

# Ensuring Operational Readiness: Private Military Contractor Support for the United States Air Force

A Monograph

by

Maj Stephen P. Joca  
United States Air Force



School of Advanced Military Studies  
United States Army Command and General Staff College  
Fort Leavenworth, Kansas

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## Monograph Approval Page

Name of Candidate: Maj Stephen P. Joca

Monograph Title: Ensuring Operational Readiness: Private Military Contractor Support  
for the United States Air Force

Approved by:

\_\_\_\_\_, Monograph Director  
Bruce E. Stanley, PhD

\_\_\_\_\_, Seminar Leader  
Jason J. McGuire, COL

\_\_\_\_\_, Director, School of Advanced Military Studies  
James C. Markert, COL

Accepted this 25th day of May 2017 by:

\_\_\_\_\_, Director, Graduate Degree Programs  
Prisco R. Hernandez, PhD

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## Abstract

Ensuring Operational Readiness: Private Military Contractor Support for the United States Air Force, by Maj Stephen P. Joca, USAF, 62 pages.

This monograph establishes a case for using private military companies to provide air strike support to Security Force Assistance operations, rather than relying on the USAF fighter aircraft. The need for establishing an alternate supply source was shown by examining the current environment in the USAF to that which Dr. Bruce Stanley asserts is necessary for the growth in private military contractors. This, coupled with the additional demands, like the desire for operational flexibility and the need for “surge” capacity in order to respond to an unforeseen crisis or train for major combat operations, were proven sufficient to suggest the USAF use PMCs to support SFA operations. These results are significant, as USAF planners may soon find themselves without the necessary supply to meet the operational requirements demanded of fighter aircraft. It will then be necessary to find a mission where PMCs can provide the same level of support to combatant commanders. This monograph argues that mission is SFA; where air strikes are necessary but do not usually require detailed integration with US conventional ground forces.

A case study analysis on the American Volunteer Group was completed to determine if that structure and method is duplicable today. The results of the case study analysis showed the model used by the US government to support China is valid and tenable today. The legal framework has changed since the days of Claire Chennault’s Flying Tigers, but in a way that makes PMC use more legitimate. There now exists a law that has survived eight presidents that codifies the exporting of military equipment to foreign governments. Further, an international institution provides standards and norms under which PMCs operate. The analysis concluded that similar conditions that were present in the time of the AVG exist today and the structure and method in which they operated provides a contemporary working model.

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## Acronyms

AMMISCA	American Military Mission to China
AVG	American Volunteer Group
CAMCO	Central Aircraft Manufacturing Company
PMC	Private Military Company
PSC	Private Security Company
SFA	Security Force Assistance
US	United States
USAF	United States Air Force
WW II	World War II

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## Introduction

The victories of these Americans over the rice paddies of Burma are comparable in character if not in scope with those won by the RAF over the hop fields of Kent in the Battle of Britain.

— Winston Churchill

The US military has a long history of providing assistance to foreign countries in furtherance of its national interest. It has an equally long history of employing private military companies to either support or replace regular troops when there is insufficient supply to meet an overwhelming demand, or when political sensitivities do not allow conventional military operations. One of the more notable examples in US history of private contractors supporting national interest, with the express consent of the president, is that of Claire Chennault's American Volunteer Group (AVG) from 1939 to 1942.

The United States employs increasingly more contractors as the size of the armed forces and its operating budget continues to decrease. Typically, these contractors provide logistics, maintenance, and service support, although in some cases they provide security and direct ground combat.<sup>1</sup> It is in this direct combat role that this monograph applied the theory developed by Dr. Bruce Stanley to determine if the supply-demand behavior present in the United States Air Force (USAF) is sufficient to predict an increase in the use of private contractors. It relied on Stanley's finding that if defense budgets and personnel numbers continue to decline and the demand continues to increase, reliance on contractors will grow in the future. This evolution seems likely to include tasks previously accomplished by USAF fighter aircraft. What follows is an argument for the use of Private Military Companies (PMCs) to provide air strike support in future Security Force Assistance (SFA) operations through an analysis of a case study on the AVG.

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<sup>1</sup> James Jay Carafano, *Private Sector, Public Wars: Contractors in Combat--Afghanistan, Iraq, and Future Conflicts, The Changing Face of War* (Westport, CT: Praeger Security International, 2008), 68-69.

The determination to suggest replacing USAF aircraft with PMCs to support SFA operations is twofold. First, the role USAF aircraft are fulfilling in SFA missions today is not the traditional roles for which they were developed. This was acceptable when there were US soldiers on the front lines and the mission was more akin to Close Air Support than SFA. It was also acceptable when operations were contained to Iraq and Afghanistan and before the resurgence of credible peer threats. While there are instances where SFA missions require support of regular USAF aircraft, the US increasingly relies on host nation military intervention that make such instances rare. This monograph only suggests PMC support for SFA operations that do not involve regular US military forces. Doing so will allow the USAF recapitalize its fleet and focus on the traditional missions of fighter and bomber aircraft.

There are striking parallels in public sentiment, supply-demand behavior, and foreign policy between 1939 and today that make the AVG case study especially relevant. In both periods, the public favored some action to curtail aggression and atrocities, but did not favor the use regular US military forces. Further, in both cases there existed a demand greater than supply that would not permit the US to fulfill obligations everywhere necessary to ensure its security. Finally, the US was and is reluctant to enter into formal military alliances with countries that need support against a common enemy, but otherwise do not share similar interests or values. This was the case with China during World War II (WW II) and many of the countries that are fighting transnational terrorist organizations today. The case study highlights and the analysis focuses on these similarities to determine if a similar structure and method is applicable today.

Even a cursory examination of the current operations tempo in the USAF shows the force is strained to a point where they may not be capable of responding to additional conflicts. The USAF recently deployed a squadron of its B-1 bombers to interdict targets in support of SFA operations many miles away from the closest US service member. The USAF employs the B-1 in this non-traditional role because they do not have enough fighter aircraft to meet the demand. The

B-1 was originally developed in the early 1980s as a nuclear equipped long range, supersonic, low altitude terrain following bomber that could evade Soviet detection. It is now loaded with conventional bombs and flown hundreds of miles in support of a foreign government at a cost of nearly \$37,000 a flying hour.<sup>2</sup> These aircraft fly over 800 miles each way to reach their targets, which adds four to five hours to their total mission time. The bombers repeat this undertaking several times a day to drop many of the same bombs that commercially available single engine propeller planes can employ.

The Airmen who perform this endeavor are America's finest. They volunteered, most of them after September 11, 2001 to fly to the ends of the earth to protect America's interests. Nevertheless, the high operations tempo is crippling their aircraft and their pilots separating from service at a rate faster than they can be replaced.<sup>3</sup> During a recent six-month deployment, the B-1 flew 480 missions, which averages nearly three missions a day.<sup>4</sup> In January of 2016, the B-1s left the theater to undergo a maintenance overhaul, expedited by the high operations tempo brought on by their support of the Iraqi Government.<sup>5</sup> Additionally, the combined cost of USAF air strikes in support of SFA operations in Iraq is over \$8 million per day.<sup>6</sup> This price tag does not include

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<sup>2</sup> Mark E. Church, GS-14 USAF Global Strike Command Headquarters, "Cost per Flying Hour," e-mail, December 7, 2016 (11:11 am CST). While researching this project, vastly different figures were encountered as to the flying hour cost of a B-1. Other secondary sources put the number at \$67,000/hr. The number included in this monograph is a FY17 figure from the director of Global Strike Command budgeting and flying hour procurement.

<sup>3</sup> Albert A. Robbert et al., *Reducing Air Force Fighter Pilot Shortages* (Santa Monica, CA: RAND Corporation, 2015), accessed October 21, 2016, [http://www.rand.org/pubs/research\\_reports/RR1113.html](http://www.rand.org/pubs/research_reports/RR1113.html).

<sup>4</sup> Ryan Browne, "B-52 Bombers to Take on ISIS," CNN, March 8, 2016, accessed December 5, 2016, <http://www.cnn.com/2016/03/08/politics/b52-bombers-isis/index.html>.

<sup>5</sup> Browne, The B-52 is a 1950's era bomber that does not provide substantial cost savings over the B-1. Their deployment is not a long-term solution to the supply/demand problem.

<sup>6</sup> Department of Defense, "Operation Inherent Resolve Special Report: Cost of Operations," October 15, 2016, accessed December 1, 2016, [http://www.defense.gov/News/Special-Reports/0814\\_Inherent-Resolve](http://www.defense.gov/News/Special-Reports/0814_Inherent-Resolve).

the pilot, maintainer, logistics support, and security force Airman's salaries, the forward deployment of squadrons, the maintenance cost generated from additional flight time, or the money the US Government pays to lease airfields in foreign countries.

The current trend shows that demand for USAF fighter aircraft is increasing while availability (and supply) is decreasing. The number of named operations jumped from five in 2014 to eight by 2016.<sup>7</sup> According to the Air Force Chief of Staff, this increase in demand may result in a situation where the Air Force is unable to respond to a future crisis.<sup>8</sup> It is therefore paramount that leaders look to other supply options to meet the demand. This study will address one option that may change how the United States provides support in SFA operations in the future that allows the same level of support while lessening the operational demands of USAF aircraft.

This monograph is constrained by three limitations. The first is that data availability will limit this research to the USAF aircraft only. The second is that security classification of the study may limit the disclosure of aircraft capabilities and operating locations. Finally, a quantitative cost analysis to determine if PMC use is less expensive than USAF aircraft is not possible. While PMCs tout their cost effectiveness over military deployments, such comparison would require a specific contract from a company that performs SFA support and at the time of this writing, no such contract exists.

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<sup>7</sup> "SECDEF Ordered Operational Support of Combatant Commands" (US Army, 2016). This Army pamphlet names the following operations: Operation Inherent Resolve (OIR -Iraq), Operation Freedom's Sentinel (OFS -Afghanistan), Operation Octave Shield/New Normal (ONN -Central Africa), Operation Spartan Shield (OSS -Kuwait), Operation Joint Guardian (OJG-Kosovo), Operation Enduring Freedom-Horn of Africa (OEF HOA -Djibouti) Operation Noble Eagle (ONE -D.C.), Operation Juniper Shield (OJS -AFRICOM Counter Boko Haram). While these operations do not all involve SFA operations, they do all require support from USAF aircraft and collectively add to the possibly unsustainable operations tempo presented in this monograph.

<sup>8</sup> Presentation to the Committee on Appropriations, Subcommittee on Defense, United States Senate, *Fiscal Year 2017 Air Force Posture Statement*, 114th Cong., February 10, 2016, 11-13.

There are several delimitations in this this monograph as well. The most important one is that in no manner is it suggested that the United States use contract air strike support for operations that involve conventional forces, major combat operations, or in the conduct of Close Air Support. The hypotheses in this monograph are narrow in scope and only apply to operations where air strikes are conducted far away from, and not in direct support of, US troops. It also recognizes the merit of using USAF Remotely Piloted Aircraft in SFA operations and does not rule out the use of contract Remotely Piloted Aircraft support, but this is not the focus of this study. Further, it acknowledges that, much like the training of Chinese pilots in the United States during WW II, there is merit in training host nation pilots in the United States as part of a long-term solution to increase the capacity and capability of those air forces.

