

Measuring the Rise of Gun Violence Across Presidential Administrations in Mexico

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INTRODUCTION

Overall, levels of violence in Mexico have increased significantly since President Felipe Calderón Hinojosa began a war against DTOs at the end of 2006.¹ Academics, policy analysts, and NGOs have attributed this rise of violence to multiple factors, including Mexico's military strategy designed to combat DTOs themselves.² High levels of impunity, a lack of reliable police forces, as well as inadequate social and economic policies, have also been cited as explanations for the increasing levels of violence.³ These factors, as well as other theses explaining why violence escalated in Mexico, were compiled and summarized in a 2018 study.⁴

In addition to analyzing potential factors contributing to Mexico's increasing rates of violence, academics and civil society organizations have raised concerns about the growing number of firearms in Mexico and their potential impact on violence, mostly as it relates to the war on DTOs. Studies have highlighted an increase in illegal gun trafficking across the

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1. See, e.g., JUNE S. BEITTEL, CONG. RESEARCH SERV., R41576, MEXICO: ORGANIZED CRIME AND DRUG TRAFFICKING ORGANIZATIONS 10-24 (2018); David Shirk & Joel Wallman, *Understanding Mexico's Drug Violence*, 59 J. CONFLICT RESOL. 1348, 1358-67 (2015).

2. See, e.g., Cesar Morales Oyarbide, *El Fracaso de una Estrategia: una Crítica a la Guerra Contra el Narcotráfico en México, sus Justificaciones y Efectos*, 231 NUEVA SOCIEDAD, Jan.-Feb. 2011, at 4, <http://nuso.org/articulo/el-fracaso-de-una-estrategia-una-critica-a-la-guerra-contra-el-narcotrafico-en-mexico-sus-justificaciones-y-efectos/>; Eduardo Guerrero Gutiérrez, *La Estrategia Fallida*, NEXOS (Dec. 1, 2012), <https://www.nexos.com.mx/?p=15083>.

3. See, e.g., Elena Azaola, *Las Violencias de Hoy, Las Violencias de Siempre*, 40 DESACATOS 13 (2012), <http://desacatos.ciesas.edu.mx/index.php/Desacatos/article/view/253>.

4. See Raúl Zepeda Gil, *Siete Tesis Explicativas sobre el Aumento de la Violencia en México*, 25 POLITICA Y GOBIERNO 185 (2018), <http://www.politicaygobierno.cide.edu/index.php/pyg/article/view/1085/911>.

U.S.-Mexico border. A 2013 study estimated an approximately threefold increase in firearms being trafficked across the border, with roughly 88,000 annual trafficked firearms from 1997 through 1999 increasing to an estimated 253,000 annual trafficked firearms from 2010 through 2012.⁵ Other reports have highlighted issues with the growing levels of legal firearm transfers, most of which originated in the United States. While these reports have focused on the use of firearms by security agencies to commit human right violations, they also illustrate the potential diversion of these firearms to secondary markets.⁶

Furthermore, NGO research has determined that almost one million households have acquired firearms for self-defense in Mexico from 2011 to 2015.⁷ Additionally, studies have shown an important link between the removal of the U.S. assault weapons ban in 2004 and the rise in gun homicides in Mexican municipalities along the U.S.-Mexico border.⁸ Other studies have shown that the use of firearms in the commission of street robberies has a significant and costly effect on the civilian population, with victims more prone to comply with the attacker's demands.⁹

There is evidence that the overall volume of firearms in Mexico has increased, directly impacting the rise of homicides and costs on the population. Missing from the discussion, however, are simple metrics that indicate by how much both rates and proportions of gun violence have altered across the years in Mexico. To contribute to the discussion, this article analyzes changes in both the rates and the percentages of crimes

5. Topher McDougal et al., *The Way of The Gun: Estimating Firearms Traffic Across the U.S.-Mexico Border*, IGARAPÉ INSTITUTE (Mar. 2013), https://igarape.org.br/wp-content/uploads/2013/03/Paper_The_Way_of_the_Gun_web2.pdf.

6. MEX COMM'N FOR THE DEF. AND PROMOTION OF HUMAN RIGHTS AND STOP US ARMS TO MEX., GROSS HUMAN RIGHTS ABUSES: THE LEGAL AND ILLEGAL GUN TRADE TO MEXICO (José Antonio Guevara Bermúdez ed. 2018), <http://www.cmdpdh.org/publicaciones-pdf/cmdpdh-the-legal-and-illegal-gun-trade-to-mexico.pdf>

7. Jimen David & Jonathan Furszyfer, *¡Arriba Manos...Andamos Armados!*, ANIMAL POLITICO (June 17, 2016, 12:35 PM), <https://www.animalpolitico.com/blogueros-el-blog-de-mexico-evalua/2016/06/17/arriba-las-manos-andamos-armados/>.

8. Arindrajit Dube, Oeindrila Dube & Omar Garcia Ponce, *Cross-Border Spillover: U.S. Gun Laws and Violence in Mexico*, 107 AM. POL. SCI. REV. 397 (2013).

9. José Manuel Heredia González, *Disuasión y Lesiones en los Delitos Armados en México*, 36 ESTUDIOS SOCIOLOGICOS 361 (2018), http://www.scielo.org.mx/scielo.php?script=sci_arttext&pid=S2448-64422018000200361.

committed with a gun in Mexico, specifically examining the levels of gun violence across the last three presidential administrations.¹⁰

This is not an easy task, as gun violence exists in many forms. Perhaps the most obvious manifestation is gun homicides, which are highly linked to the war on drugs and executions conducted by organized criminal groups.¹¹ While analyzing gun violence linked to organized criminal organizations is important and will be part of the analysis, it is not the only form of gun violence. For this reason, we wanted to analyze other forms of gun violence not necessarily associated with large organized criminal organizations or the war on DTOs. These included injuries, unintentional shootings, robberies committed with a firearm, gun related threats, guns in domestic disputes as well as gun suicides.

The lack of reliable and continuous data limited our ability to compile information on a comprehensive list of forms gun violence. However, after exploring different government sources and surveys, we gathered sufficient data to analyze four gun-related issues that will be our indicators for measuring gun violence: gun homicides, intentional gun injuries, unintentional shootings (both fatal and non-fatal), and gun-related street robberies. While we do not know the exact proportion of gun violence represented by these four measures, we know that gun homicides and unintentional shootings account for the majority of fatal shootings in Mexico. In this regard, gun suicides are another measure of gun violence included within fatal shootings. However, they represent a much smaller proportion of the data. According to INEGI, for example, there were 484 reported gun-related suicides in Mexico during 2016.¹² In contrast, more than 12,600 gun-related homicides were documented during that same

10. These presidential administrations are: Vicente Fox Quesada (December 2000 to November 2006); Felipe Calderón Hinojosa (December 2006 to November 2012) and Enrique Peña Nieto (December 2012 to November 2018). See *List of presidents of Mexico*, ENCYCLOPAEDIA BRITANNICA (Dec. 3, 2018), <https://www.britannica.com/topic/list-of-presidents-of-Mexico-1830608>.

11. See *Semaforo de Ejecuciones*, SEMÁFORO DELICTIVO, <http://www.semaforo.mx/content/semaforo-de-ejecuciones> (last visited Dec. 1, 2018). According to [data from] Lantia Consultores, 75 percent of homicides were attributed to executions by organized crime during 2017. *Id.*

12. Instituto Nacional de Estadística y Geografía, *Estadísticas a Propósito del Día Mundial Para la Prevención del Suicidio*, available at http://www.beta.inegi.org.mx/contenidos/saladeprensa/aproposito/2018/suicidios2018_Nal.pdf.

year.¹³ We also know that gun-related street robberies represent close to 67 percent of gun-related crimes reported to ENVIPE.¹⁴ . Therefore, we are confident that by analyzing these four manifestations of gun violence, our analysis examines the largest proportion of gun violence experienced in Mexico. With these datasets, we conducted an analysis of monthly data to explore the rising levels of gun violence across presidential administrations. We analyzed both the rise in monthly rates of gun violence as well as the proportion of gun violence compared to the overall levels of violence. Finally, while we primarily focus on these four indicators of gun violence, we present basic annual trends that also suggest a rise on other forms of gun violence.

This article is divided into five sections. After introducing the objectives in section one, section two discusses the rise in the volume of firearms in Mexico as well as firearms' links to violence. Section three explains our study's data and methodology, while section four presents our results and findings. Finally, section five presents our conclusions and policy recommendations.

I. THE GROWING VOLUME OF FIREARM VIOLENCE IN MEXICO

When compared to the United States, Mexico's gun laws are notably more restrictive. For example, in Mexico there is only one gun store, all firearms must be registered with the Federal Firearms Registry (*Registro Federal de Armas*),¹⁵ and firearm laws are legislated only at the federal level.¹⁶ By contrast, U.S. firearms can be purchased easily from hundreds of gun stores, at gun shows, or through online sites.¹⁷ In the United States,

13. SECRETARIADO EJECUTIVO DEL SISTEMA NACIONAL DE SEGURIDAD PÚBLICA (SESNSP), *INCIDENCIA DELICTIVA DEL FUERO COMÚN*, 2016.

14. Authors' analysis of ENVIPE 2010 to 2017. Crimes reported to ENVIPE include fraud, threats, robberies, extortions, kidnappings, and injuries. ENVIPE does not include homicides.

15. Ley Federal de Armas de Fuego y Explosivos (LFAFE) Artículo 7o, Diario Oficial de la Federación [DOF] 11-1-1972, últimas reformas DOF 12-11-2015 (Mex.).

