

**IN THE UNITED STATES DISTRICT COURT  
FOR THE SOUTHERN DISTRICT OF ILLINOIS**

CALEB BARNETT et al., Plaintiffs, v. KWAME RAOUL et al., Defendants.	No. 3:23-cv-00209-SPM (lead case)
DANE HARREL et al., Plaintiffs, v. KWAME RAOUL et al., Defendants.	No. 3:23-cv-00141-SPM
JEREMY W. LANGLEY et al., Plaintiffs, v. BRENDAN KELLY et al., Defendants.	No. 3:23-cv-00192-SPM
FEDERAL FIREARMS LICENSEES OF ILLINOIS et al., Plaintiffs, v. JAY ROBERT "J.B." PRITZKER et al., Defendants.	No. 3:23-cv-00215-SPM

**STATE DEFENDANTS' MOTION TO PRECLUDE  
CONSIDERATION OF WILLIAM ENGLISH AND NSSF SURVEYS**

## INTRODUCTION

Plaintiffs intend to rely on three hopelessly unreliable surveys in their attempt to prove assault weapons and large capacity magazines are in common use for self-defense—and therefore are the type of “Arms” protected by the Second Amendment. These surveys were not conducted in accordance with the norms of social science—and in some cases they cannot even be reproduced or replicated because they are based on “secret” data unavailable for public inspection. But plaintiffs ask the Court to overlook these methodological flaws and take the surveys’ conclusions at their word. After all, plaintiffs reason, the question whether assault weapons and large capacity magazines are in common use for self-defense turns on “legislative facts”—and courts engaged in legislative factfinding are not bound by the Rules of Evidence.

Plaintiffs’ reasoning is as hollow as their surveys. Legislative factfinding falls outside the Rules of Evidence because it is used to determine the meaning of constitutional rights—decisions that will govern our democracy for decades, if not centuries, to come. And in undertaking the sobering responsibility to formulate a constitutional rule, courts should not be limited to the evidence presented by the parties in a particular case—or the idiosyncrasies of a particular witness or litigation strategy. Put simply, the scope of a constitutional right is too important—and touches too many people’s lives—to be resolved on evidentiary technicalities.

But it does not follow, as plaintiffs assume, that the Court may use unreliable sources to determine whether the Second Amendment covers assault weapons and large capacity magazines. To the contrary, the need for reliable sources is only heightened when the meaning of the constitution is on the line. And the three surveys discussed below fall woefully short of the mark. For all the reasons that follow, the Court should pay them no mind in resolving the parties’ dispute about the nature of the weapons Illinois recently restricted.

## LEGAL STANDARD

Plaintiffs raise Second Amendment challenges to the State's restrictions on the sale and possession of assault weapons and large capacity magazines. Illinois Public Act No. 102-1116 (the "Protect Illinois Communities Act" or the "Act"). The first step in resolving these claims is to "look[ ] at the 'plain text' of the Second Amendment to see whether the assault weapons and large-capacity magazines" that plaintiffs wish to sell or possess "fall within the scope of the 'Arms' that individual persons are entitled to keep and bear." *Bevis v. Naperville*, 85 F.4th 1175, 1192 (7th Cir. 2023). "Both Supreme Court decisions and historical sources indicate that the Arms the Second Amendment is talking about are weapons in common use for self-defense." *Id.*; see *New York State Rifle & Pistol Association v. Bruen*, 597 U.S. 1, 32-33 (2022); *District of Columbia v. Heller*, 554 U.S. 570, 627 (2008). Therefore, to resolve the parties' dispute, the Court may need to determine whether the assault weapons and large capacity magazines regulated by the Act are in common use for self-defense.

The answer to that question may turn on what are known as legislative facts. *E.g.*, *Bianchi v. Brown*, 111 F.4th 438, 461 n.2 (4th Cir. 2024) (whether assault weapons are protected by Second Amendment depends on legislative facts); *Association of New Jersey Rifle & Pistol Clubs, Inc. v. Platkin*, No. 18-10507-PGS-JBD, 2024 WL 3585580, at \*4-5 (D.N.J. July 30, 2024) (same for assault weapons and large capacity magazines). Legislative facts "are those which have relevance to legal reasoning and the lawmaking process, whether in the formulation of a legal principle or ruling by a judge or court or in the enactment of a legislative body." Fed. R. Evid. 201, advisory committee notes; see *Metzl v. Leininger*, 57 F.3d 618, 622 (7th Cir. 1995). Legislative facts are distinct from adjudicative facts, which merely concern the "parties in a particular case." *Moore v. Madigan*, 702 F.3d 933, 942 (7th Cir. 2012).

