

<sup>172</sup> *Id.* at 436.

<sup>173</sup> Jakubiak lays out two schemes for valuing human life, the human-capital approach and the willingness-to-pay approach; he also details several empirical estimates of life’s value. *Id.* at 432–34. The FAA assessed the value of a single life at \$1.5 million in the 1980s. *See id.* at 434. Other agencies, such as the Occupational Safety and Health Administration, suggested that a life may be worth as much as \$89 million. *See id.* These figures would be much higher today; perhaps prohibitively so.

<sup>174</sup> *See id.* at 436.

<sup>175</sup> *See id.* at 437.

<sup>176</sup> *Id.*



life the more likely an airline would be to implement safety measures even if their likelihood of saving a life is small, which Jakubiak argues might counterbalance underestimation and short-sightedness.<sup>177</sup> This scheme would eliminate the cost to the FAA of writing and enforcing regulation, place most decision-making power “directly in the hands of the individuals who possess the greatest knowledge,” and reduce litigation costs since negligence would no longer need to be decided by the courts.<sup>178</sup> The three downsides that Jakubiak points to are: first, that overestimating the value of life (which he believes is avoidable through accurate valuation) would cause additional expenditures for airlines; second, that the lack of FAA regulations would cause airlines to need to hire personnel to perform the cost-benefit analyses that the FAA undertakes before promulgating regulations; and third, that consumer anxiety would increase, but could be alleviated through a public relations campaign.<sup>179</sup>

However, I disagree with Jakubiak’s position. The same market forces that are at play in his theory already factor into airlines’ calculi with or without a set value-of-life amount and without a strict liability scheme. When there is an accident, an airline’s stock goes down, people stop flying, and airlines and aircraft manufacturers become the subjects of costly litigation.<sup>180</sup> These negative effects have already happened to Boeing, as described above.<sup>181</sup> Of course, carrying out these calculations, whether under the current scheme or under a strict liability scheme, necessitates that actors be rational, be capable of making these calculations adequately, and be capable of foreseeing never-before-seen failures. These factors weigh both for and against dismissing Jakubiak. Nonetheless, if most accidents are the result of a breakdown in judgment (whether technological or risk-calculus related), rather than the result of intentional misconduct or corruption, recklessness, or true negligence, then a system of strict liability is unlikely to increase safety. A system of federal sanctions might also have little or no effect, as the government’s lack of the resources to effectively enforce its regulations would persist. However, as will be discussed, involving the judicial system in routinely

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<sup>177</sup> *Id.* at 437–38.

<sup>178</sup> *Id.* at 438.

<sup>179</sup> *Id.* at 438–39.

<sup>180</sup> See Al Root, *A Boeing 737 Crash Report Was Released. Here’s What It Means for Boeing Stock.*, BARRON’S, <https://www.barrons.com/articles/indonesian-report-boeing-lion-air-max-jet-crash-51572005112> (last updated Oct. 25, 2019, 1:59 PM); Leslie Josephs, *Travelers Hesitant to Fly the Boeing 737 Max, Survey Finds*, CNBC, <https://www.cnbc.com/2019/12/12/travelers-hesitant-to-fly-the-boeing-737-max-survey-finds.html> (last updated Dec. 12, 2019, 3:52 PM); Phil LeBeau, *Boeing Settles First 737 Max Lawsuits with Families of Indonesia Crash Victims*, CNBC, <https://www.cnbc.com/2019/09/25/boeing-settles-lion-air-lawsuits-for-at-least-1point2-million-apiece.html> (last updated Sept. 25, 2019, 3:05 PM).

<sup>181</sup> See *supra* notes 138–43 and accompanying text.

reviewing agency and industry regulations, rather than just intervening when there is a dispute or tragedy, might prove more effective.

