

---

# THE GEORGE WASHINGTON UNIVERSITY

---

WASHINGTON, DC

Public Interest Comment<sup>1</sup> on  
The Consumer Product Safety Commission's Proposed Rule  
Safety Standard Addressing Blade-Contact Injuries on Table Saws

Docket ID No. CPSC-2011-0074

RIN: 3041-AC31

July 26, 2017

Sofie E. Miller, Senior Policy Analyst<sup>2</sup>  
& Jacob Yarborough, Summer Fellow<sup>3</sup>

## The George Washington University Regulatory Studies Center

The George Washington University Regulatory Studies Center improves regulatory policy through research, education, and outreach. As part of its mission, the Center conducts careful and independent analyses to assess rulemaking proposals from the perspective of the public interest. This comment on the Consumer Product Safety Commission's proposed rule establishing performance standards for table saws does not represent the views of any particular affected party or special interest, but is designed to evaluate the effect of CPSC's proposal on overall consumer welfare.

## Introduction

Table saws, a category which includes bench, cabinet, and contractor saws, caused an estimated 54,800 blade-contact injuries in 2015.<sup>4</sup> As a result, the Consumer Product Safety Commission

---

<sup>1</sup> This comment reflects the views of the authors, and does not represent an official position of the GW Regulatory Studies Center or the George Washington University. The Center's policy on research integrity is available at <http://regulatorystudies.columbian.gwu.edu/policy-research-integrity>.

<sup>2</sup> Sofie E. Miller is the Senior Policy Analyst at the George Washington University Regulatory Studies Center. She can be reached at [sofiemiller@gwu.edu](mailto:sofiemiller@gwu.edu) or (202) 994-2974.

<sup>3</sup> Jacob Yarborough is a Summer Fellow at the George Washington University Regulatory Studies Center and an economics student at North Carolina State University.

<sup>4</sup> 82 FR 22190

(CPSC) has determined that there is an unnecessary risk of blade injuries from table saws, and is proposing a standard to limit this risk by requiring table saw manufacturers to “meet a performance requirement for table saws that limits the depth of a cut to the specified test probe, upon making contact with the saw blade at an approach rate of 1.0m/s, to 3.5 mm.”<sup>5</sup>

The proposed performance standards would require table saws to be equipped with an active injury mitigation (AIM) system, rather than a traditional passive protection (such as a blade guard) to achieve this risk reduction. An AIM system would detect human contact with the blade and stop its motion, as well as move it away from the operator. Using AIM technology a saw can detect contact with the blade through optical, thermal, electromagnetic, or ultrasound sensors. However, the only current technology to detect contact is through use of a closed electrical system that uses the body’s natural electric current to interrupt/complete/change the voltage of the closed system, which triggers a braking mechanism and stops the blade from rotating.

Technology to meet this performance standard is only available from two manufacturers, SawStop and Bosch. However, SawStop holds over 100 patents related to this technology, and is currently in litigation with Bosch to halt their sale of AIM enabled table saws.

To measure the benefits and costs of this rule CPSC first determined the societal cost due to table saw blade-contact injuries, and then defined the benefits as the reduction in these costs due to implementation of AIM systems. The Commission counted costs as the sum of the direct manufacturing costs, replacement part costs and the loss of consumer surplus due to increased prices and reduction in the number of saws sold.

## Regulatory Analysis

Using National Electronic Injury Surveillance System (NEISS) and Injury Cost Model (ICM) data, CPSC estimates that 54,800<sup>6</sup> saw blade contact injuries occur each year,<sup>7</sup> resulting in \$4.06 billion in costs. As a result of its proposed performance standards, CPSC estimates that these costs could be reduced, leading to between \$970 million and \$2.45 billion in annual regulatory benefits. The Commission also estimates annual costs of between \$170 and \$340 million, resulting in between \$625 million and \$2.3 billion in net benefits. These figures do not include a conservative estimate of royalties payed to SawStop each year for licensing fees of between \$30 to \$35 million annually.

