STAND YOUR GROUND LAWS, HOMICIDES, AND INJURIES

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ABSTRACT

The controversies surrounding gun control policies have recently moved to the forefront of public's attention in the United States and elsewhere. Since 2005, eighteen states in the United States have passed laws extending the right to self-defense with no duty to retreat to any place a person has a legal right to be, and several additional states are debating the adoption of similar legislation. Despite the implications that these laws may have for public safety, there has been little empirical investigation of their impact on crime and victimization. In this paper, we use monthly data from the U.S. Vital Statistics to examine how Stand Your Ground laws affect homicides and firearm injuries. We identify the impact of these laws by exploiting variation in the effective date of these laws across states over time. Our results indicate that Stand Your Ground laws are associated with a significant increase in the number of homicides among whites, especially white males. According to our estimates, between 28 and 33 additional white males are killed each month as a result of these laws. We find no consistent evidence to suggest that these laws increase homicides among blacks. Auxiliary analysis using data from the Supplemental Homicide Reports indicates that our results are not driven by the killings of assailants. We also find that the stand your ground laws are not related to non-homicide deaths, which should not respond to gun laws. Finally, we analyze data from the Health Care Utilization Project to show that these laws are also associated with a significant increase in emergency room visits and hospital discharges related to firearm inflicted injuries. Taken together, these findings raise serious doubts against the argument that Stand Your Ground laws make public safer.

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I. Introduction

A number of shooting tragedies have reignited the debate on gun rights and gun control policies in the United States and Europe recently. One particular incident occurred on February 26, 2012 when a seventeen year old was fatally shot by a community watch coordinator for a gated community in Sanford, Florida in the United States.[1] Based on preliminary physical evidence and the testimony provided by the teenager's shooter that he had acted in self-defense, the police department did not pursue criminal prosecution against him, at least initially, under the Florida's statute on justifiable use of force.[2] The circumstances that triggered the shooting and the initial decision not to charge Zimmerman have prompted tremendous media coverage and public attention and moved a wave of self-defense statutes recently introduced by states to the forefront of jurisprudence and policy debates. These new statutes, which are also known as Stand Your Ground (SYG) laws, allow individuals to use force, including lethal force, in self-defense when there is reasonable belief of a threat, without having any duty to retreat first.[3]

Historically, the right to defend one's home against intruders without a duty to retreat is well-protected by the principle of "Castle Doctrine" in the United States.

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[1] Other high profile recent examples include the massacre at the Virginia Polytechnic Institute and State University in the U.S. in 2007 that killed 32 people, the Norway massacre in 2011 that claimed 77 lives, and most recently, the movie theatre shooting in Colorado, United States in 2012, which killed 12 individuals.

[2] Although many of the facts surrounding the case are still unknown to the public, at the time of his death Trayvon did not have a weapon, but instead he was carrying a bag of candy and an iced tea back home. George Zimmerman was eventually arrested and charged with second-degree murder and is currently awaiting trial.

[3] According to Statute 776.013, which took effect on October 1, 2005, "(3) A person who is not engaged in an unlawful activity and who is attacked in any other place where he or she has a right to be has no duty to retreat and has the right to stand his or her ground and meet force with force, including deadly force if he or she reasonably believes it is necessary to do so to prevent death or great bodily harm to himself or herself or another or to prevent the commission of a forcible felony." See http://www.leg.state.fl.us/statutes/index.cfm?App_mode=Display_Statute&Search_String=&URL=0700-0799/0776/Sections/0776.013.html.

Rooted in the notion that "a man's home is his castle", this principle, recognized by common law, held an exception to the duty to retreat first when an individual faced an attack in his home.[4] The key difference in this new wave of laws is that they have extended the Castle Doctrine to apply to places outside the home, such as a vehicle, workplace, or anywhere else an individual has a legal right to be, and thus have diminished or eliminated the long-standing duty to retreat. Since Florida introduced its SYG law in 2005, another seventeen states have passed some version of a SYG law that contains language granting immunity from criminal prosecution to individuals using defensive or deadly force to venues beyond homes.[5]

With a strong backing by the National Rifle Association (NRA), proponents of the SYG laws argue that they would have a deterrent effect on crime. They also contend that law-abiding citizens must be able to protect themselves from intruders and attackers without having to worry about criminal or civil penalties before taking action in self-defense. Reflected in this argument is a diminished sense of confidence in the criminal justice system's ability to protect victims and the perceived discrepancy in the judicial system that emphasizes the due process rights of defendants over the rights of victims (Jansen and Nugent-Borakove, 2007).[6] It has also been suggested that increased concerns about public safety in the aftermath of the terrorist attacks in the U.S. in September 2001

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[4] See Levin (2010) and Catalfamo (2007) for a summary of the historical origins of the Castle Doctrine.

[5] These states include Alabama, Arizona, Florida, Georgia, Indiana, Kansas, Kentucky, Louisiana, Michigan, Mississippi, Montana, New Hampshire, Oklahoma, South Carolina, South Dakota, Tennessee, Texas, and West Virginia. See Table 1 for more information.

[6] Following the passage of Florida's law, the Institute for Legislative Action (ILA) - the lobbying arm of the NRA - wrote "Without doubt, Florida's recently enacted "Castle Doctrine" law is good law, casting a common-sense light onto the debate over the right of self-defense. It reverses the pendulum that for too long has swung in the direction of protecting the rights of criminals over the rights of their victims." (NRA-ILA, 2006).

and Hurricane Katrina in 2005 have played a role in the spread of SYG laws (Jansen and Nugent-Borakove, 2007).

Opponents, on the other hand, claim that these laws give too much freedom to private citizens to use deadly force, almost making them a license to kill rather than a protective measure (Megale, 2010; Kleindienst, 2005). It has been argued that these laws are open to abuses by those engaged in illegal activities or those with criminal records and may lead to an increased number of people carrying guns and willing to use them (Formby, 2006; Weaver, 2008; Jansen and Nugent-Borakove, 2007). Along similar lines, it has been suggested that these laws could embolden individuals to stand their ground rather than simply walk away and could lead to individuals resorting to the use of deadly weapons even during situations posing no imminent danger (Weaver, 2008; Florida Stand Your Ground Task Force, 2012). Another concern raised by critics over the expansion of the "no duty to retreat" to public areas is the amplified risk to innocent bystanders and public safety personnel and the possibility of increased violence due to retaliation (Jansen and Nugent-Borakove, 2007; Rios, 2012).

In the wake of recent attention received by the SYG laws, a number of state legislatures have reacted by introducing bills to limit the application of these laws, while others are keeping alive bills to pass similar laws. Therefore, there is an immediate need to provide credible evidence on the overall impact of these laws on public safety in order to better inform the current and upcoming legislative debates as well as the public opinion. Our analysis constitutes a significant attempt towards this goal.

Another motivating factor for the need for such analysis is a rise in the number of justified homicides nationally since 2005 (Federal Bureau of Investigation, 2010).[7] According to data from the Uniform Crime Reports, the total number of justifiable homicides has steadily increased from 196 in 2005 to 278 in 2010.[8] This is in contrast to the total number of overall killings, which has continued to decline during the same period. However, it is not straightforward how to interpret the rise in justifiable homicides. On the one hand, it might be that more civilians are killing each other and claiming self-defense (Palazzolo and Barry, 2012). In other words, the increase in justifiable homicide might reflect deaths that would not have occurred otherwise. This might support the concerns raised by the critics over the SYG laws. On the other hand, it might also be a mechanical shift as the new laws now result in more deaths being labeled as justifiable homicides. Nevertheless, the coincidence in trend for justifiable homicides and the expansion of the new SYG laws is suggestive of a possible causal link, which deserves closer investigation. Unfortunately, the official data sources from the Federal Bureau of Investigation do not allow detailed information on the nature of circumstance in each incident. While the Supplemental Homicide Reports provide a breakdown of justifiable and non-justifiable homicides, these data have been shown to be problematic due to underreporting and differences in interpretation and administrative practices in the timing of reporting across jurisdictions (Kleck, 1998). Despite these problems, we will

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[7] According to the Federal Bureau of Investigation, justifiable homicide is defined as and limited to the killing of a felon by a peace officer in the line of duty or the killing of a felon during commission of a felony by a private citizen.

[8] The corresponding figures are 238 for 2006, 257 for 2007, 265 for 2008, and 266 for 2009. It is notable that this upward trend is solely due to an increase in the homicides committed with firearms and not accounted for by other dangerous weapons and knives or cutting instruments.

show results from auxiliary analyses that examine the extent to which the SYG law is associated with justifiable versus non-justifiable homicides.

In this paper, we examine the impact of the recently introduced SYG laws on homicides due to firearm assaults using data from the U.S. Vital Statistics. In order to identify the causal impact of these laws, we employ a difference-in-difference methodology by exploiting the variation across states over time in the effective date of these laws. It is important to note that our focus is on states that have passed SYG laws with an explicit language extending the right to self-defense with no duty to retreat to any place where a person has a legal right to be.[9] Since the majority of these new laws were passed in a window of a three year period between 2005 and 2007, it is difficult to leverage variation with annual data to identify the law's impact. Because we use data from the Vital Statistics, which provides data on the date, location, and cause of all deaths in the U.S., we are able to conduct our analysis at the monthly level to leverage additional variation. These data are considered to be the most reliable source of information on homicides. We find that the SYG laws increase firearm related homicides among whites, especially white males. Our results indicate that between 28 and 33 additional white males are killed each month as a result of these laws, accounting for about 8 to 9 percent of all the white male murder victims in 2010. We find no evidence to indicate that these laws cause an increase in homicides among blacks. We also show that the SYG laws are

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[9] There have been a few states that passed versions of SYG laws that did not extend the no duty to retreat principle to apply to public places. These are not included in our treatment states. In our opinion, it is the provision of "no duty to retreat at any place a person has a legal right to be" that is the controversial aspect of these laws and also the one that has received much of the attention recently. In fact, the other provisions like no duty to retreat at home, also known as the Castle Doctrine, have been part of the common law for decades almost everywhere and individuals have rarely been prosecuted for using deadly force in self-defense in their homes. Nevertheless, we conducted a robustness analysis to determine whether any of our results are confounded by the impact of these other provisions. As discussed later in the paper, our results are not influenced by these other provisions.

associated with an increase in emergency room visits and hospitalizations due to firearm related injuries. Our results further indicate that it is indeed the most controversial aspect of these laws, i.e., the provision that extends no duty to retreat to any place a person has a legal right to be, that causes the increase in homicides. Our results are also robust to a number of specifications and unlikely to be driven entirely by the killings of assailants. Overall, these findings raise serious doubts about the claim that SYG laws make America safer.

The remainder of the paper is organized as follows. Section II provides information on the publicity generated by SYG laws and reviews the existing evidence on the impact of these laws. Section III discusses the data used in the analyses. Section IV describes our empirical approach. Section V presents our main results along with a discussion of robustness analyses, and Section VI offers a set of conclusions.

