

SelRes Attrition and the Selected Reserve Incentive Program in the Marine Corps Reserve

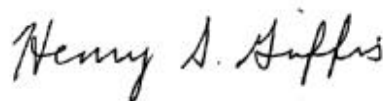
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A handwritten signature in black ink that reads "Henry S. Griffis". The signature is written in a cursive style with a large initial 'H' and 'G'.

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Executive summary

The Selective Reserve (SelRes) components of the Guard/Reserve forces have been a critical part of the total force in fighting the Global War on Terrorism (GWOT). The Marine Corps' bonus program for those in Selected Marine Corps Reserve (SMCR) units—the Selected Reserve Incentive Program (SRIP)—has played an important role in ensuring that the Marine Corps Reserve (MCR) has the manning required to meet the war's challenges.

Aside from any recruiting effects, we find that SRIP bonus recipients have lower attrition than nonrecipients—even after holding constant other factors that can affect attrition. Our statistical analyses find that reenlistees who received a bonus had a lower estimated probability of attriting than those who did not. Bonus effects increased with months since reenlistment—attrition ranged from 11.4 to 17 percentage points lower for bonus recipients within 6 to 36 months of reenlistment, respectively. We also looked at the effect of bonuses on non-prior-service (NPS) enlistees' attrition. Although we find no bonus effect within 6 months of reaching SelRes category 1 (drilling status), receiving a bonus significantly lowered the estimated probability of attriting by 24 or 36 months, other factors held constant.

We note two data limitations that limit the attrition model's ability to answer some policy questions. First, although we can tell who received a bonus, the data do not allow us to know with certainty who was offered a bonus. Second, because only one bonus amount was offered, we do not know how small changes in the amount would affect bonus acceptance and subsequent attrition behavior.

Recent changes to the SRIP have improved it in several ways—allowing the MCR to use bonuses to man MOSs in short supply across the entire MCR, paying reenlistment bonuses as lump sums, simplifying bonus eligibility criteria, and varying bonus amounts. These changes will facilitate future analyses of the program's effectiveness.

Even though SRIP bonuses are associated with lower attrition, we find that the program's scope is fairly limited; only about 2.5 percent of 6-year obligors in the MCR receive enlistment bonuses. Relatively low rates of SRIP bonus receipt may be due to limited SRIP budgets. In fact, we find that the SRIP's enlistment and affiliation incentives are less generous than some other Guard/Reserve components' programs (particularly the Army Guard/Reserve). Also, the MCR does not offer bonuses for college credit, off-peak shipping bonuses, or High Priority Unit Pay. Nor does it offer as many other incentives as other Guard/Reserve components. Unlike some of these other components, the MCR does not offer tuition assistance or Student Loan Repayment—incentives that many in our Individual Ready Reserve (IRR) focus groups said would entice them to join an SMCR unit.

Low SRIP receipt rates also may be due in part to Marine recruiters' reluctance to sell bonuses to recruits or reenlistees. Marines traditionally have focused on selling the intangible benefits of being a Marine rather than specific pays or benefits. Because the MCR is most directly in competition with the Army Guard/Reserve components for recruits with similar skill sets, this may be cause for some concern.

Although Marines in our IRR focus groups expressed little interest in joining Army Guard/Reserve components, we found that about 4,000 separating active-duty Marines affiliate with a drilling Reserve component annually. Of these, about half affiliate with the SMCR and 41 percent affiliate with the drilling components of Army Guard/Reserve. We investigate several reasons for this, but were not able to determine the impetus for these Army Guard/Reserve affiliations. Several reasons outside the scope of this study (unit proximity, appropriateness of MOS, Army bonuses/incentives) could be the focus of future work.

Despite the SRIP's successes, manning shortages and/or mismatches by Military Occupational Specialty (MOS), Reporting Unit Code (RUC), and grade persist. MCR's manning problems are attributable to several factors. They stem, in part, from the availability of few force controls. Whereas the active-duty Marine Corps has First-Term Alignment Plan (FTAP) goals that can be used to adjust the grade structure, MOS structure, and size of the force, the MCR has few similar

tools—making it extremely difficult to meet its goal of mirroring the structure and composition of the active-duty Marine Corps. As such, we recommend that the MCR consider developing such tools.

The MCR also is subject to several restrictions not placed on the active-duty Marine Corps. For example, the MCR has no ability to “grow” its own company grade officers. Although several proposals to do so are being developed, this has been an obstacle to SMCR unit manning. In the interim, Majors or Staff Non-commissioned Officers have had to fill company grade officer billets.

Unit location presents its own set of MCR manning challenges. Placement often depends more on political considerations than an assessment of the recruiting base. And Marine Corps practice requires a certain density of former Marines in the local area before a billet can even be added to the prior-service (PS) recruiting mission. Distance restrictions, the unavailability of paid drill travel, and the inability to move Reserve Marines to different locations impede some units from achieving full manning. Easing distance restrictions, providing bonuses to High Demand/Low Density Marines for continued IRR affiliation, and paying for drill travel could assist with recruiting and improve unit manning. Developing targeted enlistment packages and offering relocation incentives and job placement assistance to separating Marines who affiliate with an SMCR unit also might help.

Given budgetary constraints, choosing which bonuses/incentives to offer and setting levels will depend on the relative importance of the MCR’s competing goals: unit vs. global manning. A tiered bonus system that also accounts for unit priority (like that used by the Coast Guard Reserve) might help the MCR to better fill undermanned SMCR units while also manning globally. Offering a choice of bonuses and incentives might be helpful. Relatively low-cost options, such as providing a deployment break to Marines who affiliate and giving more information on SMCR affiliation and associated bonus offerings, also could improve manning. Finally, the MCR could accept a certain degree of undermanning by using “fillers” from other units before deployment (similar to the Navy’s “cross-decking,” or sharing resources across two ships). This might require allowing

some units to reenlist “extra” Marines so that these Marines can be used elsewhere when needed.

The MCR has transformed from a strategic reserve to an operational one. Manning structures, policies, and incentives that may have met the MCR’s peacetime needs must be reexamined to ensure that the MCR can meet the country’s continuing wartime needs.