This monograph is broken down into six sections. The literature review follows this introduction, which includes the background of the problem, significance of the study, limitations, delimitations, hypotheses, and research questions. After the literature review, the methodology section explains the general strategy used to test the hypotheses. In the next section, a case study is presented that provides answers to the structure focused questions. Following the case study, the findings and conclusions provide analysis to the results of the case study and provide recommendations for further research.

## Literature Review

The literature review required to accomplish this endeavor varied from contemporary debate about the use of private military companies, to legal obstacles, to a historic analysis of the AVG from 1939 to 1942. A synthesis of these ideas, coupled with an understanding of the theoretical framework, provides the tools necessary to test the hypotheses. The following paragraphs discuss the literature pertaining to the theoretical application of supply and demand to the government's use of PMCs. It then provides a more detailed discussion of the conceptual idea of what constitutes a PMC and the legal and international norms in which they operate. Finally, it will conclude with a review of the empirical literature of others who have studied this topic. While there are countless works on the government's increasing reliance on PMCs and its relation to supply and demand, none discuss the feasibility of using contract air strike services in SFA operations.

### Supply and Demand Theory

This monograph analyzes the framework used by the US Government to aid China in their fight against Japanese invasion before joining the war on December 8, 1941. It uses Stanley's theory, outlined in his doctoral dissertation, as the lens to analyze the case study. The basic economic principle of supply and demand forms the foundation for an argument of using an alternative supply source, PMCs, in an environment of increasing demand. The following paragraphs will explain the theory in a depth necessary to understand its application to the government's use of PMCs.

The theory of supply and demand explains a basic economic and microeconomic phenomenon through examination of the relationship of price, demand for a product, and the willingness or motivation to supply a product.<sup>9</sup> This monograph uses the definitions of economics

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<sup>9</sup> Edwin Mansfield, *Applied Microeconomics* (New York: W.W. Norton, 1994), 1-42.

and microeconomics outlined in Stanley's book. Economics is the study of "how individuals, governments, firms, and nations make choices on allocating scarce resources to satisfy their unlimited wants."<sup>10</sup> Microeconomics is the study of "how individuals and organizations reach decisions about consumption and saving, prices and their output, privatization and efficiency, market competition, and how labor works."<sup>11</sup> The specific relationship of demand and the environment in the USAF necessary to accept an alternate supply source is the primary focus of this monograph.

Supply and demand forces interact in a market environment. Edwin Mansfield, in *Microeconomics Theory and Application*, defines a market as a "group of firms or individuals in touch with each other in order to buy or sell a good."<sup>12</sup> The specific market for this monograph is PMCs interacting with the US or foreign government to sell contract air strike services in support of SFA operations. This type of market, with only one entity acting on the demand forces, is an important factor in examining the AVG case study and in explaining the government's interaction with PMCs today. Normally, supply and demand assumes a market driven economy where there are numerous suppliers and customers and price determines the amount of purchases, but this is not the case in a government's use of PMCs. The relationship in this type of market is called a monopsony.<sup>13</sup> A monopsony is a market phenomenon where one buyer interacts with several suppliers of a product.<sup>14</sup> The customer has more power to dictate terms of an agreement than in a

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<sup>10</sup> Bruce E. Stanley, *Outsourcing Security: Private Military Contractors and US Foreign Policy* (Lincoln, NE: Potomac Books, 2015), 23.

<sup>11</sup> Ibid.

<sup>12</sup> Mansfield, 12.

<sup>13</sup> Stanley, 10-12.

<sup>14</sup> William M. Boal and Michael R. Ransom, "Monopsony in the Labor Market," *Journal of Economic Literature* 35, no. 1 (March 1997): 86.

traditional market, which usually manifests as a lower price for the product. However, this is not the case when the monopsonist organization is not a profit driven industry. According to Stanley, this unique situation exists in the US Military.<sup>15</sup> Therefore, the determining factor of the relationship between PMCs and the military is based on need rather than price.<sup>16</sup> Price is, however, important when exploring the return on investment of the AVG, which the case study explains in more detail.

The demand side of this market is normally represented by a market demand table, which shows the quantity of a good that would be purchased at each price.<sup>17</sup> The demand table is shown in a graph with the x-axis as the quantity and the y-axis as the price. The demand curve then slopes down and to the right, which shows that the quantity of a good demanded increases as the price falls. Several “demand drivers,” like the particular period of time, the taste of the consumer, the level of consumer income, and the level of other prices influence the slope of the curve.<sup>18</sup>

The other facet of the market is the supply side. It is also represented by a table that shows the quantity of a good supplied at each price. This data also is often displayed as a graph with the same x and y-axis, but in this graph the supply curve usually slopes upward and to the right. This represents the fundamental rule of supply, which is that the quantity supplied increases as the price increases. As with the demand side of the market, several factors influence the slope of the supply curve. These include the period time, the state of technology, and the input prices.<sup>19</sup>

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<sup>15</sup> Stanley, 29-33.

<sup>16</sup> Ibid., 29.

<sup>17</sup> Mansfield, 1-42.

<sup>18</sup> Ibid.

<sup>19</sup> Ibid., 21.



Input price plays a significant role in the supply side behavior and is pertinent to the analysis presented in the monograph. Supplying a product, like a fighter aircraft, involves combining a variety of inputs. Example input prices of producing an aircraft are the cost of material (steel, aluminum, titanium, and plastic), manpower cost, and the cost to operate the aircraft manufacturing facility. As the input price increases, supply decreases.<sup>20</sup> This phenomenon is important when analyzing the government's use of private contractors. As work force and operating costs increase, the supply of both military personnel and equipment decrease, which adds to the need to look for an alternate supply source.

An understanding of the economic theory of supply and demand is a prerequisite for examining the use of private contractors in support of military operations. In the monopsonist relationship between a PMC and the government, the underlining factor for determining the relationship between supply and demand is need rather than price, which differentiates it from a purely market driven economy.<sup>21</sup> This explains factors unique to a situation of single source demand, as is the case with private contractors in support of the US Government. These principles are foundational to the understanding that there exists a point where the demand for resources to protect national interests can no longer be supplied by regular military forces.

The theory of phenomenon developed by Stanley is fundamental to the argument presented in this monograph. In his book, *Outsourcing Security, Private Military Contractors and U.S. Foreign Policy*, he posits that while many authors explain the increase of PMCs using supply and demand, they fall short of offering a theory.<sup>22</sup> He conducted a qualitative study to test five hypotheses to determine which causal explanations are necessary and sufficient to explain the

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<sup>20</sup> Mansfield, 5-8.

<sup>21</sup> Stanley, 1-42.

<sup>22</sup> Stanley, 4-20.

growth of PMCs.<sup>23</sup> He garnered three main points from the historical analysis of case studies from the past five decades. First, the use of private contractors working in support of the US Government is not a new phenomenon. Second, the recent increase in use of private security as an instrument of military or foreign policy may be a consequence of deliberate policy decisions from successive presidents, rather than the simpler explanation Peter Singer provides in subsequent paragraphs below. Finally, the state of an intervention's security environment is a factor that increases the use of private contractors.<sup>24</sup> Stanley's second argument is particularly pertinent to this analysis, as presidential policy from nearly eighty years ago is examined for suitability in today's political environment.

Two additional ideas important to this analysis emerge from Stanley's research. The first is that when a government chooses to reduce their national military and is then faced with an unanticipated conflict that exceeds their capability, the demand for security increases.<sup>25</sup> When this demand meets an inadequate supply in a monopsony, it necessitates exploration of other options to meet the demand. The second idea is that PMCs fill the demand for military related activities when the US Government does not have the means or the will to provide it.<sup>26</sup> This discovery from Stanley is the foundation under which the argument in this monograph makes. The USAF is at a critical juncture where demand nearly exceeds their available supply. An unanticipated conflict, like many of those of the past twenty years, could force Air Force leaders to search for other options to meet the demand.

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<sup>23</sup> Stanley. His original five hypotheses later expanded to 8 at the completion of his case studies.

<sup>24</sup> Ibid., 1-42.

<sup>25</sup> Ibid.

<sup>26</sup> Stanley, 41.

As discussed earlier, other experts have attempted to explain the increased use of PMCs during the last thirty years. According to Peter Singer, the increase is attributable to the massive supply and demand disruption that occurred at the end of the Cold War.<sup>27</sup> When the Cold War ended, the need for massive militaries shrank dramatically and a subsequent drawdown occurred in most major Armies. During the 1990s, the number army personnel serving in the world's militaries shrank by six million soldiers.<sup>28</sup> This drawdown produced an excess supply of trained soldiers and military equipment, as machine guns to advanced fighter aircraft became available to anyone with the money to afford them. This glut of supply created the conditions necessary for market expansion of the military contractor enterprise.

The USAF experienced a similar post-Cold War drawdown. Since 1992, the number fighter aircraft produced annually for the Air Force has decreased from 200 to 25. The number of fighter squadrons able to deploy to crises around the globe has also withered substantially.<sup>29</sup> Airborne Tactical Advantage Company, a world leader in contract air services, took advantage of this supply surplus. Created shortly after the Cold War, they marketed their services as an inexpensive alternate supply source for air-to-air adversary training exercises to the US Government using ex-military fighter aircraft and pilots. This example provides evidence of Singer's assertion, and it is not the only PMC currently supporting the US military.<sup>30</sup> This review of Singer, coupled with supporting evidence, helped form the argument that the conditions necessary for the expanded use of PMCs that resulted at the end of the Cold War may exist today.

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<sup>27</sup> Peter W. Singer, *Corporate Warriors: The Rise of the Privatized Military Industry* (Ithaca, NY: Cornell University Press, 2003), 49. Also, see Deborah Avant, *The Market for Force: The Consequences of Privatizing Security* (New York: Cambridge University Press, 2005), 1–5.

<sup>28</sup> Ibid., 8–16.

<sup>29</sup> *Fiscal Year 2017 US Air Force Posture Statement*, 9–14.

<sup>30</sup> Air Tactical Advantage homepage, accessed December 12, 2016, <http://atacusa.com>.

Singer's other contribution to explaining the increase in PMCs supports the argument in this monograph that there will continue to be a demand for low intensity and SFA operations. The end of the Cold War brought an increase in world disorder as the Soviet Union's power dissolved.<sup>31</sup> Transnational terrorist organizations and other corrupt actors filled this power void left by the Soviet Union. Additionally, weak or failing states no longer held their imperial value, so early intervention to stop a state from failing became less of a national interest. These factors combined led to exponential growth in the private military contractor market.<sup>32</sup> While Singer explored the behavior of the private and public sector and used supply and demand to suggest a reason for the rise in PMCs, he did not provide a theory for the phenomenon. As suggested earlier, Singer's explanation that the supply-demand imbalance at the end of the Cold War does not go far enough in explaining the rise of PMCs or predicting the future trends of their use. It took Stanley's synthesis of Singer and others into a new theory to explain and help predict trends for future PMC use.