## 2. Looking to the Judiciary

In the post-9/11 world, “economic malaise, war, terrorism and oil” have all made profits challenging for airlines.<sup>182</sup> Governments around the world have also had to be frugal, and many have responded with delegation and privatization.<sup>183</sup> As a result, Virgil Moshansky and Donald Van Dyke recommend that the Canadian government pass legislation requiring periodic review of national aviation safety every decade by a commission headed by a superior court judge.<sup>184</sup> They believe that the judiciary is uniquely positioned and well-suited to being an objective, unbiased watchdog that can make credible recommendations.<sup>185</sup> This is true in the American context as well. Currently, judicial review of aviation safety only happens when something goes wrong, and there is no mechanism by which the judiciary can act proactively to mitigate risks.<sup>186</sup> But Moshansky and Van Dyke believe that it is a basic state responsibility to ensure the safety of its citizens, including those who fly.<sup>187</sup> They believe the state cannot legally or morally abdicate responsibility for citizens’ safety and maintain that to do so is contrary to international law.<sup>188</sup> As a result of the legal underpinnings inherent in making and enforcing regulation, they believe that the judiciary the best regulator.<sup>189</sup>

## 3. Compliance Systems and Audited Self-regulation

Compliance systems are internal systems implemented by companies to ensure that corners are not cut when it comes to complying with government regulation.<sup>190</sup> Through these systems, self-regulatory actors can more effectively audit themselves to ensure their regulatory compliance.<sup>191</sup> In Boeing’s case, there appear to be two types of failures that may have happened within the company. The first is the failure to make

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<sup>182</sup> See Virgil P. Moshansky & Donald L. Van Dyke, *The Role of the Judiciary in Aviation Safety: The Inside Story and Legacy of Dryden Revisited*, 37 ANNALS AIR & SPACE L. 47, 64 (2012). In Canada, Transport Canada has delegated responsibility for setting and enforcing safety protocols to operators, which provides a cost saving to the government. *Id.*

<sup>183</sup> *Id.*

<sup>184</sup> *Id.* at 73.

<sup>185</sup> *Id.* at 73–74.

<sup>186</sup> *Id.* at 76.

<sup>187</sup> *Id.* at 74.

<sup>188</sup> See *id.*

<sup>189</sup> *Id.* at 73–74.

<sup>190</sup> See Kenneth A. Bamberger, *Regulation as Delegation: Private Firms, Decisionmaking, and Accountability in the Administrative State*, 56 DUKE L.J. 377, 393–94 (2006).

<sup>191</sup> See *id.* at 394–95.

appropriate scientific calculations.<sup>192</sup> The second is the failure of a large company to listen to its employees.<sup>193</sup> Indeed, Boeing employees, such as test pilots, raised concerns that were ignored by management years before the crashes.<sup>194</sup> As discussed above, this seems to be a structural problem rather than a pattern of individual misdeeds. For example, some critics have pointed to Boeing's separation of its engineering branch, headquartered in Seattle, from its management branch, which in recent years was relocated to Chicago.<sup>195</sup> Such a structure could have led to a breakdown in decision-making by separating the business of designing and *producing* safe planes from the business of *selling* and marketing safe planes. One potential solution is thus, as Van Dyke suggested, to implement confidential reporting schemes, run by independent non-state authorities, which can reveal problems in corporate cultures where admitting errors to management often result in punitive measures.<sup>196</sup>

Another possible solution is a system that Miriam Seifter nicknames “rent-a-regulator.”<sup>197</sup> This system transfers regulatory decision-making to licensed professionals who serve regulated “clients.”<sup>198</sup> Rather than privatizing or contracting out regulation, the government can license professionals to check compliance for companies.<sup>199</sup> This system has flaws that are apparent in the environmental regulation sphere, but Seifter advocates a redesign of the scheme.<sup>200</sup> These professionals would be private contractors whose job is to regulate;<sup>201</sup> they would not be enforcers but would tell parties what action is necessary.<sup>202</sup> Such professionals are openly “captured” regulators. Their decisions are dominated by the interests of those they regulate and they are not beholden to the public interest besides enforcing the letter of the regulations, both of which make them distinct from privatized government-contracted regulation.<sup>203</sup> As an example, medical device manufacturers can use third-party inspection in-

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<sup>192</sup> Interview with Avihay Dorfman, Visiting Professor of Law, Cornell Law School, in Ithaca N.Y. (Nov. 2019).

