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## Economics focus

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### New research shoots holes in the idea that guns in the hands of private citizens will help to deter criminals



THE second amendment of the American constitution concerns the “right of the people to keep and bear Arms”, and the intent of that language is the subject of a perpetual debate, one that will be sharpened by the incoming administration’s gun-leaning instincts. Economists are not usually in the business of making value judgments. But some recent research about the effects on crime of gun ownership ought to play a part in informing society’s decisions.

From a hypothetical perspective, gun ownership could promote crime by facilitating violence; or it could deter it, by implicitly threatening retribution. Empirically, the question has been hard to resolve. Economists seeking to map the relationship between American gun ownership and crime face a formidable obstacle: data on gun ownership exists only at the national level.

It is not for economists, however, to be put off by a paucity of data. Some academics have spent years squirrelling around for proxies for gun ownership in given geographical areas. Until recently, the most notorious of their studies used the passage of legislation that allowed private citizens to carry concealed firearms as a proxy indicator of gun ownership. The findings\* of John Lott of Yale University and David Mustard of the University of Georgia (both at the time at the University of Chicago) suggested that such laws, and the increases in gun ownership that presumably accompanied them, diminished violent crime.

While the National Rifle Association feasted upon these results, other academics voiced scepticism about their statistical rigour. Just a year later, a paper† using the same data and more advanced econometric methods showed that concealed-weapon legislation had made only a small contribution to falling murder rates, and may even have boosted robberies. This second paper was feasted upon less than the first.

The search for a more reliable proxy continued, and has now led to a forthcoming paper\*\* by Mark Duggan of the University of Chicago. Mr Duggan obtained state- and county-level sales data from one of America’s largest gun magazines, betting that sales would be strongly correlated with gun ownership. This particular magazine concentrates on handguns, the type most commonly used in crime. Although Mr Duggan does not assume that subscribers are likely to be criminals, he does point out that the majority of guns used in crimes are obtained through burglaries or second-hand sales. Still, even before considering the link to crime, how do you prove that a correlation exists with magazine sales, when gun ownership is itself such an unknown quantity?

### Burden of proof

Mr Duggan attacked this problem from several directions. First, he showed that the counties with high gun-magazine sales had similar demographics to those associated with the profile of typical gun-owners in national-level surveys. Next, he found a strong relationship between the level of magazine sales and the number of gun shows in states. To assume that gun shows and gun ownership are highly correlated

is no great leap of logic. But then again, the logical link between gun ownership and the sales of gun magazines can hardly be called tenuous. Mr Duggan also used government health statistics to demonstrate that states with higher magazine sales suffered higher rates of gun-related death.

Armed with a high-powered proxy, Mr Duggan set his sights on crime. With data stretching from 1980 to 1998, he calculated that a 10% increase in an average state's rate of gun ownership, proxied by magazine sales, was associated with a 2% rise in its homicide rate. However, these concurrent changes could support either of two hypotheses: that crime rises when individuals own more guns, or that individuals purchase more guns to defend themselves against rising crime. To sort out this confusion, Mr Duggan checked the direction of the relationship over time; increases in gun ownership led to increases in crime in the *following* year, but the reverse did not hold. The same pattern was found at the county level.

As a further check, Mr Duggan divided his pool into homicides that involved guns and those that did not. Changes in magazine sales were not associated with changes in non-gun homicides—a reassuring point in favour of the proxy. Mr Duggan also examined other forms of crime. Perhaps most striking for those who believe in the deterrent effect of gun-ownership, burglary (theft with forcible entry) and larceny (theft without forcible entry or threat of harm) rose significantly following growth in gun ownership, by roughly half as much as homicides. On the other hand, rates of robbery (theft with threat of harm), assault, rape and car theft remained largely unchanged, a finding which, at least for violent crimes, contradicts Messrs Lott's and Mustard's paper.

The author also took on the Lott-Mustard results explicitly. Mr Duggan reasoned that for guns to deter crime, the passage of concealed-weapons laws must either lead to more gun ownership or to more frequent carrying of previously owned weapons. But the passage of such legislation did not lead to significant changes in gun ownership. And those counties where gun ownership was highest (where an increase in gun carrying could occur) did not see any significant changes in crime when their states passed concealed-weapons laws.

Perhaps those in favour of concealed-weapons laws will argue that it is merely the increased fear that your victim might be armed that would be enough to deter criminals; and that concealed-weapons laws might create such fears regardless of whether actual gun ownership, or gun carrying, increased. Still, the central tenet of Mr Duggan's findings stands: on balance, the evidence suggests that guns foster crime, not the other way around.

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\* "Crime, Deterrence, and Right-to-Carry Concealed Handguns." By John Lott and David Mustard. *Journal of Legal Studies*, January 1997.

† "Lives Saved or Lives Lost? The Effects of Concealed-Handgun Laws on Crime." By Hashem Dezhbakhsh and Paul H. Rubin. *American Economic Review*, May 1998.

\*\* "More Guns, More Crime." By Mark Duggan. Forthcoming in the *Journal of Political Economy*, 2001.