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A BUSINESS CASE ANALYSIS OF THE M4/AR-15 MARKET

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A BUSINESS CASE ANALYSIS OF THE M4/AR-15 MARKET

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TABLE OF CONTENTS

LIST OF FIGURES

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LIST OF TABLES

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LIST OF ACRONYMS AND ABBREVIATIONS

AFMER	Annual Firearms Manufacturing and Exportation Report
AR-15	ArmaLite Rifle 15
AWB	Assault Weapons Ban
BATF	Bureau of Alcohol Tobacco and Firearms
DCS	Direct Commercial Sales
DDTC	Directorate of Defense Trade Controls
DoD	Department of Defense
FBI	Federal Bureau of Investigations
FFA	Federal Firearms Act
FFL	Federal Firearms License
FMS	Foreign Military Sales
FY	Fiscal Year
GCA	Gun Control Act
HHI	Herfindahl-Hirschman Index
ITAR	International Traffic in Arms Regulation
NAICS	North American Industry Classification System
NFA	National Firearms Act
NICS	National Instant Criminal Background Check System
NIJ	National Institute of Justice
RFP	Request for Proposal
SBA	Small Business Administration

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I. INTRODUCTION

This chapter will highlight the history and evolution of the U.S. military's M4 rifle and increased demand for the civilian ArmaLite Rifle 15 (AR-15) in law enforcement and civilian markets. This chapter will then reveal gaps in M4/AR-15 market data, which will ultimately be addressed in this market analysis. The issues will be captured in a broad problem statement and will lead to the research objectives and research questions. This chapter will also address the importance of this research and the methodology by which it will be conducted.

A. BACKGROUND

1. History and Evolution of the M4

In the early 1960s, the Pentagon wanted to replace the M14, an Army-designed, long-range, .308-caliber semi-automatic rifle. The Department of Defense (DoD) realized the .308 cartridge was designed for long range targets and was not suited for close quarter engagements in the jungles of Vietnam; instead, the DoD wanted a smaller-caliber rifle (Stokes, 2013). A smaller .223/5.56mm cartridge that would allow soldiers to carry more ammunition, better manage recoil, and more quickly engage targets at close quarters. (Stokes, 2013). To meet that need, a solution would come from a gun company called ArmaLite.

At the time, ArmaLite was an innovative gun-design company that developed a light-weight rifle called the M16 (Stokes, 2013). The M16 was first introduced in the early 1960s (Dabbs, 2014). Later, Colt developed a carbine version of ArmaLite's AR-15, which became known as the Colt Automatic Rifle-15, or CAR-15. While the original M16 had a 20-inch barrel and fixed buttstock, the CAR-15 sported an even shorter 10.5-inch barrel and collapsible buttstock (Dabbs, 2014). According to Dabbs, the CAR-15 represented the first of many evolutions and modifications that would be made to M16 family of rifles.

The next evolution came in the 1980s, as the military upgraded the original M16A1 rifle. The modifications included new iron sights, barrel, and handguard; the

upgraded weapon became known as the M16A2 (Dabbs, 2014). A decade later, the M16 evolved again and the modified rifle became known as the M4. The M4 employed a collapsible stock and handguard similar to the CAR-15, but used a 14.5-inch barrel. The 14.5-inch barrel was a good compromise between the shorter 10.5-inch CAR-15 barrel, and longer 20-inch M16 barrel, and proved to be favored by the military for close quarter engagements (Dabbs, 2014). Though the M4 is nearly 50 years old (as it contains over three-quarters of the same parts used in the original M16) (Baglole, n.d.) it continues to be a preferred weapon by U.S. military forces.

2. Rise in Popularity in Civilian Markets

A modified civilian variant of the M16 class of rifles, the AR-15, has grown in popularity among U.S. civilian gun owners and law enforcements officers over the past decade as well. While similar in appearance to the M4 carbine, the AR-15 is designed to fire only one shot with each pull of the trigger, whereas the M4 is designed to fire a nearly full-automatic three round burst. Despite this difference in function, Congress passed the Federal Assault Weapons Ban (AWB) in 1994 which prohibited the manufacture of magazine-fed, semi-automatic rifles and magazines that held more than 10 rounds of ammunition ("Ban on assault weapons," 2004). According to the Washington Times, the ban prohibited the manufacture of 18 specific assault weapons.

When the ban was set to expire in 2004, the National Institute of Justice (NIJ) was commissioned to study the effects of the ban on violent crime to determine if the ban should be renewed. NIJ is commissioned to perform independent, objective, evidence-based studies to support and inform the Justice Department (National Institute of Justice [NIJ], n.d.). When the study was completed, Christopher Koper, a University of Pennsylvania professor who wrote the study report, said "we cannot clearly credit the ban with any of the nation's recent drop in gun violence. And indeed, there has been no discernable reduction in the lethality and injuriousness of gun violence." ("Ban on assault weapons," 2004) In fact, the study found, as reported by the Washington Times in 2004, that "assault weapons" were used in only 2% of gun crimes before the ban was passed in 1994 and the ban had little effect on reducing gun violence between 1994 and 2004.

Therefore, a renewal on the ban would achieve little to prevent further gun violence. As a result of the study, and the lack of strong connection between the use of "assault weapons" and violent crime, Congress decided to not renew the ban. After the ban was lifted in 2004, the demand for the rifle in both civilian and law enforcement markets has risen tremendously, and the manufacture and sale of the AR-15 has greatly increased to meet the rising demand over the past decade. The details of this growth will be presented in this project.

B. PROBLEM STATEMENT

Despite the perceived strong growth over the past decade, there are gaps in M4/AR-15 market information. There is significant statistical data available on the firearms industry as a whole, but there is very little hard statistical literature available on the M4/AR-15 market, to include statistical data on the customer and supplier base. How many are sold each year, who are the customers, and where are they located? How competitive is the market and who are the major manufacturers? The answers to these questions are often speculated based on hunches, opinions, or estimates.

C. RESEARCH OBJECTIVES

Therefore, the primary objective of this paper is to conduct a market analysis of the M4/AR-15 market. According to the Small Business Administration (SBA, n.d.), a market analysis should identify the size of the industry, customers, and competition. Therefore the research objectives will focus the market analysis on these three areas.

D. RESEARCH QUESTIONS

In order to achieve the research objectives, several questions will be answered through this research. The research questions were developed in response to the research objective and will guide the path of the market analysis. The following primary and secondary research questions will be addressed to achieve the research objectives:

1. Primary Research Question #1: How many M4/AR-15s are manufactured annually?

- Secondary Research Question #1: What percent of the firearms market does the M4/AR-15 rifle account for?

- Secondary Research Question #2: How much revenue is generated by M4/AR-15?

2. Primary Research Question #2: Who are the M4/AR-15 customers?

- Secondary Research Question #3: Where are the customers located?

- Secondary Research Question #4: What drives customer demand?

3. Primary Research Question #3: Who are the top market suppliers?

- Secondary Research Question #5: How many manufacturers are in the United States?

- Secondary Research Question #6: Where are the United States manufacturers located?

- Secondary Research Question #7: What are the barriers to market entry?

E. PURPOSE/BENEFIT

This research paper is important because it fills a gap in available industry data for the M4/AR-15 market. The DoD always needs a good understanding of the extent to which the current and future industrial base can meet the needs for all their acquisition programs throughout their lifecycle. Much of the success of the M16/M4 has been largely due to the strength of the industrial base and the ability of industry to meet evolving and changing needs of the military. Furthermore, this research is beneficial to a new entrant company seeking to understand the strength and competitive landscape of the market. Understanding the strength and attractiveness of a market is important because a strong, thriving market brings growth and innovation, resulting in higher quality products for military, law enforcement, and civilian users. Therefore, this research will provide insight into not just the firearms industry, but, specifically, into the economic strength and attractiveness of the M4/AR-15 firearms market.

F. SCOPE/METHODOLOGY

In order to answer the primary and secondary research questions, the M4/AR-15 market analysis will be conducted using raw data provided by the Bureau of Alcohol Tobacco and Firearms (BATF), Federal Bureau of Investigations (FBI), and United States Census Bureau. The BATF collects and reports the number of weapons manufactured each year and who manufactures them. This data will be used to assess the market size and manufacturing supplier base. The FBI provides annual statistics on the number of attempted gun purchases made through all of the Federal Firearm Licenses (FFLs) dealers in each state, categorized by the type of gun purchased. This information will help identify the strength of demand, who the customers are, and where they are located in the United States. Lastly, the United States Census Bureau provides plentiful data on the Small Arms Manufacturing industry in general. Therefore, this data will augment the data collected through the FBI and BATF to inform the overall M4/AR-15 market analysis in this paper.

G. THESIS STATEMENT

The M4/AR-15 market has experienced significant economic growth over the past decade, attracting new customers and manufacturers each year. Several new companies have entered the market over the past decade to meet the annually increasing American demand for the rifle. The M4/AR-15 rifle has become one of the most commonly purchased and produced rifle over the past decade. Unless constrained by government regulation, the market is expected to grow and provide more innovative, better quality, affordable products for the military, law enforcement, and civilian end users.

H. REPORT ORGANIZATION

Chapter I of this research provides the background to the problem and defines the research objectives and questions. Chapter II will introduce the some literature available on the firearms industry and M4/AR-15 market. Chapter III will present the data on the small arms manufacturing industry and analyze the data to assess the size and strength of the subset M4/AR-15 market, customer base, and manufacturing suppliers. Finally,

Chapter IV will discuss the findings of the analysis and Chapter V will reveal conclusions and provide suggestions for further research.

I. SUMMARY

This chapter reviewed the history, evolution and rise in popularity of the M4/AR-15 in military, law enforcement, and civilian communities. A problem statement was refined into research objectives and research questions and the importance of a market analysis for the defense and firearms industry has been examined. Finally, the scope and methodology were set forth and the thesis statement defined. Next, we will take a closer look at the some of the broad perspectives on the firearms industry and identify gaps in data for the M4/AR-15 market.

II. LITERATURE REVIEW

Chapter I provided a background for this research by explaining the series of events that culminated in the issues addressed by the research objectives. This chapter will provide an overview of literature sources useful for analyzing the M4/AR-15 market. Some of the information found in the literature review is discussed in this chapter, but much of the detailed data content and analysis are deferred to Chapter III.

A. OVERVIEW OF CURRENT LITERATURE

There are four types of data available on the United States firearms industry: raw North American Industry Classification System (NAICS) data provided by the Census Bureau on the small arms manufacturing market, federal gun purchasing information provided by the FBI National Instant Criminal Background Check System (NICS), manufacturing data provided by the BATF Annual Firearms Manufacturers And Export Report (AFMER), and additional articles that cite facts or opinions on the M4/AR-15 market. All four are rich sources of data on the small arms industry in general, but also have serious gaps in data on the M4/AR-15 market. This chapter will introduce some of the information made available by all four sources while the next chapter will present and analyze the data as it applies specifically to the M4/AR-15 market.

B. GAPS IN CURRENT LITERATURE

In general, the four following types of data do not provide specific details of the M4/AR-15 market, but rather provide information on the overall small arms market.

1. NAICS

The gap in data is that this only provides information at the higher small arms manufacturing level and not down to the detailed M4/AR-15 manufacturing level.

2. BATF AFMER

The gap is that it does not provide detailed information on the M4/AR-15 market. They provide information on a more aggregated level to identify the manufacture of long-guns and handguns over the past 15+ years.

3. FBI NICS

Similar to BATF AFMER manufacturing data, FBI NICS does not provide detailed information on the M4/AR-15 market. NICS information is collected at the more aggregated level and provides data on the number of checks done prior to long-gun and hand gun sales over the past 15+ years.

4. Articles

There are several recent articles available which speak specifically about the M4/AR-15 market. However, some talk about the growth of the market, while others talk about how market sales are down. Therefore, it is difficult to truly assess the strength of the market as rigorous detailed source information is not available. However, there is detailed information on the small arms industry as a whole provided in both NIACS info and NICS info.

C. METHODOLOGY TO ADDRESS GAPS

High-level data made available from the economic and federal gun tracking reports will be analyzed for significance and applicability specifically to the M4/AR-15 market. Any data found that indicates the M4/AR-15 market may behave differently than the general small arms market will be presented. In addition, data from the various reports will be combined to estimate what percent of the overall small arms market rifles control. Information from articles can then be used to make a range of predictions for what portion of the firearms market M4/AR-15s occupy. The average of these predictions will serve as the best estimate of the M4/AR-15's portion of total market share for this project, and the low and high predictions are the outer bounds. These estimates, along with other sources of data, enable a further assessment of the market size and strength, customers, and manufacturers.

D. CURRENT LITERATURE REVIEWED

1. NAICS

Economics and industry data for the United States is collected by the Census Bureau and organized using the NAICS system. NAICS classifies businesses (based on activities for which they are primarily engaged) for the purpose of collecting, analyzing, and publishing statistical data as it relates to the U.S. economy. NAICS provides economic data for every industry in the United States ranging from real estate, health care, agriculture, and education. As shown on the Census Bureau website, the M4/AR-15 market, which is analyzed in this research, falls under the manufacturing sector, designated by the 2 digit NAICS code 33. Within the NAICS code 33 manufacturing industry is the NAICS code 3329 Other Fabricated Metal Product Manufacturing Industry. This industry group is defined as "establishments primarily engaged in manufacturing fabricated metal products (except forgings and stampings, cutlery and hand tools, architectural and structural metals, boilers, tanks, shipping containers, hardware, spring and wire products, machine shop products, turned products, screws, and nuts and bolts)" (Census Bureau, 2012).

The small arms manufacturing industry is identified by the NAICS code 332994. This industry code encompasses the manufacture of small arms such as rifles, shotguns, pistols, revolvers, machine guns, and grenade launchers (Census Bureau, 2012). This industry code also includes the manufacture of ordnance and ordnance accessories. One of the problems with the NAICS system is that it is too broad, burying details about individual products, markets, or companies within the larger aggregated categories. That is, NAICS code 332994 does not provide detailed data down to the M4/AR-15 market level. NAICS provides data only down to the small arms manufacturing industry level. The data gathered at the small arms manufacturing level still provides valuable data and is included in this chapter to help inform a market analysis in the next chapter. Figure 1 visually depicts the hierarchy of the small arms industry as it fits into the larger manufacturing industry in the United States.

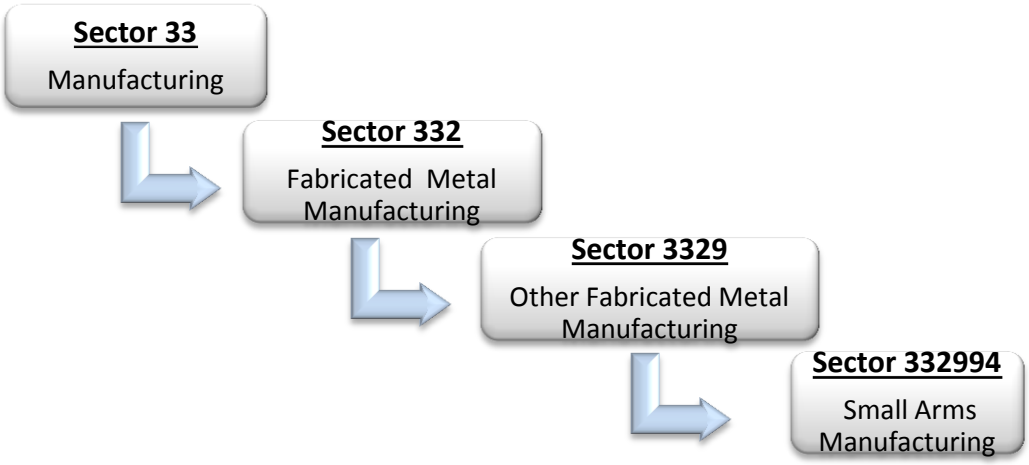

Figure 1. NAICS 332994 Small Arms Manufacturing Decomposition (after Census Bureau, 2012)

2. BATF AFMER

A valuable source of data for analyzing overall small arms market supply in the United States as well as the quantities of gun types being produced, is the Annual Firearms Manufacturing and Exportation Report produced by the Bureau of Alcohol, Tobacco, Firearms and Explosives. These reports are available online from 1998 to 2013. They contain the number of pistols, revolvers, rifles, shotguns, and other firearms manufactured, as well as the number of each type that were exported. The report also identifies who manufactured the firearms and where the firearms were manufactured. These reports are valuable to assess the overall supply of guns on the market, as well as the number of rifles being built relative to the total number of guns (Bureau of Alcohol, Tobacco, Firearms and Explosives [BATF], n.d.). Chapter III will present the BATF data and assess the strength of the M4/AR-15 manufacturing base.

3. FBI NICS

According to the FBI's website, the National Instant Criminal Background Check System, or NICS, was put into law by the Brady Handgun Violence Prevention Act of 1993 and became operational on November 30, 1998 (Federal Bureau of Investigation [FBI], n.d.-a). The website also states, "NICS is used by Federal Firearms Licensees to instantly determine whether a prospective buyer is eligible to buy firearms or explosives.

Before ringing up the sale, cashiers call in a check to the FBI or to other designated agencies to ensure that each customer does not have a criminal record or is otherwise ineligible to make a purchase" (FBI, n.d.-a, para. 2). NICS provides utility for this research because the NICS database contains historic information on the types of firearms sales, to include the sales of handguns, long-guns, and 'other' sales from 1998 to present date. 'Other' sales refer to the sale of a firearm frame or receiver that is not fully built into a complete rifle or handgun. Along with the type of firearm sold, the NICS database provides raw data on the state where it was sold, from 1998 to present. The NICS data will be presented and analyzed in Chapter III to better understand the customer demographics, and more specifically the states where historically the most gun purchases are transacted. This analysis will estimate how many of those transactions were the purchase of M4/AR-15s, and the data will be presented in detail in Chapter III.

4. Articles

Articles on M4/AR-15s are important sources of data to answer two questions that are key to this project's market analysis. First, since the NAICS, NICS and BATF data introduced above do not contain details down to the M4/AR-15 level, market projections and other opinion or fact-based information from these articles are the only available sources of information, but provide incomplete data for a market analysis. Second, unlike most industries, the gun market is often influenced significantly by political factors. Pro-gun control administrations and threats of gun control laws being passed by Congress increase market demand due to concerns that all guns or certain gun types may be more difficult, or even illegal, to purchase. Thus, a review of the current gun control political environment is important to the market analysis, and a more detailed review of gun control laws is included in the Chapter III.

While conducting the literature review, several articles were found. The first article, "Run on Guns: AR-15 Sales Soar" was written in 2013 by a CNBC field producer, Meghan Lisson. Lisson claims the AR-15 is an extremely popular rifle, with over 4 million currently owned in the United States. The article provides anecdotal evidence that the threat of stricter gun laws has driven up demand for AR-15s, and gun

makers are selling them faster than they can produce. It says that AR-15s are produced by over 30 companies, and that roughly 800,000 a year are sold in the United States. It also claims that AR-15s are the top selling small arms currently on the market, and that they capture 25% of the $4 billion small arms market. In the article, analyst Rommel Dionisio says that the market has grown significantly due to politics, shifting consumer preferences, and cool appeal of the AR-15 (Lisson, 2013). Lastly, the article lists the average cost for AR-15 to be about $1,000, and that a typical owner has multiple rifles and spends close to $500 on accessories (Lisson, 2013).

The second article was written by a Shooting Wire journalist, Jim Shepherd, in 2008 called "Industry Hanging onto a Single Category." The article details the recent popularity of military-style weapons, and recognizes that today these weapons are a primary driver of the U.S. civilian gun market (Shepherd, 2008). Similarly, another article written by Nick Leghorn in 2013 called "Charting the Price of an AR-15 during the Great AWB Panic" tracks the high and low auction selling prices of several types of AR-15s during the period when the Sandy Hook High School shooting occurred. It also discusses some of the ways that mass shootings or political gun control measures increase demand in the firearms market (Leghorn, 2013). Both of these articles describe the increased demand and growing market for the M4/AR-15, but do not provide statistical data describing the growth of the market.

The last article reviewed was written by Justin Peters in 2012 called "How Many Assault Weapons Are There in America? How Much Would It Cost the Government to Buy Them Back?" The article mentions the 2011 Smith & Wesson annual report to investors, which showed the AR-15 market to be a $489 million market (Smith & Wesson, 2012). The article also provides data on the rapid growth in the modern sporting rifle market segment. Peters (2012) cites a Freedom Group annual report, which states that sales of modern sporting rifles grew 27% annually from 2007 to 2011, compared to a 3% growth rate of long gun sales. The article also estimates that 3.75 million M4/AR-15 type weapons are owned in the U.S.

While each of these articles hint at the growing size of the M4/AR-15 market, they all lack detailed statistical data to support their claims. They do not provide detailed

data on the annual growth of the market, nor do they provide detailed information on the market customers and suppliers. These gaps in data will be addressed in Chapter III.

E. SUMMARY

This chapter reviewed the various sources of data on the firearms industry and highlighted gaps in statistical M4/AR-15 market data. The literature review outlined the NAICS industry information and the NICS and BATF gun data. It also summarized several articles focused on the M4/AR-15 market. Chapter III will use the data from these sources to conduct a more thorough M4/AR-15 market analysis.

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III. DATA AND ANALYSIS

This chapter will present and examine the data used to answer each of the primary and secondary research questions. The three primary research questions will form the basis of the market analysis by assessing the M4/AR-15 market size and identify the customers and suppliers. The secondary research questions will inform the answers to the primary research questions. In each case, this research will explain how the data was obtained and its pertinence to this research. A summary of the findings will be presented in Chapter IV.

A. M4/AR-15 MARKET SIZE

According to an article on the Small Business Administration website, understanding and determining the potential market size is often more based on stories, possibilities and hopes than it is on facts (SBA, n.d.). Markets are dynamic, with customer preferences and spending patterns shifting rapidly, so market numbers are educated guesses at best. Calculating potential market size is compared to taking a pie and slicing pieces from it. When it comes to potential market, the SBA warns to proceed with caution and calculate potential market numbers with a great deal of skepticism (Berry, 2013). In this section, the same approach will be taken. The high level, "big pie" will be firearms data collected from the BATF's AFMER database (BATF, n.d.) and a 2012 IBISWorld Report on the Small Arms Manufacturing Industry, authored by Soshkin. Then, this aggregate data is analyzed to determine the smaller slice of the M4/AR-15 market. Using this drill-down approach, three factors will be analyzed throughout this section, in order to assess the M4/AR-15 market size:

1. The number of M4/AR-15s manufactured annually
2. The market share of M4/AR-15 rifles
3. Annual revenue generated by M4/AR-15s

1. Number of M4/AR-15s Manufactured Annually

The Literature Review Chapter highlighted articles, which provided estimates on the number of M4/AR-15s made in the United States. This section will conduct an independent analysis on the number of M4/AR-15s manufactured each year from 2004 to 2013. This analysis will be conducted using raw data provided by the BATF's AFMER database. The AFMER database consolidates reports submitted by all federally licensed manufacturers of firearms each year. According to the BATF, manufacturers are required to submit an AFMER form by April 1st of each year. The BATF then compiles and consolidates the forms into a single database to track the number of pistols, revolvers, rifles, shotguns, and miscellaneous firearms manufactured for sale in the United States and also manufactured for sale as an export. The database tracks all manufacturers, where the manufacturers are located, and number of firearms manufactured each year. Reports are available on the BATF website from 1998 to 2013 (BATF, n.d.). Data is not available for 2014 and 2015 as of June 2015. The reports do not identify the specific type of rifle manufactured, or whether the rifle manufactured was an M4 or AR-15.

