# "Dirty" Relationships – An Argument for Criminalizing Improper Corporate Influence in Academic Research

# Michael R. Dohn<sup>\*</sup>

# I. Introduction

Fitzgerald Glider Kits, a Tennessee-based trucking company, installs rebuilt engines and transmissions in "glider kits,"<sup>1</sup> which are new trucks that have factory-installed, remanufactured rear axle assemblies but lack an engine or transmission.<sup>2</sup> Traditionally, the completed glider vehicles have been required to only meet emissions standards that were in place the year the engine block was originally built.<sup>3</sup> Companies such as Fitzgerald typically install engines rebuilt from older models<sup>4</sup> and can therefore avoid installing expensive, later-required engine technologies designed to reduce emissions.<sup>5</sup> This has allowed glider vehicle dealers to sell their wares at a price 10-25% lower than that of new, factory-built

recovered from salvage yards . . . .").

<sup>&</sup>lt;sup>\*</sup> Michael R. Dohn earned his B.S. in Molecular Biology from the Florida Institute of Technology, his Ph.D. in Molecular Medicine from the Medical College of Georgia, and his J.D. from Belmont University College of Law. He would like to thank Professor Lucian Dervan for his advice and encouragement.

<sup>1.</sup> *See About Fitzgerald*, FITZGERALD GLIDER KITS (Nov. 22, 2018, 12:00 PM), https://www.fitzgeraldgliderkits.com/about-fitzgerald/ .

<sup>2.</sup> *What is a Glider Kit*?, FITZGERALD GLIDER KITS (Nov. 22, 2018, 12:00 PM), https://www.fitzgeraldgliderkits.com/what-is-a-glider-kit/ ("The name 'Glider Kit' comes from the fact that these units are unpowered from the factory.").

<sup>3.</sup> James Jaillet, *Gliders losing altitude: Emissions regs crack down on pre-2010 engines, crimping a hot market*, OVERDRIVE (Dec. 14, 2016), https://www.overdriveonline.com/gliders-losing-altitude-emissions-regs-crack-down-on-pre-2010-engines-crimping-a-hot-market/.

<sup>4.</sup> Eric Lipton, *How \$225,000 Can Help Secure a Pollution Loophole at Trump's E.P.A.*, N.Y. TIMES (Feb. 15, 2018), https://www.nytimes.com/2018/02/15/us/politics/epa-pollution-loophole-glider-trucks.html ("Dealers like Fitzgerald . . . typically install 1990s-era engines,

<sup>5.</sup> Eric Miller, *EPA Urged Not to Repeal Rule Regulating Glider Truck Emissions*, TRANSPORT TOPICS (Dec. 4, 2017, 6:00 PM), https://www.ttnews.com/articles/epa-urged-not-repeal-rule-regulating-glider-

https://www.ttnews.com/articles/epa-urged-not-repeal-rule-regulating-glider-truck-emissions.

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vehicles, thus giving the dealers a competitive foothold in the trucking market.<sup>6</sup>

In October of 2016, the Environmental Protection Agency (EPA) announced a final rule that would close this glider vehicle loophole.<sup>7</sup> The rule required "new glider vehicles [to] meet the emission standards applicable in the year of assembly of the new glider vehicle, including all applicable standards for criteria pollutants."<sup>8</sup> To minimize the economic impact on the glider vehicle industry, the rule was implemented in phases.<sup>9</sup> Starting in 2017, glider vehicle suppliers were only permitted to produce noncomplying vehicles at levels equal to their "highest annual production for any year from 2010 to 2014."<sup>10</sup> Effective in 2018, however, each supplier would only be permitted to produce 300 non-complying vehicles; any vehicles produced beyond that amount would be required to meet the new emission standards.<sup>11</sup> According to the EPA, glider vehicle production had dramatically increased over the prior decade, from a few hundred gliders in 2006 to nearly 10,000 vehicles in 2015.<sup>12</sup> While glider vehicles accounted for only two percent of heavy-duty vehicles produced each year, the EPA estimated that gliders were responsible for nearly one-half of the nitrogen oxide and particulate matter emissions from this class of trucks.<sup>13</sup> Thus, this rule would reaffirm then-President Obama's commitment to reducing greenhouse gas emissions.<sup>14</sup>

The following summer, the owner of Fitzgerald Glider Kits, joined by representatives of two other major glider vehicle dealers, penned a letter to the administrator of the EPA.<sup>15</sup> The letter stated,

<sup>6.</sup> James Jaillet, *Gliders 101: Five common questions about glider kits answered*, OVERDRIVE (July 29, 2014),

https://www.overdriveonline.com/gliders-101-five-common-questions-about-glider-kits-answered/.

<sup>7.</sup> *See* Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles—Phase 2, 81 Fed. Reg. 73,478 (Oct. 25, 2016) (to be codified at 49 C.F.R. pt. 523, 534, 535, and 538).

<sup>8.</sup> *Id.* at 73,478.

<sup>9.</sup> *Id.* at 73,518.

<sup>10.</sup> *Id*.

<sup>11.</sup> *Id*.

<sup>12.</sup> *See* Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles—Phase 2, 81 Fed. Reg. 73,478, 73,943 (Oct. 25, 2016) (to be codified at 49 C.F.R. pt. 523, 534, 535, and 538).

<sup>13.</sup> Id.

<sup>14.</sup> Id. at 73,479.

<sup>15.</sup> Fitzgerald Glider Kits et al., *Petition for Reconsideration of* 

Application of the Final Rule Entitled "Greenhouse Gas Emissions and Fuel

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*inter alia*, that not only were the "transitional flexibilities" of the new emissions rule inadequate to avoid a "devastating impact on the glider industry," but the rule itself relied on "unsupported assumptions rather than data."<sup>16</sup> In support of this assertion, the letter pointed to a recent Tennessee Technological University study that, after examining emissions from trucks with certified-new engines and with remanufactured engines, concluded that the remanufactured engines performed equally as well as the new engines.<sup>17</sup> The letter urged the agency, in light of the study's findings, to reconsider the new rule, the final implementation of which was set to occur in just a few months.<sup>18</sup> Later that fall and in direct response to the letter,<sup>19</sup> the EPA announced that it was proposing a rule to repeal the emissions requirements for glider vehicles.<sup>20</sup>

A *New York Times* article published a few months later described the back-story to the EPA's decision to repeal the new emissions standards.<sup>21</sup> The article revealed that Fitzgerald had not only funded the Tennessee Tech study upon which the EPA relied in their latest proposal, but Fitzgerald "had also offered to build a new research center for the university on land owned by the company."<sup>22</sup> Moreover, "business entities, executives and family members" associated with Fitzgerald Glider Kits made at least \$225,000 in contributions to the Tennessee gubernatorial campaign for United States Representative Diane Black, who, on Fitzgerald's behalf, had lobbied the EPA for repeal of the new standards.<sup>23</sup> It was

*Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles— Phase 2 Final Rule" to Gliders*, ENVTL. PROT. AGENCY (July 10, 2017), https://www.epa.gov/sites/production/files/2017-07/documents/hd-ghg-frfitzgerald-recons-petition-2017-07-10.pdf [hereinafter Fitzgerald Petition to EPA].

<sup>16.</sup> Id.

<sup>17.</sup> Id.

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

<sup>19.</sup> Letter from Former EPA Administrator E. Scott Pruitt to Fitzgerald Glider Kits, ENVTL. PROT. AGENCY (Aug. 17, 2017),

https://www.epa.gov/sites/production/files/2017-08/documents/hd-ghg-phase2-fitzgerald-gliders-ltr-2017-08-17.pdf.

<sup>20.</sup> Repeal of Emission Requirements for Glider Vehicles, Glider Engines, and Glider Kits, 82 Fed. Reg. 53,442 (proposed Nov. 16, 2017) (to be codified at 40 C.F.R. pts. 1037 & 1068).

<sup>21.</sup> Lipton, *supra* note 4.

<sup>22.</sup> Id.

<sup>23.</sup> Id.