While “[t]he usual method of establishing adjudicative facts is through the introduction of evidence, ordinarily consisting of the testimony of witnesses,” legislative facts are different. Fed. R. Evid. 201, advisory committee notes. Even when they are “essential to the decision of a case,” legislative facts “lie outside the domain of rules of evidence.” *Wiesmueller v. Kosobucki*, 547 F.3d 740, 742 (7th Cir. 2008); see *Bianchi*, 111 F.4th at 461 n.2 (declining to remand to district court for factual development); *Platkin*, 2024 WL 3585580, at \*4-5 (denying *Daubert* motions because “[t]he facts before the Court are legislative rather than adjudicative in nature”). The sobering obligation to develop constitutional rules governing “generations yet unborn” is among the justifications for excluding legislative facts from the rules of evidence. *Federal Practice & Procedure* § 5103.2. Put bluntly, the litigation strategies of particular parties and the idiosyncrasies of particular evidentiary hearings should not unduly bind the judiciary’s responsibility to determine the scope of the right to bear arms for centuries to come.

But it does not follow that “anything goes” with respect to legislative facts. In fact, it’s the opposite. When judges are determining the scope of a constitutional right, “the intellectual legitimacy of this kind of decision turns upon the actual truth-content of the legislative facts taken into account by the judges who propound the decision.” *McCormick on Evidence* § 331. Thus, “these legislative facts must at least appear to be more likely than not true if the opinion is going to have the requisite intellectual legitimacy upon which the authority of judge-made rules is ultimately founded.” *Id.*; see *Federal Practice & Procedure* § 5103.2 (legislative facts should be limited to those a judge “could rationally believe”); *The Evidence Project: Proposed Revisions to the Federal Rules of Evidence with Supporting Commentary*, 171 F.R.D. 330, 401-02 (1997) (proposal to add Federal Rule of Evidence 202 requiring judicially noticed legislative facts to be “of reasonable reliability”); Timothy B. Dyk, *The Role of Non-Adjudicative Facts in*

*Judicial Decisionmaking*, Stanford L. Rev. Online (August 2023), available at [stanfordlawreview.org/online/the-role-of-non-adjudicative-facts-in-judicial-decisionmaking](https://stanfordlawreview.org/online/the-role-of-non-adjudicative-facts-in-judicial-decisionmaking) (“Dyk”) (“Errors in [legislative] facts can have long-term consequences that are far more serious than errors in determining the adjudicative facts of a particular case. . . . [Therefore], courts should seek reliable empirical evidence to support both predictive judgments and statements about existing circumstances and past events and eschew faith-based jurisprudence.”).

Seventh Circuit precedent illustrates this principle in action. The question in *Free v. Peters*, 12 F.3d 700, 706 (7th Cir. 1993), was whether the Illinois pattern jury instructions used in imposing death sentences were so confusing as to be facially unconstitutional. In finding they were, the district court relied primarily on a study performed by a professor of law and sociology. *Id.* at 702, 705. But the Seventh Circuit reversed, concluding the study was “[s]o deficient” that it did “not support the conclusion that the instructions given the sentencing jury . . . were so confusing as to be constitutionally defective.” *Id.* at 705. The court identified “two fatal flaws” in the professor’s research: (1) survey participants’ confusion was evaluated by written examination, which does not “accurately simulate the experience of being a real juror”; and (2) there was no control group evaluated using “improved” jury instructions, which makes it impossible to determine whether it was any particular version of the instructions that caused the confusion or, rather, whether “the entire American jury system is hopeless because Americans can’t understand even simple jury instructions.” *Id.* at 705-06. Thus, the Seventh Circuit refused to base a constitutional rule on an unreliable source. And the court was clear it could engage in this exacting review precisely because it was a legislative fact at issue. *Id.* at 706 (“The district judge announced a rule; and appellate review of rules, and therefore (it follows) of the social scientific or other data on which the rules are based, is plenary.”).

This commonsense principle—that legislative facts used to shape a constitutional rule must be based on reliable sources—applies with particular force here. The question whether assault weapons and large capacity magazines are in common use for self-defense does not come down to unfalsifiable “general considerations, values, [or] intuitions,” as is often the case when legislative facts are in play. *Metzl*, 57 F.3d at 622. The number of assault weapons and large capacity magazines in circulation today, and the purposes for which they are used, poses an empirical question—discernable by observation and experiment rather than theory and logic. Empirical questions may be answered using an appropriate scientific method based on accepted tools and techniques for collecting and analyzing data in a particular field. But when researchers depart from these methodologies, adopting instead approaches that are not “normal among social scientists” or are not “testable,” then the conclusions that follow “aren’t worth much to either science or the judiciary.” *Zenith Electronics Corp. v. WH-TV Broadcasting Corp.*, 395 F.3d 416, 419 (7th Cir. 2005). The requirement of reliability is only heightened when legislative facts are used to determine the meaning of an individual constitutional right like the Second Amendment.

