

Did Australia's Ban on Semiauto Firearms Really Reduce Violence?

A Critique of the Chapman et al. (2016) Study

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Abstract

In 1996 Australia implemented what is arguably the most ambitious gun control effort ever attempted. The National Firearms Agreement (NFA) banned all semiauto rifles and shotguns and all pump-action rifles and shotguns, and involved an effort to buy up all the banned guns already in circulation. Chapman, Alpers, and Jones (2016) have published one of the most wide-ranging evaluations of the NFA conducted to date, concluding that the measure was a success. In reality, their own data, along with information from other widely available sources, indicates that:

1. The NFA did not reduce the prevalence of gun ownership in Australia.
2. The NFA only temporarily reduced the total number of guns in civilian hands; within 20 years imports of new guns cancelled out the subtractions from the gun stock produced by buybacks and gun destruction programs.
3. The NFA did not reduce Australia's homicide rate.
4. The NFA did not reduce Australia's suicide rate.
5. The NFA appears to have *increased* the rate of fatal gun accidents.
6. There is no strong evidence that the NFA reduced mass shootings in Australia. Such crimes were extremely rare even before implementation of the NFA, and were unlikely to become common even if the NFA had never been implemented.

On April 28, 1996, the worst mass shooting in Australia's modern history was committed in Port Arthur, Tasmania, triggering a wave of political support for stricter controls on firearms that culminated in the National Firearms Agreement (NFA). The main elements of the NFA were a ban on the possession, ownership, sale, transfer, manufacture, or importation of semiauto rifles and shotguns, and pump-action shotguns and rifles, followed by an ambitious attempt to buy back and destroy all the guns of these types that were already owned by Australians (Peters 2013). Lesser elements of the NFA included the introduction of gun registration and a waiting period to acquire guns. Advocates estimated that as much as 16% of the Australian gun stock was bought up as part of the NFA effort (Abrahams, Bednarzm, and Crook 1999, p. 41), so there is some merit to regarding the NFA to be the most massive gun control effort ever made by any democratic nation (Chapman, Alpers, and Jones 2016, p. 298).

Chapman et al. (2016) produced what is probably the most extensive evaluation of the NFA published to date. The authors' strongly hinted conclusions were that the NFA eliminated mass shootings in Australia and may also have reduced suicide and homicide rates. Chapman was a member of the Coalition for Gun Control (Australia), the principle organization advocating for stricter gun control in Australia in the period leading up to enactment of the 1996 NFA, from 1993 to 1996, while Alpers was arguably Australia's leading advocate of stricter gun controls and the director of GunPolicy.org, which "promotes the public health model of firearm injury prevention" (Chapman et al. 2016, p. 298; GunPolicy.org 2017a).

Although classified by the publishing journal, the *Journal of the American Medical Association*, as an "original investigation" (Chapman et al. 2016, p. 291), the article was largely a duplicate of an article published by Chapman, Alpers and Jones ten years earlier (Chapman, Alpers, Agho, and Jones 2006). The only significant new contribution of the 2016 study was the addition of ten more years of data. The methods, data sources, and conclusions, as well as the weaknesses of the two studies, are essentially identical.

What Did the Authors' Findings Really Indicate Regarding the NFA's Impact on Homicide and Suicide?

The authors carried out univariate analyses of trends in Australian homicide, suicide, and fatal gun accident rates before and after 1996, when the NFA was implemented, compared the post-NFA trends with the pre-NFA trends, and concluded (p. 298):

“Following the enactment of gun law reforms in Australia in 1996, there were no mass firearm killings through May 2016. There was a more rapid decline in firearm deaths between 1997 and 2013 compared with before 1997.”

These conclusions are worth quoting verbatim because they make it clear that the authors were not satisfied with merely claiming that the NFA eliminated mass shootings in Australia, but that they also wanted to suggest to readers that the NFA had caused reductions in the far more frequent firearms suicides and firearms homicides not committed as part of a mass shooting - benefits that would be far more significant than the elimination of “gun massacres.” After all, mass shootings in the period leading up to the NFA, from 1979 to 1996, accounted for just 104 deaths in Australia, averaging six deaths per year (Chapman et al. 2016, p. 294). These deaths accounted for less than 1% all firearms deaths (11,110 total) in Australia in the pre-NFA 1979-1996 period, and only 1/200th of 1% of all deaths from all causes (GunPolicy.org. 2017a). Notwithstanding the intense public concern aroused by mass shootings, they were always an extremely minor threat to the health and safety of Australians.