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also revealed that a separate emissions study, conducted by the EPA itself, contradicted the results of the Tennessee Tech study.<sup>24</sup>

As discussed below, the trustworthiness of both the Tennessee Tech and the EPA studies has been questioned.<sup>25</sup> After a lengthy internal investigation, Tennessee Tech described its own study's conclusions as "not accurate,"<sup>26</sup> and the EPA's Office of Inspector General (OIG) has agreed, in response to congressional requests, to audit the EPA's glider vehicle emissions study amid concerns of its impartiality.<sup>27</sup> The EPA has since removed the proposed repeal of the new emissions standards from its regulatory calendar, leaving doubt as to whether the repeal will move forward.<sup>28</sup>

Regardless of whether the new emissions standards remain in effect or are eventually repealed, Fitzgerald's role behind the Tennessee Tech study highlights the need for stricter rules regulating corporate influence in academic research. While there is neither direct evidence nor any credible accusation that Fitzgerald improperly influenced the study's findings, the company's role in funding both the university's study and its new research center leaves open the possibility that the study's results were not entirely independent. Had Fitzgerald improperly influenced the study's results, perhaps by either directly manipulating the experimental data or by pressuring university researchers to reach conclusions favorable to the glider vehicle industry, any change in EPA rules made in reliance on Tennessee Tech's research would arguably have a substantial impact on greenhouse gas emissions and human health.<sup>29</sup> History is replete with examples of negative consequences emanating from improper corporate influence in academic

<sup>24.</sup> Id.

<sup>25.</sup> See infra Part II.

<sup>26.</sup> Timothy Cama, *University: Truck pollution research cited by EPA was 'not accurate'*, THE HILL (Oct. 24, 2018, 12:10 PM),

https://thehill.com/policy/energy-environment/412934-university-truck-pollution-research-cited-by-epa-was-not-accurate.

<sup>27.</sup> Notification: Response to Congressional Requests on Glider Vehicle Testing, ENVTL. PROT. AGENCY (Sept. 4, 2018),

https://www.epa.gov/sites/production/files/2018-

<sup>09/</sup>documents/\_epaoig\_notificationmemo\_9-4-18\_glidervehicle.pdf [hereinafter *EPA Response*].

<sup>28.</sup> James Jaillet, *Rule to roll back glider kit regs removed from EPA's regulatory calendar*, COM. CARRIER J. (Oct. 18, 2018), https://www.ccjdigital.com/rule-to-roll-back-glider-kit-regs-removed-from-epas-

regulatory-calendar/.

<sup>29.</sup> See infra Part II.

research;<sup>30</sup> however, no criminal sanctions exist to address such improper influence.

This article argues in favor of subjecting certain corporate influence of academic research to criminal liability. While the definition of corporate influence of academia is broad in scope and can include the control over publishing<sup>31</sup> or the influence of corporate-derived information,<sup>32</sup> this article focuses on corporate influence in academic research that propagates false, fabricated, and misleading conclusions. This article argues that, in addition to the standard mens rea and actus reus requirements,<sup>33</sup> harm to public health and safety should be required for criminal liability to attach to conduct constituting improper corporate influence in academic research. In support of this thesis, this article begins with an in-depth analysis of Fitzgerald's role in the EPA's proposed repeal of the new emissions standards for glider vehicles. The next section discusses the benefits of academic-corporate relationships, past and contemporary instances of improper corporate influence in academic research, and the modern trend of increased corporate funding in academia. The final section defines conduct constituting improper influence of academic research, for which a corporation should be held criminally liable, as well as how the public harm element of corporate criminal liability would apply to Fitzgerald Glider Kits.

<sup>30.</sup> See infra Part III.A.

<sup>31.</sup> See Leemon McHenry, Biomedical Research and Corporate Interests: A Question of Academic Freedom, 6 MENS SANA MONOGRAPHS 146 (2008) (discussing how pharmaceutical companies influence medical journals by ghostwriting articles that support their goals, by economically influencing a journal by purchasing advertisements, and by threatening legal action if a researcher attempts to correct study results that are misrepresented); see also Joshua A. Krisch, These Five Corporations Control Academic Publishing, VOCATIV (June 10, 2015, 1:55 PM),

https://www.vocativ.com/culture/science/five-corporations-control-academicpublishing/index.html (stating that of the forty-five million peer-reviewed academic research papers published in 2013, over half were published by only five major corporations).

<sup>32.</sup> See Nathan Newman, *The Emerging Corporate Control of Social Science Knowledge*, HUFFPOST (Dec. 6, 2017, 10:48 AM), https://www.huffingtonpost.com/nathan-newman/the-emerging-corporate-co\_b\_7033246.html (discussing how increased corporate control of social science knowledge allows corporations to drive discussions of how society operates).

<sup>33.</sup> United States v. Apfelbaum, 445 U.S. 115, 131 (1980).

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# II. Money, Politics, & Rebuilt Engines

In mid-November, 2017, the EPA, under then-Administrator Scott Pruitt, announced a proposed rule repealing emissions requirements for glider vehicles, engines, and kits.<sup>34</sup> This proposal followed lobbying by United States Representative Diane Black of Tennessee,<sup>35</sup> as well as a petition filed the previous July by three glider vehicle dealers, one of which was Fitzgerald Glider Kits.<sup>36</sup> The truck dealers were lobbying the EPA because starting in 2018, their refurbished products were to be subject to tougher pollution standards.<sup>37</sup>

Included with the truck dealers' petition was a letter sent to Senator Diane Black from the President of Tennessee Tech and the Associate Vice President of the Tennessee Tech Center for Intelligent Mobility.<sup>38</sup> The letter described the results of a 2016 study performed by the university's Department of Civil and Environmental Engineering.<sup>39</sup> The study examined the environmental and economic impact of an Obama-era EPA rule<sup>40</sup> that, as the letter stated, required glider vehicles to "satisfy emissions standards applicable to new motor vehicles and new motor vehicle engines.<sup>341</sup> To determine whether glider vehicles would be in compliance with the new rule, the study examined fuel efficiency and emissions of carbon monoxide, nitrogen oxide, and particulate matter from trucks with certified-new engines and trucks with remanufactured engines.<sup>42</sup> The university study found that the remanufactured engines performed equally as well as the new engines, and in some instances out-performed the new engines.<sup>43</sup>

38. Fitzgerald Petition to EPA, supra note 15.

<sup>34.</sup> Repeal of Emission Requirements for Glider Vehicles, Glider Engines, and Glider Kits, 82 Fed. Reg. 53,442 (proposed Nov. 16, 2017) (to be codified at 40 C.F.R. pts. 1037 & 1068).

<sup>35.</sup> Lipton, supra note 4.

<sup>36.</sup> Fitzgerald Petition to EPA, supra note 15.

<sup>37.</sup> Juliet Eilperin & Brady Dennis, *EPA is taking more advice from industry* — *and ignoring its own scientists*, WASH. POST (Nov. 10, 2017), https://www.washingtonpost.com/politics/epa-is-taking-more-advice-from-industry--and-ignoring-its-own-scientists/2017/11/10/aa1fbaba-b8fb-11e7-9e58-e6288544af98 story.html?utm term=.3b3cc7bf9cac.

<sup>39.</sup> Id.

<sup>40.</sup> Greenhouse Gas Emissions and Fuel Efficiency Standards for Mediumand Heavy-Duty Engines and Vehicles—Phase 2, 81 Fed. Reg. 73,478 (Oct. 25, 2016) (to be codified at 49 C.F.R. pt. 523, 534, 535, & 538).

<sup>41.</sup> Fitzgerald Petition to EPA, supra note 15.

<sup>42.</sup> Id.

<sup>43.</sup> Id.

The "new information" contained in this study, the letter asserted, "provided a basis for [the] EPA to reconsider the existing rule."<sup>44</sup> About a month after receiving the truck dealers' petition, then-Administrator Pruitt wrote back and stated that in response to the issues raised in the petition, the EPA would revisit the Obama-era rule.<sup>45</sup>

Three months after the EPA announced the proposed rule, which specifically cited the Tennessee Tech study,<sup>46</sup> a *New York Times* article<sup>47</sup> revealed that not only had Fitzgerald paid for the Tennessee Tech study, but the truck dealer also formed a partnership with the university "to support research, education and training in the region and to promote optimization in the trucking industry."<sup>48</sup> As part of this partnership, Fitzgerald agreed to build, on Fitzgeraldowned property, a new research center to house Tennessee Tech's Center for Intelligent Mobility,<sup>49</sup> which, according to the university's website, "provides research on developing greener, more autonomous and connected vehicle technology through industry partnerships."<sup>50</sup>

The *New York Times* article also highlighted Representative Diane Black's role in creating this emissions exception for glider vehicles.<sup>51</sup> In 2015, Representative Black had introduced legislation to prohibit the EPA from using any funds to enforce the Obama-era rule.<sup>52</sup> Although the legislation failed, the election of President Trump provided a sympathetic ear within the EPA in Scott Pruitt,

<sup>44.</sup> Id.