---

<sup>5</sup> 82 FR 22209

<sup>6</sup> 82 FR 22212

<sup>7</sup> NEISS data alone was used for the incident analysis section and the combined data was used for the economic analysis section.

## Data on Regulatory Benefits

Although CPSC relies on NEISS and ICM incident data to estimate table saw-contact injuries, these data do not contain incident descriptive qualities that could help the Commission tailor its standard to optimize benefits and avoid additional burdens on consumers. For example, these data do not include information on: circumstances leading up to the injury event; whether the saw met the most recent voluntary standards; the type of saw involved in the incident; if the safety equipment was disabled at the time of accident; if the saw had any non-factory modifications; or if the saw was in proper working condition. Although CPSC's 2007-2008 study on table saw incidents included these valuable descriptive data, it also contained certain inconsistencies and is now a decade old, and as a result was not used in the current CPSC analysis for this proposed rule.

CPSC estimates the societal costs of blade-contact injuries by summing medical costs, work loss costs, and pain and suffering costs. Medical and work loss costs account for 30% of the total cost, with intangible pain and suffering losses accounting for the remaining 70%. CPSC estimates the cost of pain and suffering using the ICM regression model developed from works by Cohen and Miller 2003,<sup>8</sup> and Lawrence, Miller, Jensen, Fisher, & Zamula.<sup>9</sup> This model uses jury awards in product liability cases to estimate non-monetary injury costs, including those related to pain and suffering. The model can be adjusted for such factors as body part injured, age, and sex.

While this model may be applicable in cases where a defendant was found liable for damages, the results should not necessarily be extrapolated to table saw incident cases where user error was the most likely cause of injury.<sup>10</sup> This may be particularly relevant as the subjective severity of risk can be affected based on whether the risk is perceived as being voluntary or within the person's control,<sup>11</sup> as is typically the case with table saw injuries. Compensatory damage awards for pain and suffering may overstate the benefits that consumers would realize by preventing self-inflicted injuries. Similar reasoning underlies alternative compensation systems, such as no-fault insurance and workers' compensation.

In addition, the ICM model only considers jury awards, which are awarded in cases that are adjudicated in court; however, between 1976 and 1977, 77% of product liability cases were

---

<sup>8</sup> Cohen, Mark A., and Ted R. Miller. "Willingness to award" nonmonetary damages and the implied value of life from jury awards." *International Review of Law and Economics* 23.2 (2003): 165-81. Web. 24 July 2017.

<sup>9</sup> Lawrence, Bruce A., Ted R. Miller, Alan F. Jensen, Deborah A. Fisher, and William W. Zamula. "Estimating the costs of non-fatal consumer product injuries in the United States." *Injury Control and Safety Promotion* 7.2 (2000): 97-113. Web. 24 July 2017.

<sup>10</sup> 82 FR 22217

<sup>11</sup> For example, see Peter M. Sandman, "Risk Communication: Facing Public Outrage." *EPA Journal* pp. 21-22, November 1987.

settled out of court,<sup>12</sup> and those that were settled out of court had lower pain and suffering awards. The combination of the exclusion of cases that were 1) solely the fault of the user and 2) settled out of court, when solely relying on jury verdicts, could lead the ICM model to predict higher values for pain and suffering than are actually the case.

## Quantifying Risk Reductions

To calculate the estimated benefit of the proposed rule, or reduction in societal cost, CPSC assumes either a 70% or 90% effectiveness rate in the prevention of injuries from table saw blades after the implementation of the performance standards. Both rates assume that implementation of the AIM system will prevent all amputation, avulsion, and fracture type injuries, each of which will result instead in lacerations. They also assume all laceration injuries would be turned into injuries that do not require medical attention.