II. Background

Despite the tremendous publicity generated by the SYG laws and the significant ramifications that these laws may have on public health and safety, to date there has been little investigation of the potential impact of these laws on outcomes, such as crime rates and victimization. Most of what is currently known on the potential consequences of these laws are descriptive and come from media reports. For example, according to the *Tampa Bay Times*, "justifiable homicides" in Florida steadily increased from an annual average of 34 during the first half of the 2000s to 105 in 2009 (Montgomery and Jenkins, 2010).[10] In fact, the *Tampa Bay Times* has identified about 200 SYG cases and their outcomes through media reports, court records and interviews with prosecutors and

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[10] The figures stood at 31, 43, 33, 102, 93, and 105 in years from 2004 to 2009, respectively.

defense attorneys in Florida (Hundley et al., 2012). The newspaper's report of the investigation of these cases indicates that in about 70 percent of the cases where the SYG law was invoked to avoid prosecution, individuals have gone free. The report also cites numerous examples which support the perception that these laws encourage individuals to be aggressive even in situations where retreat is possible.[11] Furthermore, an independent review panel, which examined Florida's SYG law, cites documentation of the law's application to excuse killings in neighborhoods, bar brawls, gang shootouts, and road-rage incidents (Florida Stand Your Ground Task Force, 2012).

Contrary to these concerns, there are also others who argue that the colorful examples highlighted in the media draw a misleading picture of the actual impact of these laws and that the laws have largely been successful in protecting citizens against wrongful attacks and intrusions.[12]

While there is an abundance of anecdotal evidence on the impact of the SYG law on crime, there is very little credible investigation of the subject to determine whether these laws represent good policy for public safety.[13] One exception is a recent working paper by Cheng and Hoekstra (2012), which examines the impact of the recent wave of

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[11] For example, the report states that "During an argument at a 2009 party in Fort Myers, Omar Bonilla fired his gun into the ground and beat Demarro Battle, then went inside and gave the gun to a friend. If Battle feared for his life, he had time to flee. Instead, he got a gun from his car and returned to shoot Bonilla three times, including once in the back. Battle was not charged in the slaying."

[12] There have also been examples cited in support of the desirable impact of these laws. For example, a woman with a known history of prostitution killed a client with his own gun when he had threatened to kill her. The murder charge against the woman, who could have been prosecuted under the old law, was dropped because of Florida's newly enacted SYG law (Lake, 2006).

[13] Although there has been little empirical investigation of the SYG laws, there is a wealth of research examining the effects of prevalence of gun ownership and gun laws on crime and victimization. The findings from this research are mixed. On the one hand, a large number of studies find evidence to support that gun prevalence to increase crime and victimization (Cook and Ludwig, 2003, 2006; Duggan, 2001; Mocan and Tekin, 2006; Wells and Horney, 2002; MacDonald and Parker, 2001). On the other hand, there are also a number of studies documenting that gun ownership and less restrictive regulations lead to less crime and victimization through deterrence (Lott and Mustard, 1997; Lott, 2000; Lott and Whitley, 2001; and Mustard, 2001).

self-defense laws on crime and homicides using data from the FBI Uniform Crime Reports (UCR). The study finds no evidence that these laws have any deterrence effect on crimes such as burglary, robbery, and aggravated assault, but increase murder. While Cheng and Hoekstra (2012) is a useful attempt to shed light into the impact of self-defense laws on crime and victimization, our study differs from that in a number of important ways. First, we focus on the impact of SYG laws that extended the right to self-defense with no-duty to retreat in venues outside homes, while the primary focus of Cheng and Hoekstra (2012) is the self-defense laws with a broader scope. Second, we examine the impact of the SYG laws separately by gender and race. On the one hand, there is evidence to suggest that the application of these laws may have a disproportionally larger impact on minorities (Hundley et al, 2012; Jansen and Nugent-Borakove, 2007). On the other hand, the proportion of whites owning guns is substantially larger than those of blacks, suggesting that the laws may also have a larger impact on whites (Project America, 2008). As it turns out, race and gender specific heterogeneity in the impact of SYG laws is in fact highly important and ignoring it would produce an incomplete picture of the consequences of the SYG laws. Third, we use data on firearm related homicides from the U.S. Vital Statistics in our main analysis, while Cheng and Hoekstra (2012) use data from the UCR. The discrepancies in homicides between the UCR and the Vital Statistics are well-documented (Harris et al., 2002; Loftin et al., 2008; Wiersema et al. 2000; Decker and Pyrooz, 2010). For example, Loftin et al. (2008) find large differences between the UCR data and Vital Statistics data, with substantial undercount in the UCR estimates of the number of homicides. Note that undercounting may particularly be an important issue if the extent of it differs between

states with SYG laws and those that do not have these laws. Vital Statistics is often considered the gold standard of U.S. mortality measurement (Harris et al., 2002). Fourth, we employ data on hospitalizations and emergency room visits to consider the effect of the SYG law on injuries. This analysis is highly complementary to the analysis of homicides because for every homicide, there are many more injuries that show up in emergency rooms and result in hospitalizations. Fifth, we focus on monthly homicides while Cheng and Hoekstra (2012) use annual data in their analysis. It makes sense that Cheng and Hoekstra (2012) conduct their analyses with annual data since the monthly data from the UCR records are particularly problematic. For example, incomplete reporting is a major problem with the UCR at the monthly level. A large fraction of jurisdictions does not reliably provide data on a monthly basis, but rather most jurisdictions provide aggregates in one particular month, typically December. The records of justifiable killings provided by the UCR may also be problematic. Kleck (1988) discusses a number of reasons why the FBI's total counts of justifiable homicides represent only a minority of all civilian defensive homicides. For instance, there are examples of cases labeled by police as justifiable homicides, but they are not reported as such to the FBI because of the unwillingness by the police to spend much time recording homicides where the prosecution of the murderer was not expected to be pursued.[14]

An analysis with annual data is not the most ideal in this case because, with the exception of three states, all Castle Doctrine laws were passed in a period of three years between 2006 and 2008. In particular, 12 states passed these laws in 2006 and two states

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[14] Another limitation of the UCR data is that federal law enforcement agencies in certain jurisdictions do not participate in the UCR program. Thus, homicides occurring in places like prisons, national parks and Indian reservations, which are not reported by state or local law enforcement agencies, will not show up in the UCR system (Rokaw et al., 1990), but will appear in the Vital Statistics.

passed them in 2007. The number of states that passed a SYG law in 2005 and 2008 is only one. Clustering of laws around such a narrow time window would reduce variation over time in the spread of these laws, which can be important for identification in a difference-in-difference framework. Given monthly frequency of our data, we are able to utilize variation in homicides across months within a year. This also helps us capture seasonality in the homicides.

III. Data

Our primary data source is firearm related homicide victimization between 2000 and 2010 drawn from the U.S. Vital Statistics. These data are made available from the National Center for Health Statistics (NCHS) through a contractual agreement. The Vital Statistics records each instance of death based on information from death certificates filed with the vital statistics offices of each state and the District of Columbia. Each record contains pertinent demographic information as well as the locality, date, and cause of death. The cause of death is then recoded by the NCHS based on the Tenth Revision of the International Classification of Disease (ICD-10). For our purposes, we focus on firearm related homicides committed by private citizens.[15] The individual records are aggregated to the state and month in which they occur. In order to construct homicide rates, we obtained population data from the U.S. Census' Intercensus County Population Estimates for each state and each year.

Our main explanatory variable is SYG defined as a binary variable that takes on the value of one if a state has a SYG law in effect in a particular month of the year and

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[15] We exclude justifiable killings committed by police or other law enforcement officers and suicides by firearms from our analysis.

zero otherwise. The month the SYG law has become effective is determined by information provided by the state legislature of each state in which a SYG law has been enacted.[16] In the month the law became effective, we coded the SYG as the proportion of days within the particular month in which the law was in effect as the treatment variable.[17] The first state to pass a SYG law that has extended the right to self-defense with no-duty to retreat in venues outside homes is Florida. By the end of 2010, a total of 18 states had similar laws in their criminal code. Figure 1 displays the rapid increase in the spread of these laws during the second half of the 2000s.[18] A complete list of these states and the exact dates that their SYG laws have become effective are listed in Table 1.[19] Note that a number of states have expanded their Castle Doctrine laws without extending the no duty to retreat to public places.[20] These states are listed in column 3 of Table 1. In our interpretation, the expansion of no duty to retreat in public venues is the most dramatic aspect of these laws with the most significant ramifications. However, we also recognize that these other provisions may confound our findings if they have significant impacts on homicides. In the results section, we present evidence from a

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[16] For some states, the effective date is the day the legislation is signed into law by the governor, while for others, it is stipulated in the text of the legislation or set as a specific day of the year on which all passed laws become effective.

[17] We tested the robustness of our results to alternative ways of constructing the treatment variable. For example, we coded SYG as 1 and then 0 in the month it became effective and our results remained the same in each case.

[18] Utah had a law that allowed the right of self-defense outside the home since 1994.

[19] We interpret Indiana's SYG law as one that removes duty to retreat in any place someone has a legal right to be. Note that this differs from the interpretation in Cheng and Hoekstra (2012). Indiana's law states that "if the person reasonably believes that force is necessary to prevent serious bodily injury to the person or a third person or the commission of a forcible felony. No person in this state shall be placed in legal jeopardy of any kind whatsoever for protecting the person or a third person by reasonable means necessary." (see http://www.in.gov/legislative/bills/2006/PDF/HE/HE1028.1.pdf). There are no limits as to where the forcible felony should occur and presumably can be construed to mean anywhere. Given the uncertainty about the language in Indiana's law, we estimated our models after recodifying Indiana as a non-SYG state. Our results remained very similar. These results are available from the authors upon request.

[20] These expansions typically curtail civil liabilities for justified killings or establish a presumption of reasonableness.

robustness analysis, which indicates that our results are not influenced by the presence of these other provisions and in fact it is the SYG provision that is driving our findings.

We control for several characteristics of states in our analysis. These include the racial composition of state (i.e., percentage black, white, and Hispanic), the age distribution of state population (i.e., percentage aged 15-19, 20-24, 25-34), and the proportion of state population living in urban areas. Data on age distribution of state population, racial and ethnic composition, and urbanization are obtained from the Bureau of the Census. Next, we supplement our models with data on the number of law enforcement agencies and the number of state prisoners obtained from the annual Justice Expenditure and Employment Abstract of the Bureau of Justice statistics. Finally, we control for the state's unemployment rate, the poverty rate, and the political party that controls the governorship in the state. These measures are compiled from the University of Kentucky's Center for Poverty Research.