<sup>45.</sup> Letter from Former EPA Administrator E. Scott Pruitt to Fitzgerald Glider Kits, ENVTL. PROTECTION AGENCY (Aug. 17, 2017),

https://www.epa.gov/sites/production/files/2017-08/documents/hd-ghg-phase2-fitzgerald-gliders-ltr-2017-08-17.pdf.

<sup>46.</sup> Repeal of Emission Requirements for Glider Vehicles, Glider Engines, and Glider Kits, 82 Fed. Reg. 53,442, 53,444 (proposed Nov. 16, 2017) (to be codified at 40 C.F.R. pts. 1037 & 1068).

<sup>47.</sup> Lipton, supra note 4.

<sup>48.</sup> *Tennessee Tech, TCAT Livingston, Fitzgerald companies announce new partnership*, TENN. TECH. NEWS (Aug. 7, 2017),

https://www.tntech.edu/news/releases/tennessee-tech,-tcat-livingston,-fitzgerald-companies-announce-new-partnership.

<sup>49.</sup> *Id*.

<sup>50.</sup> Centers and Facilities - Center for Intelligent Mobility, TENN. TECH. U. (Oct. 10, 2018 12:00 AM), https://www.tntech.edu/research/faculty-research-directory/centers-and-facilities/.

<sup>51.</sup> Lipton, supra note 4.

<sup>52.</sup> H.R. Res. 2029, 114th Cong., 161 CONG. REC. 4850 (2015) (enacted).

and Representative Black presented him with the Tennessee Tech study.<sup>53</sup>

Six weeks prior to publication of the EPA's proposed rule in the Federal Register, Fitzgerald hired a former aide of Representative Black's as its first full-time federal lobbyist.<sup>54</sup> In the ensuing several weeks, at least \$225,000 in campaign contributions to Representative Black's campaign for governor of Tennessee were made from "business entities, executives and family members" associated with Fitzgerald Glider Kits.55 A spokesman for the congresswoman said that Representative Black was not influenced by the donations and was merely acting as a voice for her constituent, stating that "[t]here are very few companies willing to try and keep manufacturing jobs in rural Tennessee today, and Diane fights hard to support the few that do."<sup>56</sup> Fitzgerald's owner, Tommy Fitzgerald, claimed that Representative Black's lobbying and then-Administrator Pruitt's proposed rule "were good public policy and not special favors to his company."57 Representative Black's subsequent use of a plane for travel to a campaign event also raised eyebrows, as the plane was registered to a company with ties to Fitzgerald.<sup>58</sup> Two ethics complaints were filed against Representative Black alleging that by accepting the Fitzgerald funds she exceeded Tennessee's limits for campaign contributions; however, those complaints were later dismissed.<sup>59</sup>

While Fitzgerald's conduct regarding its coordinated donations to Representative Black's campaign and the funding of the Tennessee Tech study might have an appearance of impropriety, one would be well within reason to accept the statements of the congresswoman's spokesman and of Tommy Fitzgerald. After all, even if there was some improper conduct, the Tennessee Tech study

59. Joel Ebert, *Complaints against Diane Black dismissed, action delayed on filings against Beth Harwell*, THE TENNESSEAN (Mar. 14, 2018, 3:15 PM), https://www.tennessean.com/story/news/politics/2018/03/14/complaints-against-diane-black-dismissed-action-delayed-filings-delay-action-filings-against-beth-ha/423718002/.

<sup>53.</sup> Lipton, *supra* note 4.

<sup>54.</sup> Id.

<sup>55.</sup> Id.

<sup>56.</sup> Id.

<sup>57.</sup> Id.

<sup>58.</sup> Joel Ebert & Dave Boucher, *Diane Black took flight on private plane linked to company that benefited from her politicking*, THE TENNESSEAN (May 18, 2018, 3:00 PM), https://www.tennessean.com/story/news/politics/tn-elections/2018/05/18/diane-black-private-plane-flight-company-emissions-loophole/618950002/.

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still provided ample support for the EPA's proposed rule. Unfortunately for Fitzgerald, that was not necessarily the case.

The *New York Times* article also reported that only days after the EPA announced the proposed rule repealing emissions requirements for glider vehicles, a second study was entered into the agency's official rulemaking docket.<sup>60</sup> This study, which the agency had itself performed, directly contradicted the Tennessee Tech study and concluded that emissions from glider vehicles were 43-55 times higher than conventionally built vehicles.<sup>61</sup> Emissions from glider vehicles were so elevated that when the EPA tested emissions during idling conditions, the particulate matter sampling equipment shut down because "[t]he filters were overloaded with particulate matter."<sup>62</sup> At this rate of emissions, the impact on human health and the environment would be substantial:

> According to the EPA's own testing, a single glider truck emits 30 times the [nitrogen oxide] and 60 times the [particulate matter] of a modern truck. Sales of glider trucks today are around 10,000 per year . . . up an order of magnitude from 10 years ago. If these numbers continue to grow, even at a moderate level, Scott Pruitt's proposed regulation would expose US citizens to an additional 1.5 million tons of [nitrogen oxide] and 16 thousand tons of [particulate matter] emissions, equivalent to more than 12 billion dollars in health damages over the next decade. To put this into perspective, those additional [nitrogen oxide] emissions are 13 times what the impact of the Volkswagen fraud in the United States would have been if all 482,000 VW diesel cars sold with defeat devices . . . were driven until they died of natural causes.<sup>63</sup>

Days after the *New York Times* story was published, the President of Tennessee Tech disavowed the university's study in a

<sup>60.</sup> Lipton, supra note 4.

<sup>61.</sup> Chassis Dynamometer Testing of Two Recent Model Year Heavy-Duty On-Highway Diesel Glider Vehicles, ENVTL. PROTECTION AGENCY (Nov. 20, 2017), https://www.dieselnet.com/misc/201711 epa glider report.pdf.

<sup>62.</sup> Id.

<sup>63.</sup> Rachel Muncrief & Josh Miller, *Scott Pruitt's EPA wants to resurrect the dirty diesel*, INT'L COUNCIL ON CLEAN TRANSP. (Dec. 1, 2017, 11:43 AM), https://www.theicct.org/blog/staff/glider-proposal-means-resurrecting-dirty-diesel.

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letter sent to both Scott Pruitt and Representative Black.<sup>64</sup> In the letter, the university president wrote that "knowledgeable experts within the University have questioned the methodology and accuracy of the [university's] report" and that the school "is investigating an allegation of research misconduct related to the study."<sup>65</sup> The president's letter followed a letter to the university's faculty by the interim dean at the school's College of Engineering, in which he urged the president to retract support for the study, claiming it was "largely handled by a graduate student" and that "[n]o qualified, credentialed engineering faculty member (1) oversaw the testing, (2) verified the data or calculations of the graduate student, [or] (3) wrote or reviewed the final report submitted to Fitzgerald...."<sup>66</sup>

The EPA responded to the *New York Times* story by claiming that the agency "did not rely on the [Tennessee Tech] study or even quote directly from it," adding that the rule change was "based on a legal determination that the agency did not have the authority to regulate" glider vehicles.<sup>67</sup> On July 6, 2018, which was Scott Pruitt's last day in his role as EPA Administrator,<sup>68</sup> the EPA issued a "no action assurance" memorandum stating that it would not enforce the new pollution limits on glider vehicles in order to allow the agency's Office of Air and Radiation to fully evaluate the issue.<sup>69</sup> Environmental groups immediately brought suit,<sup>70</sup> and the U.S.

<sup>64.</sup> Juliet Eilperin & Brady Dennis, *Tennessee Tech withdraws industry-funded study used to back controversial EPA truck rule*, WASH. POST (Feb. 21, 2018), https://www.washingtonpost.com/news/energy-

environment/wp/2018/02/21/tennessee-tech-withdraws-industry-funded-study-used-to-back-controversial-epa-truck-

rule/?noredirect=on&utm\_term=.48636821eedc.