In contrast to the spin placed on their findings by the authors, here is what their findings actually indicated regarding the NFA's impact on homicide and suicide rates. In assessing these findings, readers should keep in mind that the authors did not directly control for a single other factor that might have affected violence trends, but simply compared mortality rate trends before the NFA with trends after the NFA, and hinted to readers that if violence rates trended more downward (or less upward) after 1996 than before 1996, the NFA was probably responsible.

A critical aspect of their analyses was to compare trends in *firearms* suicides with trends in *nonfirearms* suicides, and trends in *firearm* homicides with trends in *nonfirearm* homicides. This procedure was crucial because it helped to separate the effects of the NFA and other firearms-related factors from the effects of the many other nonfirearms-related factors that could influence trends in Australian violence. If the NFA or other gun controls helped reduce homicide or suicide, they would do so by reducing *firearms* homicides or *firearms* suicides. Thus, if the NFA had a causal effect on homicide or suicide, the authors' findings should have shown more of a post-NFA decline in *firearms* homicides or *firearms* suicides than in their nonfirearms counterparts. There were many other factors changing in Australia that could have reduced the suicide or homicide rate besides the implementation of the NFA or other restrictions on guns, but if the NFA had produced some additional reduction above and beyond the baseline reduction produced by changes in these other factors, there should have been some greater decline specifically in firearm suicides or firearm homicides.

Their findings, however, did not support this expectation at all. While the authors were correct in noting that both homicide and suicide declined overall after 1996, gun violence was already declining *before* the NFA was passed, and post-1996 declines were no stronger for firearms homicides or suicides than for nonfirearms homicides or suicides. Even more crucial, homicides and suicides *not* involving firearms declined every bit as much as those involving firearms (Table 3), indicating that something other than gun controls were causing reductions in homicides and suicides *in general*, regardless of whether guns were used. The authors acknowledged that gun violence did not decline any more after 1996 than nongun violence did (p. 298), but they appear to have missed the crucial significance of this pattern of findings for the credibility of their claim that the NFA reduced violence. Instead of acknowledging that the pattern is inconsistent with the proposition that the NFA caused the observed declines in suicide and homicide, they responded to these highly problematic findings with a dense web of

speculations as to why the findings really did somehow indicate the NFA was a success (p. 298). Shorn of these one-sided speculations, however, their findings indicated that post-NFA declines in suicide and homicide were *not* due to the NFA, but rather were due to unknown extraneous factors that affect suicides or homicides in general, not those committed with firearms in particular.

As to what those declines in violence *were* due to, nothing in the research by Chapman and his colleagues offers any clues. The authors did not control for a single confounding variable in their analyses of national violence trends, so they had no basis for knowing what did cause the post-1996 violence declines, and no basis for ruling out the possibility that their findings reflected effects of other variables other than the NFA.

The Missing Analysis – Fatal Gun Accidents

The researchers analyzed both suicides and homicides, but did not report any analysis of the impact of the NFA on the third major category of firearm mortality, fatal gun accidents (FGAs). Instead they devoted a long paragraph's worth of special pleading as to why they did not need to analyze unintentional gun deaths (p. 298). The main reasons they offered for not doing this analysis were unpersuasive, however, since they would have applied just as much to suicide and homicide, which the authors *did* nevertheless analyze.

Further, in their 2006 version of this research, the authors *did* analyze accidental gun deaths. Back then they apparently did not find the reasons later expressed in their 2016 article for refraining from such an analysis so compelling. The 2006 report suggests a different explanation for why their 2016 paper did not address gun accidents. The results of the earlier analysis indicated that unintentional firearms deaths actually *increased* after the NFA was implemented. Prior to 1997, gun accidents had been declining, but after the NFA went into

effect the trend was reversed, and gun accidents increased (Chapman et al. 2006, p. 370). The authors did not share these unsupportive 2006 findings with the readers of their 2016 paper.