Introduction

Background

Guard/Reserve forces play a central role in sustaining military operations in the GWOT. Since September 11, 2001, Guard/Reserve members have been called on repeatedly to support the war effort and have served honorably alongside their active-duty counterparts. In fact, recent figures show that the Guard and Reserve make up about 40 percent of the roughly 134,000 U.S. troops currently in Iraq and accounted for about a quarter of those killed or wounded in Operation Iraqi Freedom and Operation Enduring Freedom [1, 2].

The protracted war effort has taken a toll on Guard/Reserve recruiting. The Army National Guard (ARNG), Air National Guard (ANG), Army Reserve (USAR), and Navy Reserve (USNR) all missed their FY05 recruiting goals.¹ Competition for recruits, both with each other and with the active components, also has increased. For example, even the active-duty Army fell short of its recruiting goal for FY05 [3].

Many believe that waning support from adult “influencers” (parents, teachers, coaches, and other influential adults) may be to blame for recruiting shortfalls. A recent poll found that 52 percent of Americans said that they would support a child’s decision to enter the military—down from 66 percent in 1999 [4]. And, although Reserve retention remains strong, there are fears that this flagging support may start to depress enlisted reenlistment and officer continuation rates in the future.

In response to these trends, virtually all of the Guard/Reserve components have made changes to their bonus programs for recruiting and retaining personnel within the past year. It is in this environment

1. On 1 January 2006, the Naval Reserve was renamed the Navy Reserve.

that the Marine Corps' Deputy Commandant for Manpower and Reserve Affairs asked CNA to examine SelRes attrition. In addition, he asked that CNA assess the Marine Corps' bonus program for those in SMCR units—the SRIP—and recommend changes to improve the program's effectiveness.

This report

This study hopes to improve the SRIP and help the Marine Corps Reserve (MCR) to better understand SelRes attrition. We first document the legislative authorities for the payment of SelRes unit bonuses and bonus offerings across Guard/Reserve components. This discussion draws heavily on interviews we conducted with personnel from all the Guard/Reserve components about their bonus offerings and processes for determining bonus eligibility. This report also documents findings from focus groups with Marines in the Individual Ready Reserve (IRR). In these groups, we discussed Marines' willingness to affiliate/reenlist with an SMCR unit and what factors were important in their decisions. We also describe recommended changes to the current SRIP that could help improve its ability to recruit and retain Marines in SMCR units. Finally, this report summarizes our analysis of SelRes attrition and the effect of SRIP bonuses on retention.

An overview of the Marine Corps Reserve

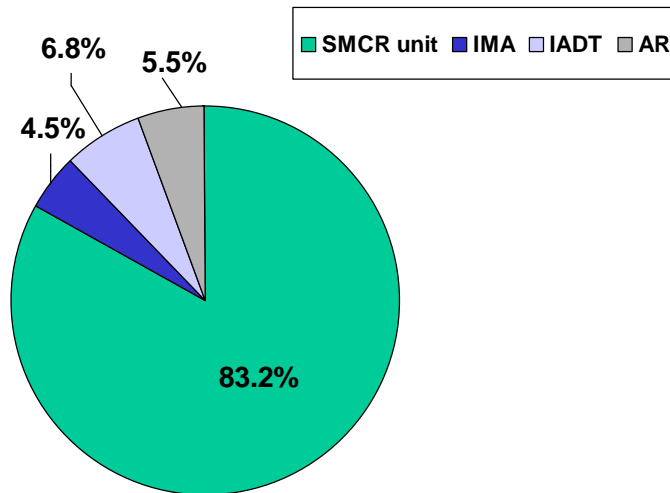
Structure

The MCR, which augments and reinforces the active-duty Marine Corps, is designed to mirror its structure. It consists of four subcomponents: the Ready Reserve (which is made up of the SelRes and the IRR), the Standby Reserve, the Retired Reserve, and the Active Duty Special Work (ADSW) program. In this study, we primarily focus on the SelRes and its components.

The Marine Corps' SelRes includes five subcomponents: the SMCR units, Individual Mobilization Augmentees (IMA), Active Reserve (AR), Initial Active Duty Training (IADT), and Category P drilling

poolees.² There are about 40,000 Marines in the SelRes, most of whom are in SMCR units (see figure 1).

Figure 1. Composition of the Marine Corps' SelRes, March 2005^a



a. There are small numbers of category P drilling poolees, but the share is not large enough to appear.

We focus mainly on Marines in SMCR units since SRIP bonuses target this group. There are about 33,000 Marines in SMCR units; 6 percent are officers (including warrant officers), and 94 percent are enlisted.

Ninety-eight percent of non-prior-service (NPS) personnel in the Marine Corps' SelRes are on 6 x 2 contracts. This means that they commit to serving 6 years with a drilling SMCR unit and 2 years in the IRR. About 2 percent are on 4 x 4 contracts, and the rest are on 5 x 3 or 3 x 5 contracts.

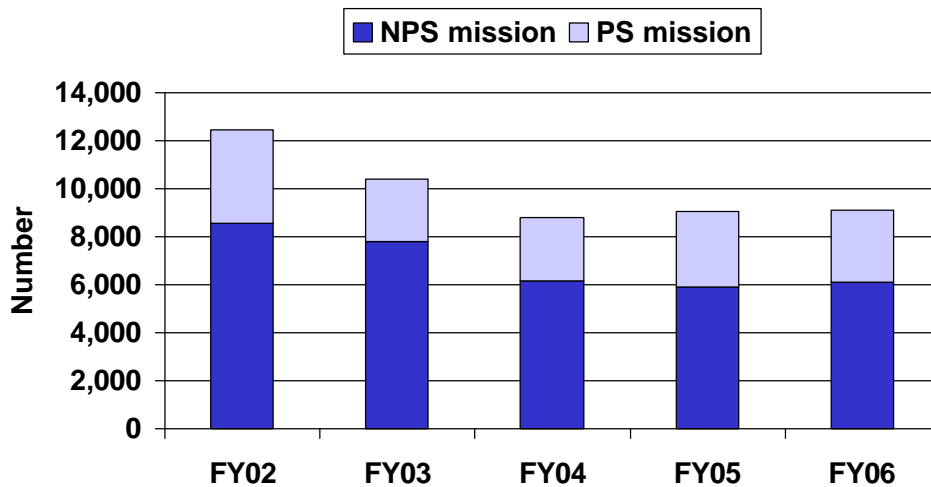
Unlike some Guard/Reserve components, a majority (71 percent) of enlisted personnel in the SMCR units are obligors—NPS enlisted accessions who have not completed their initial drilling Reserve