<sup>193</sup> *Id.*

<sup>194</sup> See Andrew Tangel & Andy Pasztor, *Boeing Pilot Raised Concerns About 737 MAX Years Before Deadly Crashes*, WALL ST. J., <https://www.wsj.com/articles/faa-criticizes-boeing-over-737-max-messages-11571418548> (last updated Oct. 18, 2019, 8:48 PM).

<sup>195</sup> See Jerry Useem, *The Long-Forgotten Flight That Sent Boeing Off Course*, ATLANTIC (Nov. 20, 2019), <https://www.theatlantic.com/ideas/archive/2019/11/how-boeing-lost-its-bearings/602188/>.

<sup>196</sup> Moshansky & Van Dyke, *supra* note 182, at 60.

<sup>197</sup> Miriam Seifter, Comment, *Rent-a-Regulator: Design and Innovation in Privatized Governmental Decisionmaking*, 33 *ECOLOGY L.Q.*, 1091, 1091 (2006).

<sup>198</sup> *Id.*

<sup>199</sup> *Id.*

<sup>200</sup> See *id.*

<sup>201</sup> See *id.* at 1119.

<sup>202</sup> *Id.* at 1121.

<sup>203</sup> See *id.* at 1122.

stead of FDA inspection, but the FDA “rigorously patrols the independence of the third-party inspectors.”<sup>204</sup> There is detailed FDA guidance about when third-party inspectors will be denied accreditation because of conflicts of interest, and the FDA must receive and approve the inspectors’ inspection results.<sup>205</sup> This scheme is preferable to the government contracting out regulatory functions, because such contracting tends to retain traditional regulator-regulated relationships; by contrast, a system of regulators for hire is non-adversarial.<sup>206</sup>

However, conflicts of interest exist in such a system because the regulated party has “hired” the regulator and can thus wield power over, withhold information from, or fire the regulator if unsatisfied with its findings.<sup>207</sup> This begets loyalty to the regulated party by the regulator, who views the regulated party as a client.<sup>208</sup> Nonetheless, as in the environmental context, these regulators could be governed by a board that fields complaints and regulates its member regulators.<sup>209</sup>

#### 4. Self-regulatory Organizations

Margot Priest argues that self-regulation is most likely to work where there is a combination of few industry players, high exit costs, a history of cooperation, available expertise and resources, noncompliant behaviors that can be punished, consumers who value compliance, fair dispute settlement mechanisms, and a role for public participation or oversight.<sup>210</sup> As an alternative to individual self-regulation, shifting regulation away from the government can take the form of self-regulating organizations that assume the role of government agencies and regulate an industry or profession. Such organizations make up what can be called a fifth self-regulatory model.<sup>211</sup> These organizations promulgate their own rules and enforce regulations, allowing the industry to govern itself. As demonstrated by the nuclear industry, private organizations that regulate an industry better promulgate safety than when we simply allow individual companies to regulate themselves.<sup>212</sup>

Particularly in a market where there are not many major players (Boeing, Airbus, Embraer, and Bombardier are the main commercial air-

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<sup>204</sup> *Id.* at 1124.

<sup>205</sup> *Id.*

<sup>206</sup> *Id.*

<sup>207</sup> *Id.* at 1128–29.

<sup>208</sup> *Id.* at 1129.

<sup>209</sup> *See id.* at 1141–43.

<sup>210</sup> Margot Priest, *The Privatization of Regulation: Five Models of Self-Regulation*, 29 OTTAWA L. REV. 233, 233 (1998).

<sup>211</sup> *See id.* at 262.

