The Symbiotic Relationship between the Air Force's Active and Reserve Components

Ensuring the Health of the Total Force

Col Bruce K. Johnson, USAF
Lt Col Scott Kniep, USAF
Mr. Sean F. Conroy

Following most major conflicts in our nation's history, the military services downsized, and their active component (AC) and reserve component (RC) faced similar dilemmas. Specifically, they had to maintain personnel readiness, modernize equipment, and retain enough force structure to meet defense strategy on a reduced budget. That situation hasn't changed. The war in Iraq is over, and major combat operations in Afghanistan remain on track to end in 2014. In the wake of these conflicts, the Air Force's AC and RC find them-

Report Documentation Page

Form Approved
OMB No. 0704-0188

1. REPORT DATE	2. REPORT TYPE	3. DATES COVERED
FEB 2013		**00-00-2013 to 00-00-2013**

4. TITLE AND SUBTITLE	5a. CONTRACT NUMBER
The Symbiotic Relationship between the Air Force's Active and Reserve Components. Ensuring the Health of the Total Force	5b. GRANT NUMBER
	5c. PROGRAM ELEMENT NUMBER
6. AUTHOR(S)	5d. PROJECT NUMBER
	5e. TASK NUMBER
	5f. WORK UNIT NUMBER
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) **Air Force Research Institute (AFRI),155 N. Twining Street,Maxwell AFB,AL,36112**	8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)	10. SPONSOR/MONITOR'S ACRONYM(S)
	11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release; distribution unlimited

13. SUPPLEMENTARY NOTES

14. ABSTRACT

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			
unclassified	**unclassified**	**unclassified**	**Same as Report (SAR)**	**23**	

selves locked in a zero-sum competition over the future structure of the service.[1] Driven by deep budget cuts, skyrocketing costs for readiness and modernization, and a new defense strategy, the Air Force proposed retaining capability and saving money by cutting force structure, primarily from the RC. Congress and the state governors, however, disagreed and placed the Air Force's plan on hold. They asserted that reserve forces were less expensive and attacked the Air Force's decision to cut the RC rather than the AC. The fact is that both the AC and RC can argue that they are less expensive, given the right set of assumptions and conditions. Such a position oversimplifies the complex interdependencies between the components that one needs to take into account when considering force-structure adjustments. The ongoing debate about cost drains time and energy from headquarters staffs, obscuring the real work necessary to ensure the health of the total force and its ability to meet national defense requirements as we adjust to a postwar drawdown.

This article introduces the concept of a symbiotic relationship between the AC and RC. It provides a means of elevating the component-centric cost debate that is driving the AC and RC apart by enabling a broader system-level dialogue on the health of the total force—a dialogue intended to bring the components back together. The concept of a symbiotic relationship seeks to describe the complex, interdependent nature of the AC and RC from the perspective of personnel investment. Analysis of this concept informs the dialogue by illuminating the effects of policy and resource decisions on the health of the total force.

Consequently, to enable the reader to gain an understanding of this symbiotic relationship, the article first defines the concept, the context in which it arose, external and internal factors that affect the health of the total force, and component perspectives on the Air Force's policy of total force integration (TFI)—a manifestation of the symbiotic relationship.[2] Second, to demonstrate the utility of the concept, it offers a vignette based on the 2011 Rated Summit plan to place inexperienced

AC fighter pilots and maintainers in RC units. Although the vignette is geared toward pilots and maintenance, the symbiotic relationship concept readily applies to other war-fighting communities resident in the AC and RC (e.g., intelligence, surveillance, and reconnaissance; civil engineering; and security forces). Third, the analysis includes a vision for AC and RC officers to follow as they translate this concept into an actionable personnel-management suite of tools that action officers can use to offer credible insights and recommendations to leaders and decision makers.

The Active and Reserve Components: Differing yet Complementary Functions Grounded in Policy and Law

One commonly uses the term *symbiotic relationship*, which denotes mutual benefit and dependence, to explain the association between two entities that need each other to survive and prosper. In other words, it provides a positive sum for those involved, in contrast to a zero-sum competitive relationship. By design, the relationship between the AC and RC is interdependent and symbiotic since both perform differing yet complementary functions that allow each to survive and thrive as part of a larger system. This is the basic premise that enables the AC and RC to transcend the component-centric zero-sum competition and reach a positive-sum view of the total force.

According to former senator John Warner (R-VA), "the Total Force Policy was never intended to make full-time active soldiers and part-time reservists mirror images of each other. Rather, it was a creative response to meeting the nation's post–World War II responsibilities as a global power and the fiscal and demographic realities facing the Department of Defense (DOD) after the Vietnam War."[3] Too often, people think of the RC simply as a smaller version of the AC. Yet, as Senator Warner notes, crafters of the total force policy never meant for this to be the case. A quick review of DOD policy and title 10 of the *United*

States Code highlights the differing yet complementary function of the AC and RC. DOD Directive 5100.01, *Functions of the Department of Defense and Its Major Components*, holds that the military departments are responsible for performing "functions necessary to fulfill the current and future operational requirements of the Combatant Commands, including the recruitment, organization, training, and equipping of interoperable forces."[4] The departments must also "establish and maintain reserves of manpower, equipment, and supplies for the effective prosecution of the range of military operations."[5] According to 10 *United States Code*, section 10102, "The purpose of each reserve component is to provide trained units and qualified persons . . . in time of war or national emergency, and at such other times as the national security may require, to fill the needs of the armed forces whenever more units and persons are needed than are in the regular components."[6] In other words, the AC and RC are not meant to be stand-alone entities. The military departments need both their AC and RC to complement each another as part of a self-reinforcing system. This is especially true from a personnel perspective.