2. The category P drilling poolee program is being phased out.

obligations.³ The rest are non-obligors, who can more easily move between components of the MCR.⁴

The MCR's recruiting mission has fallen by about a quarter in the post-9/11 era (see figure 2). The MCR met or exceeded its recruiting mission for both NPS and PS recruits in each of these years.⁵

Figure 2. SMCR unit recruiting missions (officer and enlisted) in the post-9/11 era



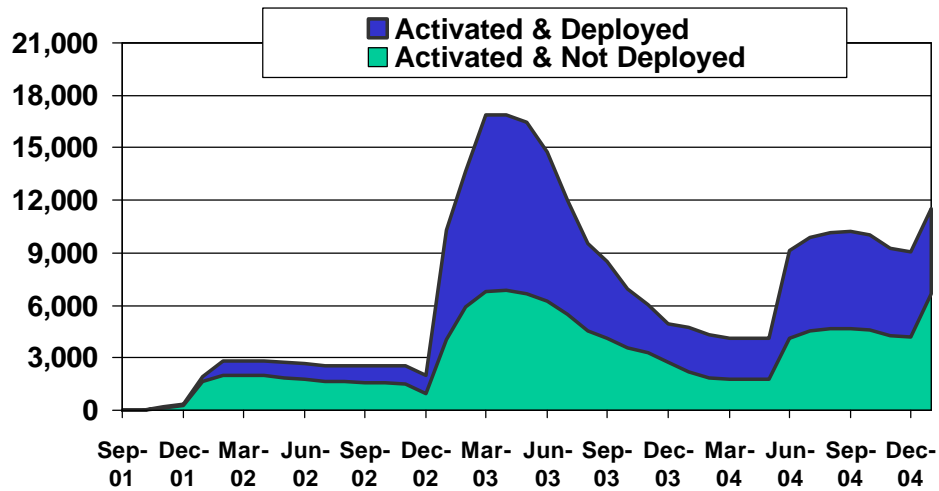
Activation and deployment

As previously noted, many Guard members and Reservists have been activated and deployed in support of the GWOT. Figure 3 shows the number of Marines (both enlisted and officer) in SMCR units who

3. For example, they are in the first 6 years of a 6 x 2 contract.
4. These are either prior-service (PS) Marines who have fulfilled their period of initial active-duty service or Reserve Marines who have completed their initial drilling Reserve obligation.
5. FY06 is still in progress.

have been activated since FY01, as well as whether they were deployed at that point in time.⁶

Figure 3. Number of SMCR Marines activated and deployed at each point in time^a



a. For Marines in drilling SMCR units only.

6. To be “deployed,” the Marine had to be serving outside the continental United States (OCONUS). For a study on the effects of activation and deployment on attrition, see [5]. An upcoming CNA study also will examine the relationship between deployment and attrition in more detail.

Bonuses

Rationale for bonuses

The goal of compensation (of which bonuses are a part) is to recruit and retain servicemembers and distribute them across jobs. Within drilling units, jobs that are harder to fill will require higher compensation (offered through bonuses) to attract needed personnel.⁷

Enlistment bonuses are used to recruit people into units and/or occupations that are undermanned. The Guard/Reserve components usually have a constraint not present for the active-duty forces: Guard/Reserve members cannot be reassigned to a different location based on the Services' needs.

In addition to recruiting and retaining personnel in the drilling units, bonuses promote unit stability. This is because those on initial 6 x 2 contracts are required to serve the first 6 years in the drilling unit. Those receiving enlistment bonuses must pay them back if they do not fulfill this commitment. But once Reservists have passed their "mandatory drill participation stop dates" (which mark the end of their drilling commitments), they can easily move between the SelRes and the IRR. In fact, Reservists who reenlist do not commit to serving this time in the drilling unit; they only commit to serving in any part of the Ready Reserves (including the IRR). However, when Marines accept a SRIP bonus, they must sign an additional statement of understanding, in which they agree to spend the additional time in the drilling unit (the particular RUC) and in the particular MOS. In fact, we are told that some Marines who are eligible for reenlistment bonuses

7. Reference [6] notes that the military's use of bonuses is unique because basic pay is the same, regardless of military occupation, location, or unit. Bonuses allow the Guard/Reserve components to introduce some needed pay variability.

do not accept them because they do not want to make this additional commitment. Those not completing their SelRes time face penalties, including bonus recoupment. This may explain why an earlier CNA study found that bonus recipients were much more likely than nonrecipients to complete their service commitments (see [7]).

SelRes bonuses

Members of the “drilling Reserves” are eligible for bonuses, which can be paid for enlistment, reenlistment, or affiliation with the Guard/Reserve components through provisions in Titles 10 and 37 of the U.S. Code.⁸

Enlistment bonuses are for those with no prior service in the U.S. military or for those with prior service in another military branch. Reenlistment bonuses are for those currently in the Guard/Reserve. Affiliation bonuses are for personnel released from active duty who still have time remaining on their Universal Military Service Obligations (MSOs) and who choose to affiliate with the SelRes rather than remain in the IRR.⁹

For both the active and Guard/Reserve components, the U.S. Code sets maximum dollar amounts for each type of bonus and maximum/minimum upfront or installment amounts. However, components are not required to offer the maximum amount (or even a bonus of any amount) if they so choose.

Bonus authorities

Before 28 October 2004, authorized accession bonus maximums were \$8,000 for NPS recruits and PS members. Reenlistment bonuses were

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8. The Coast Guard Reserve (CGR) can operate under either the Secretary of Defense or the Secretary of Homeland Security, according to Title 37, Chapter 5, Section 308C of the U.S. Code.
 9. The MSO stipulates that each servicemember, upon joining the military, has an obligation of 8 years of service. Discharge from active duty within 8 years requires transfer to a Reserve component (by default, the IRR) for the amount of time remaining on the servicemember’s MSO.

capped at \$5,000 for a 6-year reenlistment and \$2,500 for a 3-year reenlistment, with \$2,000 for a follow-on 3-year reenlistment. Only installment payments were authorized for SelRes enlistment and reenlistment bonuses. Affiliation bonuses were authorized up to \$50 per month of remaining time on a servicemember's MSO for a maximum of 4 years and were paid either as lump sums or in installments.¹⁰

The FY05 National Defense Authorization Act (05 NDAA) changed authorized SelRes bonus maximums, allowed for reenlistment bonuses to be paid as lump sums, and created a new \$6,000 bonus for certain officers that could be paid either as lump sum or in installments (Public Law 108-375). The 05 Supplemental increased the authorized affiliation bonus to up to \$10,000 to be paid either as lump sum or in installments, at the Services' discretion (Public Law 109-13). The 06 NDAA (Public Law 109-148) recently increased enlistment and affiliation bonus amounts and expanded eligibility for several bonuses (see table 1).