<sup>212</sup> A complete discussion of the factors leading to self-regulation’s success in the nuclear industry, and generally, figures in Jack N. Barkenbus, *Is Self-Regulation Possible?*, J. POL’Y ANALYSIS & MGMT., 576 (1983).

craft manufacturers, and the first two are each other's only direct competitors) self-regulation is likely to be less effective.<sup>213</sup> Other methods of regulation such as tort and criminal law are also less likely to be effective in such a context because consumers may be forced to purchase from or use a company that has a poor tort or criminal record as a result of the company's domination of the market. However, in an age of globalization, it is important that aviation safety be considered a global concern, not just in regard to aircraft maintenance, airports, air traffic (all of which currently must conform to international standards), but also in regard to producing safe aircraft.<sup>214</sup> By having aircraft manufacturing regulation become more of an international endeavor, some of the reasons why self-regulation is less effective in the aviation context could be mitigated.

The aviation industry also has parallels to the nuclear industry because of the role that safety plays in aviation's continued existence and preventing large-scale tragedies. There is a similar incentive to prevent mistakes because of the high cost of lawsuits and the devastating harm to business for the entire industry following an accident in which just one member of the industry played a part.<sup>215</sup> Moreover, like the nuclear fallout following accidents like Chernobyl and Fukushima, plane crashes result in the massive loss of life in one fell swoop. This phenomenon is distinct from other privatized areas that involve human lives, such as medical care or food safety, where fewer lives are risked in a single incident, mistakes are more easily contained or remedied, and the chain of responsibility is much clearer and shorter.<sup>216</sup> By contrast, accidents cast a long shadow and loom large; in particular, those involving nuclear reactors and aircraft are called *disasters* and hold a terrifying place in our collective imagination—despite the extremely small odds of them happening at all.<sup>217</sup>

Thus, allowing individual self-regulators too much leeway is dangerous because of the potential for market interests conflicting with social responsibility. Market forces react and adjust to events. Thus, by its nature, the market does not act proactively to prevent an accident, and does not act in anticipation of never-before-seen scenarios. Self-regulatory agencies, composed of industry experts, are well-positioned to fill

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<sup>213</sup> See *id.* at 580–81 (explaining that one of the reasons for the success of nuclear self-regulation is the large number of nuclear utility companies, because the safety failures of any one of them leads to damaging the public opinion of all of them); Interview with Avihay Dorfman, *supra* note 77.

<sup>214</sup> See *infra* Part II.C.5.

<sup>215</sup> Interview with Joshua C. Macey, *supra* note 68.

<sup>216</sup> Interview with Avihay Dorfman, *supra* note 124.

<sup>217</sup> See Karla Cripps, 'Am I Going Down?' New App Analyzes Odds of Your Flight Crash-  
ing, CNN, <https://www.cnn.com/2015/01/22/travel/flight-crash-app/index.html> (last updated Jan. 23, 2015, 9:49 AM).

agencies' deficiencies in expertise and funding, as well as to respond to the prophylactic necessity of regulating safety *ex ante*. In the aviation context, engineers and pilots (whose own lives are at stake when they do their jobs) would be important members of self-regulatory organizations, due to their expertise and the fact that safety is an integral component of their professional callings.

In this vein, Donald Madole suggests establishing a central engineering organization.<sup>218</sup> The certification process requires that FAA employees be highly technically competent;<sup>219</sup> however, congressional committees have found that “the present quality of aircraft designs is satisfactory largely because of the proficiency of the aircraft manufacturers” rather than because of the FAA.<sup>220</sup> Moreover, “[t]he FAA’s expertise was found to be diluted due to its organizational structure,” which divides its certification process among ten regional offices.<sup>221</sup> Airworthiness specialists were responsible for determining airworthiness as well as for certifying modifications and reviewing service difficulty reports, service bulletins, and corrective actions.<sup>222</sup> The Committee on FAA Airworthiness Certification Procedures (the Committee) also noted ambiguous direction and supervision, low morale, artificial career barriers, difficulties in hiring new and experienced engineers (especially in areas with a high cost of living), and a lack of continuing education among employees.<sup>223</sup> A central engineering organization could be charged with airworthiness rulemaking, interpreting existing regulations, identifying research needs, and making decisions that affect design philosophy.<sup>224</sup>

Madole asserts that this would not be complex to implement, as it would require no statutory changes; moreover, the FAA Administrator has the statutory power to prescribe rules as she finds necessary.<sup>225</sup> The FAA could thereby benefit from changing its internal structure, which the Committee felt would require only a five to seven-year period.<sup>226</sup> Finally, the FAA’s overreliance on manufacturers results in the superficial analysis of data: stacks of reports and calculations are submitted to the FAA, and in most cases staff perform only a cursory review of the substance of the overwhelming amount of documentation and do not ex-

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<sup>218</sup> Donald W. Madole, *Improving Aircraft Type Certification*, 17 F. A.B.A. SEC. INS., NEGL. & COMPENSATION L. 627, 629 (1982).