The AC *invests* money and time to recruit, train, and develop experienced Airmen for most of its mission needs. Active duty service-commitment requirements represent the time needed to gain a return on this initial training investment. When they have completed their service obligations, AC personnel can choose to serve in either the participating or nonparticipating RC or separate from the service. Those who transfer to the RC represent a recurring *return* on the original AC *investment* for the taxpayer; thus, the Air Force avoids paying twice for the skilled Airmen it needs.[7] In this sense, AC and RC component functions are not mirror images of one another. Rather, they are different from a component point of view and complementary from the system-level perspective, thereby illustrating the symbiotic relationship.

When accessing a prior-service Airman, the RC gains the value of this individual's experience and skill but avoids the cost of having to

train a non-prior-service Airman. The experience and skill that the RC brings to the total force team are critical to meeting training and operations requirements—now and in the future. As such, views that consider cost alone oversimplify the relationship between the components and artificially place them in competition. From this blinkered point of view, the discussion focuses on gaining scarce resources for the benefit of the individual component rather than on maintaining the health of the Air Force, manifested by its ability to carry out current and future demands for national defense.

Concept: Considering the Symbiotic Relationship a System

The symbiotic relationship concept treats the AC and RC as an open system influenced by external and internal factors within these environments.[8] The system responds to external changes in the strategic, operational, economic, and technological spheres (fig. 1). It also responds to internal law, policy, and resource decisions made by the president, Congress, secretary of defense, and service secretaries and chiefs. To analyze this system, we assume that we can determine such AC and RC personnel matters as annual training costs, demand for training slots, attrition, accession, experience, and demand for experience. By monitoring, measuring, and analyzing these six indicators, we expect to be in a better position to judge the long-term viability and sustainability of the total force (health), determine the ability to meet demand (performance), and gauge the return on taxpayer investment (efficiency).

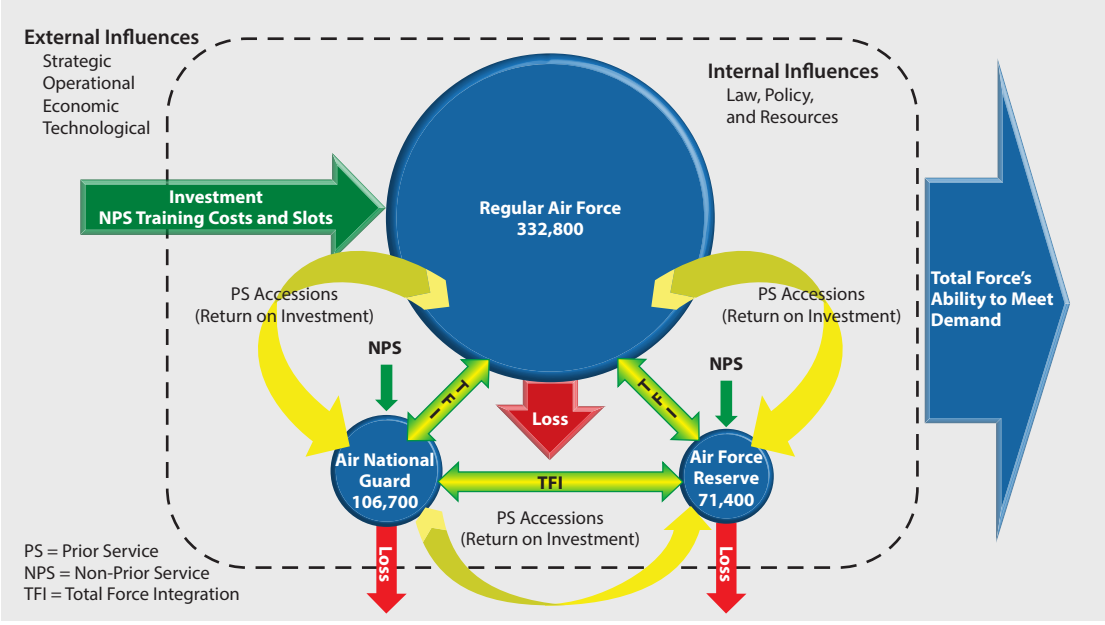

Figure 1. Personnel flow in the symbiotic relationship between the AC and RC

The solid green arrows in figure 1 represent the flow of non-prior-service Airmen, their accompanying training costs, and the demand for training slots among the components. The solid red and yellow arrows indicate Airmen attrition and accessions. The mixed green and yellow arrows represent AC/RC interaction in TFI associate units—interaction that leverages RC experience to help train and develop AC Airmen and executes operational requirements. Finally, the large blue output arrow indicates the combined ability of the components to meet national security demands. Thus, figure 1 helps conceptualize the interdependencies that bring the components together. Understanding these interdependencies will assist in supplying the necessary insight to avoid legal, policy, and resource decisions that adversely affect the three-component Air Force's ability to meet future training and operational demands. It also recasts the cost competition between components as a mutually supporting effort that meets warfighter demands, ensures the long-term health of the total force, and improves the return on taxpayer investment.

Theoretically, this system is at its optimal point in terms of investment / return on investment when the green non-prior-service arrows pointing to the Air National Guard and the Air Force Reserve do not exist. In this condition, the RC would receive all of its personnel as prior-service Airmen—already trained and experienced. In practice this theoretical absolute is neither attainable nor entirely desirable. There is value in accessing non-prior-service Airmen directly into the RC, especially those who enter the force with unique skill sets such as cyber proficiency and specialized medical expertise. That said, the Air Force should make every effort to retain prior-service Airmen when possible, given the enormous amount of time and money it has invested in them.