It is not obvious why the NFA would increase gun accidents, but one possibility is that some gun owners who turned in banned types of firearms replaced them with unbanned types of firearms with which they were less familiar. This could have caused accident discharges due to incorrect handling of gun types that their owners did not know how to safely load, unload, fire, or maintain. Another possibility is that this apparent increase was a statistical mirage resulting from increased misclassification of firearms suicides as accidental gun deaths (McPhedran and Baker 2007).

Was the NFA Likely to Reduce Violence via Waiting Periods or Gun Registration?

Although the authors largely focused on the bans on “rapid-fire” types of firearms and the buyback of these guns, the NFA had many other elements. The authors were noncommittal as to which of these multi-faceted new controls would be most likely to affect violence, nor did they explain why any of the elements could affect violence rates. For example, they noted that the NFA imposed a waiting period on gun purchases, but did not cite any prior evidence that people who commit violent acts with firearms get their guns “at the last minute” in the heat of the moment, or that would-be killers do not simply wait out a waiting period. Likewise, they offered no explanation why merely recording who owned which guns (firearms registration) would reduce violence, and no evidence that people who would in future misuse guns would register them or otherwise be affected by a registration requirement. Prior research has consistently found no effect of either waiting periods or gun registration on violence rates (Geisel, Roll, and Wettick 1969, p. 676; Murray 1975, p. 88; Magaddino and Medoff 1984, pp. 235-238; Kleck and Patterson 1993, pp. 267-271, 274; Langmann 2012; Kleck, Kovandzic, and Bellows 2013).

People commit gun violence with guns they have possessed for quite a long time, and rarely use guns that are registered to themselves (Mouzos 2000).

Given what the authors did emphasize, they appear to have believed that the NFA's effects were instead primarily due to the ban and buyback of semi-auto long guns and pump shotguns and rifles. The authors do not cite any evidence that these specific kinds of firearms were used to commit any significant share of homicides or suicides in Australia prior to the NFA. In fact, pre-NFA Australian firearm violence rarely involved the banned types of guns. Mouzos (2000) reported that only 10% of homicides committed in 1992-1999 in Australia (excluding the Port Arthur incident) were committed with firearms banned by the NFA. If Chapman et al. had any evidence to the contrary - that a large share of pre-NFA Australian homicides (or suicides) had been committed with the banned types of firearms - they presumably would have provided it. They did not.

The NFA Did Not Reduce Gun Prevalence in Australia

The mediating variable that links stricter gun controls with reduced suicide, homicide, or firearms gun accidents is presumably *reduced firearm availability*. The authors note declines in household gun prevalence (HGP) after the NFA was enacted (p. 298), but withhold from readers the fact that gun prevalence in Australia had already been declining *before* the NFA, and that the downward trend was actually *weaker* after 1996 than it was before 1996. That is, the rate of decline in Australian household gun prevalence actually *slowed* after the NFA was implemented. There were four identical (same question wording, same sampling procedures) national surveys of the Australian population as part of the International Crime Victimization Survey (ICVS) that asked about household gun ownership, two before the NFA, in 1989 and 1992, and two after the NFA, in 2000 and 2005. The HGP was 20.1 in 1989 and 16.0 in 1992, a pre-NFA rate of decline

of 1.37 percentage points per year. The HGP was 8.7 in 2000 and 6.2 in 2005, a *post*-NFA rate of decline of only 0.5 percentage points per year (van Dijk, van Kesteren, and Smit 2007, p. 279). Alternatively, one can fit a regression line to the two pre-1996 data points, yielding this equation: Predicted % of Households with Guns = 2738.4 – 1.367 (year). If the pre-1996 trend had continued, this equation predicts that the percent of households with guns would have been 4.4 in 2000. In reality, 8.7% of Australian households reported guns in 2000. That is, far more Australian households had guns after the NFA than would have been expected had pre-NFA trends simply continued. In sum, if the NFA had any effect on the HGP at all, it was to *slow* the decline in Australian gun prevalence that had already been underway well before 1996.

Why did the NFA fail to reduce gun prevalence? First, some people who owned multiple guns may have turned in one or two banned guns (e.g., a semiauto rifle) but retained possession of other guns - a point conceded by the authors in their 2006 article (p. 370). Since it only takes one gun to commit a suicide or homicide, merely reducing the surplus of additional guns available to a given suicide- or homicide-prone person is unlikely to affect whether they subsequently commit suicide or a murder. The authors did not report the share of Australians turning in guns who owned only one gun or were otherwise left without guns after the NFA-mandated turn-in. We do know, however, that in the U.S. most participants in gun buy-back programs still owned guns even after turning in some of their guns (Callahan et al. 1994, p. 474).