With the genesis of the supply explained (post-Cold War armed forces reduction) and increase in demand explored (post imperialism, destabilized world order), the review of literature focused on making a case specific for the USAF. A review of Thomas Bruneau's book *Patriots for Profit*, contributed to this research by adding several "demand drivers" to Singer's explanation. He quoted US Comptroller David Walker to help explain other factors affecting the increased outsourcing of services to private contractors. Among those are the authorized number of full-time positions, the unavailability of certain capabilities, the desire for operational flexibility, and the need for "surge" capacity.<sup>33</sup> These demand drivers are present in today's

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<sup>31</sup> Singer, 73.

<sup>32</sup> Ibid., 8-10.

<sup>33</sup> Thomas C. Bruneau, *Patriots for Profit: Contractors and the Military in US National Security* (Stanford, CA: Stanford University Press, 2011), 122-30.

USAF and help make the case for using PMCs as an alternate supply source in air strike missions to support SFA operations.

The term private military company is used extensively in this monograph and is a departure from Stanley's work, where he chose to label similar entities as private military contractors. This nuanced difference represents one of many terms to describe contractors who perform work usually accomplished by a government's military. A common mistake is to refer to any such work as mercenarism. While exploring the many differences between private military companies and mercenaries is beyond the scope of this monograph, it is worth noting that they are vastly different enterprises.<sup>34</sup> Throughout the monograph, the term PMC is used to describe the entity that provides contract services to the US military. It was first termed by David Shearer to describe a firm that does military tasks, as opposed to a private security company that do policing tasks.<sup>35</sup> The Montreux Document, which is a joint venture between the Swiss Government and the International Red Cross, further defines the term. The Montreux Document is the first document of significance to define how international law applies to the activities of

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<sup>34</sup> David Shearer, Adelphi Paper, vol. 316, *Private Armies and Military Intervention* (Oxford: Oxford University Press for the International Institute for Strategic Studies, 1998), 11-23. Shearer devotes chapter one of his book to explain the differences between the traditional mercenary, which he traces back to ancient Greece times, and today's PMC. He lays out his argument by first explaining article 47 of the additional protocol of the Geneva conventions which defines mercenary activity. He then shows how PMCs do not satisfy every criteria of the definition, even if by technicality. This renders article 47 "unworkable." A final point on article 47 is the United States is not a signatory to it. Shearer said it was "simplistic" to refer to PMCs as modern day mercenaries as there are clear legal and operational differences. Dr. Stanley, in *Outsourcing Security: Private Military Contractors and US Foreign Policy* (Lincoln, NE: Potomac Books, 2015) further makes the argument that it is a pejorative term that can feed preconceived notions about what they do. Stanley ascribes to Peter Singer's six criteria to describe the difference between mercenary and PMC. They are organization, motives, open market (PMCs are legal, public entities), services, recruitment, and linkages. Further discussion on this distinction is found in Dr. Stanley's introduction and in Peter Warren Singer's, *Corporate Warriors: The Rise of the Privatized Military Industry* (Ithaca, NY: Cornell University Press, 2003).

<sup>35</sup> Deborah D. Avant, *The Market for Force: The Consequences of Privatizing Security* (New York: Cambridge University Press, 2005). Page one footnotes describe the differences and discusses Peter Singer's use of the term privatized military firm. This monograph uses PMC because it is used by an internationally recognized organization (International Red Cross).

private military and security companies when they are operating in an armed conflict zone.<sup>36</sup> It contains a set of good practices designed to help states take measures nationally in order to fulfill their obligations under international law. The United States is one of 53 signatory countries to the document. According to the Montreux Document, PMCs are:

Private business entities that provide military and/or security services, irrespective of how they describe themselves. Military and security services include, in particular, armed guarding and protection of persons and objects, such as convoys, buildings and other places; maintenance and operation of weapons systems; prisoner detention; and advice to or training of local forces and security personnel.<sup>37</sup>

The US Government's use of the American Volunteer Group, led by Claire Chennault, is the case study analyzed in this monograph. While the group was later absorbed into the Army Air Forces and expanded to bomber and transport missions, this case study only explores the period of time when they were private contractors flying fighter aircraft in support of the Chinese Government. While conducting the SFA mission, AVG pilots performed air interdiction and counter air operations against Japanese forces. While these terms did not exist at the time, they best describe the AVG's mission and a closer look at their definitions is in order before further discussion on the merits of using PMCs today.

Security Force Assistance missions increased with the instability brought on by the end of the Cold War, and if the previous three presidential administration's authorization of SFA missions is any indication, its use will continue or increase in the future. Joint Publication 3-22, *Foreign Internal Defense*, defines Security Force Assistance as "Department of Defense activities that contribute to unified action by the US Government to support the development of the

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<sup>36</sup> The International Committee of the Red Cross, *The Montreux Document: On Pertinent International Legal Obligations and Good Practices for States Related to Operations of Private Military and Security Companies During Armed Conflict* (Montreux: ICRC, 2008), 6-8.

<sup>37</sup> *Ibid.*, 9.

capacity and capability of foreign security forces and their supporting institutions.”<sup>38</sup> Missions like post regime change in Afghanistan and Iraq and the mission in the Philippines are examples of modern SFA. This concept is applied to the actions of the AVG, as they were a contracted military force that contributed to a multi-faceted approach to support the Chinese capacity and capability to defeat the Japanese.

The primary mission the AVG conducted in support of the Chinese Government was Air Interdiction. Air Interdiction is defined as “operations conducted to divert, disrupt, delay, or destroy the enemy’s military surface capabilities before it can be brought to bear effectively against friendly forces.”<sup>39</sup> The term “friendly forces” usually assumes forces in the US or allied military, but for the sake of this monograph it is applied to host nation forces that PMCs support. For example, if the US Government employed PMC air strike services in Iraq where regular US ground troops are not typically involved in combat, friendly forces would apply to soldiers in the Iraqi Armed Forces.

A primary source review of the Lend-Lease Act of 1941 helped determine the monetary cost of the AVG operation. The Lend-Lease Act review also brought clarity to the legal precedent set by selling or giving military equipment to foreign governments in order to promote the defense of the United States. This broad authority delegated to the Secretary of War, through the President, eclipsed over \$25 billion dollars by the end of WW II. Army Air Forces equipment comprised nearly 30 percent of this aid. Of the 50 countries that received aid under the Lend-Lease Act, the British Empire was the recipient of 58 percent of the total, with the U.S.S.R. and France rounding out the top three recipients. China, the focus of this study, received about 7

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<sup>38</sup> Joint Publication (JP) 3-22, *Foreign Internal Defense* (Washington, DC: Government Printing Office, 2010), 16.

<sup>39</sup> Joint Publication (JP) 3-03, *Joint Interdiction* (Washington, DC: Government Printing Office, 2016), 1-10.

percent, or \$2 billion in aid (of which \$261 million was aircraft or “aeronautical equipment”).<sup>40</sup> A review of the Lend-Lease Act provided the critical data needed to answer the research question concerning the monetary cost of the AVG and helped build the argument for the high return on investment when compared to the strategic objective it helped the US achieve.

While this monograph does not argue the moral aspects of PMCs, establishing moral precedence is a precondition for suggesting their increased use. Thomas Aquinas established the standard for moral authority to declare and conduct war nearly 800 years ago. His second requirement to determine if a war is just was that a legitimate authority must declare war.<sup>41</sup> He built on St Augustine’s belief that “the natural order conducive to human peace demands that the power to counsel and declare war belongs to those who hold the supreme authority.”<sup>42</sup> The legitimate authority principle is generally held to concern those authorizing the use of force, notably the state or international institutions. James Pattison, in his book *The Morality of Private War*, asserts that some extend this principle to those waging the war. He explored whether states and state-based institutions can justifiably resort to or authorize force or whether it can be contracted to a private company.<sup>43</sup>

Several other experts continue the argument using Tilly and Weber’s ideas as their evidence of a state’s monopoly on violence. Charles Tilly explains that in pre-modern Europe only states with a sufficient amount of capital and a large population could afford to pay for their

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<sup>40</sup> Department of the Army, *The United States Army Statistics in World War II* (Washington, DC: Office of the Chief of Military History, 1952).

<sup>41</sup> John Langan, “The Elements of St. Augustine's Just War Theory,” *Journal of Religious Ethics* 12, no. 1 (1984): 32.

<sup>42</sup> William Harmless. *Augustine in His Own Words* (Washington, DC: Catholic University of America Press, 2010), 356-57.

<sup>43</sup> James Pattison, *The Morality of Private War: The Challenge of Private Military and Security Companies* (Oxford University Press, 2014), 1-10.



security and ultimately survive in the hostile environment. To fund standing armies, states created the institution of taxes to allow war making, which became the core feature of the state.<sup>44</sup> German political economist and sociologist Max Weber further framed the issue. He argued that ultimate symbol of the sovereignty of a nation is its ability to monopolize the means of violence—in other words, raising, maintaining, and using military force. Anything that erodes this relationship between the citizen and the state could weaken the central rationale for modern government.<sup>45</sup>

Deborah Avant's work on how privatization affects the state's control of violence further supports this idea. Her work centered on three research questions: Can the privatization of security enhance the state's control on violence, does privatization of security undermine state control, and does it chart new ways by which violence might be controlled? She researched these questions using a framework called "new intuitionism," which is a blend of theories using logic from economics and sociology.<sup>46</sup> She discovered three distinct conceptual ideas of control that determine how to judge PMCs. There is political control, which is concerned with who gets to decide about the deployment of military contract services. Next is functional control, which is concerned if the forces are capable of meeting the current challenges of the international community, and social control, which is whether the use of force integrates with international values. Only when applied together, can one determine if political, social, and functional control enhance a state's monopoly on violence.<sup>47</sup> She concludes her analysis with the idea that control of

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<sup>44</sup> Charles Tilly, *Coercion, Capital, and European States, AD 990-1992* (Cambridge, MA: Blackwell, 1992), 1-25.

<sup>45</sup> John Langan quoting Max Weber, *Basic Concepts in Sociology* (New York: Greenwood Press, 1969), 1.

<sup>46</sup> Avant, 40.

<sup>47</sup> Ibid., 7-10.

force is most stable when all three aspects reinforce each other to manage and harness PMCs to produce public good.<sup>48</sup>

This monograph does not address this idea further other than to assert that Tilly and Avant present valid arguments that are not in conflict with the hypotheses presented. The use of PMCs fits into the construct of Tilly's theory as the United States or foreign government maintain the monopoly on violence; they just pay a contractor who operates under the authority of the legitimate state to conduct operations. This author further assumes that the public determines what is legitimate in a representative republic like the United States by way of voting. Finally, this author assumes that the United States possesses the political, economic, and social control necessary to harness PMCs to produce public good. A 240-year history of using PMCs, a world leading economy, and social control mechanisms that encourage conformity and compliance further supports this claim.

