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CAN AMERICA AFFORD TO MODERNIZE THE AIR FORCE?  
AN EXAMINATION OF DOMESTIC FACTORS INFLUENCING  
FUTURE DEFENSE BUDGETS

by

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## **Biography**

Colonel George A. Coggins was commissioned through the United States Air Force Academy and entered active duty in May 1987. He has served in financial management positions at the wing, base, center, major command, and Headquarters Air Force levels. His career includes assignments at Headquarters United States Air Forces Europe, Headquarters Air Combat Command, and the Office of the Assistant Secretary of the Air Force for Financial Management and Comptroller, Headquarters United States Air Force.

Prior to attending Air War College, he served as the Director of Financial Management, Headquarters Air University, Maxwell Air Force Base, Alabama where he was responsible for advising the Air University commander on budget and financial management issues. As the Air University comptroller, Colonel Coggins directed the execution of nearly \$700 million in annual operating budgets and oversaw a \$3 billion accounting operation.

He holds a Bachelor of Science degree from the United States Air Force Academy, Master's degree in Cost Analysis from the Air Force Institute of Technology, and a Master's degree in Military Operational Art and Science from Air Command and Staff College.

## Introduction

*Rising to the 21st century challenge is not a choice. It is our responsibility to bequeath a dominant Air Force to America's joint team that will follow us in service to the nation.<sup>1</sup>*

-- General T. Michael Moseley, Former Chief of Staff of the Air Force

America's edge, according to the 2008 Air Force Posture Statement, is based on the synergistic effects of global vigilance, global reach, and global power—our nation's ability to gain and maintain situational awareness, fuse intelligence from multiple sources, and rapidly respond with swift and precise effects to any point on or above the earth.<sup>2</sup> These capabilities allow the United States Air Force to hold any target in the world at risk, defend our homeland, or deliver humanitarian aid to those in need.

However, the Air Force is at a strategic crossroads. Strained by 17 years of continuous combat operations throughout Southwest Asia, its fleet of air and space vehicles as well as supporting infrastructure are rapidly wearing out or becoming technologically obsolete. Reversing this trend and revitalizing these capabilities won't come cheaply. By one account, the Air Force needs at least an additional \$20 billion annually to pay for critical modernization requirements including tankers, fighter aircraft, long-range strike assets, and space platforms.<sup>3</sup>

This phenomenon is not limited to the Air Force. The Army, Navy, and Marines are experiencing similar modernization and recapitalization challenges resulting from the high operating tempo demanded by on-going operations in Iraq, Afghanistan, and other contingencies around the world. The sheer volume of flying hours, steaming hours, and track/wheel miles in a combat environment is accelerating the wear and tear on most military hardware and burning up the expected service lives of critical assets. Unless these systems are repaired and replaced in sufficient numbers, the United States risks losing its battlefield dominance and command of the

global commons—air, sea, space, and cyberspace—as the threat environment becomes increasingly dangerous and America’s relative military advantage shrinks.

One could argue the simple solution is to increase defense spending so the services can repair and modernize their forces. Unfortunately, the United States is on a fiscally unsustainable path resulting from unchecked growth in mandatory programs such as Social Security, Medicare, and the interest on our national debt.<sup>4</sup> This looming fiscal crisis, coupled with a shrinking US defense industrial base, will make it difficult, if not impossible, for America to modernize the Air Force.

This paper examines why the Air Force needs to modernize its air and space fleets, explores domestic considerations likely to influence these efforts, and provides a historical perspective on military spending trends and different approaches for determining defense funding levels. It concludes with an assessment of affordability concerns and recommendations. Leaders with a firm understanding of these issues will be better prepared to assess and articulate the potential impacts of funding decisions on national defense. This, in turn, should better posture the Air Force to maximize its contributions to national security as we fight today’s wars, while preparing for the future.

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<sup>1</sup> Gen T. Michael Moseley, “The Nation’s Guardians: America’s 21st Century Air Force” (address, 2006 Air Force Defense Strategy and Transformation Seminar Series, Washington, DC, 29 December 2007), p. 10. Accessible at URL: <http://www.af.mil/shared/media/document/AFD-080207-048.pdf>.

<sup>2</sup> Department of the Air Force. Fiscal Year 2008 Air Force Posture Statement. (Washington, DC, 27 February 2008), p. 3. Accessible at URL: <http://www.posturestatement.af.mil/shared/media/document/AFD-080310-037.pdf>.

<sup>3</sup> Mackenzie M. Eaglen, “Airmen vs. Modernization: The Air Force Budget Dilemma,” (Washington, DC: The Heritage Foundation, 18 May 2007), p. 8. Accessible at URL: <http://heritage.org/research/NationalSecurity/bg2037.cfm>.

<sup>4</sup> Statement of David Walker, Comptroller General of the United States, prepared witness statement for the Commission on National Guard and Reserve, *Hearing on Impact on Reserve Component Personnel, Compensation Policies*, 21 June 2007, p. 7. Accessible at URL: <http://www.cngr.gov/June%2019-21/Walker%20Statement.pdf>.

## **The Case for Modernizing the United States Air Force**

*Airpower is like poker. A second-best hand is like none at all—it will cost you dough and win you nothing.*

-- General George Kenney, first commander of Strategic Air Command

Today's United States Air Force is arguably the most dominant air and space force in the history of the world. American aircraft patrol the skies over Iraq and Afghanistan, unchallenged by enemy air forces, while ground forces conduct missions without fears of attack from above. This confidence is well-founded: no US soldier has been killed by an enemy aircraft since April 1953, nearly 56 years ago.<sup>5</sup>

The Air Force's brand of air dominance—total, unquestionable, and suffocating—has been around so long, according to Rebecca Grant, director of the Mitchell Institute for Air Power Studies, that many now view it as a birthright.<sup>6</sup> Considering almost two decades have passed since American warplanes drove Saddam Hussein's air forces from the skies during Operation DESERT STORM, it is easy to see how some people can come to this conclusion. However, this flawed view overlooks the risks posed by an increasingly dangerous threat environment and the effects of an aging air and space fleet.

### **It's A Dangerous World Out There**

Pick up any newspaper or peruse your favorite news website and you will see constant reminders of the dangerous world we live in. Recent headlines include coverage on the terror attacks in downtown Mumbai, pirates hijacking vessels in the Indian Ocean, Iran's recent ballistic missile tests, and Russia's invasion of Georgia. In light of these events, the United States Air Force must be capable of dealing with a number of daunting challenges: fighting terrorism, dealing with the emergence and re-emergence of peer competitors, and countering adversaries armed with more advanced, lethal weapon systems.

On 11 September 2001, terrorists launched the most deadly attack in American history. These brazen strikes on American soil ushered in a new era for our nation: the Long War on Terror. Seven years and \$700 billion later, American forces steadfastly defend our homeland and relentlessly hunt down terrorists throughout the world. Terror groups, such as Al Qaida and Hezbollah, still pose a growing threat to the international community. As a result, the United States and other countries in the world must be equally committed, and capable, of preventing such attacks.

At the end of the Cold War in the mid-1980s, the United States stood as the sole superpower in the world. No other country could rival its combined military and economic might which led to a decade-long “procurement holiday” for the US military. Yet, as America reduced its military force structure and deferred or cancelled modernization programs, other nations reconstituted and expanded their military capabilities. According to the 2006 Quadrennial Defense Review Report, the future international security environment will most likely be shaped by an emerging China, resurging Russia, and expanding India.<sup>7</sup>

China is seen as having the greatest potential to compete militarily with the United States and could, over time, field military technologies capable of offsetting traditional US military advantages. This should come as no surprise as China converts its growing economic might into military capabilities. For example, within the last two years, China announced the fielding of its most advanced fighter, the J-10, and successfully tested an anti-satellite weapon against an orbiting spacecraft.<sup>8</sup> Although China’s intentions remain veiled, one analyst posits China will have the military capacity to pose a national survival threat to America in less than a generation.<sup>9</sup>

The proliferation of advanced weaponry also presents a growing threat to American air and ground forces. Today, one is just as likely to find Russian SA-20 and Tor-1 systems in Iran

as American-made Stingers in the hands of Iraqi insurgents. As potential adversaries acquire relatively inexpensive, yet capable, man-portable air defense systems (MANPADS), double digit surface-to-air missile (SAM) systems, and fourth-generation fighters, they may well be able to array more formidable air defenses thus potentially deny US access to their airspace.