Table 1. Maximum SelRes bonus authorizations established by the 06 NDAA

SelRes bonus	Amount authorized
NPS enlistment	Up to \$20,000
PS enlistment	Up to \$15,000 ^a
Reenlistment	Up to \$15,000 for 6 years; \$7,500/\$6,000 for a 3/3 ^b
Affiliation	Up to \$20,000 ^c
Officer affiliation	Up to \$10,000 ^d

- a. The 06 NDAA allows this to be paid to those with up to 16 years of military service and allows concurrent receipt with other bonuses.
- b. The 06 NDAA allowed this to be paid to those with up to 20 years of military service who agree to reenlist for at least 3 years.
- c. The 06 NDAA allowed this to be paid to those with up to 20 years of military service who agree to affiliate for at least 3 years.
- d. The 06 NDAA made this payable to those previously in the SelRes.

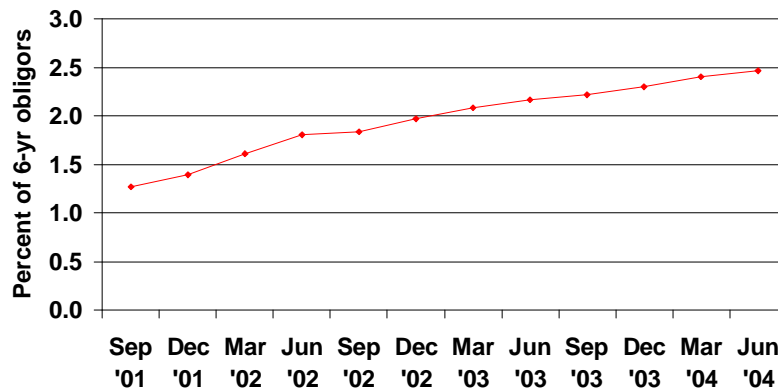
10. Servicemembers with 18 months or less left on their MSOs were paid lump sums; those with more than 18 months were paid half of the bonus upon affiliation and the other half on the date of the sixth anniversary of the servicemember's original enlistment or call to active duty.

The Selected Reserve Incentive Program (SRIP)

Background

The SMCR has targeted bonuses to personnel through the SRIP since 1979. SRIP bonuses are available for NPS recruits and PS or SMCR Marines. Because this study focuses on the post-9/11 era, figure 4 shows the share of 6-year obligors in SMCR units receiving enlistment bonuses through the SRIP since 2001. About 2.5 percent of 6-year obligors currently receive enlistment bonuses—up from a little over 1 percent in FY01. Still, only a very small percentage of those joining the SMCR currently receive bonuses.¹¹

Figure 4. SMCR enlistment bonus recipients as a share of all 6-year obligors^a



a. Those in drilling SMCR units only.

Unlike other Services, the MCR does not offer an enlistment bonus to those with PS in another service. PS Marines are treated as reenlistments, but those who have PS in another service are treated as NPS recruits (although they do not qualify for NPS enlistment bonuses).

11. In fact, a previous analysis showed that in FY96 the SMCR had the lowest rate of bonus recipients—1.1 percent—compared with a high of 11.7 percent in the ARNG. See [7]. If the MCR were to use bonuses more widely, it would allow for more robust analysis in the future.

The SRIP also offers 6-year and 3-year reenlistment bonuses. For those reenlisting between October 1999 and March 2003, we find that 13 percent of Marines with less than 14 years of service (YOS) received a 6-year reenlistment bonus, and 16.5 percent received a 3-year reenlistment bonus.¹²

The relatively low rates of SRIP bonus receipt may be due in part to Marine Corps recruiters' reluctance to sell bonuses to recruits or reenlistees. Marines traditionally have focused on selling the intangible benefits of being a Marine rather than selling specific pays or benefits. Several recruiters with whom we spoke said that they typically do not mention bonuses until the recruit directly asks about them.

Program structure and recent changes

The SRIP was modified in July 2005, but we discuss how the system operated before that time since our data are for an earlier period. Before July 2005, bonus amounts were set below 05 NDAA/05 Supplemental authorizations: \$8,000 for a NPS enlistment (less than the \$10,000 authorized amount), \$5,000 for a 6-year reenlistment (less than the \$15,000 authorized amount), and \$2,500 for a 3-year reenlistment, with \$2,000 for a follow-on 3-year reenlistment (less than the authorized amounts of \$7,500 and \$6,000).¹³ Bonuses were all paid in installments. The affiliation bonus was set at \$50 per month for remaining months on an MSO. Only the officer critical skills bonus (\$6,000 paid lump sum) took advantage of the 05 NDAA authorities, and in FY05 it was available for only 50 SMCR-affiliating officers [8].¹⁴

Until July 2005, the SRIP program managers examined snapshots gauging the billet-to-body match at the RUC and grade level twice

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12. During this period, the MCR limited reenlistment bonus eligibility to those with 14 or fewer years of service.
 13. Those reenlisting in the MCR can reenlist up to 2 years before the end of their contract. For obligors, this would be at the end of the first 6 years of a 6 x 2 contract.
 14. Some Services use this bonus as an accession bonus, but the MCR does not because it requires that virtually all SMCR officers have previous service on active duty.

a year (usually in the spring and fall).¹⁵ When an MOS in a particular RUC was determined to be undermanned (it had a personnel readiness Status of Resources and Training System (SORTS) score below a designated level), all that MOS's vacant billets in that particular RUC rated a bonus (see table 2 for an example). In addition to these twice-a-year allocations, bonuses were sometimes authorized on an individual basis at other times during the year.

