

# Preferences for Firearms and Their Implications for Regulation

Based on BFI Working Paper No. 2022-115, [“Preferences for Firearms and the Their Implications for Regulation,”](#) by Sarah Moshary, UC Berkeley; Bradley T. Shapiro, Chicago Booth; and Sara Drango, Chicago Booth

*Banning assault weapons would lead many consumers to opt for handguns, the type of gun involved in the majority of gun deaths; banning handguns would drive down overall firearm sales.*

Firearm regulations are subject to fierce political debate in the United States, with common policy proposals ranging from sweeping bans to open markets. Most research on the matter has focused on crime, with researchers often assessing the extent to which historical policy changes have or

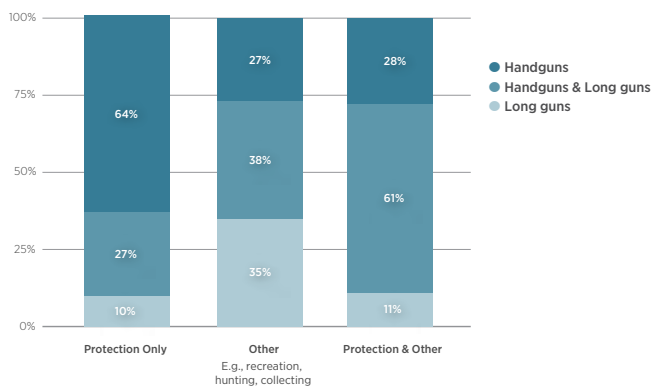
have not reduced gun crimes. This paper offers a new framework for evaluating gun regulations that incorporates the preferences of the consumer.

To understand the advantages to this approach, consider a hypothetical gun buyer. How will they respond to a price hike on their preferred firearm? Will they opt for a different (possibly deadlier) model? Or will they abstain from purchasing altogether?

Accounting for consumers’ preferences can help policymakers evaluate how well different policies will achieve their intended goals and at what cost to gun owners. Motivated by this, this paper estimates a full demand system for firearms.

The authors use a special survey, called stated choice based conjoint analysis, to collect data on consumer demand for firearms. They present respondents, who are drawn from the general public, with a series of hypothetical gun purchasing scenarios in which prices and options are set experimentally. The authors apply the resulting data to a demand model, which they validate by comparing its outputs to external data including background checks and prices. Their analysis reveals the following:

**Figure 1** • Interest in Firearm Types by Consumers’ Motivation for Purchase



Note: This figure shows consumers’ interest in purchasing three categories of guns: handguns, long guns, and both handguns and long guns. Consumers are divided into three categories by their stated motivation for purchasing a gun: protection, other, or both protection and other. The data are taken from 4,018 survey respondents who report either owning or interest in owning a gun. Note that there is substantial variation in substitution across different types of firearms, with very few consumers interested in long guns alone, while most report interest in purchasing a handgun.

- Gun buyers aren't very responsive to price changes, but demand for handguns is most price sensitive.
- There is considerable substitution from assault weapons to handguns, but very little substitution from handguns to assault weapons.
- Those considering purchasing their first gun tend to be more sensitive to price increases and also tend to prefer handguns more than repeat buyers.

What do these substitution patterns mean for policy? The authors conclude by using their demand model to predict the impacts of three policy scenarios: an assault weapons ban, a handgun ban, and a tax that increases the price of all firearms by 10%. They find the following:

- Banning assault weapons would lead more consumers to purchase handguns, the type of weapon involved in the majority of gun deaths.
- By contrast, banning handguns would lead to fewer firearm sales overall. A handgun ban would also result in a large reduction in consumer surplus to the many buyers who prefer handguns, a tradeoff that may limit the political feasibility of the policy.

- A 10% price increase would lead to only a small reduction in sales, suggesting that while the policy might have limited scope for reducing firearm purchases, it could generate tax revenue.
- The authors also use their demand estimates to forecast the cost of a gun buyback program. They predict that it would cost roughly \$6,499 per gun to incentivize the majority of gun owners to relinquish their recent purchases.

**Bottom line:** This paper makes the case for incorporating consumers' preferences in the consideration of firearm regulations. The authors' findings concerning price sensitivity and substitution patterns have immediate impacts for policy. More broadly, their framework can be used to assess the cost and benefits of candidate firearm regulations beyond those considered here.

#### READ THE WORKING PAPER

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