Even if AIM systems can stop 90% of injuries, these assumptions are unlikely because saws that were sold before the rule goes into effect have lifespans of more than 10 years and will remain in use well after introduction of the new standards. Because CPSC has no data on the type of saw used or what kinds of safety features were on the saw at the time of the incidents, there is no way to know how many of the injuries that occur each year would be mitigated by the standards. Consumers are also likely to keep their non-AIM system saws for longer before replacing them because of the added cost posed by incorporating AIM technology.<sup>13</sup> Since we do not know how old the saws involved in recorded injuries were, or with what safety features they were equipped, and we do not know how much longer consumers may keep their current saws due to price increases associated with AIM technology, it may be that these forecasted benefits are overstated.

In addition, the assumption that all injuries would either 1) be turned into lacerations if they were originally more severe than a laceration and 2) that laceration type injuries will be turned into injuries that do not require medical treatment is overstated. In 2015, CPSC contracted EurekaFacts, LLC<sup>14</sup> to conduct a survey of consumers who own table saws with a modular blade guard system. They found that 59% of respondents did not use the modular blade guard “sometimes,” “often,” or “always.” They also found that 80% of respondents removed it for certain circumstances. Summarizing these findings, CPSC concludes:

---

<sup>12</sup> Viscusi, W. Kip. “Pain and suffering in product liability cases: Systematic compensation or capricious awards?” *International Review of Law and Economics* 8.2 (1988): 203-20. Web. 24 July 2017.

<sup>13</sup> This same phenomenon has been identified for corporate average fuel economy standards, which increase the price of new vehicles and as a result keep older vehicles on the road for longer as consumers postpone new purchases due to expense. For an overview of this topic, see Sebastien Houde and Arthur van Benthem. “How Attractive Are Fuel-Economy Standards?” *Kleinman Center for Energy Policy, University of Pennsylvania*. September 30, 2015. <http://kleinmanenergy.upenn.edu/policy-digests/how-attractive-are-fuel-economy-standards>

<sup>14</sup> 82 FR 22201

...any situation in which the blade guard is not used eliminates the effectiveness of the blade guard in preventing blade-contact injuries. Accordingly, use of the blade guard cannot be relied upon to prevent injury...the Commission does not believe that currently available safety devices, such as the modular blade guard and riving knife, will adequately address the unreasonable risk of blade-contact injuries on table saws.<sup>15</sup>

CPSC uses these examples to conclude that there is a need for table saws to be equipped with an active injury mitigation system. However, there are also circumstances<sup>16</sup> that would require users to disable current AIM technology, such as when cutting conductive material or wet or damp wood. In the cases of both active and passive injury prevention systems, user behavior has the ability to mitigate the intended benefits. This raises the potential that during these times there is still a possibility of amputations, avulsions, fractures and lacerations, thus the 70% and 90% risk reduction scenarios are not likely to represent actual consumer behavior in response to this standard.

### Measuring Costs

While CPSC includes direct manufacturing and replacement part costs, as well as loss of consumer surplus in its estimation of the cost of implementation, it does not take into effect the loss in consumer productivity due to weight increases for users who purchase lightweight portable jobsite saws. These lightweight and portable saws will need to at least double in weight to accommodate AIM systems.<sup>17</sup> This will undoubtedly decrease portability and maneuverability on the jobsite and anywhere else a portable saw must be used, thus reducing productivity, as it takes a longer period of time to position the saw and possibly more than one person. CPSC acknowledges these weight increases, but can't quantify the loss in productivity, and thus does not include it in the cost.<sup>18</sup> Excluding the cost of lost productivity suggests that the net benefits estimated by CPSC are overstated.

The conclusions that CPSC draws from limited data cannot be confirmed to support the claims of the benefits of the rule. Without more descriptive data it is unclear how many injuries will be avoided with the implementation of AIM systems, how the voluntary standards have worked thus far, the appropriate risk values to place on each type of table saw, or how sub-segments of the table saw market will be affected individually. In addition, the benefit of avoiding table saw injuries using the ICM modeling may be overstated because of the selective data used when studying jury awards, particularly because in all involved cases a defendant was found liable

---

<sup>15</sup> 82 FR 22202

<sup>16</sup> 82 FR 22225

<sup>17</sup> 82 FR 22227

<sup>18</sup> 82 FR 22228

(whether under strict liability or otherwise), which gives results that may not be applicable to cases in which injury is the result of user error.