### **ARGUMENT**

This motion concerns three sources plaintiffs ask the Court to rely on in determining whether assault weapons and large capacity magazines are in common use for self-defense: (1) a survey of firearm owners conducted by William English, a professor of business at Georgetown University; (2) a survey to quantify “modern sporting rifle” production conducted by Plaintiff National Shooting Sports Foundation, Inc. (“NSSF”); and (3) a survey to quantify magazine production by capacity also conducted by NSSF. Surveys are a common tool of social science that must be conducted using established methodologies. These were not. Thus, as explained below, none of these sources is sufficiently reliable to support legislative fact-finding.

**I. Professor English's survey of firearm owners.**

Professor English conducted an online survey of American firearm owners over five weeks late in the winter of 2021. He administered the survey to a sample of about 54,000 people, from which he identified around 17,000 firearm owners. He asked those firearm owners “about their ownership and their use of firearms, including defensive uses,” and extrapolated their answers to the population as a whole. William English, *2021 National Firearms Survey: Updated Analysis Including Types of Firearms Owned* at 1 (May 13, 2022), attached as Exhibit 1.

Professor English reports his survey uncovered that 30.2% of firearm owners, or 24.6 million Americans, “have owned an AR-15 or similarly styled rifle (up to 44 million such rifles in total).” *Id.* at 2. He also claims to have found that 48% of firearm owners, or 39 million Americans, “have owned magazines that hold over 10 rounds (up to 542 million such magazines in total).” *Id.* at 1-2. Finally, Professor English says his survey reveals that 31.1% of firearm owners “have used a firearm to defend themselves or their property” and “that guns are used defensively by firearms owners in approximately 1.67 million incidents per year.” *Id.* at 1.

Professor English's survey is plagued by ethical and methodological errors and therefore is insufficiently reliable to play any role in determining whether assault weapons and large capacity magazines are in common use for self-defense. As to ethics, “the survey runs afoul of the standards of practice of the American Association for Public Opinion Research (AAPOR),” the leading association of public opinion and survey research professionals for almost 80 years. Amended Report of Louis Klarevas at 9 (May 17, 2024), ECF 190-1 (“Klarevas”); AAPOR, “Who We Are,” [aapor.org/about-us/who-we-are](https://www.aapor.org/about-us/who-we-are). AAPOR's standards are designed “to support sound and ethical practice in the conduct of public opinion and survey research and promote the informed and appropriate use of research results.” AAPOR, “Standards and Ethics,”

aapor.org/standards-and-ethics. They are “based in fundamental ethical principles that apply to the conduct of research regardless of an individual’s membership in AAPOR or any other organization.” *Id.* “Adherence to the principles and actions set out in [these standards] is expected of all public opinion and survey researchers.” *Id.*

Professor English’s survey does not comply with section III of AAPOR’s standards, which establishes disclosure requirements. The organization explains “good professional practice imposes the obligation upon all public opinion and survey researchers to disclose sufficient information about how the research was conducted to allow for independent review and verification of research claims, regardless of the methodology used in the research.” AAPOR, “Standards and Ethics,” aapor.org/standards-and-ethics. Section III.A.2 requires the researcher to “[n]ame the sponsor of the research and the party(ies) who conducted it. If the original source of funding is different than the sponsor, this source will also be disclosed.” *Id.* But “Professor English has never disclosed all sources of funding used to conduct and analyze the survey, which is . . . vital to assuring that the survey was not designed or conducted to further the political or economic interests of particular entities.” Klarevas at 9; *accord* Dyk (“[F]or both empirical and predictive material, courts should pay particular attention to the source of the material [when engaging in legislative factfinding]. Courts should be wary of untested empirical statements and predictions provided by interested parties.”). Professor English’s refusal to comply with these commonsense disclosure requirements is reason alone to disregard his purported findings.

Professor English’s survey also may violate AAPOR’s standards in two other ways. First, arguably contrary to section II.B, which requires disclosure of findings accurately and in appropriate detail, Professor English has not released the weighted results of his survey. Klarevas at 9; AAPOR, “Standards and Ethics,” aapor.org/standards-and-ethics. Weighting is a common



survey methodology that adjusts sample results to fit the target population; for instance, it would be required to extrapolate the results from a sample comprising 50% men and 10% people between 18 and 34 years old to a population comprising 40% men and 25% people between 18 and 34 years old. Klarevas at 10 n.21. As explained further below, Professor English’s failure to release the weighted results of his survey impairs the ability to independently evaluate his results. Second, arguably contrary to sections I.A.2 and I.A.4 of AAPOR’s standards, which prohibit misrepresenting the true purpose of a survey, Professor English “misleadingly inform[ed] survey participants that this was a survey on outdoor recreational activities, [which may be] a deceptive practice to lure gun owners into taking the survey.” *Id.* at 9.