However, it is possible to estimate how many M4/AR-15s are manufactured each year by performing additional research and analysis, which will be described in this section. In order to estimate the number of M4/AR-15s manufactured each year, we first began by looking through all of the rifles manufactured each year by each company or licensee. We then researched each company's website to determine if the company primarily manufactured M4/AR-15s, did not manufacture M4/AR-15, or manufactured a combination or M4/AR-15s and other rifles. For the purpose of this research, the reports that were analyzed are from 2004 to 2013. The year 2004 was selected as the first year because the AWB was lifted in 2004.

We also selected only those companies who primarily manufactured M4/AR-15s. Some of the larger companies such as Remington and Sturm Ruger were not included in this report because they manufacture a broad range of different rifles each year. In 2013, Remington reported to the BATF that they manufactured 190,530 rifles. However, the bulk of Remington's rifles were center fire bolt-action model 700 rifles, muzzleloaders, and rim fire rifles. Remington did manufacture M4/AR-15 style rifles, but these were the

minority compared to all other rifles they manufactured. Therefore, it would not be accurate to claim that all 190,530 rifles Remington manufactured in 2013 were M4/AR-15s. Further, it would be difficult to assess how many of the rifles were actually M4/AR-15s. Thus, in order to provide a conservative assessment, Remington was not included in our assessment. Similarly, Ruger reported to the BATF that they manufactured over 76,000 rifles in 2013. However, performing a search of Ruger's website indicates that they also manufactured a broad range of bolt-action rifles, and their production of M4/AR-15s was relatively small. Therefore, Ruger was not considered in this assessment.

Another limitation to this assessment is that we did not research companies who made any and all semi-automatic rifles, but only companies who made M4/AR-15s. That is, we did not include companies who manufactured rifles such as AK-47 variants, or other magazine-fed, semi-automatic rifles. We also did not include any manufacturers who made fewer than 100 rifles each year. Most of these smaller companies made only a handful of rifles each year, and did not account for a significant percentage of the market supply. Lastly, we did not include the number of lower receivers or M4/AR-15 pistols manufactured each year. Many companies in the past ten years developed lower receivers only, which can be classified as miscellaneous firearms by the BATF. Further, some companies manufactured an M4/AR-15 with a barrel shorter than 16 inches that does not include a buttstock, which is classified by the BATF as a pistol. Therefore, the numbers presented in this paper are a conservative estimate, and it is likely that the total number of all M4/AR-15s manufactured is slightly higher when lower receiver, pistols, and small "mom and pop" companies are considered. However, the numbers presented in this paper are a relatively accurate estimate of M4/AR-15 rifles, with a small margin of error.

Further, the numbers compiled in this assessment include both the number of M4/AR-15s manufactured for sale within the United States and the number manufactured for sale overseas (exports). The full list of M4/AR-15 manufacturers, and number of M4/AR-15s manufactured each year can be seen in Appendix A. Appendix A was developed by adding all companies that manufactured M4/AR-15s from 2004 to 2013, using AFMER data as a starting point. AFMER did not report which of the companies made an M4/AR-15. However, it did identify all of the companies who manufactured

rifles. Each individual company listed in the AFMER report was researched to determine if they primarily make M4/AR-15s. If they did, the number of rifles they manufactured (as provided by AFMER) was listed in Appendix A. A summary of Appendix A is seen in Figure 2. The chart in Figure 2 shows that in 2004, over 88,000 M4/AR-15s were manufactured to be sold both domestically and overseas. The number manufactured has risen steadily to over 1.1 million in 2013, with a slight decrease in the number manufactured between 2009 and 2010, only to rise sharply from 2010 to 2013.

The summary of findings in Figure 2 is consistent with the Literature Review in Chapter II. According to Lisson (2013), some 30 companies manufactured nearly 800,000 rifles per year, which she claims were nearly all of the Unites States market. According to our estimate, roughly 974,000 M4/AR-15s were manufactured in 2012. We used 2012 as the base year for comparison because Lisson's article was written in early 2013, and likely used data from 2012, as 2013 manufacturing reports would not have been available at that time. Though our estimate is slightly higher than Lisson's estimate, we believe that it is still valid for the following reasons. Lisson does not specify exactly how many M4/AR-15 rifles were manufactured by the 30 companies, nor does she specify the exact market size in 2012. Instead, she makes broad claims that leave margins for error. Therefore, it is reasonable that our 974,000 estimate is valid and fairly consistent with Lisson's claim that 30 companies made nearly 800,000 M4/AR-15s that year.

In addition, Lisson also claims M4/AR-15s are sold in the United States at a cost of about $1,000 per M4/AR-15. This cost estimate is used to form the second prediction, with data pulled from a 2012 article called "\"How Many Assault Weapons Are There in America? How Much Would It Cost the Government To Buy Them Back?" In this article, Peters states the civilian M4/AR-15 market is worth $489 million. Dividing the $489 million by a $1,000 average price for an M4/AR-15, this predicts 489,000 M4/AR-15s are sold to U.S. civilians per year. This article was written in 2012, which likely referenced data from 2011. If so, this is very consistent with our findings that 499,000 M4/AR-15s were manufactured in 2011. Lastly, Lisson claims over 4 million M4/AR-15s are currently owned in the United States (2013). If you add our estimated number of

M4/AR-15s manufactured between 2004 and 2013, our analysis shows the total comes to nearly 4.6 million. Again, the analysis and finding in this report are consistent with the findings reported through other articles cited.

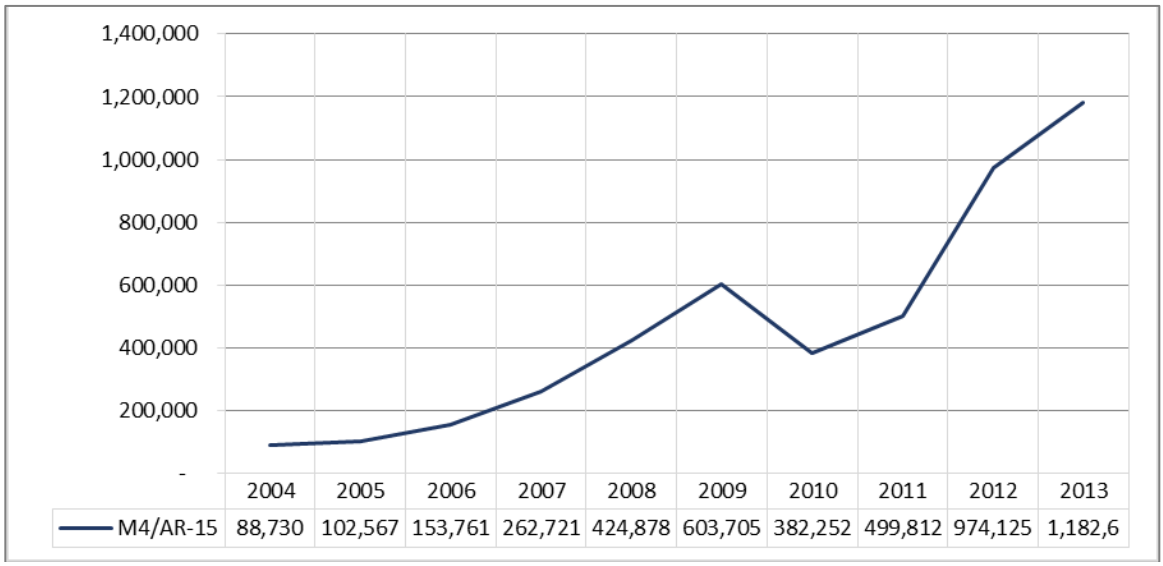


Figure 2. Number of M4/AR-15 Rifles Manufactured (per year 2004–2013)

2. Market Share of M4/AR-15 Rifles

This section will assess what percent the M4/AR-15 makes up of all guns manufactured and more specifically, the percent of all rifles manufactured from 2004 to 2013. This analysis was conducted using the same raw data provided by the BATF AFMER database (Appendix A) as the database provides the exact number of guns manufactured each year and the exact number of rifles manufactured each year (Appendix E). By using the numbers generated in the previous section, we can divide the estimated number of M4/AR-15s manufactured each year by the number of guns and number of rifles each year. A summary of the findings is charted in Table 1 and Figure 3. In 2004, M4/AR-15s accounted for 3% of all guns manufactured and 6% of all rifles manufactured. The market share increased through 2009, decreased from 2009 to 2010, and then increased from 2010 to 2013. In 2013, the M4/AR-15 rifles accounted for 19% of all guns manufactured in the United States and 29% of all rifles manufactured in the United States. That means roughly 1 in 5 guns and 1 in 3 rifles manufactured in the

United States in 2013 was an M4/AR-15 rifle. This market share is consistent with Lisson (2013) claiming M4/AR-15s capture nearly 25% of the small arms market.

Table 1. Guns, Rifles and M4/AR-15 Rifles Manufactured (per year 2004–2013)

Calendar Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
All Guns Manufactured	3,099,025	3,241,494	3,650,324	3,922,613	4,298,197	5,555,818	5,459,240	6,541,886	8,578,610	6,172,926
Rifles Manufactured	1,387,541	1,523,470	1,599,334	1,691,517	1,826,733	2,309,923	1,907,084	2,394,606	3,249,561	4,111,288
AR-15s Manufactured	88,730	102,567	153,761	262,721	424,878	603,705	382,252	499,812	974,125	1,182,609
AR-15 Market Share of All Guns	3%	3%	4%	7%	10%	11%	7%	8%	11%	19%
AR-15 Market Share of Rifles	6%	7%	10%	16%	23%	26%	20%	21%	30%	29%

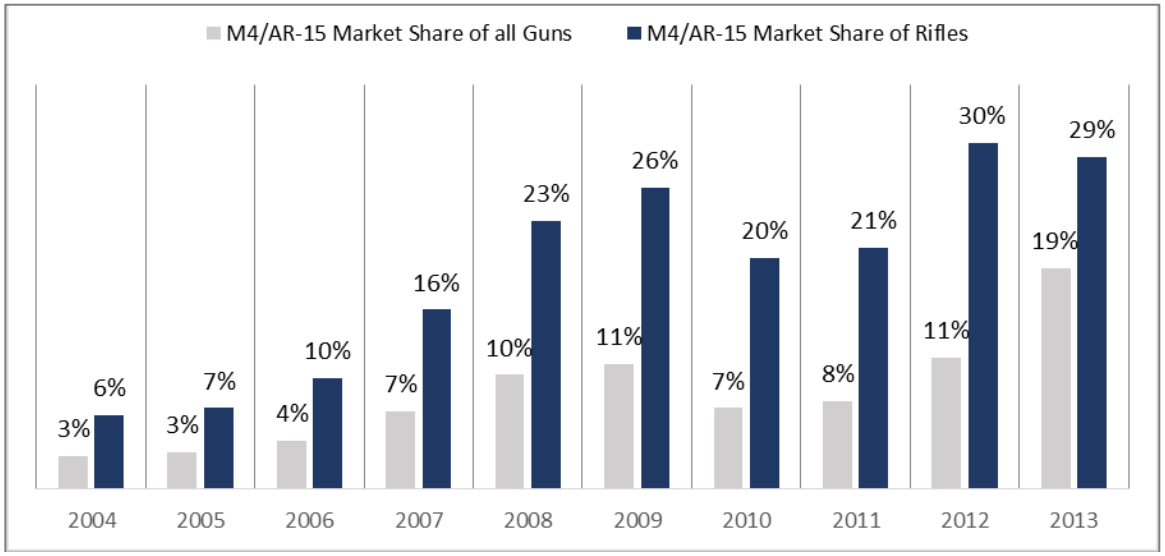


Figure 3. M4/AR-15 Market Share of Guns Manufactured (2004–2013)

3. Annual Revenue Generated by M4/AR-15 Rifles

Lastly, we are able to estimate the annual revenue generated by the M4/AR-15 from 2004–2013. The estimates are developed using the number of M4/AR-15s manufactured between 2004–2013 (Figure 2) and multiplying them by the price provided by two articles. The first price estimate is reported in a 2013 article by Becket Adams in which he claims the average priced range for an M4/AR-15 was $800–1,050 (2013). In a second article, Leghorn claims the price of an M4/AR-15 rose significantly in 2013 due to the panic caused by the Obama Administration pushing for a ban on M4/AR-15 style

rifles. In 2013, the average price of an M4/AR-15 was between $1,750 and $3,000 (Leghorn, 2013). Therefore, in order to estimate the amount of revenue generated by the M4/AR-15, we provided low and high-end estimates for each between 2004–2013. From 2004–2012, we multiplied the low-end estimate of $800 and high-end estimate of $1,050 times the number of M4/AR-15s manufactured each year during that timeframe. We then multiplied the low-end estimate of $1,750 and high-end estimate of $3,000 times the number of M4/AR-15s manufactured in 2013.

Performing these calculations, it is estimated that M4/AR-15s generated between $70 million and $93 million in 2004. In 2012, it is estimated that M4/AR-15s generated between $780 million and $1 billion in revenue. Then in 2013, with increased demand and higher prices, it is estimated that the M4/AR-15 generated between $2 billion and $3.5 billion in revenue. These cost estimates are also supported by the articles referenced in the Literature Review. In 2011, Smith & Wesson reported that the modern sporting rifle market was a $489 million market (2012). In accordance with our estimates for 2011, we assessed that the market size could be somewhere between $399 million and $524 million. In addition, Lisson reported that M4/AR-15s make up 25% of the $4 billion market in her 2013 report. Again, assuming her report was based on data provided in 2012, this is consistent with our findings for 2012. An estimate of 25% of a $4 billion market would mean that M4/AR-15s generated $1 billion in 2012. Our estimates show M4/AR-15s generated between $780 million and $1 billion in 2012. The estimates are summarized in Figure 4.

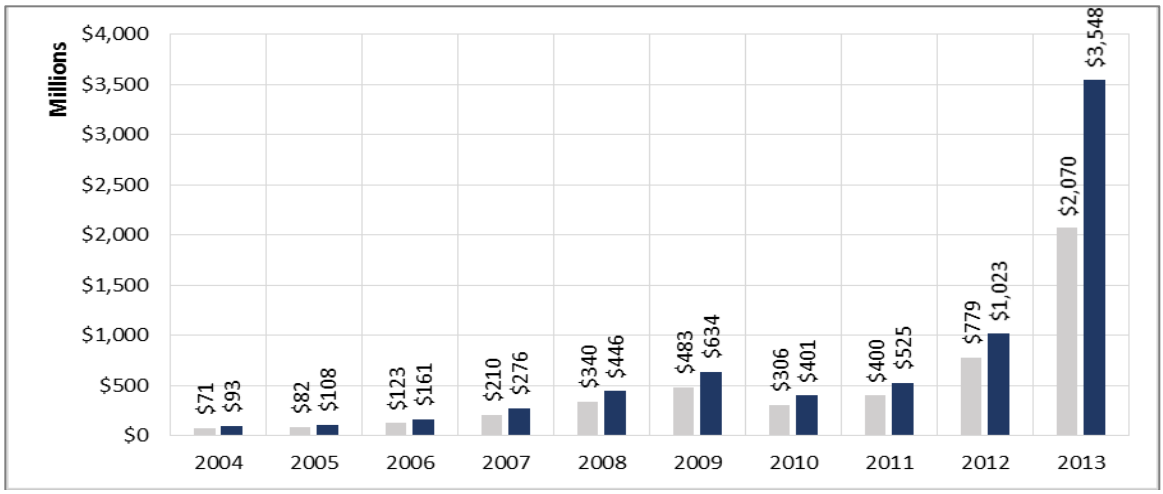
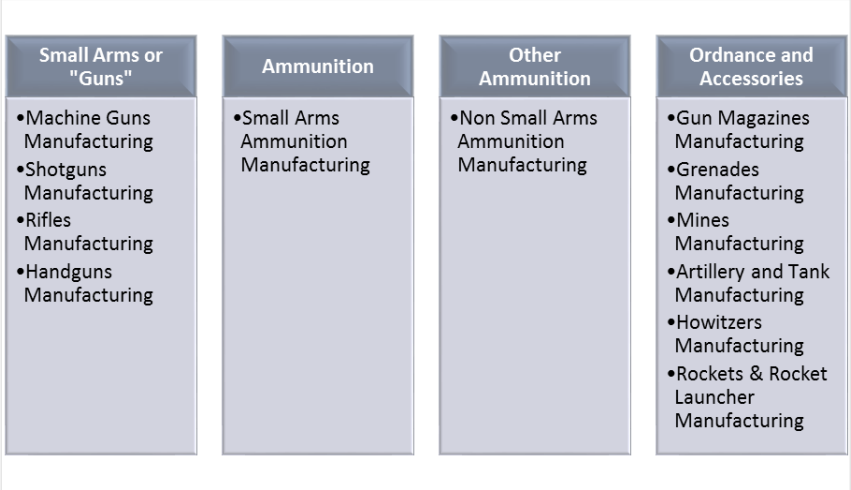


Figure 4. Revenue Generated by M4/AR-15 Rifles (per year 2004–2013)

We can also provide a rough estimate of the projected revenue to be generated by M4/AR-15 sales from 2014 to 2019. In order to determine the projected revenue generated by M4/AR-15 rifles in the United States, raw data is collected from the United States Census Bureau on the Small Arms Manufacturing industry, which is classified by the NAICS code 332994. The IBISWorld Industry Report by Soshkin (2014) groups four smaller markets within the Small Arms Manufacturing Industry by the types of products generally manufactured in each market. The four main market segments are Small Arms (which will be considered the "Gun segment"), Small Arms Ammunition, Other Ammunition, and Other Ordnance and Accessories (p. 14–15), as identified in Table 2.

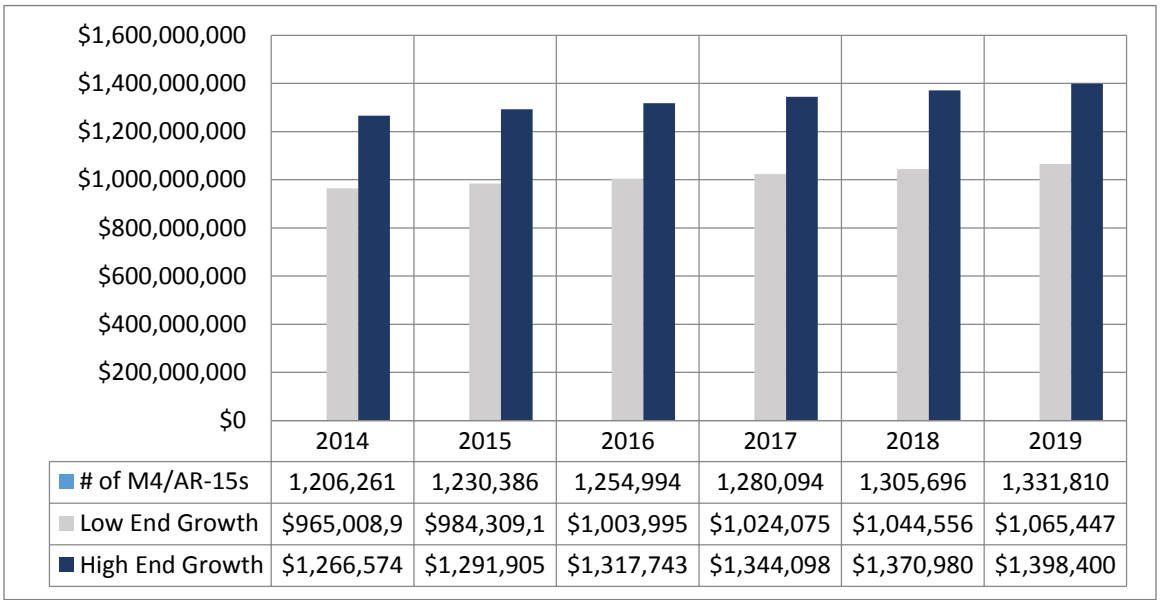
Table 2. Small Arms Manufacturing Industry Components
(after Soshkin, 2014)



Within the four broad market segments of the Small Arms Manufacturing Industry, one can further drill down the Small Arms or "Guns" market into smaller sub-markets identified by Soshkin as machine gun, shotgun, rifle, and handgun markets (2014, pp. 14-15). Unfortunately, the industry data does not drill down further to provide insight into the M4/AR-15 market. However, it can be assumed the M4/AR-15 market is categorized within the Gun segment, and more specifically, falls within "machine gun manufacturing" sub-segment (for the military's M4) or "rifles manufacturing" sub-segment (for the civilian version AR-15). Because the M4/AR-15 market segment comes from the two small sub-segments (as described above) of the larger aggregated Small Arms Manufacturing Industry, most of the higher level data available through the Census Bureau needs distilling, using other sources of data used in order to perform a market analysis of the M4/AR-15 market. However, growth projections for the Small Arms Manufacturing Industry were provided by Soshkin and project the industry's revenue stream will to continue to trend upward, but at a more tempered rate of 2% annually (2014, p. 10).

Therefore, in order to project future revenues for the M4/AR-15 market, we took the estimated 2% industry growth estimates and multiplied it by the number of M4/AR-15s manufactured in 2013. We then increased the estimate by 2% from 2015 to 2019.

Then, we multiplied the low end estimate of $800 per rifle and the high end estimate of $1,050 per rifle times the 2% inflated number estimated to be manufactured. Performing these calculations shows that in 2019, the M4/AR-15 market could be worth between $1 billion and $1.4 billion. While these estimates are much lower than the actual revenue generated in 2013, these are conservative estimates consistent with the assumption that not only did demand spike sharply in 2013, but so did prices. Therefore, our assessment is that prices and demand declined in 2014 and returned to levels consistent with the revenue generated in 2012. The projected revenue is charted in Figure 5.



	2014	2015	2016	2017	2018	2019
# of M4/AR-15s	1,206,261	1,230,386	1,254,994	1,280,094	1,305,696	1,331,810
Low End Growth	$965,008,9	$984,309,1	$1,003,995	$1,024,075	$1,044,556	$1,065,447
High End Growth	$1,266,574	$1,291,905	$1,317,743	$1,344,098	$1,370,980	$1,398,400

Figure 5. Projected M4/AR-15 Revenue (per year 2014–2019)

However, one limitation with this assessment is that the increased projected revenue growth of M4/AR-15s may not be directly proportional to the rate of increase of revenue growth for all other guns, ammunition, ordnance, or accessories within the total Small Arms Manufacturing Industry. Additionally, M4/AR-15 sales and revenue may be flat, or even declining, due to the planned reduction in military forces. That is, the industry as a whole could be expected to experience proportionally higher or lower rates of growth due to the increased sale of ammunition, ordnance, or other guns compared to the M4/AR-15. It is difficult to accurately assess exactly how many M4/AR-15s will

actually be sold in the future, since one of the major drivers of demand is the current political environment. However, given the major growth of M4/AR-15 sales over the last 10 years, using the 2.0% projected growth of the overall small arms market is a conservative estimate for M4/AR-15 revenues over the next several years.