Table 2 shows the means and standard deviations for our control variables. The first column shows the descriptive statistics for the full sample. The descriptive statistics for the subsample of states that has never passed a SYG law are shown in column 2 and for those states that have passed a SYG law at some point during the analysis period are shown in column 3. Finally, columns 4 and 5 show descriptive statistics for all state-month-year observations without a SYG law and with a SYG law in effect, respectively. The average monthly homicide counts are 16.8 in non-SYG states and 24.2 in SYG states. The homicide rate is also higher among SYG states with 0.375 deaths per month per 100,000 residents deaths compared to non-SYG states, which have an average homicide rate of 0.292 per month per 100,000 residents. Of the 6,732 state-month-year

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observations, 729 (10.8 percent) are zeros due to no homicides committed during those months. The largest homicide count is observed in California, a non-SYG state, with 198 deaths in September 2002. The largest number of homicides among our SYG states was observed in Texas in May 2009 with 106 homicides. If we consider homicide rates per population rather than homicide counts, then the largest homicide rate was observed in District of Columbia, again a non-SYG state, in July 2002 with 2.27 homicides per 100,000 residents. Among the SYG states, the largest homicide rate was in Louisiana in July 2009 with 0.66 homicides per 100,000 residents. Table 2 also shows that SYG and non-SYG states differ in several observable characteristics. In particular, SYG states have a higher percentage of black population, more likely to have a Republican governor, a higher incarceration rate and a larger number of law enforcement agents. These states also tend to be more urban, and have a higher poverty rate.[21]

IV. Empirical Strategy

We are interested in examining the impact of the SYG law on homicides due to gun assaults. The key empirical challenge in answering this question stems from the fact there may be a myriad of other factors that might be correlated with the passage of these laws and independently affect homicides due to gun assaults. Therefore, a simple before-and-after approach would fail to identify the effect of SYG laws unless the spread of these laws across states was effectively random with respect to both observable and unobservable characteristics of those states. However, this assumption is unlikely. For example, if the law enforcement officers anticipate that these laws may lead to a rise in

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[21] A similar picture is obtained if we rather focus on the differences between state-month-year observations with SYG law in effect and without a SYG law as presented in columns 4 and 5 of Table 2.

gun prevalence and escalation of violent conflicts, then they may react by intensifying their policing efforts. Alternatively, if the new laws result in an increase in the number of regular citizens taking up arms, for example, to serve as community watch volunteers, then the law enforcement officers may actually reduce their patrolling activities in some neighborhoods. Furthermore, the states that pass the SYG laws are different than other states in many ways. For example, in a study examining the evolution of these laws, Boots et al. (2009) show Republicans are more likely to initiate and sign a SYG bill into law than Democrats. With respect to the geographic representation, as indicated by Table 1, southern states are more likely to have a SYG law. These also tend to be the states with widespread support for gun rights and a strong presence of pro-gun organizations like the NRA. If cultural or socio-economic differences across states are correlated with both the passage of these laws and homicides, then failing to control for them would lead to a bias in the estimated impact of SYG laws on homicides.

To address these problems, we employ a difference-in-difference strategy, exploiting the variation in the timing of these laws across states. A key identification assumption in this strategy is that, in the absence of the SYG laws, homicide rates would have trended similarly between states which had enacted these laws and those which had not. One potential threat to this is that the decision to pass a SYG law may reflect policy endogeneity. While pro-gun activists have intensified their campaigns both at the legislative and grassroots levels in the last decade, it is not exactly clear what specifically prompted these particular states to extend the Castle Doctrine in such a controversial way. As Jansen and Nugent-Borakove (2007) point out, there are many unanswered questions about the impact of these Castle Doctrine expansion policies, particularly because there is

no evidence to determine why these specific expansions were proposed in the first place.[22] However, one thing that is clear is that these laws could not have been introduced as a reaction to a wave of crime epidemic in the states that have passed these laws. On the contrary, crime rates have been on the decline virtually everywhere in the U.S. during this period. Furthermore, as illustrated in Figure 2, trends in homicide rates are fairly similar across states that passed SYG laws and those that did not prior to passage of these laws. The line with solid circles reflects the smoothed average homicide rate in a given month and a year among the treatment states, i.e., the states that passed a SYG law since 2005. The vertical line presents the month and the year in which the SYG law became effective in each of the treatment states. Since these laws became effective at different points in time, the graph is centered in the month and year the SYG law became effective in each of the SYG states (time 0) and tracks homicide rates in the months leading up to and after this period for 18 months (e.g., time 0 is 10/2005 for Florida and 6/2006 for Georgia). The line with solid diamonds in Figure 2 displays the smoothed average homicide rate across states that fall into the control group, i.e., those states that did not pass a SYG law.[23]

As shown in Figure 2, the homicide rates are higher in treatment states than the control states prior to the effective dates of SYG laws. Note that the differences in levels of homicide between the two types of states are not a concern for our identification

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[22] Some suggest that increased concerns about public safety in the aftermath of the terrorist attacks in 2001 and Hurricane Katrina in 2005 have played a role in the spread of SYG laws (Jansen and Nugent-Borakove, 2007).

[23] To illustrate, assume we have three states with the SYG laws, which became effective on 10/2005, 6/2006, and 12/2007, and three control states (X, Y, and Z) that did not pass a SYG law during the analysis period. Then the average homicide rate among the control states in time 0 is based on the homicide rates in states X, Y, and Z in 10/2005, 6/2006, and 12/2007. Similarly, the homicide rates in control states in time 1 is constructed as the average of homicide rates in states X, Y, and Z in 11/2005, 7/2006, and 1/2008. The average homicide rates for the months prior to time 0 are constructed in a similar fashion.

because we condition on state and month*year fixed effects. However, the SYG and non-SYG states follow a generally similar trend in homicide rate prior to the SYG laws, suggesting little evidence of systematic differences between the two groups of states other than differences in levels. Note that when we focus on the combinations of gender and race, the picture becomes more blurred, especially for the homicides among the treatment states, because of volatility in the monthly rates of homicides.[24] Following the enactment of SYG laws, the homicide rates start trending upwards in the treatment states, especially for white males. Control states, on the other hand, exhibit no such trend in an apparent way. Moreover, we control for state specific trends in our analysis, which allows the homicide rate to trend differently between the SYG and non-SYS states. This picture provides suggestive evidence that in the absence of SYG laws, the treatment states might have followed a similarly flat or downward trend. The difference-in-difference method can be formalized in a regression framework as follows:

$$H_{smy} = \alpha\, SYG_{smy} + \mathbf{X}_{smy}\beta + \mu_s + \lambda_{my} + \varepsilon_{smy}, \qquad\qquad (1)$$

where H_{smy} is the rate of homicides in state s in month m in calendar year y. SYG_{smy} is our key explanatory variable, which equals one if state s has a SYG law effective in month m in calendar year y, and 0 otherwise. The $\mathbf{X}_{smy}$ is a vector of exogenous determinants of crime described above. The μ_s are state fixed effects and would capture any time invariant, state specific factors, which may influence homicides. The λ_{my} are month*year fixed effects that would account any seasonality-related trends as well as

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[24] Note that the volatility in homicides in SYG states is particularly higher because the number of states with a SYG law in effect decreases as one moves away from time 0. In other words, the homicide rate is averaged over a decreasing number of states as one deviate from time 0.

national changes in homicides that are common to all states. The ε_{smy} is the usual error term. Note that our unit of observation is by state, year, and month. The coefficient of interest is α, the impact of SYG laws on homicides. The standard errors are clustered at the state level to account for serial correlation (Bertrand et al., 2004).

Although the evidence illustrated in Figure 2 suggests that there is little evidence of policy endogeneity or systematic pre-existing trends that differ between the treatment and control states, we extend our baseline specification in equation (1) by including state-specific linear trends in addition to state and month*year fixed effects. These additional controls would account for any unobserved factors that trend over time within a state and are correlated with homicides.[25]

We begin our empirical analysis with OLS models estimated in the logarithm of homicide rates per 100,000 state residents.[26] However, estimating a proportional effects model is not straightforward in our case because of zero homicides observed in some states in certain months. To overcome this complication, we replaced zeros with ones, and estimated log-linear models with the resulting data.[27] Next, we present results from fixed-effects Poisson models.[28] These models are particularly well-suited for our purpose given the count nature of our data and the fact that homicides are rare events, especially

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[25] We also experiment with specifications that control for state-specific quadratic trends as well as region*year fixed effects. These results did not cause any appreciable changes to the results presented here.
[26] The regressions are weighted by state population for the relevant demographic group. Our results are similar when we estimate these models using rates of homicide instead. These results are presented in Appendix Table 1. For example, the effect of 0.049 additional deaths per 100,000 white males reported Appendix Table 1 is very close to the corresponding figure of 0.062 obtained from Table 3A.
[27] Our results do not change when we only use the non-zero observations. These results are available from the authors upon request.
[28] One advantage of Poisson models is that, observed homicide rates of zero present no problem since Poisson regression does not require taking the logarithm of the dependent variable. However, one limitation of these models is the assumption that variance equals the mean. We use the robust option to obtain robust standard errors as recommended by Cameron and Trivedi (2010), which should mitigate concerns over the equivariance assumption. The violation of the equivariance assumption still produces consistent estimates but standard errors could be biased towards zero. Using Poisson regression also allows us to cluster standard errors at the state level.

at the monthly level and in some smaller states, and are widely used in the crime literature (e.g., Sampson, Raudenbush, and Earls, 1997; Osgood, 2000; Weiner, Lutz, and Ludwig, 2009).[29] In fixed effects Poisson models, we control for the logarithm of state population for the relevant race and gender group.[30]

V. Results

Table 3A presents OLS estimates of the impact of the SYG laws on logarithm of the homicides per 100,000 residents. Each cell in the table presents the coefficient on the indicator for SYG law and its standard error (adjusted for clustering at the state level). We present results for the full sample in Panel A, and then separately by race and by combinations of race and gender in Panels B through G. In each panel, column (1) shows the SYG estimates from a specification expressed in equation (1) that controls for state, month, and year fixed effects; column (2) displays the estimates from the specification that adds state specific annual time trends.

As shown in Panel A of Table 3A, the estimates are positive and significant in both specifications, suggesting that SYG laws increase the rate of homicides. The estimate in the second column indicates that having a SYG law is associated with a 6.8 percent increase in the homicide rate. When we consider the impact of SYG laws on homicides separately by race, an interesting picture emerges, suggesting that the positive impact of these laws only applies to whites, while the estimates for blacks are negative but not statistically significant. The point estimate on the specification in column (2)

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[29] In addition to fixed effects Poisson models, we estimated fixed effects Negative Binomial models to account for potential overdispersion in the data. The Negative Binomial results are not appreciably different from the Poisson or OLS results presented here and are available from the authors upon request.
[30] By adding the logarithm of state population, Poisson regression becomes an analysis of rates of homicides per population, rather than an analysis of counts of homicides.

indicates that the SYG law increases firearm related homicide rate among whites by 11.6 percent. Given that the SYG states had an average of 0.21 white homicides per 100,000 persons in the month prior to SYG law, the estimate implies that these laws result in about 0.024 additional white individuals per 100,000 getting killed in each state each month. With a white population of 91.5 million in the SYG states, this is equal to an additional 22 deaths per month.