Table 2. Example of bonus eligibility before July 2005^a

RUC	MOS	NPS	PS	SNCO	Unit	City	State
53	0511	Yes	Yes	No	HQ MAG 46	Miramar	CA
53	4341	Yes	Yes	No	HQ MAG 46	Miramar	CA
53	6242	No	No	Yes	HQ MAG 46	Miramar	CA
53	7041	Yes	Yes	No	HQ MAG 46	Miramar	CA
407	0431	No	No	Yes	HQ MWCS 48	Highwood	IL
407	0511	Yes	Yes	No	HQ MWCS 48	Highwood	IL
407	0629	No	No	Yes	HQ MWCS 48	Highwood	IL
407	0653	No	Yes	No	HQ MWCS 48	Highwood	IL
407	2111	Yes	Yes	No	HQ MWCS 48	Highwood	IL
407	2874	No	Yes	No	HQ MWCS 48	Highwood	IL
407	8421	No	Yes	No	HQ MWCS 48	Highwood	IL
407	8641	No	Yes	No	HQ MWCS 48	Highwood	IL
1233	6492	Yes	Yes	No	VMGR 452	Newburgh	NY
1233	6672	No	Yes	No	VMGR 452	Newburgh	NY
1233	7372	Yes	Yes	No	VMGR 452	Newburgh	NY

a. Source: MARADMIN 460/04.

The old Marine Corps SRIP suffered from several shortcomings. First, it did not account for the criticality of a billet or of a unit. For example, all undermanned MOSs in a unit received the same bonus amount, even if 0311 (Rifleman) billets in a particular unit needed to be filled more than 0151 (Administrative Clerk) billets. The system

15. In the MCR, "unit" refers to a location. As such, one unit might have several RUCs. Alternatively, a Marine Logistics Group (MLG), for example, can have forward and rear components---each with a different RUC. Under the old SRIP, bonuses were set by RUC.

also did not recognize that some Reserve units may be more critical to the war effort (and, thus, more in need of full staffing) than others. Second, the system did not recognize if there was a need for a particular unit to be manned in excess of 100 percent of its T/O (which could result from operational tempo demands). Third, it did not account for how long a billet had been vacant, whether for a day or a year. Fourth, not all vacant billets (particularly those slated to be filled with PS Marines) were being actively recruited to fill.¹⁶ Fifth, the system did not offer incentives for the retention of qualified Marines currently filling a T/O billet—even those in High-Demand/Low-Density (HD/LD) MOSs.¹⁷ If the MOS was not undermanned at the RUC level, a reenlistee would not rate a bonus (even if the Marine was critical to the unit's mission). Finally, it had no overarching bonus that could be used to man MOSs that were in short supply throughout the entire MCR.

In an attempt to address at least some of these shortcomings, the MCR first changed the reenlistment components of the SRIP in July 2005.¹⁸ The NPS enlistment components were modified in November 2005.

The MCR first modified the way that bonus eligibility is determined. Rather than basing bonuses on whether a particular MOS in a particular RUC is undermanned, bonuses are now based on MOS undermanning at the aggregate level (irrespective of grade). Consequently, a Marine enlisting/reenlisting in an MOS that is determined to be undermanned across the MCR is eligible for a bonus. The rationale for this change was that, even if a particular unit was short a certain MOS, personnel with that MOS could be pulled from other units before deployment. If the entire MCR was short of Marines with a particular MOS, this might not be possible.

16. This is explored more fully in a later section.

17. The 06 NDAA created a retention bonus for Reservists who agree to remain in an active status for at least a year, but DoD will control criteria for the bonus. The bonus amount is capped at \$100,000 over a career.

18. See MARADMIN 302/05.

Second, rather than paying one reenlistment bonus amount, the new system created three tiers of reenlistment bonuses. Tiers are \$15,000, \$10,000, and \$5,000 for 6-year reenlistments; \$7,500, \$5,000, and \$2,500 for 3-year reenlistments; and \$6,000, \$4,000, and \$2,000 for follow-on 3-year reenlistments.¹⁹ Reenlistment bonus tiers vary with the degree of MOS undermanning (see table 3 for examples).²⁰ In addition, all reenlistment bonuses now are paid as lump sums. The FY06 MARADMIN expanded reenlistment bonus eligibility to include those with up to 16 YOS.²¹

Table 3. Examples of reenlistment bonus eligibility by MOS since July 2005^a

MOS	MOS
Tier 1	
0211- Counterintelligence Specialist	1342- Small Craft Mechanic
0321- Reconnaissance Man	2161- Repair Shop Machinist
0613- Construction Wireman	2874- Metrology Technician
0842- Field Artillery Radar Operator	6174- Helicopter Crew Chief UH-1
Tier 2	
0231- Intelligence Specialist	4341- Combat Correspondent
0313- LAV Crewman	5962- Tactical Data Sys Equip (Tdse) Rep
0627- Ground Mobile Forces Satcom Op	6073- Aircraft Maint Gse Technician
2822- Electronic Switching Equip Tech	6132- Helo/Tiltrotor Dyna Comp Mec
Tier 3	
0311- Rifleman	6316- Aircomm Navsys Tech Kc-130
0614- Ulcs/Opr/Maintenance	6434- Advanced Acft Electrical/Instrument
1361- Engineer Specialist	6493- Avn Meteor Equip Tech Oma/Ima
2147- Light Armored Vehicle (LAV) Repair	7051- Acft Firefighting & Rescue Special

a. Source: MARADMIN 302/05.

19. Remember that PS Marines are treated as reenlistments.

20. In MARADMIN 302/05, for example, MOSs manned at 69 percent or below got a Tier 1 bonus, those manned at 70 to 79 percent got a Tier 2 bonus, and those manned at 80 to 89 percent got a Tier 3 bonus.

21. See MARADMIN 526/05. The previous limit was 14 YOS. The FY06 NDAA allows for bonus eligibility up to 20 YOS, but the MCR has not changed its policy accordingly.

NPS enlistment bonuses are set at \$10,000 for a 6-year enlistment (below the maximum currently allowable by law) and take the form of one initial payment on completion of initial active-duty training (IADT), followed by six equal anniversary payments.²²

An undermanned MOS qualifies as eligible for reenlistment bonuses if it contains Marines beyond the first term of service, and it qualifies for an enlistment bonus if it contains only first-term Marines. MOSs that include both types of Marines appear on both bonus lists. In addition, to using an 80-percent manning threshold to determine NPS MOSs, the SRIP planner contacted the six district commanders to determine which MOSs they were having the most trouble filling. On this basis, five additional MOSs were added to the NPS enlistment bonus list. Table 4 shows some examples of MOSs currently offering NPS enlistment bonuses.