Soviet and Chinese aircraft, notably the MiG-29, MiG-31, and Su-30, also pose a growing threat to American forces and rank among the top-selling fighters in the world. These jets, while not as advanced as the new F-22 or F-35, are capable of engaging and defeating America's legacy air superiority fighter, the F-15C. In 2005, Indian pilots flying Soviet-made Su-30Ks and French-made Mirage 2000s accomplished something unthinkable just a few short years ago: they defeated American pilots in simulated combat engagements as part of a recurring training exercise dubbed COPE INDIA.<sup>10</sup>

While the debate rages on whether it was a "square fight" between the US and Indian forces, the implications are obvious. America's monopoly on technological superiority and relative military advantage is shrinking—and not just in the air domain. Commercial satellite imagery is readily available on the open market, hackers infiltrate and exploit computer networks, and terrorists use the Internet to rapidly share tactical "lessons learned" such as instructions for incorporating cell-phone detonators into roadside bombs. These threats—and others such as climate change, resource shortages, and pandemics—clearly indicate our world has, indeed, become an increasingly dangerous place.

### **Growing Old Ungracefully: An Aging, Worn-out Fleet**

Most people view the Air Force as the newest, most technologically advanced military in the world. Flashy images of F-22s, Global Hawks, and Predators dominate the press and certainly reinforce this perception. However, they may be surprised to learn these three

advanced systems represent less than 5% of Air Force aircraft.<sup>11</sup> The remaining 95% of the fleet includes over 400 Eisenhower-era tankers and nearly 200 bombers and cargo aircraft averaging over 45 years old. This highlights one of the most serious challenges to American air and space dominance: an aging, less capable fleet.

The Air Force is currently operating the oldest fleet in its history. On average, the fleet is over 24 years old with many platforms approaching the half-century mark. See Figure 1 for the average age of a representative cross-section of Air Force systems.<sup>12</sup>

Planned acquisitions won't reverse this trend anytime soon. According to one official, the Air Force plans to acquire approximately 60 aircraft per year which equates to a 100 year recapitalization rate based on a 5,700+ aircraft fleet.<sup>13</sup> As a result, the average age is soon expected to exceed 30 years with some systems projected to reach the 75-80 year mark.<sup>14</sup>

Seventeen years of continuous combat operations is also accelerating the wear and tear on Air Force systems and burning through the expected service lives of critical assets. Since DESERT STORM, the Air Force has flown over 2.3 million hours annually, but with a force that is 31% smaller and 42% older.<sup>15</sup> According to Lt General Gary North, commander of 9<sup>th</sup> Air Force and US Air Forces Central (USAFCENT), "We are flying our planes into extinction."<sup>16</sup>

The case for Air Force modernization goes far beyond its aging air and space fleet. Years of reduced funding for new facilities and the cumulative effect of deferred maintenance are also

<u>System</u>	<u>Number</u>	<u>Avg Age</u>	<u>Oldest</u>	<u>Newest</u>
A-10A	208	27.3	Apr 79	Mar 84
F-15C	325	25.2	Jun 79	Oct 89
F-16C	1029	18.5	Oct 84	Mar 05
B-1B	66	21.0	Sep 86	Jul 88
B-52H	89	46.7	Jan 60	Oct 62
KC-135R	363	46.8	Jun 58	Dec 64
C-5A	59	36.9	May 70	May 73
C-130E	98	44.3	Jun 61	Feb 74
C-130H	269	21.1	Aug 74	Mar 94
HH-60G	101	18.2	Dec 82	Feb 99
Minuteman II	570	34.0	Apr 70	Dec 78
GPS satellites	31	9.0	Nov 90	Mar 08

**Figure 1. Inventory and Average Age of Air and Space Systems**

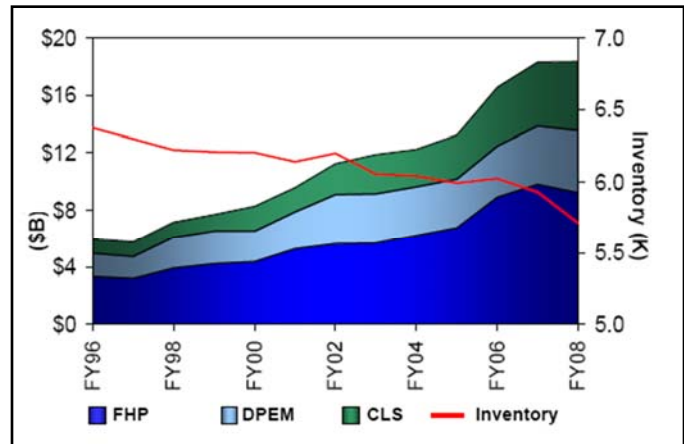
impacting critical infrastructure capabilities including aircraft depots, space launch facilities, base maintenance, and specialized communications facilities. Other less obvious, but essential infrastructure requirements include upgrades to training ranges, runways, material handling equipment, fuel distribution systems, and adequate housing for our Airmen and their families. Just as most people don't want to go to war in a fifty year-old aircraft, they should not be expected to work or live in similarly outdated, inefficient support facilities.

### **Aging Fleet = More Costly, Less Reliable Systems**

In one respect, air and space vehicles are no different than a personal automobile. As they age, they become less reliable and cost more to operate and maintain. Much like a family automobile purchased in 1980, military systems procured during the Cold War are showing their age as evidenced by more frequent incidents involving structural issues such as cracked wings, struts, and corrosion. For example, the Air Force was forced to ground its entire F-15C fleet in 2007 after an aircraft disintegrated while conducting routine air-to-air combat training in the skies over Indiana.<sup>17</sup> And, as recently as October 2008, dozens of A-10 jets were grounded at Davis-Monthan AFB, Arizona after inspectors found cracks in the wings. These problems are not isolated to fighter and attack aircraft.<sup>18</sup> Similar safety and structural issues have been discovered in cargo, aerial refueling, and intelligence, surveillance, and reconnaissance (ISR) platforms. One official noted the Air Force's C-130Es are so broken they can no longer deploy in combat.<sup>19</sup> As of August 2008, over 700 aircraft or 13% of the entire Air Force aircraft fleet was either grounded or operating under flight restrictions.<sup>20</sup>

Finally, it is also increasingly expensive to operate and maintain aging aircraft. As Figure 2 illustrates, the cost of depot programmed equipment maintenance (DPEM), contractor logistics support (CLS), and the flying hour program (FHP) increased by 179% over the last ten

years even as the Air Force reduced the size of its fleet by over 9%.<sup>21</sup> So, as you might expect, keeping over 5,000 aircraft airworthy requires massive investments in terms of manpower and money. The Air Force is expected to “spend a billion dollars per week in fiscal 2010 on fuel, spare parts, repairs and technical support—and that doesn’t even include the paychecks for military personnel performing such functions.”<sup>22</sup>



**Figure 2. Increased Cost of Aircraft Fleet**

<sup>5</sup> Robert S. Dudney, “Air Supremacy in a Downdraft,” *Air Force Magazine*, December 2008, p. 2.

<sup>6</sup> *Ibid.*, p. 2.

<sup>7</sup> Department of Defense. Quadrennial Defense Review Report. (Washington, DC, 6 February 2008), p. 28. Accessible at URL: <http://www.defenselink.mil/qdr/report/Report20060203.pdf>.

<sup>8</sup> Adam J. Hebert, “For the Air Force, the Bill Comes Due,” *Air Force Magazine*, April 2007, p. 3.

<sup>9</sup> Gen Barry R. McCaffrey, “Rebuilding Global Airpower,” *Joint Forces Quarterly*, Issue 49, 2nd Quarter 2008, p. 1.

<sup>10</sup> Christian Lowe, “India 1, USAF 0”. Accessible at URL: <http://www.defensetech.org/archives/000976.html>.

<sup>11</sup> Headquarters Air Force Directorate of Plans and Programs. Aircraft Inventory and Age, 3x5 Card, (On-line spreadsheet, dated 31 August 2008). Accessible at URL: [https://www.my.af.mil/gcss-af/USAF/AFP40/d/1074227645/Files/editorial/5x8%20Card%0as%20of%2031%20Aug%20\(2\).xls?channelPageId=-530071&programId=1402159](https://www.my.af.mil/gcss-af/USAF/AFP40/d/1074227645/Files/editorial/5x8%20Card%0as%20of%2031%20Aug%20(2).xls?channelPageId=-530071&programId=1402159). Data from this spreadsheet was used to compute the 5% figure.