16. Ley Federal de Armas de Fuego y Explosivos [LFAFE] Artículo 2o, Diario Oficial de la Federación [DOF] 11-1-1972, últimas reformas DOF 12-11-2015 (Mex.).

17. See BUREAU OF ALCOHOL, TOBACCO, FIREARMS AND EXPLOSIVES, REPORT OF ACTIVE FIREARMS LICENSES - LICENSE TYPE BY STATE STATISTICS (Dec. 11, 2017), <https://www.atf.gov/file/122041/download>. There were close to 56,000 Federal Firearm Licensees on December 2017. *Id.* These dealers do not include collectors, pawnbrokers, manufactures of destructive

there is no national registry of firearms, and numerous gun laws are decided at the state or local level.¹⁸

However, despite having more restrictive firearm legislation, Mexico has serious institutional problems and high levels of impunity that impede the efficacy of its gun laws. These issues fundamentally explain why firearms are easily trafficked into Mexico, diverted from security agencies to criminal organizations, and acquired by citizens, despite the country's strict gun laws.

First, firearms can be easily trafficked into the country, arriving in Mexico from many countries including Spain, China, Italy, Germany, Bulgaria, and Romania.¹⁹ However, the United States is the primary source for guns in Mexico.²⁰ The U.S. Government Accountability Office ("GAO") indicated that around seventy percent of guns recovered in Mexico and traced by the Bureau of Alcohol, Tobacco, Firearms and Explosives ("ATF") from 2009 to 2014 originated in the United States.²¹ According to the GAO, of the total number of firearms recovered in Mexico and traced to the United States between 2009 and 2014, 41% originated in Texas, 19% in California, and 15% in Arizona.²²

Studies have linked gun trafficking in the U.S-Mexico border to weak

devices or importers. See Bureau of Alcohol, Tobacco, Firearms and Explosives, *Listing of Federal Firearms Licensees (FFLs) – 2017, Federal Firearms License (FFL) Types*,

<https://www.atf.gov/firearms/listing-federal-firearms-licensees-ffls-2017> (last updated June 27, 2018). This information is current as of December 2017. See BUREAU OF ALCOHOL, TOBACCO, FIREARMS AND EXPLOSIVES, REPORT OF ACTIVE FIREARMS LICENSES - LICENSE TYPE BY STATE STATISTICS (Dec. 11, 2017), <https://www.atf.gov/file/122041/download>. There are approximately 5,000 gun shows per year. COAL. TO STOP GUN VIOLENCE & EDUC. FUND TO STOP GUN VIOLENCE, AMERICA'S GUN SHOWS: OPEN MARKETS FOR CRIMINALS, <https://www.issuelab.org>

18. *Registration*, GIFFORDS LAW CTR. TO PREVENT GUN VIOLENCE, <https://lawcenter.giffords.org/gun-laws/policy-areas/gun-owner-responsibilities/registration> (last accessed February 2019); *Gun Laws by State*, GIFFORDS LAW CTR. TO PREVENT GUN VIOLENCE, <https://lawcenter.giffords.org/search-gun-law-by-state/> (last accessed Feb. 2019)

19. See U.S. GOV'T ACCOUNTABILITY OFF., GAO-16-223, FIREARMS TRAFFICKING: U.S. EFFORTS TO COMBAT FIREARMS TRAFFICKING TO MEXICO HAVE IMPROVED, BUT SOME COLLABORATION CHALLENGES REMAIN 9 n.12 (2016), available at <https://www.gao.gov/assets/680/674570.pdf>.

20. See *id.*; CLAY BOGGS, WASH. OFFICE ON LATIN AMERICA & KRISTEN RAND, VIOLENCE POLICY CTR., GUN-RUNNING NATION: HOW FOREIGN-MADE ASSAULT WEAPONS ARE TRAFFICKED FROM THE UNITED STATES TO MEXICO AND WHAT TO DO ABOUT IT 3 (2015), available at http://vpc.org/studies/Gun_Running_Nation.pdf.

21. U.S. GOV'T ACCOUNTABILITY OFF., *supra* note 19, at 8.

22. *Id.* at 14.

U.S. gun laws. A 2013 analysis concluded that the expiration of the 1994 U.S. Federal Assault Weapons Ban, in 2004 was linked to higher levels of gun homicides in Mexican municipalities bordering Texas, Arizona, and New Mexico.²³ This was not the case for Mexican municipalities bordering California, as the state maintained its own state-level ban on assault weapons.²⁴ Other studies concluded that, after controlling for distance to the border, the presence of state laws limiting sales of multiple firearms to an individual purchaser, requiring background checks, banning an assault weapons, and prosecuting straw purchasers significantly reduced the rate of American gun exports to Mexico.²⁵ Estimates indicate that, from 2010 to 2012, close to 253,000 firearms were purchased annually in the United States with the objective of trafficking them into Mexico.²⁶ This number of trafficked firearms is significantly higher than the estimated average of 88,000 firearms purchased and trafficked annually from 1997 to 1999.²⁷

The increase in gun trafficking coincides with higher firearm seizures in Mexico. According to information from Mexico's *Secretaría de la Defensa Nacional* ("SEDENA"), from 2000 through 2006, an annual average of 2,000 firearms were seized by this institution. This average rose to more than 9 times that amount, with nearly 19,000 firearms seized each year from 2007 through 2013.²⁸ Furthermore, while 29% of firearms seized in Mexico from 2000 through 2006 were recovered in the six Mexican states that border the United States, the percentage rose to 40%

23. The 1994 Public Safety and Recreational Firearms Use Protection Act, Pub. L. No. 103-322, tit. XI, 108 Stat. 1796, 1996 (1994). Commonly referred to as the Federal Assault Weapons Ban, the law had a 10-year mandate. The bill prevented the purchase of assault weapons and high capacity magazines. *Id.* at § 110102. The bill expired in 2004 and as of the writing of this article, no new legislation to replace or renew the Federal Assault Weapons Ban has successfully passed the U.S. Congress.

24. Arindrajit Dube, Oeindrila Dube & Omar Garcia Ponce, *Cross-Border Spillover: U.S. Gun Laws and Violence in Mexico*, 107 AM. POL. SCI. REV. 397 (2013).

25. Jessica A. Eby, Comment, *Fast and Furious, or Slow and Steady? The Flow of Guns From the United States to Mexico*, 61 UCLA L. REV. 1082 (2014).

26. TOPHER MCDUGAL ET AL., IGARAPÉ INST. AND UNIV. OF SAN DIEGO TRANS-BORDER INST., *THE WAY OF THE GUN: ESTIMATING FIREARMS TRAFFIC ACROSS THE U.S.-MEXICO BORDER* 2 (2013), https://igarape.org.br/wp-content/uploads/2013/03/Paper_The_Way_of_the_Gun_web2.pdf.

27. *Id.*

28. SECRETARÍA DE LA DEFENSA NACIONAL, FOL. 0000700205114, HOJA DE RESPUESTA A SOLICITUDES DE INFORMACIÓN [SECRETARIAT OF NATIONAL DEFENSE, RESPONSE TO INFORMATION REQUEST] 4, app. "Cantidad de Armas de Fuego Aseguradas" (2014) (Mex.).

from 2007 through 2013.²⁹

While the proximity of the United States, coupled with the high volume of U.S. gun manufacturing, and weak U.S. federal and state gun laws, fosters a friendly environment for illegal gun trafficking – particularly through straw purchases³⁰ – some of the crime guns recovered in Mexico were likely legally exported to Mexico before being diverted for criminal use.³¹ The U.S. facilitates the export of firearms to law enforcement agencies in Mexico as part of the 2008 joint security strategy to address cartels and drug trafficking.³² From 2015 to 2017, the United States legally exported nearly \$123 million worth of firearms and ammunition to Mexico, a dramatic increase from previous years.³³ While the volume of legal guns is smaller than the estimated \$127 worth of illegal guns crossing Mexico on an annual basis³⁴, they still present challenges. Unfortunately, some of the legally purchased firearms are diverted and used by cartels and gangs.

SEDENA serves as the only legal interlocutor for firearms distribution in the nation. It is responsible for the purchase and distribution of firearms to local governments, companies, individuals, the armed forces and law

29. *Id.*

30. A straw purchaser is when a person buys a gun on behalf of a third person. The third person is often prohibited by law from buying guns. The straw purchaser, not prohibited by law to buy a gun, fills all the paper work and purchases the weapon from a gun store. After the transaction, the straw purchaser transfers the gun to the third person.

31. CHELSEA PARSONS & EUGENIO WEIGEND, BEYOND OUR BORDERS: HOW WEAK U.S. GUN LAWS CONTRIBUTE TO VIOLENT CRIME ABROAD 1, 9-10 (2018), https://cdn.americanprogress.org/content/uploads/2018/01/31115010/012918_BeyondOurBorders-report-51.pdf; NATALIA PAULINA BÁEZ ZAMUDIO, ET AL., GROSS HUMAN RIGHTS ABUSES: THE LEGAL AND ILLEGAL GUN TRADE TO MEXICO 7, 16, 24 (José Antonio Guevara Bermúdez ed., 2018), <http://www.cmdpdh.org/publicaciones-pdf/cmdpdh-the-legal-and-illegal-gun-trade-to-mexico.pdf>.

32. José Olivares, *Mexicans Fear Abuses as New Law Empowers Military—But U.S. Security Aid Keeps Coming*, THE INTERCEPT (Mar. 24, 2018), <https://theintercept.com/2018/03/24/mexico-military-funding-trump-congress>.

33. John Lindsay-Poland, *How U.S. Guns Sold to Mexico End up with Security Forces Accused of Crime and Human Rights Abuses*, THE INTERCEPT (Apr. 26, 2018), https://theintercept.com/2018/04/26/mexico-arms-trade-us-gun-sales_BÁEZ_ZAMUDIO_ET_AL., supra note 31, at 6.