With the moral and legal framework provided by the above literature, the discussion of increased PMC use continued through analysis of the supply-demand behavior present today. For this purpose, two additional factors necessary for the growth of PMCs proposed by Peter Singer were reviewed. The first is the change in the nature of war itself and the second, and more pertinent to this monograph, is a term he called the "privatization revolution." He coined this term to describe a movement that began around the turn of the 21st century that placed functions previously accomplished by the government in the hands of private contractors.<sup>49</sup> Examples of such functions include prisons, police forces, and security services. This revolution manifests itself in the USAF in the Intelligence, Surveillance, and Reconnaissance field, where the military

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<sup>48</sup> Avant, 7. Avant uses the term PSC, but it is assumed that it is interchangeable with PMC as the difference in this context is inconsequential to the point.

<sup>49</sup> Singer, 49.

has relied on numerous contractors for home station training and combat support for several years.<sup>50</sup> More recently, the USAF employed PMCs in a variety of contract air services to include airlift, air refueling, fighter adversary training, and Close Air Support training.<sup>51</sup> These contractors fill a void left by readiness challenges in the active Air Force flying capacity. Although this emerging industry is garnering much attention, current literature does not address what this monograph intends to, which is that the AVG model of PMC delivered air strikes is a tenable and likely a necessary proposition today.

This literature review provided the context needed to answer the research questions and was collected from a wide variety of sources. The primary source records of The Office of Historian, US Department of State and the memoirs of Charles Bond and Claire Chennault provided the material used to complete the case study. An examination of the Lend-Lease Act of March 11, 1941, the Arms Export Control Act, and The Montreux Document established the legal and historical precedence. A review Dr. Stanley's book provided the theoretical lens to conduct the qualitative analysis. Additionally, the data to support the public opinion research question came from Gallup International and the Cornell Institute for Social and Economic Research. Finally, the capability comparison between USAF aircraft and those available for contractors was accomplished through the operating manuals of the respective aircraft.

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<sup>50</sup> Mark Hoover, "AAI wins \$475M contract for UAV ISR support," *Washington Technology*, January 10, 2017, 1, accessed January 24, 2017, <https://washingtontechnology.com/articles/2017/01/10/aai-socom-isr.aspx>.

<sup>51</sup> Jan Tegler, "Red Air for Hire: The Big Business of Private Air Forces," *AutoBlog*, November 27, 2015, accessed October 13, 2016, <http://www.autoblog.com/2015/11/27/big-business-private-air-forces-feature/>.

## Methodology

In order to support the thesis, a structure-focused approach through the case study of the American Volunteer Group was conducted. This method is particularly useful in the study of historic examples as it yields useful knowledge to a particular problem of relevance today.<sup>52</sup> The focus of the case study is threefold. It will explore the strategic advantages gained by using a PMC and the costs associated with their use. It will also explore legal framework that allowed the US to supply China with aircraft and personnel to support SFA operations and the effectiveness and utility of that framework today. Finally, the study will address the operational readiness factors of using USAF aircraft in SFA operations and explore potential benefits of using PMCs. While readiness was not initially a determining factor in the formation of the AVG (it was America's reluctance to enter the war), after December 7, 1941, readiness was a major factor. The AVG possessed planes, combat experienced pilots, and maintainers in place fighting the Japanese months before any regular US military troops could mobilize.

The following research hypotheses guided the case study analysis to determine if the necessary supply and demand environment exists to predict an increase in the use of PMCs in the USAF. Additionally, if it does, is the model used by the AVG in WW II is a viable solution to the problem? The first hypothesis is the use of private military contractors for air strike support in SFA operations is a viable and acceptable solution to meet the increasing demand placed on USAF fighter aircraft. The second is the USAF can only continue to sustain long-term expeditionary operations if they rely on PMC air strike support in SFA operations. The third is PMC air strike support can provide the same effects in SFA operations that USAF assets can provide.

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<sup>52</sup> Alexander L. George and Andrew Bennett, *Case Studies and Theory Development in the Social Sciences* (Cambridge, MA: The MIT Press, 2005), 1-20.

Six research questions were used to examine the case study to help reveal the empirical evidence used to test the hypothesis. The first, what strategic objective did the AVG help the United States achieve and at what cost? The expected answer is that for a relatively low cost, the United States “bought” time to increase their readiness before inevitable war with the Axis Powers. A more ambitious goal that some believed possible was that the use of the AVG would so cripple the Japanese that they would capitulate before direct US military involvement.

The second question is; was the structure and method used by the AVG was successful in conducting SFA for the Chinese Air Force? The expected finding is that the structure that allowed the Chinese Government to hire an American PMC was successful and duplicable today. With a similar supply and demand environment and the capacity for private industry to fill a demand, it is reasonable to suggest a contract of similar structure between the US and Chinese governments is replicable today.

The third question is; what was the legal framework and have US policy or laws changed since the AVG in WW II that would now prevent a similar agreement between countries? The expected finding is that the United States continues to support its national interests by providing military aid to foreign governments. Further, laws that govern the use of PMCs have strengthened their legitimacy and legal authority since the time of the AVG. Finally, there now exists internationally accepted norms and guidelines that govern the use of PMCs.

The fourth question is; what was the public reaction in the United States to the government providing military support to allies, while avoiding direct involvement in the war? The expected finding is that the idea of helping without direct involvement was popular to the majority of Americans who maintained an isolationist ideology and were unwilling to commit the military to a seemingly distant war. There are expected parallels to today’s public opinion, weary after 16 years of continued conflict and budget battles. The results of the research are expected to

show that the public supports actions to protect or further US interests, but generally resists using a major military effort to achieve those objectives.

The fifth question is; what is the demand driver that may force the USAF to look for and alternate supply source for air strike services in SFA operations? The expected finding is that the demand drivers of operations tempo and surge capacity are present in the USAF today. Air Force fighter aircraft readiness has declined because of the high demand operational deployment schedule. Additionally, there are too few pilots available to fly the fighter aircraft used in these SFA missions. The result of the high operations tempo drives the inability to “surge,” or the ability to respond to future crisis.

The final question; can private military companies produce the same desired battlefield effects that the USAF produces? Two aircraft manufactures, Beechcraft and Embraer, offer light attack aircraft with advanced sensors and precision weapons.<sup>53</sup> They carry a wide array of weapons, to include laser, electro optical, and infrared guided missiles, laser and GPS guided bombs, 2.75” rockets, and a 20mm Gatling gun.<sup>54</sup> Although there are no PMCs that advertise an ability to do what the thesis of this monograph suggests, analysis of two PMCs, Draken International and Airborne Tactical Advantage Company will show their capacity to complete such a task. The expected finding, therefore, is that the above-mentioned aircraft, operated by a PMC, is as capable as current USAF aircraft in supporting SFA operations in threat permissive environments. Collectively, the expected findings of the structure focused questions is that the use of contract air strike support is a necessary, tenable, acceptable, and viable solution to the

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<sup>53</sup> Built for the Mission, “A-29 Super Tucano,” accessed October 1, 2016, <http://www.builtforthemission.com/>.

<sup>54</sup> Beechcraft Defense, “AT-6 Wolverine: World Class Light Attack and Armed Reconnaissance with a Proven Heritage,” accessed December 12, 2016, [http://defense.txtav.com/~media/beechcraft-defense/files/at6\\_wolverine\\_litho\\_revise2.ashx?la=en](http://defense.txtav.com/~media/beechcraft-defense/files/at6_wolverine_litho_revise2.ashx?la=en).

problems outlined in the introduction. The next section presents the case study of the American Volunteer Group used in this research.

## Case Study American Volunteer Group 1941-1942

Chennote Chiang Chung (Claire Chennault), we the people of Nationalist China will never forget you. Not in a thousand years nor in ten thousand!

— Sign in Chungking seen on the night Chennault left China

This section presents a case study of the AVG in the China, Burma, India Theater from their inception until July 4, 1942, when the Army Air Forces absorbed the group. It provides the necessary information to conduct a qualitative analysis in order to answer the research questions introduced in the methodology. This case study is organized into five sections. Following this introduction is an overview of the AVG and then a discussion of the relevance of the case study to the thesis. The next section answers the structured questions and the case study ends with a brief summary.

While the complete story of Claire Chennault's Flying Tigers is fascinating and well worth telling, this case study focuses on the organization and structure of the AVG as a private military company hired by the Chinese Government. It also highlights the relatively low personnel, material, and monetary costs of the program compared with the strategic objective it helped America achieve. Finally, it reveals the approval of the AVG as it related to the Roosevelt administration's nonintervention foreign policy, which was supported by a public that did not want to join formal military alliances with countries that did not share a similar culture or values.

The story of modern, unified China begins in 1928, when the national government led by Chiang Kai-shek consolidated power over most of mainland China. By 1931, unified China faced its first major external challenge when Japan seized Manchuria. Along with Manchuria's forty million inhabitants, the fertile land was also enormously rich with iron and coal. While the rest of the world strongly opposed Japanese aggression, they did little to stop it. The ineptitude of the League of Nations and inaction from any country to provide substantial support to China



emboldened Japan.<sup>55</sup> The United States decision to remain neutral represents the first of many missed opportunities to prevent further Japanese provocation. The Japanese saw the world's muted response as at most complicit approval of their actions or at least a clear sign that no one intended to stop their imperial ambitions. Armed with this knowledge, they could now continue their plan for the complete occupation of China.

Japan took the next step in their plan on July 7, 1937, when the second Sino-Japanese war started at the Marco Polo Bridge near Peking (now Beijing).<sup>56</sup> The invading force of Imperial Japan, which numbered one and one half million men, looked poised to repeat the success of the last war between these great Asian powers.<sup>57</sup> The prevailing view was that, unaided, China and its 500 million residents could not resist long.<sup>58</sup> For the United States and Britain, this meant Japan's large army could continue its march westward and directly threaten vital interests, including sovereign British territories. This provided the motivation for the United States to intervene, albeit with nonmilitary instruments of power.

With little help from the outside world and the realization that economic sanctions against Japan would do little to save China, Chiang Kai-shek looked for ex-military men to train and organize his forces. The most pressing need was help for his beleaguered Air Force, which was sorely undertrained and had yielded to the Japanese complete air supremacy early in the war.

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<sup>55</sup> William G. Grieve, *The American Military Mission to China, 1941-1942: Lend-Lease Logistics, Politics and the Tangles of Wartime Cooperation* (Jefferson, NC: McFarland and Company, 2014), 1-6.

<sup>56</sup> Jerome Klinkowitz, *With the Tigers Over China, 1941-1942* (Lexington, KY: University Press of Kentucky, 1999), 89.

<sup>57</sup> Klinkowitz, 89-91. For more information on the Sino-Japanese war of 1894-1895, see S C M Paine, *The Sino-Japanese War of 1894-1895: Perceptions, Power, and Primacy* (New York: Cambridge University Press, 2003), 1-20.