For example, the Air Force invests as much as $15 million in 10 years to train and develop an AC F-16 pilot, assuming no break in flying assignments. According to the fixed and variable costs contained in Air Force Instruction 65-503, *Cost Factors*, the service invests $5.9 million in the initial two years of training and $9.1 million in eight years of flying experience, including operations and maintenance, military personnel, and munitions expended only during training.[9] When this AC Airman enters the civilian world, eight years of operational experience and a $15 million investment go with him or her. If the Airman joins the RC, every time that individual fills an operational requirement or helps train and develop less experienced Airmen, the American taxpayer receives a recurring return on investment. The Airman maintains currency and readiness for a fraction of the cost of bringing a new person into the service. The same line of thinking holds true for the entire spectrum of Air Force career fields. The Air Force spends less money training and developing the majority of Airmen than it does on aviators; however, considering the large number of Airmen resident in other career fields, the magnitude of the total obligation of time and resources necessary to train and develop maintainers, civil engineers, and security forces may be equally significant. There is an exception to every rule—take, for example, individuals with unique

skill sets, mentioned above. In such cases, either industry or the individual—not the Air Force—bears much of the initial investment.

Context: The Road to Symbiosis

To understand the increasing dependence upon the RC—and the DOD's efforts to enable greater RC participation—we must first examine the history of the total force for proper context. The Air Force's road to symbiosis began with creation of the Air National Guard in 1947 and the Air Force Reserve in 1948. In the early years, the RC was solely a strategic reserve, characterized by its inferior equipment and lower readiness levels, compared to the AC.[10] It sought to mobilize, fight the "big one," and then demobilize. Two major events spurred the DOD to supply the RC with better equipment and integrate it with the AC.

First, the Korean War exposed the weaknesses of US military reserve programs because many of the units mobilized for combat were not ready.[11] Second, President Lyndon Johnson's refusal to activate the RC during the Vietnam War "undercut [its] fundamental purpose and mission."[12] Responding to the president's unwillingness to employ the RC and anticipating the post-Vietnam drawdown, the DOD took steps to ensure that the country would depend upon both the AC and RC to fight its future wars: "The President's Commission on the All-Volunteer Armed Force gave considerable attention to the potential contributions of the Guard and Reserve, which set the stage for what would be known as the Total Force concept."[13] In 1970, Secretary of Defense Melvin Laird first articulated that concept, and in 1973, Secretary James Schlesinger adopted it as formal policy calling for "reduced expenditures . . . in overall strengths and capabilities of active forces and increased reliance on combat and combat support units of the Guard and Reserves."[14]

Since the implementation of this policy, each secretary of defense has steadily increased reliance on the RC, further deepening and strengthening the AC and RC's symbiotic relationship: "In 1982 Secretary of Defense Caspar Weinberger continued to support the Total

Force Policy. Weinberger added the 'First to Fight' principle for resource allocation, according to which 'units that fight first shall be equipped first, regardless of component.' "[15]

Secretary of Defense William Cohen further refined the policy during the Clinton administration: "Cohen's Sept. 4, 1997, seamless Total Force policy memorandum recognized the increased reliance on the nation's Reserve forces since the end of the Cold War. He called on the Department's military and civilian leadership to create an environment that eliminates 'all residual barriers,' both structural and cultural, to effective integration of the Reserve and active forces."[16]

More recently, Secretary of Defense Robert Gates's "Utilization of the Total Force" policy memo defined exactly how the AC and RC would support sustained military operations.[17] This policy recognizes the DOD's full reliance on both the AC and RC to fight our nation's wars. It directs one-year mobilizations at a 1:5 mobilize-to-dwell for the RC and a 1:2 deploy-to-dwell for the AC, additional compensation for personnel who deploy at a greater tempo, review of the hardship waiver program, and elimination of stop loss.[18]

According to the Defense Science Board Task Force, "To cope with the increased demands and reduced resources the services developed new and innovative programs, such as the Air Expeditionary Force developed by the Air Force. The primary objective of these changes was to preserve maximum military capabilities for the nation given a reduction in resources of over $750 billion (actual versus planned spending) in the decade following the fall of the Berlin Wall."[19] The services also implemented policies to further the total force; specifically, the Air Force developed the air and space expeditionary force to leverage capabilities organic to both the AC and RC as a way of meeting operational requirements and establishing a predictable process for rotating forces.[20] Predictability is especially important to obtaining RC participation in the absence of mobilization authority by allowing members of the RC to plan and prepare their families and employers for their

absences. Doing so improves the likelihood of retaining people in the RC and maintaining support for their continued service.

The birth of the air and space expeditionary force marked a significant milestone in the RC's transformation from a strategic reserve to an operational entity. It became a powerful driving force behind the integration of the AC and RC components, one that intensified following the terrorist attacks of 11 September 2001 and that led to the mobilization of tens of thousands of members of the RC to serve in Afghanistan and Iraq.