34. TOPHER MCDUGAL ET AL., IGARAPÉ INSTITUTE, THE WAY OF THE GUN: ESTIMATING FIREARMS TRAFFIC ACROSS THE U.S.-MEXICO BORDER (2013), available at https://igarape.org.br/wp-content/uploads/2013/03/Paper_The_Way_of_the_Gun_web2.pdf.

enforcement agencies.³⁵ SEDENA also serves as the registrar of information about stolen or lost firearms that were sold to state and federal law enforcement. SEDENA data indicates that from January 2006 through August 2017 20,066 firearms were reported stolen or lost from federal or state police officers.³⁶ Mexico City law enforcement agencies reported 5,186 guns stolen or missing—the highest reported amount in that time span. Law enforcement agencies in Guerrero, Mexico State, and *Federales*³⁷ also saw a high number of guns stolen or lost—reporting 1,918, 1,880, and 1,768, respectfully.³⁸

While the raw numbers of stolen or lost firearms is alarming, it is even more troubling to consider this data in relation to the total number of firearms sold to law enforcement agencies. From 2010 to 2016, on average, law enforcement agencies reported either the loss or theft of 4% of the weapons they had legally purchased. Some states had significantly worse rates of loss and theft; in Guerrero, roughly 1 in every 5 guns purchased by law enforcement agencies was reported stolen or lost.³⁹

Given the restrictive nature of Mexico's gun laws that limit the ability for civilians to legally obtain a firearm without approval from SEDENA, the agencies' lost and stolen firearms are believed to represent another source for obtaining firearms likely exploited by criminal organizations that is distinctive from gun trafficking. Endemic levels of corruption and significant penetration of cartel influence into law enforcement agencies across Mexico likely mean that the official number of guns reported lost or stolen underestimate the real number of firearms missing from these agencies, and that several legally-obtained firearms are likely diverted to criminal organizations.

Moreover, while subject to certain restrictions, citizens can legally acquire a firearm for self-defense. According to information from SEDENA, from 2012 through 2017, the legal purchasing of long guns increased by nearly 35%, from 4,605 to 6,205 firearms.⁴⁰ On the other

35. BÁEZ ZAMUDIO ET AL., *supra* note 31, at 9.

36. *Id.* at 22.

37. Refers to the federal police. *Id.* at 22 Figure 11.

38. BÁEZ ZAMUDIO ET AL., *supra* note 31, at 22.

39. *Id.*

40. Hector Molina, *Crece la Venta Legal de Armas en México*, EL ECONOMISTA (Oct. 28, 2018, 10:50 PM), <https://www.economista.com.mx/politica/Crece-la-venta-legal-de-armas-en-Mexico->

hand, the legal sales of handguns increased 93%—from 4,009 to 7,755 during the same time period.⁴¹ Similarly, much like members of criminal organizations, citizens can obtain guns illegally. A 2016 analysis of Mexico's ENVIPE by David and Furszyfer shows that at least one million households acquired a firearm for self-defense from 2011 through 2015.⁴² Following their same methodology based on ENVIPE, we added three years to their analysis. As a result, an estimated 1.8 million households reported legally or illegally acquiring a firearm from 2011 through 2018.⁴³

There is evidence that the volume of firearms in Mexico has increased, traveling through different channels and directed to different groups, particularly after Mexico's declaration of war on DTOs.⁴⁴ In this regard, literature suggests that higher levels of firearms are linked to higher levels of violence and costs to the overall population.⁴⁵ As noted by various research studies conducted by David Hemenway, Deborah Azreal, and Matthew Miller, the presence of more firearms results in more gun

20181028-0078.html.

41. *Id.*

42. Jimen David & Jonathan Furszyfer, *¡Arriba las Manos...Andamos Armados!*, ANIMAL POLITICO (June, 17, 2016, 12:25 PM), <https://www.animalpolitico.com/blogueros-el-blog-de-mexico-evalua/2016/06/17/arriba-las-manos-andamos-armados/>.

43. *Id.*; INSTITUTO NACIONAL DE ESTADÍSTICA Y GEOGRAFÍA, ENCUESTA NACIONAL DE VICTIMIZACIÓN Y PERCEPCIÓN SOBRE SEGURIDAD PÚBLICA (ENVIPE) 2016 (2016), <https://www.inegi.org.mx/programas/envipe/2016/default.html>; INSTITUTO NACIONAL DE ESTADÍSTICA Y GEOGRAFÍA, ENCUESTA NACIONAL DE VICTIMIZACIÓN Y PERCEPCIÓN SOBRE SEGURIDAD PÚBLICA (ENVIPE) 2017 (2017), <http://en.www.inegi.org.mx/programas/envipe/2017/default.html>; INSTITUTO NACIONAL DE ESTADÍSTICA Y GEOGRAFÍA, ENCUESTA NACIONAL DE VICTIMIZACIÓN Y PERCEPCIÓN SOBRE SEGURIDAD PÚBLICA (ENVIPE) 2018 (2018), <http://www.beta.inegi.org.mx/programas/envipe/2018/default.html>.

44. The government of Felipe Calderon aggressively confronted drug cartels as soon as he took office on December 2006. *See, e.g.*, ERIC L. OLSEN & CHRISTOPHER E. WILSON, WOODROW WILSON INT'L CTR. FOR SCHOLARS, BEYOND MERIDA: THE EVOLVING APPROACH TO SECURITY COOPERATION (2010), *available at* https://www.wilsoncenter.org/sites/default/files/beyond_merida.pdf.

45. HARVARD INJURY CONTROL RESEARCH CTR., *Firearms Research: Homicide*, HARVARD SCH. OF PUB. HEALTH, <https://www.hsph.harvard.edu/hicrc/firearms-research/guns-and-death> (last visited Dec. 11, 2018); German Lopez, *America is One of 6 Countries that Make up More than Half of Gun Deaths Worldwide*, VOX MEDIA (Aug. 29, 2018, 2 PM), <https://www.vox.com/2018/8/29/17792776/us-gun-deaths-global>.

violence across the United States⁴⁶ and other developed nations.⁴⁷ In Mexico, studies suggest that United States' removal of the assault weapons ban meant easier access to powerful firearms and an increase in gun homicides in municipalities on the border.⁴⁸ Other studies have shown that the use of a firearm during street robberies results in higher economic and psychological costs for the Mexican population as a whole.⁴⁹

The literature indicates that an increased volume of firearms in Mexico could be linked to a rise in levels of gun violence.

II. DATA AND METHODOLOGY

Conducting an analysis to determine the rise of gun violence in Mexico is a challenging task. We are aware that gun violence can take many forms, manifest in different contexts, and affect people differently. For these reasons we wanted to include multiple forms of gun violence, not just those associated with the war on DTOs.

While data on overall levels of violence is available, the sources of information that specify whether firearms were involved are limited. In many cases datasets that report on types of weapons provide only a few years' worth of information, making it impossible to make adequate comparisons across time. This dearth of data presented a challenge as we were looking for datasets on forms of gun violence that included monthly data across two or more presidential administrations. This was a fundamental requirement directly linked to our objective of analyzing rates of gun violence and percentages of violence attributed to firearms across presidential administrations. Despite these limitations, we gathered datasets that included monthly gun homicides, intentional gun injuries,

46. Matthew Miller, Deborah Azrael & David Hemenway, *Rates of Household Firearm Ownership and Homicide Across U.S. Regions and States, 1988-1997*, 92 AM. J. PUB. HEALTH 1988, 1989 (2002); Matthew Miller, David Hemenway & Deborah Azrael, *State-level Homicide Victimization Rates in the U.S. in Relation to Survey Measures of Household Firearm Ownership, 2001-2003*, 64 SOC. SCI. & MED. 656, 660 (2007).

47. David Hemenway & Matthew Miller, *Firearm Availability and Homicides Rates Across 26 High-Income Countries*, 49 J. TRAUMA, INJ., INFECTION, & CRITICAL CARE 985, 987 (2000).

48. Dube et al., *supra* note 8, at 415.

49. Heredia Gonzalez, *supra* note 9.

unintentional shootings, and gun-related street robberies.

To compile data on monthly gun homicides, we looked at Mexico's Secretariat of Public Security ("SESNP").⁵⁰ This agency provides annual reports on state jurisdiction crimes (*fuero común*) crimes from 1997 to 2017.⁵¹ SESNP also provided reports from 2015 through 2018 using a slightly different methodology. For this analysis, we used reports from 1997 through 2017 simply because they contained more annual data. Among those crimes documented by SESNP are intentional homicides (*dolosos*),⁵² which are divided both by month and by the category of weapon used. Due to discrepancies in categorizing the types of weapons in reports published before 2002, we are not considering rates of monthly gun homicides prior to that year. We analyzed monthly gun homicides data from January 2002 through December 2017. To examine the rising proportion of gun violence, we estimated the monthly percentages of intentional homicides that were committed with a firearm from January 2002 through December 2017. For comparisons to total intentional homicides, we are not including in our analysis cases that did not report information on the type of weapon used in the crime.

Information related to intentional gun injuries was also obtained from Mexico's SENSP. Similar to homicides, this agency reports common law monthly crimes related to intentional injuries (*dolosos*).⁵³ However, because the SENSP did not report types of weapons used in these crimes until January 2002, we only examined monthly data on gun injuries from

50. Manual de Organización General Secretariado Ejecutivo del Sistema Nacional de Seguridad Pública, Diario Oficial de la Federación [DOF] 22-09-2017 (Mex.).