<sup>58</sup> Grieve, 7.

Chiang found whom he needed in the downtrodden retired Captain Claire Lee Chennault, who came to China five weeks before the Marco Polo Bridge incident reignited the war.

Claire Lee Chennault was born in Commerce, Texas in 1893.<sup>59</sup> He was raised in the rural farmlands of east Texas and Louisiana, where he lived until his graduation from Louisiana State University in 1908.<sup>60</sup> After the United States joined the Great War in Europe, Chennault applied for US Army flight school. After initial rejection for reasons of not possessing “the necessary qualifications for a successful aviator,” he earned his fighter pilot wings in 1918, which was not in time to join the war effort. The next twenty years of his flying career was marked by frustration as his anti-Douhetian theory of fighter warfare clashed with the conventional view of bomber supremacy. His unremarkable career ended in 1937 after several months stay at a hospital in Hot Springs, Arkansas. His official cause for permanent grounding and retirement was due to severe health issues including “chronic bronchitis, low blood pressure, and deafness.”<sup>61</sup>

While in the Army Air Corps, Chennault and two close friends created an aerobatic flying team later named “Three Men on a Flying Trapeze.” The two friends, John “Luke” Williamson and Billy Macdonald left the Army earlier than Chennault did to advise the Chinese Air Force. Upon Chennault’s retirement in 1937, he eagerly joined his old comrades at Nanking, at the behest of Generalissimo Chiang Kai-shek to become the chief air advisor for the Chinese Air Force.<sup>62</sup> Chennault turned what was initially intended to be a short advisory trip into nearly a decade of service in defense of China.

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<sup>59</sup> The date Chennault was born is unknown, as he recorded both 1890 and 1893 on different applications. It is thought the later date is his true birth year and that he used 1890 to get into LSU before he was eligible. Further, 1893 is listed on his gravestone in Arlington National Cemetery.

<sup>60</sup> Chennault, 23.

<sup>61</sup> Cornelius and Short, 30-54.

<sup>62</sup> Ibid., 53.

From 1937 to 1941, the Japanese military slowly advanced through west through China. In order to stop the incessant bombing of Chinese cities and supply routes, Chennault first tried to organize and train the Chinese Air Force. He was unable to do much with extremely limited resources, competing interests with outside involvement, and very little infrastructure. He then hired a disparate group of mercenaries from around the world and loosely organized them into a fighting force. These men were far from professional aviators and their hard drinking, loose tongues and poor flying caused their entire fleet to be bombed on the ground and their expedient dissolution by Chennault.<sup>63</sup> On September 13, 1940, the final demise of the Chinese Air Force occurred when Japanese Zeros shot down 27 Chinese Fighters. Chennault witnessed the massacre and likened the Japanese to “hawks in a chicken yard . . . they shot down the Chinese fighters before they knew what hit them.”<sup>64</sup> Chennault, as Chief Advisor to the Chinese Air Force, suggested to Chiang Kai-shek that he seek assistance from the US Government. Heeding this advice, Chiang Kai-shek sent Chennault and Major General Mao Pang-Tzo to the US in November 1940 to petition the government for help. Chennault proposed a plan to allow active duty pilots to resign their commissions and fight, under private contract, for China against Japan.<sup>65</sup> This plan would provide Chennault expert aviators and American equipment and would provide the United States a low cost, high yield solution to securing a strategic objective without the use of regular US forces.

Chinese success against Japan was of vital US national security interests for several reasons. The Japanese military effort in China included a total of one and a half million men. If they were no longer encumbered in China, they could turn their attention on the United States and

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<sup>63</sup> Cornelius and Short, 90.

<sup>64</sup> Ibid., 97.

<sup>65</sup> Cornelius and Short, 3-7.

America's military was not ready to meet such a challenge. America also needed an ally in the region in case war with Japan were to come. Lastly, media coverage of the mass murder and rape of Chinese civilians at Nanking left a compassionate America angered and ready to help.<sup>66</sup> President Roosevelt needed a policy the public would support that could weaken Japan without entering into a formal military alliance with China and could provide needed time to prepare for war if that plan failed.

With the above considerations in mind, President Franklin Roosevelt granted Chennault permission to recruit 100 active duty pilots and 200 aircraft maintainers from the Army, Navy, and Marine Corps. The pilots would resign their commission and work for a private military company to support the development of the capacity and capability of the Chinese Air Force.<sup>67</sup> Chennault had to recruit from active duty pilots because in the early 1940s, they were the first generation of fighter pilots. He did not have the same luxury that is available today, which is an excess supply of pilots with experience in fighter aircraft.

William D. Pawley, a longtime advocate of American support to China, and HH Kung founded the Central Aircraft Manufacturing Company (CAMCO), which was the private company that hired Chennault and his Flying Tigers. CAMCO also "purchased" 100 P-40 Warhawks from the Curtis-Wright Aircraft Company. With the structure of the agreement complete and under the direct authority of President Roosevelt, Chennault completed his recruitment of American pilots from military bases by early 1941 and soon after the 300 men and two nurses were bound for Burma to begin their training with Chennault.<sup>68</sup>

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<sup>66</sup> Grieve, 1-10.

<sup>67</sup> The "support the development of the capacity and capability of" comes from the definition of SFA in Joint Publication 3-22. Although the term did not exist at the time, this is the general function the AVG preformed.

<sup>68</sup> Grieve, 158-179.

This venture was funded by the China defense supplies allocation in the Lend-Lease Act of 1941. The Lend-Lease Act provided formal structure to the President's use of the economic soft power. It provided military aid in the form of tanks, airplanes, ammunition, trucks, and many other supplies to support American Allies against the Axis powers. While this program provided the majority of financial and material aid to Britain and the Soviet Union, the focus in this case study is the role it played in the structure of the private military contractor support to China.

A US Army organization, the American Military Mission to China (AMMISCA) had the task to oversee the distribution of Lend-Lease equipment and provide support and coordination for the AVG. The commander of AMMISCA, Brigadier General John M. Magruder was a proponent of the AVG and shared the view held by many familiar with the situation that the AVG held the greatest hope of stopping the Japanese juggernaut. He worked with Chennault on administrative and supply tasks, while the terms of the contract between CAMCO and the Chinese Government often dictated the AVG's operations.<sup>69</sup> While this is true, the material support provided by AMMISCA and the appointment of a general officer gave the United States great influence on the operational disposition of Chennault's three squadrons. US influence was apparent from the earliest days as President Roosevelt effected the deployment of a squadron in the first AVG to Burma with the task of keeping the main supply road from Burma to China open. This was at the behest of Prime Minister Winston Churchill who pleaded directly with President Roosevelt and the Generalissimo Chiang Kai-shek. Although they were a PMC hired by the Chinese Government, the United States protected its interest and that of her closest ally, by maintaining the logistics and supply chain necessary for AVG operations.

While initially not feeling any undue urgency to begin operations, the surprise Japanese attack on Pearl Harbor sped up the deployment and training schedule of the AVG. Although

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<sup>69</sup> Grieve, 1-6.

many in AMMISCA thought the AVG would not be ready to fight until the spring of 1942, with the new sense of urgency brought by the declaration of war with the Japan, the AVG launched their first mission in the early morning hours of December 20th, 1941.<sup>70</sup> By spring of 1942, the AVG produced devastating results against the Japanese air and ground forces. A telegraph from the Ambassador to China, Clarence Gauss, to the Secretary of State dated March 6, 1942 substantiates the proof of the Flying Tigers success. Gauss confidently reported to the Secretary that “authorities conservatively estimated that Japanese troops in China proper have been reduced from 37 to 28 divisions. . . . The American volunteer aviation group under Colonel Chennault has made a remarkably fine record and impression.”<sup>71</sup> The telegraph, and many more like it, attributed much of the success in China and Burma to the work of Chennault and his Flying Tigers. The once unstoppable Japanese Army now faced formidable opposition that would at least delay or complicate its further plans of Asian and Pacific Island conquest.

The AVG also provided the United States with a supply of seasoned pilots and aircraft in place to meet the demand brought on by war with Japan. The value of the AVG’s readiness was so high that the United States saw it as critical and necessary to absorb them into a regular Army Air Force unit. To attain this goal, they negotiated with the Chinese Government and CAMCO to transfer the AVG’s pilots and aircraft into active duty. After a few months of negotiation, Chennault and Chiang Kai-shek agreed to the transfer and the now Major General Chennault took over duties of the newly formed 23rd Pursuit Group.<sup>72</sup>

Chennault reinforced efforts to bolster the Chinese Air Force by helping establish training for Chinese pilots in the United States. A recorded conversation between Ambassador Gauss and

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<sup>70</sup> Cornelius and Short, 132.

<sup>71</sup> Ambassador Clarence Gauss to Secretary of State Cordell Hull, March 6, 1942, Department of State Office of Historian, accessed 29 November, 2016, <https://history.state.gov/historicaldocuments/frus1942China/d29>.

<sup>72</sup> Cornelius and Short, 217.

British Ambassador Sir Horace in September 1942 provides more insight to the strategy of supporting the Chinese efforts to repel Japanese attacks with the reinforcing effort to build host nation capabilities. While apprising the new British Ambassador of the situation, Gauss said “a number of Chinese have recently been under training in the United States. These Chinese when they return could, if brigaded with the Chennault command and given practical battle experience, probably prove to be efficient and effective airmen.”<sup>73</sup>

Before transferring to US Army Air Force on July 4, 1942, the AVG destroyed 300 Japanese aircraft, while only losing 25 of their own.<sup>74</sup> Their success provided the American public the only good news to come from the Pacific Theater for the first five months of the war. The surprise and shock of Pearl Harbor and the decisive loss at the Battle of Java Sea shook the confidence of the American public. They were in desperate need of hope and Chennault and his men provided it. The Flying Tigers, however, provided much more than a morale boost for a beaten China and stunned America. They were a seasoned group of veterans, led by a masterful tactician, in place ready to continue repelling the Japanese invasion.

The first research question asks: what strategic objective did the AVG help the United States achieve and at what monetary, personnel, and material cost? A strategic objective, although not defined in the Department of Defense dictionary of military and associated terms, is described here as an idea or set of ideas for employing an instrument of national power to achieve a clearly

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<sup>73</sup> Ambassador Clarence Gauss and British Ambassador Sir Horace recorded conversation, September 4, 1942, accessed December 8, 2016. <https://history.state.gov/historicaldocuments/frus1942China/d129>. This reference is a copy of a meeting between the British Ambassador to China, Sir Horace, and the American Ambassador to China, Gauss. It is included here to establish a link to American efforts to support the Chinese to efforts today with the training of Afghan, Iraqi, and other pilots.