B. M4/AR-15 CUSTOMERS

The previous section of Chapter III assessed the M4/AR-15 market size based on data provided by the BATF's AFMER report. This section will identify the distinguishing market characteristics using a variety of sources, but mostly by using data provided by the FBI NICS system. Specifically, this section will address three market characteristics:

- M4/AR-15 customers
- M4/AR-15 customer locations within the Unites States
- Demand drivers for the M4/AR-15 market

1. M4/AR-15 Customers

Soshkin identifies three major customer groups within the Small Arms Manufacturing Industry: foreign countries or exports which account for 33.3% of the industry, United States military which accounts for 23.8% of the industry, and civilian and law enforcement which accounts for 42.9% of the industry (2014, p. 16). Therefore, it is assumed that the M4/AR-15 market has the same three major customer groups. One limitation with the report is that it does not provide insight into the M4/AR-15 market share of each customer group, or how many M4/AR-15s each customer group bought in 2014. From the findings in the previous section, it was estimated that 1,182,609 M4/AR-15 rifles were manufactured in 2013. Therefore, in order to determine how large each customer group is, this estimate will be used as a baseline to determine how many M4/AR-15s were exported, how many were sold to the United States military, and how many were purchased by U.S. citizens and law enforcement officers.

a. Military

In order to determine how many M4s were purchased by the military, the Army's Fiscal Year 2015 (FY15) Justification Book (J-Book) for Army Procurement of Weapons

and Tracked Combat Vehicles, provides insight. According to the Army's FY15 J-Book, Congress appropriated $19.5 million in FY13 to procure 24,000 M4 and M4A1 carbine weapons for the Department of Defense (Department of the Army, 2015, p. 149). Therefore, it is possible that as many as 24,000 M4A1 carbines were manufactured in 2013 for the U.S. military. If we subtract this number from the total 1,182,609 M4/AR-15s manufactured in 2013, then the remaining 1,182,609 M4/AR-15s manufactured in 2013 were exported and sold to civilians and law enforcement customers. It is worth noting that the funded military quantities are a first order approximation. That is, budgetary adjustments during the fiscal year and funded delivery periods may not be exactly congruent with the calendar year. However, the number of military weapons is small compared to exports, civilian, and law enforcement, so these minor adjustments would likely have a small effect in our statistical analysis. Next, we'll estimate how many of the remaining 1,182,609 M4/AR-15s were manufactured for export.

b. Exports

According to the a small arms export paper written by Lora Lumpe, there are five primary ways the United States exports small arms: Foreign Military Sales (FMS); transfer of military surplus arms; Direct Commercial Sales (DCS); covert government means; and illegal exportation means (1997). Because surplus rifles are not considered newly manufactured rifles, these will not be addressed or factored in this analysis. In addition, due to the classification level of this report, it is not possible to access or discuss covert sales, nor is it possible to determine the number of M4/AR-15s, if any, that are illegally exported. Therefore, only two of these categories will be evaluated to determine the number of M4/AR-15s exported: FMS and DCS sales.

To begin, the DCS sale of M4/AR-15s is assessed. According to the BATF AFMER data, we determined 15,016 M4/AR-15 rifles were manufactured for export in 2013. This number was estimated by researching all of the M4/AR-15 manufacturers identified in the previous section. The AFMER report lists the companies and number of rifles manufactured for export. By examining each company individually, Table 3 summarizes all of the companies that manufacture M4/AR-15 rifles for export. To note,

this table does not include all of the M4/AR-15 pistols manufactured for export, nor does it include all of the lower receivers (not configured as a rifle) manufactured for export. Lastly, the table does not include every single company who manufactured an M4/AR-15 rifle. That is, there were several "mom and pop" companies who manufactured very few M4/AR-15s in 2013 (on the order of single digit manufactures). However, this estimate does capture a large number of the M4/AR-15s manufactured for DCS sales in 2013 with a reasonably accurate margin of error.

Table 3. M4/AR-15 Rifles Manufactured for Export (after BATF, n.d.)

M4/AR-15s Manufactured for Export										
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Armalite	284	245	283	633	178	200	90	140	67	79
Colt	540	-	-	1,645	378	1,283	9	1,623	1,618	2,535
Daniel Defense	-	-	-	-	-	-	-	-	373	689
DS Arms	-	-	-	21	3	72	122	38	274	299
Just Right Carbines	-	-	-	-	-	-	50	288	1,218	1,520
Knights Armament	-	-	-	-	24	-	71	40	-	40
Lancer Systems	-	-	-	-	-	-	22	-	-	-
Lewis Machine and Tool	-	-	-	-	-	-	-	-	48	214
LWRC	-	-	-	-	-	-	38	-	-	-
Primary Weapon Systems	-	-	-	-	-	-	-	42	136	285
Rock River Arms	8,742	1	16	43	150	10	54	89	27	51
Sig Sauer	-	-	154	1,342	37	241	878	2,228	28,937	2,593
Smith & Wesson	-	15	15	91	1,347	1,178	1,672	1,387	5,885	5,392
Stag Arms	-	11	218	353	288	1,265	982	188	414	451
TNW Firearms	-	-	-	-	-	-	-	-	1,903	320
Troy Ind	-	-	-	-	-	-	-	-	-	52
Windham Weaponry	-	-	-	-	-	-	-	-	235	496
TOTAL	9,566	272	686	4,128	2,405	4,249	3,988	6,063	41,135	15,016

Next, the number of M4s sold through FMS sales will be assessed. According to a posting on FedBizOpps.Gov in December 2013 titled "M4/M4A1 carbine 5.56mm-Foreign Military Sales," the Department the Army issued a pre-solicitation for a firm fixed price three year indefinite delivery indefinite quantity contract for the M4A1 carbine ("M4/M4A1 carbine 5.56mm," 2013). The guaranteed minimum quantity was 500 carbines and the maximum contract quantity was 78,750 carbines. The notice was not a formal Request for Proposal (RFP) but was a synopsis for an anticipated solicitation to procure the M4 and M4A1 carbines ("M4/M4A1 carbine 5.56mm," 2013). Though we

were unable to confirm if the contract was awarded, for this analysis, it will be assumed that between 500 and 78,750 rifles were manufactured for FMS sales in 2013. By adding both FMS and DCS sales together, we can develop a range of estimates, as depicted in Table 4. Taking the conservative low-end estimate could mean that as few as 15,516 M4/AR-15s were manufactured for export and many as 93,766 M4/AR-15s were manufactured for export.

Table 4. Total M4/AR-15 Rifle Exports (2013)

Export Vehicle	Low End Estimate	High End Estimate
Direct Commercial Sales	15,016	15,016
Foreign Military Sales	500	78,750
TOTAL	15,516	93,766

Next, by referencing the IBISWorld Report for the Small Arms Manufacturing Industry by Soshkin, we can also estimate where most of the M4/AR-15s were exported. According to the report, the majority of the industry's small arms were exported to Japan (12%), Israel (10%), United Kingdom (12%), and Australia (9%) and the remaining 57% of small arms were sold to various other countries (2014, p. 18). By multiplying the percentage of each country by the worst case and best case export estimate, it is possible to develop a range of M4/AR-15s that were exported to each country. That is, it could be estimated that between 1,862 and 11,252 M4/AR-15s were exported to Japan and the United Kingdom each, between 1,552 and 9,377 were exported to Israel, and between 1,396 and 8,349 M4/AR-15s were exported to Australia in 2013. Between 8,844 and 53,447 M4/AR-15 rifles were exported to various other countries. The calculations are depicted in Table 5 and the range of exports for each country is depicted in Figure 6.

Table 5. Total M4/AR-15 Rifle Exports per Country (2013)

Country	Low-End Estimate	High-End Estimate
Japan	.12 x 15,516 = 1,862 M4s	.12 x 93,766 = 11,252 M4s
Israel	.10 x 15,516 = 1,552 M4s	.10 x 93,766 = 9,377 M4s
United Kingdom	.12 x 15,516 = 1,862 M4s	.12 x 93,766 = 11,252 M4s
Australia	.09 x 15,516 = M4s	.09 x 93,766 = 8,349 M4s
Others	.57 x 15,516 = 8,844 M4s	.57 x 93,766 = 53,447 M4s
TOTAL	**15,516**	**93,766**

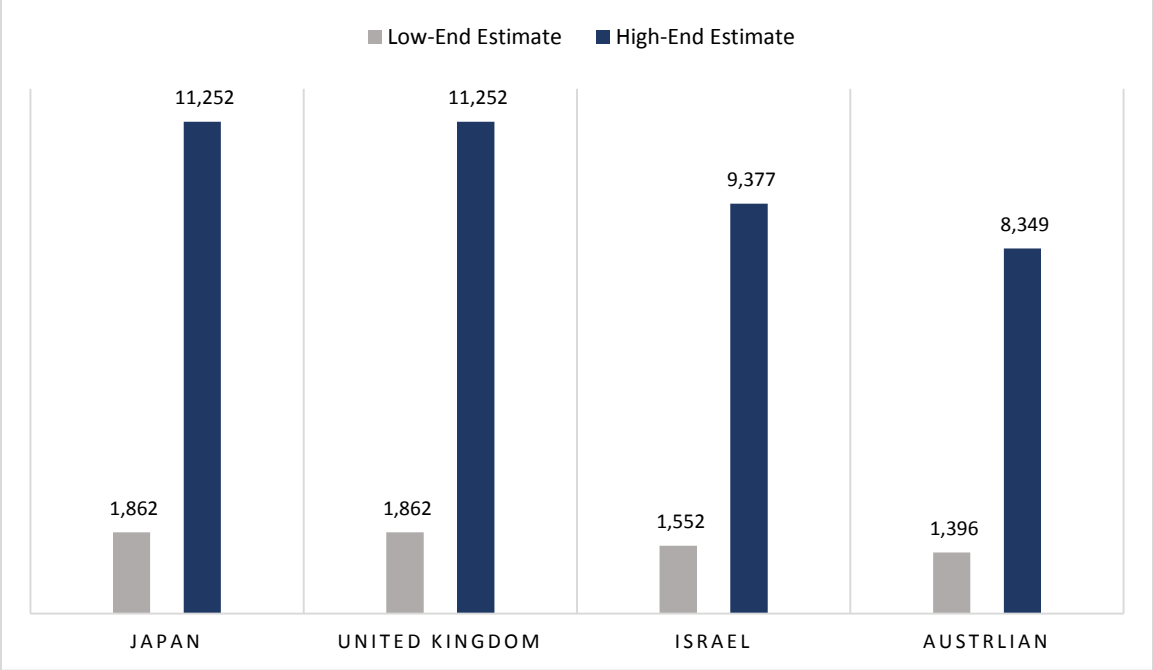


Figure 6. M4/AR-15 Exports to Top 4 Countries (per year 2004–2013)

c. Civilian and Law Enforcement

To summarize, it is determined that 24,000 M4 carbines were manufactured in 2013 for the U.S. military and as many as 93,766 were manufactured for export. Adding both together (117,766) and subtracting the total from the total 1,182,609 M4/AR-15s that were manufactured in 2013 could mean that 1,064,843 were manufactured for sale to

U.S. citizens and law enforcement officers. That means the civilian and law enforcement customer segment makes up the largest percentage of the entire customer group base at 90%. Exports are the second largest customer group at 8%, and the U.S. military is the smallest customer group at 2% as summarized in Figure 7.

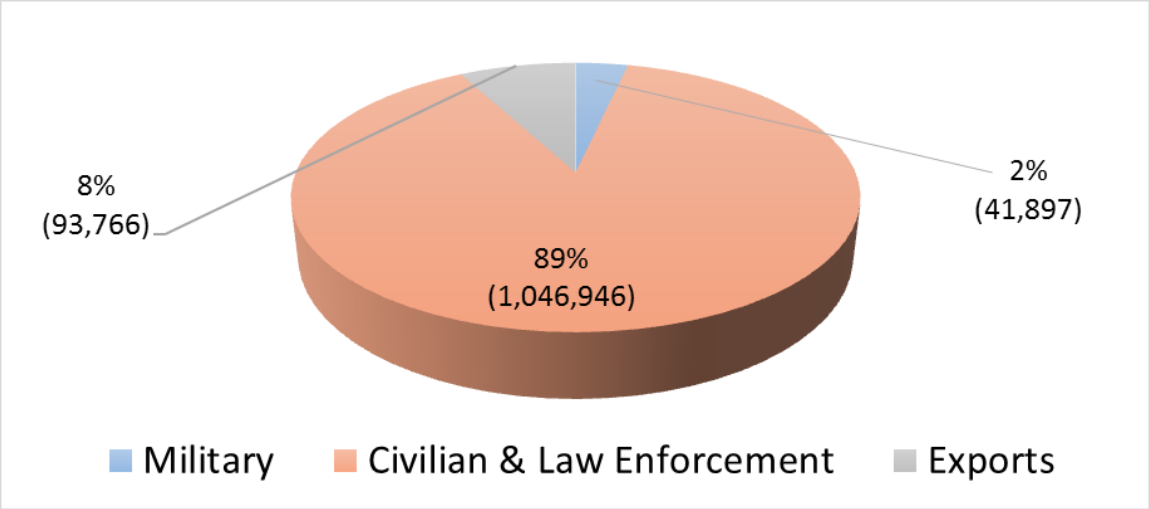


Figure 7. M4/AR-15 Customer Group Market Share (2013)

This finding is consistent with the IBISWorld Report. Soshkin claims that between the military, exports, and civilians/law enforcement customer groups, civilians purchase the most guns and ammunition (2014, p. 16). However, one limitation of the IBISWorld report is that it does not provide detailed information on the major locations of the gun purchasers in the United States. Therefore, further research was required outside of the report, to better understand where the civilian customers are located within the United States.

2. M4/AR-15 Customer Locations within the United States

Upon initial research, a recently conducted Gallup Poll provides some insight into where most gun owners are located in the United States. The poll found that Southerners, especially married men, are more likely to own guns than those living in other regions of the United States (Jones, 2013). According to Jones, this finding was developed by interviewing 6,000 people through six separate Gallup polls between 2007–2012.

However, the poll did not identify which states purchase the most guns, nor did it identify the likelihood that southern married men will buy an M4/AR-15. Therefore, in order to gain a better understanding of the most populated locations of firearms owners in the United States, the FBI's NICS database was reviewed for nationwide gun purchases made by each state's residents between 2004–2013.

The FBI was mandated to launch the NICS system as a result of the Brady Handgun Violence Prevention Act of 1993. NICS came online in November 30, 1998 and has since been used by Federal Firearms Licensees to instantly determine whether a person is legally allowed to make a firearm purchase. Before completing a firearm sale, an FFL calls the FBI to run a background check on each customer to ensure the customer is legally allowed to purchase the firearm. The FBI then stores all of the background check data and provides an annual report on the number of background checks conducted per state, per year, and whether the person requested to purchase a long-gun (or rifle), hand gun, or firearm receiver frame. The data is made publicly available and provides insight into where demand for firearms is greatest across the United States (FBI, n.d.-a).

Therefore, raw NICS data was collected and analyzed to determine where M4/AR-15 customers are most likely located across the United States. The data is summarized in Figure 8, and shows the top five states where demand for rifles was greatest from 2004 to 2013. A sample NICS report for 2004 is provided in Appendix C and a sample NICS report for 2013 is in Appendix D. Looking at Figure 8, it is clear that Pennsylvania had the highest demand for long-guns in the United States with over 6 million long-gun NICS checks from 2004 to 2013. Of the other states, it is no surprise that southern states such as Texas and Florida are among the top demanding states for long-gun purchases, as this data supports the Gallup Poll which states southern men are the most likely gun owners in the United States. What is somewhat surprising is the fact that California is ranked number three for attempted long-gun purchases in the United States as California has some of the strictest gun laws in the country. However, it is likely that California is the number three purchaser of long-guns simply because it is a highly populated state.

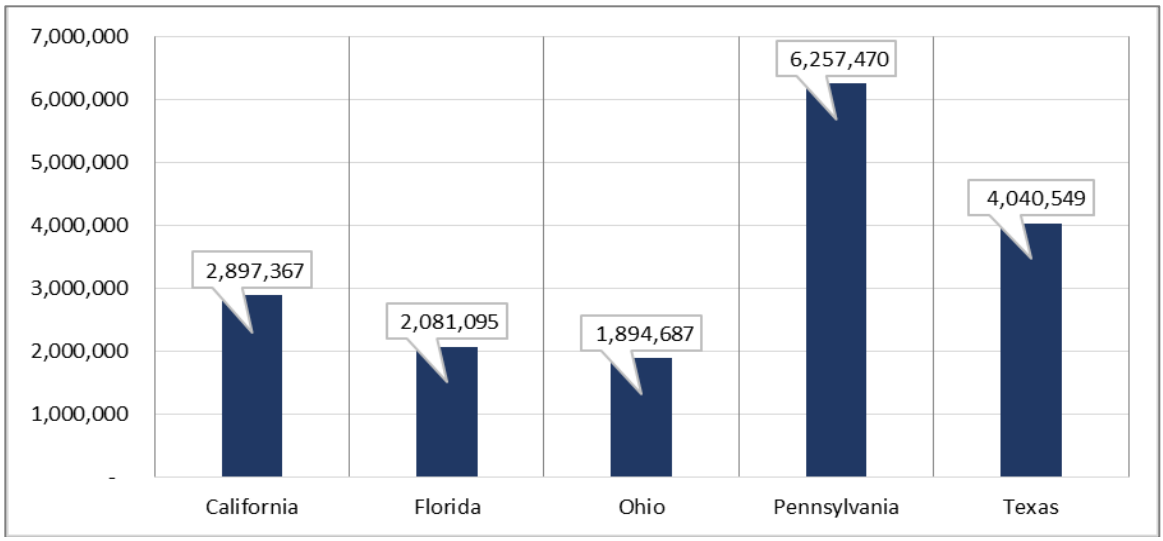
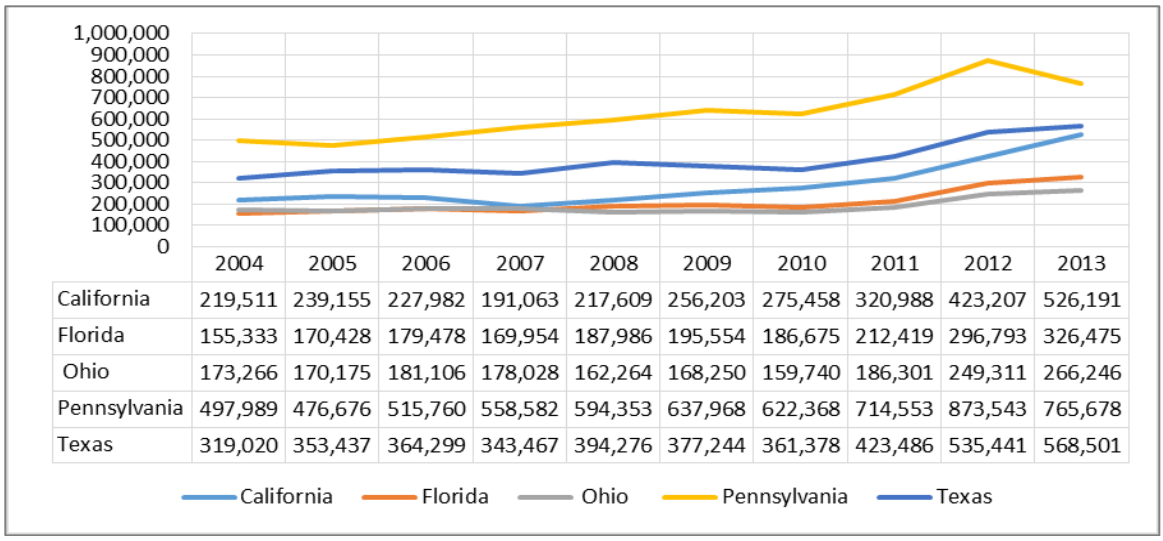


Figure 8. Highest Long-Gun Demand per State (cumulative 2004–2013) (after FBI, n.d.-a)

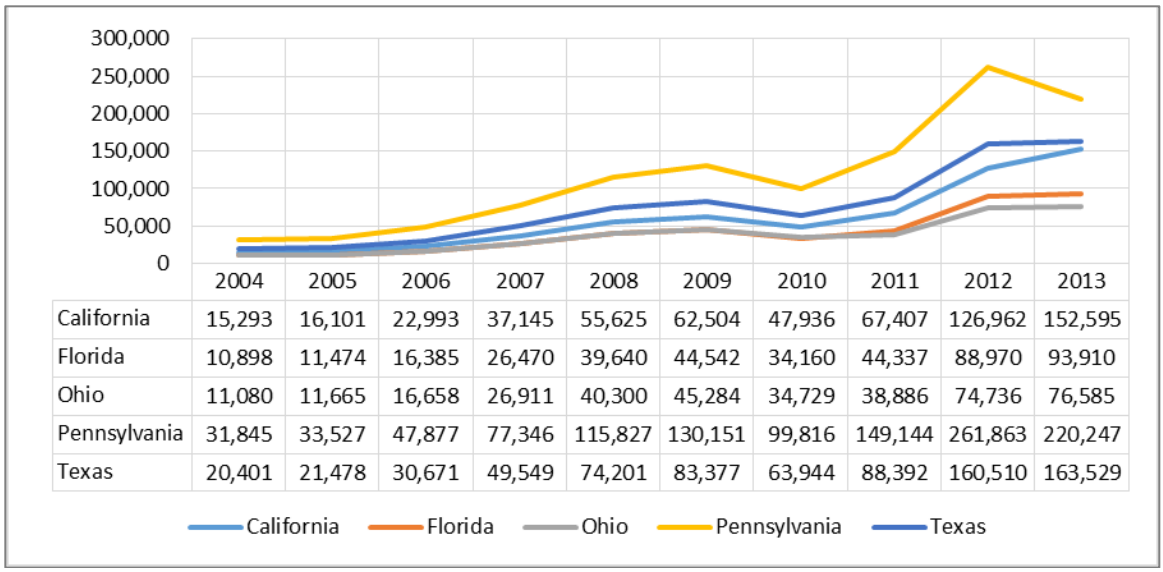
Figure 9 provides a little more insight into the long-gun demand for each of the top five states per year from 2004–2013. It is clear when researching the trends that Pennsylvania has consistently been the top purchaser of long-guns in the United States from 2004–2013. Another interesting finding is that Pennsylvania experienced a decline in sales from 2012–2013 while the other states increased sales. While the NICS report does not provide details or an explanation, a leading reason may be the introduction of the SigTac SB-15 arm brace. The SB-15 Pistol Stabilizing Brace looks like a buttstock, but is a designed to be used on AR-15 pistols (Sig Sauer, n.d.-a). The BATF determined that attaching the SB-15 to a handgun or pistol does not make the pistol a short barrel rifle, even though it makes the pistol look like a short barrel rifle (Spencer, 2012). Therefore, it is possible that the introduction of the Sig arm brace increased demand for M4/AR-15 pistols and decreased demand for M4/AR-15 rifles. This theory is further supported by the NICS data for Pennsylvania. In 2013, Pennsylvania had approximately 317,000 handgun NICS checks and approximately 765,000 long gun NICS checks. Then in 2014, there were approximately 507,000 handgun sales and only 15,000 long-gun sales. This is further supported through the other states as well and implies that while the trend to buy long-gun M4/AR-15s decreased, the demand for M4/AR-15 pistols increased.