Second, even among banned types of firearms, many were not surrendered to the authorities. Reuter and Mouzos (2003, p. 141) estimate that a quarter of prohibited guns in the Australian population as a whole were not turned in.

Third, supporters of the NFA have not presented any evidence that any of the guns that *were* turned in had been possessed by people likely to commit a homicide or suicide with a gun. Banned guns may have been turned in only by people who would never have committed an act of gun violence anyway, as appears to be the case with gun buybacks in the U.S. (Kleck 1996).

If only low-risk Australians were disarmed, there would be little reason to expect any substantial effects of the NFA on firearm violence. Based on their age, sex, and race, participants in U.S. gun buybacks were largely drawn from low-violence subsets of the population such as elderly white females (Callahan, Rivara, and Koepsell 1994). Chapman and his colleagues offer no evidence that participants in Australia's buy-backs were any different in this regard.

Fourth, the buyback and destruction of banned guns was followed by many Australians purchasing non-banned guns to replace those lost to the buy-back. Immediately after the implementation of the NFA, imports of rifles and shotguns into Australia sharply increased, more than doubling in financial year 1996-1997 over the annual average of the previous five-years. In the first 19 years after the NFA measures, from 1996-97 through 2014-15, a total of 1,041,584 modern firearms were imported for civilian use into Australia (GunPolicy.org. 2017c). By comparison, the most complete count of guns surrendered and destroyed from 1987 through 2012, even including those yielded by pre-NFA programs, is 948,388 (Alpers and Wilson 2013). Thus, post-NFA imports completely cancelled out the subtractions from the gun stock produced by the gun buyback and gun destruction programs. This is perhaps not surprising, given that gun owners were paid full market value for guns turned in, so there was no economic obstacle to participants simply replacing the guns they surrendered with guns of the types that remained legally available.

In sum, the best available evidence indicates that the NFA made no contribution of its own to the already declining share of Australian households that owned guns, and in the long run did not even reduce the size of the Australian civilian gun stock. To be sure, the replacement guns had somewhat slower maximum rates of fire than the firearms destroyed, but rate of fire is totally irrelevant to gun suicide and gun accidents, which almost always result from a single shot. Further, rate of fire is *almost* entirely irrelevant to criminal firearms violence, since the latter

almost never involves large numbers of rounds being fired in short spans of time – even in mass shootings (Kleck 2016).

What Was Missing from the Literature Review

There was not a single reference in the authors' literature review to any empirical studies of the impact of gun ownership/prevalence rates on any kind of violence rate. If the NFA had produced most or all of its impact on violence by reducing gun availability, then it surely would have been relevant to at least briefly cite review research on the effect of gun availability on rates of violence. The technically soundest prior studies, however, have consistently found no significant net effect of gun rates on total suicide or total homicide rates. Instead, gun levels only appear to affect whether killers or suicides use firearms rather than some other weapon or method (see Kovandzic, Shaffer, and Kleck 2013 for the strongest evidence re. homicide rates; Kleck 2015 for a review of prior studies regarding the impact of gun levels on crime rates, including homicide; Kleck 2018 for the impact of gun levels on suicide rates). These repeatedly confirmed findings cast serious doubt on the conclusions of Chapman et al., since, in the absence of prior research showing an impact of firearm rates on homicide or suicide rates, there is less reason to expect that the NFA's bans and buybacks would reduce violence, even if the control measures had reduced the prevalence of gun ownership.

More specifically, Chapman et al. even excluded from their literature review studies that had specifically evaluated the NFA. These studies found no significant effect of the NFA on Australia's firearms homicide rate, while yielding mixed findings regarding suicide (Baker and McPhedran 2007; Lee and Suardi 2010; Leigh and Neill 2010). The omission of these previous studies helps conceal the degree to which the positive assessment of the NFA by Chapman et al. was at variance with extant evidence.