<sup>65.</sup> Id.

<sup>66.</sup> Eric Lipton, University Pulls Back on Pollution Study That Supported Its Benefactor, N.Y. TIMES (Feb. 21, 2018),

https://www.nytimes.com/2018/02/21/admin/trucking-pollution-study.html. 67. *Id.* 

<sup>68.</sup> Rebecca Hersher & Brett Neely, *Scott Pruitt Out At EPA*, NAT'L PUB. RADIO (July 5, 2018, 3:38 PM),

https://www.npr.org/2018/07/05/594078923/scott-pruitt-out-at-epa.

<sup>69.</sup> Conditional No Action Assurance Regarding Small Manufacturers of Glider Vehicles, ENVTL. PROTECTION AGENCY (July 6, 2018), https://www.epa.gov/sites/production/files/2018-

<sup>07/</sup>documents/glidernoactionassurance070618.pdf.

<sup>70.</sup> Emergency Motion for Stay or Summary Disposition and Request for Administrative Stay, Environmental Defense Fund, et al., v. Envtl. Prot. Agency, No. 18-1190, 2018 U.S. App. LEXIS 24040, at \*5 (D.C. Cir. July 17, 2018).

Court of Appeals for the D.C. Circuit stayed the "no action assurance" memorandum.<sup>71</sup> Later that same month, acting EPA Administrator Andrew Wheeler issued a memorandum withdrawing the previous "no action assurance" memorandum, stating that the "application of current regulations to the glider industry does not represent the kind of extremely unusual circumstances that support the EPA's exercise of enforcement discretion."<sup>72</sup>

Shortly before the EPA's initial "no action assurance" memorandum was issued, several Republican members of the House of Representatives sent letters to the EPA's OIG requesting an investigation into the EPA study.<sup>73</sup> Each letter raised concerns of "potential improper contacts between EPA staffers and Volvo Trucks regarding research into glider kit truck emissions."<sup>74</sup> Volvo had been a vocal critic of glider vehicles,<sup>75</sup> and one of the letters alleged that, "without the knowledge or approval of EPA leadership," *ex parte* communications between EPA employees and Volvo employees were made to arrange a study of glider vehicles, which were provided by Volvo.<sup>76</sup> In early September, the OIG agreed to "examine the selection, acquisition and testing of glider vehicles at EPA's National Vehicle and Fuel Emissions Laboratory as well as EPA's planning for this testing."<sup>77</sup>

<sup>71.</sup> Order, Environmental Defense Fund, et al., v. Environmental Protection Agency, No. 18-1190, 2018 U.S. App. LEXIS 24040, at \*5 (D.C. Cir. July 18, 2018).

<sup>72.</sup> Withdrawal of Conditional No Action Assurance Regarding Small Manufacturers of Glider Vehicles, ENVTL. PROT. AGENCY (July 26, 2018), https://www.epa.gov/sites/production/files/2018-

<sup>07/</sup>documents/memo\_re\_withdrawal\_of\_conditional\_naa\_regarding\_small\_man ufacturers\_of\_glider\_vehicles\_07-26-2018.pdf.

<sup>73.</sup> James Jaillet, *EPA asked to investigate alleged improper contact between EPA staffers, Volvo on glider kit regs*, OVERDRIVE (June 27, 2018), https://www.overdriveonline.com/epa-asked-to-investigate-alleged-improper-contact-between-epa-staffers-volvo-on-glider-kit-regs/.

<sup>74.</sup> Id.

<sup>75.</sup> Steve Milloy, *EPA Bureaucrats Go Rogue on 'Glider Truck' Emissions*, WALL STREET J. (Jan. 12, 2018, 6:39 PM), https://www.wsj.com/articles/epa-bureaucrats-go-rogue-on-glider-truck-emissions-1515800360.

<sup>76.</sup> Letter from Greg Gianforte to EPA IG Requesting Investigation on Potential Improper Contacts, COMMITTEE ON OVERSIGHT & GOV'T REFORM (June 21, 2018), https://oversight.house.gov/wp-content/uploads/2018/06/2018-06-21-Gianforte-to-Elkins-EPA-Emissions-Testing.pdf.

<sup>77.</sup> EPA Response, supra note 27.

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Not to be outdone, Democratic members of the House also sent a letter to the EPA's OIG.<sup>78</sup> In late September, ranking Democratic members of the Committee on Science, Space, and Technology requested that the OIG investigate Tennessee Tech's glider vehicle study.<sup>79</sup> The members highlighted several issues in the letter that questioned the study's veracity, including (1) that the study was not independent because it was funded by Fitzgerald, an interested party, and conducted at an unaccredited, Fitzgeraldowned facility, (2) that the Principal Investigator removed his name from the study, returned his portion of the funding to Fitzgerald, and filed a scientific research misconduct complaint with the university, and (3) that Tennessee Tech had thus far refused to release the findings of its internal investigation, which, by the university's own policy, should have been completed by July.<sup>80</sup> Top Democrats on the Senate's Environment and Public Works Committee and Appropriations Subcommittee on the Interior, Environment, and Related Agencies also wrote to the EPA's OIG.<sup>81</sup> The senators asked the OIG to investigate not only the Tennessee Tech study, but also the EPA's failure to review the proposal's likely health effects and its efforts "purposefully designed to avoid legally required health and economic analyses."<sup>82</sup>

In late October of 2018, Tennessee Tech finally released the results of its internal investigation.<sup>83</sup> While "the research itself was methodologically sound," the investigation revealed that "the field-testing procedures used by [the researchers] were not sufficient to justify comparisons with EPA standards."<sup>84</sup> As such, the study's

78. Letter to EPA IG Requesting Investigation on Glider Truck Study Conducted by Tennessee Technological University, COMMITTEE ON SCI., SPACE, & TECH. (Sept. 26, 2018), https://democrats-

science.house.gov/sites/democrats.science.house.gov/files/documents/9.26.18% 20letter%20to%20EPA%20IG%20on%20TTU%20Glider%20Study.pdf [hereinafter *Letter Requesting Investigation of University Study*].

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

<sup>80.</sup> *Id*.

<sup>81.</sup> Press Release, U.S. Senate Comm. on Env't & Pub. Works, Carper, Udall Ask EPA OIG To Broaden Investigation Into Legally Questionable Loophole For High-Polluting Glider Trucks (Oct. 31, 2018) https://www.epw.senate.gov/public/index.cfm/2018/10/carper-udall-ask-epaoig-to-broaden-investigation-into-legally-questionable-loophole-for-highpolluting-glider-trucks.

<sup>82.</sup> Id.

<sup>83.</sup> Cama, supra note 26.

<sup>84.</sup> Trudy Harper, *Tennessee Tech University – Summary of Heavy Duty Truck Study and Evaluation of the Phase II Heavy Duty Truck Rule*, TENN.

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conclusion that "remanufactured engines performed equally as well as [new] engines" was "not accurate."<sup>85</sup> Although the results of the OIG's inquiry into the EPA's own study have yet to be released,<sup>86</sup> the future of the proposed repeal of the new emissions standards is doubtful, as the EPA has since removed the proposal from its regulatory calendar.<sup>87</sup>

While the independence of the Tennessee Tech study has been questioned,<sup>88</sup> Tennessee Tech's internal investigation did not examine any potential role Fitzgerald played in influencing the study's findings.<sup>89</sup> Had Fitzgerald knowingly contributed to the falsification or fabrication of the study's conclusions, the company's petition to then-Administrator Pruitt<sup>90</sup> would constitute a false statement to a government official, which carries up to five years' imprisonment<sup>91</sup> and \$500,000 in fines.<sup>92</sup> While there have been no accusations that Fitzgerald directly falsified or fabricated any of the data or conclusions presented in the study, that fact may not be too comforting for Fitzgerald. The failure of the proposed rule allowed the heightened emissions standards to take effect, and the company has had to cut production of glider vehicles by 90%, close one of its plants, and lay off dozens of employees.<sup>93</sup>

# III. Corporate Influence in Academic Research

# A. **Opportunities and Obstacles**

- 91. 18 U.S.C. § 1001(a).
- 92. 18 U.S.C. § 3571(c)(3).