Table 4. Examples of enlistment bonus eligibility by MOS since November 2005^a

MOS	MOS
0231- Intelligence Specialist	2887- Artillery Electronics Technician
0311- Rifleman	3112- Traffic Management Specialist
0481- Landing Support Specialist	3451- Fiscal/Budget Technician
0613- Construction Wireman	4341- Combat Correspondent
0842- Field Artillery Radar Operator	4641- Combat Photographer
1361- Engineer Assistant	5953- Air Traffic Control Radar Technician
1812- M1A1 Tank Crewman	6461- Hybrid Test Set Technician, IMA
2161- Machinist	6672- Aviation Supply Specialist

a. Source: MARADMIN 525/05.

Changing the SRIP in these ways resulted in several improvements. First, it allowed the MCR to use bonuses to man MOSs that were short across the entire MCR, rather than at the unit level. In doing so, it simplified bonus eligibility criteria. Second, it added variation to bonus amounts, which will allow future analyses to estimate how the amount of the bonus (rather than just the receipt of the bonus)

22. See MARADMIN 525/05.

affects retention. Finally, making reenlistment bonuses payable as lump sums also was an improvement; a CNA study found that a switch to lump-sum reenlistment bonuses (for Marines on active duty) led to higher reenlistment rates [9].

SMCR manning

Manning by MOS

SRIP bonuses are used to improve SMCR manning, which has received considerable media attention over the past several months. This is because a recent Government Accountability Office (GAO) study reported that the MCR “consistently” overfilled 17 percent of its 218 MOSs and consistently underfilled 50 percent of them.²³

The study, however, had several shortcomings. One was that it did not acknowledge that the SRIP (as previously designed) did not specifically target MOSs that were undermanned across the MCR. And even with its current structure, globally undermanned MOSs may not use SRIP bonuses to overman certain PS MOSs locally, since the Marine Corps requires that a reenlistee fill a vacant T/O billet to qualify for a SRIP bonus. Another shortcoming was that the study used being even one Marine over or under the authorized level for that MOS as its metric—an unrealistically strict threshold for even the most fluid labor market. The GAO study also overlooked the geographic challenge of manning the MCR. Even if a particular MOS is globally undermanned, some of the MOS’s vacant billets may be in locations where it is virtually impossible to find a qualified recruit/Marine to fill the billet. This is because unit locations are often determined based on political, rather than recruiting, considerations.

To better assess the degree of overmanning and undermanning by MOS, we developed what we believe to be a more sensible metric. Using the data cited in the GAO report, we labeled an MOS as “over-manned” if it was at least 20 percent above its authorized

23. The study defined an MOS as being “consistently” overfilled or underfilled if it was over or under its authorized levels in 5 of 6 fiscal years between FY00 and FY05.

level.²⁴ We labeled an MOS as “undermanned” if it was below 90 percent of its authorized level (since this is the metric that the MCR generally uses to identify MOSs eligible for bonuses).

Using this new metric, we find that only 18 (about 8 percent) of the MCR’s MOSs were overmanned.²⁵ And 13 of these overmanned MOSs were authorized fewer than 20 Marines, meaning that having as few as 4 Marines above the authorized level could qualify the MOS as overmanned. Similarly, we find that 92 (about 42 percent) of the MCR’s MOSs were undermanned. And 40 of these undermanned MOSs were authorized fewer than 20 Marines, meaning that having as few as 2 Marines below the authorized level could qualify the MOS as undermanned. In fact, we find that 59 percent of the 52 undermanned MOSs of reasonable size currently rate a SRIP. And many of those that do not currently rate a SRIP are secondary MOSs with additional training requirements.

Manning by RUC

It would not be correct, however, to conclude that there are no mismatches in SMCR manning. In the 0311 MOS, for example, there was a net global shortage of 609 Marines.²⁶ However, if we look at overages and shortages by RUC and grade, we find that there was an overage of 1,251 Marines (Marines who were on board but not required) and a shortage of 1,860 Marines (Marines who were required but not on board).²⁷ Table 5 presents an example; appendix A reports information by MOS.

24. We believe that 20 percent is a reasonable threshold, but we also calculate overmanned MOSs using a 10-percent threshold.

25. A 10-percent threshold would result in 12 additional overfilled MOSs (14 percent of all MOSs).

26. Manning tabulations that follow are from a 24 October 2005 manning snapshot.

27. We recognize that some mismatches could be by design. For example, units often use SNCOs or Majors to fill billets that company grade officers are supposed to fill. Our data, however, do not allow us to examine the degree to which this occurs.

Table 5. Example of 0311 overages and shortages by grade and RUC

Rank	Requirement	On board at K Co. 3/23	Shortage at K Co. 3/23	On board at G Co. 2/23	Overage at G Co. 3/23
LCPL	54	48	6	71	17
CPL	28	22	6	30	2
SGT	12	8	4	13	1

We see that both K Company 3/23 in Memphis, TN, and G Company 2/23 in Los Alamitos, CA, had the same requirements, by grade, for 0311 Marines. Yet K Company had several shortages in the MOS by grade, whereas G Company had overages.²⁸

Similarly, some RUCs may be overmanned or undermanned. If we consider RUCs requiring at least 10 Marines as overmanned if they are manned at 110 percent or more, we find that there are 66 overmanned RUCs (20 percent of all RUCs). If we instead make our threshold for overmanning those RUCs manned at 120 percent or more, we find that 39 RUCs (12 percent) are overmanned. Figure 5 shows the top 10 overmanned RUCs (6 of which—the units in LA, IL, MI, PA, and the 2 units in GA—are aviation units).

We counted a RUC as undermanned if it had at least one Marine on board and was manned at less than 90 percent of its requirement. We found that using this metric, 85 RUCs (25 percent) were undermanned in October 2005. Figure 6 shows the top 10 undermanned RUCs.