Pressured by more than 10 years of combat, Congress made significant changes to the law while the DOD and military services enacted policies and made resource decisions that firmly established the RC as an operational force on par with the AC—at significant cost. For example,

> per capita compensation for part-time reservists, who comprise about 91 percent of the reserve force, increased nearly 52 percent, from $14,400 in fiscal year 2001 to $22,000 in fiscal year 2007. Per capita compensation for full-time reservists increased about 13 percent, from $107,000 in fiscal year 2001 to $121,000 in fiscal year 2007. Of the three cost areas that comprise compensation—cash, noncash, and deferred—deferred compensation costs, such as retiree health care and pensions, grew the fastest, increasing by nearly 28 percent.[21]

The trend toward component integration continues. In an effort to increase member participation and generate a better return on the taxpayer's investment, the Office of the Secretary of Defense created the *continuum of service* construct to reduce legal and policy barriers between the components. This construct mandates "a Human Capital strategy allowing military and civilian members to seamlessly transition in and out of active service to meet mission requirements and encouraging a lifetime of service to the nation."[22] Additionally, on 15 October 2010, the secretary of the Air Force initiated the "3-1" Integrated Personnel Life Cycle Project, designed to reduce waste and enhance the continuum of service by combining the three separate regular, Air Force Reserve, and Air National Guard personnel systems into one and

standardizing Air Force instructions among the components where possible. This action should make it easier for Air Force personnel to transition between the AC and RC, thereby improving the return on the taxpayer's investment.

External and Internal Factors Affecting AC-to-RC Transition

Many factors influence the availability and willingness of an AC Airman to transition to the RC—some internal and some beyond the control of the Air Force. External factors such as a high operations tempo, a weak economy, a decreasing force structure, and an increasing demand for airline pilots and maintenance technicians certainly lie beyond the scope of the service. Others, such as resource and policy decisions that affect incentives or the lack thereof for AC members to transition to the RC, do fall within the Air Force's ability to influence, if not control outright.

High operations tempo and the health of the economy work hand-in-hand to influence an Airman's decision to move from the AC to the RC. The latter's operations tempo, though less than that of the AC, may still cause problems for an individual who desires a civilian career.[23] The Military Officers Association of America, representing both Reserve and Guard members, recognizes that "civilian employers are increasingly reluctant to hire reservists who may be subject to repeated, extended absences from the civilian workplace."[24] From an economic perspective, when jobs are plentiful, people have less incentive to join the military, just as those who do join have less incentive to stay.[25] The opposite is true when the economy is weak and jobs are scarce. Under these conditions, AC retention tends to increase, thus reducing the RC's accessions of prior–service Airmen.[26] Currently, both of these factors contribute to the decrease in the number of AC Airmen transitioning to the RC.

A diminishing AC force structure leaves fewer Airmen available to move to the RC. Between 1988 and 2011, AC end strength dropped by 42 percent while the Reserve and Guard reduced by 13 percent and 8

percent, respectively.[27] In the past, managing the total force was not as sensitive to inefficiencies induced by component-centric management because of the larger force structure. Today, our reduced structure has us living on the margins of sustainability.

Forecasts indicate that the airline industry will require a significant number of pilots and maintainers in the near future. According to an industry report by the Boeing Corporation, "To operate and maintain the airplanes that will be added to the fleet over the next 20 years, the world's airlines will need an additional 466,650 trained pilots and 596,500 maintenance personnel."[28] That equates to 97,320 pilots and 137,000 maintainers for North America alone.[29]

Internal factors, such as the lack of incentives specifically designed to capture AC talent and place it in the RC, reduce the appeal of transitioning from the AC to the RC.[30] In 2011 the AC attempted to coordinate with the RC as it cut some 2,000 officers from its rolls, but it did so without any monetary encouragement to attract those people to the RC. The Air Force did give Airmen incentive to leave the service altogether by offering voluntary separation pay calculated at 1.25 times base pay.[31]

These factors combine to pose a challenge to the health of the total force and its ability to remain viable and sustainable as the budget contracts. Although the Air Force cannot influence many of these factors, it does control force-management policies. To the point, component-centric personnel policies and component choices made to address component-perceived needs can lead to negative second- and third-order effects on the total force. These inefficiencies drive higher costs and may ultimately imperil our ability to perform the national defense mission. If we properly address the symbiotic relationship as a system, it can inform personnel-management policies that can help mitigate the need for the RC to continue investing more of its scarce resources to recruit, train, and develop a growing number of non-prior-service Airmen to fill its ranks. Doing so will better leverage the AC's invest-

ment function along with the RC's return on investment function, thus increasing the overall efficiency of the total force.

Perspectives: Total Force Integration, a Necessity with Benefits

Faced with using declining resources to meet requirements, the AC supports the TFI policy and the various associated constructs out of necessity.[32] It recognizes the capability resident in the RC as a pool of highly experienced Airmen capable of fulfilling unmet AC training and operational demands:

> Starting in March of 1968, the [AC] began tapping the Guard and Reserve to perform Military Airlift Command operational missions through the Reserve Associate Program. . . . The integration concept is quite simple. Reserve crews fly operational missions with [AC] aircraft that otherwise would remain inactive between [AC] missions. The initial associate concept increased the operational capacity of the Air Force and helped lay the foundation for further component integration . . . years later.[33]

Initially developed for the air mobility mission, the associate construct now covers all of the Air Force's core functions.