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
California	219,511	239,155	227,982	191,063	217,609	256,203	275,458	320,988	423,207	526,191
Florida	155,333	170,428	179,478	169,954	187,986	195,554	186,675	212,419	296,793	326,475
Ohio	173,266	170,175	181,106	178,028	162,264	168,250	159,740	186,301	249,311	266,246
Pennsylvania	497,989	476,676	515,760	558,582	594,353	637,968	622,368	714,553	873,543	765,678
Texas	319,020	353,437	364,299	343,467	394,276	377,244	361,378	423,486	535,441	568,501

Figure 9. Highest Long-Gun Demand per State
(after FBI, n.d.-a)

One limitation of the NICS report is that it does not specify whether someone tried to purchase an AR-15. NICS only specifics whether a long-gun, hang gun, or receiver frame was attempted to be purchased. Therefore, further analysis was required to determine how many AR-15s were attempted to be purchased each year in each state. In order to perform this analysis, a few assumptions were made. First, we applied the same M4/AR-15 market share percentage of all rifles manufactured as found in Table 1 and Figure 3. Then we multiplied those percentages times the number of NICS checks for rifles each year. By multiplying the percentage of M4/AR-15s manufactured each year times the number of NICS checks each year, we estimated how many M4/AR-15 rifles were purchased by each of the top 5 states from 2004–2013 as depicted in Figure 10. The estimates do not include the purchase of M4/AR-15 pistols or receivers, and represents an estimate of the number of M4/AR-15 rifle sales only. The total number of receivers and pistols sold would be higher than what is represented below. Based on these calculations, it could be assessed that Pennsylvania purchased over 220,000 M4/AR-15s, Texas purchased over 163,000, California purchased over 150,000, and Florida purchased over 90,000, and Ohio purchase over 75,000 M4/AR-15s in 2013 (Federal Bureau of Investigation [FBI], n.d.-b).



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
California	15,293	16,101	22,993	37,145	55,625	62,504	47,936	67,407	126,962	152,595
Florida	10,898	11,474	16,385	26,470	39,640	44,542	34,160	44,337	88,970	93,910
Ohio	11,080	11,665	16,658	26,911	40,300	45,284	34,729	38,886	74,736	76,585
Pennsylvania	31,845	33,527	47,877	77,346	115,827	130,151	99,816	149,144	261,863	220,247
Texas	20,401	21,478	30,671	49,549	74,201	83,377	63,944	88,392	160,510	163,529

Figure 10. Highest M4/AR-15 Demand per State (per year 2004–2013)

It can also be estimated how many total M4/AR-15s were purchased by each of these five states from 2004–2013. These totals are represented in Figure 11. It is assumed that Pennsylvania purchased over 765,000, Texas purchased over 560,000, California purchased over 526,000, Florida purchased over 325,000, and Ohio purchased over 265,000 (FBI, n.d.-b). One might assume no M4/AR-15 purchases were made in California during this time due to California's AWB. However, this would not accurate. California residents were able to purchase M4/AR-15s as long as they did not hold more than ten rounds of ammunition and the magazine could not be removed without a tool or "bullet button." However, cumulatively from 2004–2013, California was only the number three purchasing state. This implies that the demand for M4/AR-15s in California may be on the rise.

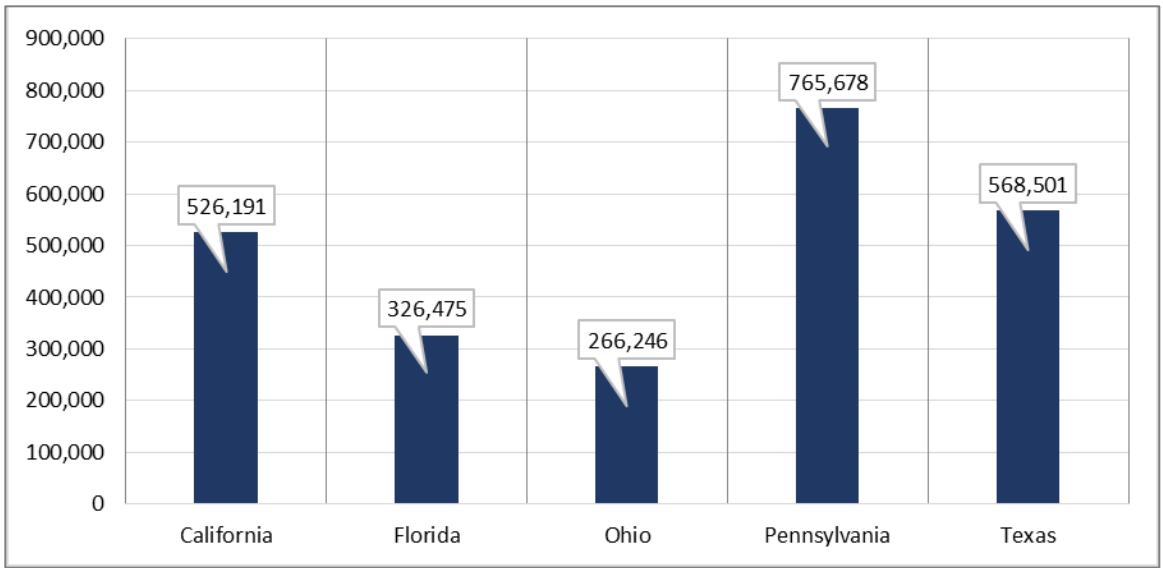


Figure 11. Highest M4/AR-15 Demand per State (cumulative 2004–2013)

Based on these calculations, one may question why the number of total M4/AR-15s purchased in 2013 is higher than the number of M4/AR-15s manufactured in 2013 (1.2 million). Upon further investigation, this can be explained by two possible reasons. According to the FBI website, the statistics in the report represent the number of background checks that were submitted through the NICS system. They do not represent the number of firearms sold, since some of the requesters decide not to make the gun purchase or are found to be ineligible for gun ownership. Therefore, the actual number of firearms sold may be slightly higher (if multiple guns were purchased) or lower (if the sale was denied) than the number reported. Another reason could be that a used gun is being sold or transferred through an FFL. Therefore, if a gun was manufactured in 2012, it could be sold or resold in 2013. While the actual number of M4/AR-15s demanded (or attempted to be purchased) in this assessment may be higher than the actual number of M4/AR-15s manufactured each year, the statistics do, nevertheless, provide reasonable insight into which states have the highest demand each year.

To put these findings in perspective to the rest of the United States, we also determined the market share of the top five states compared to the rest of the United States. We performed this calculation by taking the total long-gun NICS checks in 2013 and multiplying it by 29% (the percent of M4/AR-15s manufactured in 2013). By

performing this calculation, it was estimated that there were over 3 million NICS checks or requests to purchase an M4/AR-15 in 2013. If the top five states requested to purchase over 700,000 M4/AR-15s in 2013, and the entire United States requested to purchase over 2,000,000 M4/AR-15s in 2013, then the top 5 states held a 25% market share while the rest of the United States accounted for the remaining 75%. The percentage breakout is depicted in Figure 12.

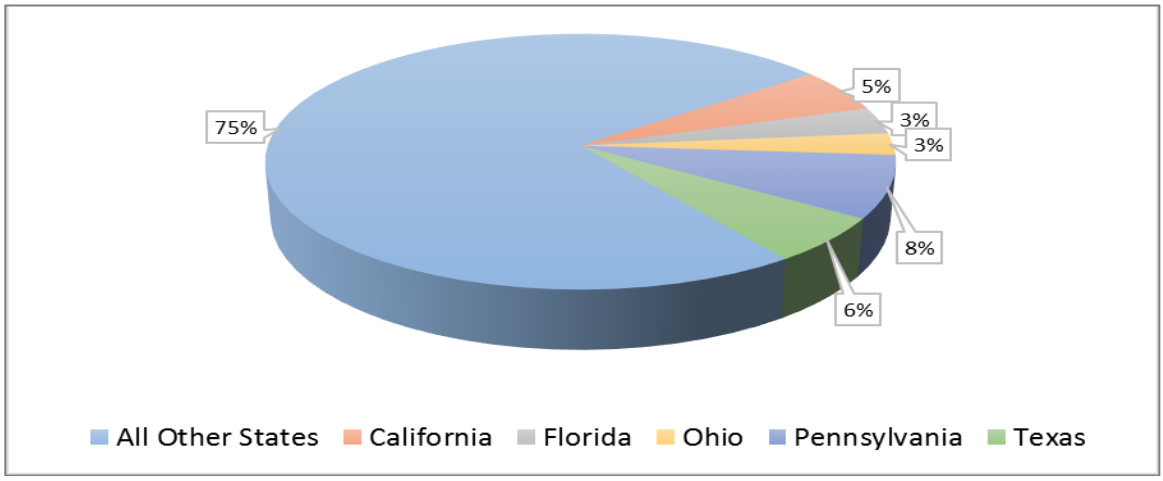


Figure 12. Highest Percent of M4/AR-15 Demand (per state in 2013)

To further put the findings in perspective, we then mapped where the greatest concentration of demand was for the M4/AR-15 in 2013. The map in Figure 13 was created by first finding all of the NICS checks for long-guns in 2013 for each state (FBI, n.d.-b). Then, we determined how many M4/AR-15s were demanded by multiplying each states NICS check by 29%, which was the M4/AR-15 market share of all rifles or long-guns manufactured in 2013. Then, to show where the demand was greatest, we created three categories: states with 1-50,000 NICS checks (yellow states), states with 50,001 to 100,000 NICS checks (orange states), and then states with greater than 100,000 NICS checks (dark brown states). The map in Figure 13 summarizes the findings. By looking at the map, most of the demand in 2013 was in the Midwest and Southern regions. This is consistent with the previous Gallup poll that claimed Southern men are the most likely to purchase a gun.

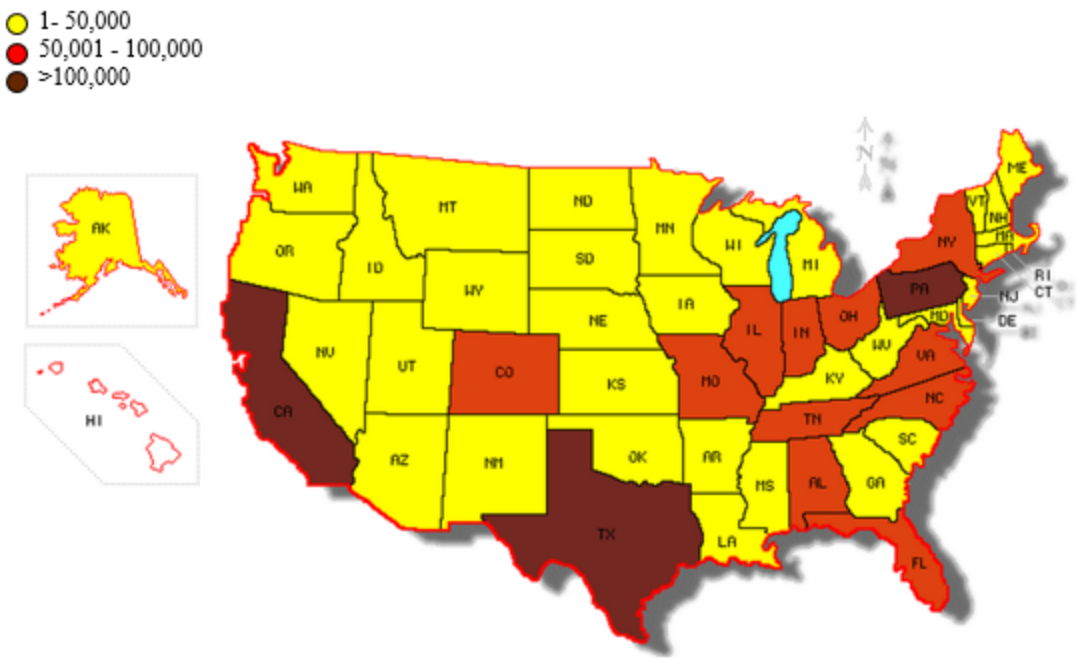


Figure 13. United States Concentration of M4/AR-15 Owners (2013)

We then mapped the greatest concentration of M4/AR-15s owned per capita. To do this, we took the data from Figure 13 (the number of NICS checks for M4/AR-15s in 2013) and divided the number by the population of each state in 2013 (Census Bureau, 2013). The map in Figure 14 shows the states with between 0.5% and 0.99% of all residents who purchased an M4/AR-15 (in yellow) and the states where more than 1% of the population purchased an M4/AR-15 in 2013. The states in white were the states that purchased less than 0.5% in 2013.

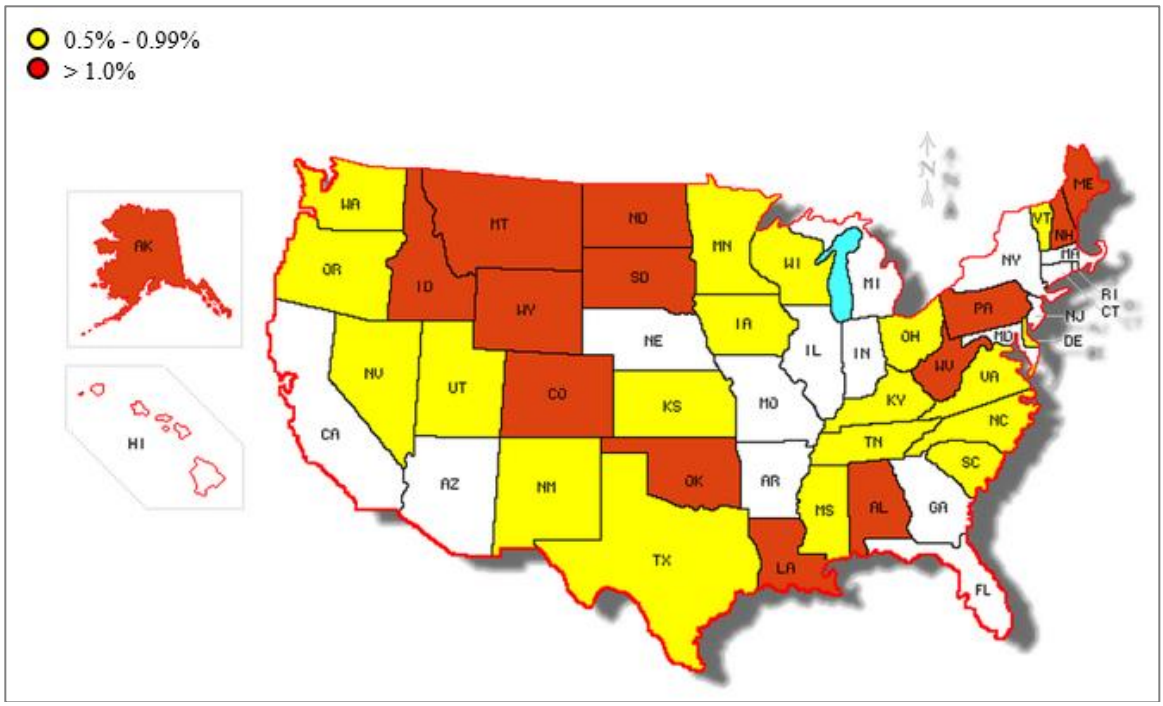


Figure 14. Per Capita Concentration of M4/AR-15 Owners (2013)

We then identified the top ten states where the per capita purchases were the highest in 2013. To summarize the finding, the state with the highest per capita purchase in 2013 was South Dakota at 1.84 %. That means, almost two in 100 people bought an M4/AR-15 in South Dakota in 2013 alone. What's interesting with this finding is that while the most M4/AR-15s were purchased in the south and Midwest, the highest per capita states are in the Northern and Western Rockies states. In addition, while California and Florida were the number three and four state to purchase the most M4/AR-15s in 2013, per capita, they are among the lowest, where less than 0.5% of the population purchased an M4/AR-15 in 2013. Pennsylvania, on the other hand, which was the number one state for the most purchases, is also the number three in terms of per capita purchases. So not only will you find the most M4/AR-15s in Pennsylvania, but you are most likely to find the most people that own an M4/AR-15. The top 10 states, and the per capita purchases of the M4/AR-15 in 2013 are shown in Figure 15 (Census Bureau, 2013).

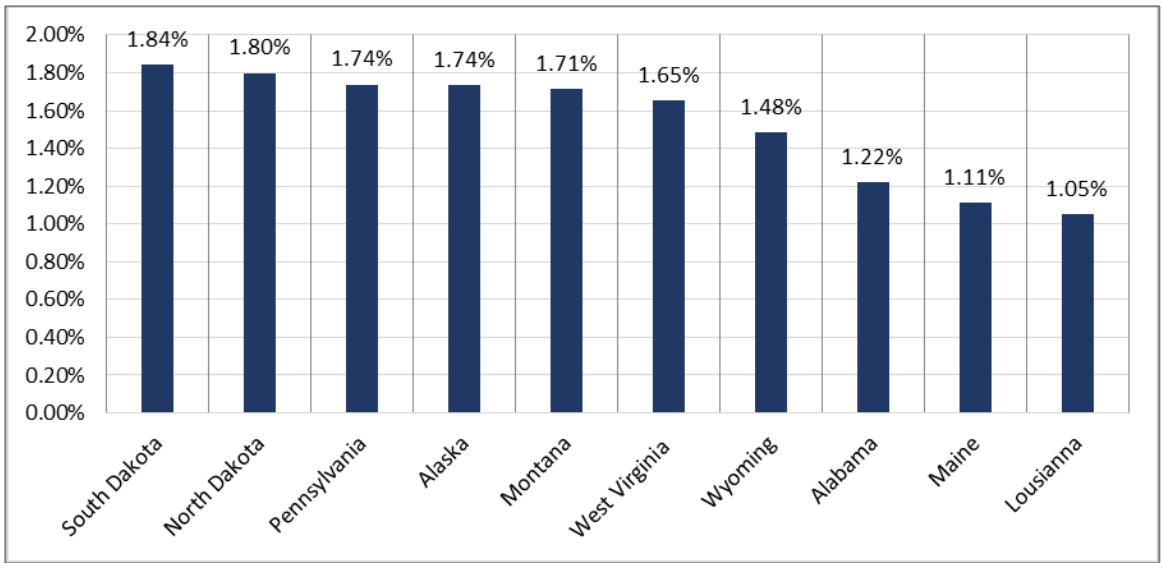


Figure 15. Highest Per Capita M4/AR-15 Demand (per state in 2013)

3. Demand Drivers for the M4/AR-15 Market

Now that the major locations of the primary M4/AR-15 customers are estimated in both the United States and across the world, this section will evaluate what drives customers to purchase the M4/AR-15. According to Soshkin, there are six factors that affect customer demand and purchasing trends within the Small Arms Manufacturing Industry: the economy, regulations, public perception of gun laws, crime, defense funding, and international trade (2014, p. 15–16). Each of these factors will be described and analyzed to determine its applicability not just to the Small Arms Manufacturing Industry in general, but specifically for the M4/AR-15 market. To begin, the fear of crime and terrorism will be assessed to determine how these fears drive demand for the M4/AR-15.

a. Fear of Crime and Terrorism

According to Soshkin, increased crime rate and terrorism, include the fear of terrorist attack, increase product demand within the Small Arms Manufacturing Industry (2014, p. 7–8). However, it is unclear whether the increased demand is for small arms in general, for ammunition, or specifically for the M4/AR-15 style rifle. Regardless, this is a very likely demand driver for owners of M4/AR-15s, as the rifle is a popular option for personal defense of both homes and personal property.

b. Poor Economy

According to Soshkin, a bad economy does not dampen the purchases within the Small Arms Manufacturing Industry. Surprisingly, the last recession had the opposite effect, or at least did not to offset other positive factors enough to keep gun sales from climbing. Even with the economic recession that started in 2009, civilians have purchased more guns, despite the fact that unemployment was on the rise and people were making less money (2014, p. 15). However, the applicability of this claim to M4/AR-15s is questionable at best. To start, one cannot expect that just because the economy is bad, gun purchases will automatically rise. In addition, the report does not specify whether poor economic conditions increase the demand specifically for the M4/AR-15. Also, a poor economy will not drive demand within the military or law enforcement customer segments; it may cause exports to increase though, if gun manufacturing companies are forced to seek business overseas. Another limitation of this claim in IBISWorld Report is that it does not specify whether the demand rose for guns specifically, or for ammunition and firearms accessories as well. It is possible that civilian demand within this industry rose specifically for ammunition sales, as there was a shortage of ammunition during this time. Therefore, to imply that a poor economy is a demand driver for gun purchases is a little misleading. While a poor economy may be linked to increased civilian purchases, it is improbable that it drives demand for military and law enforcement customers.

c. Perception of Increased Gun Laws

Soshkin claims another major driver behind gun and ammunition sales over the past few years has been the public perception of increased gun laws, specifically the ban of semi-automatic rifles and high capacity magazines. Recent shootings mixed with increased media attention and a political push to ban M4/AR-15 rifles have created a fear in consumers' minds that there is a limited time to make a purchase before the M4/AR-15s become illegal to manufacture or sell (2014, p. 8). While politicians publicly proclaim their wish to ban M4/AR-15 rifles to reduce the amount of market supply, the opposite was true for demand in the short term: sales soared and more people rushed to buy the rifles. Therefore, the perception of increased gun-restricting laws is a significant short-term driver for civilian demand, but has little to no effect on military or overseas demand.

d. Gun Regulations

While the perception of strict gun laws increased the demand for gun products, regulations passed into law have had the opposite effect and a strong negative impact on the small arms industry. This is especially true for the M4/AR-15 market as certain state and federal laws restrict the types of firearms consumers may purchase. Specific to the M4/AR-15, a ban on semi-automatic rifles would result in an immediate and long-term decline in M4/AR-15 sales, since the civilian customer base would essentially be eliminated. On the other hand, less restrictive gun laws at both the state and federal level increase the range of products manufacturers can offer, thus increasing the probability that the customer base will grow. When the AWB was in effect between 1994–2004, the sale of M4/AR-15s was at a record low. Since the ban was lifted in 2004, sales have soared and continued to increase to the present date. However, gun regulations have little effect on the military purchase of M4/AR-15s. What is affected, though, is the number of companies willing to remain in the market. Without a strong civilian customer base, it is likely fewer companies will remain in business and be able to compete for military contracts.

e. Defense Funding

Soshkin also states defense funding is a strong determinant of increased demand and purchases in the Small Arms Manufacturing Industry. The military is a major purchaser of industry goods, accounting for 23.8% of all purchases, and "is almost the exclusive buyer of the industry's more sophisticated and heavier weapon systems and ammunition" (2014, p. 16). When defense spending and combat operations increase, industry sales rise. With the United States ending its involvement in the Middle East and the military spending declining due to budgetary constraints, Soshkin states industry sales have severely declined. However, it is important to keep in mind that the industry is segmented into four different categories, as discussed in the previous chapter: small arms, small arms ammunition, other ammunition used on larger caliber weapons and other ordnance to include grenades, mines, artillery, tanks, howitzers, rockets, and rocket launchers. Small arms only accounted for 33.7% of all industry sales, while the remaining

67.3% of sales were mainly specific to military-grade products. In addition, the previous section estimated that military sales were the smallest M4/AR-15 customer group. Therefore, it is assumed that while declining defense spending has a large impact on the industry in general, it does not have as large an impact on the sale of M4s and AR-15s.

f. International Trade

The last demand determinant identified by Soshkin is the impact of international trade to include both imports and exports. Imports have been on the rise between 2004 and 2014, and United States imports of industry products increased by $622.4 million from 2009 to 2014 (Soshkin, 2014, p. 16). However, Soshkin also notes the industry exported more than it imported as American-made guns and ammunition are popular internationally. Military suppliers are especially looking to capitalize on overseas markets like Asia and the Middle East to compensate for recent defense cuts in the United States (2014, p. 16). However, the report provides little information on the export of M4/AR-15s. Therefore, it is difficult to assess whether the export of M4/AR-15 rifles will continue to increase as the military reduces defense spending and contractors look to international markets to fill demand. Though Soshkin predicts that over the next five years exports are expected to grow strongly for domestically produced small arms industry products (2014, p. 17), little market data exists to predict whether this will include increased sales of M4/AR-15s.

g. Summary

In summary, while Soshkin identified six factors which affect the sale and consumption of goods within the Small Arms Manufacturing Industry in general, not all have an equal impact on the sale of M4s and AR-15s. Quantitatively, it is difficult to directly determine the impact of the economy, regulations, the perception of increase gun laws, crime, defense funding, and international trade on the M4/AR-15 market. However, qualitatively, the greatest short-term demand drivers are the imminent fear of strict gun laws and fear of increased crime and terrorism. The greatest long-term determinant of decreased supply is restrictive legislation that bans the sale of M4/AR-15s; however, less restrictive laws will result in increased long term sales. There is also little proof that a

poor economy leads to increased M4/AR-15 sales, but there is correlation in recent years that gun sales have increased despite the poor economy. Defense funding and international trade are the least likely to affect the sales of M4/AR-15s, but are strongly related to the sale of other military grade products within the small arms industry.