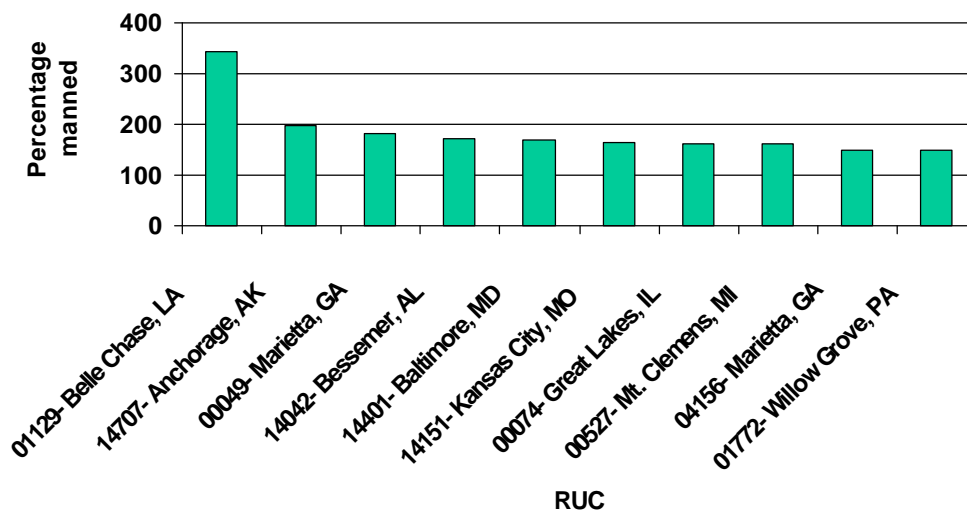
This analysis highlights that manning is often tied to location. Some units may be located in areas where much of the local population does not have the skills necessary to fill the billet structure (as is the case in Wahpeton, ND).

Manning by grade

Next, we examined manning by grade. Figure 7 shows enlisted overages and shortages by grade. We find that the MCR has a shortage of

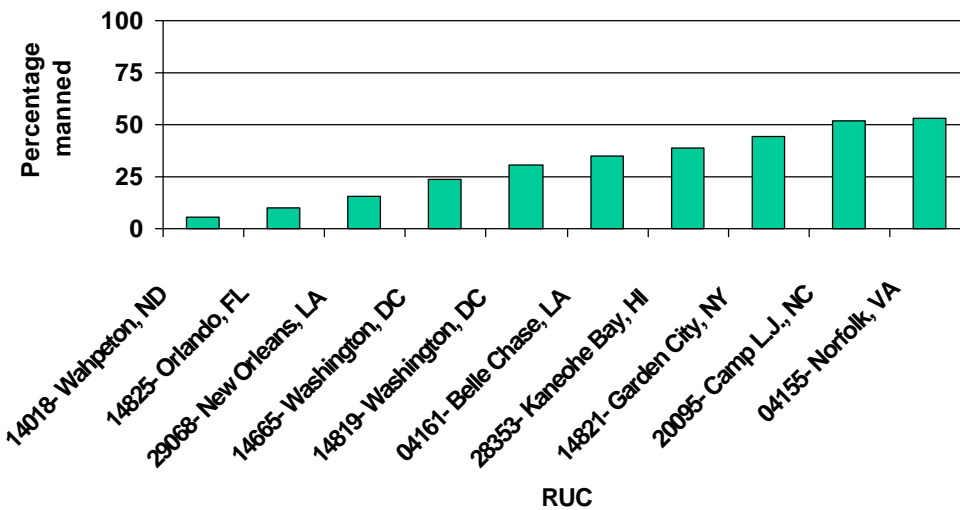
28. Both RUCs were short Privates.

Figure 5. Top 10 overmanned RUCs in the MCR SelRes, October 2005^a



a. Does not include RUCs that had a requirement of 10 or fewer Marines.

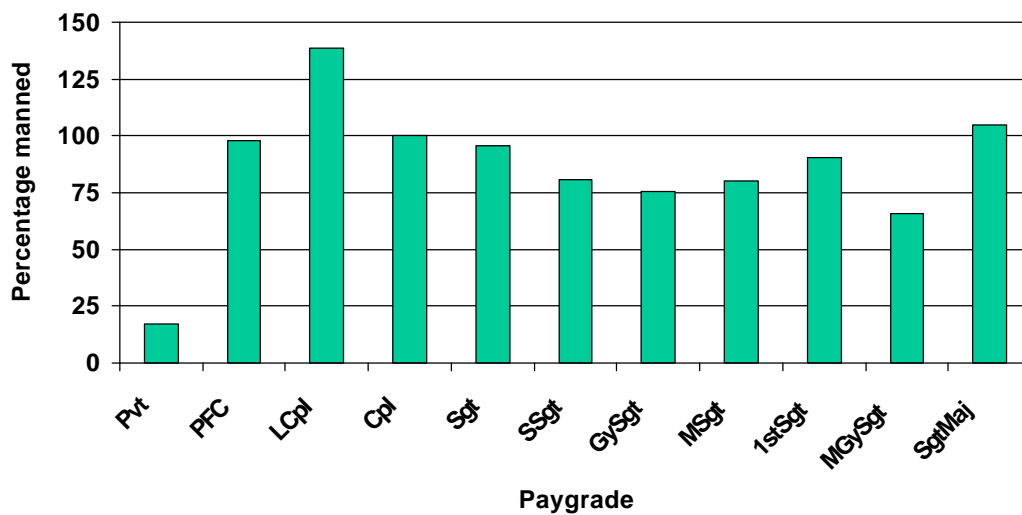
Figure 6. Top 10 undermanned RUCs in the MCR SelRes, October 2005^a



a. Does not include RUCs with no Marines on board.

SNCOs below the E-9 level. This is particularly troubling because these Marines also must help fill company grade officer (Lieutenant and Captain) vacancies (shown in figure 8).²⁹ The company grade shortage is somewhat by design since the MCR does not “grow” these officers. Though this shortage was viewed as acceptable in peacetime, the wartime environment has changed this view.

Figure 7. Enlisted shortages and overages by paygrade, October 2005^a



a. This excludes 27 Marines “on board” who had no associated paygrade.