From the RC's point of view, the TFI benefits are numerous. First, TFI demands that the RC remain a category-one (C-1) trained and ready force with access to AC equipment that is interoperable with RC equipment.[34] The combination of C-1 readiness and interoperable equipment ensures that the RC remains relevant in peace and war. In TFI units, the RC—and, to a greater extent, the total force—benefits from its close contact with the AC, a situation that can facilitate future accessions of prior-service Airmen. Furthermore, Airmen who previously served in TFI units are more likely to understand the differences between the AC and RC. They will have an appreciation for the citizen-Airman construct—the RC member's need to balance a part-time military career, a full-time civilian career, and family. They will also have greater appreciation of the transferable civilian skills that an RC member offers to the AC. Airmen with experience in associate units arguably are better prepared to lead those units and deployed wings that

combine AC and RC assets. Moreover, they can assume senior leadership roles on the high-level staffs that create policy and make resource decisions affecting the total force. Ultimately, those with TFI experience find themselves in a better position to maximize the combat capability of associate units and manage an increasingly integrated Air Force.

2011 Rated Summit Plan: Fighter Pilot Absorption Plan versus Reduced Reserve Component Experience

After the 2011 Rated Summit, the Air Force made a series of decisions intended "to ensure the viability and sustainability of the rated force."[35] Addressing AC pilot absorption is necessary to pave the way for the F-35 conversion. Gen Norton Schwartz, former chief of staff of the Air Force, directed the "increase of fighter pilot production to 278 pilots per year" and the establishment of "active associations at each RC fighter base with the goal of providing no less than 171 absorbable pilot billets."[36] The plan's success relies on leveraging greater RC experience to develop the skills of the AC's less experienced Airmen. This also holds true for aircraft maintainers, without whom the pilots could not fly.

Experience levels across the total force are declining, driven by retirements and a large influx of non-prior-service Airmen.[37] This dynamic is most pronounced in the Reserve, which suffered a 10 percent drop in total experience for all Air Force specialty codes from 2007 to 2011, compared to 2.1 percent for the Air National Guard and 4.5 percent for the AC.[38] If we drill down to the logistics career field, which houses aircraft maintenance, we find a 14.5 percent decline in the Reserve compared to 3.3 percent for the Guard and 2.9 percent for the AC.[39] These statistics alone do not tell us if this trend is a potential problem or part of a manageable cycle—we need more analysis if we wish to fully understand the impact of experience levels on the health of the total force. However, this dynamic should raise a red flag, given

the fact that the RC must train and develop the AC's Airmen even though its own force's experience is declining.

During the past decade, the global war on terrorism and overseas contingency funds enabled the operational Reserve to fulfill combatant commanders' requirements. They also helped the RC gain needed experience and hone the skills of its non-prior-service Airmen during multiple wartime deployments. Going forward, the Air Force will not have this additional money to develop a significant portion of its force, thereby requiring the Reserve and Guard to dedicate a significant amount of their own money to do so.[40] From 2006 to 2011, the Guard's yearly outlay for training non-prior-service Airmen more than doubled, from $52.4 million to $113.9 million.[41] On top of that, the Guard needs an additional $63.4 million for its seasoning program, which allows non-prior-service Airmen to become proficient at their jobs upon completion of initial technical training.[42] In 2011 the Reserve spent nearly $400 million on recruiting, training, and seasoning non-prior-service Airmen, including more than $300 million on enlisted personnel. The Reserve accounts for its non-prior-service costs somewhat differently than the Guard, preventing a clear "apples-to-apples" comparison. Nevertheless, the magnitude of expenditures in both components is significant and invites close attention.

Over time, concurrent AC and RC demands for training time and dollars may cause an unsustainable condition to arise in the active associate fighter units if RC experience levels drop below 70–75 percent.[43] More important than these percentages is that the components work together to establish these experience thresholds and tipping points to draw a line beyond which the health of the total force finds itself at risk. Maintaining higher RC experience levels is integral to getting the most out of the associate unit construct in terms of combat power and the development of less-skilled personnel. This means that decision makers must put into place policies and resources that will arrest the decline in RC experience levels. These decisions should concentrate on increasing prior-service accessions from the AC and other

services. Doing so will also save money and preserve combat capability in the long run.

Vision of the Symbiotic Relationship

As a means of realizing the symbiotic relationship's vision, members of the AC and RC are working together to leverage this concept to gain specific insights that will support law, policy, and decision making. This involves finding ways to monitor, measure, and analyze that relationship. Figure 2 details a systems dynamics approach which approximates AC and RC interdependencies, illustrating important metrics for system performance and health. Finally, it envisions linking these metrics to the chairman of the Joint Chiefs of Staff's risk matrix for force management and operational risk.[44]