## Regulatory Alternatives

In accordance with section 9(C) of the CPSA the Commission also examined regulatory alternatives.<sup>19</sup> Alternatives to a mandate, such as a voluntary standard, can be an efficient and less heavy-handed approach to regulation. In this process, the Commission ruled out alternatives—such as no new rule, delayed implementation, and voluntary standards—because it concluded the cost was too high, there was an unreasonable risk of injury, and voluntary standards have done little to reduce risks over the past decade.

UL (Underwriters' Laboratory) has enacted voluntary standards for table saws within the past seven years. The voluntary standard for Modular Blade Guards (a guard that covers the top and sides of the blade, so that users are less likely to touch it) went into effect in 2010. The voluntary standard for the Riving Knife (a device that separates the workpiece after it has been cut to prevent kickback) went into effect in 2014.

Voluntary standards allow consumers to choose which safety features are most important to them, and at what price. Consumers who are risk-averse could purchase the newest safety features if they so wished. Consumers have already had the option of purchasing a saw with SawStop technology for over a decade. These models are at the high end in price of every table saw type, and thus many consumers have clearly not felt that the improvement in safety outweighed the cost of the technology.<sup>20</sup>

If SawStop has as much confidence in the effectiveness of its technology as the CPSC appears to have, then it could offer a guarantee to consumers that would encourage sales. It might be that the cost of such a guarantee would be prohibitive, but that only suggests that the benefits to consumers are not as great as the CPSC seems to think. It appears that SawStop thinks this idea would be too cost prohibitive as well, because one reported sticking point during licensing negotiations with large tool makers has been liability. According to reports, table saw manufacturers have in fact wanted a guarantee which would put liability on SawStop if a user were to be injured while using a table saw with AIM technology. However, SawStop has refused this condition, saying that it could not possibly indemnify manufacturers against lawsuits in cases of SawStop malfunctions.<sup>21</sup> This suggests that CPSC overestimates the potential safety benefits to consumers of AIM systems.

---

<sup>19</sup> 82 FR 22190

<sup>20</sup> 82 FR 22222

<sup>21</sup> Newsome, Melba. "He Took On the Whole Power-Tool Industry." Inc.com. January 24, 2007. Accessed July 16, 2017. <https://www.inc.com/magazine/20050701/disruptor-gass.html>.

A voluntary standard would also allow for more consumer choice and for more competition and innovation, because manufacturers would not be forced to implement one particular costly technology, which could put some table saw manufacturers out of the market. (This is especially relevant given the market power concerns discussed below.)

In analyzing the data, the Commission found that there was no discernable change in the severity or number of injuries between the years of 2004 and 2015, and that there was also no discernable difference in the rate of injuries per 10,000 saws. As a result, CPSC concludes that:

CPSC staff does not believe the existing requirements for a riving knife and modular blade guard will adequately reduce the number or severity of blade-contact injuries on table saws because table saws have been equipped with these safety devices since 2009, and these safety devices have not been effective in reducing or mitigating blade-contact injuries.<sup>22</sup>

However, CPSC has not allowed enough time to pass for the voluntary standards to show an effect. Since saws have a long life-span, it is unreasonable to expect that voluntary standards that only went into effect in 2010 for modular blade guards and 2014 for riving knives would result in an immediate reduction in injuries. Due to the potential anti-competitive effects of this proposed standard, CPSC should not proceed until the voluntary standards have been in effect for long enough to affect the saws that are currently in use.