51. SECRETARIADO EJECUTIVO DEL SISTEMA NACIONAL DE SEGURIDAD PÚBLICA (SESNP), INCIDENCIA DELICTIVA DEL FUERO COMÚN, 1997 TO 2017, (Mex.), formato HTML, <https://www.gob.mx/sesnp/acciones-y-programas/incidencia-delictiva-del-fuero-comun?idiom=es> (last accessed October, 2018). Fuero Común refers to crimes that fall under the jurisdiction of state ministries.

52. SESNP reports gun homicides that are considered intentional (*dolosos*) and those homicides that are considered involuntary (*culposos*). Secretariado Ejecutivo del Sistema Nacional de Seguridad Pública (SESNP), *Datos Abiertos de Incidencia Delictiva*, (Mex.), formato HTML, <http://secretariadoejecutivo.gob.mx/incidencia-delictiva/incidencia-delictiva-datos-abiertos.php> (last visited Jan.,, 2019). For the category of gun homicides, we are including those considered intentional. *See id.*

53. *Id.* SESNP reports injuries that are considered intentional (*dolosos*) and those that are considered involuntary or negligent (*culposos*). *See id.*

January 2002 through December 2017. To analyze changes in percentages, we compared monthly intentional gun injuries to overall levels of intentional monthly injuries across the same time period. Again, for total numbers we are not including those cases that excluded information on the type of weapon used.

By using the same reports from SESNP, we compiled information regarding unintentional shootings by including data from unintentional gun homicides (*culposos*) and unintentional gun injuries (*culposos*).⁵⁴ Similarly to intentional monthly gun injuries, the SESNP did not report the type of weapon used for these categories until January 2002. Therefore, we gathered information about unintentional shootings from January 2002 through December 2017.

To gather information about gun-related street robberies, we looked at Mexico's ENVIPE from 2011 through 2018.⁵⁵ Through Mexico's National Institute for Statistics and Geography, these surveys collected data on various crimes, including car theft, kidnappings, extortions, threats, home robberies, and street robberies. It should be noted, however, that ENVIPE collects data about criminal incidents that occurred during the previous year. Therefore, the time frame that we analyzed—ENVIPE 2011 to 2018—represents crimes that occurred from 2010 through 2017. ENVIPE

54. The term *culposo* refers to negligent or unintentional crimes. *See id.*

55. INSTITUTO NACIONAL DE ESTADÍSTICA Y GEOGRAFÍA (INEGI), ENCUESTA NACIONAL DE VICTIMIZACIÓN Y PERCEPCIÓN SOBRE SEGURIDAD PÚBLICA 2018 (2018) [hereinafter INEGI 2018]; INSTITUTO NACIONAL DE ESTADÍSTICA Y GEOGRAFÍA (INEGI), ENCUESTA NACIONAL DE VICTIMIZACIÓN Y PERCEPCIÓN SOBRE SEGURIDAD PÚBLICA 2017 (2017) [hereinafter INEGI 2017]; INSTITUTO NACIONAL DE ESTADÍSTICA Y GEOGRAFÍA (INEGI), ENCUESTA NACIONAL DE VICTIMIZACIÓN Y PERCEPCIÓN SOBRE SEGURIDAD PÚBLICA 2016 (2016) [hereinafter INEGI 2016]; INSTITUTO NACIONAL DE ESTADÍSTICA Y GEOGRAFÍA (INEGI), ENCUESTA NACIONAL DE VICTIMIZACIÓN Y PERCEPCIÓN SOBRE SEGURIDAD PÚBLICA 2015 (2015) [hereinafter INEGI 2015]; INSTITUTO NACIONAL DE ESTADÍSTICA Y GEOGRAFÍA (INEGI), ENCUESTA NACIONAL DE VICTIMIZACIÓN Y PERCEPCIÓN SOBRE SEGURIDAD PÚBLICA 2014 (2014) [hereinafter INEGI 2014]; INSTITUTO NACIONAL DE ESTADÍSTICA Y GEOGRAFÍA (INEGI), ENCUESTA NACIONAL DE VICTIMIZACIÓN Y PERCEPCIÓN SOBRE SEGURIDAD PÚBLICA 2013 (2013) [hereinafter INEGI 2013]; INSTITUTO NACIONAL DE ESTADÍSTICA Y GEOGRAFÍA (INEGI), ENCUESTA NACIONAL DE VICTIMIZACIÓN Y PERCEPCIÓN SOBRE SEGURIDAD PÚBLICA 2012 (2012) [hereinafter INEGI 2012]; INSTITUTO NACIONAL DE ESTADÍSTICA Y GEOGRAFÍA (INEGI), ENCUESTA NACIONAL DE VICTIMIZACIÓN Y PERCEPCIÓN SOBRE SEGURIDAD PÚBLICA 2011 (2011) [hereinafter INEGI 2011].

asks victims to specifically report the type of weapon used during the commission of the crime, which made it possible to filter for those specific crimes involving a firearm. ENVIPE also asks victims to state the specific month when the crime occurred, making it possible to filter and divide the data by month. However, we were only able to gather monthly data for gun-related street robberies and not for other forms of crime because street robberies are by far the most common type of crime reported, presenting enough observations to make monthly estimations and conduct our analysis; other crimes did not present enough observations for estimations and analysis. Overall, we compiled monthly data on gun-related street robberies from January 2010 through December 2017. To conduct our analysis on proportions, we estimated the monthly percentages of street robberies that were conducted with a firearm.

After compiling our datasets, we divided the data into groups according to presidential administrations. Data from January 2002 through November 2006 were categorized in the first group representing Fox's administration. Again, due to data limitations, we compiled data about gun homicides, intentional gun injuries, and unintentional shootings for most—but not all—of the months of Fox's administration. Monthly data from December 2006 through November 2012 was categorized in the second group and represented Calderón's administration. Similarly, while we compiled data on gun homicides, intentional injuries, and unintentional shootings for all years and months of this administration, we were only able to collect data on gun-related street robberies for roughly half of Calderón's administration.

Finally, monthly data from December 2012 through December 2017 was categorized into the third group and represented Peña Nieto's administration. Although Peña Nieto's presidency ended on November 2018, we were only able to include data through December 2017 for our four measures of gun violence due to data limitations.

After separating our data across the different presidential administrations, we used annual populations from *Consejo Nacional de Población* ("CONAPO") to determine the monthly rate per every one

million people.⁵⁶ We then estimated the monthly percentages of each form of gun violence in comparison to their respective totals with the exception of unintentional shootings. To determine if there were significant differences across presidential administrations, both in terms of rates and percentages, we ran means test analyses.

Finally, we acknowledge that there are limitations within our datasets. Figures from the SESNP are based on crimes or instances that are reported to state authorities and then compiled by SESNP. However, as the majority of citizens in Mexico do not report crimes,⁵⁷ gun injuries, and unintentional shootings are underreported. Gun homicides, on the other hand, have to be prosecuted and counted regardless of whether civilians reported them to state authorities.⁵⁸ This reporting requirement means that the data on gun homicides is likely a more accurate measure of this type of violence, but it is possible gun homicides are underreported, particularly when considering the inability to accurately assess the cause of death for disappeared civilians. There have been more than 35,000 cases of disappeared civilians in Mexico from January 2007 through April 2018;⁵⁹ it is possible that many of them were fatally shot. Given the lack of reporting, it is not possible to account for them in the overall number of gun homicides, which means the number of reported gun homicides may be an undercount. Furthermore, state attorneys that report information to SESNP occasionally fail to report the specific mechanisms used to commit injuries, homicides or unintentional shootings, and may instead categorize the weapon type under “no data.”⁶⁰ As we compared gun violence to

56. Consejo Nacional de Poblacion, *Indicadores Demográficos 1950-2050*, (Mex.), formato HTML, <https://datos.gob.mx/busca/dataset/proyecciones-de-la-poblacion-de-mexico-y-de-las-entidades-federativas-2016-2050/resource/e63c0168-19f5-4c51-8782-5ca428da0165> (consultada enero de 2019). For each month, the authors used the annual average population of that particular year. *See id.*

57. INEGI 2018, *supra* note 55, at 29. In 2017, the percentage of crimes not reported to authorities was close to 90 percent. *Id.*

58. Mexican Department of Justice, “Federal Penal Code,” available at <https://mexico.justia.com/federales/codigos/codigo-penal-federal/libro-segundo/titulo-decimonoveno/capitulo-ii> (last accessed February 2019).

59. SECRETARIO EJECUTIVO DEL SISTEMA NACIONAL DE SEGURIDAD PÚBLICA, REGISTRO NACIONAL DE DATOS DE PERSONAS EXTRAVIADAS O DESAPARECIDAS (2019), available at <http://secretariadoejecutivo.gob.mx/rnped/estadisticas-fuero comun.php>.

60. SNSP, *supra* note 51. We conducted an analysis of the rates and proportions of gun homicides under the assumption that all homicides that reported “no data” were conducted with a firearm. *Id.* The

overall levels of violence, we did not include these incidents in our analysis.