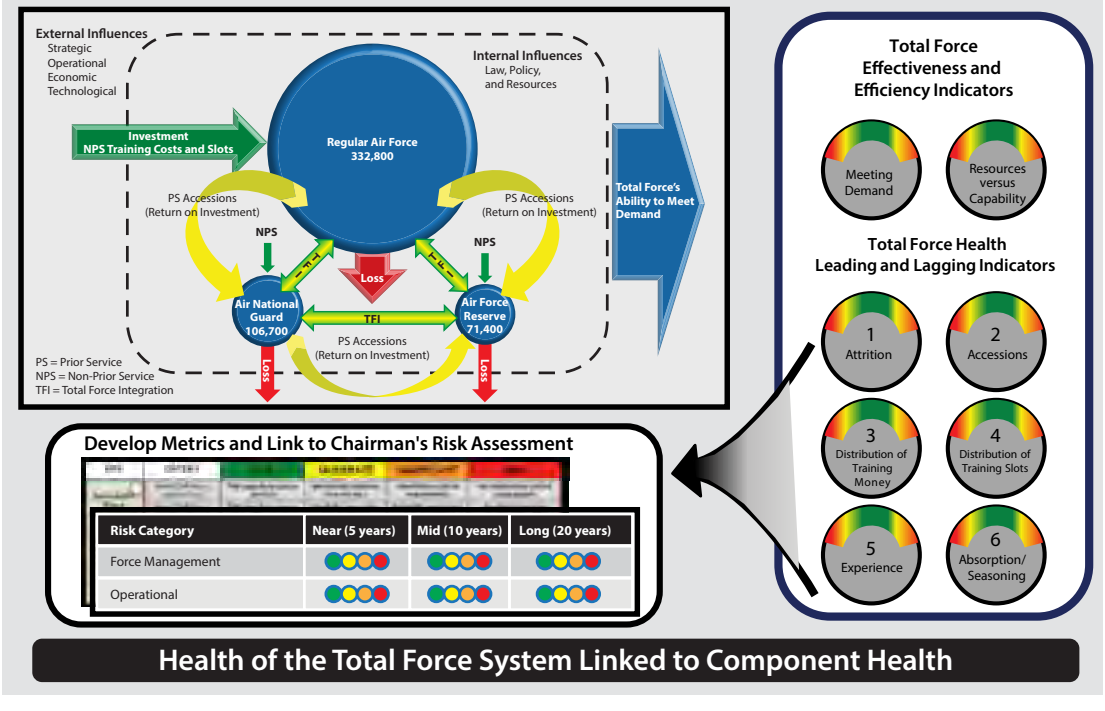

Figure 2. Vision of the AC/RC symbiotic relationship

Linking the analysis to the matrix delivers comparable information on many different issues vital to support sound decision making. It not only provides a scalable, standardized, and analytically rigorous framework for Headquarters Air Force and the Joint Staff to discuss risk but also measures key resource, schedule, and other performance goals.[45] Moreover, the matrix incorporates qualitative factors such as leadership, total force education, the triad (Air Force career, family, and civilian career), community connections, and civilian skills—all of which play a critical role in determining long-term sustainability of the total force.[46] Creating risk metrics based upon the indicators of sustainability and linking them to the chairman's risk-management matrix on force management and operations (figs. 2 and 3) give leaders a way to monitor, measure, analyze, and communicate the system health of the Air Force to the chairman. This, in turn, offers civilian and military decision makers a solid foundation for gauging future effects of law, policy, and resources on various force-management courses of action. Linking the indicators to the chairman's risk assessment helps identify information that leadership needs to know (well-defined and defensible assessment). It also provides civilian and military leaders with success and failure points based on defined thresholds that produce concise, consistent interpretation of results. Furthermore, metric end points and assessments developed via data analysis and evaluations of subject-matter experts will enable senior leaders to defend the decisions they make with the assistance of this process.[47]

Risk Category	Near (5 years)	Mid (10 years)	Long (20 years)
Force Management			
Operational			

Figure 3. Chairman of the Joint Chiefs of Staff's risk matrix

To put the symbiotic relationship into action, we are analyzing interdependencies between the AC and RC by using a systems dynamics approach. This entails gathering information from all three components, including accession and attrition data, funds spent on training, demand for training slots, and experience levels. Lastly, we are creating metrics consistent with and linked to the chairman's risk-assessment process, an activity that requires developing a dashboard to display trends from the six key sustainability indicators and associated (short-term, midterm, and long-term) risk.

Conclusion

This effort seeks to equip Air Force senior leaders with a means to elevate the component-cost debate to a dialogue on system health, which will allow efficient and effective management of the total force, now that military personnel have withdrawn from Iraq and during the drawdown from Afghanistan. It enables them to consider current and proposed law, policy, and resource choices affecting personnel from a holistic approach—one that maximizes the service's combat effectiveness and ensures maximum return on the taxpayer's investment. The symbiotic relationship concept offers a process for increasing transparency and inclusiveness between the AC and RC—a concept that will address complaints directed against the Air Force during deliberations over the president's budget in fiscal year 2013 (FY 13).[48] Members of all three components originated the concept and presented it at the highest levels of Air Force leadership. The chief of staff of the Air Force, chief of the Air Force Reserve, and director of the Air National Guard all received personal briefings. Additionally, senior Air Force leaders articulated the value of the symbiotic relationship with regard to the secretary of the Air Force's 3-1 effort to improve the continuum of service; total force management; rated management; hollow force initiative; plans, programs, and budgeting process; total force enterprise; and identification of roles and missions between the AC and RC. Currently, all three components are working in an open, transparent man-

ner to translate the concept, using a systems dynamics approach with the intent to better understand the interdependent relationship between the AC and RC. The basic analysis of these interdependencies is complete, and an effort to produce a more sophisticated look is ongoing. The goal involves having actionable insights ready in time to inform and defend the FY 15 budget along with the array of law and policy decisions needed to ensure the health of the US Air Force and its ability to meet the demands placed upon it to defend the nation. ✪

Notes

1. According to *United States Code*, title 10, the Air Force consists of the regular Air Force, Air National Guard, and the Air Force Reserve. This article refers to the regular Air Force as the AC and to the Guard and Reserve collectively as the RC.

2. Air Force Policy Directive 90-10, *Total Force Integration Policy*, 16 June 2006, http://www.af.mil/shared/media/epubs/AFPD90-10.pdf.

3. Department of Defense, *Total Force Policy: Interim Report to the Congress*, AD-A235 382 (Washington, DC: Department of Defense, September 1990), 3–4, http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA235382.

4. Department of Defense Directive 5100.01, *Functions of the Department of Defense and Its Major Components*, 21 December 2010, 26, http://www.dtic.mil/whs/directives/corres/pdf/510001p.pdf.