<sup>219</sup> *Id.*

<sup>220</sup> *Id.*

<sup>221</sup> *Id.*; see also *Aircraft Certification Offices (ACOs)*, FAA, [https://www.faa.gov/about/office\\_org/field\\_offices/aco/](https://www.faa.gov/about/office_org/field_offices/aco/) (last modified July 18, 2014, 3:55 PM) (click the dropdown menu “Select a Branch” to see all ten offices).

<sup>222</sup> Madole, *supra* note 218, at 629.

<sup>223</sup> *Id.* at 630.

<sup>224</sup> *Id.* at 631.

<sup>225</sup> *Id.* at 632; see also 49 U.S.C. § 106(f)(3)(A) (2018).

<sup>226</sup> Madole, *supra* note 218, at 632.

amine the overall design of the aircraft.<sup>227</sup> A central engineering organization could make milestone reviews at critical points in design and manufacture, which would be more manageable to review and which would force manufacturers to perform thorough self-review.<sup>228</sup>

## 5. Looking to Other Countries

Aviation is a concern of international law because it is a global activity.<sup>229</sup> To increase collective safety, Professor George Bermann suggests the internationalization of airworthiness and related standards, and he believes that the mechanisms for doing so are already in place.<sup>230</sup> Over thirty countries have significant aircraft product manufacturing, and each has a civil aviation authority.<sup>231</sup> These products all have to comply with the regulations of the country where it was manufactured as well as with regulations in the countries where they will operate.<sup>232</sup> Harmonization would therefore increase the ease with which American products could be certified and sold abroad.<sup>233</sup> In addition, the 1944 Convention on International Civil Aviation, also known as the Chicago Convention, signed by over 150 countries, is an undertaking on an international scale.<sup>234</sup> It enforces common minimum international standards for aircraft, pilots, and air traffic.<sup>235</sup> The idea is that each state will recognize the soundness of member states' certified aircraft and pilots entering its

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<sup>227</sup> See *id.* at 635.

<sup>228</sup> *Id.* at 636.

<sup>229</sup> Michael Milde, *Aviation Safety Oversight: Audits and the Law*, 26 ANNALS AIR & SPACE L. 165, 165 (2001).

<sup>230</sup> See George A. Bermann, *Regulatory Cooperation with Counterpart Agencies Abroad: The FAA's Aircraft Certification Experience*, 24 L. & POL'Y INT'L BUS. 669, 685 (1993).

<sup>231</sup> *Id.*

<sup>232</sup> See *id.*

<sup>233</sup> See *id.*

<sup>234</sup> The International Civil Aviation Organization (ICAO) is an agency of the UN charged under the Chicago Convention (Convention) with codifying principles of international aviation. See *About ICAO*, ICAO, <https://www.icao.int/about-icao/Pages/default.aspx> (last visited Dec. 19, 2020). Within the ICAO, the Accident Investigation Section (AIG) also defines the protocols for air accident investigation, which must be followed by its signatories. See *Accident Investigation Section (AIG)*, ICAO, <https://www.icao.int/safety/airnavigation/AIG/Pages/default.aspx> (last visited Dec. 19, 2020). The Convention functions as a treaty between the signatories and forms a part of public international law. See *The History of ICAO and the Chicago Convention*, ICAO, <https://www.icao.int/about-icao/History/Pages/default.aspx> (last visited Dec. 19, 2020). Its council is empowered to rule on disputes involving the interpretation or application of the Convention, and enforcement is possible through the ICAO's power to suspend an airline from international operation or to deprive a state of its voting power within the ICAO. See *ICAO: Frequently Asked Questions: Which Chicago Convention Articles Apply When a State Doesn't Follow ICAO Standards?*, ICAO, <https://www.icao.int/about-icao/FAQ/Pages/icao-frequently-asked-questions-faq-3.aspx> (last visited Dec. 19, 2020). Disputes may be settled by the Permanent Court of International Justice or by an arbitration tribunal. See *id.*