TECH. U. (Oct. 23, 2018), https://www.tntech.edu/assets/pdf/2018-10-23-Letters-to-TFitzgerald-DBlack-EPA-Admin.pdf.

<sup>85.</sup> Id.

<sup>86.</sup> Eric Miller, *White House Nonresponsive to EPA Inspector General Requests on Glider Truck Audit*, TRANSPORT TOPICS (May 9, 2019, 3:45 AM), https://www.ttnews.com/articles/white-house-nonresponsive-epa-inspector-general-requests-glider-truck-audit.

<sup>87.</sup> Jaillet, supra note 28.

<sup>88.</sup> Letter Requesting Investigation of University Study, supra note 78.

<sup>89.</sup> See Harper, supra note 84.

<sup>90.</sup> Fitzgerald Petition to EPA, *supra* note 15.

<sup>93.</sup> Amye Anderson, Fitzgerald slashes dozens of jobs, UPPER

CUMBERLAND BUS. J. (June 14, 2018), https://www.ucbjournal.com/breaking-fitzgerald-slashes-dozens-of-jobs/.

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Partnerships between corporations and universities can be a force for good. Passage of the Bayh-Dole Act in 1980,<sup>94</sup> which permitted the commercialization of inventions and technology generated by federally funded university research,<sup>95</sup> paved the path for academic-corporate relationships.<sup>96</sup> Such interactions have led to the creation of new academic disciplines, the development of novel technologies, and the overall advancement of numerous scientific fields.<sup>97</sup>

For 2015, [corporate involvement in university research] tallied more than 700 commercial products. Corporate-aided innovations that have now become staples of everyday life include Doppler weather radar, developed at the Massachusetts Institute of Technology; magnetic-resonance imaging technology, developed at the State University of New York; and time-release capsule technology, developed at the University of Kansas.<sup>98</sup>

As one study noted, "[t]here is no doubt that collaboration between academic institutions and industry has led to profoundly important clinical trials, drug development, and translational research initiatives."<sup>99</sup> Moreover, even the absence of any potential conflicts

<sup>94.</sup> Patent and Trademark Law Amendments Act of 1980, Pub. L. No. 96-517, 94 Stat. 3015 (1890).

<sup>95.</sup> COUNCIL ON GOVERNMENTAL RELATIONS, THE BAYH-DOLE ACT: A GUIDE TO THE LAW AND IMPLEMENTING REGULATIONS 2 (Oct. 1999), https://www.cogr.edu/sites/default/files/The\_Bayh-Dole\_Act-

A\_Guide\_to\_the\_Law\_and\_Implementing\_Regulations.pdf. 96. Jennifer Washburn, *Science's Worst Enemy: Corporate Funding*,

DISCOVER MAG. (Oct. 11, 2007),

http://discovermagazine.com/2007/oct/sciences-worst-enemy-private-funding.
97. Jennifer Washburn, *Academic Freedom and the Corporate University*,
97 ACADEME 8, 8 (2011).

<sup>98.</sup> Paul Basken, *How to Protect Your College's Research From Undue Corporate Influence*, CHRON. HIGHER EDUC. (Feb. 25, 2018),

https://www.chronicle.com/article/How-to-Protect-Your/242616.

<sup>99.</sup> Timothy S. Anderson et al., *Prevalence and compensation of academic leaders, professors, and trustees on publicly traded US healthcare company boards of directors: cross sectional study*, 351 BMJ 1, 7 (2015) (discussing the benefits of corporate-academic partnerships despite potential conflicts of interest).

of interest that may result from an academic-corporate relationship, there is no promise of unbiased science.<sup>100</sup>

Notwithstanding the ample benefits of corporate-academic collaborations, there can be downsides to such alliances. Improper corporate influence in research is not a new phenomenon and can lead to great harm. In the 1970s, the chemical conglomerate W.R. Grace suppressed research demonstrating that chemicals its mine workers encountered did not contribute to mesothelioma, an asbestos-related cancer.<sup>101</sup> In an effort to prove that tremolite, a mineral found in its asbestos mines, was not carcinogenic, Grace funded an academic study on the effect of tremolite exposure in small animals.<sup>102</sup> The study revealed that animals exposed to the form of tremolite found in mines owned by Grace developed multiple forms of mesothelioma, whereas animals treated with only a saline solution did not.<sup>103</sup> A non-disclosure agreement, to which the study's findings were subject, allowed Grace to block the researcher from publishing the results, a right that Grace exercised in its efforts to prioritize profits over human health.<sup>104</sup>

Entire industries have also been involved in concerted efforts to improperly influence academic research. A well-known example is the role the tobacco industry played during the latter half of the twentieth century in manipulating research about the harms of cigarette smoking.<sup>105</sup> In response to overwhelming scientific evidence of the health risks of smoking, the tobacco industry in the 1950s began a decades-long campaign designed to manipulate the data on such health risks,<sup>106</sup> which included funding and publishing research that supported their position while simultaneously suppressing and criticizing research that refuted their position.<sup>107</sup> An even earlier example of improper corporate influence in academia

<sup>100.</sup> Amy Butcher, *The Benefits and Risks of Corporate-Academic Partnerships*, NONPROFIT QUARTERLY (Oct. 5, 2015), https://nonprofitquarterly.org/2015/10/05/the-benefits-and-risks-of-corporate-academic-partnerships/ (citing JOHN ZIMAN, REAL SCIENCE: WHAT IT IS, AND WHAT IT MEANS 174 (2002)).

<sup>101.</sup> See David Egilman et al., Corporate Corruption of Medical Literature: Asbestos Studies Concealed by W.R. Grace & Co., 6 ACCOUNTABILITY RES. 127 (1998).

<sup>102.</sup> Id. at 137.

<sup>103.</sup> Id. at 138.

<sup>104.</sup> Id. at 137-38.

<sup>105.</sup> See Lisa A. Bero, *Tobacco Industry Manipulation of Research*, 120 PUB. HEALTH REP. 200 (2005); Allan M. Brandt, *Inventing Conflicts of Interest: A History of Tobacco Industry Tactics*, 102 AM. J. PUB. HEALTH 63 (2012).

<sup>106.</sup> Brandt, *supra* note 105, at 63.

<sup>107.</sup> Bero, *supra* note 105, at 200.

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involves what is well-known today to be a deadly neurotoxin: lead.<sup>108</sup> As evidence of the dangers of lead emerged in the 1920s and 30s, the lead industry sought to develop counter-evidence "by funding its own university research, discrediting and intimidating researchers who found problems, and fighting any regulation that aimed to restrict the use of lead paint."<sup>109</sup> Industry efforts were apparently effective, as residential lead-based paint was not banned until 1978.<sup>110</sup>

A more contemporary example of corporate influence in academic research involves the technology company Google. In 2017, the non-profit ethics watchdog group Campaign for Accountability released a report detailing the tech giant's extensive financial support of academic research.<sup>111</sup> The report states that behind the facade of Google's college-like atmosphere, the company exercises "an increasingly pernicious influence on academic research, paying millions of dollars each year to academics and scholars who produce papers that support its business and policy goals."<sup>112</sup> The academic papers cited in the report cover a broad range of policy and legal issues, including privacy, net neutrality, and intellectual property.<sup>113</sup> The report also showed that Google-funded studies tended to be released either when the company's business model was under threat from regulators or when Google had an opportunity to advocate for regulations detrimental to its competitors.<sup>114</sup>

Even more recently, the National Institutes of Health (NIH) shut down a study it co-sponsored with the alcohol industry due to improper corporate influence over the study's design.<sup>115</sup> The study,

<sup>108.</sup> Conan Milner, *How 8 Industries Have Swayed Science at the Expense of Public Health*, EPOCH TIMES (June 19, 2014),

https://www.theepochtimes.com/it-can-take-a-lot-of-money-to-carry-out-acareful-study-the-influence-of-corporate-funding-has-been-known-to-leave-ablack-eye-on-the-good-faith-of-the-scientific-method-and-the-conclusions-thateme\_735083.html.

<sup>109.</sup> Id.

<sup>110.</sup> See Lead-Containing Paint and Certain Consumer Products Bearing Lead-Containing Paint, 42 Fed. Reg. 44,199 (Sept. 1, 1977) (codified at 16 C.F.R. pt. 1303).