5. Ibid.

6. *United States Code*, title 10, subtitle E, pt. 1, chap. 1003, sec. 10102, accessed 7 November 2012, http://www.law.cornell.edu/uscode/text/10/10102.

7. The Air Force pays once to recruit, train, and develop an AC Airman. It pays a second time for the RC to recruit, train, and develop a non-prior-service Airman to fill a position that could have been filled by a transitioning prior-service AC Airman.

8. "Open System," Principia Cybernetica Web, accessed 17 March 2012, http://pespmc1.vub.ac.be/Asc/OPEN_SYSTE.html.

9. Air Force Instruction (AFI) 65-503, *Cost Factors*, 22 March 2012, tables A34-1, A34-2, https://www.my.af.mil/gcss-af/USAF/ep/browse.do?categoryId=p6925EC163B560FB5E044080020E329A9&channelPageId=s6925EC1350500FB5E044080020E329A9.

10. Charles J. Gross, *Prelude to the Total Force: The Air National Guard, 1943–1969* (Washington, DC: Office of Air Force History, 1985), 54.

11. "ANG Heritage: Missions, Wars and Operations," Air National Guard, accessed 22 January 2012, http://www.ang.af.mil/history/heritage.asp.

12. John T. Correll, "Origins of the Total Force," *Air Force Magazine* 94, no. 2 (February 2011): 94, http://www.airforce-magazine.com/MagazineArchive/Documents/2011/February%202011/0211force.pdf.

13. Ibid., 96.
14. Ibid., 96–97.
15. Alice R. Buchalter and Seth Elan, *Historical Attempts to Reorganize the Reserve Components* (Washington, DC: Library of Congress, Federal Research Division, October 2007), 15–16, http://www.loc.gov/rr/frd/pdf-files/CNGR_Reorganization-Reserve-Components.pdf.
16. US Department of Defense, Office of the Assistant Secretary of Defense (Public Affairs), "Hamre Assesses 'Seamless Total Force' on First Anniversary," news release, 4 September 1998, http://www.defense.gov/releases/release.aspx?releaseid=1825.
17. Secretary of Defense Robert Gates, memorandum, subject: Utilization of the Total Force, 19 January 2007.
18. Ibid.
19. Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, *Defense Science Board Task Force on Deployment of Members of the National Guard and Reserve in the Global War on Terrorism* (Washington, DC: Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, September 2007), 2, http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA474519.
20. Bruce K. Johnson, "Rebalancing the Air Force: A Comprehensive Solution" (master's thesis, Air War College, 16 February 2011), 8.
21. Government Accountability Office, *Military Personnel: Reserve Compensation Has Increased Significantly and Is Likely to Rise Further as DOD and VA Prepare for the Implementation of Enhanced Educational Benefits* (Washington, DC: Government Accountability Office, 6 July 2009), 3, http://www.gao.gov/assets/100/96269.pdf.
22. Department of Defense Human Resources Management, "Human Resources Management (HRM) Community of Interest (COI) Meeting Session: 08-04" (Washington, DC: Department of Defense, 22 July 2008), slide 10, https://www.mpm.osd.mil/documents/072208_HRMCOI_Briefing.pdf.
23. Rick Maze, "Hiring Bias Linked to Veterans' Joblessness," *ArmyTimes*, 14 September 2011, http://www.armytimes.com/news/2011/09/military-unemployment-reservists-hiring-bias-091411w/.
24. "National Guard and Reserve Benefits," Military Officers Association of America, 2012, http://www.moaa.org/MAIN_MENU/TAKE_ACTION/TOP_Issues/Serving_in_Uniform/National_Guard_and_Reserve_Benefits.html.
25. Beth Asch et al., *Military Recruiting and Retention after the Fiscal Year 2000 Military Pay Legislation* (Santa Monica, CA: RAND, 2002), 67, http://www.rand.org/pubs/monograph_reports/2005/MR1532.pdf.
26. AF/A9RP analysis of data from 1997 to 2011 shows a strong inverse relationship between employment and AC retention.
27. Air Force end-strength data, 1988–2011. See *US Air Force Statistical Digest*, SAF/FMC, multiple years; and Automated Budget Interactive Data Environment System (ABIDES), 2010–11. Analysis provided by Headquarters US Air Force/A9RI, 25 September 2012.
28. Boeing, *Current Market Outlook, 2010–2029* (Seattle, WA: Boeing Commercial Airplanes, Market Analysis, 2010), 12, http://www.boeing.com/commercial/cmo/pdf/Boeing_Current_Market_Outlook_2010_to_2029.pdf.
29. Ibid.
30. In some cases, the opposite is true—specifically, a monetary incentive to leave the AC which members must pay back if they join the RC.

31. Michelle Tan, "AF Details Plan to Cut up to 2,000 Officers," *AirForceTimes*, 21 February 2012, http://www.airforcetimes.com/news/2011/02/air-force-details-plan-to-cut-officers-022111w/.

32. Three types of associate units exist: classic, active, and Air Reserve Component. In classic associate units, the AC owns the hardware, and the RC provides some combination of embedded and additional manpower. Regarding active units, the RC owns the hardware and the AC supplies some manpower, whereas in Air Reserve Component units, either the Air National Guard or Air Force Reserve owns the hardware, and the other provides the manpower. For some weapon systems, active associations give the AC more access to RC aircraft and equipment that it needs to fulfill its operational taskings and develop inexperienced Airmen.