Next, we turn our attention to the SYG estimates separately by race and gender. These results, presented in Panels D through G of Table 3A, reveal that the positive effect of SYG laws among whites is primarily driven by homicides of white males, while the impact among white females is not significant. With an average homicide rate of 0.425 per 100,000 for white males in the month prior to the SYG laws, the SYG estimate of 0.147 translates into an approximately 0.062 additional homicides per 100,000 per month among white males. Given a white male population of 45.4 million in these states, this would indicate an additional 28 deaths per month among this demographic group. The fact that this figure is close to the estimate in Panel B is not surprising given the smaller and imprecisely estimated coefficient for white females as well as the lower homicide rate among white females. Consistent with the results presented in Panel C, the estimates on blacks are small in size and statistically insignificant for both males and females.

The results from the fixed effects Poisson models are presented in Table 3B and are largely consistent with those from the OLS. The point estimate in column (2) of Panel D is 0.158 indicating that the SYG laws result in an increase in the homicide rate among white males by 17.1 percent ($e^{0.158} - 1$). This translates into an additional 0.07 homicides per 100,000 residents per month per state among this group or 33 homicides per month.

Focusing on the estimates for blacks displayed in Panels F and G, we see that the estimates are again small in magnitude and imprecisely estimated, indicating that the SYG laws are not causing any effect in homicides among blacks.

The results presented so far refer to the impact of SYG laws that have explicit language extending no duty to retreat to places an individual has a legal right to be. However, some states have passed narrower versions of self-defense laws that limit the no duty to treat only to an individual's home, business, or vehicle, include provisions that create a presumption of reasonableness, or remove civil liability for individuals using deadly force in self-defense. Note that it is the provision of "no duty to retreat in any place an individual has a legal right to be" that is the most controversial aspect of the new SYG laws and it has been this provision that has been at the center of recent debates. In fact, the other provision providing "no duty to retreat at one's home" has been the part of common law for many decades and individuals have rarely been prosecuted for using force, including deadly force, against intruders. Nevertheless, we conducted a robustness analysis to determine the extent to which our results are confounded by these other provisions. To do this, we created an additional indicator to reflect whether a state has passed some type of Castle Doctrine law during the analysis period, but one without removing duty to retreat in any place a person has a legal right to be. We call this indicator "Other Self-Defense Provisions." Then we estimate all our models with these two variables. The omitted category in our models is states that did not pass any self-defense laws during this period.

As shown in Table 4A, the OLS results from this analysis barely change from the results reported in Table 3A. The estimates on SYG indicator continue to point to a

robust impact of SYG laws on homicides among white males. In particular, the estimate of 0.141 for white males translates into about 27 (0.141*0.425*45.4 million/100,000) additional deaths per month, which is similar to the one in Table 3A. Moreover, the estimates on blacks are still negative in sign, small in size, and statistically insignificant. Regarding the coefficients on the indicator for other self-defense provisions, they are estimated with precision only significant for white males. Surprisingly, however, the estimates are opposite in sign, suggesting that these other provisions are associated with a decrease in the homicide rate among this group.

The estimates from the fixed effects Poisson results are presented in Table 4B. Similarly, these results are nearly indistinguishable from those shown in Table 3B. We interpret this as strong evidence to confirm that the estimated SYG law impacts obtained earlier are not confounded by these other provisions. Focusing on gender and race specific estimates in Panels B through G, we see that the impact of SYG laws on the homicide rate among white males is 16.5 percent, almost identical to the estimate in Table 3B. Furthermore, all of the SYG estimates on blacks are small in size and none are statistically significant. Regarding the estimates on the indicator for other self-defense provisions, we obtain negative and statistically significant impacts for white males, while the estimate on white females is positive and significant.[31]

In sum, the results presented in Tables 3A, 3B, 4A, and 4B provide no evidence, unlike the advocates of these laws have argued, that the SYG laws would result in a

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[31] It is not surprising that the estimates on the other self-defense provisions are not consistent across specifications and demographic groups. This is likely because there is a wide variation in the scope of these other provisions across states. For example, some states only created a presumption of reasonableness for those using deadly force in self-defense situations, while others only removed civil liability for those justified under the self-defense law. Thus, bundling multiple laws into one single category like the one implemented here may fail to capture their overall impact properly.

reduced number of deaths among citizens in the states that have introduced such laws. On the contrary, these results indicate that the number of firearm related homicides among white males increase significantly as a result of these laws.

Justifiable versus Non-Justifiable Homicides

It may be argued that the increase in homicides might largely be driven by killings that are justified by the SYG laws, i.e., deaths that occur while law-abiding citizens are protecting themselves from intruders or attackers, and that this should not be viewed as a negative outcome.[32] It is indeed possible that additional homicides associated with the SYG law may partly be driven by the killings of assailants. However, note that the net rise in homicides cannot be accounted by a one-to-one substitution between the killings of assailants and the killings of victims unless multiple assailants are killed in some instances (Cheng and Hoekstra, 2012). If at least some of the additional homicides are due to individuals resorting to the use of deadly force against each other in situations where the threat of death or serious bodily injury is not imminent to either party, this could indicate that these laws impose serious costs not only on criminals both also private citizens as well. It is also possible that potential intruders and attackers, who, in the absence of SYG laws, could have committed their crimes without killing anyone, are now being killed as a result of these laws. Whether or not these killings should be considered justifiable in this case is beyond the purpose of this paper. However, it cannot be argued in that case that the SYG laws are saving the lives of innocent people as these individuals would not have been killed in the first place.

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[32] Note that justifiable killings by police or other law enforcement officers are already excluded from our analyses.

While the U.S. Vital Statistics is the most reliable source of information on homicides, it does not provide any information about whether the deaths fall under the category of justifiable or non-justifiable homicides. In fact, the only nationally representative source of information on justifiable and non-justifiable homicides comes from the FBI's Supplemental Homicide Reports (SHR). Despite the previously mentioned problems related to the reliability of the SHR data, especially with its breakdown of justifiable and non-justifiable homicides, we believe that an analysis with the SHR still has the potential to provide useful insights into the relationship between SYG laws and justifiable versus non-justifiable homicides.

To implement this analysis, we gathered data from the SHR between 2000 and 2009. The means for homicide counts in SHR are shown in Appendix Table 2. Consistent with the earlier discussion, the homicide numbers in the SHR data are an undercount of the total number of homicides.[33] As expected, the overwhelming majority of homicides are classified as non-justifiable. For example, there are only 4.1 justifiable homicides compared to 201.1 non-justifiable homicides in our full sample. The number of justifiable homicides is 2.6 for the non-SYG states and 6.6 and for the SYG states, while the corresponding figures for non-justifiable homicides are 171.5 and 251.

Next, we run separate regressions for non-justifiable and justifiable homicides aggregated at the annual level using data from the SHR between 2000 and 2009.[34] In Tables 5A and 5B, we report the SYG estimates for the models of justifiable homicides

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[33] Note that we excluded fatal shootings committed by police officers from the count of justifiable homicides.

[34] We conducted the analysis with the SHR data both at the annual and monthly levels. To economize on space, we only present results from the annual level analysis. Furthermore, the monthly counts are especially noisy because of the reasons mentioned previously. Despite these problems, the results from the analyses conducted at the monthly and the annual levels point to a similar conclusion. These results from the monthly analysis are available from the authors upon request.

with OLS and fixed effects Poisson regressions, respectively.[35] Similar to the earlier tables, we present estimates from a specification that includes state and year fixed effects along with time-varying state characteristics in the first column. The estimates shown in the second column add to this list state-specific linear time trends. As shown in Table 5A, once we control for state specific time trends, the only two groups with a statistically significant estimate on SYG are whites and white males. In fact, the point estimate implies that the SYG law is associated with a 47 percent increase in justifiable homicides for white males. Such a large effect is consistent with the voluminous anecdotal and descriptive evidence pointing to a sharp rise in the number of justifiable homicides following SYG laws. As explained above however, this may represent a rather mechanical shift and does not necessarily indicate an increase crime, if incidents, which could have been categorized as non-justifiable homicides before the SYG laws, now fall under the umbrella of justifiable homicides. The results from the fixed effects Poisson regressions are presented in Table 5B and point to a substantial increase in justifiable homicides among white males associated with the SYG laws. In fact, the marginal effect indicates that the SYG law almost doubles the number of justifiable homicides.

The results for the non-justifiable homicides are reported in Tables 6A and 6B. The OLS estimates shown in Table 6A suggest that the SYG law has a large and statistically significant positive effect in the non-justified homicides among white males. The point estimate in column 2 indicates a 23 percent increase in these homicides associated with the SYG laws.   The results from the fixed effects Poisson regressions

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[35] Given that the justifiable homicide figures for white females and black females are so low and coupled with the already mentioned problems associated with justifiable homicide records, we believe that the estimates for females are not reliable, so are not presented in the tables. For example, there are 0.04 deaths per state per year among white females that are classified as justifiable. The corresponding figure for black females is 0.02. Nevertheless, they are available from the authors upon request.

shown in Table 6B suggest that the SYG law is associated with a significant increase in the non-justifiable homicides of not only white males, but also white females, while no other statistically significant effect is detected for other groups. The marginal effects indicate that the SYG law increases non-justifiable homicides by 46.5 ($e^{0.382}$ – 1) percent among white males and 31.9 ($e^{0.277}$ – 1) percent among white females.

Despite the previously mentioned concerns about the reliability of the SHR data, the pattern obtained from the results in Tables 6A and 6B is supportive of the earlier finding that SYG laws do in fact cause an increase in the total homicides including those that fall under the non-justifiable category. Also, if these laws do not increase overall homicides, but simply result in a substitution away from non-justifiable homicides towards justifiable homicides, then we should have seen a clear reduction in non-justifiable homicides. If anything, the evidence from Tables 6A and 6B shows strong evidence that the opposite is true.

Robustness Analyses and Placebo Test

According to data from the Uniform Crime Reports, 67.5 percent of all homicides are committed by firearms in the U.S. in 2010. Majority of the anecdotal evidence on the consequences of SYG laws refer to cases which involve the use of firearms. Nevertheless, the law is not weapon-specific, and thus can apply to any homicide regardless of the weapon used. To assess the sensitivity of our results to the type of weapon, we estimated all of our models using homicides committed with all types of weapons including firearms and non-firearms. This analysis produced results that are

remarkably similar to those presented in Tables 3A and 3B.[36] In particular, the marginal effects for white males are 0.142 for the OLS model and 0.102 for the fixed effects Poisson model and are both statistically significant. Consistent with our earlier results, none of the estimates for other race and gender categories are estimated with statistical precision.

Next we conducted a placebo analysis. To do this, we grouped all non-homicide and non-suicide related deaths together and estimated our models using this measure as the outcome. These deaths primarily include those caused by cardiovascular events, cancer, and motor vehicle accidents, which arguably should not be affected by gun laws. The results from this placebo analysis are presented in Table 7. As expected, the estimates are imprecisely estimated for most of the categories and small in magnitude in all cases. This suggests that the SYG laws do not exhibit any meaningful association with the type of deaths that they should not be associated with.