Nonoperative Caveats

The authors wanted to have their cake and eat it too. They clearly wanted readers to believe that the NFA *caused* reductions in violence, especially mass shootings, but did not want to do the hard work needed to better meet the methodologically required conditions for supporting a case for a causal effect. As previously noted, they did not measure and explicitly control for even a single extraneous factor that might have affected trends in homicides, suicides, or mass shootings, and thus had no sound foundation for attributing violence declines to the NFA. At the same time, they did not want to look like irresponsible ideologues who were recklessly overstating the support for a causal effect of the NFA on violence or were too ignorant to realize that their methods did not establish causation. Their strategy for addressing this conflict was to (1) repeatedly tell readers, through 99% of the paper, that NFA measures were “associated with” drops in gun deaths, but then, in very last sentence of the article, to state the weak caveat “it is not possible to determine whether the change in firearm deaths can be attributed to the gun law reforms” (p. 298). This could be called a “nonoperative caveat.” It is supposed to satisfy critics who would point out that the authors’ methods do not establish causal effects (“after all, we warned readers that we could not establish causation”), yet is nonoperative because it did not dissuade the authors from presenting the NFA in a positive light, and is unlikely to have substantially weakened the impression left with readers by the rest of the article that the NFA *did* reduce violence in Australia.

In the first sentence of their conclusions, the authors state that “...There was a more rapid decline in firearm deaths between 1997 and 2013 compared with before 1997” (p. 298). What was the point of stressing this statistical pattern if not to suggest that the 1996 NFA had contributed to declines in gun deaths? The authors then followed this statement with a caveat that is most notable for its weak and unspecific character. They noted that nonfirearm suicides and homicides declined even more sharply after 1996 than firearm suicides and homicide, but

did not convey to readers that this pattern of findings is devastating to any claim that the NFA caused a reduction in violence in Australia.

A more informative caveat would have read something like this: “These findings indicate that factors not specific to guns or gun control were responsible for post-1996 declines in Australian violence – factors that affect suicide or homicide *in general*, not just those committed with guns in particular. If the NFA’s firearms controls had caused any reductions in suicide or homicide, we would have found that firearm suicide declined more sharply after 1996 than nonfirearm suicide, and that firearm homicide had declined more sharply than nonfirearm homicide. We did not. Therefore, we must tentatively conclude that the NFA was not responsible for the observed declines in rates of homicide or suicide.”

Why Should the NFA Controls Have Reduced Mass Shootings?

The authors did not report how many pre-NFA mass shootings had involved guns of a type banned, and certainly did not offer any reasons why banning semi-auto rifles and shotguns, and pump-action shotguns rifles would eliminate mass shootings that did *not* involve these types of firearms. More generally, they never offered any explanation *why* reducing the availability of the banned firearms would affect the number or seriousness of mass shootings, unless one can interpret repeated references to NFA-banned types of guns as “rapid-fire” as hints at an explanation (pp. 291, 293). If this is indeed the attribute that they considered to be relevant, they did not explain why rapid rate-of-fire would affect the frequency or seriousness of mass shootings, perhaps because they considered the connection to be self-evident.

It is not at all self-evident. The shooters in mass shootings do not maintain high average rates of fire in their crimes, and certainly not rates of fire anywhere near as high as those of which semi-auto guns are capable (Kleck 2016). People with no special skills can easily fire two or three rounds in a second with such guns, i.e. taking 1/3-1/2 of a second per round, but a

study of U.S. mass shootings for which rates of fire could be determined found that the shooters averaged more than *four* seconds per shot fired in 19 of the 25 incidents. Conversely, they took less than 2 seconds per shot in only 2 of the 25 incidents (Kleck 2016, p. 43). Even taking reloading time into account, shooters can easily maintain rates of fire like these using double-barreled shotguns or lever-action rifles – gun types left legally available in Australia after the NFA was implemented. If mass shooters do not need rapid-fire to shoot as many people as they do, it is reasonable to ask why banning just “rapid-firing” rifles and shotguns, while leaving other rifles and shotguns legally available, would affect the frequency or seriousness of mass shootings. Chapman and his colleagues never said.