As if this were not enough, Professor English’s survey also suffers severe methodological errors. For starters, “some of the survey questions are worded in a manner that suggests a negative framing of regulations on firearms and magazines.” Klarevas at 10. For example, the survey prompts respondents that “[m]any hunting organizations and shooting organizations have argued that . . . ‘assault weapon’ bans will make states that pass them less attractive destinations for hunters, competitive shooters, and recreational shooters” and asks whether respondents agree “‘assault weapon’ bans will have a negative impact” on such states. William English, *2021 National Firearms Survey: Raw Data* at cell BW1, available at [dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/58TXW6](https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/58TXW6). Professor English did not note for respondents any arguments in favor of assault weapon bans that could counterbalance this one-sided framing. “Subtly cueing respondents to perceive regulations in an unfavorable manner runs the risk of producing biased results, in turn, rendering survey results unreliable.” Klarevas at 10. On top of this, as explained, Professor English has not disclosed the weighted data he used to estimate the total number of firearm owners and therefore, confusingly, “often reported results

using unweighted data.” *Id.* But “relying on unweighted results can produce skewed, unreliable findings,” which is another reason why Professor English’s survey cannot be trusted. *Id.*

More methodological errors seep into Professor English’s examination of assault weapon ownership. He arbitrarily excluded from his results any respondent who reported owning more than a hundred AR-15s—about 0.3% of respondents. Klarevas at 10-11. That may sound like a minor choice, but this is no picayune squabble—by excluding those respondents, Professor English obscures that, based on numbers reported in his paper, the tiny number of respondents he arbitrarily excluded “account for ownership of 37.1% of all AR-15-style rifles.” *Id.* Thus, the survey appears to “indicate that AR-15-style rifles are largely concentrated in the hands of a fraction of all AR-15-style rifle owners” and a tinier fraction of all firearm owners. *Id.* That would be unhelpful to plaintiffs’ argument that assault weapons are in common use for defense—which, in the absence of any other explanation, may shed light on why Professor English made the otherwise arbitrary choice to exclude data concerning owners of a hundred or more AR-15s.

Professor English’s findings on large capacity magazines are similarly tainted by methodological errors. Those who owned large capacity magazines (defined as holding greater than 10 rounds) were asked how many total magazines they owned—and asked to specify how many they owned in each of two categories (greater than 10 rounds or 10 rounds or fewer). Klarevas at 22-23. But those who did not own large capacity magazines were not asked how many magazines they owned that hold 10 rounds or fewer. *Id.* Thus, Professor English’s results overrepresent large capacity magazines as a percentage of all magazines owned. *Id.* On top of this, Professor English made the same inexplicable decision he made when analyzing assault weapons—he excluded all respondents who reported owning more than 100 of either magazine category. *Id.* at 23-24. Again, this elides the apparent finding that “a tiny number of gun owners

have owned the vast majority of” large capacity magazines—approximately 82.5% of all such magazines are owned by just 3.2% of owners. *Id.*

There is more. “Professor English also interpreted some of his findings related to [large capacity magazines] in a manner that appears to be a speculative attempt to make sense of those findings, which calls into the question the reliability of his survey and subsequent analyses.” Klarevas at 24. He asked respondents if they had ever found themselves in circumstances where it would have been useful to have a large capacity magazine. *Id.* The majority of those who provided an answer said “no”—which Professor English fails to note. *Id.* Of the few who said “yes,” only two respondents indicated (in the section reporting narrative descriptions) they actually had fired greater than 10 rounds during a particular confrontation—and both of those involved wild-animal attacks. *Id.* Even so, Professor English implausibly interprets these results to demonstrate generally the usefulness of large capacity magazines for self-defense. *Id.* And if all this were not enough to doubt the reliability of Professor English’s conclusions about large capacity magazines, his survey apparently shows the highest rate of large capacity magazine ownership is in the District of Columbia—where possession of such magazines has been strictly prohibited for more than a decade. *Id.* This is not the mark of a sound methodology.

No wonder, then, that a recent academic review of Professor English’s survey issued a dire admonition: “Courts, litigants, and scholars are giving English’s study serious, sometimes determinative, treatment. It is better used as a case study for why the norms of scientific study exist and as a warning to actors in the legal system when considering projects that have not been conducted in accordance with those norms.” Deborah Azrael et al., *Critique of Findings on Gun Ownership, Use, and Imagined Use from the 2021 National Firearms Survey: Response to William English* at 23, 78 SMU L. Rev. (forthcoming 2025), attached as Exhibit 2. The review

uncovers numerous methodological errors in Professor English's survey, too many to detail in this limited space, but any of which renders the survey insufficiently reliable for legislative factfinding. *See, e.g., id.* at 22-23 (explaining Professor English's "approach to deriving an annual [defensive gun use] incidence from survey questions about the total number of lifetime [defensive gun use incidents] is hopelessly problematic, relying as it does on several assumptions that are either falsified by his own data or in conflict with reasonable expectations based on well-established trends in criminal victimization, or both").