C. M4/AR-15 SUPPLIERS

The previous section identified the key customer groups and distinguishing customer characteristics of the M4/AR-15 market. This section will identify the major suppliers or manufacturers in the M4/AR-15 market using raw data provided by the BATF's AFMER report. Specifically, this section will assess four main manufacturing areas for the M4/AR-15 market:

- Number of M4/AR-15 manufacturers in the United States
- Locations of M4/AR-15 manufacturers in the United States
- Market share of United States-based M4/AR-15 manufacturers
- Barriers to M4/AR-15 market entry

1. Number of M4/AR-15 Manufacturers in the United States

Very little information is published that details how many M4/AR-15 manufacturers operate in the United States. According to Soshkin, six firms comprise 62.4% of the Small Arms Manufacturing Industry (2014, p. 28–32). However, the report does not specify how many M4/AR-15 manufacturing companies existed in 2003 nor does it specify how many exist today. In order to close the gap in missing information for the M4/AR-15 market, BATF AFMER data is used. The AFMER report provides data on the number of rifles manufactured each year and also identifies the company and the state where the company manufactured the rifle. An example of the AFMER report is attached in Appendix E and a list of the companies is summarized in Appendix A (BATF, n.d.). Referencing Appendix A, it is possible to count how many companies manufactured M4/AR-15 rifles each year from 2004–2013. The number of manufacturers that produced M4/AR-15s in significant quantities from 2004–2013 is shown in Figure 16. The numbers used in this report represent only those manufacturers who manufactured more

than 100 rifles per year. This is worth noting because there were several "mom and pop" manufacturers who manufactured less than 100 rifles a year. However, these were not included since they do not contribute significantly to the industry. In addition, the data represented in the chart does not reflect the manufacturers of M4/AR-15 lower receivers or M4/AR-15 pistols. These numbers only reflect the number of companies who manufactured M4/AR-15 rifles each year.

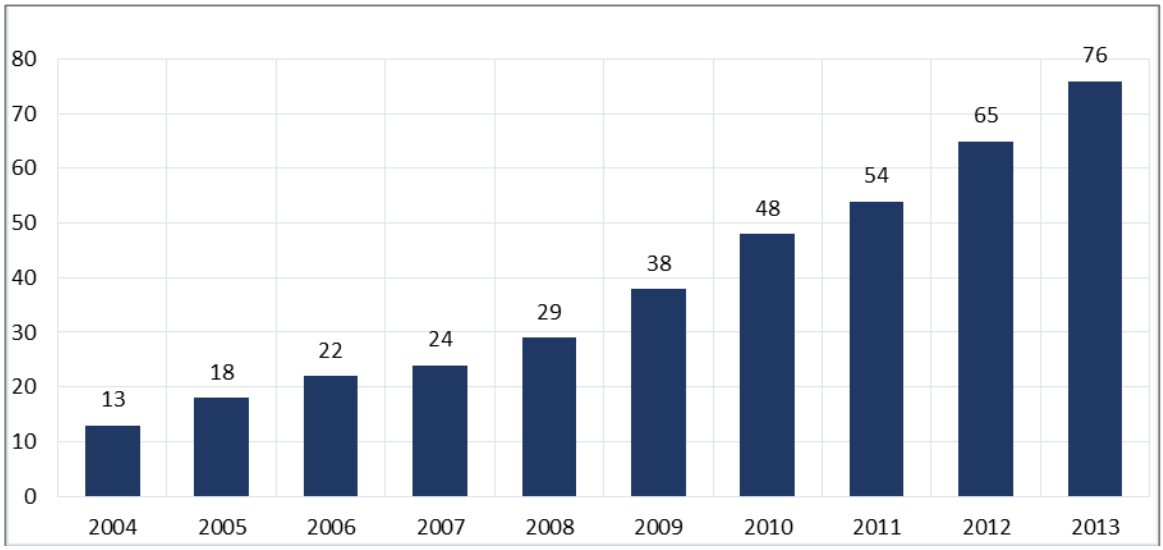


Figure 16. Number of M4/AR-15 Rifle Manufacturers (per year 2004–2013) (after BATF, n.d.)

Referencing Figure 16, it is clear to see that the number of M4/AR-15 manufacturers in the United States has grown significantly. In 2004, there were only 13 manufacturers and the number has steadily increased each year through 2013, where there were at least 76 manufacturers. This means M4/AR-15 manufacturers increased by 485% from 2004–2013. On average, the number of manufacturers increased by 22% per year. The year-to-year percent increase or growth is mapped in Figure 17. Figure 17 shows that while the number of manufacturers has steadily increased year to year from 2004 to 2013, the rate of growth has not continued to increase. That is, the percent growth rate has been more cyclical with a slight decrease. While more manufacturers have entered the market from 2004–2013, the growth rate of new entrants has slightly decreased.

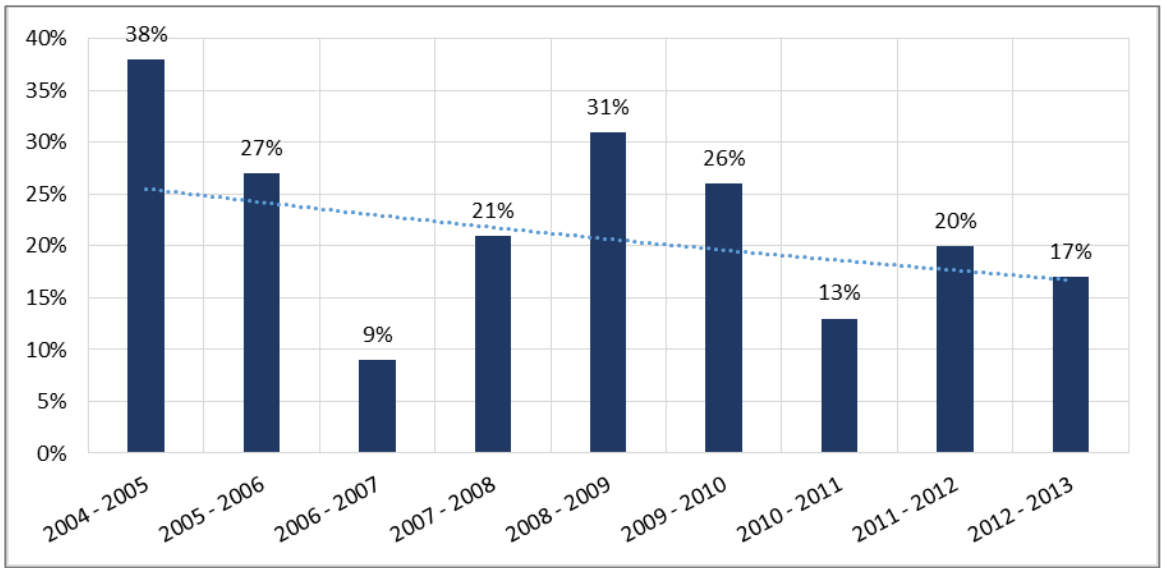


Figure 17. Annual Percent Growth in M4/AR-15 Manufacturers (2004–2013) (after BATF, n.d.)

2. Location of M4/AR-15 Manufacturers in the United States

It is also possible to map where the most M4/AR-15s are manufactured. As mentioned, AFMER not only identifies the number of rifles manufactured, but the company who manufactured the rifle and where the company is located in the United States. Figures 18 and 19 show the concentration of the number of M4/AR-15 rifles manufactured in each state in 2004–2013. Looking at the maps, the white states did not manufacture any M4/AR-15 rifles, the yellow states manufactured between one and 50,000, the orange states manufactured between 50,001 and 100,000, and the dark brown states manufactured more than 100,000 M4/AR-15s. As expected, not only have the number of states that manufacture M4/AR-15s increased from 2004–2013, but the number of M4/AR-15s that each state manufactured has increased substantially over that period.

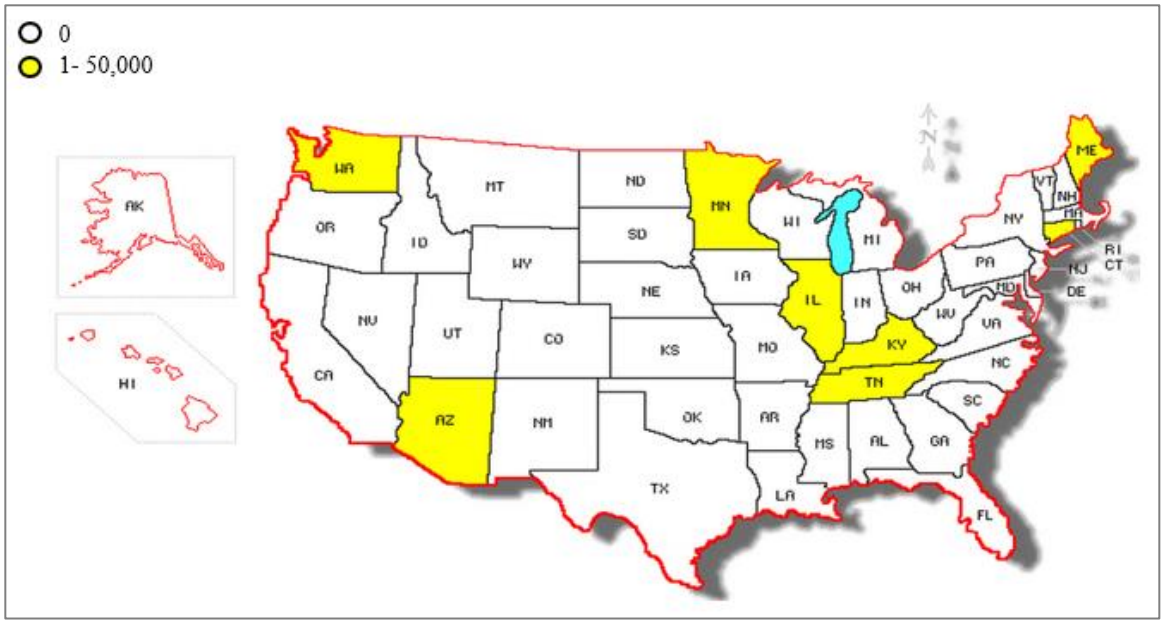


Figure 18. United States Concentration of M4/AR-15s Manufactured (2004) (after BATF, n.d.)

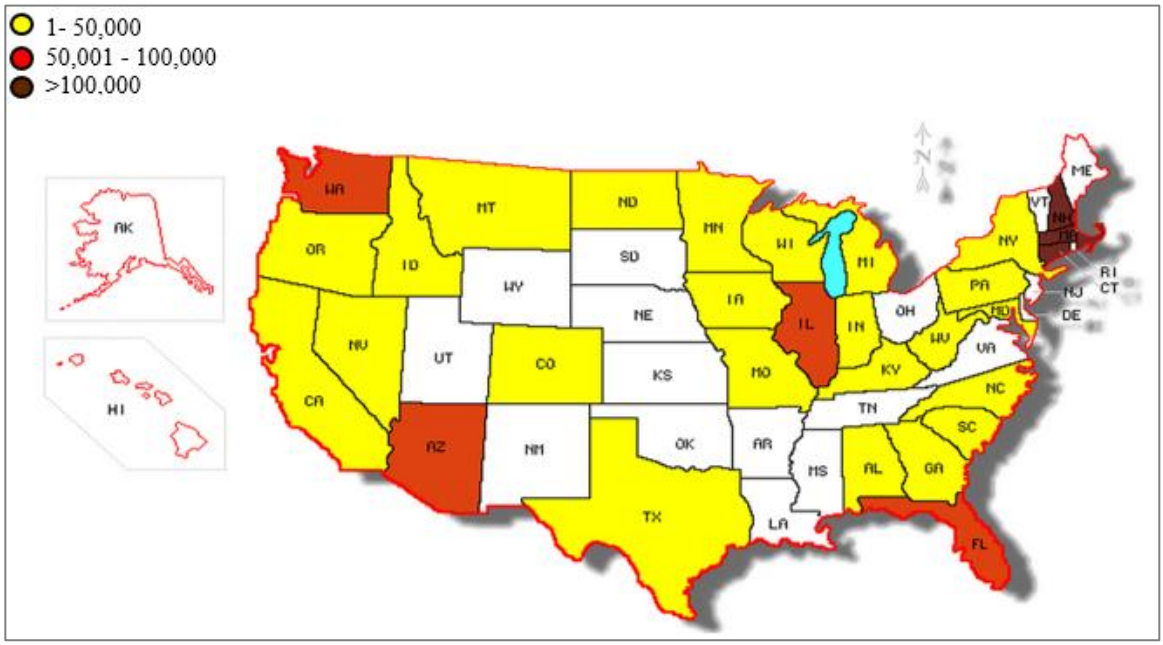


Figure 19. United States Concentration of M4/AR-15s Manufactured (2013) (after BATF, n.d.)

Furthermore, in 2013 the landscape changed compared to 2004 as the densest concentration of M4/AR-15s manufactured in the United States was in the Northeast

states (Massachusetts, Connecticut, and New Hampshire). However, strong M4/AR-15 manufacturing was present in many Northern, Southern, and Western states as well. It is interesting to compare the United States concentration map of M4/AR-15 customers in Figures 13 and 14 to Figures 18 and 19 because there does not appear to be a direct correlation between manufacturer and customer locations. This might be because, unlike the restaurant market or other point of sale industries where customers need to be close to the business, M4/AR-15 customers do not need to be in the same state as a firearms supplier to buy an M4/AR-15. Customers often buy M4/AR-15s from different states and have them transferred to a local FFL dealer. Therefore, being near to another M4/AR-15 manufacturer does not necessarily increase competition and decrease sales, as the market is both national and international. Instead, in the authors' opinions, the most significant determinants for location are likely based on state gun regulations and proximity to the company's supplier base, as well as where major factories and infrastructure needed to manufacture guns have historically been located. While new companies may be able to capitalize on local niche markets, the ability to operate freely within the law and maintain close relations with suppliers and distributors are at least as important factors to consider when selecting a location as the local competitive environment.

3. Market Share of M4/AR-15 Manufacturers

Next, the market share of each manufacturer will be determined. In order to determine how much market share the leading manufacturers own in the M4/AR-15 market, we'll first determined how many M4/AR-15s they manufactured. This determination is based on the data provided by the BATF AFMER report as summarized in Appendix A. That is, the market share is determined by adding the number of M4/AR-15s manufactured by each company. After adding each company's totals from 2004 to 2013, the cumulative percentages are graphed in the pie chart in Figure 20.

From 2004 to 2013, it is estimated that roughly 4.7 million M4/AR-15s were manufactured (see Appendix A). The top ten companies manufactured roughly 3.7 million or 80% of all M4/AR-15 carbines from 2004 to 2013. Further, of the 76 companies identified in 2013, 13% of the companies that produced significant M4/AR-15

quantities were responsible for 80% of the weapons over this ten-year period. Of those ten leading companies, Smith and Wesson emerged as the leading company to manufacture the most M4/AR-15s from 2004 to 2013, with an estimated 1 million M4/AR-15s manufactured (or 23% market share) during that time. Bushmaster was second with an estimated 480,000 manufactured, or 10% market share during that time. The market share of the top ten companies and the estimated cumulative quantities sold from 2004–2013 are shown in Figures 20 and 21.

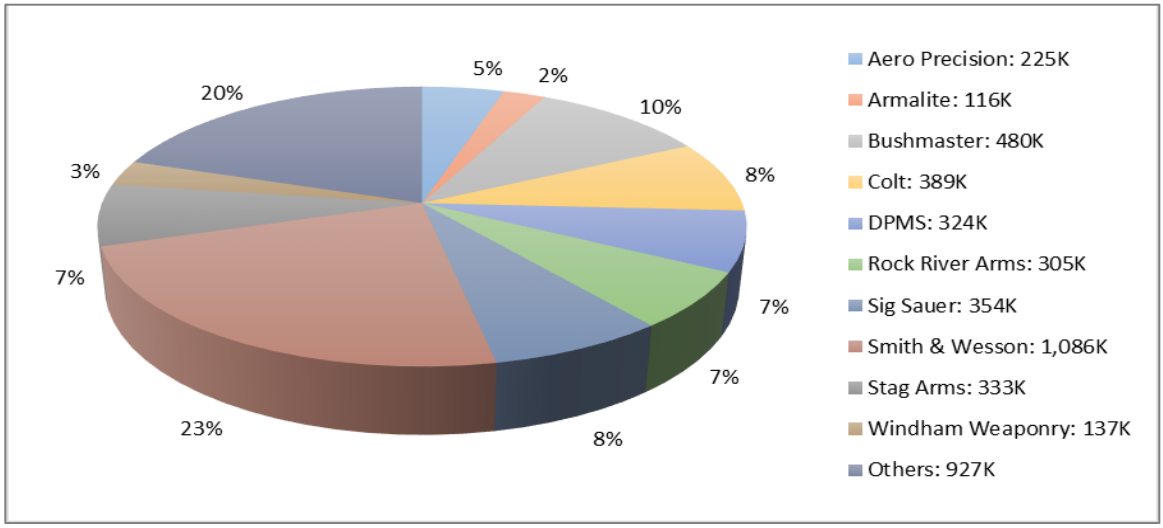


Figure 20. M4/AR-15s Manufacturer Market Share (cumulative 2004–2013) (after BATF, n.d.)

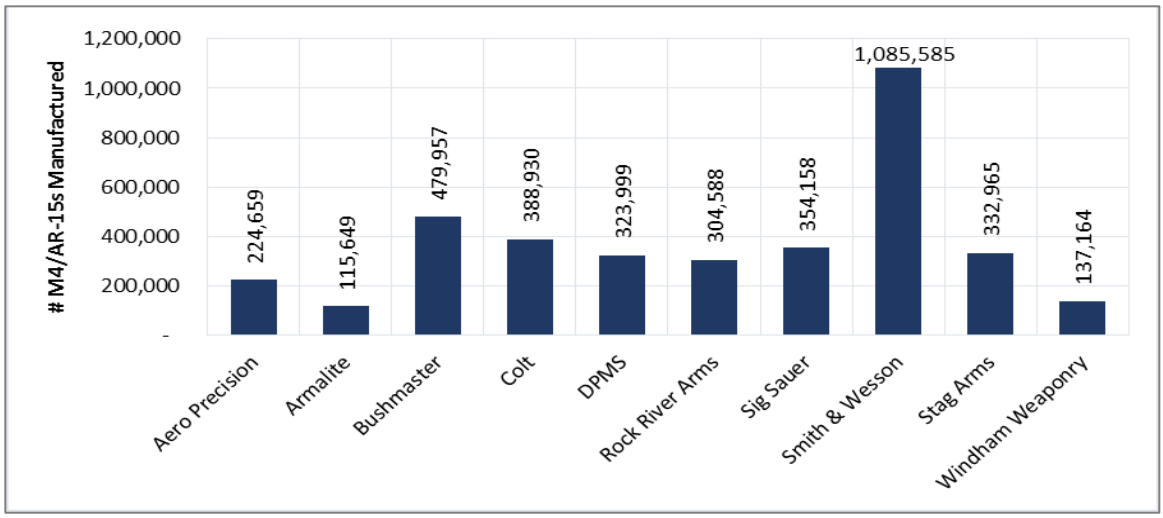


Figure 21. M4/AR-15s Manufactured by Company (cumulative 2004–2013) (after BATF, n.d.)

Figure 22 shows how many M4/AR-15s the top ten companies manufactured each year from 2004–2013. Each of the companies individually manufactured less than 50,000 M4/AR-15 rifles thru 2008. Then in 2008, Smith & Wesson began to manufacture exponentially more M4/AR-15s than the other companies. While the other companies decreased manufacturing from 2009–2011, Smith & Wesson increased production from 2008–2013, and vastly surpassed all of the other companies in manufacturing. It is likely that Smith & Wesson increased manufacturing in 2008 because of the perceived threat of the Obama Administration upon taking office that they would ban semi-automatic modern sporting rifles. As discussed earlier, the perceived threat of a ban on weapons creates a short-term spike in demand. Smith & Wesson was likely able to meet the increased demand from 2008–2013, because they were a large, well established company, and able to scale production quickly. It is possible that the other companies were unable to increase production because they did not have the necessary infrastructure in place to quickly scale production at the time.