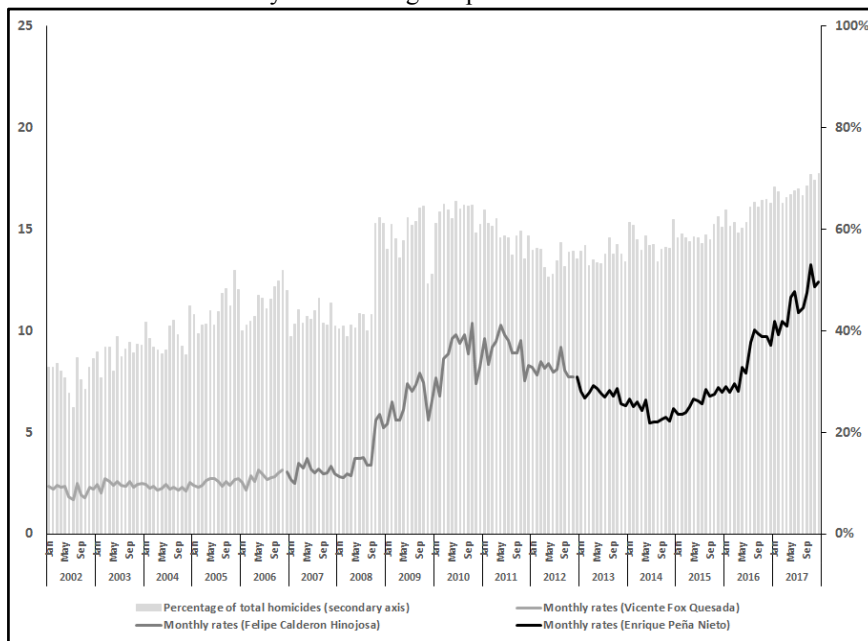
Mexico's ENVIPE includes data on both reported and unreported crimes. However, this data is based on questions about past crimes, meaning that victims may have trouble remembering the crimes, resulting in errors on reporting the time and characteristics of the crime. In spite of these limitations, we are confident that our datasets portray accurate trends and shifts across the four measures of gun violence discussed in this article.

III. RESULTS

The first measurement of gun violence was the monthly rate of gun homicides from January 2002 to December 2017. As illustrated in Figure 1, the average monthly rate of gun homicides during the last part of Fox's administration (January 2002 through November 2006) was 2.4 homicides per every one million people. During Calderón's administration, the average monthly rate of gun homicides more than doubled and rose to 6.5 per every one million people. The difference in average monthly rates of gun homicides between Calderón's and Fox's administration was statistically significant at a 95% confidence level. In other words, statistical evidence shows that rates of gun homicides increased 168% from Fox's administration to Calderón's administration.

results showed similar significant differences in rates across all three presidential administrations. *Id.* Nonetheless, the proportions were not statistically different across presidential administrations. *Id.*

Figure 1: Monthly gun homicides in Mexico by presidential administration, January 2002 through September 2018



Source: Mexico's SESNP

During Peña Nieto's administration, the average monthly rates of gun homicides rose to 7.9 per every one million people, a 21% increase from Calderón's administration and 223% increase from Fox's administration. Similarly, after conducting a means test analysis, we found that the average rate of monthly gun homicides during Peña Nieto's administration was statistically higher than the average rate of monthly gun homicides during both Calderón's and Fox's administration.

On its second axis, Figure 1 shows the monthly percentage of homicides committed with a firearm from January 2002 through December 2017. While, on average, 39% of homicides were committed with a firearm during Fox's administration, this figure rose significantly to 54% during Calderón's administration. Additionally, the average monthly percentage of homicides committed with a firearm during the Peña Nieto

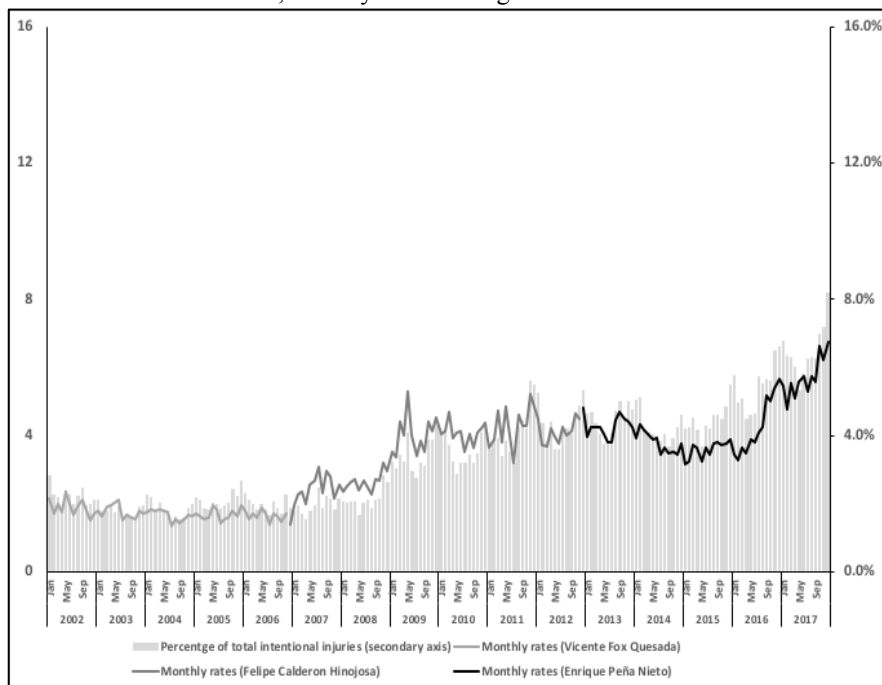
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administration significantly rose to 60%. This increase in firearm homicides indicates that not only is the rate of gun homicides increasing in Mexico, but also that the percentages of gun homicides have significantly increased across these three presidential administrations.

Figure 2: Monthly intentional gun injuries in Mexico across presidential administrations, January 2002 through December 2017



Source: Mexico's SESNP

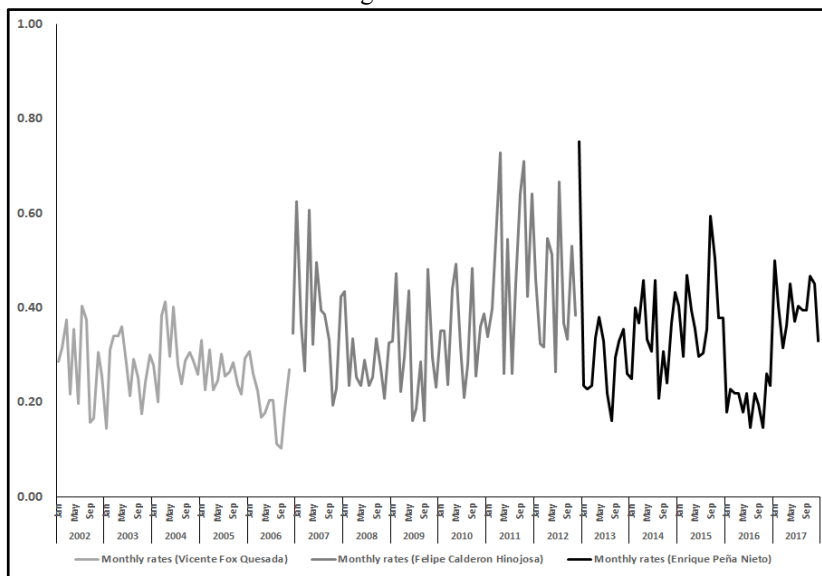
Furthermore, the data indicates increases in other forms of gun violence. Average monthly rates of intentional gun injuries increased from 1.7 per every one million people during Fox's administration to 3.6 per every one million people during Calderón's administration, a 106% increase. The average difference between these two presidential administrations was statistically significant at a 95% confidence level. In other words, the evidence shows that intentional gun injuries significantly

increased during Calderón's administration. The average rate of monthly intentional gun injuries further rose to 4.3 per every one million people during Peña Nieto's administration, a 21% increase from Calderón's administration and 149% increase from Fox's administration. All differences were statistically significant at a 95% confidence level.

While intentional gun injuries represented a small proportion of overall intentional injuries from January 2002 through December 2017, this proportion has significantly increased over that time period. On average, monthly intentional gun injuries represented 2% of all intentional injuries during Fox's administrations. This average rose to 3.2% during Calderón's administrations and further increased to 5% during Peña Nieto's administration.

The analysis of unintentional shootings is presented in Figure 3. This form of gun violence reflects an unintended negative consequence of higher volumes of firearms in the country. The average monthly rates of unintentional shootings during Fox's administration was 0.27 per every million people. This average significantly rose to 0.37 per every million people during Calderón's administration, a statistically significant 40% increase. Nonetheless, the average monthly rate of unintentional shootings slightly decreased to 0.33 per every million people during Peña Nieto's administration, although this reduction was not statistically significant at a 95% confidence level. In other words, while there is evidence that unintentional shootings significantly increased from Fox's administration to Calderón's administration, there is no evidence that unintentional shootings increased or decreased from Calderón's administration to Peña Nieto's administration.

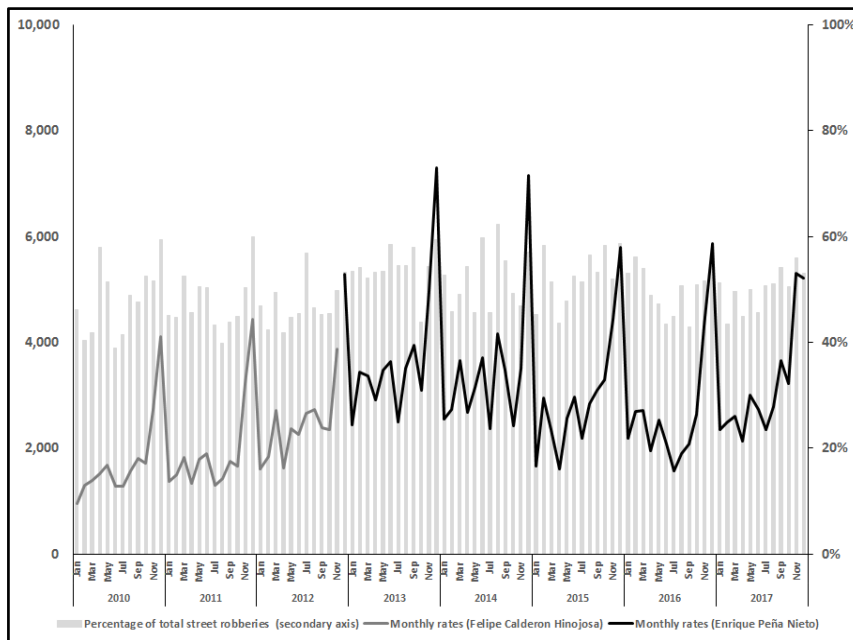
Figure 3: Unintentional shootings across presidential administrations, January 2002 through December 2017



Source: Mexico's SESNP

We also analyzed gun violence that was linked with local criminal activity. In this case, we analyzed monthly rates of gun-related street robberies from January 2010 through December 2017, covering just two presidential administrations. The average monthly rate of gun-related street robberies during Calderón's administration was 2,038 per every one million people. This average rose to 3,238 per every one million people during Peña Nieto's administration and the difference was statistically significant with a 95% confidence level. On average, 48% of monthly gun-related street robberies were committed with a firearm during Calderón's administration. This percentage significantly rose to 52% during the Peña Nieto administration, suggesting an increase on the proportion of gun-related street robberies in comparison to street robberies committed by other means.