<sup>12</sup> *Ibid.*

<sup>13</sup> Eaglen, “Airmen vs. Modernization: The Air Force Budget Dilemma,” p. 6.

<sup>14</sup> Harold Kennedy, “Air Force Steps Up Effort To Care for Its Aging Aircraft,” *National Defense*, January 2002. Accessible at URL: [http://www.nationaldefensemagazine.org/archive/2002/January/Pages/Air\\_Force\\_Steps\\_6855.aspx](http://www.nationaldefensemagazine.org/archive/2002/January/Pages/Air_Force_Steps_6855.aspx).

<sup>15</sup> Secretary of the Air Force Directorate of Communication. Restore the Air Force’s Aging Aircraft, (On-line trifold brochure, 2008). Accessible at URL: <https://www.my.af.mil/gcss-af/USAF/AFP40/d/1074676447/Files/editorial/AgingAircraftTrifold.pdf?channelPageId=-738647&programId=1418656>.

<sup>16</sup> *Ibid.*

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<sup>17</sup> Tom Donnelly and Gary Schmitt, “Chicken Little is Right,” *Weekly Standard*, 22 January 2008, p.1. Accessible at URL: <http://www.weeklystandard.com/Content/Public/Articles/000/000/014/618emzgt.asp>.

<sup>18</sup> Carol Ann Alaimo, “A-10s Still Grounded; Problems Unresolved.” *Arizona Daily Star*, 17 October 2008, p. 1. Accessible at URL: <http://ebird.osd.mil/ebfiles/e20081017634713.html>.

<sup>19</sup> Lauren Bigge, “Flying the Wings Off—Literally,” *Air Force Magazine Daily Report*, 15 March 2007. Accessible at URL: <http://dailyreport.afa.org/AFA/Reports/2007/Month03/Day15>.

<sup>20</sup> Headquarters Air Force Directorate of Plans and Programs. Aircraft Inventory and Age, 3x5 Card. Data from this spreadsheet was used to compute the 700 aircraft and 13% figures.

<sup>21</sup> Maj Gen Frank R. Faykes, “FY08 Budget President’s Budget” (Washington, DC, 5 February 2008), p. 12. Cost reductions extracted from Maj Gen Faykes’ briefing. Nine percent fleet reduction figure calculated using FY98 USAF Aircraft Fleet size (6,228 aircraft) as reported by Air Force Magazine Almanac ([www.airforce-magazine.com/magazinearchive/magazine%20documents/2000/may%202000/0500facts\\_figs.pdf](http://www.airforce-magazine.com/magazinearchive/magazine%20documents/2000/may%202000/0500facts_figs.pdf)) and FY08 USAF Aircraft Fleet size (5,671) as reported by Headquarters Air Force Directorate of Plans and Programs (see endnote 11 for specific reference information).

<sup>22</sup> Loren B. Thompson, “Aging Air Force Fleet Requires New Ideas to Sustain,” (Arlington, VA: Lexington Institute, 20 June 2008), p. 1. Accessible at URL: [http://lexingtoninstitute.org/printer\\_1280.shtml](http://lexingtoninstitute.org/printer_1280.shtml).

## **Domestic Factors Influencing Air Force Modernization Efforts**

*To ask whether the United States can afford higher levels of military spending is stupid. It can, and if necessary, it would. The problem is that there are other important things that the United States wants and can afford too, and a dollar spent on one thing cannot be spent on another.*<sup>23</sup>

-- Richard Betts, US national security specialist

There are significant risks on the horizon that may derail the Air Force's modernization and recapitalization efforts. Unchecked growth in domestic programs such as Social Security, Medicare, and Medicaid, coupled with decades of deficit spending and the effects of the current credit crisis, threaten our nation's solvency. Even if America's leaders can reverse these trends, there are many concerns on the US defense industry's ability to develop the systems and technologies needed for our national defense. Let's begin by scanning the budgetary landscape.

### **The Looming Fiscal Crisis**

The United States faces a looming fiscal crisis; however, most Americans and virtually all politicians turn a blind eye to this inconvenient truth. According to David Walker, the Comptroller General of the United States of America, "Today, we're seeing the calm before the storm from a fiscal standpoint...but, we face a tsunami of spending that will reach our shores within the next several years, and we are not well prepared."<sup>24</sup> The spending he refers to includes the soaring costs of mandatory programs such as Social Security, Medicare, Medicaid, and interest on the national debt. He asserts that, absent any policy changes, these programs will consume an increasing percentage of US tax revenues leading to serious pressures on funding for discretionary programs such as national defense.

## **Social Security**

Certain dates, such as 7 December 1941 and 11 September 2001, mark defining moments in American history. Although few people can recall the significance of 15 October 2007, the actions of a single woman set into motion a series of events that will shape American budgets for the next century. Kathleen Casey-Kirschling became the first “baby boomer” to file for Social Security benefits. But, she won’t be the only one for long. Experts estimate an additional 20,000 “boomers” will be eligible to file for Social Security benefits each day for the next twenty years—which equates to over 125 million new Social Security recipients during this period.<sup>25</sup>

According to the Congressional Budget Office, three key shifts in American demographics will greatly influence the long-term solvency of the Social Security program. First, millions of members of the baby-boom generation will reach retirement age in the next few decades greatly expanding the overall number of retirees. Second, the average life expectancy of Americans is increasing, so they will draw benefits for a longer period of time. Third, fertility rates are expected to remain far below the levels of 1950s and 1960s further reducing the number of available workers to pay into Social Security.<sup>26</sup>

The economic impact of these shifts is staggering as this bow wave of retirees begins collecting Social Security. By 2017, the Social Security Administration (SSA) will begin paying out more in benefits than it collects in taxes and will start drawing down its Trust Fund assets (surpluses accumulated prior to 2017). By 2040, the Trust Fund assets will be exhausted and Social Security will lack the resources to pay all promised benefits. According to SSA actuaries, promised benefits exceed expected tax revenues by \$13.4 trillion when extrapolated over the indefinite future.<sup>27</sup> Yet, this is just the tip of the financial iceberg. As more boomers retire, they will also strain America’s government-sponsored healthcare programs, Medicare and Medicaid.

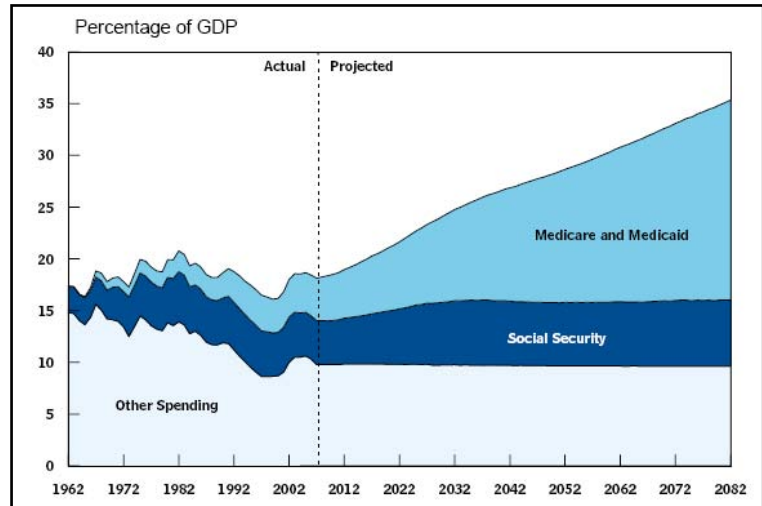
## Medicare and Medicaid

Our nation spends over \$2 trillion a year on medical healthcare, with the US government paying nearly one-third of these costs.<sup>28</sup> As a result, Americans are now living longer, healthier lives than at any time in our nation's history. Peter Orszag, director of the Congressional Budget Office, acknowledges America's aging population is putting increased demands on our nation's social programs. However, he attributes spiraling medical costs—not Social Security—as the primary factor behind the growth in entitlement programs.<sup>29</sup>