## **Effects on Competition**

Since the formation of the U.S. federal regulatory system, regulations have had a significant influence on marketplace competition. Regulations often seek to improve competition by restraining monopolies; others tend to reduce competition by establishing one-size-fits-all standards for consumer products or acting as nontariff barriers limiting competition from foreign trade partners.<sup>23</sup>

Recognizing the importance of this relationship, on April 15, 2016, President Barack Obama signed Executive Order 13725 (EO 13725) instructing federal agencies to identify and address barriers to competition. This Executive Order provides agencies with a valuable opportunity to reevaluate existing rules that create barriers to competition.<sup>24</sup>

---

<sup>22</sup> 82 FR 22206

<sup>23</sup> Sofie E. Miller, Daniel R. Perez, Susan E. Dudley, & Brian F. Mannix. “Regulatory Reforms to Enhance Competition.” *The George Washington University Regulatory Studies Center*, May 11, 2016.

<sup>24</sup> Sofie E. Miller, Daniel R. Perez, Susan E. Dudley, & Brian F. Mannix. “Regulatory Reforms to Enhance Competition.” *The George Washington University Regulatory Studies Center*, May 11, 2016.



According to EO 13725, promoting competitive markets can ensure that “consumers and workers have access to the information needed to make informed choices.” The Executive Order encourages executive branch agencies to contribute to this goal by engaging in “pro-competitive rulemaking and regulations, and by eliminating regulations that create barriers to or limit competition.”<sup>25</sup> Although independent agencies such as the CPSC are not obligated to comply with EO 13725, it does strongly encourage independent agencies to adhere to the Order’s pro-competition components.<sup>26</sup>

The proposed rule would almost certainly, pending an appeal by Bosch to the United States Court of Appeals, grant SawStop a legal monopoly on table saws in the United States. SawStop is the only current manufacturer of AIM technology and holds over 100 patents regarding this technology.<sup>27</sup> While CPSC argues that other technology could be developed to sense human contact, it is unlikely that thermal or visual sensing technology will become cheaper to produce than an electrical circuit. In addition, by granting a government mandated monopoly, this rule would allow SawStop to charge whatever licensing fee they want to producers. The CPSC states that Dr. Stephen Gass (founder and creator of SawStop© technology) would settle for an 8% fee based on verbal assurances, but there is no guarantee of that once this rule is issued. The CPSC estimates that with an 8% royalty fee SawStop’s competitors would be forced to pay the company between \$30 to \$35 million per year to comply with CPSC’s performance standard. Legally enforced monopolies do not promote innovation; they increase prices for consumers and artificially restrict choice, all of which results in a reduction in the market and a decrease in consumer utility.<sup>28</sup>

Increases in price of almost any item will reduce demand. If a cost is forced upon producers from regulation, they will pass it on to consumers. The CPSC estimates that this rule will cause an increase in direct manufacturing cost and replacement cost of between \$236 and \$536 per bench saw, \$382 to \$926 per contractor saw, and \$412 to \$956 per cabinet saw. (Given CPSC’s optimistic assumptions about royalty fees, this may understate actual costs.) These increases in cost to manufacturers would increase the cost to consumers, which CPSC estimates would in turn lead to a drop in sales of between 93,400 units and 251,700 units. This is equivalent to a 14% to 37.8% drop in sales and amounts to a loss in consumer surplus of between \$10 and \$72.3 million.<sup>29</sup> In addition, consumers may experience an increase in injuries as a result of this rule, to

---

<sup>25</sup> Executive Order 13725. “Steps to Increase Competition and Better Inform Consumers and Workers to Support Continued Growth of the American Economy.” April 15, 2016. Available at: <https://www.whitehouse.gov/the-press-office/2016/04/15/executive-order-steps-increase-competition-and-better-inform-consumers>

<sup>26</sup> Executive Order 13725 §3(b).

<sup>27</sup> 82 FR 22211

<sup>28</sup> Mankiw, Gregory. Principles of Microeconomics. 5<sup>th</sup> ed. Cengage Learning, 2008.

<sup>29</sup> 82 FR 22229



the extent that the price increase causes them to use older (possibly defective) table saws and other dangerous substitutes rather than buy a new one.