## **II. NSSF's survey of modern sporting rifle manufacturers.**

NSSF's surveys of firearm manufacturers are likewise fatally flawed. "NSSF is a trade organization for the firearm industry." Transcript at 23, Deposition of Salam Fatohi (May 22, 2004), attached as Exhibit 3 ("Fatohi"). Its purpose is to "advocate on behalf of the industry" and "provide resources for [its] members." *Id.* It is also a plaintiff in this litigation. Complaint ¶ 15, ECF 1. Ignoring this conflict, plaintiffs rely on a survey NSSF conducted of firearm manufacturers to quantify their production of "modern sporting rifles"—an industry term for a subset of AR- and AK-type rifles that overlaps to some extent with the subset of rifles the Act defines as "assault weapons." Fatohi at 31-32, 69-70 & Ex. 3 at 7-8; *see Dyk* (courts should "be wary of untested empirical statements and predictions provided by interested parties" in legislative factfinding). The survey estimates 28.1 million such rifles have been manufactured or imported into the United States since 1990. NSSF, *Firearm Production in the United States with Firearm Import and Export Data* at 7, attached as Exhibit 4; *see Fatohi* at 86 & Ex. 6.

The most recent iteration of NSSF's survey was conducted under the lead of its research director, Salam Fatohi, whose knowledge of statistics and survey methodologies was gleaned from online courses offered by the social media company LinkedIn. Fatohi at 18-19, 24, 86-94 &

Ex. 6. He began by consulting the Annual Firearms Manufacturers and Export Report (“AFMER”) published by the Bureau of Alcohol, Tobacco, Firearms and Explosives (“ATF”). *Id.* at 39-40, 71-74, 78-79, 97-100 & Ex. 5. AFMER comprises data collected from individual production reports each federally licensed firearm manufacturer must submit to ATF annually under 18 U.S.C. § 923(g)(5)(A). *Id.* & Ex. 4. But this data does not reveal how many “modern sporting rifles” were manufactured each year. Federal law requires manufacturers to report their firearm production aggregated by defined subcategories—rifles, pistols, shotguns, and so forth. *Id.* at 40-42, 71-74 & Exs. 4, 5. And while some firearms defined as rifles, pistols, or shotguns under federal law also satisfy NSSF’s definition of “modern sporting rifles,” not all of them do. *Id.* at 45-46, 50-51, 55-56, 58-59, 73. Put simply, each of these federally defined subcategories is both overinclusive and underinclusive. *See generally* Klarevas at 8, 13.

This presents a problem if your goal, like NSSF’s, is to determine the annual production of “modern sporting rifles.” So Fatohi (or his predecessor at NSSF, Jim Curcuruto) reached out to NSSF’s members informally by phone or email and asked them to ballpark how many “modern sporting rifles” they produced—either an absolute value or a percentage of overall production in a federally defined subcategory. Fatohi at 46-50, 100-09, 122-39, 150-56, 182-83, 187-88, 199-200 & Ex. 7.\* Sometimes Fatohi and his colleagues acquired this information by consulting the manufacturer’s website and making his best guess. *Id.* Fatohi then added up these estimates for those manufacturers who responded—trusting their accuracy without undertaking

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\* NSSF asked the State Defendants to redact portions of the document marked as Exhibit 7 at Fatohi’s deposition (and references on pages 126-32 of the transcript) before filing them as Exhibit 3 to this motion. The State Defendants do not believe there is any legal basis for NSSF’s request but have honored it as a matter of professional courtesy and to avoid unnecessary motion practice at this time. Fatohi and his colleagues used the redacted document to track adjustments they made to AFMER figures based on NSSF members’ estimates of “modern sporting rifle” production. The redactions obscure those estimates (and the members who provided them).

any verification—and then destroyed or redacted the individual estimates to protect their confidentiality. *Id.*; see NSSF’s Answers to State Defendants’ Second Set of Interrogatories at 6-7 (July 15, 2024), attached as Exhibit 5 (“NSSF Interrogatories”). The analysis therefore cannot be reproduced or replicated; the critical inputs (“industry estimates” of “modern sporting rifle” production by NSSF’s members) are not available for inspection by anyone outside NSSF. Klarevas at 13 & n.27; see *Zenith*, 395 F.3d at 419 (social science methodologies that are not “testable” produced conclusions that “aren’t worth much” to “science or the judiciary”).