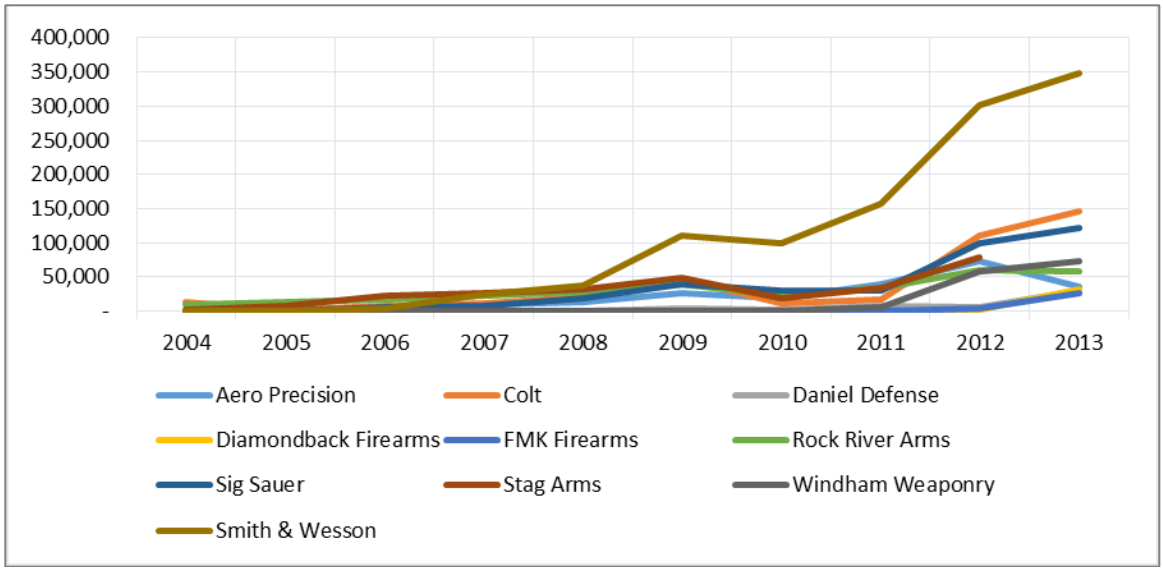


Figure 22. M4/AR-15s Manufactured by Company (2004–2013) (after BATF, n.d.)

It is also worthwhile to evaluate how each of the top ten companies performed most recently, by extracting the latest data being available from the BATF for 2013. The estimated number of M4/AR-15s manufactured in 2013 and the market share that each company owned is shown in Figure 23 and Figure 24 respectively**.** This analysis does not include major gun manufacturers like Remington or Ruger, since their portfolio of rifles include a large number of bolt-action rifles, shotguns and other rifles. As one might expect, the major firms experienced strong growth during recent high demand for guns in general and modern sporting rifles in particular. The top ten companies still controlled 80% of the market.

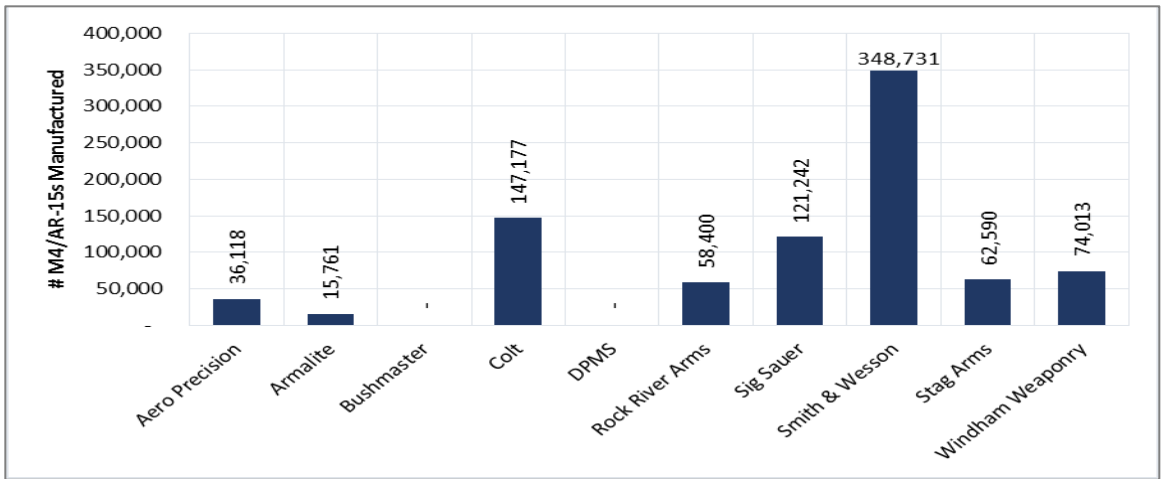


Figure 23. Leading M4/AR-15 Manufacturers (2013) (after BATF, n.d.)

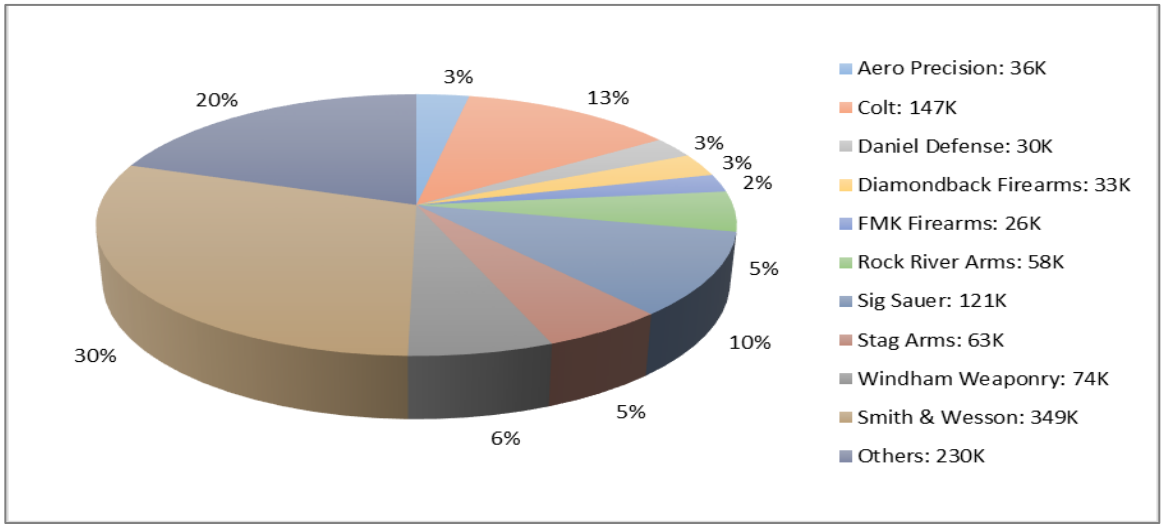


Figure 24. Leading M4/AR-15 Manufacturers Market Share (2013) (after BATF, n.d.)

Smith & Wesson is a 162-year-old gun development and manufacturing company with 1,750 employees. Their operations primarily take place in Massachusetts, Maine, and Connecticut. Smith & Wesson continued to maintain the largest market share at 30% with roughly 349,000 M4/AR-15s manufactured in 2013. The company reportedly generated $626 million in gross sales and $259 million in profit in 2013. Roughly 89% of their sales are made to the commercial market, and 11% to the military and law enforcement market (Smith & Wesson, 2014). They have the largest share of any company in the modern sporting rifle market, and they also are the leader in handgun production.

In second place, Colt manufactured approximately 147,000 M4/AR-15s in 2013 with a 13% market share. Colt has a long history in the gun industry, and was started by Samuel Colt when he patented a revolving cylinder firearm in 1836 (Colt, 2014). They employ almost 800 workers in the United States and Canada. Colt is the prime provider of U.S. military rifles over the last 50 years, selling the M4 and M16. Colt made $278 million in sales in 2013, with $25.7 million in profit (Colt, 2014).

In third place, Sig Sauer manufactured approximately 121,000 M4/AR-15 rifles in 2013 with a 10% market share. Sig Sauer traces its roots to the Swiss Industrial company that began making rifles in 1860 (Sig Sauer, n.d.-b). Its U.S. operations are based in New Hampshire, and it has over 800 employees. Sig makes a high-quality line of handguns and modern sporting rifles, and claims that close to one third of law enforcement personnel in the United States use their weapons (Sig Sauer, n.d.-b). Sig Sauer is privately owned, so exact financial earning data is not available.

In addition to the top three market shareholders in 2013, several small companies were also able to capitalize on the surge in demand and significantly increase their manufacturing in the M4/AR-15 market. For example, Daniel Defense made large leaps in 2013. From 2009–2012, they made between 3,000 and 7,000 M4/AR-15s. Then in 2013, they sold nearly 30,000. Diamondback and FMK showed similar strong growth during this period, increasing their manufacturing by a factor of three to ten. AFMER reports indicate Diamondback and FMK first entered the market in 2012 and sold 2,000 to 3,000 M4/AR-15s. Then in 2013, they made 33,000 and 25,000 respectively.

While Bushmaster was the number two manufacturer of M4/AR-15s from 2004 to 2013 cumulatively, it appears they left the market in 2013 and did not manufacture any M4/AR-15s after that time (see Appendix A). Upon further research, the original Bushmaster owner, Richard Dyke, started a new company called Windham Weaponry. Windham made 5,000 M4/AR-15s in 2011, and grew to 74,000 within two years. This rapid growth was possible because Windham is essentially the same company as Bushmaster, with the same leadership, employees and location (Windham Weaponry, 2014).

Another interesting find is that DPMS did not report manufacturing any M4/AR-15s in 2013. However, the DPMS website showed that they still manufactured rifles in

2015. Upon further research, it appears that Freedom Group may have purchased DPMS in 2007. Freedom Group owns brands such as Remington, Bushmaster, DPMS, and others (Freedom Group, 2012). Therefore, it is possible that the DPMS M4/AR-15s are still being manufactured, just under a different company name. However, this cannot be corroborated by an independent source, as it appears Freedom Group did not report the manufacture of any rifles through the annual BATF AFMER report between 2007–2013.

However, success stories of new firms in the M4/AR-15 market may paint an inaccurate picture suggesting that growth was relatively easy during this period of high demand. Previous leaders such as Aero Precision and Stag Arms saw large drops in their sales in 2013, again using AFMER data. Many small companies also started up during the same period, but were not able to grow so quickly or even failed completely. Consumers who purchase M4/AR-15s are often loyal to proven brands, but they are also looking for new products that increase performance or are offered at a better price. Companies must continue to develop and improve their products, as well as market their brand well, to stay successful in this market. The next section will expand upon these ideas by identifying the major barriers to market entry for the M4/AR-15 market.

4. Barriers to M4/AR-15 Market Entry

This analysis now examines the barriers to entry that potential new manufacturers should consider before entering the M4/AR-15 market. According to Soshkin, companies in the Small Arms Manufacturing Industry face four major barriers to entry: investment, competition, branding, and regulations (Soshkin, 2014, p. 25–26). This section will examine each barrier to the industry as a whole, and determine its applicability to the niche M4/AR-15 market.

a. Investment

The first barrier to entry is investment, which includes factory, material and labor, machinery training for operators, and research and development costs. These costs are largest initially, but factory cost will continue in such areas as ongoing plant maintenance, leases, and plant expansion. The exact amount required for initial startup varies widely depending on the scale of operations, credit available, and business

strategy. For example, a company wanting to design and market a major new advance in M4/AR-15s will require more initial research and development funds than a company wanting to build a bare-bone M4/AR-15 cheaply and compete in the low-cost category. Unless a supplier plans to hand-build guns on a small scale, initial costs for infrastructure, training, and design will be at least several million dollars.

b. Competition

New entrants must also assess the established companies and competition in the M4/AR-15 market. As outlined previously, the major players like Colt, Smith and Wesson, and Sig Sauer have histories in the gun industry going back 150+ years. They have well-established supply chains and distribution channels, as well as a loyal customer base. Such relationships take time to build, and a new entrant must prove himself in order to build trust with suppliers and customers.

However, this industry still has enough firms competing in it that healthy competition is present. This means the industry is not overly concentrated. Economists use concentration ratios to assess if an industry is dominated by one or several companies, or if business is spread over many different companies. For example, the restaurant industry has low concentration ratios since many different restaurants are in business and share the market. On the opposite end of the scale, the U.S. military space launch business is a near-monopoly and is therefore highly concentrated. The concentration in the industry can be assessed using the latest U.S. Census Bureau data from 2007. The four firm concentration ratio, or percent of total shipments in an industry from the top four firms, is 35.0% for small arms manufacturing. Another measure of concentration is the Herfindahl-Hirschman Index (HHI), which is 508.2 for small arms manufacturing. (Census Bureau, 2007) HHI is the sum of the top 50 firms' squared market shares. For each of these indexes, ranges are established to predict whether an industry is competitive, moderately concentrated, or highly concentrated. The four firm concentration ration and HHI numbers are in the "Competitive" range, which is the least concentrated of three categories for these measures. This means market share is spread across more firms and not restricted to a handful of large firms which dominate the

industry. It may be easier for a new entrant to compete in a less concentrated market, since more opportunities for partnerships exist. In addition, the largest companies are not so dominant that they can completely block new entrants by dropping their prices or discouraging suppliers from working with new firms.

Translating this competition information specifically to the M4/AR-15 market, one anticipates high levels of competition due to the recent surge in demand and market prices for M4/AR-15s. The large players, like Colt and Smith and Wesson, are focusing on this market since it is one of the largest growing segments in the gun industry over recent years. This growth has also encouraged new firms, like Diamondback and FMK, to enter with popular new products. A new entrant must be able to deliver a high-quality product, which is differentiated from older, more proven brands, and also advertise effectively to gain potential customers.

c. Branding

This leads to the next barrier to entry, branding. For products like guns, establishing a brand name must be done before a company can expect to make many sales. This requires funds for advertising, travel to trade shows, and demonstration of gun performance through testing and expert shooter reviews, in order to establish credibility and customer loyalty. As Soshkin mentions, many gun buyers have owned guns previously, and they often select brands with which they have had good experience in the past (2014, p. 26). Gun buyers appear to prefer guns that are well-known and have a reputation for being safe and reliable. Buying from a brand-new company is more risky and has more unknowns, and new entrants must overcome customers' reluctance to take this risk. Significant steps like paying well-known gun experts to test, review, and publicize new gun products may be necessary to help convince the average gun buyer to consider purchasing from a new entrant to gun manufacturing.

d. Regulations

The fourth barrier to entry is regulations. The hazardous nature of the products in this industry increases a firm's costs since the firm needs to adhere to regulations. As Soshkin describes, these regulations include health, safety, environmental, hazardous

material handling, and product reporting rules during manufacturing, as well as laws dictating how guns can be sold and to whom, both domestically and internationally. In addition, the gun industry has its own set of design and performance standards that a company should follow, since customers usually expect compliance with these norms and compatibility with standard parts (2014, p. 36). Government control and regulation are summarized below.

Manufacturers in this industry must complete numerous reports including the "Annual Firearms Manufacturing and Exportation Report," which incidentally provided much of the data for this project. In addition there are an assortment of laws and regulations governing arms sales exports that industry participants must abide by. As summarized by Soshkin, the National Firearms Act (NFA), Federal Firearms Act (FFA), and Gun Control Act (GCA) prohibit fully automatic weapons from being owned privately and require licenses for some types of interstate gun sales. The Brady Law, which expired on 30 November 1998, required a nationwide five-day waiting period and background check before a handgun purchase could be made. The Brady Law was superseded by the NICS system, which eliminated the five day waiting period and expanded background checks for all firearms purchases (not just handguns) made through an FFL (Soshkin, 2014, p. 36).

A company wishing to export guns must comply with another set of laws. The Arms Export Control Act of 1976, Foreign Assistance Act of 1961, International Traffic in Arms Regulation (ITAR), and Export Administration Regulations all govern different aspects of the export and sales of weapons to foreign citizens or governments. ITAR regulations have increased and become more cumbersome for small businesses in recent years. Per the Code of Federal Regulations, Part 22, Subpart 122.1, all persons engaged in "manufacturing or exporting or temporarily importing defense articles, or furnishing defense services" are required to register with the Directorate of Defense Trade Controls (DDTC) (Registration of Manufacturers and Exporters, 2012). The regulation requires manufacturers to register even if they do not export any of the defense articles they produce, and the base registration fee is $2,250 (DDTC, n.d.). In addition to the base registration fee, further fees and licenses are required for each item that a business

exports, and this costs up to 3% of the value of each item exported (Department of State, Directorate of Defense Trade Controls [DoS DDTC], n.d.). This cost must be passed to the consumer or reduce the profitability of the manufacturer.

A law with high pertinence to the M4/AR-15 market is the Federal AWB. The law was passed as part of the Crime Bill on September 13, 1994, and expired ten years later. This ban prohibited automatic weapons or semi-automatic weapons with certain features from being manufactured for sale to civilians. It also prohibited by name certain guns like the M4/AR-15. Anti-gun legislators have attempted to renew this ban since it expired, but their efforts have been unsuccessful thus far. If this ban should be reinstituted, it would devastate the M4/AR-15 market. Some sales could still be made to the U.S. military, but as reported previously, approximately 90% of market sales go to civilian and law enforcement customers.

Patent law is another critical legal consideration prior to designing, manufacturing and selling a new M4/AR-15. First, it is important to be familiar with other active patents in the M4/AR-15 market to ensure that the design or manufacturing method being developed does not infringe on them. Patent infringement is a costly mistake that may result in litigation, inability to sell the product, or scrapping the design. Secondly, if any aspects of the design or manufacturing process are unique and original, it may be possible to file a patent to prevent competitors from using and profiting from these innovations. Some initial investigation in both of these areas can be done easily, but a patent lawyer should be consulted as well. Patent law is a very complex field, and interpretations or assumptions made by someone who is not well-versed in the field are likely to be flawed.

Finally, an M4/AR-15 company has additional regulations and steps it must take if it wants to do business with the military. Regulations and standards govern production processes, parts and material sources, labor practices and other areas. In addition, depending on the contract type, design reviews or details and cost and pricing data may need to be provided to the Government. Also, military branches may have pre-existing relationships with major gun manufacturing companies and be less likely to contract with a new entrant.

D. SUMMARY

This chapter presented the data used and the methodology applied to address the research questions. The primary research questions involve data relating to the M4/AR-15 market size, customers, and suppliers. The secondary research questions helped answer each of the primary research questions by providing additional details on the market size, customers, and suppliers. This chapter also discussed the scope of the data, how the data was collected and analyzed, and the assumptions and limitations behind the analysis. Chapter IV will provide a summary of the findings and the results of this analysis with regard to each of the three primary research questions and associated secondary research questions.

IV. SUMMARY OF FINDINGS

Chapter III provided the data and analysis needed to answer each of the three research questions. This chapter will examine and discuss that data and analysis to draw conclusions and answer the three research questions. Findings that were not obvious at the start of this research but that emerged through the research process will also be discussed.

A. PRIMARY RESEARCH QUESTION #1 FINDINGS RELATED TO NUMBER OF M4/AR-15S MANUFACTURED ANNUALLY

Primary research question #1 asks how many M4/AR-15s are manufactured in the United States annually. Data from the BATF's Annual Firearms Manufacturing and Exportation Report database was used to develop estimates to answer Primary Research Question 1 and its secondary questions. These estimates were also checked against various reports and articles covering both the small arms market as a whole and the M4/AR-15 market individually. The estimates aligned well with the reports and articles, building confidence in the approach.

The number of M4/AR-15s manufactured from 2004 to 2013 was estimated by researching all manufacturers listed in the BATF database that produced 100+ rifles annually. Manufacturers that produce primarily M4/AR-15s were identified by perusing their websites, and this list of companies and the number of guns they produced are captured in Appendix A. The total number of M4/AR-15s built from 2004 to 2013 is depicted in Figure 2, and quantities listed in Table 1. This data showed a large increase in M4/AR-15 production, climbing from approximately 88,000 in 2004 immediately after the Assault Weapons Ban to over 1.18 million in 2013 (BATF, n.d.). The estimates were compared to recent articles by Peters (2012) and Lisson (2013) discussing M4/AR-15 market size, and good consistency was shown between our estimates and the recent articles.

1. Secondary Research Question #1 Findings Related to the Percent of Firearms Market the M4/AR-15 Rifle Accounts For

Secondary research question #1 asks what percent of the U.S. firearms market is comprised of M4/AR-15s. The answer to this question helps assess the M4/AR-15's relative market share and importance in the small arms industry. Again using BATF manufacturing data, M4/AR-15 quantities estimated to address primary question #1 were compared to the number of rifles and total number of small arms produced each year. This data is shown in Table 1 and Figure 3. In 2004, M4/AR-15 rifles accounted for only 3% of all small arms and 6% of rifles built in the United States. This grew to 19% of small arms and 29% of rifles made in 2013 (BATF, n.d.).

2. Secondary Research Question #2 Findings Related to Revenue Generated by M4/AR-15s

Secondary research question #2 asks how much revenue M4/AR-15s generate. Revenue was estimated by multiplying the estimated quantities of M4/AR-15s times the range of M4/AR-15 prices identified in various articles. The average M4/AR-15 price used for 2004 to 2012 was $800-$1,050, based on a 2013 article by Adams. Using this price and our M4/AR-15 quantity estimates yielded $70 million to $93 million in revenue for 2004. As shown in Figure 4, revenue grew to between $780 million and $1 billion in 2012 as the quantities increased. However, a surge in demand caused by fears of new gun control laws resulted in M4/AR-15 average price jumping sharply to between $1,750 and $3,000 in 2013, as reported by Leghorn that year. This results in M4/AR-15 revenue growing to between $2 billion and $3.5 billion in 2013. Revenue estimates were also compared to independent articles and M4/AR-15 manufacturers' annual reports. The reports and articles agreed with our revenue estimates.

B. PRIMARY RESEARCH QUESTION #2 FINDINGS RELATED TO M4/AR-15 CUSTOMER GROUPS

Primary research question #2 asks who makes up the M4/AR-15 customer groups. The major customer segment in the guns and ammunition industry as a whole were identified as exports, U.S. military, and civilian and law enforcement. At this higher level industry, 33.3% of sales were generated by exports, 23.8% by U.S. military, and 42.9%

by civilian and law enforcement (Soshkin, 2014, p. 16). However, further analysis revealed a much different breakdown for the M4/AR-15 market customers.

Military customer share was estimated by reviewing the FY15 budget estimate J-Book for Army procurement of weapons and tracked vehicles. The J-Book identified $19.5 million was appropriated in FY13 to buy 24,000 new M4A1 carbines. Additional M4s may have been purchased by Special Operations Command or other users, but this number was assumed to represent the bulk of military M4 purchases. The number of M4s purchased by the military is 2% of the total estimated quantity of M4/AR-15s manufactured in 2013.

Next, foreign export quantities of M4/AR-15s were assessed. BATF data showed that approximately 15,000 M4/AR-15s were manufactured for commercial exports (n.d.), and a FedBizOpps pre-solicitation requested between 500 and 78,750 M4/AR-15 carbines for Foreign Military Sales ("M4/M4A1 carbine 5.56mm," 2013). Adding the commercial and FMS exports together shows a high-end estimate of 93,750 M4/AR-15 exports, which accounts for 8% of the M4/AR-15s we estimate were manufactured in 2013.