Emergency Room Visits and Hospital Discharges

If the SYG laws are causing an increase in homicides, it is plausible to think that it should cause even a larger increase in emergency room (ER) visits and hospitalizations due to firearm related injuries. According to data from the National Center for Health Statistics, in 2009, for each death by injury, there were about 11 times as many hospitalizations and 182 times as many ER visits. Therefore, one attractive way to assess the reliability of our findings is to examine whether the SYG laws are also related to firearm related injuries that show up in emergency rooms and result in hospitalizations

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[36] Full results from these analyses are not shown to economize on space. However, they are available from the authors upon request.

To accomplish this goal, we utilized information from two databases collected by the Healthcare Cost and Utilization Project (HCUP), which services a family of health care databases developed through a Federal-State-Industry partnership and sponsored by the U.S. Agency for Healthcare Research and Quality (AHRQ). Specifically, for ER department visits, we use the State Emergency Department Databases (SEDD), which provides discharge information on all emergency department visits that do not result in admission to a hospital. For hospital discharges, we rely upon the State Inpatient Databases (SID), which hold the universe of inpatient discharge abstracts from individual states. In order for a discharge record to exist, the patient must have been admitted to hospital. Thus, the SID typically contains records of patients who require more intensive treatment or for whom treatment cannot be provided on an out-patient basis. Note that our SEDD and SID data cover the states of California, Florida, Hawaii, Iowa, Maryland, New Jersey, and Wisconsin and for the period between 2005 and 2009.[37] There are a few reasons for limiting the ER and hospitalizations analysis to these states. First, individual states voluntarily subscribe to the HCUP project, so not every state provides these data.[38] Second, some states do not provide information on patient race, which is crucial for our analyses. Third, there is a financial cost, which makes it prohibitively expensive to acquire data for all available states for all years. Note that among our states, Florida is the only one which has passed a SYG law during the analysis period.

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[37] Note that we have data from California for only between 2005 and 2008. Our results are not sensitive to Hawaii.

[38] For example, only 17 states provided the SEDD data and 27 states provided the SID data in 2009. Since we use the sum of ER visits and hospital discharges in our analyses, we cannot have more than 17 states represented in our analyses. For a full list of states with SEDD and SID data, please visit http://www.hcup-us.ahrq.gov/databases.jsp.

The injury categories in the HCUP data are based on ICD-9 codes and we focus on external injuries that are inflicted purposefully, excluding firearm injuries that are inflicted accidently or by police officers. We identified the firearm related injuries in the SEDD and SID databases for each of our sample states and aggregated the counts at the quarterly level. Then we summed up the quarterly total counts of ER visits (from SEDD) and hospital discharges (from SID) to generate our outcome measure.[39] To our knowledge, this is the first study to consider the effect of SYG laws on firearm related injuries. The descriptive statistics for the ER visits and hospital discharges are presented in Appendix Table 3. Both the ER visits and hospitalizations are higher, both in levels and in rates per 100,000 persons, among SYG states than non-SYG states. This is suggestive that the SYG law may indeed play a role in increasing injuries in these states.

The estimation results from the analysis of the effect of SYG laws on ER visits and hospital discharges are presented in Tables 8A and 8B for OLS and the fixed effects Poisson regressions, respectively. Focusing on the estimates in column 2, which control for state specific linear time trends in addition to state level time-varying variables, state fixed effects and year and quarter fixed effects, we see from the OLS estimates in Table 8A that the SYG laws are associated with an increase in the firearm related injuries that result in ER visits and hospitalizations among white males in the order of approximately 20 percent and among black females in the order of almost 60 percent.[40] The estimates from the fixed effects Poisson regressions shown in Table 8B are consistent with those from the OLS, indicating that the SYG law is associated with significant increases in

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[39] Since the SEDD records include cases that did not result in a hospital admission, summing counts from SEDD and SID does not result in double-counting.

[40] The large estimate on black females is consistent with the hypothesis that the SYG laws are associated with an increase in firearm related injuries for this demographic group. However, this finding is not supported with our earlier analysis on homicides and therefore, deserves further investigation.

firearm related injuries among white males and black females. Remarkably, the marginal effect of the SYG estimate among white males is 20 percent ($e^{0.188} - 1$), which is identical to the corresponding figure from the OLS. Taken together, the results presented in Tables 8A and 8B are generally in line with those from the mortality analysis, indicating that the SYG laws are not only associated with increased homicides, but also increased firearm injuries.

VI. Conclusions

The controversies surrounding a recent wave of self-defense laws introduced by an increasing number states in the United States have captured the nation's attention recently. Since 2005, a total of 18 states have passed legislation that has extended the no duty to retreat rule to apply to public places and a number of states are debating the adoption of similar legislation. Despite significant implications of these new laws for public safety, there has been little empirical investigation of their impacts. In this paper, we show that SYG laws that extend the right to self-defense to areas outside the home are associated with a significant increase in the number of homicides. Our gender and race specific analyses indicate that the rise in homicides is primarily driven by the deaths among whites, especially white males, while we generally find no effect on blacks. . According to our estimates, between 28 and 33 additional white males are killed each month as a result of these laws, , accounting for about 8 to 9 percent of the 4,234 homicides committed against white males in 2010.

Our analysis using data on emergency room visits and hospital discharges from a number of states including Florida indicate that the SYG laws also cause a substantial

increase in number of individuals who are taken to emergency rooms and hospitals for firearm related injuries.

We also find evidence to suggest that the SYG laws are associated with increases in both justifiable and non-justifiable homicides, using data from the Supplemental Homicide Reports. We find no evidence that these laws are related to non-homicide deaths, which makes sense given that one would expect no association between gun laws and these types of deaths.

Our results suggest that it is indeed the most controversial aspect of these laws, i.e., the provision that extends no duty to retreat to any place a person has a legal right to be, that causes the increase in homicides. In particular, we show strong evidence to indicate that our results are not driven by other self-defense provisions adopted by states. Taken together, our findings raise serious doubts against the argument that the stand your ground laws serve as a deterrent for crime. On the contrary, we show consistent evidence that these laws are associated with an increase in crime, at least measured by homicides, especially among white males.

There are a number of possible explanations for the finding that the SYG laws are significantly associated with the homicides among white males, but not with other demographic groups. For example, it has been suggested that the SYG laws may be associated with an increase in gun ownership (Jansen and Nugent-Borakove, 2007). In fact, there has been some mentioning in the media of a sharp increase in the applications for concealed weapon permits following the passage of these laws in Florida.[41] Given that the overwhelming majority of concealed guns are owned and carried by white males in

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[41]   http://www.tampabay.com/news/politics/stateroundup/stand-your-ground-laws-impact-needs-more-study-task-force-told/1251191.

the United States, it is plausible to expect the SYG impact to be more pronounced for this group. Furthermore, it has been argued that the SYG laws may embolden individuals to stand their ground rather than simply walk away and may lead to individuals resorting to the use of deadly weapons even in incidents with no real threat to people's lives. However, in order for these behaviors to be associated with the SYG laws, people must have knowledge of these laws. In other words, these laws should only have an effect on the behavior of individuals who have heard about these laws. Then it is plausible to think that white males, who are more likely to own and carry guns and who constitute the vast majority of the membership for pro-gun organizations like the NRA, are the ones who have more interest in following the legislative activity related to guns. Finally, our results are also consistent with the bystander story, i.e., given that the no-duty to retreat applies to any public place in the SYG states, these laws may pose an increased risk to bystanders. If gun owners, who are more likely to be white males, are also more likely to be surrounded by whites and especially white males, then this may suggest that the SYG law should have a stronger impact on this group. However, the explanations offered here should only be interpreted as suggestive and seen as an important avenue of future research.

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Figure 1: Number of States with Stand Your Ground Laws
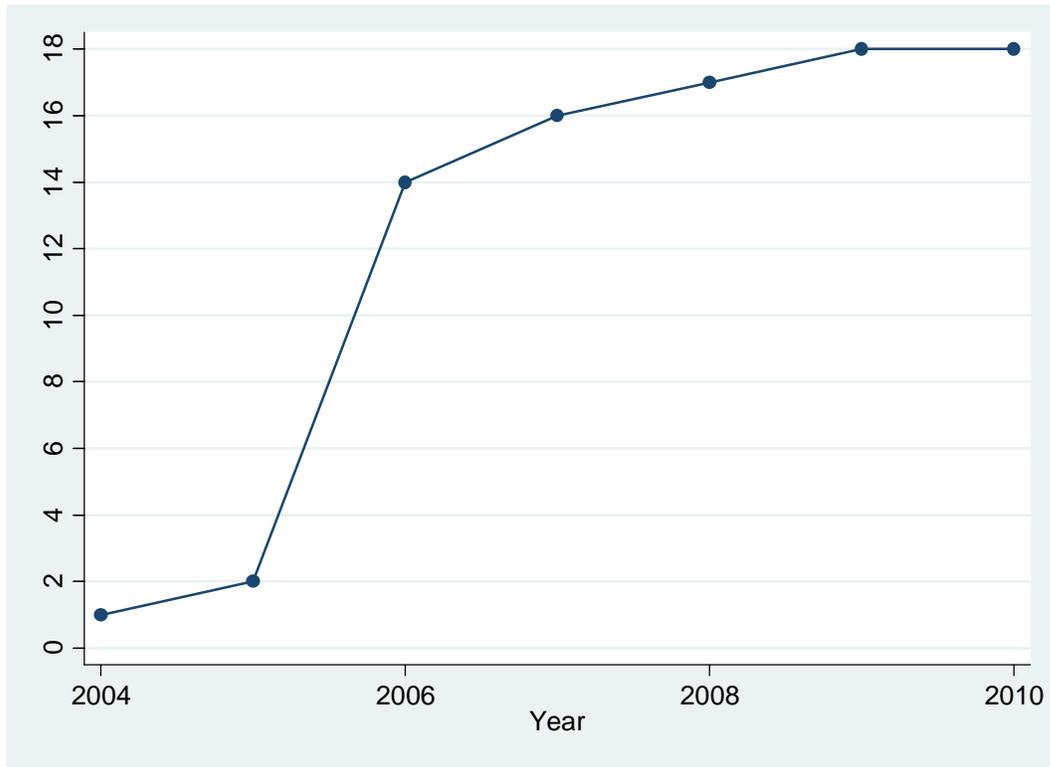
Figure 2: Trends in Homicides Before and After Stand Your Ground Laws