As should be obvious from this description, NSSF’s “modern sporting rifle” survey is insufficiently reliable to form the basis for a constitutional rule. Start with the inputs. They are inherently unreliable because of the informal nature by which they are gathered. Firearm manufacturers keep precise statistics on the number of firearms they produce; that’s how they complete the forms required to report their annual production of pistols, rifles, shotguns, and so forth to ATF under penalty of perjury. See *Fatohi* Ex. 4. But NSSF did not ask those manufacturers to provide precise figures for the number of “modern sporting rifles” produced; rather, it relied on loose guesses based on its own review of the manufacturers’ websites or back-of-the-envelope estimates provided by the manufacturers themselves. And it trusts these guesses and estimates completely; it takes no steps to independently verify them. There is no explanation for NSSF’s curious decision to forego precise figures in favor of unverified conjectures.

The source of these estimates deals another blow to the survey’s reliability. NSSF is a party to this litigation. Complaint ¶ 15, ECF 1. For its standing to sue, it relies on injuries allegedly inflicted on its members by challenged provisions of the Act. *E.g., id.* And the firearm survey is being used to support those members’ interests in this very litigation; after all, NSSF argues the survey shows “modern sporting rifles” (and therefore assault weapons regulated by

the Act) are in sufficiently common use for self-defense such that their sale and possession cannot be restricted consistent with the Second Amendment. *E.g.*, Plaintiffs’ Motion for Preliminary Injunction at 8-9 (Jan. 26, 2023), ECF 10. It follows that NSSF has an incentive to encourage its members to inflate their production figures for “modern sporting rifles.”

And if those members did so, no one but NSSF would be any the wiser. The individual manufacturer data NSSF uses to calculate the total production of “modern sporting rifles” is considered confidential according to NSSF. It is not available to anyone outside NSSF for inspection. Only Fatohi and his team can say how many “modern sporting rifles” any particular manufacturer reported producing—or how many “modern sporting rifles” Fatohi and his team guessed the manufacturer probably produced based on their review of its website. And given the manufacturers’ apparent commitment to secrecy, it would not do much good even if NSSF did make those figures available; they could not be verified by contacting the sources directly, since NSSF’s members are not willing to share the number of “modern sporting rifles” they produce with anyone outside the industry. *E.g.*, Fatohi at 48-49, 101, 129, 131; NSSF Interrogatories at 3 (“NSSF has earned the trust of its members and respondents for its surveys of the industry by agreeing and promising that their proprietary information will be kept confidential.”).

The Seventh Circuit minces no words: a study that is “not replicable” bears the “hallmarks of junk science.” *Sanderson v. Culligan International Co.*, 415 F.3d 620, 622 (7th Cir. 2005). And NSSF’s “modern sporting rifle” survey plainly is neither reproducible nor replicable because no one else has access to the underlying data. Instead, NSSF takes a “just trust me” approach. But this methodology is not “normal among social scientists,” so the conclusions that follow “aren’t worth much to either science or the judiciary.” *Zenith*, 395 F.3d at 419; *see id.* (same for methodologies that are not “testable”). Because of all these flaws—the sloppy

guesswork, the built-in bias, the secret data—NSSF’s “modern sporting rifle” survey is inherently unreliable and should not play any role in creating a constitutional rule that could govern the availability of certain firearms for centuries to come. *See Free*, 12 F.3d at 705-06.

For confirmation, consider how a judge might respond if NSSF attempted to introduce this survey for the relatively less important purpose of establishing an adjudicative fact—something meaningful only to the parties to the litigation. Presumably it would be through Fatohi, who supervised the survey’s creation and was designated to discuss it under Federal Rule of Civil Procedure 30(b)(6). Fatohi at 8-11 & Ex. 1 at 2, ¶ 11. But Fatohi has not been offered as an expert witness within the meaning of Federal Rule of Evidence 702, which means he may testify only to the extent he “has personal knowledge of the matter” pursuant to Federal Rule of Evidence 602. And “a person who has no knowledge of a fact except what another has told [him] does not satisfy the requirement of knowledge from observation for that fact.” *McCormick on Evidence* § 10. Put simply, Fatohi could not take the stand to repeat for the truth of the matter asserted what each manufacturer purportedly told him about its “modern sporting rifle” production—much less to aggregate dozens of these reports for a nationwide figure. *E.g., Sitar v. Indiana Department of Transportation*, No. IP 99-1679-C T/G, 2001 WL 1388264, at \*3.

Of course, the Rules of Evidence may not apply here to the extent the Court is evaluating NSSF’s study for the purpose of legislative factfinding. But, as explained, the reason judges are permitted greater latitude when creating constitutional rules is not because the reliability of inputs is any less important than it is in resolving private disputes. Quite the contrary. Recall, “the intellectual legitimacy of” a constitutional rule “turns upon the actual truth-content of the legislative facts taken into account by the judges who propound the decision.” *McCormick on Evidence* § 331; *see Free*, 12 F.3d at 705-06. And there can be no truth-content in a legislative



fact based on a survey suffering the same flaws as those the Seventh Circuit condemned as “junk science,” *Sanderson*, 415 F.3d at 622, not “worth much to either science or the judiciary.” *Zenith*, 395 F.3d at 419. For all these reasons, the Court should disregard NSSF’s “modern sporting rifle” survey when it determines whether assault weapons are in common use for self-defense.