<sup>74</sup> Jack Samson, *The Flying Tiger: The True Story of General Claire Chennault and the US 14th Air Force in China* (Guilford, CT: Lyons Press, 2005), 243-250.

defined and attainable goal of theater or national interest.<sup>75</sup> The strategic objective of the United States before entry in WW II is present in section three of the Lend-Lease Act. In that section, the poignant sentiment of America's attitude is clear. "We are buying . . . not lending. We are buying our own security while we prepare. By our delay during the past six years, while Germany was preparing, we find ourselves unprepared and unarmed, facing a thoroughly prepared and armed potential enemy." Congress passed the Lend-Lease Act to help its allies' deep need for supplies, which allowed the United States to prepare for war while remaining officially neutral.<sup>76</sup> The strategic objective the AVG helped the United States achieve was simply time for mobilization and weakening of a potential enemy before direct military involvement. An additional unintended benefit of the AVG was an established presence of fighter aircraft in China ready to fight the Japanese after Pearl Harbor.

The strategic advantage the AVG provided is clear, but at what cost? The cost of the arrangement here is broken down into three parts, men, material, and money. The answers to the first two are relatively clear. The AVG was formed for the cost of 100 pilots and 200 maintainers.<sup>77</sup> Further, for the cost of 100 P-40 Warhawks and the necessary spare parts came to nearly \$260M. The AVG accounted for less than one percent of the total budget in the Lend-Lease Act to support American allies in WW II, but provided a disproportionate return on investment as they were pivotal to halting the Japanese juggernaut from controlling all of China and retaining the critical supply routes through Burma and India.

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<sup>75</sup> This definition came from a synthesis of Joint Publication 1-02 definitions of Strategy and Objective.

<sup>76</sup> US House of Representatives, *Lend Lease Bill*, January 10, 1941, HR 77A-D13, Record Group 233, National Archives.

<sup>77</sup> The original plan for the AVG called for the formation of three groups, to include a bomber group. The second and third AVG were in various stages of deployment to China when the Japanese attacked on Pearl Harbor. The men and equipment of those groups were then quickly redirected to other war efforts.



The second research question is: was the structure and method used by the AVG successful in supporting US interests against the Japanese? For the purpose of this question, structure is the arrangement of and relations between the parts or elements of something complex, and method is a particular form of procedure for accomplishing or approaching something.<sup>78</sup> This question helps establish whether a similar structure and method is viable in future SFA operations and is therefore necessary to facilitate further analysis of the case study. The answer found through examination of the case study is that the structure was effective and the method was conceptually valid, but not properly supported by the US Government. The following paragraphs will provide a discussion of the evidence used to answer the question.

The CAMCO was the private company that received material and financial support from the US Government. This was a unique monopsonist relationship between a single buyer, the Chinese Government, and CAMCO, a single supplier. The Chinese Government paid CAMCO using funds allocated to Chinese defense in the Lend-Lease Act. CAMCO operated independent from direct US control but relied on material supply for its mission. A congressionally approved presidential act reinforced this clearly defined relationship. This structure provided the Chinese Government with an American funded PMC to support its mutually beneficial cause of defeating the Japanese.

The arrangement between CAMCO and AMMISCA worked in theory, but competing demands for the same aircraft and parts in Britain and in the buildup of American fighter aircraft capacity complicated the execution. The Curtiss-Wright Corporation, by May of 1941, had orders well in excess of their capacity to fulfill them. Britain alone ordered 560 “examples” of the same model Chennault requested for the AVG.<sup>79</sup> Therefore, the structure was sound but did not operate

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<sup>78</sup> *Oxford Living Dictionary*, s.v. “Structure, Method Definition,” accessed December 1, 2016, <https://en.oxforddictionaries.com>.

<sup>79</sup> Ray Wagner, *The Curtiss P-40 Tomahawk, Aircraft in Profile* (Doubleday, 1965).

as planned because of a supply shortage, difficult logistics, and increasing demand as America readied for war and continued to support her closest ally, Britain, in the European Theater.

The above discussion shows the structure of the contractual agreement and method of execution of the AVG. The success, measured by the effectiveness of the AVG, is unquestionable. Although slowed by overwhelming demand and insufficient supply, the method was conceptually sound and valuable to the discussion of the use of PMCs in current conflicts.

The third research question is whether the legal framework exists today, that would allow a similar agreement between the United States and a foreign government. While the Lend-Lease Act expired in 1951, the United States has continued to provide monetary and material support to governments in support of its national interests. Further, the laws governing such agreements, exercised many times since WW II, are now well codified in US legal framework.

The authority for PMCs to operate in the interest of the US Government belongs to the Department of State, who verifies PMC legitimacy and regulates their actions. The Arms Export Control Act, which has undergone amendments since it was first implemented in 1968, accomplishes this.<sup>80</sup> In Subchapter III-Military Export Controls of the Act establishes that the President, in furtherance of world peace or US national interests, “Is authorized to control the import and the export of defense articles and defense services and to provide foreign policy guidance to persons of the US involved in the export and import of such articles and services.”<sup>81</sup> The President exercises this control through the International Traffic in Arms Regulations. This authority, delegated to the Secretary of State in 1997, is administered by Office of Defense Trade Controls at the Bureau of Political-Military Affairs, which ultimately manages the licensing of

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<sup>80</sup> 22 USC. 2778, Arms Export Control Act, 94th Cong., 1st sess., Congressional Record, accessed December 15, 2016, [www.legalcounsel.house.gov](http://www.legalcounsel.house.gov).

<sup>81</sup> Ibid, section 38, page 42.

PMCs.<sup>82</sup> This authority for PMC use has survived eight presidential administrations and is a well-established legal precedence.

The fourth question is what was the public reaction in the United States to the government providing support to allies in order to prevent direct involvement in the war? The answer is American public opinion generally favored helping China, but did not approve of direct military action. This question is relevant to provide insight into the expected reaction to a similar agreement today, as there are parallels to public opinion concerning intervention of military forces in foreign conflicts. The following paragraphs provide analysis to results of Gallup polls, as well as Franklin Delano Roosevelt's manuscripts, to draw parallels in the public sentiment of 1941 and today.

Franklin Delano Roosevelt's winning campaign platform, where he promised to keep America out of the war, best illustrates public sentiment on war in 1940. He stated, "I have said this before, but I shall say it again and again and again; your boys are not going to be sent into any foreign wars."<sup>83</sup> Gallup polls conducted during the election supported this non-intervention sentiment. When asked "Should the United States take steps now to keep Japan from becoming more powerful, even if this means risking a war with Japan?" 74 percent of respondents answered "Yes."<sup>84</sup> However, when asked if they were given the chance to vote on whether or not America

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<sup>82</sup> Ali Dogru, "Outsourcing, Managing, Supervising, and Regulating Private Military Companies in Contingency Operations" (Master's thesis, Naval Post Graduate School, 2010), accessed November 15, 2016, <http://www.dtic.mil/dtic/tr/fulltext/u2/a531546.pdf>.

<sup>83</sup> US National Archives and Records Administration, Washington, DC, accessed December 7, 2016, <http://www.ourdocuments.gov>.

<sup>84</sup> Gallup International, "Archival Request concerning United States/Japanese Relations prior to the Attack on Pearl Harbor," accessed 9 December 2016, <https://ibiblio.org/Gallup/Gallup%201941.htm>. 3002 respondents answered the question in a poll taken 10 days before the attacks on Pearl Harbor. Americans held a similar opinion on helping England. In a poll taken on 18-23 December 1940 68 percent of respondents answered that our country's future safety depended on England winning the war.

went to war with Japan, 71 percent said they would vote “No.”<sup>85</sup> This shows that the majority of Americans realized the threat posed by Japan and supported efforts to weaken her, though only through indirect means. They also strongly believed that United States’ supplies provided by the Lend-Lease Act were crucial to the war effort and were unsurprisingly in favor of the Act.<sup>86</sup> However, they did not support direct military involvement in the war. In order to protect US interests, while also keeping a campaign promise and conforming to the will of the people, Franklin Delano Roosevelt provided material support via the Lend-Lease Act and indirect military support by authorizing the formation of CAMCO and releasing active duty pilots to aid the China in the fight against Japan.

There is a similar correlation to today’s public opinion sentiment. According to a recent Gallup poll, the majority of Americans believe something must be done to stop the spread of transnational terrorist organizations, but the majority does not favor using ground troops. Additionally, the majority of Americans oppose direct US military action to help the Iraqi Government fight militants threatening to take control of that country. A June 20 and 21, 2016 Gallup poll finds 54 percent of Americans opposed to and 39 percent in favor of taking such action, lower than the level of support for other potential US military actions in recent decades.<sup>87</sup> This contrasts with 67 percent of Americans who are “somewhat or very worried” about the situation in Iraq. In fact, the current poll finds 50 percent of Americans describing ISIS as a

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<sup>85</sup> Ibid. 95 percent of Americans who responded that they had an opinion on the war with China in Japan responded they were on the side of China in a poll conducted in August of 1937(four months before the Nanking Massacre).

<sup>86</sup> Ibid. Survey question 226-K from a running poll from 18-23 December 1940 asked “If the United States stopped sending war materials to England, do you think England would lose the war?” 85 percent of respondents answered “Yes.” In a question from 16-21 February 1941, 59 percent of respondents answered “yes” to the question “Do you think Congress should pass the Lend-Lease Bill?”

<sup>87</sup> Gallup International, “Support for Iraq Military Action Low in Historical Context,” accessed December 2, 2016, [http://www.gallup.com/poll/171968/support-iraq-military-action-low-historical-context.aspx?g\\_source=Support for military action&g\\_medium=search&g\\_campaign=tiles](http://www.gallup.com/poll/171968/support-iraq-military-action-low-historical-context.aspx?g_source=Support+for+military+action&g_medium=search&g_campaign=tiles).

“critical threat” to US vital interests, with an additional 31 percent saying the group is an “important threat.”<sup>88</sup> The correlation between today’s public sentiment and that of pre-Pearl Harbor are strikingly similar. This fact lays the foundation for the argument of using PMCs in support of US interest, while conforming to the will of the people who oppose direct military force.

With the questions about the structure of the AVG, the legal framework, and the public opinion answered, it is now time to turn the discussion to exploring the supply and demand environment. The fifth question is: what is the demand driver that necessitates the exploration of the use of PMCs in SFA operations. Using Bruneau’s list of demand drivers, it is clear that personnel issues, operational demands, and the capacity to “surge” are present in the USAF today.

As Dr. Stanley asserted in his book, when a government chooses to reduce their national military and is then faced with an unanticipated conflict that exceeds their capability, the demand for security increases.<sup>89</sup> When this demand meets an inadequate supply in a monopsony, other options to meet the demand must be explored. Additionally, PMCs fill the demand for military related activities when the US Government does not have the means or the will to provide it.<sup>90</sup> This phenomenon exist in the USAF today and explains the necessity of using PMCs for contract air services. Figure 1 below shows clearly that capacity and readiness have steadily declined since Operation Desert Storm. This decline, which coexists with a growing post-Cold War demand,

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<sup>88</sup> Gallup International, “Slightly Fewer Back ISIS Military Action vs. Past Actions,” accessed December 2, 2016, [http://www.gallup.com/poll/177263/slightly-fewer-back-isis-military-action-past-actions.aspx?g\\_source=Aid to Iraq&g\\_medium=search&g\\_campaign=tiles](http://www.gallup.com/poll/177263/slightly-fewer-back-isis-military-action-past-actions.aspx?g_source=Aid+to+Iraq&g_medium=search&g_campaign=tiles).