Figure 4: Monthly gun-related street robberies across presidential administrations, January 2010 through December 2017



Source: Mexico’s ENVIPE

Another issue to highlight is the increasing rate of gun-related street robberies each year in December. We believe that the end of the year is a strategic time for local criminals to conduct street robberies given that, during the Christmas season in Mexico, more people are carrying money and valuable goods for holiday presents. Even if we remove these peaks from our analysis, data shows that the Peña Nieto administration had higher rates of gun-related street robberies and higher percentages of street robberies committed with a firearm.

Finally, while we were not able to conduct a deeper analysis for this article, we compiled data that suggests there is a rising trend on other forms of gun violence in Mexico. By analyzing Mexico’s National Victimization Survey (ENVIPE) ENVIPE, we found that the data suggests

a rise in other forms of gun violence from 2010 through 2017.⁶¹ As illustrated in Figure 5 in the appendix, the number of estimated threats involving the display of a firearm increased from 178,000 in 2010 to 264,000 in 2017, an increase of 48%. Similarly, Figures 6 and 7 suggest a slight increase in gun-related extortions⁶² as well as armed kidnappings from 2010 through 2017, although it is unlikely that these shifts are statistically significant.

Using Mexico's National Survey on Urban Public Security ("ENSU"), we compiled trimestral information about the percentage of the population that reported frequent shootings near their homes from 2015 through 2018.⁶³ As presented in Figure 8 in the Appendix, this form of gun violence increased during the Peña Nieto administration. In March 2015, 24% of the population reported hearing or seeing frequent shootings; by September 2018, that number rose to 41%. Finally, the new SESNP reports from 2015 through 2018 contain specific information about monthly gun-related femicides.⁶⁴ As shown in figure 9, monthly gun

61. INEGI 2018, *supra* note 55, at 23.; INEGI 2017, *supra* note 55, at 25.; INEGI 2016, *supra* note 55, at 18.; INEGI 2015, *supra* note 55, at 18.; INEGI 2014, *supra* note 55, at 18.; INEGI 2013, *supra* note 55, at 10; INEGI 2012, *supra* note 55, at 13; INEGI 2011, *supra* note 55, at 44.

62. ENVIPE, *supra* note 55. For both kidnappings and extortions we obtained annual data from ENVIPE. In the particular case of extortions, we are not considering telephone, online or labor related extortions. *Id.*

63. See ENCUESTA NACIONAL DE INSTITUTO NACIONAL DE ESTADÍSTICA Y GEOGRAFÍA, SEGURIDAD PÚBLICA URBANA (ENSU) MARZO 2018: PRINCIPALES RESULTADOS 23 (2018), <http://www.beta.inegi.org.mx/programas/ensu/default.html>; INSTITUTO NACIONAL DE ESTADÍSTICA Y GEOGRAFÍA, SEGURIDAD PÚBLICA URBANA (ENSU) JUNIO 2018: PRINCIPALES RESULTADOS 23 (2018), <http://www.beta.inegi.org.mx/programas/ensu/default.html>; INSTITUTO NACIONAL DE ESTADÍSTICA Y GEOGRAFÍA, SEGURIDAD PÚBLICA URBANA (ENSU) SEPTIEMBRE 2018: PRINCIPALES RESULTADOS 23 (2018), <http://www.beta.inegi.org.mx/programas/ensu/default.html>.

64. See SECRETARÍO EJECUTIVO DEL SISTEMA NACIONAL DE SEGURIDAD PÚBLICA, INCIDENCIA DELICTIVA DEL FUERO COMÚN 2015: INSTRUMENTO PARA EL REGISTRO, CLASIFICACIÓN Y REPORTE DE DELITOS Y LAS VÍCTIMAS 3 (2015), <https://www.gob.mx/sesnsp/acciones-y-programas/incidencia-delictiva-del-fuero-comun-nueva-metodologia?state=published> (last visited Oct. 2018); SECRETARÍO EJECUTIVO DEL SISTEMA NACIONAL DE SEGURIDAD PÚBLICA, INCIDENCIA DELICTIVA DEL FUERO COMÚN 2015: INSTRUMENTO PARA EL REGISTRO, CLASIFICACIÓN Y REPORTE DE DELITOS Y LAS VÍCTIMAS 3 (2016), <https://www.gob.mx/sesnsp/acciones-y-programas/incidencia-delictiva-del-fuero-comun-nueva-metodologia?state=published> (last visited Oct. 2018); SECRETARÍO EJECUTIVO DEL SISTEMA NACIONAL DE SEGURIDAD PÚBLICA, INCIDENCIA DELICTIVA DEL FUERO COMÚN 2015: INSTRUMENTO PARA EL REGISTRO, CLASIFICACIÓN Y REPORTE DE DELITOS Y LAS VÍCTIMAS 3 (2017), <https://www.gob.mx/sesnsp/acciones-y-programas/incidencia-delictiva-del-fuero-comun-nueva-metodologia?state=published> (last visited Oct. 2018); SECRETARÍO EJECUTIVO DEL SISTEMA

femicides have been on the rise in the past three years, reaching its highest level in July 2017.

IV. DISCUSSION AND POLICY RECOMMENDATION

Our analyses indicate that there is a growing problem of gun violence in Mexico. While this violence is linked to the war against drug cartels, it is also linked to other forms of violence. At least four different measures of gun violence have been on the rise in the past three presidential administrations, and general trends suggest that other forms of gun violence have also been increasing.

Since reducing violence during the Fox administration was not a policy priority, there was little attention to the problem of gun trafficking and relatively low numbers of gun seizures. On average, close to 6,200 guns were seized by the military each year during his administration.⁶⁵ However, both president Calderón and Peña Nieto acknowledge the illegal flow of weapons to Mexico as a serious risk factor.⁶⁶ Additionally, gun seizures played an important part on their efforts to reduce gun trafficking. On average, the Calderón administration seized around 27,000 firearms each year.⁶⁷ During the Peña Nieto administration, an average of 9,700 guns were seized each year.⁶⁸ Nonetheless and as is evident from our analysis, these efforts had little impact on reducing gun violence.

NACIONAL DE SEGURIDAD PÚBLICA, INCIDENCIA DELICTIVA DEL FUERO COMÚN 2015: INSTRUMENTO PARA EL REGISTRO, CLASIFICACIÓN Y REPORTE DE DELITOS Y LAS VÍCTIMAS 3 (2018), <https://www.gob.mx/sesnsp/acciones-y-programas/incidencia-delictiva-del-fuero-comun-nueva-metodologia?state=published> (last visited Oct. 2018). These reports are based on a new methodology. *Id.*

65. Information based on the statistical appendix of Mexico's Sixth Presidential report 2018 (Sexto Informe Presidencial 2018), available at http://cdn.presidencia.gob.mx/sextoinforme/informe/6_IG_Anexo_Estadistico.pdf.

66. Rafael Velazquez y Jorge Shiavon, *La Iniciativa Merida en el marco de la relación Mexico-Estados Unidos*, CIDE, 2009, available at <http://repositorio-digital.cide.edu/bitstream/handle/11651/1116/96615.pdf?sequence=1&isAllowed=y>; Francisco Reséndiz, *Peña Nieto urge a actuar contra tráfico de armas*, EL Universal, Sept. 9, 2018, available at <https://www.eluniversal.com.mx/nacion/politica/pena-nieto-urge-actuar-contra-trafico-de-armas>.

67. Information based on the statistical appendix of Mexico's Sixth Presidential report 2018 (Sexto Informe Presidencial 2018), available at http://cdn.presidencia.gob.mx/sextoinforme/informe/6_IG_Anexo_Estadistico.pdf.

68. *Id.*

The Mexican government therefore should address all factors that contribute to violence, including impunity rates, strengthening police forces, and curtailing the high levels of corruption rampant throughout the government and security forces. In addition, the government should reconsider the military strategy to confront DTOs and other criminal organizations since reports indicate that existing strategies are ineffective at reducing the problem and have actually resulted in exacerbating the problem, increasing levels of violence.⁶⁹

The Mexican government should prioritize and incorporate gun violence prevention and reduction in its national security agenda. A crucial first step to addressing gun violence is to improve and expand upon existing data collection mechanisms.⁷⁰ For example, in the case of gun homicides, it would be vital to disaggregate the data by gender, age, and record the relationship between the victim and aggressor. Other federal agencies should also be involved in data recollection. Through INEGI, for example, the Mexican government could collect detailed annual information about the use of firearms on non-lethal domestic violence disputes.⁷¹ The government should also work closely with hospitals to compile more robust information about gun injuries, including gathering information about lifetime health costs associated with gun injuries.