### **III. NSSF’s survey of magazine manufacturers.**

The same fate should befall NSSF’s separate magazine survey, which was also created by Fatohi using a flawed methodology—during the pendency of this litigation. NSSF, *Detachable Magazine Report*, attached as Exhibit 6; *see* Fatohi at 233-34 & Ex. 14. One of the reasons Fatohi undertook this project was to “fill” a “gap” in industry “knowledge” about the number of large capacity magazines produced since 1990—a gap, he says, that was evidenced by a judge’s criticism that his testimony about a prior version of the study was “entitled to little weight.” Fatohi at 231-37, 241 & Ex. 13; *see Oregon Firearms Federation v. Kotek*, 682 F. Supp. 3d 874, 895 (D. Or. 2023) (rejecting Second Amendment challenge to large capacity magazine restrictions). Thus, the survey was created in part to stave off similar results in other litigation.

Fatohi started by consulting AFMER to obtain annual pistol and rifle production figures by manufacturer from 1990 through 2021. Fatohi at 237-38, 242-46. Again, however, the AFMER figures are only a starting point because they do not reveal how many of those firearms operate with a detachable magazine or what capacities any such magazines have. To obtain this information, Fatohi created and implemented a novel methodology. First, he identified the current top fifteen pistol manufacturers by production (comprising about 80 percent of the market) and top fifteen rifle manufacturers by production (comprising about 60 percent of the market). *Id.* at 242-46. He then sent a survey to these manufacturers asking them to: (1) estimate the average number of magazines they supplied “in the box” with a new pistol or rifle

manufactured in 1990, 2000, 2010, 2020, and 2021; and (2) estimate the proportion of the magazines they supplied in different capacity categories (e.g., 10 rounds or less or 11 rounds or more for pistols; 10 rounds or less, 11 to 29 rounds, or 30+ rounds for rifles). *Id.* at 238-39, 254-55, 311-12 & Ex. 17; *see* NSSF Interrogatories at 2-6. Fatohi used these results to calculate averages for manufacturers that responded to his survey and extrapolated those results to manufacturers that didn't respond. *E.g.*, Fatohi at 253-54. Fatohi also conducted a similar survey of magazine manufacturers to estimate how many they produced for sale independent of a firearm. *Id.* at 239-41, 248-49, 311-12 & Ex. 17. Again, the magazine manufacturers were asked to estimate the proportion of the magazines they supplied in different capacity categories for five specific years—1990, 2000, 2010, 2020, and 2021. Fatohi Ex. 17.

In total, Fatohi sent surveys to 40 firearm and magazine manufacturers and received only 13 responses. Fatohi at 248-49. As before, it appears the 13 responding manufacturers are NSSF members who agreed to share their production figures only if shrouded in secrecy—and Fatohi trusted they would provide accurate information without performing any verification. *Id.* at 299-300, 314-17; NSSF Interrogatories at 2-6. Fatohi supplemented these meager results by conducting his own “independent research” (meaning “[g]oing to a gun store” and “asking to see what’s in the box,” as well as “doing web research of some websites” to see “how many magazines come with” a particular firearm). Fatohi at 254. If that did not pan out, Fatohi simply assumed one magazine was included “in the box” with every applicable firearm. *Id.* at 252-53.

Although the NSSF magazine survey purports to identify the total number of magazines produced every year since 1990, Fatohi did not bother to collect data for each of those years. Instead, he collected data in ten-year increments—1990, 2000, 2010, 2020—and then “interpolated” data for the intervening years. Fatohi at 249-51. That means he made it up based

on the implausible assumption that year-to-year sales were subject to a constant rate of change and could be calculated using a simple slope formula, *id.* at 291-95, despite AFMER data showing firearm sales are highly volatile, *e.g.*, *id.* at 110-20 & Ex. 6 at 2. Thus, as an illustration, if manufacturers produced 10 magazines in 1990 and 30 magazines in 2000, Fatohi assumed they produced 12 magazines in 1991, 14 in 1992, and so forth—increasing production by two magazines every year to arrive at 26 magazines in 1998 and 28 magazines in 1999. *Id.* at 291-95.

The bottom-line result is that NSSF estimates that almost 1 billion magazines have been produced since 1990—and about 74% of those magazines are “large capacity” (meaning they have more than 11 rounds, a definition that, at least as to handguns, includes magazines that are not regulated by Illinois). Fatohi Ex. 14. The methodology, while complicated, can be summed up like this: Fatohi used public data, his own online “research,” and confidential estimates from a fraction of NSSF members to approximate how many magazines those manufacturers may have produced in certain years. He then interpolated those already suspect figures to additional years. The resulting estimate is wildly out-of-line with NSSF’s previous attempts to ballpark the same figure—and produces some inexplicable and implausible headscratchers. *Id.* at 277-78.