<sup>111.</sup> See CAMPAIGN FOR ACCOUNTABILITY, GOOGLE ACADEMICS INC. (July 11, 2017), https://campaignforaccountability.org/work/google-academics-inc/.

<sup>112.</sup> *Id*. at 1.

<sup>113.</sup> Id.

<sup>114.</sup> Id. at 2.

<sup>115.</sup> Jeannie Baumann, *NIH to Beef Up Private Donor Controls After Alcohol Study Scandal*, BLOOMBERG LAW NEWS (Oct. 31, 2018, 2:48 PM),

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which was jointly funded by the NIH's National Institute on Alcohol Abuse and Alcoholism and by members of the alcohol industry, including Anheuser Busch and Heineken, was designed to examine the health benefits of moderate alcohol consumption.<sup>116</sup> However, allegations that "discussions between NIH staff and the beverage industry aimed to tilt [the study's] results in favor of the alcohol industry" drove NIH Director Francis Collins to terminate the study.<sup>117</sup> An NIH advisory panel reported to Collins that staff of the frequently corresponded institute with alcohol industry representatives, who provided input into the clinical trial's design.<sup>118</sup> These interactions, the panel concluded "call[] into question the impartiality of the process and thus cast[] doubt that the scientific knowledge gained from the study would be actionable or believable."<sup>119</sup> Three agency staffers lost their jobs over the scandal, and in December the NIH will unveil new transparency and accountability rules regarding public-private partnerships.<sup>120</sup>

# **B.** Trends in Research Support

As U.S. colleges and universities strive to attain the "highest level and the largest amount of quality possible," many attempt to achieve such quality by acquiring a strong academic research presence.<sup>121</sup> A strong research and development program attracts high-caliber students by creating opportunities for students to work directly with professors at the institution and to interact with experts in the field of research.<sup>122</sup>

According to the National Science Foundation, higher education institutions in the U.S. spent nearly \$72 billion on

https://www.bloomberglaw.com/document/XAT3538000000?udv\_expired=tru e.

<sup>116.</sup> Roni Caryn Rabin, *Federal Agency Courted Alcohol Industry to Fund Study on Benefits of Moderate Drinking*, N.Y. TIMES (Mar. 17, 2018), https://www.nytimes.com/2018/03/17/health/nih-alcohol-study-liquor-industry.html.

<sup>117.</sup> Baumann, *supra* note 115.

<sup>118.</sup> Roni Caryn Rabin, *Major Study of Drinking Will Be Shut Down*, N.Y. TIMES (June 15, 2018), https://www.nytimes.com/2018/06/15/health/alcohol-nih-drinking.html?module=inline.

<sup>119.</sup> *Id*.

<sup>120.</sup> Baumann, *supra* note 115.

<sup>121.</sup> JOHN V. LOMBARDI & DIANE D. CRAIG, Foreword to JOHN V.

LOMBARDI ET AL., CTR. FOR MEASURING UNIV. PERFORMANCE 5, 6 (2017).

<sup>122.</sup> *Highest Research & Development Funding*, BEST COLLEGES (Nov. 22, 2018, 12:00 AM), https://www.bestcolleges.com/features/colleges-with-highest-research-and-development-expenditures/.

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research and development in 2016.<sup>123</sup> Nearly 60% of that amount came from federal, state, and local government sources, with the federal government accounting for the lion's share of government funding.<sup>124</sup> Institutional funds accounted for roughly 25% of total research and development expenditures, while business and non-profit organization sources contributed to about 6% each.<sup>125</sup>

The fact that the federal government is the main funding source for research and development at higher education institutions in the U.S. is nothing new, as the federal government has funded the majority of basic academic research in the U.S. since World War II.<sup>126</sup> What is noteworthy, however, is that the rates of research funding by various sources have been changing in recent years. Between 2011 and 2016, the rate of federal funding of higher education research and development dropped by 5%, even accounting for a 2.5% funding increase from 2015 to 2016.<sup>127</sup> Despite this drop in the federal funding rate, total research and development expenditures during the same period increased by over 9%.<sup>128</sup> So which funding sources are making up for this shortfall in federal dollars? The rate of institutional funding, which increased about 30% in that time period, accounts for the bulk of the increase in total expenditures, and state and local government funding increased by a rate of just over 4%.<sup>129</sup> The increase in self-funding by higher education institutions could be seen as an attempt to become more resilient to fluctuations in federal funding levels,<sup>130</sup> a prime example of which was the rapid increase in NIH funding levels near the turn of the century, which was followed shortly

<sup>123.</sup> Ronda Britt, *Universities Report Increased Federal R&D Funding after 4-year Decline; R&D Fields Revised for FY 2016*, NAT'L SCI. FOUND. (Nov. 30, 2017), https://www.nsf.gov/statistics/2018/nsf18303/.

<sup>124.</sup> *Id*.

<sup>125.</sup> Id.

<sup>126.</sup> Jeffrey Mervis, *Data check: U.S. government share of basic research funding falls below 50%*, SCIENCE (Mar. 9, 2017, 1:15 PM), http://www.sciencemag.org/news/2017/03/data-check-us-government-share-basic-research-funding-falls-below-50.

<sup>127.</sup> Britt, supra note 123.

<sup>128.</sup> Id.

<sup>129.</sup> Id.

<sup>130.</sup> Brian Herman & Claudia Neuhauser, *Is it time for a new model to fund science research in higher education?*, THE CONVERSATION (Oct. 12, 2016, 9:27 PM), http://theconversation.com/is-it-time-for-a-new-model-to-fund-science-research-in-higher-education-63691.

thereafter by a flat-lining of the NIH budget leading up to the Great Recession.<sup>131</sup>

While it may not be too surprising that academic institutions are funding more of the research taking place on their campuses, what is striking is that funding rates from businesses and non-profit organizations also increased between 2011 and 2016 by nearly 25% and 17%, respectively.<sup>132</sup> This increase in corporate funding of external research projects runs counter to the conventional wisdom that "U.S. companies [are] so focused on short-term profits that they have all but abandoned the pursuit of fundamental knowledge, an endeavor that may take decades to pay off."<sup>133</sup> The increase appears to be driven by a combination of the desire of academic researchers and institutions to diversify their funding sources,<sup>134</sup> the willingness of private corporations and organizations to sponsor fundamental research and development projects,<sup>135</sup> and a loosening of the mentality that an academic researcher is unethical by accepting corporate money.<sup>136</sup>

While corporations may be more willing to provide—and academic researchers more willing to accept—private funding for research projects, certain barriers inherent to both corporate and academic culture still remain. Institutions for higher education have long-valued the free exchange of ideas.<sup>137</sup> As one scholar noted, this exchange occurs in academic research in many contexts, including "in published primary research articles[,] . . . commentaries, letters to the editor, blog posts and online groups . . . , grant applications

135. Mervis, *supra* note 126; *see also* Molly McCluskey, *Public Universities Get an Education in Private Industry*, THE ATLANTIC (Apr. 3, 2017), https://www.theatlantic.com/education/archive/2017/04/publicuniversities-get-an-education-in-private-industry/521379/.

136. Hank Campbell, *Corporate Funding - The New Status Symbol For Academic Scientists*, AM. COUNCIL ON SCI. AND HEALTH (Dec. 22, 2017), https://www.acsh.org/news/2017/12/22/corporate-funding-new-status-symbolacademic-scientists-12323 (reviewing DAVID R. JOHNSON, A FRACTURED PROFESSION: COMMERCIALISM AND CONFLICT IN ACADEMIC SCIENCE (2017)).

<sup>131.</sup> JUDITH A. JOHNSON, CONG. RESEARCH SERV., R43341, NIH FUNDING: FY1994-FY2019 4 (2018).

<sup>132.</sup> Britt, *supra* note 123.

<sup>133.</sup> Mervis, *supra* note 126.

<sup>134.</sup> Mary Ellen Miller, *Diversified Portfolios: With funding tight at NIH, what are the alternatives?*, JOHNS HOPKINS MED. (Apr. 2007), https://www.hopkinsmedicine.org/institute\_basic\_biomedical\_sciences/news\_ev ents/articles and stories/funding science/200704 diversified portfolios.html.

<sup>137.</sup> Why The University Must Be A "Marketplace Of Ideas", CTR. FOR ACAD. FREEDOM: BLOG (Oct. 20, 2017),

http://centerforacademicfreedom.org/university-must-marketplace-ideas/.