The government can also support academics and NGOs working to understand and address the problem of gun violence in Mexico. Models established by U.S. universities like John Hopkins, Harvard, Duke and the

69. See, e.g., Cesar Morales Oyarbide, *El Fracaso de una Estrategia: una Crítica a la Guerra Contra el Narcotráfico en México, sus Justificaciones y Efectos*, 231 NUEVA SOCIEDAD, Jan.–Feb. 2011, at 4, available at <http://nuso.org/articulo/el-fracaso-de-una-estrategia-una-critica-a-la-guerra-contra-el-narcotrafico-en-mexico-sus-justificaciones-y-efectos/>; Eduardo Guerrero Gutiérrez, *La Estrategia Fallida*, NEXOS (Dec. 1, 2012), <https://www.nexos.com.mx/?p=15083>.

70. Limitations of data, including the number of guns retrieved from crimes, as well as trace data on where those guns originated, make it difficult to fully assess the scale of gun trafficking in Mexico and its connection to crime, making any efforts to address gun trafficking difficult. Furthermore, inconsistent or limited reporting of guns within Mexico make it difficult to determine the exact number of guns present in the country and what, if any, specific regions or populations possess a disproportionate number of firearms.

71. INSTITUTO NACIONAL DE ESTADÍSTICA Y GEOGRAFÍA, ENCUESTA NACIONAL SOBRE LA DINÁMICA DE LAS RELACIONES EN LOS HOGARES (ENDIREH) 2016: PRINCIPALES RESULTADOS 2 (2017). While INEGI does have a survey that addresses this issue, it is only published every three years and requires arduous statistical work to collect the information. *Id.*

University of California to study gun violence would be helpful and replicable to examine the gun violence problems in Mexico.⁷²

The Mexican government should also effectively implement gun laws. Currently, all gun legislation is under the supervision of SEDENA; however, academics and policy advisors have suggested the creation of a federal agency exclusively tasked with ensuring the correct implementation of Mexico's federal gun laws, similar to the role of the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) in the United States.⁷³

In addition, the Mexican government should prioritize addressing the illegal flow of firearms across its borders, particularly along its border with the United States. Furthermore, the Mexican government should establish effective protocols to prevent the diversion of firearms from its security agencies to criminal organizations.

The United States, given its role as the main supplier of legal and illegal firearms to Mexico, has a shared responsibility and interest in addressing the scourge of gun violence in Mexico. The United States bears both a moral obligation as well as a strategic need to address arms trafficking to Mexico, as gun violence is a key driver of Mexico's instability, with easy-access to U.S. guns perpetuating both cartel-related and everyday, localized gun violence in communities across Mexico. The violence and instability causes people to flee their homes and seek refuge in the United States.

The following recommendations can be adopted within the United States to address the challenges of gun violence beyond U.S. borders:

72. See for example the work of Daniel Webster from Johns Hopkins University Center for Gun Policy and Research, <https://www.jhsph.edu/research/centers-and-institutes/johns-hopkins-center-for-gun-policy-and-research/index.html>; David Hemenway as well as Deborah Azrael from Harvard University Injury Control Research Center <https://www.hsph.harvard.edu/hicrc/firearms-research/guns-and-death>; Garen Wintemute from the University of California Davis Violence Prevention Research Program <https://health.ucdavis.edu/vprp>; Phil J Cook from Duke University Sanford School of Public Policy <https://sanford.duke.edu>.

73. While the ATF model is one that should be replicated in some form in Mexico, restrictions placed on the ATF, particularly concerning data collection and information sharing, as well as relatively low funding levels and resource allocation, should not be replicated. These restrictions serve as deterrents to ATF's efficacy, limiting the Bureau's ability to thoroughly regulate firearms within the U.S.

A. Improve Gun Trafficking Data

By providing better data on gun trafficking along the U.S.-Mexico border, more comprehensive research could be performed to understand the breadth of the problem. This research could identify specific counties, cities, and gun shops that see heightened levels of gun trafficking to Mexico. Under the status quo, current data limitations make it difficult to properly assess the full scope of the problem.

B. Implement Universal Background Checks

If U.S. legislation mandated that every sale of a gun, be it from Federal Firearms Licensees (“FFLs”) or from private sellers, required a background check, the main loopholes exploited by gun traffickers and straw purchasers would be closed. The current lack of mandatory background checks on online gun sales and from private sellers makes it remarkably easy for traffickers or their affiliates to purchase firearms.⁷⁴

C. Regulate Assault Weapons and High Capacity Magazines

Assault weapons are among the most popular firearms sought by arms traffickers.⁷⁵ The use of semi-automatic firearms with detachable magazines significantly increases the lethality of shootings—with faster discharges of bullets from the weapon and quicker reloading of the gun making these firearms dramatically more dangerous.⁷⁶ If there were regulation of these weapons and magazines, similar to the U.S. regulation of fully-automatic firearms⁷⁷, limiting their production and sale, fewer of

74. CLAY BOGGS & KRISTEN RAND, GUN-RUNNING NATION: HOW FOREIGN-MADE ASSAULT WEAPONS ARE TRAFFICKED FROM THE UNITED STATES TO MEXICO AND WHAT TO DO ABOUT IT 5 (2015).

75. VIOLENCE POLICY CTR., INDICTED: TYPES OF FIREARMS AND METHODS OF GUN TRAFFICKING FROM THE UNITED STATES TO MEXICO AS REVEALED IN U.S. COURT DOCUMENTS 4 (2009).

76. *Ban Assault Weapons and High-Capacity Ammunition Magazines*, CTR. FOR AMERICAN PROGRESS (Mar. 9, 2018, 9:41 AM), <https://www.americanprogress.org/issues/guns-crime/reports/2018/03/09/447720/ban-assault-weapons-high-capacity-ammunition-magazines>.

77. German Lopez, *The Legal Loopholes That Let People Get Automatic Guns*, VOX (Oct. 4, 2017

these weapons would be trafficked into Mexico, reducing the rampant levels of gun violence that is devastating communities.

D. Report Multiple Sales of Long Guns

Long guns make up a large portion of guns trafficked to Mexico.⁷⁸ U.S. federal law does not require that multiple purchases of rifles or shotguns be reported, making it possible for traffickers to buy multiple long guns from a single store.⁷⁹

E. Improve Vetting of Foreign Agencies Before Exporting Firearms

The current process to monitor firearm export requests is unable to thoroughly vet the requests and ensure the requests are not coming from entities associated with human rights abuses or firearm diversions to criminal groups. The responsibility to vet applications for firearms exports licenses sits with the U.S. State Department's Bureau for Democracy, Human Rights, and Labor ("DRL"). While the data used by DRL when reviewing firearms exports license applicants indicates the vast majority are members of the Mexican military, SEDENA's data indicates that a significant number of firearms were exported to private users.⁸⁰ Proper vetting of applications for firearms exports, similar to how foreign aid grants are monitored to prevent funding organizations tied to criminal organizations, is needed to ensure firearms are not being exported to criminal groups or bad actors within Mexico's military forces who have ties to cartels and serve as a conduit for arms trafficking.

F. Improve Tracking of Firearms Exports to Foreign Agencies

The existing methods used to track firearms exports to Mexico are inefficient, flawed, and ineffective at properly monitoring the arms transfers. The U.S. State Department's Directorate of Defense Trade

at 8:00 AM), <https://www.vox.com/policy-and-politics/2017/10/4/16412910/automatic-guns-las-vegas-shooting>.

78. VIOLENCE POLICY CTR., WHY MILITARY-STYLE GUNS FLOW FROM THE U.S. TO MEXICO 2 (2018).

79. *Id.* at 3.

80. Lindsay-Poland, *supra* note 33.

Controls is mandated with monitoring firearms exports to Mexico. However, the tracking system used by the Directorate is not compatible with the system in Mexico, making effective monitoring impossible.⁸¹ A tracking system compatible with the technology used in Mexico is necessary to ensure shipments of firearms are in fact received by the vetted entity and not diverted or seized by criminal organizations.

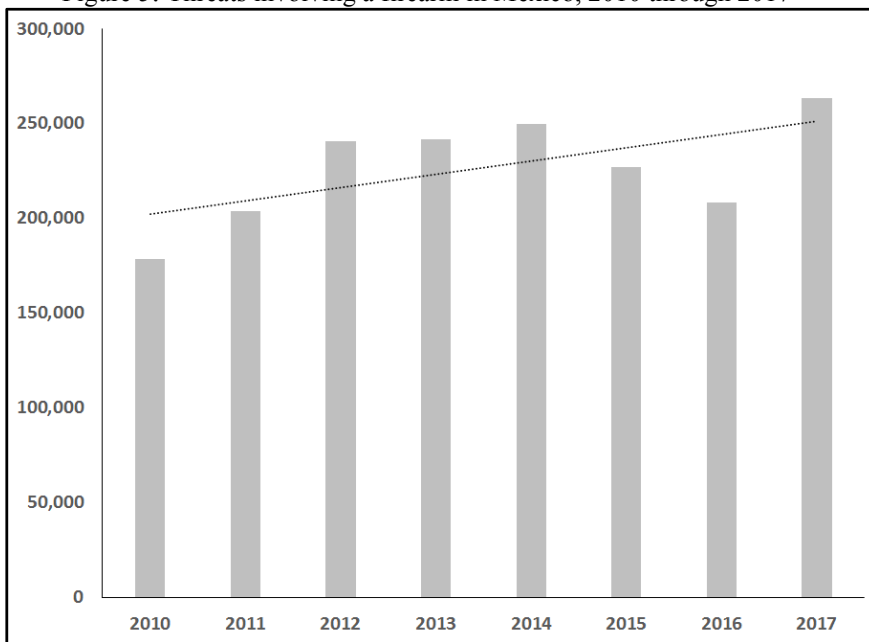
CONCLUSION

Gun violence manifests in multiple ways in Mexico, with the percentage of crimes committed with a firearm increasing over the years and across three presidential administrations. The rise in firearms in Mexico, sourced both legally and illegally from the U.S. and other countries, is creating noted discord and instability in the nation, with the rise in firearms including increased levels of violence linked to DTOs and organized crime as well as increased levels of everyday gun violence. Rising levels of firearms are directly linked with increased levels of gun violence and the increased proportion of gun violence across three presidential administrations. The alarming shifts in gun violence indicate that Mexico needs to grapple with the violent realities of the drug war as well as the effects of increased instability and increasing number of guns within the nation. Furthermore, the direct connection between the U.S.'s supply of firearms to the growing gun violence problem in Mexico indicates that more needs to be done in the U.S. to prevent the flow of firearms into a nation plagued by gun violence, including strengthening U.S. gun laws to reduce the risk of trafficking. Stronger efforts within Mexico are needed to address the illegal flow of weapons internally. Furthermore, the Mexican government should develop gun violence prevention policies and law enforcement agencies focused on monitoring and regulating firearms are necessary steps to address the growing gun-related problems in Mexico.