This rule could likely push several companies out of the market for saws, limiting consumer choice. When competition is reduced due to increased regulations, innovation declines as companies no longer have the same incentives to compete. It is unlikely that there will be much development in AIM systems until SawStop's patents expire. It is uncertain how long this will be; even though the Bosch AIM system infringed on only two patents that expire in a few years, it is not clear which other patents that do not expire in this time frame will be infringed upon if another firm tries to develop an AIM system that uses an electrical circuit. PTI reports that Dr. Gass has filed more than 140 patent applications, and has more than 100 issued patents that pertain to SawStop technology.<sup>30</sup>

This rule could result in fewer manufacturers, less innovation, and fewer options for consumers. Pending an appeal by Bosch to the U.S. Court of Appeals, this rule would almost certainly allow SawStop to have a monopoly on table saws for the foreseeable future, as well as allow it to force competitors to pay for licensing fees, which would in turn reduce their competitiveness. Consumers are not likely to benefit from the creation of a monopoly, and the result is higher costs to table saw consumers.

## **Regulating in Response to Market Failure**

Executive Order 12866, which was signed in 1993, established a regulatory philosophy and principles of regulation for executive branch agencies to consider when promulgating new regulations. The regulatory philosophy outlined in EO 12866 provides clarity regarding the circumstances that call for regulation:

Federal agencies should promulgate only such regulations as are required by law, are necessary to interpret the law, or are made necessary by compelling public need, such as material failures of private markets to protect or improve the health and safety of the public, the environment, or the well-being of the American people.<sup>31</sup>

The language of EO 12866 clearly indicates that an agency should not promulgate a regulation that is not made necessary by a failure of the private market unless it is statutorily required. The types of market failure that necessitate government intervention such as regulation typically fall into one of the following categories: Externalities, monopoly power, and asymmetric information. Although EO 12866 does not compel independent agencies, it would be prudent for

---

<sup>30</sup> 82 FR 22226

<sup>31</sup> Executive Order 12866 §1(a), "Regulatory Planning and Review," September 30, 1993.

the Commission to consider this regulatory philosophy as it determines whether to pursue this rulemaking, since a regulation that does not address a market failure is not likely to produce net regulatory benefits.

In this case, there is no externality for consumers, who trade off price versus safety when choosing between table saws. If consumers were choosing less safe table saws because of the existence of a monopoly, or because of an information asymmetry regarding perceived versus actual risks, then an argument could be made that material failures of the private markets were responsible for some portion of injuries from table saws. However, as CPSC Commissioner Joseph Mohorovic notes in his statement on this rulemaking, consumers are well aware that saw blades pose risks to health and safety.<sup>32</sup> And, ironically, if CPSC finalizes these standards it is more likely to produce a market failure by creating a monopoly than to address an existing one.

## Revealed Preferences

Standard economic analysis of regulations relies on the concept of consumer sovereignty, and traditionally treats market participants as if they are rational actors. This allows regulators to measure potential consumer and producer surplus and infer the social value of regulatory policies.

In this case, consumers already have the option to purchase safer, more expensive table saws with SawStop technology. According to CPSC, SawStop saws are among the most expensive table saws in each category, with reported low-end prices between 24% and 135% higher than the median price for bench saws and contractor saws.<sup>33</sup> By choosing to buy less expensive—and less safe—saws, consumers are revealing their preference for other product offerings than the one that the Commission is proposing to mandate.

In its Circular A-4, the Office of Management and Budget (OMB) provides executive agencies with best practices for regulatory analysis, including for using revealed preference methods.<sup>34</sup> OMB specifies that such methods may only be reliable in cases where markets are competitive, there is no information asymmetry, and there are no externalities. In the case of table saws, as explained above there is no market obstacle that might prevent the Commission from relying on these revealed preferences as an indicator for the need for its rulemaking.