Full Sample
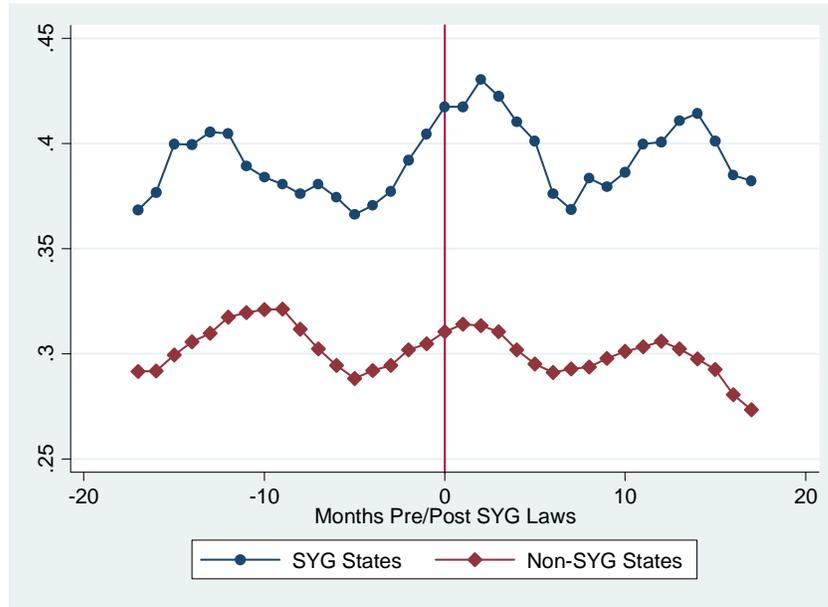
White Males
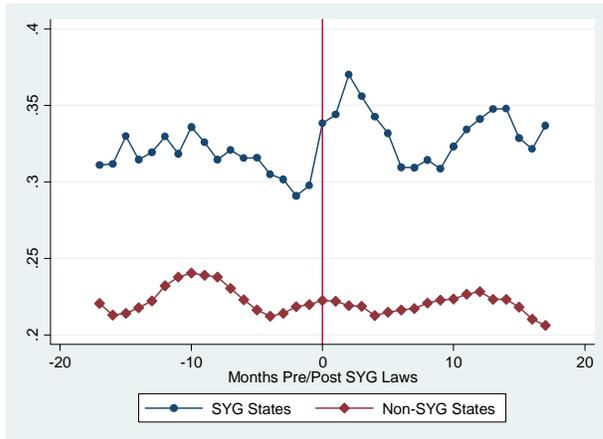
White Females
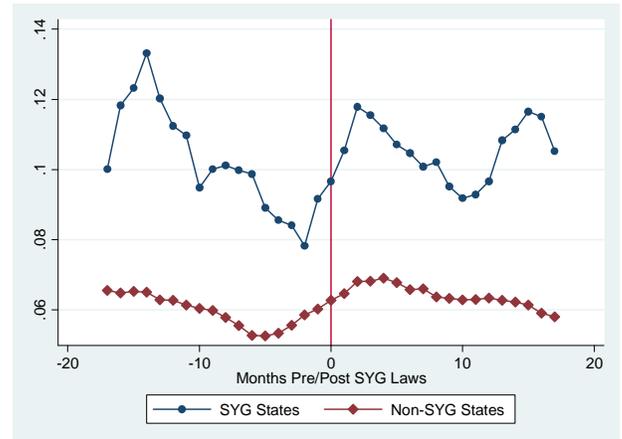
Black Males
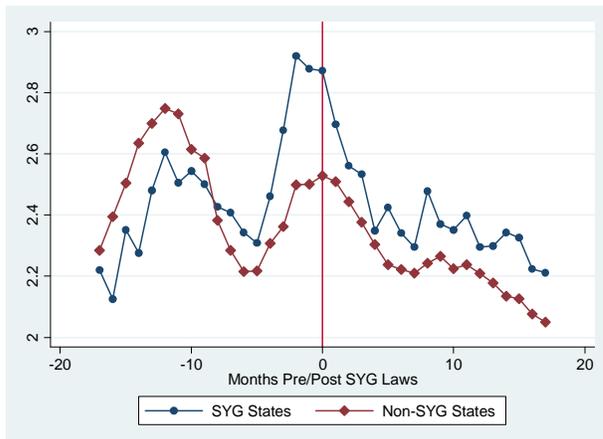
Black Females
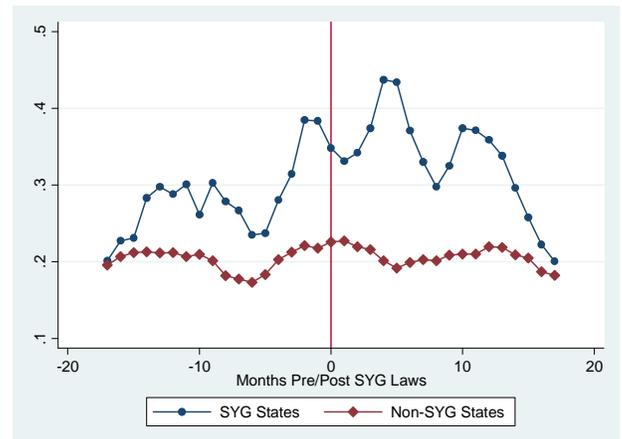
Table 1: States with Stand Your Ground Laws

State	No Duty to Retreat in any place someone has a legal right to be	Any Castle Doctrine Expansion	Effective Date for SYG Law	Notes/Sources
Alabama	1	1	6/1/2006	a
Alaska	0	1	9/13/2006	b
Arizona	1	1	4/24/2006	b
Arkansas	0	0		
California	0	0		
Colorado	0	0		
Connecticut	0	0		
Delaware	0	0		
District of Columbia	0	0		
Florida	1	1	10/1/2005	a
Georgia	1	1	7/1/2006	b
Hawaii	0	0		
Idaho	0	1	7/1/2006	b
Illinois	0	1	7/28/2004	b
Indiana	1	1	7/1/2006	b
Iowa	0	0		
Kansas	1	1	7/1/2006	b
Kentucky	1	1	7/12/2006	b
Louisiana	1	1	8/15/2006	c
Maine	0	0		
Maryland	0	0		
Massachusetts	0	0		
Michigan	1	1	10/1/2006	a
Minnesota	0	0		
Mississippi	1	1	7/1/2006	b
Missouri	0	1	8/28/2007	b
Montana	1	1	4/27/2009	a
Nebraska	0	0		
Nevada	0	0		
New Hampshire	1	1	11/13/2011	b
New Jersey	0	0		
New Mexico	0	0		
New York	0	0		
North Carolina	0	0		
North Dakota	0	1	8/1/2007	b
Ohio	0	1	9/9/2008	b
Oklahoma	1	1	11/1/2006	a
Oregon	0	0		
Pennsylvania	0	0		
Rhode Island	0	0		
South Carolina	1	1	6/9/2006	b
South Dakota	1	1	7/1/2006	b
Tennessee	1	1	5/22/2007	b
Texas	1	1	9/1/2007	d
Utah	1	1	3/2/1994	d
Vermont	0	0		
Virginia	0	0		

Washington	0	0		
West Virginia	1	1	2/28/2008	b
Wisconsin	0	0		
Wyoming	0	1	7/1/2008	b

Notes/Sources:

a -NRA-Institute for Legislative Action - http://nraila.org/news-issues/news-from-nra-ila.aspx

b -State Legislators

Alaska - http://www.legis.state.ak.us/basis/get_bill.asp?bill=SB%20200&session=24.

Arizona - http://www.supreme.state.az.us/opin/pdf2007/cv060320pr.pdf.

Georgia - http://www1.legis.ga.gov/legis/2005_06/search/sb396.htm.

 Idaho - http://legislature.idaho.gov/legislation/2006/S1441.html.

Illinois - http://www.ilga.gov/legislation/publicacts/fulltext.asp?Name=093-0832&GA=93.

Indiana - http://www.nraila.org/search.aspx?s=%22Indiana%22&sort=date&pageNum=9.

Kansas - http://www.kslegislature.org/li/b2011_12/measures/sb366/.

Kentucky - http://www.lrc.ky.gov/krs/503-00/085.PDF.

Michigan - http://www.legislature.mi.gov/documents/2005-2006/publicact/pdf/2006-PA-0311.pdf.

Mississippi - http://billstatus.ls.state.ms.us/documents/2006/html/SB/2400-2499/SB2426PS.htm.

Missouri - http://www.senate.mo.gov/07info/BTS_Web/Bill.aspx?SessionType=R&BillID=108.

Montana - http://data.opi.mt.gov/bills/2009/billhtml/HB0228.htm.

New Hampshire - http://www.nhliberty.org/bills/view/2011/SB88.

North Dakota- http://www.legis.nd.gov/assembly/60-2007/docs/pdf/2007effectivedatesoflegislation.pdf.

Ohio - http://lsc.state.oh.us/coderev/sen127.nsf/Senate+Bill+Number/0184?OpenDocument.

Oklahoma - http://webserver1.lsb.state.ok.us/2005-06bills/HB/hb2615_engr.rtf.

South Carolina - http://www.schouse.gov/sess116_2005-2006/bills/4301.htm.

South Dakota - http://legis.state.sd.us/sessions/2006/bills/HB1134enr.htm.

Tennessee - http://wapp.capitol.tn.gov/apps/Billinfo/default.aspx?BillNumber=HB1907&ga=105.

West Virginia-http://www.legis.state.wv.us/Bill_Text_HTML/2008_SESSIONS/RS/Bills/SB145%20SUB1%20enr.htm.

Wyoming - http://legisweb.state.wy.us/2008/Summaries/HB0137.htm.

c- Louisiana Association for Justice - http://www.lafj.org/index.cfm?pg=06LegSummaryCriminal.

d- Association for Prosecuting Attorneys (APA) - http://www.apainc.org/%28S%28fcxbywqqevm5y3yplrtrvb45%29%29/documentdownload.aspx?documentid=27&getdocnum=1.

Table 2: Summary Statistics

Variable	Full Sample	Non-SYG State	SYG State	SYG Not Implemented	SYG Implemented
SYG	0.144	0.000	0.409	0.000	1.000
	(0.351)	(0)	(0.491)	(0)	(0)
Homicides per month	19.391	16.771	24.194	18.580	24.200
	(25.261)	(26.538)	(21.94)	(25.582)	(22.765)
Monthly Homicide Rate per 100,000	0.321	0.292	0.375	0.314	0.365
	(0.351)	(0.402)	(0.221)	(0.367)	(0.226)
% Hispanic	8.679	9.206	7.713	8.670	8.754
	(9.155)	(9.095)	(9.189)	(9.188)	(8.962)
% White	81.699	81.970	81.202	10.857	81.252
	(13.58)	(15.091)	(10.23)	(11.494)	(10.423)
% Black	11.270	9.797	13.971	8.774	13.705
	(11.559)	(11.298)	(11.546)	(14.044)	(11.644)
% Aged 15-19	7.275	7.218	7.380	7.258	7.376
	(0.549)	(0.51)	(0.6)	(0.514)	(0.715)
% Aged 20-24	7.139	7.007	7.380	7.051	7.656
	(0.809)	(0.772)	(0.819)	(0.715)	(1.092)
% Aged 25-34	35.785	36.148	35.118	36.046	34.244
	(1.849)	(1.904)	(1.537)	(1.808)	(1.243)
% Living in Urban Areas	56.506	56.994	55.611	59.013	41.600
	(33.787)	(35.386)	(30.626)	(32.245)	(38.6)
Unemployment Rate	5.520	5.419	5.706	5.323	6.692
	(1.997)	(1.964)	(2.043)	(1.794)	(2.642)
Poverty Rate	12.197	11.119	14.174	11.789	14.602
	(3.27)	(2.932)	(2.917)	(3.069)	(3.392)
Democratic Governor	0.497	0.540	0.419	0.523	0.346
	(0.5)	(0.498)	(0.494)	(0.5)	(0.476)
Prisoners per 100,000 Residents	432.633	386.484	517.240	418.729	514.500
	(165.084)	(145.742)	(164.988)	(160.02)	(170.786)
Number of Law Enforcement Agents	19,304.960	19,269.880	19,369.280	19,221.870	19,843.480
	(22,430.71)	(24,456.27)	(18,143.65)	(22,965.39)	(19,031.81)
Number of Observations	6,732	4,356	2,376	5755	970

Note: Standard Deviations are in parentheses.