The remaining M4/AR-15s not purchased by military or foreign customers were sold to the civilian and law enforcement group. This means more than 1 million M4/AR-15s, or 90% of the total amount, were sold to civilians and law enforcement in 2013, making it, by far, the largest customer group.

1. Secondary Research Question #3 Findings Related to the Location of Customers

Secondary research question #3 asks in what locations M4/AR-15s sales are made. For exports, specific country data for M4/AR-15s was not found, but Soshkin shows for the guns and ammunition industry as a whole, the top four countries are Japan (12%), Israel (10%), United Kingdom (12%), and Australia (9%) (2014, p. 18). For civilian and law enforcement customer locations, a Gallup poll revealed that men who are married and live in the South are the most likely demographic to buy a firearm (Jones, 2013). FBI NICS data on the number of background checks performed prior to M4/AR-15 sales, along with Census Bureau data, was collected and analyzed to obtain more

specific data on which states make the most total or per capita purchases of M4/AR-15s. The top five states, based on the number of cumulative NICS checks prior to a long gun purchase from 2004 to 2013, are Pennsylvania, Texas, California, Florida and Ohio, in descending order (FBI, n.d.-b). Figure 8 shows the total NICS checks per state over that period. Figure 9 estimates how many of these NICS checks were for AR-15s by comparing the total number of long guns to the estimated number of M4/AR-15s manufactured each year.

Next, M4/AR-15 quantities demanded for all states 2013 are shown in Figure 12. This illustrates that the highest M4/AR-15 demand is concentrated in Midwest and Southern states (FBI, n.d.-b). However, charting the per capita M4/AR-15 demand in 2013 (Figure 13) showed a different result (Census Bureau, 2013). The leading states were in the Rocky Mountain and Great Plains regions. South Dakota was number one per capita, with almost 2% of the population getting NICS checks for M4/AR-15s in 2013 alone.

2. Secondary Research Question #4 Findings Related to Demand Determinants

Secondary research question #4 asks what factors drive demand in the M4/AR-15 market. Soshkin (2014) identified the economy, regulations, public perception of gun laws, crime, defense funding, and international trade as six major areas that influence demand in the small arms industry. Each of these areas was assessed for the small arms industry as a whole, as well as specifically for the M4/AR-15 market. The two most significant factors for demand in the M4/AR-15 market are regulations and public perception of gun laws. Regulations that slow the sale or transfer of guns or that ban certain gun types completely have a strong negative impact on demand levels. On the other hand, public perception of stricter gun laws or regulations being put into place in the future causes a strong increase in demand.

Cuts or increases to defense spending and the level of international trade both have some impacts on M4/AR-15 demand. However, these influences are smaller for M4/AR-15s than they are for the larger small arms industry since military purchases and

exports combined only comprise 10% of the M4/AR-15 market share, according to data from 2013.

The remaining factors of crime and the economy have minor impacts for M4/AR-15s. Crime or threats of terrorism likely causes a small increase in demand since M4/AR-15s are favored for self-defense weapons. The state of the economy interestingly seems to have little impact on the small arms industry. It seems that gun buyers will continue to buy weapons even in a weak economy (Soshkin, 2014).

C. PRIMARY RESEARCH QUESTION #3 FINDINGS RELATED TO TOP M4/AR-15 SUPPLIERS

Primary research question #3 asks who the top M4/AR-15 suppliers are. The top suppliers and their market share were assessed based on the number of M4/AR-15s they reported to BATF from 2004 to 2013. It was estimated that roughly 4.7 million M4/AR-15s were manufactured over this period, and the top ten companies produced roughly 3.7 million or 80% of all M4/AR-15 carbines from 2004 to 2013 (BATF, n.d.). The top five, in descending order, were Smith and Wesson, Bushmaster, Colt, Sig Sauer, and Stag Arms. In addition, the top suppliers in 2013 were identified as Smith and Wesson, Colt, and Sig Sauer. Each of these companies has roots in the small arms industry going back 150+ years. However, the top 10 M4/AR-15 manufacturers in 2013 also included Diamondback and FMK, who are recent entrants to the small arms industry (BATF, n.d.).

1. Secondary Research Question #5 Findings Related to the Number of Manufacturers

Secondary research question #5 asks how many M4/AR-15 manufacturers are in the United States. This information was again gathered from the BATF database. Although additional gun companies may produce M4/AR-15s in small quantities, our analysis focused on identifying the number of significant M4/AR-15 manufacturers who made approximately 100 or more M4/AR-15s a year, since these manufacturers produce the vast majority of M4/AR-15 supply. In 2004, 13 companies were manufacturing M4/AR-15s. As demand for M4/AR-15s grew in the decade since then, the number of companies producing them also proliferated. By 2013, 76 significant M4/AR-15

manufacturers were present (BATF, n.d.). This is an average growth rate of 22% annually. The detailed breakdowns for number of M4/AR-15 companies and the percent growth in companies are shown in Figures 16 and 17.

2. Secondary Research Question #6 Findings Related to the Location of Manufacturers

Secondary research question #6 next asks where AR-15 manufacturers are located. The AFMER data not only includes quantities and types of guns being manufactured, but also the state where manufacturing takes place. This data was used to map M4/AR-15 manufacturers' location in 2004 and 2013, shown in Figures 18 and 19, respectively. In 2004, only eight states manufactured significant quantities of M4/AR-15s, and no states manufactured more than 50,000 M4/AR-15s. By 2013, 30 states produced significant numbers of M4/AR-15s. Seven states produced over 50,000 a year, and three produced over 100,000. Regional changes were also evident. In 2004, most M4/AR-15 production states were in the Midwest or scattered. In 2013, production was widely scattered across the country, and absent in primarily in some of the Great Plains and Southern states. M4/AR-15 production had also grown heavily in New Hampshire, Massachusetts, and Connecticut, which had become the top three states for production (BATF, n.d.).

3. Secondary Research Question #7 Findings Related to the Barriers to Market Entry

Secondary research question #7 asks what barriers to market entry are present for potential M4/AR-15 suppliers. Four barriers identified by Soshkin were investment, competition, branding, and regulations (2014, p. 25–26). It was estimated that initial investment required to establish infrastructure, train workers, and design products is at least several million dollars.

Competition in the small arms industry and within the M4/AR-15 segment was also analyzed. While many of the large players have centuries of experience, some new entrants have also seen success recently. The small arms industry concentration rations show it is competitive, rather than moderately or highly concentrated (Census Bureau, 2007). This means the market is diverse and widespread enough that the largest firms

cannot completely control the suppliers or distributors, or block new entrants by temporarily dropping prices.

Branding concerns for new entrants were also assessed. Since gun reliability, performance, and safety are very important to customers, gun companies work to build trust and long-lasting relationships with customers by delivering quality products. Customers may hesitate to buy an expensive item like an M4/AR-15 from a new, unproven company. Some investment in advertisement and product demonstration is needed to overcome this resistance and start building a customer base.

Regulations are the final major barrier to entry. These include both Government requirements and commercial considerations for the gun industry. Government regulations include health, safety, environmental, hazardous material handling, and product reporting rules during manufacturing, as well as laws dictating how guns can be sold and to whom, both domestically and internationally. In addition, various local, state and national laws make certain types of weapons illegal, and new laws can change what is and is not allowed. Commercial considerations include ensuring that gun products comply with the norms and standards established within the gun industry and assessing legal concerns like patent law (Soshkin, 2014).

D. SUMMARY

This chapter discussed the findings resulting from the previously presented data with regard to the three primary research questions. Each of the primary research questions was answered by addressing the supporting secondary research questions. The next chapter will summarize the research and provide recommendations for further study.

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V. CONCLUSION AND AREAS FOR FURTHER RESEARCH

A. CONCLUSION

The objective of this research was to conduct a business case analysis of the M4/AR-15 market to fill a gap in missing market data. Through this research, we believe we were able to fill that gap and meet our objective. We provided detailed, statistical estimates on the number of M4/AR-15s manufactured and sold each year from 2004 to 2013. We also identified the primary customers and suppliers and where they are located. Further, the research supports our thesis that the M4/AR-15 market has experienced significant economic growth over the past decade, and has attracted new customers and manufacturers each year. Many new companies have entered the market as the M4/AR-15 rifle has become one of the most commonly purchased and produced rifle over the past decade. Further, without increased government regulation, the market is expected to grow and provide more innovative, better quality, affordable products for the military, law enforcement, and civilian end users.

We believe this report can be used for a variety of applications. We hope that it is used to attract new companies to the M4/AR-15 market, by providing the basis of a business plan market analysis. We also hope that it provides the DoD a market awareness of the manufacturing industrial base, to encourage competitive, small business opportunities for future small arms contracts.

B. AREAS FOR FURTHER RESEARCH

The development and of this research has brought to light several new questions and areas for further investigation. There were a few limitations and assumptions made in this report that could warrant further research. Each of the limitations and recommended areas for further research is categorized according to each of the three research question areas: market size, customers, and suppliers.

1. Market Size

When we estimated the size of the M4/AR-15 market, we only assessed the number of M4/AR-15 rifles manufactured. However, the market could be larger when considering all variants of the M4/AR-15 that are made. That is, further research would be needed to determine the number of lower receivers, M4/AR-15 pistols, and 80% lower receivers. Further, we did not include all "mom and pop" manufacturers in our estimates. Including "mom and pop" manufacturers would do little to change the overall estimate, but would provide more accuracy to the estimate. Further, we did not estimate the number of all semi-automatic modern sporting rifles made in the United States. If further research is conducted on this topic, we recommend each of these areas be addressed.

2. Customers

To provide further research on the M4/AR-15 customers, we recommend that the law enforcement and civilian customers be further studied. That is, this research did not differentiate how many M4/AR-15s each customer group purchased. Further, it would be worth further researching the customer demographics to include age, race, sex/ethnicity, income, and seasonal/cyclical purchasing trends. This data would be especially useful for companies currently in the market, and companies looking to enter the market.

3. Suppliers

This research did not estimate how many M4/AR-15s big companies such as Remington and Ruger manufactured. Neither of these companies was considered because they manufacture more than just M4/AR-15 style rifles; M4/AR-15 style rifles appeared to be the minority of what they manufactured. That is, the majority of Remington's rifles were center fire bolt-action model 700 rifles, muzzleloaders, and rim fire rifles. Similarly, Ruger also manufactured a broad range of bolt-action rifles, and their production of M4/AR-15s was relatively small. However, both Remington reported to the BATF that they manufactured 190,530 rifles and Ruger reported that they manufactured over 76,000 rifles in 2013. Therefore, further research would be required to determine what percent of those rifles were M4/AR-15s.

4. Other Recommended Areas for Research

This research could be expanded each year as new data becomes available. This research analyzed the market using the most up-to-date information made available through 2013 as provided by the BATF and FBI. It is a snapshot in time. Therefore, further research is required to identify new trends in the market's size, customers, and suppliers entering or exiting the market beyond 2013.

Lastly, this research could be used to further study the correlation between gun laws, gun ownership, and crime rates across this United States. It is the authors' opinion that there is an inverse correlation between gun ownership and crime rate and an inverse relationship between strict gun laws and crime rate. That is, it could be correlated that gun crime is significantly reduced in areas where gun rights are not restricted and also where gun ownership is high. However, further research would be needed to support such an argument.

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APPENDIX A. M4/AR-15S MANUFACTURED 2004–2013

Table 6. M4/AR-15s Manufactured 2004–2013 (after BATF, n.d.)

M4/AR-15s MANUFACTURED 2004-2013												
Company	State	Year										Total
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	
Adams Arms	Florida	-	-	-	-	-	-	33	-	1,139	9,807	10,979
Adcor	Maryland	-	-	-	-	-	-	19	3,483	1,052	6,561	11,115
Advanced armament Corp	Georgia	-	-	-	-	-	-	-	515	498	6,477	7,490
Aero Precision	Washington	610	859	4,356	9,993	12,938	27,109	19,939	39,565	73,172	36,118	224,659
Armalite	Illinois	284	7,594	10,758	12,693	15,058	17,014	9,562	12,253	14,672	15,761	115,649
Exports		284	245	283	633	178	200	90	140	67	79	2,199
Larue Tactical	texas	-	-	-	-	34	73	903	1,536	2,484	1,049	6,079
Barnes Precision	North Carolina	-	-	-	-	-	-	-	219	927	1,790	2,936
BCI Defense	Indianna	-	-	-	-	-	-	-	-	-	1,302	1,302
Bear Creek	North Carolina	-	-	-	-	-	-	-	-	-	385	385
Billet Rifle Systems	Nevada	-	-	-	-	-	-	-	-	-	175	175
Black Forge	Florida	-	-	-	-	-	-	-	-	34	1,712	1,746
Black Rain Ordnance	Missouri	-	-	-	-	-	13	101	611	4,719	7,371	12,815
Blackheart International	West Virginia	-	-	-	-	-	31	118	51	78	312	590
Bravo company	Wisconsin	-	-	-	-	-	897	5,380	1,202	1,212	2,846	11,537
BRB Tactical	FLorida	-	-	-	-	-	-	-	-	33	107	140
Bushmaster-Arizona	Arizona	2,696	4,357	3,373	1,644	1,998	2,082	199	-	-	-	16,349
Bushmaster-Maine	Maine	41,652	61,575	57,465	57,744	83,036	83,382	40,679	38,075	-	-	463,608
Cobra Tactical	California	-	-	-	-	-	-	-	-	-	407	407
Colt	Connecticut	13,705	2,210	8,480	11,138	20,896	46,483	11,175	16,419	111,247	147,177	388,930
Exports		540	-	-	1,645	378	1,283	9	1,623	1,618	2,535	9,631
CMMG	Missouri	-	327	2,161	2,265	15,655	14,237	7,663	8,165	9,004	12,679	72,156
Daniel Defense	South Carolina	-	-	-	-	-	4,839	2,413	6,911	5,051	30,168	49,382
Exports		0	0	0	0	0	0	0	0	373	689	1,062
Delaware Machinery	Deleware	-	-	-	-	-	-	17,149	-	-	-	17,149
Diamondback Firearms	Florida	-	-	-	-	-	-	-	-	2,372	32,639	35,011
Double Star	Kentucky	1,312	1,435	3,534	6,884	22,426	5,864	2,321	1,620	3,822	3,387	52,605
Del-Ton	North Carolina	-	-	-	-	2,037	19,369	5,676	4,854	16,439	15,451	63,826
DPMS	MIssouri	-	-	-	58,269	94,299	83,129	48,891	39,411	-	-	323,999
Dragon Fire Armory	Florida	-	-	-	-	-	-	-	-	180	109	289
DS Arms	Illinois	1,120	1,212	1,292	1,441	2,192	2,715	8,001	2,496	1,257	3,402	25,128
Exports		0	0	0	21	3	72	122	38	274	299	829
East Coast Custom Tactical	Florida	-	-	-	-	-	-	-	21	86	71	178
FMK Firearms	California	-	-	-	-	-	-	-	-	3,542	25,796	29,338
Heckler and Koch	New Hampshire	-	-	-	-	-	6	6	3,426	1,138	5,569	10,145
Hogan	Alabama	-	-	-	-	-	-	16	783	334	343	1,476
Intacto Arms	Idaho	-	-	-	-	-	-	-	3	92	168	263
Hughes Precision Products	Michigan	-	-	-	-	-	-	-	-	-	213	213
I O Inc	Florida	-	-	-	-	-	-	-	-	-	3,656	3,656
JP Enterprise	Minnesota	130	135	137	233	438	592	558	-	919	2,131	5,273
Just Right Carbines	New york	-	-	-	-	-	-	387	3,047	5,889	12,610	21,933
Exports		0	0	0	0	0	0	50	288	1218	1520	3,076
Knights Armament	Florida	56	212	17	124	267	8,200	1,437	1,118	919	8,041	20,391
Exports		0	0	0	0	24	0	71	40	0	40	175
Lancer Systems	Pennsylvania	-	-	-	-	-	-	96	117	44	180	437
Exports		0	0	0	0	0	0	22	0	0	0	22
Les Baer	Iowa	-	-	-	-	-	2,095	154	623	664	792	4,328
Lewis Machine and Tool	Illinois	-	144	275	289	1,599	-	3,553	4,998	6,278	8,727	25,863
Exports		0	0	0	0	0	0	0	0	48	214	262
LWRC	Maryland	-	-	-	-	2,749	9,100	6,144	5,701	10,204	17,999	51,897
Exports		0	0	0	0	0	0	38	0	0	0	38
McDuffee Arms	Colorado	-	-	-	-	-	-	-	-	58	158	216
Mega Arms	Washington	-	-	-	-	-	5,398	1,457	3,195	8,640	12,564	31,254
Mennie Machine	Illinois	-	-	-	-	-	-	-	-	-	798	798

APPENDIX A. M4/AR-15S MANUFACTURED 2004-2013)

Table 6. (Continued) M4/AR-15s Manufactured 2004–2013 (after BATF, n.d.)

Nemo Arms	Montana	-	-	-	-	-	-	-	-	74	910	984
New Frontier	Nevada	-	-	-	-	-	-	-	48	447	97	592
Nodak Arms	North Dakota	-	-	-	-	-	-	-	5	204	294	503
Noreen Firearms	Montana	-	-	-	-	-	-	-	-	49	1,063	1,112
Noveske	Oregon	-	19	43	190	770	750	748	1,437	2,280	1,525	7,762
Olympic Arms	Washington	6,554	1	7,334	7,594	9,829	12,089	2,892	5,044	9,976	12,999	74,312
Palmetto State Armory	South Carolina	-	-	-	-	-	-	1,363	18,163	11,297	10,848	41,671
Para USA	North Carolina	-	-	-	-	-	713	1,309	1,415	13	10	3,460
Patriot Ordnance	Arizona	-	-	1,007	2,481	3,052	8,418	947	918	5,347	9,475	31,645
Primary Weapon Systems	Idaho	-	-	-	-	-	11	154	1,481	2,428	2,510	6,584
Exports		0	0	0	0	0	0	0	42	136	285	463
Quality Arms	Idaho	-	-	-	-	-	6	47	186	168	198	605
Rainier Arms	Washington	-	-	-	-	-	-	-	48	257	319	624
Rock River Arms	Illinois	8,742	12,817	17,554	22,668	28,233	38,766	23,200	33,781	60,427	58,400	304,588
Exports		8742	1	16	43	150	10	54	89	27	51	9,183
Sabre Defense	Tennessee	295	1,502	1,268	3,027	4,934	5,347	1,194	-	-	-	17,567
San Tan Tactical	Arizona	-	-	-	-	-	-	-	-	-	121	121
Sig Sauer	New Hampshire	-	-	6,698	8,236	18,898	39,294	29,764	31,025	99,001	121,242	354,158
Exports		0	0	154	1342	37	241	878	2228	28937	2593	36,410
SLR15 Rifles	Minnesota	-	-	-	-	7	50	46	15	21	17	156
Smith & Wesson	Massachusetts	-	-	4,650	24,676	38,372	110,057	100,051	156,705	302,343	348,731	1,085,585
Exports		0	15	15	91	1347	1178	1672	1387	5885	5392	16,982
Special Ops Tactical	Florida	-	-	-	-	-	-	-	60	448	120	628
Spikes Tactical	Florida	-	-	-	-	-	-	-	-	-	2,414	2,414
Spirit Gun Manufactring	arizona	-	-	-	-	-	22	287	-	-	38	347
Stag Arms	Connecticut	2,008	7,848	22,120	25,768	31,688	48,820	19,545	34,211	78,367	62,590	332,965
Exports		0	11	218	353	288	1265	982	188	414	451	4,170
Sun Devil Manufacturing	Arizona	-	-	-	605	-	-	22	22	34	27	710
Superior Tactical Solutions	Kentucky	-	-	-	-	9,562	-	900	-	192	5	10,659
Sword International	Nevada	-	-	-	-	-	-	-	24	81	281	386
Tactical Weapons Solutions	Florida	-	-	-	-	-	-	-	949	1,383	1,827	4,159
TNW Firearms	Oregon	-	-	363	289	194	1,709	1,353	1,135	130	3,225	8,398
Exports		0	0	0	0	0	0	0	0	1903	320	2,223
Troy Ind	Massachusetts	-	-	-	-	-	-	-	20	2,922	2,633	5,575
Exports		0	0	0	0	0	0	0	0		52	52
US Firearms Academy	Nevada	-	-	-	-	-	-	14	27	77	146	264
USA Tactical Firearms	North Carolina	-	-	-	-	-	-	-	-	277	467	744
Wilson Combat	Arizona	-	43	181	261	475	720	291	315	858	2,063	5,207
Windham Weaponry	Arizona	-	-	-	-	-	-	-	5,492	57,659	74,013	137,164
Exports		0	0	0	0	0	0	0	0	235	496	731
WMD Guns	Florida	-	-	-	-	-	-	-	-	100	229	329
Yampa Precision	Arizona	-	-	-	-	-	-	-	670	7,594	10,366	18,630
Yankee Hill Machine	Massachusetts	-	5	9	81	837	56	107	135	337	1,382	2,949
TOTAL		88,730	102,567	153,761	262,721	424,878	603,705	382,252	499,812	974,125	1,182,609	4,675,160