Figure 3 clearly supports this claim.<sup>30</sup>

The combination of higher patient loads, skyrocketing medical costs, and unfunded mandates such as the Medicare drug program has put our nation's healthcare programs on an unsustainable fiscal path. The 2006 Medicare Trustees' report projects a \$71 trillion gap between Medicare's long-term unfunded obligations and anticipated receipts. This dwarfs Social Security's \$13.4 trillion deficit and is 14 times larger than the total amount of government debt held by the public.<sup>31</sup>

Medicaid, another federally funded program that provides medical assistance to low-income families and individuals, is experiencing cost growth similar to Medicare. Increased numbers of elderly, low-income citizens are also expected to turn to Medicaid to pay for non-hospital expenses such as long-term health care—yet another unanticipated, and unfunded, consequence of Americans living longer.<sup>32</sup>



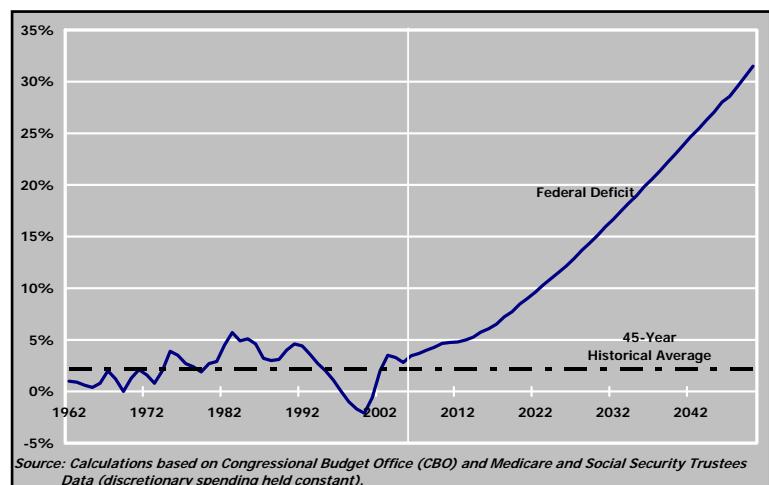
**Figure 3. Long Term Federal Spending Projection**

## **The Effects of Chronic Deficit Spending or “Hey Buddy, Can You Spare a Dime?”**

Somewhere along the last 232 years, our government lost its sense of financial stewardship. Concepts such as balanced budgets and fiscal responsibility fell out of vogue and were replaced by unconstrained government spending and never-ending campaigns for increased tax incentives. As a result, the US deficit for 2008 will be an estimated \$430-80 billion.<sup>33</sup> When added to all prior deficits, the national debt totaled \$10.7 trillion as of 10 December 2008.<sup>34</sup> This debt, just like your home mortgage, accrues interest—which, according to the Treasury Department, totaled \$451.2 billion in 2008.<sup>35</sup> To put this in perspective, interest on the US national debt accrues at a rate of roughly \$51 million per hour or nearly \$1 million per second.

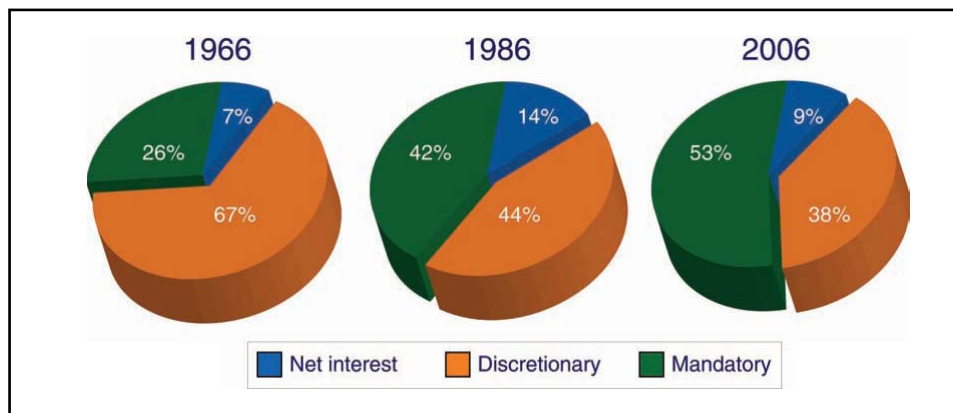
Short periods of deficit spending may be in the best interests of our country such as funding war costs or stimulating economic activity. However, studies indicate chronically large federal deficits reduce national saving, which slows the accumulation of national wealth and degrades economic performance.<sup>36</sup> The net result is lower future living standards. Over time, these deficits can also affect financial markets in the form of higher or lower interest rates, stock market values, and exchange rates.<sup>37</sup>

Since most lawmakers are reluctant to address our nation’s fiscal imbalance by raising taxes or reducing spending, deficits will consume an increasing percentage of the US Gross Domestic Product (GDP). Figure 4 illustrates the projected trajectory of federal deficits.<sup>38</sup>



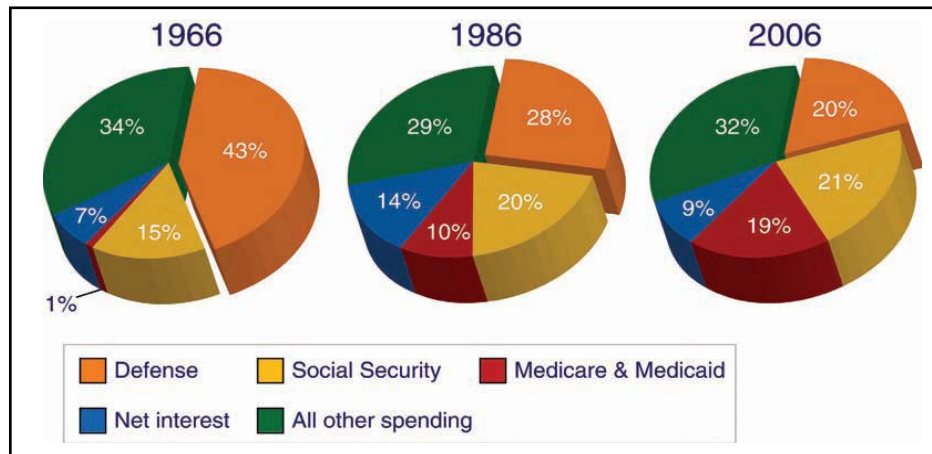
**Figure 4. Federal Deficit as a Percentage of GDP**

Due to mounting costs in mandatory programs—primarily Social Security, Medicare, and interest on the national debt—discretionary programs will come under increased pressure as Congress attempts to find ways to pay our country’s bills.<sup>39</sup> An examination of the distribution of federal spending between mandatory and discretionary spending over the last forty years is revealing. Spending on mandatory programs and net interest on the national debt increased from 33% of all federal spending to 62% between 1966 and 2006, while spending on discretionary programs dropped from 67% to 38% over the same time period.<sup>40</sup>



**Figure 5. Federal Spending On Mandatory and Discretionary Programs**

A further breakdown of federal spending by major program in the same timeframe clearly illustrates the explosive growth of spending for Social Security, Medicare, and Medicaid—and a corresponding reduction in defense spending from 43% of all federal spending to just 20%.<sup>41</sup>



**Figure 6. Composition of Federal Spending**

Although US spending patterns fluctuate due to changes in policy, the economy, and the security environment; one trend is clear: defense budgets will continue to come under pressure.