<sup>89</sup> Stanley, 141.

<sup>90</sup> Ibid., 41.

helps explain the logic behind those the prediction that the USAF may soon find itself without the ability to respond to future crisis.

Today's Air Force is the smallest and oldest it has ever been, even while the demand for airpower continues to climb. "We have too few squadrons to meet the combatant commander's needs," USAF Assistant Deputy Chief of Staff Major General Scott Vander Hamm recently told reporters.<sup>91</sup> A further analysis shows a trend of diminishing supply. To support Major General Vander Hamm's point, the USAF had 134 fighter squadrons in 1991 and today it has 55. This is not a case where technology has allowed for the reduction in numbers, as most of the aircraft flying in 1992 are still in service today. The only new fighter aircraft produced in the last 30 years are the F-22 and the F-35, but the systems they were designed to replace are still in service. Before 1992, the Air Force procured an average of 200 fighter aircraft per year. In the two and a half decades since, curtailed modernization has resulted in the procurement of less than 25 fighters annually.<sup>92</sup>

The Air Force is also facing a supply problem of qualified fighter pilots. They are currently 750 pilots short of the 3,500 authorized.<sup>93</sup> While an exploration of the many reasons for the mass exodus of fighter pilots is beyond the scope of this monograph, the unprecedented demand of the commercial airlines is alluring to some.<sup>94</sup> With too few planes and pilots, the Air

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<sup>91</sup> Carla Babb, "Air Force Has Too Few Fighter Squadrons to Meet Commanders' Needs," VOA News, November 28, 2016, accessed December 1, 2016, <http://www.voanews.com/a/air-force-has-too-few-fighter-squadrons-to-meet-needs/3614173.html>.

<sup>92</sup> *FY 2017 US Air Force Posture Statement*.

<sup>93</sup> Airman 1st Class Nathan Byrnes, "Air Force Faces Fighter Pilot Shortage," Nellis Air Force Base News, January 19, 2017, accessed January 20, 2017, <http://www.nellis.af.mil/News/tabid/6431/Article/1053970/air-force-faces-fighter-pilot-shortage.aspx>.

<sup>94</sup> Rand Corporation, "Commercial Airlines May Siphon Pilots From US Air Force, Creating Shortage of Military Aviators," July 16, 2016, accessed December 1, 2016, <http://www.rand.org/news/press/2016/07/12/index1.html>.

Force is no longer capable of meeting the demand without significant costs to other operations. According to USAF Chief of Staff General Goldfein, “When called into action, today’s Air Force cannot respond in one corner of the Earth without diluting its presence elsewhere. The blanket of American airpower covering the globe . . . is nearly threadbare. As we have cut our *capacity*, we have found our *capability* equally diminished—the two qualities are inextricably linked.”<sup>95</sup>

The recently retired USAF Chief of Staff, General Mark Welsh, commented in 2016 that “the demand signal for that airpower continues to rise.”<sup>96</sup> The demand for airpower is also increasing as both conventional and non-traditional missions are filled with the same Air Force fighter aircraft. Defending the sovereign airspace of American allies is an example of conventional use of the F-22, but the same aircraft engaged in that mission are also dropping bombs in SFA support of the Iraqi Army.<sup>97</sup>

From August 2014 to August 2016, the USAF flew more than 30,000 sorties in Iraq and Syria and conducted over 6,000 airstrikes.<sup>98</sup> The USAF, as acknowledged by the senior leaders, is no longer able to support combatant commander needs because of a lack of supply of fighter squadrons and qualified pilots. The future operating concept predicts higher demand for fighter squadrons to both deter near peer threats and support nontraditional threats to US national interests. The demand placed on the current force, coupled with the need to posture the force for future threats, is at a breaking point.

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<sup>95</sup> *FY 2017 US Air Force Posture Statement*.

<sup>96</sup> *Ibid.*

<sup>97</sup> Oriana Pawlyk, “F-22s are back from the Middle East. Have they left the ISIS fight?,” *Air Force Times*, April 14, 2016, accessed November 26, 2016, <https://www.airforcetimes.com/story/military/2016/04/14/f-22s-have-retuned-central-command-has-left-isis-fight/83032190/>.

<sup>98</sup> *Ibid.*

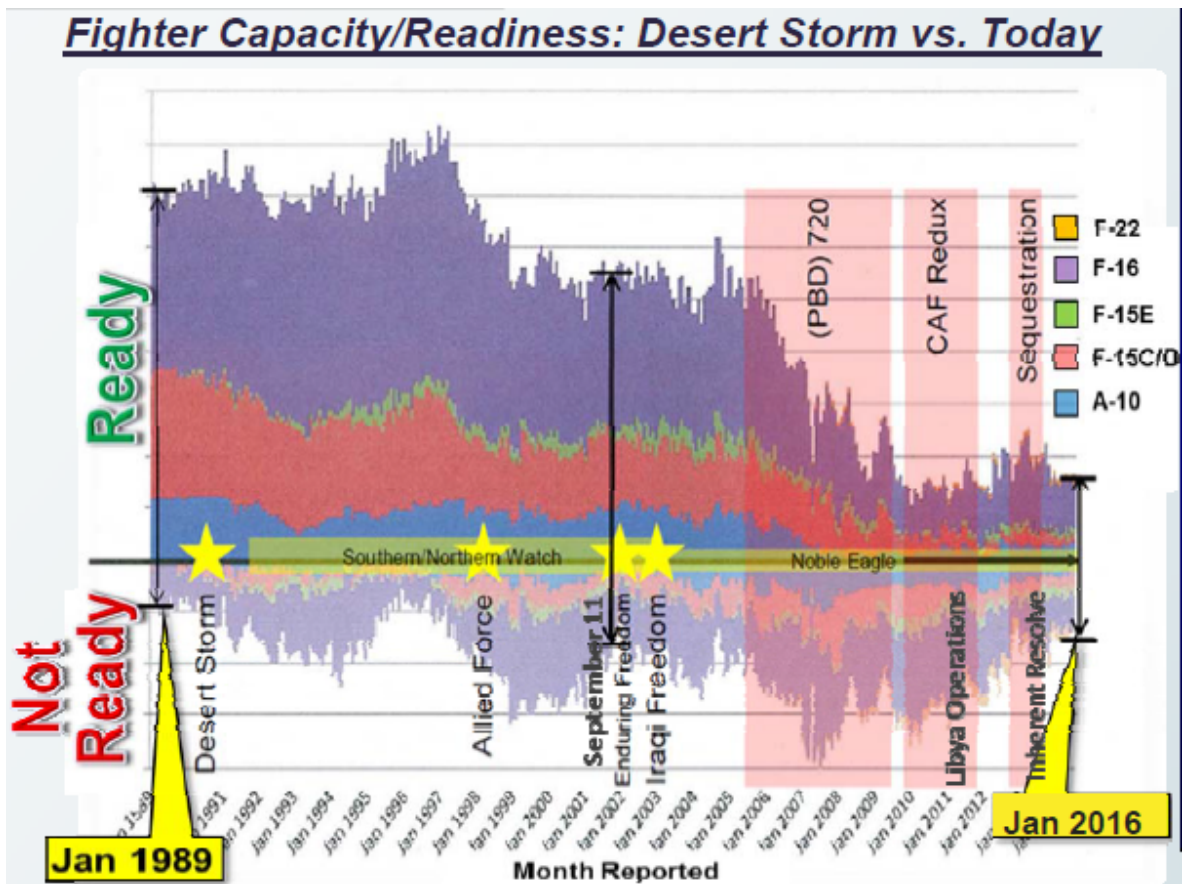


Figure 1. USAF Readiness

Source: Presentation to the Committee on Appropriations, Subcommittee on Defense, United States Senate, *Fiscal Year 2017 Air Force Posture Statement*, 114th Cong., February 10, 2016.

The final question that needs to be answered to recommend a tenable solution to the problems addressed above is: can private military contractors produce the same desired battlefield effects that the USAF is capable of producing? The following paragraphs will explore two commercially available aircraft and two PMCs that may be capable of providing effects equal to those of USAF fighter and bomber aircraft.

The first commercial aircraft developed to provide the effects needed in SFA operations is the Beechcraft AT-6 Wolverine. Beechcraft incorporated the best components of several currently fielded US military aircraft and combined them in the AT-6. It has the avionics and



surveillance suite of the front line Intelligence, Surveillance, and Reconnaissance aircraft in the United States arsenal, the MC-12. According to the USAF fact sheet, the MC-12 supports all aspects of the Air Force Irregular Warfare mission (counter insurgency, foreign internal defense and building partnership capacity).<sup>99</sup> Additionally, the AT-6 has the armament suite of the A-10C, and a weapons load capacity close to that of the F-16.<sup>100</sup> Table 1 below shows the standard conventional loads the AT-6 is capable of carrying for each type of mission. This combination of Intelligence, Surveillance, and Reconnaissance and lethal payload makes the AT-6 a suitable alternative to current USAF platforms in support of SFA missions.

Table 1. AT-6 Weapons Carrying Capacity

AT-6C Standard Conventional Loads (SCL)							
Typical Mission Types	6	5	4	CTR (Optional)	3	2	1
Close Air Support – Low Collateral Damage	LAU-131	GBU-58	EFT	EO/R	EFT	GBU-58	LAU-131
Close Air Support – Precision		GBU-58	HMP-400	EO/R	HMP-400	GBU-58	
Close Air Support – Buildings, Bunkers	LAU-131	GBU-59	EFT	EO/R	EFT	GBU-59	LAU-131
Close Air Support – Multiple Vehicles, Buildings		AGM-114	EFT	EO/R	EFT	AGM-114	
Close Air Support – Vehicles, Buildings		AGM-114	EFT	EO/R	EFT	AGM-114	
Close Air Support – Non-Precision	MK-81	MK-81	MK-81	EO/R	MK-81	MK-81	MK-81
Armed Overwatch / ISR		LAU-131	EFT	EO/R	EFT	LAU-131	
Forward Air Control – Airborne (FAC-A)		LAU-131	HMP-400	EO/R	HMP-400	LAU-131	
Interdiction – Precision		GBU-12	HMP-400	EO/R	HMP-400	GBU-12	
Interdiction – Precision		GBU-49	HMP-400	EO/R	HMP-400	GBU-49	
Long-Range Interdiction – Precision	HMP-400	GBU-49	EFT	EO/R		GBU-49	HMP-400
Long Range Interdiction – Non-Precision	HMP-400	GBU-12	EFT	EO/R		GBU-12	HMP-400
Interdiction – Non-Precision		MK-82	HMP-400	EO/R	HMP-400	MK-82	
Interdiction – Non-Precision		MK-82	MK-82	EO/R	MK-82	MK-82	
Night Illumination	LUU-2	LUU-2	EFT	EO/R	EFT	LUU-2	LUU-2
Gunnery, Rocket & Bomb Training	BDU-33	LAU-131	HMP-400	EO/R	HMP-400	LAU-131	BDU-33
Ferry		TP	EFT	EO/R	EFT	TP	
Note 1: EO/R/Laser Turret Mounted on Centerline is Compatible with All Store Loadouts							

Source: AT-6 Website, accessed 1 December 2016, <http://defense.txtav.com/en/at-6>.