Most notably, NSSF reports rifle magazines holding 30 rounds or more were by far the largest category of magazines produced every year between 1994 and 2004—when magazines that large were prohibited under federal law. Fatohi at 277-78, 298-99; Klarevas at 29 n.66. From 1994 to 2004, the federal assault weapons ban prohibited the possession, transfer, and manufacture of “large capacity ammunition feeding devices”—i.e., magazines—with a capacity greater than 10 rounds. Congressional Research Service, *Semiautomatic Assault Weapons Ban* at 6 (Dec. 16, 2004), attached as Exhibit 7. But according to NSSF’s magazine survey, in every year from 1994 to 2004, firearm and magazine manufacturers produced ten times more rifle

magazines holding 30 rounds or more than magazines in any other capacity category. Fatohi Ex. 16. For example, in 2000, NSSF’s magazine survey estimates that firearms manufacturers produced 5,000,000 rifle magazines holding 30 rounds or more, *id.* at 292-95—a number that vastly exceeds the 328,823 pistol magazines holding 10 or fewer rounds, the 437,032 pistol magazines holding 11 or more rounds, the 50,000 rifle magazines holding 10 or fewer rounds, and the 150,000 rifle magazines holding 11 to 29 rounds. *Id.* Ex. 16 at row 51. Indeed, the 5,000,000 rifle magazines holding 30 rounds or more allegedly manufactured in 2000—one of the benchmark years Fatohi used for his interpolation, *id.* at 292-95—exceeds the total number of all firearms manufactured that year in the United States according to ATF’s AFMER data—3,763,345 total firearms. *Compare* Fatohi Ex. 16 at row 51, column J, *with id.* Ex. 5 at 2.

In other words, Fatohi’s methodology yields the absurd result that American firearm and magazine manufacturers purportedly produced more illegal 30-round-plus rifle magazines in 2000 than they did firearms of any kind. And in each year between 1994 and 2004, similar logical absurdities abound. Fatohi’s explanation for this glaring mismatch between NSSF’s survey figures and what federal law prohibited between 1994 and 2004 was simply that “our manufacturers have a vested interest in giving us accurate reporting, based on their records. That’s what they produced, and that’s the number I have to use.” Fatohi at 300.

The flaws in NSSF’s magazine survey mirror the flaws in its “modern sporting rifle” survey. First, it cannot be reproduced or replicated. Not only are the underlying responses kept confidential, *e.g.*, NSSF Interrogatories at 2-6, but Fatohi’s methods were often ad hoc and not properly documented (it is a mystery how he determined that specific firearms came with a specific number of magazines “in the box” during specific years). Klarevas at 29 n.67. At the risk of sounding repetitive, the inability to reproduce and replicate a survey’s results is one of the

“hallmarks of junk science,” *Sanderson*, 415 F.3d at 622—and when a survey’s results are not “testable” they are not “worth much to either science or the judiciary.” *Zenith*, 395 F.3d at 419.

There is also (again) the problem of bias. The survey respondents are exclusively firearm and magazine manufacturers that stand to benefit financially from judicial decisions finding it is unconstitutional to restrict the sale and possession of assault weapons and large capacity magazines. These manufacturers did not provide business records or other objective sources to support their estimates but simply offered a figure that Fatohi accepted without hesitation. It is stunningly naïve to “trust their information” without any verification, as Fatohi did, on the unestablished (and implausible) assumption that “they have a vested interest in being open and honest with us.” Fatohi at 298-99. Worse, there is no question the manufacturers knew the survey was for use in litigation—and thus it was in their interest to inflate production figures. After all, Fatohi concedes one of the impetuses for the survey was an adverse finding by a federal judge deciding the constitutionality of Oregon’s restrictions on large capacity magazines.

But perhaps the most disqualifying aspects of NSSF’s magazine survey are its disregard for the norms of social science. Recall, the survey was entirely conceived and conducted by Fatohi, whose training in survey methodologies comes from a social media company. And it shows. Consider his arbitrary decision to “interpolate” data for almost every year covered by the survey—a decision premised on the false assumption that real-world production figures in a highly regulated industry exhibit a constant rate of growth year-over-year. *See* Fatohi at 110-20 & Ex. 6 at 2. NSSF’s magazine survey is nothing more than a back-of-the-envelope guesstimate performed by a person who was unqualified for the task. It has no business playing any role in determining the scope of the Second Amendment for generations to come.

**CONCLUSION**

Professor English's survey of firearm owners is unreliable. So are NSSF's surveys of firearm and magazine manufacturers. The Court should disregard these surveys in determining whether assault weapons and large capacity magazines are in common use for self-defense.

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