### **The US Defense Industrial Base**

Since World War II, the US defense industrial base has converted America's economic might and intellectual capital into the advanced systems and technologies used by our military. The defense industry pioneered scientific breakthroughs in the 1950s and 1960s which played a significant role in such innovations as manned spaceflight, computers, and new manufacturing processes. Many of these technologies evolved into the state-of-the-art weapon systems seen today. However, as the US defense industry approaches the second decade of the twenty first century, its position of dominance and ability to support our national defense is at risk, most notably from challenges related to industry consolidation, increased reliance on foreign-made components, and surge capacity. These challenges, if left unaddressed, threaten the "strategic edge" created by this vital industry as well as its long-term viability.<sup>42</sup>

The defense industry, like any other business venture, is shaped by the economic conditions within the marketplace—and the end of the Cold War was a seismic event. Between 1985 and 1997, military spending was slashed by nearly a third (in inflation-adjusted dollars) and procurement funding fell from 35 percent to less than 15 percent of overall defense funding.<sup>43</sup> This led to a period of intense consolidation and restructuring within the defense industry resulting in significantly fewer, but larger companies. According to one RAND study, the number of prime contractors in the United States capable of manufacturing combat aircraft declined from seven to two during the 1990s. Similarly, only four of fourteen missile manufacturers remained, while space launch vehicle producers fell from six to two.<sup>44</sup>

Although the US government encouraged consolidation in the early 1990s as a way to retain critical industrial capabilities in a shrinking market, some officials expressed concerns over excessive consolidation.<sup>45</sup> General Colin Powell, Chairman of the Joint Chiefs of Staff at that time, warned “The number of producers and suppliers...of many of our critical military items is dwindling drastically, and is shrinking to unacceptably low levels.”<sup>46</sup> His concerns were well-founded and prescient. A 2008 GAO report found 16 of 20 defense programs—including the B-2, F-22, and Space-Based Infrared System-High—had supplier issues including component or technology obsolescence, fewer manufacturing sources, or production challenges.<sup>47</sup>

As the US industrial base contracted, the defense industry became increasingly dependent, and in some cases totally dependent, on foreign sources for key materials and components such as silicon, precision glass for reconnaissance satellites, and advanced fiber optics.<sup>48</sup> This raises concerns over the availability and trustworthiness of foreign-made products.<sup>49</sup> As one author points out, if shipments of imported parts to US defense contractors were stopped, the manufacturing lines of the American defense industry would grind to a halt.<sup>50</sup> Likewise, the US-Chinese Economic and Security Review Commission notes the United States’ supply of “trusted” and “assured” microchips is in jeopardy due to the relocation of critical micro-electronics manufacturing capabilities from the United States to other countries. They claim this opens the possibility that malicious software or “other unauthorized design inclusions may appear in unclassified integrated circuits used in military applications.”<sup>51</sup>

Finally, the defense industry’s surge capacity—the ability to rapidly ramp up research, development, and production rates—is another point of contention. Historically, America’s ability to mobilize its manpower far outstrips its ability to equip them. For example, it took the US defense industry three years to reach its full capacity to produce aircraft and bombs during

World War II and over two years to significantly increase deliveries during the Korean War.<sup>52</sup> Considering the equipment produced during these periods was relatively unsophisticated when compared to today's advanced systems, one can only speculate how long it would take for American's industrial base to ramp up production of F-35 fighters, Stryker vehicles, or aerial refuelers.

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<sup>23</sup> Richard Betts, "A Disciplined Defense: How to Retain Strategic Solvency," *Foreign Affairs*, 86, no. 6 (November/December 2007), p. 7.

<sup>24</sup> David Walker, *Hearing on Impact on Reserve Component Personnel, Compensation Policies*, p. 4.

<sup>25</sup> John Rutherford, "America's First Baby Boomer Files for Social Security," *NBC Field Notes*, 15 October 2007. Accessible at URL: <http://fieldnotes.msnbc.msn.com/archive/2007/10/15/412037.aspx>.

<sup>26</sup> Congressional Budget Office. *Implications of Demographic Changes for the Budget and the Economy: Hearings before the US House of Representative Committee on Ways and Means* (Washington, DC: Government Printing Office, 19 May 2005), p. 2.

<sup>27</sup> Office of Management and Budget. *Budget of the United States Government, Fiscal Year 2008: Social Security Administration* (Washington, DC: Government Printing Office, February 2007), p.2. Accessible at URL: <http://www.whitehouse.gov/omb/budget/fy2008/ssa.html>.

<sup>28</sup> Congressional Budget Office. *The ABCs of Long-Term Budget Challenges* (Washington, DC: Government Printing Office, 8 December 2006), p. 18.

<sup>29</sup> Peter R. Orsag, Director, Congressional Budget Office, to Congressman Jeb Hensarling, US House of Representatives, letter, 8 March 2007, p. 1.

<sup>30</sup> Congressional Budget Office. *The Budget and Economic Outlook: Fiscal Years 2008 to 2018* (Washington, DC, Powerpoint briefing, 23 January 2008), slide 16.

<sup>31</sup> Congressional Budget Office. *The ABCs of Long-Term Budget Challenges*, p. 19.

<sup>32</sup> *Ibid.*, p. 20.

<sup>33</sup> A range is provided for the FY08 deficit since various sources report slightly different numbers.

<sup>34</sup> U.S. Department of the Treasury. *The Debt to the Penny and Who Holds It* (Washington, DC, on-line report accessed 10 December 2008). Accessible at URL: <http://www.treasurydirect.gov/NP/BPDLogin?application=np>.

<sup>35</sup> U.S. Department of the Treasury. *Interest on the Debt Outstanding* (Washington, DC, on-line report accessed 10 December 2008). Accessible at URL: [http://www.treasurydirect.gov/govt/reports/ir/ir\\_expense.htm](http://www.treasurydirect.gov/govt/reports/ir/ir_expense.htm).

<sup>36</sup> Congressional Budget Office. *Economic and Budget Issue Brief: Long-Term Economic Effects of Chronically Large Federal Deficits* (Washington, DC: Government Printing Office, 13 October 2005), p. 1.

<sup>37</sup> *Ibid.*, p. 3.

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<sup>38</sup> Alison A. Fraser, “The Budget, Medicare, Medicaid, and Social Security: Time to Take Action,” (Washington, DC: Heritage Foundation, undated briefing), slide 2. Accessible at URL: <http://www.heritage.org/Research/Budget/upload/Fraser.Feature.ppt>.

<sup>39</sup> Discretionary programs differ from mandatory programs in that they require some future Congressional action to authorize the expenditure of funds (hence the term “discretionary”).

<sup>40</sup> Walker, *Hearing on Impact on Reserve Component Personnel, Compensation Policies*, p. 8.

<sup>41</sup> *Ibid.*, p. 9.

<sup>42</sup> Barry D. Watts, “The U.S. Defense Industrial Base: The Past, Present, and Future, (Washington, DC: Center for Strategic and Budgetary Assessments, 15 October 2008), p. vii. Accessible at URL: [http://www.csbaonline.org/4Publications/PubLibrary/R.20081015.\\_The\\_US\\_Defense\\_In/R.20081015.\\_The\\_US\\_Defense\\_In.pdf](http://www.csbaonline.org/4Publications/PubLibrary/R.20081015._The_US_Defense_In/R.20081015._The_US_Defense_In.pdf).

<sup>43</sup> Daniel Goure, “Provide for the Common Defense: The 4% Solution,” (Arlington, VA: Lexington Institute, July 2008), p. 3. Accessible at URL: <http://www.lexingtoninstitute.org/docs816.pdf>.

<sup>44</sup> Mark A. Lorell, ed., “Going Global? U.S. Government Policy and the Defense Aerospace Industry,” (Arlington, VA: RAND, 2002), p. 4. Accessible at URL: [http://www.rand.org/pubs/monograph\\_reports/2005/MR1537.pdf](http://www.rand.org/pubs/monograph_reports/2005/MR1537.pdf).

<sup>45</sup> *Ibid.*, p. 5-6.

<sup>46</sup> James J. Tritten and Paul N. Stockton. *Reconstituting America’s Defense: The New U.S. National Security Strategy* (New York, NY: Praeger Publishers, 1992), p. 82.

<sup>47</sup> Government Accountability Office. *A Department-wide Framework to Identify and Report Gaps in the Defense Supplier Base is Needed, Report GAO-09-5* (Washington, DC: Government Printing Office, October 2008), p. 10. Accessible at URL: <http://www.gao.gov/new.items/d095>.

<sup>48</sup> Jacques S. Gansler, *Affording Defense* (Cambridge, MA: The MIT Press, 1989), p. 271.

<sup>49</sup> U.S.-China Economic and Security Review Commission. *2005 Annual Report to Congress* (Washington, DC: Government Printing Office, November, 2005), p. 97. Accessible at URL: [http://www.uscc.gov/annual\\_report/2005/chapter2\\_sec2.pdf](http://www.uscc.gov/annual_report/2005/chapter2_sec2.pdf).

<sup>50</sup> Gansler, *Affording Defense*, p. 271.

<sup>51</sup> U.S.-China Economic and Security Review Commission, p. 104.

<sup>52</sup> Gansler, *Affording Defense*, p. 264.