APPENDIX B. M4/AR-15S PER CAPITA IN 2013

Table 7. M4/AR-15s per Capita in 2013

State	Population 2013	NICS Rifles 2013	Rifles Per Capita	AR-15 Market Share 2013	AR-15 Per Capita
Alabama	4,833,722	203,530	4.2%	29.0%	1.22%
Alaska	735,132	44,001	6.0%	29.0%	1.74%
Arizona	6,626,624	110,309	1.7%	29.0%	0.48%
Arkansas	2,959,373	94,837	3.2%	29.0%	0.93%
California	38,332,521	526,191	1.4%	29.0%	0.40%
Colorado	5,268,367	188,017	3.57%	29.0%	1.03%
Connecticut	3,596,080	57,455	1.6%	29.0%	0.46%
Delaware	925,749	16,424	1.8%	29.0%	0.51%
D.C.	646,449	37	0.0%	29.0%	0.00%
Florida	19,552,860	326,475	1.7%	29.0%	0.48%
Georgia	9,992,167	139,936	1.4%	29.0%	0.41%
Hawaii	1,404,054	0	0.0%	29.0%	0.00%
Idaho	1,612,136	57,025	3.5%	29.0%	1.03%
Illinois	12,882,135	184,681	1.4%	29.0%	0.42%
Indiana	6,570,902	183,676	2.8%	29.0%	0.81%
Iowa	3,090,416	41,371	1.3%	29.0%	0.39%
Kansas	2,893,957	90,424	3.1%	29.0%	0.91%
Kentucky	4,395,295	127,608	2.9%	29.0%	0.84%
Louisiana	4,625,470	167,642	3.6%	29.0%	1.05%
Maine	1,328,302	50,959	3.8%	29.0%	1.11%
Maryland	5,928,814	87,046	1.5%	29.0%	0.43%
Massachusetts	6,692,824	40,058	0.6%	29.0%	0.17%
Michigan	9,895,622	155,359	1.6%	29.0%	0.46%
Minnesota	5,420,380	152,045	2.8%	29.0%	0.81%
Mississippi	2,991,207	100,270	3.4%	29.0%	0.97%
Missouri	6,044,171	212,607	3.5%	29.0%	1.02%
Montana	1,015,165	59,936	5.9%	29.0%	1.71%
Nebraska	1,868,516	31,787	1.7%	29.0%	0.49%
Nevada	2,790,136	48,128	1.7%	29.0%	0.50%
New Hampshire	1,323,459	46,503	3.5%	29.0%	1.02%
New Jersey	8,899,339	50,287	0.6%	29.0%	0.16%
New Mexico	2,085,287	61,320	2.9%	29.0%	0.85%
New York	19,651,127	202,024	1.0%	29.0%	0.30%
North Carolina	9,848,060	199,484	2.0%	29.0%	0.59%
North Dakota	723,393	44,862	6.2%	29.0%	1.80%
Ohio	11,570,808	266,246	2.3%	29.0%	0.67%
Oklahoma	3,850,568	154,106	4.0%	29.0%	1.16%
Oregon	3,930,065	133,202	3.4%	29.0%	0.98%
Pennsylvania	12,773,801	765,678	6.0%	29.0%	1.74%
Rhode Island	1,051,511	11,128	1.1%	29.0%	0.31%
South Carolina	4,774,839	90,764	1.9%	29.0%	0.55%
South Dakota	844,877	53,625	6.3%	29.0%	1.84%
Tennessee	6,495,978	216,448	3.3%	29.0%	0.97%
Texas	26,448,193	568,501	2.1%	29.0%	0.62%
Utah	2,900,872	54,492	1.9%	29.0%	0.54%
Vermont	626,630	18,903	3.0%	29.0%	0.87%
Virginia	8,260,405	229,551	2.8%	29.0%	0.81%
Washington	6,971,406	159,388	2.3%	29.0%	0.66%
West Virginia	1,854,304	105,814	5.7%	29.0%	1.65%
Wisconsin	5,742,713	165,601	2.9%	29.0%	0.84%
Wyoming	582,658	29,774	5.1%	29.0%	1.48%

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APPENDIX C. 2004 FBI NICS REPORT

Table 8. 2004 FBI NICS Report (from FBI, n.d.-a)

NICS Firearm Background Checks: Year by State/Type

Year 2004

January 1, 2004 - December 31, 2004

State / Territory	Permit	Handgun	Long Gun	*Other	**Multiple	Admin	Pre-Pawn			Redemption			Returned/Disposition			Rentals		Private Sale			Return to Seller - Private Sale			Totals
							Handgun	Long Gun	*Other	Handgun	Long Gun	*Other	Handgun	Long Gun	*Other	Handgun	Long Gun	Handgun	Long Gun	*Other	Handgun	Long Gun	*Other	
Alabama	0	69,932	117,692		3,632	0	468	636		15,421	22,216													229,997
Alaska	0	13,026	21,959		882	0	44	82		1,749	2,762													40,504
Arizona	17,605	56,236	62,487		3,042	58	122	99		8,655	7,415													155,719
Arkansas	8,214	31,085	85,476		2,545	0	104	223		7,184	23,535													158,366
California	141,926	177,220	219,511		39	10,147	0	0		0	0													548,843
Colorado	10,012	69,512	109,533		5,132	2	0	0		0	0													194,191
Connecticut	48,361	22,768	25,045		1,113	3,629	0	0		0	0													100,916
Delaware	0	4,977	11,197		208	0	0	0		18	24													16,424
District of Columbia	0	14	0		0	0	0	0		0	0													14
Florida	0	144,755	155,333		6,066	3	149	160		5,976	5,582													318,024
Georgia	34,429	70,216	123,561		2,866	1,131	0	0		0	0													232,203
Guam	0	192	237		10	0	0	0		0	0													439
Hawaii	7,295	0	0		0	3	0	0		0	0													7,298
Idaho	11,570	13,278	37,931		1,178	0	18	62		2,693	8,823													75,553
Illinois	433,946	53,904	99,523		3,044	0	0	0		0	0													590,417
Indiana	0	63,235	105,228		2,122	0	2	44		14	5,875													176,520
Iowa	51,050	306	45,008		46	105	0	28		29	1,945													98,517
Kansas	0	24,008	63,202		1,952	0	100	67		3,321	6,357													99,007
Kentucky	0	67,889	124,173		4,927	0	110	273		13,213	24,389													234,974
Louisiana	0	49,283	93,711		2,520	0	43	66		9,614	17,184													172,421
Maine	0	13,287	35,746		977	0	94	497		444	1,620													52,665
Mariana Islands	0	0	0		0	0	0	0		0	0													0
Maryland	23,183	2,552	49,825		101	2	8	12		523	1,275													77,481
Massachusetts	41,202	20,815	16,535		595	33,849	0	0		0	0													112,996
Michigan	135,692	32,590	169,747		729	0	1	226		2	3,431													342,418
Minnesota	51,552	38,578	128,666		1,459	0	16	60		862	6,653													227,846
Mississippi	0	38,079	78,965		2,227	0	606	1,049		10,759	20,609													152,294
Missouri	0	44,533	142,138		1,689	0	23	150		2,261	18,522													209,316
Montana	4,066	15,596	45,577		1,624	74	46	243		3,679	12,640													83,545
Nebraska	17,188	156	29,683		25	0	0	12		20	1,352													48,436
Nevada	0	23,762	27,412		1,501	4	0	0		1,104	971													54,754
New Hampshire	17,082	13,343	26,177		168	0	0	0		0	21													56,791
New Jersey	0	14,399	22,384		566	27	0	0		0	0													37,376
New Mexico	0	24,903	38,923		1,856	0	39	60		4,756	11,009													81,546
New York	35,791	10,349	111,057		188	1,921	744	0		2	170													160,222
North Carolina	92,972	1,985	142,499		1,339	0	179	336		13,078	24,092													276,480
North Dakota	2,287	4,754	25,156		233	0	3	5		303	1,949													34,690
Ohio	0	127,163	173,266		6,240	0	194	766		6,438	12,973													327,040
Oklahoma	0	46,856	87,731		4,233	0	141	301		10,412	23,514													173,188
Oregon	470	48,042	98,103		3,073	0	0	0		0	0													149,688
Pennsylvania	3,776	0	497,989		3,048	0	0	0		0	0													504,813
Puerto Rico	0	6,190	1,284		238	0	0	0		0	0													7,712
Rhode Island	0	4,286	4,781		973	0	0	0		8	6													10,054
South Carolina	10,808	37,647	60,286		1,374	11	64	74		5,368	8,521													124,153
South Dakota	0	8,440	37,554		530	0	8	28		769	2,994													50,323
Tennessee	10,900	87,637	127,351		3,513	0	0	0		0	0													229,401
Texas	82,633	152,473	319,020		11,993	46	488	626		37,412	68,304													672,995
Utah	14,659	18,899	45,428		981	0	0	0		0	0													79,967
Vermont	0	5,816	13,398		275	0	0	0		0	1													19,490
Virgin Islands	0	0	0		0	0	0	0		0	0													0
Virginia	0	80,005	130,520		2,532	5	0	0		0	0													213,062
Washington	34,659	55,820	86,352		3,173	530	92	143		9,034	13,629													203,432
West Virginia	0	30,356	69,730		2,561	0	23	62		6,229	23,885													132,846
Wisconsin	0	40,981	143,387		27	0	0	7		47	2,648													187,097
Wyoming	2,344	8,332	19,370		620	12	14	62		1,142	3,531													35,427
Totals	1,345,672	1,990,460	4,306,847	0	101,985	51,559	3,943	6,459	0	182,539	390,427	0	0	0	0	0	0	0	0	0	0	0	0	8,579,891

NOTES:

*Refers to frames, receivers and other firearms that are not either handguns or long guns (rifles or shotguns), such as firearms having a pistol grip that expel a shotgun shell
Start date: June 29, 2009

**Multiple (multiple types of firearms selected)

DISCLAIMERS:

Some states may reflect lower than expected numbers for handgun checks based on varying state laws pertaining to handgun permits Since the permit check is done in place of the NICS check in most of the affected states, the low handgun statistics are often balanced out by a higher number of handgun permit checks

These statistics represent the number of firearm background checks initiated through the NICS They do not represent the number of firearms sold Based on varying state laws and purchase scenarios, a one-to-one correlation cannot be made between a firearm background check and a firearm sale

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APPENDIX D. 2013 FBI NICS REPORT

Table 9. 2013 FBI NICS Report (from FBI, n.d.-a)

NICS Firearm Background Checks: Year by State/Type

Year 2013

January 1, 2013 - December 31, 2013

State / Territory	Permit	Handgun	Long Gun	*Other	**Multiple	Admin	Pre-Pawn			Redemption			Returned/Disposition			Rentals		Private Sale			Return to Seller - Private Sale			Totals
							Handgun	Long Gun	*Other	Handgun	Long Gun	*Other	Handgun	Long Gun	*Other	Handgun	Long Gun	Handgun	Long Gun	*Other	Handgun	Long Gun	*Other	
Alabama	100,231	195,052	203,530	5,955	9,270	2	99	157	0	24,521	25,001	61				1	0	0	0	0	0	0	0	563,880
Alaska	2,569	36,678	44,001	2,646	2,449	0	64	94	0	2,437	2,459	8				0	0	0	0	0	0	0	0	93,405
Arizona	76,048	138,744	110,309	6,824	6,339	0	73	44	1	15,586	9,043	25				0	0	0	0	0	0	0	0	363,036
Arkansas	66,434	74,884	94,837	1,278	4,335	0	73	148	4	11,797	25,918	28				0	0	0	0	0	0	0	0	279,736
California	423,953	407,355	526,191	1,002	0	19	0	0	0	5,663	4,081	31				0	0	0	0	0	0	0	0	1,368,295
Colorado	89,282	213,176	188,017	8,970	15,130	12	16	11	0	22	22	0				0	0	0	0	0	0	0	0	514,658
Connecticut	163,105	68,920	57,455	4,521	0	337	0	0	0	0	0	0				0	0	0	0	0	0	0	0	294,338
Delaware	2,040	19,799	16,424	864	806	8	0	1	0	62	58	0				0	0	0	0	0	0	0	0	40,062
District of Columbia	0	453	37	1	6	0	0	0	0	0	0	0				0	0	0	0	0	0	0	0	497
Florida	167,727	503,401	326,475	19,831	21,020	672	222	124	1	21,964	12,373	39				0	0	0	0	0	0	0	0	1,073,859
Georgia	176,406	155,855	139,936	3,362	6,652	0	158	233	0	21,098	24,167	18				0	0	0	0	0	0	0	0	527,885
Guam	0	650	527	116	36	0	0	0	0	1	1	0				0	0	0	0	0	0	0	0	1,331
Hawaii	17,415	0	0	0	0	1	0	0	0	0	0	0				0	0	0	0	0	0	0	0	17,416
Idaho	37,423	37,510	57,025	1,256	2,086	0	30	61	1	3,946	8,140	15				0	0	0	1	0	0	0	0	147,494
Illinois	848,615	236,374	184,681	0	10,943	0	0	0	0	0	0	0				0	0	0	0	0	0	0	0	1,280,613
Indiana	173,553	215,778	183,676	8,997	7,913	1	3	50	0	30	7,120	3				0	0	0	0	0	0	0	0	597,124
Iowa	114,907	2,132	41,371	293	64	0	2	4	0	26	1,261	2				0	0	0	0	0	0	0	0	160,062
Kansas	35,236	83,208	90,424	3,159	4,474	19	17	31	1	5,616	5,912	8				0	0	0	0	0	0	0	0	228,105
Kentucky	1,268,713	122,316	127,608	2,640	7,550	8	82	119	2	20,825	28,448	20				0	0	0	0	0	0	0	0	1,578,331
Louisiana	0	144,927	167,642	5,648	7,446	0	55	62	6	12,181	15,043	14				0	0	0	1	0	0	0	0	353,025
Maine	0	38,737	50,959	1,237	2,032	0	149	400	0	972	2,272	2				0	0	0	0	0	0	0	0	96,760
Mariana Islands	0	0	13	0	0	0	0	0	0	0	0	0				0	0	0	0	0	0	0	0	13
Maryland	7,207	132,453	87,046	1,335	272	0	5	67	34	595	1,963	54				0	1	4	85	52	0	7	2	231,182
Massachusetts	143,528	61,219	40,058	4,396	2,033	108	3	3	1	6	4	0				0	0	1	1	0	0	0	0	251,361
Michigan	200,912	136,643	155,359	3,802	2,655	0	2	44	0	47	4,512	2				0	0	0	1	0	0	0	0	503,979
Minnesota	231,076	124,802	152,045	4,864	4,443	0	14	38	0	2,306	6,984	2				0	0	0	0	0	0	0	0	525,774
Mississippi	8,768	83,754	100,270	2,055	4,261	55	405	368	2	12,869	18,886	18				0	0	0	0	0	0	0	0	231,711
Missouri	62,745	240,764	212,607	8,091	10,768	0	99	215	1	11,915	19,762	42				0	0	0	0	0	0	0	0	567,009
Montana	16,704	39,081	59,936	1,149	2,921	90	19	78	2	5,290	12,549	11				0	0	0	0	0	0	0	0	137,830
Nebraska	56,897	1,343	31,787	218	45	0	1	13	0	55	1,190	3				0	0	0	1	0	0	0	0	91,553
Nevada	25,878	59,861	48,128	3,168	4,153	0	1	3	1	3,330	2,163	6				0	0	0	0	0	0	0	0	146,892
New Hampshire	43,805	56,470	46,503	682	23	53	0	2	0	6	181	1				0	0	0	0	0	0	0	0	147,726
New Jersey	0	66,786	50,287	2,998	0	0	0	0	0	0	0	0				0	0	0	0	0	0	0	0	120,071
New Mexico	11,997	63,923	61,320	2,861	3,532	0	45	76	0	5,095	7,479	5				0	0	0	0	0	0	0	0	156,333
New York	28,505	108,508	202,024	7,079	1,832	4,143	2	6	0	61	178	0				0	0	379	318	16	2	11	0	353,064
North Carolina	302,094	10,214	199,484	5,395	2,626	0	96	164	2	21,339	33,142	66				0	0	0	0	0	0	0	0	574,622
North Dakota	12,926	23,594	44,862	643	1,160	0	10	7	3	741	1,866	0				0	0	0	0	0	0	0	0	85,812
Ohio	0	358,748	266,246	13,015	15,444	0	25	23	1	13,973	13,399	56				0	0	0	0	0	0	0	0	680,930
Oklahoma	0	163,291	154,106	7,578	10,662	0	61	45	0	20,085	24,772	33				0	0	0	1	0	0	0	0	380,634
Oregon	559	140,539	133,202	0	0	2	0	0	0	0	0	0				0	0	0	0	0	0	0	0	274,302
Pennsylvania	275,728	317	765,678	2,982	0	20	1	3	0	2	0	0				0	0	0	0	0	0	0	0	1,044,731
Puerto Rico	0	13,798	2,679	159	314	0	0	0	0	18	0	0				0	0	0	0	0	0	0	0	16,968
Rhode Island	0	12,800	11,128	455	2,237	0	2	1	0	19	24	0				0	0	0	0	0	0	0	0	26,666
South Carolina	102,873	110,001	90,764	3,632	3,802	9	62	80	0	12,349	12,098	25				0	0	0	0	0	0	0	0	335,695
South Dakota	26	31,418	53,625	961	1,918	0	4	14	0	1,247	2,842	0				0	0	0	0	0	0	0	0	92,055
Tennessee	124,271	249,753	216,448	0	10,397	0	0	0	0	0	0	0				0	0	0	0	0	0	0	0	600,869
Texas	277,031	598,088	568,501	23,668	30,847	0	474	435	10	68,291	65,711	217				4	0	0	0	0	0	1	0	1,633,278
Utah	214,194	45,853	54,492	1,149	1,655	0	17	3	3	2,871	4,365	2				0	0	0	0	0	0	0	0	324,604
Vermont	0	15,912	18,903	585	732	0	0	1	0	1	1	0				0	0	0	0	0	0	0	0	36,135
Virgin Islands	862	222	44	0	5	1	0	0	0	0	0	0				0	0	0	0	0	0	0	0	1,134
Virginia	0	257,928	229,551	10,947	0	0	0	0	0	0	0	0				0	0	0	0	0	0	0	0	498,426
Washington	152,569	199,142	159,388	11,676	6,750	75	41	57	5	15,105	16,277	37				0	0	0	0	0	0	0	0	561,122
West Virginia	5,602	92,387	105,814	2,519	5,512	6	47	75	0	11,978	25,003	9				0	0	0	0	0	0	0	0	248,952
Wisconsin	92,407	166,049	165,601	5,211	405	0	2	28	8	1,072	3,895	10				0	0	0	0	0	0	0	0	434,688
Wyoming	7,001	26,692	29,774	903	1,405	23	19	30	0	1,865	2,953	5				0	0	1	0	0	0	0	0	70,671
Totals	6,169,832	6,387,502	7,128,798	212,776	241,360	5,664	2,500	3,418	89	359,478	453,518	878	0	0	0	5	1	385	409	68	2	19	2	20,966,704

NOTES:

*Refers to frames, receivers and other firearms that are not either handguns or long guns (rifles or shotguns), such as firearms having a pistol grip that expel a shotgun shell
Start date: June 29, 2009

**Multiple (multiple types of firearms selected)

DISCLAIMERS:

Some states may reflect lower than expected numbers for handgun checks based on varying state laws pertaining to handgun permits Since the permit check is done in place of the NICS check in most of the affected states, the low handgun statistics are often balanced out by a higher number of handgun permit checks

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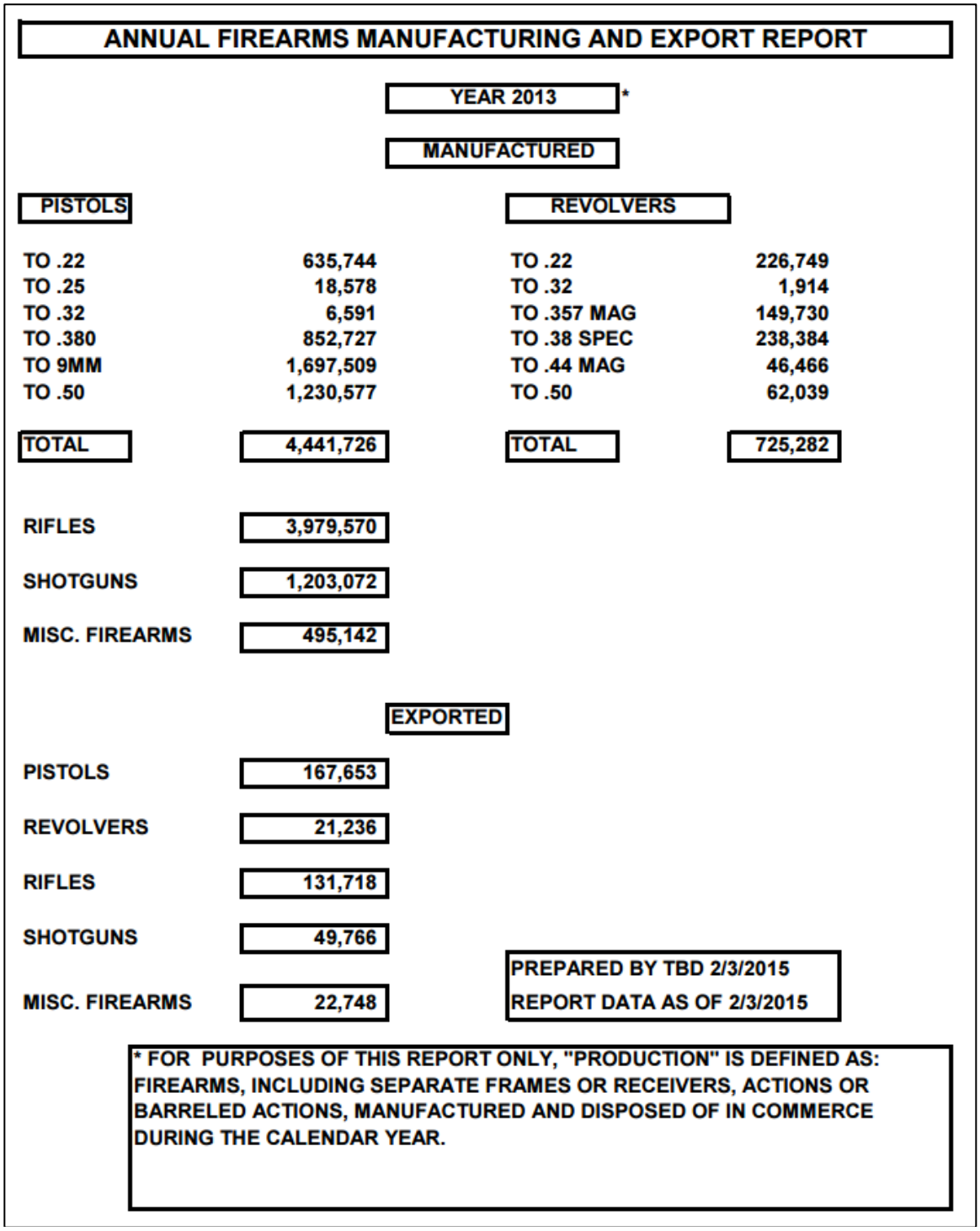
APPENDIX E. 2013 BATF AFMER REPORT COVER PAGE



ANNUAL FIREARMS MANUFACTURING AND EXPORT REPORT

YEAR 2013 *

MANUFACTURED

PISTOLS		REVOLVERS	
TO .22	635,744	TO .22	226,749
TO .25	18,578	TO .32	1,914
TO .32	6,591	TO .357 MAG	149,730
TO .380	852,727	TO .38 SPEC	238,384
TO 9MM	1,697,509	TO .44 MAG	46,466
TO .50	1,230,577	TO .50	62,039
TOTAL	4,441,726	TOTAL	725,282

RIFLES	3,979,570
SHOTGUNS	1,203,072
MISC. FIREARMS	495,142

EXPORTED

PISTOLS	167,653
REVOLVERS	21,236
RIFLES	131,718
SHOTGUNS	49,766
MISC. FIREARMS	22,748

PREPARED BY TBD 2/3/2015
REPORT DATA AS OF 2/3/2015

* FOR PURPOSES OF THIS REPORT ONLY, "PRODUCTION" IS DEFINED AS: FIREARMS, INCLUDING SEPARATE FRAMES OR RECEIVERS, ACTIONS OR BARRELED ACTIONS, MANUFACTURED AND DISPOSED OF IN COMMERCE DURING THE CALENDAR YEAR.

Figure 25. 2013 BATF AFMER Report Cover Page (from BATF, n.d.)

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