<sup>99</sup> US Air Force, “MC 12,” January 21, 2016, accessed December 8, 2016, <http://www.af.mil/AboutUs/FactSheets/Display/tabid/224/Article/104497/mc-12.aspx>.

<sup>100</sup> AT-6 Wolverine. The F-16 weapons load capacity was derived from usable payload data obtained from General Dynamics (the original developer of the F-16) and from the AT-6 specification data.

The next aircraft that can support SFA operations in a threat permissive environment is the Embraer A-29 Super Tucano. Unlike the AT-6, this aircraft has an already proven service record for the ten countries currently employing it in various roles. It was also the aircraft the Department of Defense selected for its Light Attack Aircraft support to the Afghan Air Force. Because the US Government has an open contract with Embraer to manufacture and deliver these aircraft to foreign governments, it is plausible to assert that a similar agreement could be made between a PMC, with the support of the government, and a foreign country. For an answer to the PMC question, one must turn again to the theory of supply and demand. There are no PMCs who advertise this specific capability because there are no known contracts open for it, although there are two companies that have contract air service contracts with the government. These PMCs own a fleet of jet aircraft and employ ex-military fighter pilots with experience in SFA operations. A closer look at two leading PMCs, Draken International and Airborne Tactical Advantage Company, may show the capacity exists to execute the SFA mission.

One of the emerging leaders in the contract air service industry is the Draken Corporation, which owns the world's largest fleet of military fighter aircraft.<sup>101</sup> Self-proclaimed as uniquely positioned to meet the growing demand for contract air services, they are an internationally operated PMC that fly advanced fighter aircraft in a wide variety of missions. Of particular note is their recent contract with the USAF. They were awarded a multi-million-dollar contract to provide adversary threat training to USAF Fighter Pilots at Nellis Air Force Base, Nevada. This is relevant because it is the first time a demand for services of this type was needed on a large and continuous scale. The unavailability of the USAF to meet the demand was the driver behind this contract. Additionally, Draken claims to have "massive capacity and

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<sup>101</sup> Draken International, "About us," accessed December 12, 2016, <http://www.drakenintl.com/about-us>.

capabilities available for world wide deployment,” as well as pilots with operational experience “in all global arenas.” They have the ability to evolve and meet the demand of a particular market, the ability to acquire advanced military aircraft, and the pilots to fly diverse mission sets in the global arena.<sup>102</sup> This all suggests they may be a supply alternative to USAF aircraft in SFA operations.

Airborne Tactical Advantage Company claims to be the world’s largest outsourced civilian tactical airborne training organization. They have a 22-year history of working with the US government, primarily supporting the US Navy’s fighter weapons instructor school, known as “Top Gun.”<sup>103</sup> With a large fleet of ex-military fighter aircraft and pilots, they appear as qualified to support SFA operations as the above-mentioned company. What makes Airborne Tactical Advantage Company unique is that were recently acquired by the Textron Corporation. Textron is an aerospace giant who owns more than half the general aviation aircraft market with subsidiaries Cessna, Hawker, and Beechcraft. More importantly, they also produce the AT-6 Wolverine mentioned above.<sup>104</sup> This unique combination has the PMC and the aircraft provider owned by the same corporation, which could make acquisition of the needed capability easier.

The previous discussion answered six structure-focused questions in order to test the hypotheses in the introduction. It used the AVG as a case study to determine if a similar model was feasible in future SFA operations. Analysis of structure and method, legality and acceptability, and capacity and capability, shows that a similar convention is a tenable solution to the demand crisis in the USAF fighter aircraft fleet.

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<sup>102</sup> Draken International.

<sup>103</sup> Ibid.

<sup>104</sup> Textron Incorporated, “Our Company,” accessed December 10, 2016, <http://www.textron.com/About/Company>.

## Findings and Analysis

This section revisits the hypotheses to determine if the evidence presented in the case study proves, disproves, or finds inconclusive evidence to support each hypothesis. The answers to the structure focused questions presented in the case study are the evidence used to determine if the environment described by Dr. Stanley exists in the USAF which would suggest a likely use of an alternate supply source to meet future demand. They next helped to determine if the USAF fighter aircraft fleet is sufficient to respond to expected future demand or an unforeseen crisis. Finally, it helped determine if the model for air strike support used by the AVG for SFA operations is still tenable today.

The first hypothesis is the use of private military contractors for air strike support in SFA operations is a viable and acceptable solution to meet the increasing demand for USAF fighter aircraft. The research questions revealed that the legal framework exists to employ PMCs for SFA operations and that their legal precedence is codified in several US laws. While the Lend-Lease Act expired in 1951, the Arms Export Control Act now provides the legal authority to employ PMCs and provide military equipment to foreign governments. Further, the Montroux Document provides an international institution that recognizes and codifies PMC involvement in armed conflicts. This represents, for the first time, an international institution that provides guidelines and norms for which PMCs should operate. The Secretary of State provides oversight of their actions and has the ability to equip them with military hardware through the Arms Export Control Act. With an international institution that recognizes the role of PMCs and US laws that support equipping foreign governments with military equipment, the structure and method exists for PMCs to provide air strike support in SFA operations.

The second hypothesis is the USAF can only continue to sustain long-term expeditionary operations if they rely on PMC air strike support for SFA operations similar to those the US is currently engaged in. The third research question provided convincing evidence to prove this

hypothesis true. Empirical data proves USAF aircraft are in low supply and statements from senior leaders and trend data shows the demand for these aircraft is increasing. Stanley's research also supports this hypothesis. He concluded, through a cross-comparison test method of four case studies, that when the number of military disputes, engagements, or conflicts increases, there is an increase in private security internationally. He further concluded that when there is a cap on the size of the military force, private security use increases.<sup>105</sup> As shown in the case study analysis, both of these conditions exist. With the supply-demand behavior clearly shown and the theoretical principle proven with empirical data, it is therefore conclusive that hypothesis two is true.

The third hypothesis is PMC air support can provide the same effects in SFA operations that USAF assets can provide. Two commercially available aircraft have the capability to produce the same affects as current USAF fighter and bomber aircraft. This hypothesis is therefore supported, but with a caveat. The AT-6 and A-29 have sensors to find and track targets and advanced weapons similar to those carried by USAF aircraft. Neither aircraft, however, is as survivable as current USAF aircraft. Aircraft combat survivability is "the capability of an aircraft to avoid or withstand a man-made hostile environment."<sup>106</sup> It is measured as a probability an aircraft survives a combat encounter.<sup>107</sup> Things that increase survivability of an aircraft are either inherent in the design, like the ability to fly fast and at a high altitude, redundant flight control systems, or are self-defense systems like chaff and flare dispensers. Every USAF fighter aircraft has a better survivability rate,  $P_s$ , than both the AT-6 and A-29. The hypothesis is proven that,

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<sup>105</sup> Stanley, 171.

<sup>106</sup> Robert Ball, "The Aircraft Combat Survivability Education Web Site," last modified February 29, 2012, accessed January 24, 2017, <https://www.aircraft-survivability.com/index.html>.

<sup>107</sup> Ibid.

given a low threat environment, PMC air support can provide the same effects in SFA operations than USAF aircraft.

The analysis in this monograph attempted to determine if the supply and demand environment present in the USAF supports the case for using PMCs to support SFA operations. The need for establishing an alternate supply source was shown through proving the environment that Stanley's thesis argues is necessary for the growth in PMCs exists in the USAF today. US military involvement is increasing and there is a cap on USAF manning. This, coupled with the additional demand drivers of the desire for operational flexibility and the need for "surge" capacity in order to respond to an unforeseen crisis or train for major combat operations, were proven sufficient to suggest the use of contract air strike service to support SFA operations.

This section presented the analysis associated with the case study and the structured focused questions using the lens of supply-demand and Stanley's theory. Two of the three hypothesis were supported, with the third yielding a mixed result. These results are significant, as USAF planners may soon find themselves without the necessary resources to meet the operational requirements demanded of fighter aircraft. It will then be necessary to find a mission where PMCs can provide the same level of support to combatant commanders. This monograph argues that mission is the type of SFA operations the US is currently conducting; where air strikes are necessary but do not require detailed integration with US conventional ground forces.

## Conclusion

This monograph provided a case study analysis to answer six structure-focused questions. These questions were then used as evidence to prove three hypotheses. The result of the research and analysis determined that the conditions exist for the USAF to expand their use of PMCs to meet the future demand. With the conditions present, the analysis then focused on determining an appropriate mission for the USAF to relinquish to PMCs. Air strike support to SFA mission was deemed appropriate because it consumes a high percentage of USAF assets and the demand for such missions is increasing. Another factor considered before suggesting contract air strike services in SFA operations was that it is not the mission for which USAF fighter aircraft were designed. Further, it is not operationally or economically feasible to continue using B-1s or fifth generation fighters, like the F-22, to provide non-traditional support in SFA operations.

With the demand established and the mission decided, it was then time to turn to a case study to determine if there was a feasible model to employ contract air strike support to SFA operations. A case study of the American Volunteer Group provided an opportunity to determine if that was a tenable solution today. The following paragraphs summarize the results to this question and provide the significance of the findings and recommendations for further research.

The AVG model for PMC support is valid and tenable today. The legal framework has changed since the days of Clair Chennault's Flying Tigers, but in a way, adds legitimacy and structure to their use. There now exists a law that has survived eight presidents and 38 congresses that codify the exporting of military equipment to foreign governments. Further, there is also an international institution that provides standards and norms under which PMCs are expected to operate. This adds to their legitimacy and the ease with which they legally operate.

For further research, it is suggested that a quantitative cost analysis be completed to compare possible economic benefits from using PMCs. While the cost per flying hour for USAF aircraft are readily available, an accurate cost comparison would require substantial work on the

part of the PMC. The PMCs contacted for this monograph were not willing to complete such a task. While it is assumed that a cost comparison would show PMCs offer significant savings, it cannot be conclusively proven without a comparison.

Although a cost comparison was not completed, there is still enough evidence to support using contract air strike services for support to SFA operations. This is based on the dire need for the USAF to reconstitute its fleet of aging aircraft and proving the environment exists in the USAF that suggests further reliance on PMCs. Without the encumbrance of SFA missions, USAF fighter aircraft can return to training for what they were designed to do. This includes protecting the airspace at home and abroad. This is a mission that NATO allies, as well as close allies in the Pacific, trust the protection of their existence to the United States Air Force.



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