## National Defense: A Necessary, But Expensive Undertaking

*A billion here, a billion there; pretty soon you're talking real money.*

-- Senator Everett Dirksen, Illinois Senator, 1950 - 1969

National defense is a necessary, but expensive undertaking. Throughout history, countries have relied on their militaries to protect their people, sovereignty, and territorial integrity—a trend that continues today. Governments must recruit, equip, train, house, and feed military personnel; acquire and maintain weaponry and supporting infrastructure; and invest in emerging and future technologies to maintain an edge over their adversaries. This chapter provides a historical perspective on global military spending trends, US defense budget trends, and differing approaches for determining defense funding levels.

### Global Military Spending Trends

There's a popular saying, "Freedom isn't free." This maxim certainly applies when it comes to the cost of national security. According to the Center for Arms Control, global military spending totaled \$1.47 trillion in 2008.<sup>53</sup> Based on their estimates, the United States is by far the global leader in military spending and accounts for 48% of the world's total military spending. See Figure 7 for breakout. Their analysis also indicates the United States spends more than the next 45 highest spending countries in the world combined; 5.8 times more than China; and 10.2 times as much as Russia.

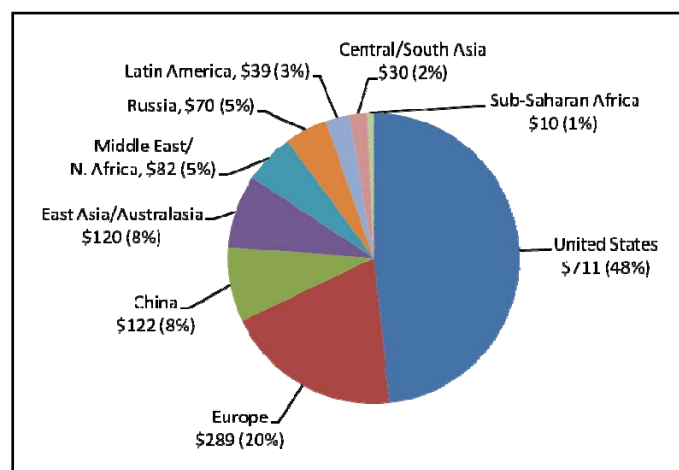


Figure 7. 2008 World Military Spending (\$B)

After trending downward after the end of the Cold War, global military spending is once again on an upswing. The Stockholm International Peace Research Institute, an international think tank for arms control, reports world military expenditures increased by a modest 1.5% per year (in inflation-adjusted terms) between 1996 and 2000 and jumped to 5.4% per year in the post-9/11 years.<sup>54</sup> At first glance, this gives the impression that other countries have ramped up their military spending and the global arms race is back under way. However, it should be noted that this spike is due largely to increased defense spending by the United States as it prosecutes the Global War on Terror (GWOT). See the next section for more discussion on US defense budget trends.

There are some positive developments associated with this uptick in worldwide military spending: more business for US defense contractors. Based on recently published statistics from DefenseNews, seven of the ten largest defense companies in the world are US-based companies.<sup>55</sup> The annual 2007 defense revenues for the American companies totaled \$156.5 billion, an increase of

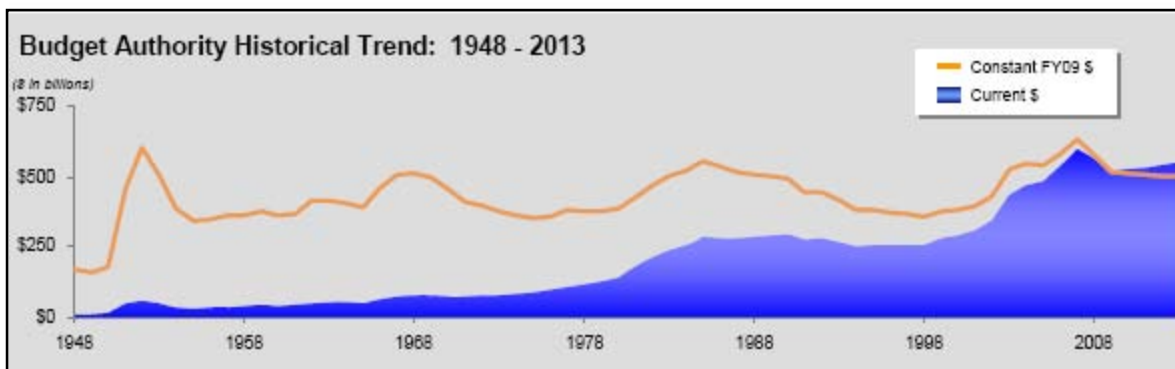
#	<u>Company</u>	<u>2007 Defense Revenues (\$B)</u>
1	Lockheed Martin (US)	38.5
2	Boeing (US)	32.1
3	BAE Systems (UK)	29.8
4	Northrop Grumman (US)	24.6
5	General Dynamics (US)	21.5
6	Raytheon (US)	19.8
7	EADS (Netherlands)	12.2
8	L-3 Communications (US)	11.2
9	Finmeccanica (Italy)	10.6
10	United Technologies (US)	8.8

**Figure 8. Top 10 Defense Companies in 2007**

nearly 6% over 2006 levels. The United States also remains the largest arms exporter in the world with a 31% share of the global market, followed by Russia (26%), Germany (10%), France (9%), and the United Kingdom (4%).<sup>56</sup> On the other side of the transaction, the world top five importers and their suppliers are: China (Russia), India (Russia), UAE (France), Greece (USA), and South Korea (USA).<sup>57</sup>

## US Defense Budget Trends

Historically, Department of Defense (DOD) budgets have risen and fallen based on the threats to our national security, the health of our economy, and policy decisions by American leaders. For example, after the United States emerged victorious from World War II in 1945, it rapidly demobilized its defense workforce from nearly 15 million military and civilian workers to only 2.2 million by 1948. Defense budgets were slashed by 85% over the same timeframe.<sup>58</sup> Funding spiked upward and then reversed in future conflicts such as Korea, Vietnam, the first Gulf War, and today's Global War on Terror. This cycle seems to repeat itself on a fairly consistent cycle of 18 to 20 years as illustrated by Figure 9.<sup>59</sup>



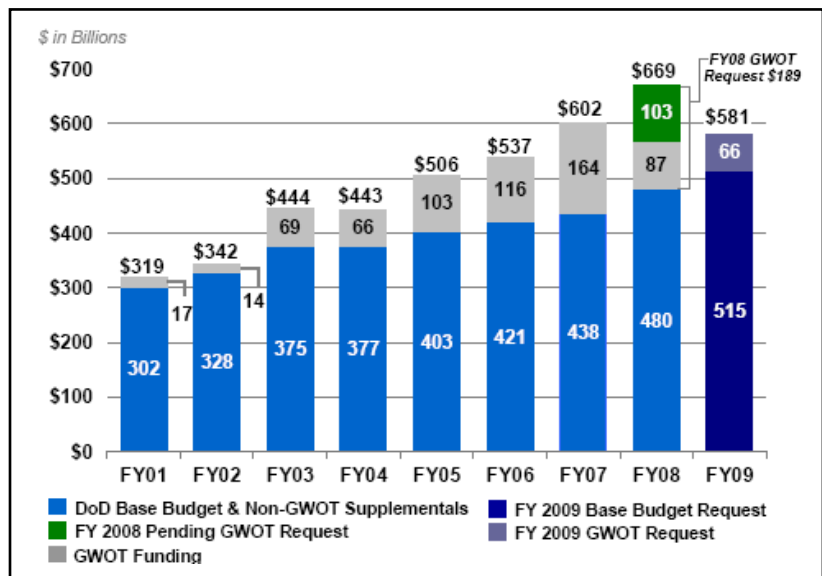
**Figure 9. US Defense Budgets: 1948 - 2013**

Over the same period, each of the service's share of total defense funding remained remarkably constant—approximately one-third each.<sup>60</sup> Short-term deviations from this allocation occurred periodically based on changes in national defense strategy such as nuclear deterrence in the 1950s. Increased spending on America's strategic nuclear triad—bombers, ICBMs, and submarines—resulted in a higher percentage of defense spending going to the Air Force and Navy. However, this funding shift proved to be short-lived and parity returned as Army funding increased during the heavily land/sea-centric campaigns during the Vietnam era.