<sup>235</sup> See generally *Annexes 1 to 18*, ICAO, [https://www.icao.int/safety/airnavigation/NationalityMarks/annexes\\_booklet\\_en.pdf](https://www.icao.int/safety/airnavigation/NationalityMarks/annexes_booklet_en.pdf) (last modified Oct. 18, 2012).

airspace.<sup>236</sup> It also establishes common uniform flight visual and instrument flight rules.<sup>237</sup> Furthermore, a number of European nations were part of the Joint Aviation Authorities whose purpose was to develop common airworthiness regulations and regularly consider and implement new FAA regulations.<sup>238</sup> The United States already has bilateral airworthiness agreements with over twenty-five other states, and the FAA cooperates on regulatory compliance with a number of other countries; thus, Bermann's suggestion is well-rooted in existing policy.<sup>239</sup>

Finally, another solution to accountability concerns might be to extend public law obligations, including human rights obligations. Stacy Donnelly argues that this is a reasonable extension of public law because in providing certain privatized services, private actors are usually involved in implementing government policy.<sup>240</sup>

## 6. Funding the FAA

Niles' analysis, described above, ultimately recommends that the FAA promulgate "specific requirements for the airports and airline to follow to develop some reasonable review structure to ensure that the entities were adhering to the regulations, and, perhaps, to provide for the use of federal officials, or other law enforcement 'professionals' to implement the security regimes."<sup>241</sup> These roles require money.

As discussed above, the FAA's acting director stated recently that the agency would need only \$2 billion more in funding and 10,000 more employees to end its reliance on self-regulators.<sup>242</sup> This is not a great deal of funding considering the significant agency's budget, but it is particularly reasonable in comparison to the magnitude of funding that is allocated to other government agencies.<sup>243</sup> It is certainly possible to do. However, this would not necessarily mitigate agency capture, and the FAA would still be subject to the same conflicts of interest that currently exist. It might also be important to rein in the statutorily-permissible ODA, the method by which airlines can self-certify if design changes are not significant. However, it remains to be seen if and how the ongoing

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<sup>236</sup> See Convention on International Civil Aviation, Dec. 7, 1944, 61 Stat. 1180.

<sup>237</sup> *Annexes 1 to 18, supra* note 235 (Annex 2 outlines "Rules of the Air.").

<sup>238</sup> The Joint Aviation Authorities was ultimately disbanded in 2009. See *About JAA Training Organization*, JAA TO, <https://jaato.com/about-jaa-to/> (last visited Nov. 20, 2020).

<sup>239</sup> See *Aviation Safety: Bilateral Agreement Listing*, FAA, [https://www.faa.gov/aircraft/air\\_cert/international/bilateral\\_agreements/baa\\_basa\\_listing/](https://www.faa.gov/aircraft/air_cert/international/bilateral_agreements/baa_basa_listing/), (last modified Dec. 18, 2020) (click the dropdown menu "Select Country" to see which countries the United States has a bilateral agreement with); FAA, AC No. 21-18, BILATERAL AIRWORTHINESS AGREEMENTS (1982).

<sup>240</sup> Donnelly, *supra* note 70, at 350–51.

<sup>241</sup> Niles, *supra* note 104, at 433–34.

<sup>242</sup> See *supra* note 94 and accompanying text.