81. *Id.*

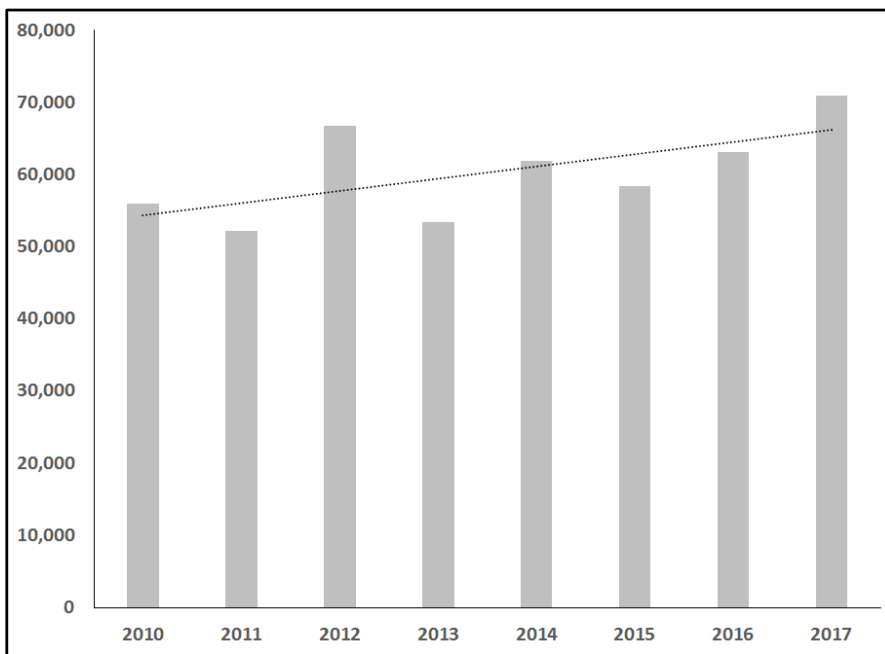
APPENDIX

Figure 5: Threats involving a firearm in Mexico, 2010 through 2017



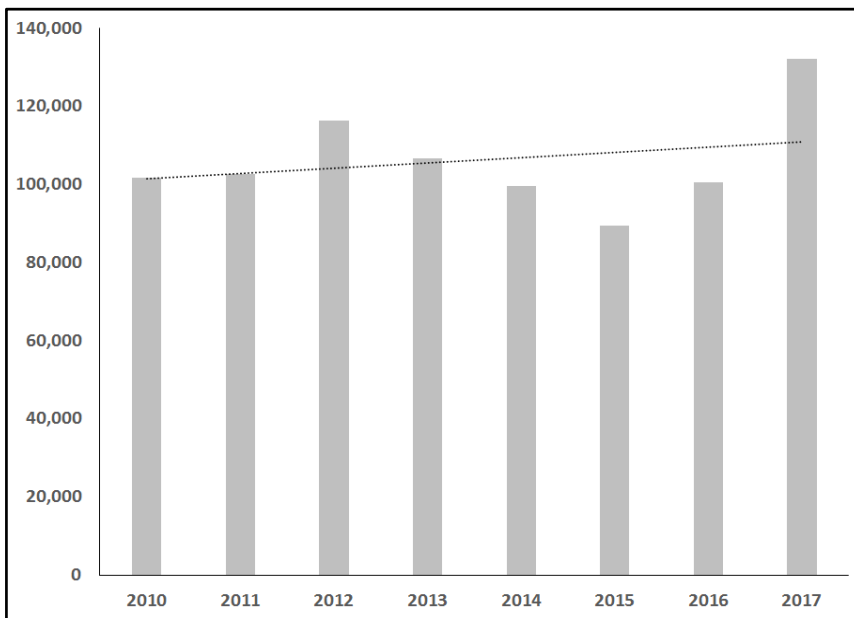
Source: Authors' analysis of ENVIPE 2010 to 2017. The authors filtered for those cases where victims reported being threatened with a firearm. The authors then used the weight expansion factor used by INEGI to estimate the overall number of threats involving a gun in Mexico.

Figure 6: Gun-related kidnappings in Mexico, 2010 through 2017



Source: Authors' analysis of ENVIPE 2010 to 2017. The authors used the weight expansion factor used by INEGI to estimate the overall levels of kidnappings in Mexico.

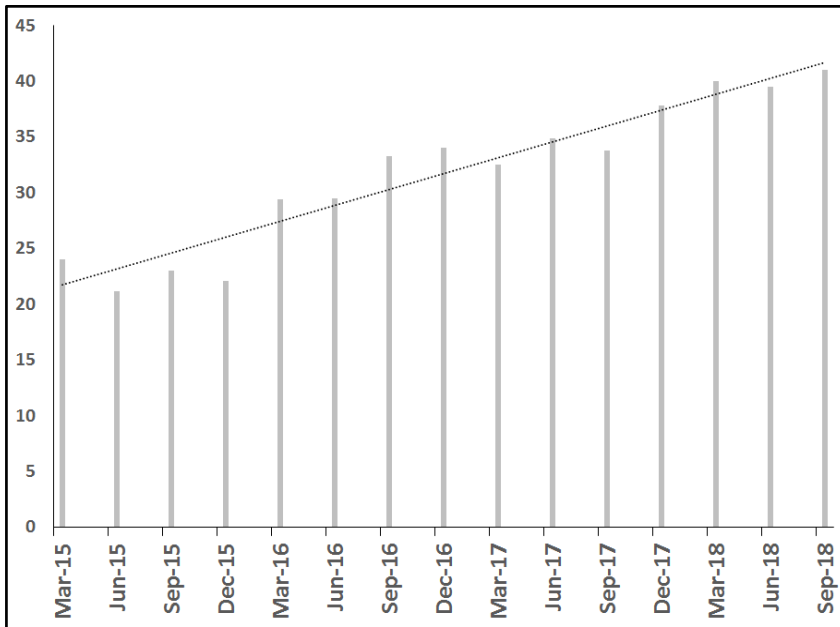
Figure 7: Gun-related extortions in Mexico, 2010 through 2017



Source: Authors' analysis of ENVIPE 2010 to 2017. The authors are not including telephone, online or labor related extortions. The authors used the weight expansion factor used by INEGI to estimate the overall levels of extortions in Mexico.

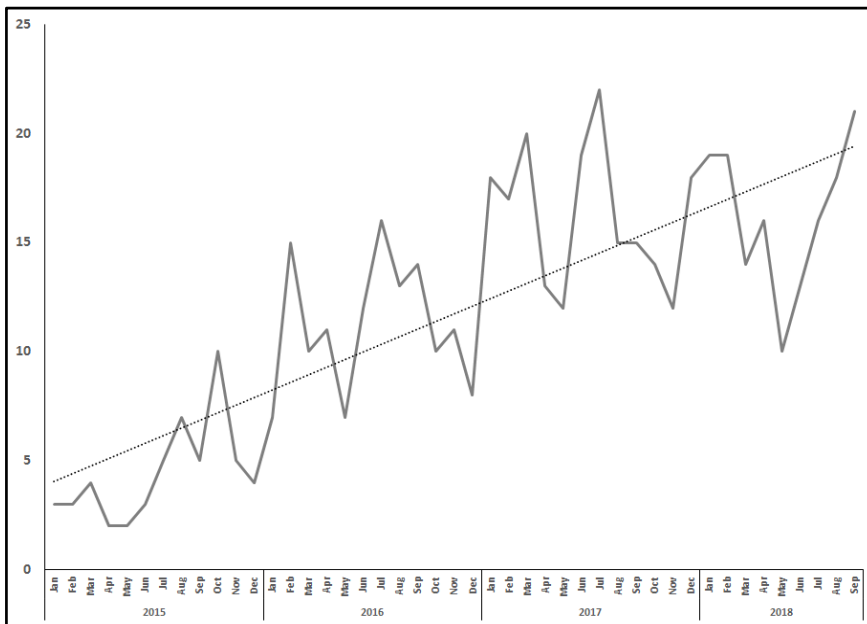
Figure 8: Percentage of the population that reported frequent shootings by trimester, 2015 through 2018

β



Source: ENSU 2015 to 2017.

Figure 9: Monthly gun femicides in Mexico, 2015 through 2018



Source: SNSP