Table 3A: OLS Estimates of the Impact of the Stand Your Ground Law on Log(Homicides)

	Log(Homicide Rate)	
A. Full Sample		
Stand Your Ground	0.092**	0.068*
	(0.036)	(0.037)
R^2	0.753	0.767
B. Whites		
Stand Your Ground	0.099**	0.116**
	(0.041)	(0.054)
R^2	0.668	0.677
C. Blacks		
Stand Your Ground	0.073	-0.036
	(0.063)	(0.102)
R^2	0.610	0.636
D. White Males		
Stand Your Ground	0.117***	0.147**
	(0.041)	(0.057)
R^2	0.668	0.677
E. White Females		
Stand Your Ground	0.057	0.073
	(0.044)	(0.079)
R^2	0.520	0.524
F. Black Males		
Stand Your Ground	0.087	-0.034
	(0.063)	(0.103)
R^2	0.611	0.635
G. Black Females		
Stand Your Ground	0.004	-0.025
	(0.060)	(0.096)
R^2	0.555	0.560
Time-Varying State Characteristics	Yes	Yes
State Fixed Effects	Yes	Yes
Month*Year Fixed Effects	Yes	Yes
State-Specific Linear Time Trends	No	Yes
Number of Observations	6,732	6,732

Notes: Each cell presents the coefficient on the indicator for Stand Your Ground Law. Standard errors that are clustered by state are in parentheses. The unit of observation is state-month-year. All regressions are weighted by state population of the relevant demographic group. *, **, and *** indicate that the Stand Your Ground coefficient is statistically significant at the 0.10, 0.05 and 0.01 levels, respectively.

Table 3B: Fixed Effects Poisson Estimates of the Impact of the Stand Your Ground Law on Homicides

	Fixed Effects Poisson	
A. Full Sample		
Stand Your Ground	0.085**	0.060*
	(0.038)	(0.036)
Pseudo-R^2	0.438	0.446
B. Whites		
Stand Your Ground	0.119***	0.137***
	(0.046)	(0.049)
Pseudo-R^2	0.348	0.354
C. Blacks		
Stand Your Ground	0.052	-0.005
	(0.052)	(0.070)
Pseudo-R^2	0.273	0.284
D. White Males		
Stand Your Ground	0.141***	0.158***
	(0.047)	(0.049)
Pseudo-R^2	0.353	0.359
E. White Females		
Stand Your Ground	0.049	0.075
	(0.051)	(0.077)
Pseudo-R^2	0.119	0.123
F. Black Males		
Stand Your Ground	0.063	-0.002
	(0.053)	(0.071)
Pseudo-R^2	0.274	0.284
G. Black Females		
Stand Your Ground	-0.058	-0.035
	(0.055)	(0.083)
Pseudo-R^2	0.0753	0.0797
Time-Varying State Characteristics	Yes	Yes
State Fixed Effects	Yes	Yes
Month*Year Fixed Effects	Yes	Yes
State-Specific Linear Time Trends	No	Yes
Number of Observations	6,732	6,732

Notes: Each cell presents the coefficient on the indicator for Stand Your Ground Law. Standard errors that are clustered by state are in parentheses. The unit of observation is state-month-year. All models include the logarithm of state population for the relevant demographic group as an additional control variable. *, **, and *** indicate that the Stand Your Ground coefficient is statistically significant at the 0.10, 0.05 and 0.01 levels, respectively.

Table 4A: OLS Estimates of the Impact of the Stand Your Ground and Other Self-Defense Laws on Homicides

	Log(Homicide Rate)	
A. Full Sample		
Stand Your Ground	0.094**	0.066*
	(0.036)	(0.038)
Other Self-Defense Provisions	0.015	-0.057
	(0.097)	(0.080)
R^2	0.753	0.767
B. White		
Stand Your Ground	0.093**	0.114**
	(0.041)	(0.055)
Any Self-Defense Law	-0.044	-0.043
	(0.108)	(0.056)
R^2	0.668	0.677
C. Blacks		
Stand Your Ground	0.074	-0.040
	(0.066)	(0.102)
Other Self-Defense Provisions	0.010	-0.121
	(0.103)	(0.104)
R^2	0.610	0.637
D. White Males		
Stand Your Ground	0.105**	0.141**
	(0.043)	(0.059)
Other Self-Defense Provisions	-0.083	-0.120***
	(0.101)	(0.033)
R^2	0.668	0.677
E. White Females		
Stand Your Ground	0.074*	0.082
	(0.041)	(0.077)
Other Self-Defense Provisions	0.121	0.187
	(0.102)	(0.146)
R^2	0.520	0.525
F. Black Males		
Stand Your Ground	0.088	-0.038
	(0.067)	(0.103)
Other Self-Defense Provisions	0.004	-0.134
	(0.106)	(0.103)
R^2	0.611	0.636
G. Black Females		
Stand Your Ground	0.013	-0.028
	(0.063)	(0.096)
Other Self-Defense Provisions	0.051	-0.086
	(0.050)	(0.081)
R^2	0.555	0.560
Time-Varying State Characteristics	Yes	Yes
State Fixed Effects	Yes	Yes
Month*Year Fixed Effects	Yes	Yes
State-Specific Linear Time Trends	No	Yes

Notes: Standard errors that are clustered by state are in parentheses. *, **, and *** indicate that the Stand Your Ground coefficient is statistically significant at the 0.10, 0.05 and 0.01 levels, respectively.

Table 4B: Fixed Effects Poisson of the Impact of the Stand Your Ground and Any Self-Defense Laws on Homicides

	Log(Homicide)	
A. Full Sample		
Stand Your Ground	0.085**	0.058
	(0.038)	(0.036)
Other Self-Defense Provisions	0.001	-0.059
	(0.105)	(0.095)
Pseudo-R^2	0.438	0.446
B. White		
Stand Your Ground	0.111**	0.135***
	(0.045)	(0.050)
Any Self-Defense Law	-0.065	-0.032
	(0.124)	(0.065)
Pseudo-R^2	0.348	0.354
C. Blacks		
Stand Your Ground	0.058	-0.007
	(0.055)	(0.069)
Other Self-Defense Provisions	0.031	-0.074
	(0.102)	(0.119)
Pseudo-R^2	0.273	0.284
D. White Males		
Stand Your Ground	0.125***	0.153***
	(0.047)	(0.050)
Other Self-Defense Provisions	-0.137	-0.123***
	(0.116)	(0.042)
Pseudo-R^2	0.353	0.359
E. White Females		
Stand Your Ground	0.069	0.086
	(0.049)	(0.075)
Other Self-Defense Provisions	0.154	0.261**
	(0.104)	(0.128)
Pseudo-R^2	0.119	0.123
F. Black Males		
Stand Your Ground	0.068	-0.005
	(0.056)	(0.071)
Other Self-Defense Provisions	0.025	-0.087
	(0.105)	(0.115)
Pseudo-R^2	0.274	0.284
G. Black Females		
Stand Your Ground	-0.044	-0.034
	(0.057)	(0.081)
Other Self-Defense Provisions	0.079	0.043
	(0.075)	(0.184)
	0.0753	0.0797
Time-Varying State Characteristics	Yes	Yes
State Fixed Effects	Yes	Yes
Month*Year Fixed Effects	Yes	Yes
State-Specific Linear Time Trends	No	Yes

Notes: Standard errors that are clustered by state are in parentheses. *, **, and *** indicate that the Stand Your Ground coefficient is statistically significant at the 0.10, 0.05 and 0.01 levels, respectively

Table 5A: OLS Estimates of the Impact of the Stand Your Ground Law on Justifiable Homicides Using Supplemental Homicide Reports

	Log(Homicide Rate)	
A. Full Sample		
Stand Your Ground	0.463***	0.414
	(0.152)	(0.255)
R^2	0.726	0.804
B. Whites		
Stand Your Ground	0.413***	0.474**
	(0.129)	(0.214)
R^2	0.798	0.839
C. Blacks		
Stand Your Ground	0.509***	0.165
	(0.187)	(0.359)
R^2	0.727	0.793
D. White Males		
Stand Your Ground	0.414***	0.469**
	(0.129)	(0.217)
R^2	0.793	0.833
E. Black Males		
Stand Your Ground	0.495***	0.158
	(0.180)	(0.360)
R^2	0.721	0.787
Time-Varying State Characteristics	Yes	Yes
State Fixed Effects	Yes	Yes
Year Fixed Effects	Yes	Yes
State-Specific Linear Time Trends	No	Yes

Notes: Each cell presents the coefficient on the indicator for Stand Your Ground Law. Standard errors that are clustered by state are in parentheses. All regressions are weighted by state population of the relevant demographic group. *, **, and *** indicate that the Stand Your Ground coefficient is statistically significant at the 0.10, 0.05 and 0.01 levels, respectively.

Table 5B: Fixed Effects Poisson Estimates of the Impact of the Stand Your Ground Law on Justifiable Homicides using Supplemental Homicide Reports

	Fixed Effects Poisson	
A. Full Sample		
Stand Your Ground	0.374**	0.352**
	(0.149)	(0.176)
Pseudo-R^2	0.482	0.518
B. Whites		
Stand Your Ground	0.833***	1.117***
	(0.194)	(0.264)
Pseudo-R^2	0.468	0.503
C. Blacks		
Stand Your Ground	0.092	-0.129
	(0.193)	(0.359)
Pseudo-R^2	0.408	0.446
D. White Males		
Stand Your Ground	0.856***	1.116***
	(0.194)	(0.286)
Pseudo-R^2	0.461	0.496
E. Black Males		
Stand Your Ground	0.095	-0.140
	(0.190)	(0.375)
Pseudo-R^2	0.396	0.433
Time-Varying State Characteristics	Yes	Yes
State Fixed Effects	Yes	Yes
Year Fixed Effects	Yes	Yes
State-Specific Linear Time Trends	No	Yes

Notes: Each cell presents the coefficient on the indicator for Stand Your Ground Law. Standard errors that are clustered by state are in parentheses. *, **, and *** indicate that the Stand Your Ground coefficient is statistically significant at the 0.10, 0.05 and 0.01 levels, respectively.