There was a strategic benefit to the authors failure to provide any explanation of how banning these types of firearms would reduce mass shootings. If the authors had explicitly endorsed the idea that the banned guns encourage mass shootings because they enable shooters to fire many rounds in a short period of time, their arguments could be discredited by evidence that mass shooters in Australia rarely shot many rounds in short periods of time. Refraining from offering any hypothesis as to how or why the gun bans would reduce mass shootings helps make the hypothesis that NFA eliminated gun massacres evidence-proof. The significance of this omission will become clear in the next section.

Did the NFA Eliminate Mass Shootings in Australia?

The purported benefit of the NFA that is more heavily stressed by the authors, as well as other NFA supporters, is the reduction or elimination of mass shootings. Chapman et al. assert that the primary purpose of the NFA was to reduce mass shootings, and strongly hint that it indeed accomplished this goal. Their conclusion as stated in the Abstract was: “From 1979-1996 (before gun law reforms), 13 fatal mass shootings occurred in Australia, whereas from 1997 through May 2016 (after gun law reforms), no fatal mass shootings occurred.” This was the

finding most strongly highlighted by the authors – it was the first one they reported in the Results section of the article’s Abstract (p, 291), and the first one stated in the Conclusions (p. 298).

They do not explicitly say that the NFA *caused* this change, but the authors could hardly be unaware that this is precisely how many readers would interpret this conclusion.

The authors’ sole evidence that NFA eliminated or greatly reduced mass shootings was the authors’ simple comparison of the number of incidents that they defined as mass shootings before 1996 with the number committed after 1996. Even though the number of post-1996 incidents was indeed zero, skeptical readers might dismiss this evidence by asserting that Australia was unlikely to have many mass shootings even without the NFA. The impression that the NFA did have a major impact on mass shootings is largely dependent on just how high the pre-NFA count of mass shootings is. The contrast between the post-NFA count of zero and the pre-NFA count would impress readers only if the pre-NFA count was reasonably large, suggesting that Australia would have had mass shootings had the NFA not been implemented.

The contrast between 13 pre-NFA mass shootings and 0 post-NFA mass shootings was impressive to many, including the editor in chief of the *Journal of the American Medical Association*. In an audio interview with Simon Chapman, the editor, Howard Bauchner noted this 13 vs. 0 contrast and provided a remarkably candid picture of how he interpreted it: “There are really no statistics necessary. Obviously the numbers are small, but when you go from 13 to zero, I think people can just look at the data and understand what they mean.” Lest anyone misunderstand his views, he later reiterated that “clearly the massacre data are quite clear” (Journal of the American Medical Association 2016). Bauchner clearly believed that no further statistical analysis was needed to know that this simple univariate comparison showed that the NFA caused the elimination of gun massacres in Australia. While others may not have been so naively willing to openly express so simplistic a view of the finding, Bauchner was surely not

alone in viewing the 13 vs. 0 contrast to be decisive evidence that the NFA caused this reduction in mass shootings.

The authors never explicitly stated why they believed that banning the types of firearms prohibited by the NFA, while leaving other types of firearms legally available, would reduce mass shootings, but their repeated references to “rapid-fire” guns (pp. 291, 292 [twice], 293, 298) provides a strong clue. They appear to have believed that the ability to fire many rounds in a short period of time facilitates mass shootings. Certainly this rationale for banning these types of firearms has also been expressed by other supporters of the NFA (e.g., Abrahams, Bednarz, and Crook 1999).

This belief logically implies that the NFA’s ban on “rapid-fire” guns should have specifically reduced the occurrence of mass shootings in which criminals were able to kill many people because they fired many rounds in a short period of time. Conversely, there is no logical reason to believe that reducing the availability of “rapid-fire” firearms in particular would prevent shootings in which the criminals fired only a few rounds in any given span of time.

Chapman et al. defined mass shootings as incidents in which five or more people were killed with firearms (see their Table 1). Their compilation of 13 gun massacres, however, is potentially misleading if one interprets them all as the kinds of shootings likely to be prevented by a ban on “fast-firing” guns. “Spree shootings” are crimes in which multiple victims are shot, but over an extended period of time, in multiple separate incidents occurring in different locations. Typically only a few rounds are fired, and a few victims shot, in each location, and the spurts of firing are separated by intervals long enough to permit reloading.