33. Johnson, "Rebalancing the Air Force," 9.

34. Category or "C" levels "reflect the degree to which unit resources meet prescribed levels of personnel, equipment, and training. . . . [C-1 indicates that] the unit possesses the required resources and is trained to undertake the *full wartime mission(s)* for which it is organized or designed" (emphasis in original). AFI 10-201, *Status of Resources and Training System*, 13 April 2006, 16, pars. 1.10, 1.10.1, http://www.e-publishing.af.mil/shared/media/epubs/afi10-201.pdf.

35. Gen Norton A. Schwartz, memorandum, subject: 2011 Rated Summit Decisions, 2 November 2011.

36. Ibid.

37. "Advancing the AC/RC Symbiotic Relationship (SymRel)," version 16, draft, Headquarters US Air Force/A9R, September 2012, slide 6.

38. Ibid.

39. Ibid., slide 16.

40. Mr. Dirk Palmer, AFRC/RS, indicated that Air Force Reserve Command's non-prior-service Airmen should stabilize at approximately 5,000 annually (about 50 percent of all accessions), based on a smaller steady-state AC and slightly larger steady-state RC end strengths. Conversation with the authors, 7 March 2012.

41. Lt Col David Lowery, "Air National Guard Formal School Program," NGB/A1DU, 24 August 2012, slide 3.

42. Ibid.

43. The experience threshold of 70–75 percent comes from discussions with senior RAND analysts who specialize in pilot absorption. Exchange between RAND and AF/A9, RAND office, Washington, DC, 18 September 2012.

44. The matrix defines four levels of risk: low (green), moderate (yellow), significant (orange), and high (red). Low risk considers attainment of a goal or activity highly likely, holding that all expenditures of vital resources and schedules will execute at or near planned levels or time frames. Moderate risk considers realization of a goal or activity likely, maintaining that some resource expenditures or schedules may deviate moderately from planned levels or time frames. Significant risk considers reaching a goal or activity questionable, holding that some resource expenditures or schedules may deviate significantly from planned levels or time frames. High risk considers achievement of a goal or activity highly unlikely, maintaining that at least one vital resource expenditure or schedule is nearing failure and that little margin remains for error in planning or execution.

45. "USAF Risk Assessment Framework: Instructional Brief," US Air Force Analysis and Lessons Learned Directorate (AF/A9A), 20 December 2011, 2.

46. Johnson, "Rebalancing the Air Force," 23.
47. "USAF Risk Assessment Framework," 4, 6.
48. "Confirmation Hearing Set for AF Chief Nominee," *AirForceTimes*, 12 July 2012, http://www.airforcetimes.com/news/2012/07/air-force-mark-welsh-confirmation-hearing-chief-of-staff-nominee-071212/.

Col Bruce K. Johnson, USAF

Colonel Johnson (BSME, University of Wisconsin–Milwaukee; MS, Troy University; MSS, Air University) is deputy director of resource analyses, studies and analyses, assessments, and lessons learned, Pentagon, Washington, DC. Previous staff assignments include Headquarters US Air Force / A9 deputy director of analyses foundations and integration; Air Force Reserve chief of strategic communication plans; Air Force Reserve chief of assessment and future concepts; and Air Force Reserve chief of combat forces, Pentagon, Washington, DC. Colonel Johnson is a master navigator with more than 3,000 hours in both the F-111F and C-130H aircraft. He served in a variety of operational capacities as radar strike officer, weapons and tactics officer, operational planner, information warfare / tactical deception officer, current operations officer, chief navigator, assistant operations officer, senior offensive duty officer at a combined air operations center, and deployed mission commander. While serving in these capacities, Colonel Johnson took part in a wide range of global operations, including Desert Shield, Desert Storm, Coronet Oak, Nomad Vigil, Shining Hope, and Iraqi Freedom.

Lt Col Scott Kniep, USAF

Lieutenant Colonel Kniep (MBA, Touro University; Master of Counseling and Leadership, University of Colorado–Colorado Springs) is chief of the Force Balance Assessment Division, Resource Analysis Directorate, Studies and Analyses, Assessments and Lessons Learned, Headquarters US Air Force. He is an A-10 pilot with operational assignments in Germany, South Korea, and North Carolina; he also served as an Air Force Weapons School instructor at Nellis AFB, Nevada. He deployed in support of Operations Deny Flight, Joint Endeavor, Southern Watch, Northern Watch, Iraqi Freedom, and Enduring Freedom. Lieutenant Colonel Kniep is a graduate of the Air Force Weapons School.

Mr. Sean F. Conroy

Mr. Conroy (BA, University of Maine; JD, St. John's University; MA, Stony Brook University; MA, University of New Orleans; MMS, Marine Corps University; MAAS, Air University) is chief of analysis in the National Guard Bureau's Air Plans and Programs Directorate, responsible for developing studies and analyses on issues affecting the Air National Guard and its place within the total force. He is also a drill-status national guardsman serving as commander of the 159th Security Forces Squadron (Louisiana Air National Guard). Mr. Conroy deployed numerous times following the terrorist attacks of 11 September 2001 to the First Air Force, Third Air Force, and CENTAF combined air operations centers. He led troops in preparation for and response to Hurricanes Katrina and Isaac. Following Hurricane Isaac's landfall, he served as the commander responsible for commodities distribution in St. Bernard and Plaquemines Parishes, Louisiana. Mr. Conroy is a graduate of Squadron Officer School, Marine Corps Command and Staff College, and the Air Force School of Advanced Air and Space Studies.

Let us know what you think! Leave a comment!