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and grant and manuscript reviews," and, not least of all, via "inperson discussions of unpublished work."<sup>138</sup> Insider corporate information, however, is often protected by confidentiality contracts.<sup>139</sup> To protect their interests, corporate funders often require researchers to sign non-disclosure agreements before discussing possible sponsorship opportunities.<sup>140</sup> While many researchers sign such agreements, some balk at them, arguing that they "creat[e] blind spots that make it impossible for the rest of the world to discern whether a corporation has had any undue influence on research."<sup>141</sup> Proponents for accepting corporate funding for academic research, on the other hand, often point to the need for more funding sources, the existence and enforcement of ethical guidelines to ensure that the research is protected from undue influence, and the exercise of academic freedom.<sup>142</sup>

# IV. Criminal Liability for Improper Corporate Influence in Academic Research

The main concern regarding corporate influence in academic research is whether differences between the goals of the funding entity and that of the researcher(s) create a conflict of interest that threatens the trustworthiness of the research's findings.<sup>143</sup> Thus, corporate sponsorship of academic research should be held to a standard under which the independence of the research is not in question. Federally funded research is often directed by ethical guidelines promulgated by the funding agency, such as the Office of Research Integrity within the Department of Health and Human Services.<sup>144</sup> Likewise, higher education institutions in the U.S. generally have research ethics committees or review boards that

<sup>138.</sup> Rebecca G. Wells, *The Scientific Conversation, Well Written*, 2 CELLULAR MOLECULAR GASTROENTEROLOGY & HEPATOLOGY 385, 385 (2016).

<sup>139.</sup> Daliah Saper, *Can You Keep a Secret? The Importance of Non-Disclosure Agreements*, BUSINESS.COM, https://www.business.com/articles/can-you-keep-a-secret-the-importance-of-non-disclosure-agreements/ (last updated Feb. 22, 2017).

<sup>140.</sup> McCluskey, supra note 135.

<sup>141.</sup> Id.

<sup>142.</sup> Joanna E. Cohen, Universities and tobacco money, 323 BMJ 1 (2001).

<sup>143.</sup> John C. Besley et al., *People don't trust scientific research when companies are involved*, THE CONVERSATION (May 7, 2017, 8:53 PM), https://theconversation.com/people-dont-trust-scientific-research-when-companies-are-involved-76848.

<sup>144.</sup> See OFF. OF RES. INTEGRITY, https://ori.hhs.gov (last visited Nov. 22, 2018).

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scrutinize the academic research occurring on their campuses.<sup>145</sup> Such ethical guidelines help ensure that the research is conducted in a manner that is not only safe for the researchers and any research subjects, but that also maintains the integrity and independence of the research. Moreover, corporations generally have their own codes of ethics, and the Sarbanes-Oxley Act of 2002<sup>146</sup> helps maintain corporate responsibility and accountability.<sup>147</sup> Despite these guidelines and codes, unethical conduct still occurs. But what conduct rises to the level of *criminal* conduct?

A for-profit corporate sponsor of academic research can influence such research in a myriad of ways.<sup>148</sup> However, not all influence is necessarily improper. On one extreme, influence may be perceived by the individual researcher in the absence of any direct conduct by the corporation. A researcher may feel beholden to a corporate sponsor merely because the corporation provided the funding, thus creating a subconscious desire to "please" the funding entity with positive results—particularly if there exists a possibility of additional corporate support in the future. In such a case, the influence exists only in the mind of the researcher, for which the corporate sponsor should have no culpability. On the other extreme, a corporate sponsor that makes publication of the research contingent on findings and conclusions favorable to the corporation might induce some researchers to falsify or fabricate data due to the publish-or-perish culture of academia, which often requires publication for career advancement or even continued employment.<sup>149</sup> Here, the corporation does influence the research, even if indirectly. Given the broad range of potential corporate influence, bright lines need to be drawn that define which corporate conduct constitutes improper conduct, and, furthermore, which improper conduct should be subject to criminal sanctions.

<sup>145.</sup> See, e.g., Institutional Review Board, BELMONT UNIV., http://www.belmont.edu/irb/ (last visited Nov. 22, 2018).

<sup>146.</sup> Sarbanes-Oxley Act of 2002, Pub. L. No. 107-204, 116 Stat. 745.

<sup>147.</sup> Brian P. Kane, *The Sarbanes-Oxley Act of 2002: Something for Everyone to Worry About*, 45 ADVOCATE 16, 16 (2002).

<sup>148.</sup> UNION OF CONCERNED SCIENTISTS, HEADS THEY WIN, TAILS WE LOSE: HOW CORPORATIONS CORRUPT SCIENCE AT THE PUBLIC'S EXPENSE 2-4 (2012) (discussing categorical methods used by corporations to influence scientific and policy-making processes, including corrupting the science, shaping public perception, restricting agency effectiveness, influencing Congress, and exploiting judicial pathways).

<sup>149.</sup> Seema Rawat & Sanjay Meena, *Publish or perish: Where are we heading*?, 19 J. RES. MED. SCI. 87, 87 (2014).

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### A. Intentional Conduct and Public Harm

The two elements that are generally required for criminal liability, *mens rea* and *actus reus*,<sup>150</sup> should also be required for criminal liability of corporate influence in academic research. Of the two extremes illustrated above,<sup>151</sup> there is no corporate action in the first example, whereas the publication requirement in the second example qualifies as conduct by the corporation. If, in the second example, the corporation knew or had reason to know that the publication requirement would likely induce the falsification or fabrication of data, the *mens rea* requirement would also be satisfied.

But what if the published research is never actually read by the public and simply collects dust on a library bookshelf or, more likely, in a digital archive? Even if willful corporate influence leads to publication of falsified or fabricated data, there is no guarantee that the published results will have an impact or even be cited by others in the field.<sup>152</sup> Thus, the additional element of whether the conduct harms public health and safety should also be required for criminal liability to attach. If the public is not aware of or does not rely on the falsified or fabricated research, there is no possibility of harm to the public, and the corporation should not be liable for criminal sanctions for its role in influencing the research.

The instances in which falsified or fabricated research resulting from a corporate sponsor's intentional conduct actually causes public harm will be far and few between; thus, the public harm element narrows the scope of corporate criminal liability considerably. This is because the gold standard for accepting research in any given academic field is that its findings must be replicated by others in the field.<sup>153</sup> In the absence of replication, "the research community may find it hard to trust a study's data or know how to interpret what those data mean."<sup>154</sup> Therefore, if a study's findings are incapable of being reproduced, they will be rejected by

<sup>150.</sup> United States v. Apfelbaum, 445 U.S. 115, 131 (1980).

<sup>151.</sup> See supra, Part IV.

<sup>152.</sup> See D. P. Hamilton, Publishing by—and for?—the Numbers, 250 SCIENCE 1331 (1990) (citing research indicating that 55% of research articles published between 1981 and 1986 remained uncited after five years); but see Vincent Larivière et al., The decline in the concentration of citations, 1900– 2007, 60 J. ASS'N INFO. SCI. TECH. 858 (2009) (arguing that the average uncited rate after five years is near 20% across all disciplines).

<sup>153.</sup> Janet Raloff, *When a study can't be replicated*, SCI. NEWS FOR STUDENTS (Sept. 11, 2015, 7:00 AM),

https://www.sciencenewsforstudents.org/article/when-study-can't-be-replicated. 154. *Id.* 

the scientific community.<sup>155</sup> Once rejected, any danger the falsified or fabricated research might pose to the public will be greatly reduced, if not eliminated.

# **B.** Conduct To Which No Corporate Criminal Liability Should Attach

Not all misconduct that occurs in corporate-sponsored research should subject the corporation to criminal liability. For example, if researchers themselves fabricate or falsify data without the sponsoring entity's knowledge or influence, the absence of corporate *mens rea* would preclude corporate criminal sanctions. A 2009 study of survey data on the frequency with which academic scientists fabricate or falsify data found that while less than 2% of scientists admit to such misconduct, up to one-third of scientists surveyed admitted to "personal knowledge of a colleague who fabricated or falsified research data, or who altered or modified research data."<sup>156</sup> While the data on colleagues' behavior may be inflated due to reporting of the same incident by several respondents,<sup>157</sup> the results of this study indicate that a certain level of misconduct occurs at the level of the researchers themselves. In the absence of willful corporate pressure to fabricate or falsify data, only the individual researcher, as well as the researcher's academic institution under respondeat superior theory, would be subject to civil liability resulting from harm suffered as a result of the misconduct. In one such instance, a cancer researcher who falsified data on the ability of genomic technology to predict patient outcomes following chemotherapy<sup>158</sup> was sued by patients enrolled in clinical trials that were based on that falsified data.<sup>159</sup> The academic institution at which the researcher was employed was also

<sup>155.</sup> Katherine Picho et al., *Science: the slow march of accumulating evidence*, 5 PERSP. MED. EDUC. 350, 351 (2016).