At least six of the 13 incidents listed in this table were spree killings, in which five or more people were indeed fatally shot, but in multiple locations, in spurts of gunfire separated by significant spans of time when the killer was changing locations, was not firing, and had ample time to reload. In any one of these spurts of firing, the shooter typically shot *no more than two*

or three victims. These incidents did not involve large numbers of victims being shot in a brief period of time, so there is no clear reason why reducing the availability of “rapid-fire” guns of the type banned by the NFA, while leaving other common gun types available, would reduce either the occurrence of these incidents or the number of victims hurt.

In the mass shooting in Top End in 1987 (see Table 1 in Chapman et al., 2016), the shooter did kill five people total, thereby meeting the authors’ minimum qualifying number of victims for a mass shooting, but he did so in two different locations at separate times *five days apart*. He shot two victims in the first location and three in the second one (Sydney Morning Herald 6-20-87). If these two incidents had been treated as separate shootings, they would not even have qualified as mass shootings. Similarly, the shooting in Cangai involved a group of three criminals killing five people across two different Australian states, in three or four locations, over a period of weeks - one in “early March” 1993, one on March 24, and three in two separate incidents on March 29 (Sydney Morning Herald 3-31-93, 8-14-93).

Similarly, the killer in the Terrigal shooting killed people in three different locations, three in the first location, one in the second, and two in the third (Sydney Morning Herald 10-28-92, 10-29-92). The offender in the Surry Hills shooting killed five people in four different locations within an apartment building, having time to reload his shotgun between killings, and shooting no more than two people in any one of the locations (Sydney Morning Herald 8-31-90). The shooter in the Queen Street incident killed eight people on at least three different floors of an office building (the 5th, 11th, and 12th floors; Sydney Morning Herald 12-9-87). Finally, the shooter in the Hoddle Street incident killed seven people in at least four different locations, though the firing locations were within about 200 meters of each other (Sydney Morning Herald 8-10-87).

In each of these incidents there were indeed five or more people were killed, but the shootings were done in multiple locations, with only a few victims shot in any one of the

locations and ample opportunity for the shooter to reload between each set of shots. Thus, at least six of the 13 “mass fatal shootings” listed by the authors in their Table 1 were spree shootings in which, as far as the authors knew, guns capable of rapid fire were not needed to carry out the shootings or to harm as many victims as were hurt.

The authors stated (Table 1 footnote) that the crimes that they defined as “mass shootings” had to involve “proximate events,” but the authors’ definition of “proximate” must have been generous indeed in order to classify all of these six spree shootings as mass shootings.

By including these spree shootings, the authors nearly doubled their pre-1996 count of mass shootings, and thereby greatly increased the impression that the NFA, and specifically its ban and buyback of rapid-fire guns, caused a big reduction in mass shootings. If one excludes these six pre-NFA spree shootings, we are left with just seven incidents in which five or more people were killed in a single place at a single brief period of time, over the 18-year period from 1979 to 1996 – about one every three years. Thus mass shootings of the type that might be affected by a ban on “rapid-fire” gun types were extremely rare in Australia even before the NFA was implemented in 1996, and therefore also likely to extremely rare after 1996 even if the NFA was completely ineffective.

Further, only two of the seven non-spree shootings were known to have been committed with the types of guns that were later banned by the NFA: the one at Conley Vale on 10-10-87 (committed with a semiauto shotgun) and the Port Arthur massacre on 4-28-96 (committed with two semiauto rifles). Thus, there were actually just *two* shootings in the 18 years from 1979 through 1996 that were known to involve NFA-banned weapons and involved many victims shot in a single brief span of time at a single place - one every nine years. That is, there were just two incidents preceding the NFA that arguably could have been prevented or otherwise affected had “rapid-fire” semiauto firearms and pump-action shotguns and rifles not been available to the shooters. All the rest of the shootings were either spree shootings with few people hurt at any

one place and time or did not involve the types of firearms banned by the NFA. This means that there would have been little reason to expect more than a few such crimes to have occurred after 1996 even if the NFA had not been implemented. A drop from just *two* NFA-preventable mass shootings before 1996 down to zero after 1996 provides considerably less impressive support for an impact of the NFA on mass shootings than the supposed drop from *13* down to zero that was touted by the authors.