Beginning in the 1970s, a number of “defense-wide” agencies and activities were established to centralize certain functions or to serve the national command authority. Some of the better known “Ds” include the Defense Logistics Agency, Defense Intelligence Agency, and Defense Commissary Agency. In some cases, budgets for these agencies were carved from the services’ budgets; whereas, new funding was appropriated for others. The net result is that defense-wide agencies’ share of the overall defense budget increased from roughly two percent in 1948 to 16 percent in 2009. So, what do recent budgets look like?

The Bush Administration’s annual budget requests for DoD’s base budget (i.e., non-war costs) increased from \$302 billion in FY01 to \$515 billion in FY09—an increase of 71 percent.

See Figure 10 for historical baseline and GWOT funding requests.<sup>61</sup> After adjusting for inflation, this represents a real growth rate of 34% over an eight year period. This does not take into account supplemental funding for war costs or natural disaster relief operations. When war costs are included, then budgets more than doubled (assuming full year war funding in FY09 approximates FY08 levels).



**Figure 10. Historical DoD Budget and GWOT Funding**

With defense budgets at record highs in dollar terms—exceeding one-half trillion dollars a year—why can’t the Air Force find the money to pay for modernization and recapitalization?

Findings from the Congressional Research Service (CRS) indicate that, despite large increases, the actual buying power across all of the services is being eroded by four factors:<sup>62</sup>

1. Dramatically higher military personnel costs—the CRS calculates uniformed personnel now cost 40% more, after adjusting for inflation, than in FY99 due to substantial increases in pay and benefits, including higher pay and housing allowances; TRICARE for Life; concurrent receipt; and large increases in bonuses.
2. Operating costs continuing to grow above base inflation—military operation and maintenance budgets, which pay for everything from flying training to weapons repair is increasing about 2.5 percent above inflation. As a result, funds are moved from modernization and personnel accounts to pay for current operations.
3. Increased cost growth in major weapons programs—stealthy platforms, multi-mission ships, and advanced space systems are becoming more expensive, and at a faster rate, than earlier systems. Unless budgets increase more rapidly than costs, tradeoffs between investment, personnel, and operating funds must be made.
4. Poor cost estimates—the accelerating costs associated with new major weapons programs are exacerbated by poor cost estimates, leading to major revisions in production schedules in an attempt to hold down cost growth.

Having personally served in the Air Force Financial Management career field for over 20 years, I have observed real-world examples of each of these factors. Cost growth in all areas—military and civilian payrolls, fuel for our air and ground fleets, utilities for our bases, and contract costs increases—forces hard trade-offs between investing in the future and paying today's bills. Unfortunately, the “urgency of now” usually takes priority resulting in modernization and recapitalization being pushed further down the road.

## **Different Approaches For Determining Defense Funding Levels**

Since it is impossible to simultaneously maximize national security and domestic spending, our nation's leaders are presented with the classic "guns versus butter" dilemma.<sup>63</sup> According to this basic economic concept, each tax dollar spent on national defense (guns) is one less dollar available for domestic programs (butter). As a result, elected officials are faced with a conundrum when they attempt to balance defense and domestic spending: too much butter puts our national defense at risk, whereas too little butter for their constituents jeopardizes the politician's re-election. In their search for balance, American leaders have considered a number of approaches for determining defense funding levels: the "remainder method," quantitative/net assessment analysis, and, most recently, pegging defense spending to a set percentage of GDP.

According to Richard Betts' article, "A Disciplined Defense: How to Retain Strategic Solvency," Presidents Truman and Eisenhower "calculated military spending using the 'remainder method': they started with the total tax revenues, subtracted out domestic spending, and gave whatever was left over to defense."<sup>64</sup> While this is a fairly straight-forward approach, it is also quite arbitrary since it fails to take into account the security environment, potential adversaries, or overarching national security strategy. As one might expect, the funding was insufficient to properly arm and sustain America's military—a lesson we would learn during the Korean War.

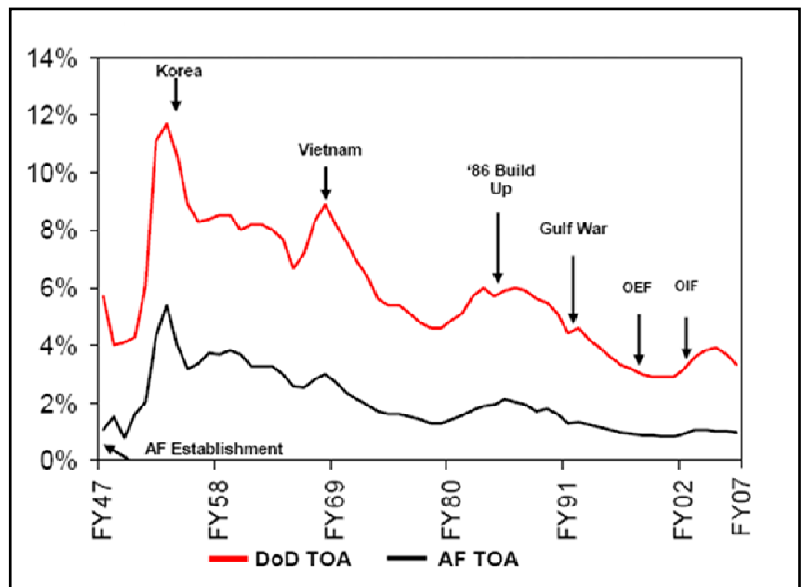
After the Korean War, the focus shifted to a much more quantitative, net assessment-based approach. Secretary of Defense Robert S. McNamara and his group of "whiz kids" introduced the arcane world of operations research and advanced modeling in an attempt to quantify defense funding needs. McNamara instituted the Planning, Programming, and Budgeting System (PPBS), a forerunner to today's Planning, Programming, Budgeting, and

Execution System (PPBES). This system provided a more formalized approach for linking defense plans to resourcing activities and has been used by DoD for the last forty years. But, time marches on and defense officials began pondering a third approach about two years ago.

Due to concerns over current and future defense funding levels, several senior military officials and prominent think tanks began advocating proposals linking defense budgets to a specific percentage of the GDP to national defense, usually a minimum of four percent.<sup>65</sup>

Senator John McCain wrote “America could afford to spend four cents of every dollar, or more on national defense” in *Foreign Affairs* magazine near the end of 2007 and others jumped on the bandwagon including the Secretary of

Defense, the Chairman of the Joint Chiefs of Staff, and even the Air Force Chief of Staff. The argument was simple and the evidence was compelling: US defense spending, as a percentage of GDP, had fallen to historically low levels and our national defense was increasingly at risk. See Figure 11 for illustration.<sup>66</sup>



**Figure 11. DoD and AF Budgets as % of GDP**

Unfortunately, this proposal is too simplistic and lacks rigor. First, America’s GDP has expanded rapidly over the past several decades and is now six times larger than in the 1950s (in inflation adjusted terms).<sup>67</sup> If, as one writer notes, the United States devoted 37% of its GDP to defense now, as it did during World War II, defense spending in today’s dollars would approach \$5 trillion per year.<sup>68</sup> Likewise, if America fell into a prolonged recession, it is unlikely defense

officials will agree to *lower* budgets for an undetermined period. Ultimately, this proposal's most damning flaw—common to each of the approaches reviewed—is that it focuses on the amount of funding defense should receive and not the more critical question, “How much is enough?”<sup>69</sup>

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<sup>53</sup> Christopher Hellman and Travis Sharp. “The FY 2009 Pentagon Spending Request – Global Military Spending,” (Washington, DC: Center for Arms Control and Non-Proliferation, 22 February 2008), p. 1. Accessible at URL: [http://www.armscontrolcenter.org/policy/securityspending/articles/fy09\\_dod\\_request\\_global](http://www.armscontrolcenter.org/policy/securityspending/articles/fy09_dod_request_global). Readers should note that military expenditures include all categories of spending: payroll, operating and support, infrastructure—and is not limited to just procurement or research and development accounts.

<sup>54</sup> Catalina Perdomo, “Military Expenditures Today,” (Stockholm, Sweden: Stockholm International Peace Research Institute, 2007), slide 4. Accessible at URL: <http://www.wilpf.int.ch/events/2008IWD/sipri.ppt>.