Table 6A: OLS Estimates of the Impact of the Stand Your Ground Law on Non-Justifiable Homicides Using Supplemental Homicide Reports

	Log(Homicide Rate)	
A. Full Sample		
Stand Your Ground	0.126**	0.100
	(0.054)	(0.078)
R^2	0.919	0.940
B. Whites		
Stand Your Ground	0.136**	0.180
	(0.056)	(0.112)
R^2	0.919	0.938
C. Blacks		
Stand Your Ground	0.092	0.079
	(0.065)	(0.091)
R^2	0.841	0.880
D. White Males		
Stand Your Ground	0.189***	0.233*
	(0.066)	(0.117)
R^2	0.913	0.937
E. White Females		
Stand Your Ground	0.051	0.097
	(0.057)	(0.133)
R^2	0.842	0.867
F. Black Males		
Stand Your Ground	0.109	0.087
	(0.066)	(0.095)
R^2	0.841	0.879
G. Black Females		
Stand Your Ground	-0.059	-0.006
	(0.072)	(0.115)
R^2	0.712	0.768
Time-Varying State Characteristics	Yes	Yes
State Fixed Effects	Yes	Yes
Year Fixed Effects	Yes	Yes
State-Specific Linear Time Trends	No	Yes

Notes: Each cell presents the coefficient on the indicator for Stand Your Ground Law. Standard errors that are clustered by state are in parentheses. *, **, and *** indicate that the Stand Your Ground coefficient is statistically significant at the 0.10, 0.05 and 0.01 levels, respectively.

Table 6B: Fixed Effects Poisson Estimates of the Impact of the Stand Your Ground Law on Non-Justifiable Homicides using Supplemental Homicide Reports

	Fixed Effects Poisson	
A. Full Sample		
Stand Your Ground	0.093*	0.164***
	(0.048)	(0.056)
Pseudo-R^2	0.798	0.814
B. Whites		
Stand Your Ground	0.163**	0.357***
	(0.067)	(0.098)
Pseudo-R^2	0.881	0.888
C. Blacks		
Stand Your Ground	0.061	0.048
	(0.058)	(0.081)
Pseudo-R^2	0.754	0.771
D. White Males		
Stand Your Ground	0.211***	0.382***
	(0.074)	(0.099)
Pseudo-R^2	0.884	0.891
E. White Females		
Stand Your Ground	0.033	0.277**
	(0.053)	(0.113)
Pseudo-R^2	0.562	0.574
F. Black Males		
Stand Your Ground	0.078	0.058
	(0.060)	(0.086)
Pseudo-R^2	0.744	0.762
G. Black Females		
Stand Your Ground	-0.087	-0.025
	(0.054)	(0.092)
Pseudo-R^2	0.391	0.405
Time-Varying State Characteristics	Yes	Yes
State Fixed Effects	Yes	Yes
Year Fixed Effects	Yes	Yes
State-Specific Linear Time Trends	No	Yes

Notes: Each cell presents the coefficient on the indicator for Stand Your Ground Law. Standard errors that are clustered by state are in parentheses. *, **, and *** indicate that the Stand Your Ground coefficient is statistically significant at the 0.10, 0.05 and 0.01 levels, respectively.

Table 7: Estimates of the Impact of the Stand Your Ground Law on All Non-Homicide Deaths

	Fixed Effects Poisson		OLS	
A. Full Sample				
Stand Your Ground	-0.000	-0.003	-0.003	-0.008*
	(0.004)	(0.003)	(0.005)	(0.004)
B. Whites				
Stand Your Ground	0.005	-0.001	0.004	-0.005
	(0.004)	(0.004)	(0.005)	(0.005)
C. Blacks				
Stand Your Ground	-0.009	-0.012	0.012	-0.016*
	(0.008)	(0.008)	(0.009)	(0.009)
D. White Males				
Stand Your Ground	0.005	-0.002	0.004	-0.005
	(0.005)	(0.004)	(0.005)	(0.005)
E. White Females				
Stand Your Ground	0.004	-0.001	0.003	-0.006
	(0.004)	(0.004)	(0.005)	(0.005)
F. Black Males				
Stand Your Ground	-0.011	-0.016	-0.013	-0.018
	(0.009)	(0.011)	(0.009)	(0.012)
G. Black Females				
Stand Your Ground	-0.007	-0.007	-0.010	-0.013
	(0.008)	(0.009)	(0.009)	(0.009)
Time-Varying State Characteristics	Yes	Yes	Yes	Yes
State Fixed Effects	Yes	Yes	Yes	Yes
Month*Year Fixed Effects	Yes	Yes	Yes	Yes
State-Specific Linear Time Trends	No	Yes	No	Yes
Number of Observations	6,732	6,732	6,732	6,732

Notes: Each cell presents the coefficient on the indicator for Stand Your Ground Law. Standard errors that are clustered by state are in parentheses. *, **, and *** indicate that the Stand Your Ground coefficient is statistically significant at the 0.10, 0.05 and 0.01 levels, respectively

Table 8A: OLS Estimates of the Impact of the Stand Your Ground Law on Emergency Room Visits and Hospitalizations

	Log(Injury Rate)	
A. Full Sample		
Stand Your Ground	0.001	0.025
	(0.056)	(0.028)
R^2	0.972	0.973
B. Whites		
Stand Your Ground	0.135**	0.129*
	(0.049)	(0.053)
R^2	0.915	0.919
C. Blacks		
Stand Your Ground	-0.004	0.024
	(0.028)	(0.031)
R^2	0.852	0.864
D. White Males		
Stand Your Ground	0.188**	0.201***
	(0.051)	(0.048)
R^2	0.921	0.925
E. White Females		
Stand Your Ground	-0.224	-0.205
	(0.130)	(0.141)
R^2	0.742	0.749
F. Black Males		
Stand Your Ground	-0.055	-0.032
	(0.030)	(0.028)
R^2	0.866	0.876
G. Black Females		
Stand Your Ground	0.556***	0.595***
	(0.043)	(0.048)
R^2	0.576	0.600
Time-Varying State Characteristics	Yes	Yes
State Fixed Effects	Yes	Yes
Quarter and Year Fixed Effects	Yes	Yes
State-Specific Linear Time Trends	No	Yes
Number of Observations	136	136

Notes: Each cell presents the coefficient on the indicator for Stand Your Ground Law. Standard errors that are clustered by state are in parentheses. *, **, and *** indicate that the Stand Your Ground coefficient is statistically significant at the 0.10, 0.05 and 0.01 levels, respectively.

Table 8B: Fixed Effects Poisson Estimates of the Impact of the Stand Your Ground Law on Emergency Room Visits and Hospitalizations

	Fixed Effects Poisson	
A. Full Sample		
Stand Your Ground	0.037*	0.055***
	(0.020)	(0.014)
Pseudo-R^2	0.772	0.776
B. Whites		
Stand Your Ground	0.147***	0.144***
	(0.026)	(0.031)
Pseudo-R^2	0.553	0.556
C. Blacks		
Stand Your Ground	-0.006	0.031
	(0.031)	(0.025)
Pseudo-R^2	0.424	0.432
D. White Males		
Stand Your Ground	0.192***	0.188***
	(0.020)	(0.023)
Pseudo-R^2	0.537	0.540
E. White Females		
Stand Your Ground	-0.167	-0.165
	(0.116)	(0.127)
Pseudo-R^2	0.220	0.224
F. Black Males		
Stand Your Ground	-0.052	-0.019
	(0.033)	(0.023)
Pseudo-R^2	0.388	0.394
G. Black Females		
Stand Your Ground	0.517***	0.569***
	(0.042)	(0.054)
Pseudo-R^2	0.246	0.253
Time-Varying State Characteristics	Yes	Yes
State Fixed Effects	Yes	Yes
Quarter and Year Fixed Effects	Yes	Yes
State-Specific Linear Time Trends	No	Yes
Number of Observations	216	216

Notes: Each cell presents the coefficient on the indicator for Stand Your Ground Law. Standard errors that are clustered by state are in parentheses. *, **, and *** indicate that the Stand Your Ground coefficient is statistically significant at the 0.10, 0.05 and 0.01 levels, respectively.

Appendix Table 1: OLS Estimates of the Impact of the Stand Your Ground Law on Homicides

	Homicide Rate per 100,000 Residents	
A. Full Sample		
Stand Your Ground	0.028**	0.025
	(0.013)	(0.016)
R^2	0.770	0.789
B. Whites		
Stand Your Ground	0.022**	0.029**
	(0.010)	(0.012)
R^2	0.674	0.689
C. Blacks		
Stand Your Ground	0.083	0.016
	(0.073)	(0.095)
R^2	0.581	0.604
D. White Males		
Stand Your Ground	0.039**	0.049***
	(0.016)	(0.018)
R^2	0.685	0.700
E. White Females		
Stand Your Ground	0.005	0.009
	(0.005)	(0.007)
R^2	0.251	0.258
F. Black Males		
Stand Your Ground	0.189	0.033
	(0.138)	(0.178)
R^2	0.589	0.611
G. Black Females		
Stand Your Ground	-0.012	-0.000
	(0.018)	(0.024)
R^2	0.142	0.150
Time-Varying State Characteristics	Yes	Yes
State Fixed Effects	Yes	Yes
Month*Year Fixed Effects	Yes	Yes
State-Specific Linear Time Trends	No	Yes
Number of Observations	6,732	6,732

Notes: Each cell presents the coefficient on the indicator for Stand Your Ground Law. Standard errors that are clustered by state are in parentheses. The unit of observation is state-month-year. All regressions are weighted by state population of the relevant demographic group. *, **, and *** indicate that the Stand Your Ground coefficient is statistically significant at the 0.10, 0.05 and 0.01 levels, respectively.

Appendix Table 2: Descriptive Statistics for Homicides

(Mortality Records versus Supplemental Homicide Reports)

	Full Sample	Non-SYG States	SYG States
Homicides - Mortality	232.692	201.253	290.328
	(296.186)	(312.418)	(254.672)
Homicides - SHR	205.220	174.118	257.602
	(286.611)	(309.806)	(234.254)
Homicides – Justifiable	4.076	2.583	6.591
	(6.867)	(4.774)	(8.855)
Homicides - Non-Justifiable	201.144	171.535	251.012
	(281.277)	(305.564)	(227.011)

Note: Standard deviations are in parentheses.

Appendix Table 3: Descriptive Statistics for Emergency Room Visits and Hospitalizations

	Full sample	Non-SYG States	SYG States
SEDD			
Injuries	210.094	190.145	285.900
	(206.505)	(227.099)	(44.726)
Rate	1.294	1.235	1.517
	(0.472)	(0.504)	(0.213)
SID			
Injuries	98.608	61.810	282.600
	(102.123)	(62.987)	(43.423)
Rate	1.037	0.944	1.499
	(0.937)	(0.997)	(0.206)
Combined			
Injuries	235.309	177.862	568.500
	(236.154)	(204.011)	(85.618)
Rate	1.828	1.623	3.017
	(1.51)	(1.537)	(0.405)

Notes: Standard deviations are in parentheses. Rate is per 100,000 persons.