The authors' ability to enumerate 13 pre-NFA mass shootings is also partly the product of an arbitrary definitional decision made by the authors. They required that a shooting involve five or more victims killed by gunfire, but ten of the 13 incidents barely qualified, with exactly five or six victims killed. Had the authors used a cut-off of *seven* or more victims, only *three* incidents in the pre-NFA period would have qualified as mass shootings. A drop from just three mass shootings before the NFA to zero after the NFA would have been considerably less impressive to readers as evidence of the NFA's impact on mass shootings. The point is not that a cut-off of seven or more victims is any more "correct" than a cut-off of five or more, but rather that the impression of a big drop in mass shootings after the NFA went into effect is to a great extent the product of an arbitrary definitional decision made by the authors.

Finally, a narrow focus on mass *shootings* rather than mass *murders* as a whole is itself misleading. Whether Australians were safer because of the NFA is a function of whether fewer people were killed, not whether fewer were killed *with guns*. Mass *murders* did not cease after 1996; only mass murder by *shooting* stopped. There were, in the two decades following the 1996 NFA, at least six mass murders in Australia in which five or more people were killed, though not with guns (summarized in Table 1). Since there were no known non-firearm mass murders from 1979-1996, one might regard these facts, if one followed the reasoning of Chapman et al., as evidence that the NFA caused a huge *increase* in non-firearm mass murders,

from zero before the NFA to six or more after the NFA. Such a conclusion, however, would be as unjustified as the authors' hinted conclusions about the NFA's impact on mass shootings.

(Table 1 about here)

A useful comparison can be made with New Zealand, the nation that is probably most similar to Australia. New Zealand has not implemented any significant new gun controls since 1996 (Wikipedia, "Guns Laws in New Zealand" 2017) but, like Australia, it has not experienced a single mass shooting since six people were killed in Raurimu, New Zealand on February 8, 1997 (Wikipedia, "List of Massacres in New Zealand" 2017). If New Zealand can provide a relevant guide, its recent history suggests that Australia would probably not have experienced any mass shootings after 1996 even if it had not implemented the NFA. In any case, New Zealand's experience certainly demonstrates that a nation very similar to Australia can go 20 years without a mass shooting, without it being attributable strict gun controls.

Conclusions

As best one can tell from the available evidence, Australia's massive 1996 gun control effort was a failure. It did not reduce either suicide or homicide rates below what, based on pre-1996 trends, they would have been in the absence of the NFA, and may even have increased the number of fatal gun accidents. Based on national surveys, the gun bans and buybacks did not make any contribution to the decline in the share of Australian households that owned guns that had already been going on before 1996, and may have even slowed this decline. Although the NFA produced a temporary reduction in the gun stock, it had no long-term effect on the number of guns in civilian hands in Australia, since the nearly million guns that were surrendered and destroyed were counterbalanced by over a million new civilian guns imported into the country in the first 19 years after the ban.

Ironically enough, these negative conclusions can be supported largely on the basis of evidence generated by supporters of the gun control effort, especially Simon Chapman and Philip

Alpers, as the supporting sources cited in this paper attest. Even though their evidence indicated that the NFA was probably a failure, their overall conclusions were overwhelmingly positive. Even their hinted conclusion that the NFA reduced mass shootings turns out to be far more dubious than the authors let on.

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Table 1. Non-Firearm Mass Murders in Australia, 1979-2017

<u>Date</u>	<u>Incident</u>	<u>Number Killed</u>	<u>Location</u>	<u>Weapon</u>
1979-1999	None			
6-23-00	Childers Palace Backpacker Hostel Fire ^a	15-18	Childers, Queensland	Arson
2-7-09	Churchill Fire ^b	10	Churchill, Victoria	Arson
7-18-09	Lin Family Murders ^c	5	North Epping, NSW	Blunt Instrument
11-18-11	Quaker Hill Nursing Home Fire ^d	11	Quaker Hill, NSW	Arson
12-19-14	Cairns Child Killings ^e	8	Cairns, Queensland	Stabbing
1-20-17	Melbourne Car Attack ^f	6	Melbourne	Car attack

Sources:

- a. *Adelaide Advertiser*, 6-24-00.
- b. *The Age*, 2-13-09.
- c. *ABC* (Australia), 5-12-14.
- d. *Sydney Morning Herald*, 11-18-11, 5-27-13.
- e. *NBC News*, 12-19-14.
- f. *The Age*, 3-31-17.