---

<sup>32</sup> “Statement of Commissioner Joseph P. Mohorovic on the Commission’s Proposed Mandatory Rule Regarding Table Saws.” *Consumer Product Safety Commission*, April 27, 2017. <https://www.cpsc.gov/about-cpsc/commissioner/joseph-mohorovic/statements/statement-of-commissioner-joseph-p-mohorovic-on>

<sup>33</sup> 82 FR 22222

<sup>34</sup> Office of Management and Budget to the Heads of Executive Agencies and Establishments, “Circular A-4: Regulatory Analysis.” September 17, 2003. *Archived at* <https://obamawhitehouse.archives.gov/sites/default/files/omb/assets/omb/circulars/a004/a-4.pdf>

By eliminating the option to purchase other types of table saws, CPSC believes that performance standards can create significant benefits for consumers:

In addressing the blade contact risk, the Commission must weigh the costs of blade-contact injuries against the cost of limiting consumer choice and the rule's potential effect on the utility, cost, and product availability to consumers.<sup>35</sup>

But this claim is difficult to reconcile with the standard economic definition of regulatory benefits: the surplus “willingness to pay” remaining after the regulation’s winners fully compensate all of the losers.<sup>36</sup> The fact that consumers are not already willing to pay for the performance standards that CPSC is proposing to regulate indicates that consumers will not benefit from having these standards mandated.

## Retrospective Review

Through a series of executive orders, Presidents Obama and Trump have encouraged federal regulatory agencies to review existing regulations to identify potential areas for reducing burdens and streamlining rules.<sup>37,38</sup> Evaluating whether the intended outcomes of regulations are met *ex post* can be challenging, so multiple government guidelines instruct agencies to incorporate retrospective review plans into their proposals during the rulemaking process. Despite these guidelines, agencies often do not write their rules to plan prospectively for *ex post* analysis of their rules,<sup>39</sup> which limits their ability to effectively evaluate these rules.

Retrospective review is a form of program evaluation that reviews the efficacy of a program or policy after implementation. The purpose of retrospective review is to evaluate whether a policy—in this case, a regulation—has had its intended effect, and whether it should be continued or expanded. By examining the effects of existing rules, these reviews can inform policymakers on how best to allocate scarce societal resources to accomplish broad social goals, such as improved air quality or wellbeing, through regulation. Retrospective review can provide valuable feedback and learning that will improve the design of future regulations.

Regulations often receive critical analysis *before* promulgation, usually in the form of benefit-cost analysis. This prospective analysis details the anticipated results of a proposed rule,

---

<sup>35</sup> 82 FR 22212

<sup>36</sup> Sofie E. Miller & Brian F. Mannix. “One Standard to Rule Them All: The Disparate Impact of Energy Efficiency Regulations.” *Nudge Theory in Action: Behavioral Design in Policy and Markets*. Ed. Sherzod Abdukadirov. Basingstoke, United Kingdom: Palgrave MacMillan, 2016.

<sup>37</sup> Executive Order 13563, “Improving Regulation and Regulatory Review,” January 18, 2011.

<sup>38</sup> Executive Order 13771, “Reducing Regulation and Controlling Regulatory Costs,” January 30, 2017.

<sup>39</sup> Sofie E. Miller, “Learning from Experience: Retrospective Review of Regulations in 2014,” a working paper, *The George Washington University Regulatory Studies Center*, November 2015.

including costs, benefits, and unquantifiable effects. While agencies often provide a wealth of information on the anticipated effects of their rules, they seldom return to a rule to evaluate whether the benefits and costs they anticipated actually materialized.<sup>40</sup>

In 2015, Commissioner Mohorovic recognized the importance of this tool in his statement on the Commission's rulemaking under section 108 of the Consumer Product Safety Improvement Act of 2008:

The idea behind incorporating retrospective review models into rules from the outset—a prospective retrospective—is that designing a rule with an eye to how it would be evaluated in the future can improve the quality of evaluation and make the future iteration of the agency more likely to conduct that evaluation in the first place... Regulators rarely know all or even most of the effects their decisions will have. The best they can do is to determine the most likely outcomes based on the available information. Inevitably, years of experience will produce far more information, and agencies should plan in advance how to incorporate the new data into their understanding... I hope we will soon have an opportunity to see a more robust, detailed retrospective review model on display at CPSC.<sup>41</sup>

The current rulemaking, should the Commission determine to carry it to fruition, may be such an opportunity for CPSC.