<sup>55</sup> “2007 Top Ranked Defense Companies in the World,” *DefenseNews.com*. On-line report under Features/Top 100 tab. Accessible at URL: [http://www.defensenews.com/static/features/top100/charts/top100\\_08.php?c=FEA&s=T1C](http://www.defensenews.com/static/features/top100/charts/top100_08.php?c=FEA&s=T1C).

<sup>56</sup> “Background Paper on SIPRI Arms Transfers Data,” (Stockholm, Sweden: Stockholm International Peace Research Institute, 31 March 2008), p. 2. Accessible at URL: [http://www.sipri.org/contents/armstrad/at\\_db.html](http://www.sipri.org/contents/armstrad/at_db.html).

<sup>57</sup> *Ibid.*, p. 3.

<sup>58</sup> Office of the Under Secretary of Defense (Comptroller). Defense Budget Materials, FY 2000. National Defense Budget Estimates for FY 2000. On-line report. Figures derived by author using data in Chapter 6, Table 6-1, p. 72. Accessible at URL: [http://www.defenselink.mil/comptroller/docs/fy2000\\_greenbook.pdf](http://www.defenselink.mil/comptroller/docs/fy2000_greenbook.pdf).

<sup>59</sup> Office of the Under Secretary of Defense (Comptroller). Defense Budget Materials, FY 2009. National Defense Budget Estimates for FY 2009. On-line report. Chapter 6, p. 53. Accessible at URL: [http://www.defenselink.mil/comptroller/defbudget/fy2009/fy09greenbook\\_2009\\_updated.pdf](http://www.defenselink.mil/comptroller/defbudget/fy2009/fy09greenbook_2009_updated.pdf).

<sup>60</sup> Office of the Under Secretary of Defense (Comptroller). Defense Budget Materials, FY 2000. National Defense Budget Estimates for FY 2000. On-line report. Figures derived by author using data in Chapter 6, pp. 67-72. Accessible at URL: [http://www.defenselink.mil/comptroller/docs/fy2000\\_greenbook.pdf](http://www.defenselink.mil/comptroller/docs/fy2000_greenbook.pdf).

<sup>61</sup> Office of the Under Secretary of Defense (Comptroller), Defense Budget Materials, FY 2009. Global War on Terror Funding: Department of Defense FY 2009. May 2008, p. 4.

<sup>62</sup> Pat Towell, ed., “Defense: FY2009 Authorization and Appropriations,” (Washington, DC: Congressional Research Service, 6 October 2008), pp. 16-17. Accessible to congressional staff at URL: [http://apps.crs.gov/cli/level\\_2.aspx?PRDS\\_CLI\\_ITEM\\_ID=73](http://apps.crs.gov/cli/level_2.aspx?PRDS_CLI_ITEM_ID=73).

<sup>63</sup> Afzalur M. Rahim, *Theory and Research in Conflict Management* (New York, NY: Praeger Publishers, 1990), p. 191.

<sup>64</sup> Betts, “A Disciplined Defense: How to Retain Strategic Solvency,” p. 3.

<sup>65</sup> Travis Sharp, “Tying US Defense Spending to GDP: Bad Logic, Bad Policy,” *U.S. Army War College Quarterly*, XXXVIII, no. 3 (Autumn 2008), p. 5.

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<sup>66</sup> Faykes, “FY08 Budget President’s Budget,” p. 16.

<sup>67</sup> Sharp, “Tying US Defense Spending to GDP: Bad Logic, Bad Policy,” p. 10.

<sup>68</sup> Ibid., p. 10.

<sup>69</sup> Steven M. Koziak, “Analysis of Proposals to Allocate Four Percent of GDP to Defense” (Washington, DC: Center for Strategic and Budgetary Assessments, 9 September 2008), p. 1.

## Conclusions and Recommendations

*Let every nation know, whether it wishes us well or ill, that we shall pay any price, bear any burden, meet any hardship, support any friend, oppose any foe to assure the survival and the success of liberty.*

-- John F. Kennedy, Presidential Inaugural Address, 20 January 1960

The year was 1958. Nikita Khrushchev was the Soviet Union Premier, Sputnik 2 orbited earth, and US bombers loaded with nuclear weapons trained in the skies above America. As the Cold War heated up, the US Subcommittee on Economic Policies for National Security was commissioned to answer the question, “How much can America afford to spend on national defense?” After engaging the brightest minds in our country, the esteemed panel responded with a simple answer: “America can afford what it has to afford.”<sup>70</sup>

This answer is just as relevant today as it was fifty years ago. Our country will spend whatever is deemed necessary for our national defense. At this juncture in time, American policymakers and their funding priorities are being shaped by immediate challenges: the cost of on-going operations in Iraq and Afghanistan, the housing market meltdown, and the paralyzing effects of a global credit crisis. In this environment, the Air Force is unlikely to secure the prerequisite Congressional funding support for an aggressive modernization program.

Modernizing the Air Force is not an affordability issue. Our lawmakers have proven to be immensely successful with spending significantly more money than they receive from taxpayers as evidenced by the recent \$700 billion bailout plan and looming financial crises posed by Social Security, Medicare, and the national debt. It is a matter of national priorities. The time has come for America’s leaders and citizens to address “our nation’s growing fiscal imbalance and changing security environment.”<sup>71</sup> This is no simple task, but unless American leaders address structural domestic issues—specifically, unchecked entitlement growth and a shrinking

US defense industrial base—our nation’s ability to effectively counter future threats is at risk. Based on the insights gained during this research effort, the following recommendations are provided as a guide to help put our nation on a more fiscally sustainable path—one, that if pursued, will ensure that the United States has sufficient monetary resources and industrial capacity to support Air Force modernization and recapitalization efforts.

**Recommendation #1: Reassess America’s national security policy and the role of the military (and other instruments of national power) in the new security environment.**

America’s military can do just about anything, but it can’t do everything. Our leaders must apply the first rule of management: balancing commitments with resources. This will require a realistic assessment of the threat environment and global commitments; clearly defining the roles and mission of each instrument of national power; and adequately resourcing these functions. To better synchronize priorities with resources, I recommend establishing a unified security budget for key players involved in providing national security. This would include the Departments of Defense, State, and Homeland Defense, along with others, as deemed appropriate. The Department of Defense may lose some budget authority as part of this rebalancing process; however, since our national security is based on the skillful application of both hard and soft power, this may be the most efficient and effective use of limited funds.

**Recommendation #2. Restore fiscal balance through prudent spending cuts and more effective tax policies.** A strong economy is a prerequisite for a strong military. Unfortunately, our country and economy is on an “unsustainable fiscal path” that will ultimately impact our national security according to David Walker, the former Comptroller General of the United States.<sup>72</sup> No politician in his or her right mind wants to propose cutting entitlements or raising taxes, yet this is precisely what must be done to rein in America’s out of control budget—and the

sooner the better. The longer we wait to address deficit spending and the tsunami wave of Social Security and Medicare bills bearing down on our country, the more drastic future cuts will have to be. Politicians should consider increasing the minimum age for drawing Social Security, repealing the Medicare drug care program, and re-evaluating tax policies (to include reversing prior tax cuts or abolishing the IRS and substituting a national sales tax for personal income taxes).

**Recommendation #3: Pursue a long-term strategy for revitalizing the US defense**

**industrial base.** The government should identify those critical skills, technologies, and manufacturing capabilities that are needed to ensure the long-term viability and technological superiority of our nation's defense industrial base. This will require a sustained effort spanning decades and considerable investment, but the potential benefits to our nation are substantial. First, it encourages the development of more scientists and engineers which increases America's intellectual capital. Second, domestic production creates more jobs which contribute to the nation's overall wealth. Finally, and most importantly, it provides an opportunity for America to regain its position as a leading manufacturer among world producers.

There are no simple solutions to the economic challenges facing our country and the affordability issues surrounding the Air Force's modernization and recapitalization requirements. In the final analysis, affordability (like beauty) is in the eye of the beholder. If, and when, our country's leaders feel our nation's air and space dominance is significantly threatened, they will spend whatever is needed. Let's just hope they are not too late.

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<sup>70</sup> James Brownlee, "The Defense We Can Afford," (New York, NY: Committee for Economic Development, 1958), p. 15.

<sup>71</sup> Walker, *Hearing on Impact on Reserve Component Personnel, Compensation Policies*, p. 1.

<sup>72</sup> *Ibid.*, p. 61.

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