<sup>243</sup> See *supra* note 89.



investigation into Boeing, the recent congressional hearings, and the company's continued missteps this year will affect the FAA's next budget. Indeed, Boeing employees mocked the FAA in internal communications, stating that "this airplane is designed by clowns, who are in turn supervised by monkeys."<sup>244</sup>

#### CONCLUSION: PRESSURE TO CHANGE

None of the potential solutions discussed herein are without their flaws. There are also benefits to many of these solutions that are unique to each of them. Moreover, there is a difference between discussing potential solutions in theory versus implementing them in practice. Criminal and tort law—albeit powerful tools of regulation and powerful ways to include victims, survivors, and the public—are for many reasons not properly applicable to the aviation context. Although a greater role for the judiciary in reviewing agencies and industries is a good idea, the judiciary already suffers from crammed dockets. Generating more litigation or creating new oversight roles for the judiciary would only stymie the pursuit of justice in other areas. It is also difficult to force companies to undergo internal changes in their structure and compliance systems, although Boeing certainly seems as if it could benefit from such change.

Nonetheless, new legislation could carve out more of a role for third-party regulators, either for those that are employed by the government or for those employed by the industry. A combination of international regulation standards and public law norms coupled with the establishment of structured self-regulatory organizations that would serve as an intermediary between regulators and the industry also seems like a viable option.

There are also many good reasons to give the market a space within regulation. In particular, cost savings to the government are an important consideration, as is the fact that the industry is on the cutting edge of technology by the nature of its work. Since the funding and personnel that the FAA estimates it needs to be able to carry out its mandated inspections are not impossible figures, it also seems reasonable to require the FAA to at least attempt to better pursue that goal. This would need to come with institutional changes within the FAA, but these are also not impossible and the FAA believes they would only need five to seven years to implement.

More than three hundred lives were lost as a result of the Boeing crashes within the space of a year, and the economic impact was felt

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<sup>244</sup> Natalie Kitroeff, *Boeing Employees Mocked F.A.A. and 'Clowns' Who Designed 737 Max*, N.Y. TIMES (Jan. 9, 2020), <https://www.nytimes.com/2020/01/09/business/boeing-737-messages.html>.

throughout the aviation industry.<sup>245</sup> Although failures on behalf of pilots, maintenance crews, parts suppliers, Boeing's management and employees, and the airlines involved in the accidents have also been blamed for playing a part in the disasters, it is undeniable that links in the causal chain broke somewhere earlier. This breakage more likely took place at the point when Boeing and the FAA had complete control over the aircraft's design and certification, and when Boeing and the FAA failed to adequately address the problem before the second crash occurred. Thus, although none of the solutions discussed in this Note are a perfect fit, what is certain is that the current regulatory scheme has failed (and continues to fail) in spectacular and tragic ways. This is a scheme that has not undergone any meaningful change over many decades, despite repeated patterns and repeated criticism. As a result, any one of the proposed solutions would be a good start, and a combination of approaches would most benefit aviation safety.

Airline travel is normal and necessary in the global world we live in. People are regularly admonished not to worry about airline safety; however, air disasters loom large in our imaginations. We passengers give up complete control as soon as we fasten our seatbelts and sit through an aircraft's safety video. Moreover, serious aviation accidents more often than not result in mass or total loss of life, rather than in individual losses or mere injuries that characterize accidents or misjudgments in other industries. As a result, there is ample basis for public pressure for the current scheme be reconsidered—in other words, for bottom-up regulation. The very day this Note was drafted, Boeing's CEO was ousted—demonstrating the power of public scrutiny to generate change.<sup>246</sup> It remains to be seen if these changes will be more than just superficial.

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<sup>245</sup> See Leslie Josephs, *After Two Fatal Boeing Plane Crashes, the World Turned on the US*, CNBC (Mar. 17, 2019, 9:00 AM), <https://www.cnbc.com/2019/03/17/two-boeing-737-fatal-plane-crashes-the-world-turns-on-the-faa.html>.

<sup>246</sup> See Stephanie Beasley, *Boeing CEO Ousting Inevitable, Amid Poor Marks from Regulators and Crash Victims*, POLITICO (Dec. 23, 2019, 9:50 AM), <https://www.politico.com/news/2019/12/23/boeing-ceo-dennis-muilenburg-resigns-089555>.