### Measuring Effects on Competition

The Commission would be well-advised to avoid finalizing a rule that could significantly limit competition in a market. In the case that CPSC decides to pursue its rulemaking despite the negative consequences for competition and for consumers, the Commission should commit to retrospectively evaluating the effects of its standard on competition. For example, CPSC could consider applying the Herfindahl-Hirschman Index (HHI), which the Department of Justice uses to evaluate the anti-competitive effects of mergers, to measure concentration in the table saw market pre- and post- enforcement of its performance standard.<sup>42</sup>

---

<sup>40</sup> Joseph Aldy. "Learning from Experience: An Assessment of the Retrospective Reviews of Agency Rules and the Evidence for Improving the Design and Implementation of Regulatory Policy." *A report for the Administrative Conference of the United States*. 2014. <https://www.acus.gov/report/retrospective-review-report>

<sup>41</sup> Consumer Product Safety Commission, *Statement of Commissioner Joseph P. Mohorovic Regarding Retrospective Review in the Commission's Rulemaking Under Section 108 of the Consumer Product Safety Improvement Act of 2008 (CPSIA)*, December 14, 2015. Available at <https://www.cpsc.gov/about-cpsc/commissioner/joseph-mohorovic/statements/statement-commissioner-joseph-p-mohorovic-1>

<sup>42</sup> "Herfindahl-Hirschman Index." *Antitrust Division: Public Documents: Merger Enforcement*. U.S. Department of Justice, n.d. Web. 27 June 2014. <https://www.justice.gov/atr/herfindahl-hirschman-index>

Understanding the regulation's effects on market structure will be important to understanding whether the rule achieves its stated objectives, and the benefits and costs associated with implementation. This should inform the public about any unintended anti-competitive effects of CPSC's performance standards, and improve the Commission's analysis of future standards.

## **Conclusion**

The Consumer Product Safety Commission is proposing a performance standard to mandate that table saws be equipped with an active injury mitigation (AIM) system to detect and halt injuries from table saw blade contact. CPSC estimates that the costs of injuries from table saws could be reduced as a result of its standard, leading to between \$970 million and \$2.45 billion in annual regulatory benefits. However, there are a number of reasons to believe that CPSC's estimates overstate the potential benefits of mandating a performance standard.

The injury incident data that CPSC relies on lacks a number of details, which can lead to inaccurate benefits estimations. For example, CPSC does not know how many types of injuries are attributed to which type of saw, or which safety features were equipped on the saws at the time of the injury. Having this detailed data would allow for a more accurate estimation of costs and benefits.

The CPSC estimates the societal costs of blade-contact injuries by using a model drawing from jury awards in product liability cases to estimate non-monetary injury costs, including those related to pain and suffering. However, because user error is the most likely cause of injury in the case of table saws, compensatory damage awards for pain and suffering may overstate the benefits that consumers would realize by preventing self-inflicted injuries.

User behavior also has the potential to mitigate the potential benefits of saw safety standards, to the extent that CPSC's assumption that AIM systems will be up to 90% effective in preventing injury is not realistic. As is the case with current passive injury prevention systems, there are circumstances that would incentivize users to disable AIM systems (such as when cutting conductive material or wet or damp wood).

Technology to meet this performance standard is only available from two manufacturers, one of which (SawStop) holds over 100 patents related to this technology and is in litigation to halt the sale of other AIM-enabled table saws. The proposed rule would almost certainly grant SawStop a legal monopoly on table saws in the United States, which would have negative effects on consumers. As a result of reduced competition, this rule could result in fewer manufacturers, less innovation, and fewer options for consumers.

Ultimately, the Commission's proposed performance standard does not address an existing market failure, and as a result it is not likely to generate in net regulatory benefits. Ironically, if

CPSC finalizes these standards it is more likely to produce a market failure by creating a monopoly than to address an existing one.