<sup>156.</sup> Daniele Fanelli, *How Many Scientists Fabricate and Falsify Research? A Systematic Review and Meta-Analysis of Survey Data*, 4 PLOS ONE 1, 6 (2009).

<sup>157.</sup> *Id*. at 9.

<sup>158.</sup> Fred Barbash, *Scientist falsified data for cancer research once described as 'holy grail,' feds say*, WASH. POST (Nov. 9, 2015), https://www.washingtonpost.com/news/morning-mix/wp/2015/11/09/scientist-falsified-data-for-cancer-research-once-described-as-holy-grail-feds-say/?utm term=.c784d652b3c7.

<sup>159.</sup> Complaint at 1-2, Aiken et al. v. Duke University et al. (N.C. Super. Sept. 7, 2011).

named as a defendant in the suit.<sup>160</sup> The civil suits were settled out of court.<sup>161</sup>

## C. Potential Criminal Liability of Fitzgerald Glider Kits

As discussed below,<sup>162</sup> Democratic members of Congress have requested the EPA's OIG to investigate both the Tennessee Tech study and the "highly irregular circumstances" behind the EPA's proposal to repeal the new emissions standards.<sup>163</sup> The Tennessee Tech study has been disavowed by the university itself,<sup>164</sup> but no information has been released regarding a potential OIG investigation into the EPA's conduct. While the university's internal investigation did not appear to examine Fitzgerald's involvement in the study,<sup>165</sup> an investigation by the OIG would likely attempt to assess whether the trucking company exerted any improper influence on the study's results.

If the OIG launches an investigation and Fitzgerald or its employees attempt to impede that investigation, existing statutes may subject Fitzgerald to criminal liability. If, pursuant to an official investigation, a corporation "knowingly alters, destroys, . . . [or] falsifies . . . any record, document, or tangible object" in an attempt to "impede, obstruct, or influence the investigation," the corporation can be criminally liable and subject to fines and imprisonment for individuals involved.<sup>166</sup> In the Fitzgerald case, if the OIG initiated an investigation of the Tennessee Tech study, and Fitzgerald sought to alter, destroy, or falsify records or documents containing original data, in an attempt to obscure any subsequent falsification or fabrication of data that was later included in the study's final report, those employees involved would be criminally liable. Moreover, if Fitzgerald instead sought to induce the university researchers themselves to destroy or alter, destroy, or falsify such records or documents, criminal liability would also attach.<sup>167</sup> But what if Fitzgerald, with the intent to falsify or fabricate the study's conclusions, had altered or destroyed records or documents prior to completion and/or publication of the study? The statutes under which Fitzgerald could be held liable for attempting to impede an

<sup>160.</sup> *Id*.

<sup>161.</sup> Barbash, supra note 158.

<sup>162.</sup> See infra Part II.

<sup>163.</sup> Press Release, *supra* note 81.

<sup>164.</sup> Cama, *supra* note 26.

<sup>165.</sup> See Harper, supra note 84.

<sup>166. 18</sup> U.S.C. § 1519.

<sup>167.</sup> See 18 U.S.C. § 1512.

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official investigation include misconduct *in contemplation* of such an investigation,<sup>168</sup> but what if the study was initially intended only for internal use, thus eliminating the possibility that any conduct was in contemplation of an investigation? It is scenarios such as this, as rare as they may be, that the standard proposed above is designed to address.

If Fitzgerald was found to have intentionally falsified or fabricated data or conclusions from the Tennessee Tech study, the trucking company would be criminally liable under the standard proposed in this article. Any conduct by Fitzgerald or its employees designed to manipulate the study, including modifying the equipment used to measure the engines' emissions, altering the measurements themselves, or requiring the researchers to exclude data contrary to the company's pre-determined conclusions, would satisfy the *actus reus* element.

The *mens rea* component would also be easily satisfied. While the final rule creating the new emissions standards for glider vehicles was promulgated in the fall of 2016,<sup>169</sup> the rule was first proposed over fifteen months earlier,<sup>170</sup> effectively putting Fitzgerald on notice that the new standards would likely soon be in effect. Therefore, the timing of the study in the early-fall of 2016, coupled with Fitzgerald's underwriting of the study, indicates that the study was intended to thwart implementation of any final rules promulgated by the EPA. Moreover, in 2013 Fitzgerald stated that while the company expected to produce 1,500-2,000 glider vehicles that year, the company would still be able to make a profit if production was capped at 300 vehicles per year.<sup>171</sup> That stance abruptly changed in 2017 when Fitzgerald found a sympathetic ear

<sup>168. 18</sup> U.S.C. § 1519 ("... with the intent to impede, obstruct, or

influence the investigation . . . or [in] contemplation of any such matter or case . . . .") (emphasis added); 18 U.S.C. § 1512(b)(2)(B) (" . . . with intent to impair the object's integrity or availability for use in an official proceeding.") (emphasis added).

<sup>169.</sup> Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles—Phase 2, 81 Fed. Reg. 73,478 (Oct. 25, 2016) (to be codified at 49 C.F.R. pt. 523, 534, 535, & 538).

<sup>170.</sup> Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles—Phase 2, 80 Fed. Reg. 40,138 (proposed July 13, 2015) (to be codified at 49 C.F.R. pt. 512, 523, 534, 535, 537, & 538).

<sup>171.</sup> Tom Berg, *The Return of the Glider*, TRUCKING INFO (Apr. 30, 2013), https://www.truckinginfo.com/152784/the-return-of-the-glider.

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in the new administrator of the EPA, Scott Pruitt.<sup>172</sup> While the assertions regarding its ability to make a profit may merely constitute political posturing, they support the notion that Fitzgerald was motivated to scuttle the new emissions rule.

Although the future of the EPA's 2017 proposal to repeal the new emissions standards is currently in limbo,<sup>173</sup> if the new emissions standards are eventually repealed, the final element of a harm to public health and safety is also satisfied. By requiring glider vehicles to only meet those emissions standards in effect prior to the 2016 rule, the increased pollutants to which U.S. citizens would be exposed would equate "to more than 12 billion dollars in health damages over the next decade."<sup>174</sup> A 2013 study demonstrated that air pollution causes 200,000 premature deaths in the U.S. each year, 53,000 of which are caused by vehicle emissions.<sup>175</sup> Certainly, if the emissions standards were repealed, Fitzgerald and other glider vehicle producers would continue to produce glider vehicles lacking the expensive engine technologies designed to reduce emissions. Thus, it would be difficult for Fitzgerald to argue that repeal of the new emissions standards did not threaten public health and safety.

### V. Conclusion

While there are many benefits to corporate-academic alliances, when for-profit entities sponsor academic research, there will always exist a danger of improper corporate influence. Although several barriers have already been put in place to prevent improper influence, there are no criminal sanctions that address the most egregious of such influence. By attaching criminality to (1) conduct by a corporation (2) intended to influence academic research and that (3) causes harm to public health and safety, this gap in the law can be sufficiently narrowed.

<sup>172.</sup> Jonna Hamilton, *Scientists Stand Up Against Shoddy Science on Glider Vehicles*, UNION OF CONCERNED SCIENTISTS BLOG (Mar. 16, 2018, 11:26 AM), https://blog.ucsusa.org/jonna-hamilton/scientists-glider-vehicles.

<sup>173.</sup> Jaillet, supra note 28.

<sup>174.</sup> Muncrief & Miller, supra note 63.

<sup>175.</sup> See Fabio Caiazzo et al., Air pollution and early deaths in the United States. Part I: Quantifying the impact of major sectors in 2005, 79 ATMOSPHERIC ENV'T 198 (2013).