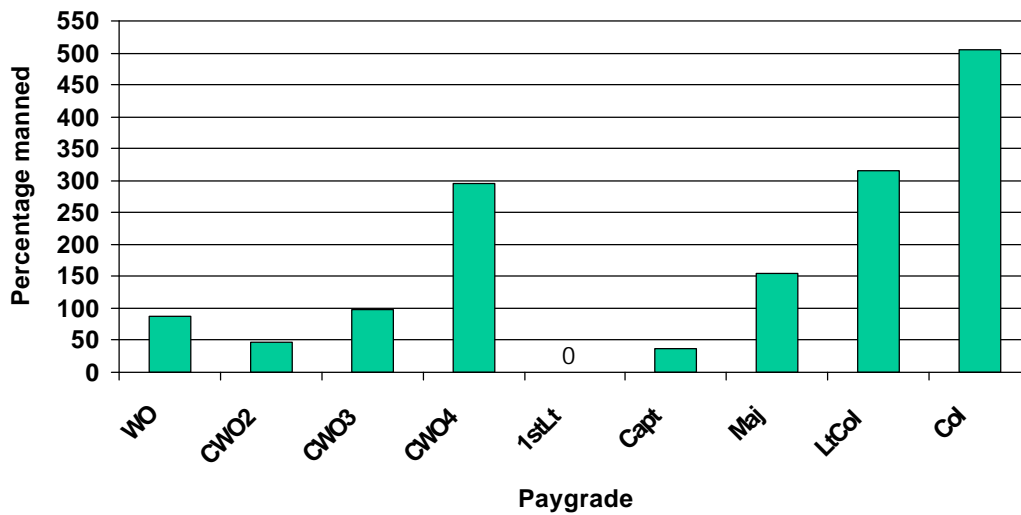
Need for force-shaping tools

One of the challenges faced by the MCR is that, although it is expected to mirror the force structure of the active-duty Marine Corps, it is subject to more restrictions and has fewer force-shaping tools at its disposal. For example, as noted earlier, the MCR currently has no ability to “grow” its own company grade officers. Although there have recently been some steps toward changing this, it has been a significant obstacle. And whereas the active duty Marine Corps has FTAP force controls that can be used to adjust the grade structure,

29. SNCOs also are most likely to be subject to mobilization restrictions.

MOS structure, and size of the force, the MCR has no similar tools.³⁰ As such, we recommend that the MCR consider developing FTAP/STAP goals. Without these types of tools, it is extremely difficult for the MCR to truly mirror the structure and composition of the active-duty Marine Corps.

Figure 8. Officer shortages and overages by paygrade, October 2005^a



a. This excludes 27 Marines "on board" who had no associated paygrade. It also excludes the CWO5 and BGen paygrades.

30. The active-duty Marine Corps also has Second-Term Alignment Plan (STAP) goals, but they are benchmarks rather than force controls.

Other Guard/Reserve components' bonus programs

As part of our analysis, we also compared the Marine Corps' SRIP to other components' bonus programs. We met with representatives from all the Guard/Reserve components to discuss:

- Bonus amounts they currently offered
- Other bonuses/incentives used
- How they determined bonus eligibility.³¹

As the recruiting environment becomes increasingly competitive, we thought that it was important (1) to know how much bonus money other Guard/Reserve components were offering and to compare offerings with those of the Marine Corps' SelRes, (2) to learn about bonuses/incentives used by other Guard/Reserve components to get ideas for new MCR bonuses/incentives, and (3) to review other Services' current processes for bonus determination for possible ideas for improving the MCR's current process.

That said, we should note that the Guard/Reserve components differ in the mix of NPS/PS that they hope to recruit. For example, whereas most enlisted personnel in the MCR are NPS, the majority of those in the AFR have PS.

Bonuses and amounts offered

As previously noted, Titles 10 and 37 authorize all of the Guard/Reserve components to offer bonuses and cap the amounts that can

31. The discussion that follows is based on data collected through interviews conducted during June through August 2005. Because offerings are rapidly changing in the current environment, it represents the state of programs as of that time and may not reflect current offerings.

be offered. That said, the components do not have to offer the maximum bonus amount and may choose to offer no bonus at all.

Enlistment bonuses

Although the Guard/Reserve components offer a variety of enlistment contract lengths, the most prevalent contract (and the one that typically warrants a bonus) is the 6 x 2 contract. Table 6 shows bonus amounts that were offered for an NPS or PS 6-year enlistment into each of the Guard/Reserve components as of August 2005 (installments refer to payments made after the 50-percent initial bonus payment).

Table 6. NPS 6-year contract bonus amounts, as of Aug 2005

Component	Enlistment bonus amount	Payment schedule (after 50% initial)
NPS		
Marine Corps Reserve	\$10,000 ^a	In 6 installments
Army Reserve	Up to \$10,000 ^b	In 2 installments
Navy Reserve	Up to \$10,000	In 5 installments
Air Force Reserve	\$8,000	In 5 installments
Army National Guard	Up to \$10,000 ^b	In 1 installment
Air National Guard	\$10,000	In 3 installments
Coast Guard Reserve	Up to \$6,000	In 1 installment
PS		
Marine Corps Reserve	N/A ^c	N/A
Army Reserve	\$15,000	In 2 installments
Navy Reserve	Up to \$15,000	In 5 installments
Air Force Reserve	\$8,000	In 5 installments
Army National Guard	\$15,000	In 1 installment
Air National Guard	Up to \$15,000	In 5 installments
Coast Guard Reserve	Up to \$10,000	In 1 installment

a. Increased from \$8,000 to \$10,000 in November 2005.

b. The ARNG and USAR also offer reduced enlistment bonuses to some recruits enlisting on 3 x 5 contracts.

c. As previously noted, the MCR does not offer enlistment bonuses to PS personnel from other Services; PS Marines are counted as reenlistments.

Marine Corps Reserve

The MCR offered NPS recruits who qualified \$10,000 for enlisting on a 6-year contract. After the initial payment (made on successful completion of IADT), remaining bonus payments were made in six equal installments. Unlike the other Guard/Reserve components, the MCR does not offer a PS enlistment bonus.³²

Army Reserve

In August 2005, the USAR offered NPS recruits enlisting in critical MOSs up to \$10,000 for a 6-year enlistment. Even those not enlisting into critical MOSs were able to receive \$1,000 to \$2,000 if they “quick-shipped” and up to \$3,000 if they had some college credits.³³ After the initial payment of 50 percent at the end of IADT, recruits received 25 percent at the second anniversary of enlistment and 25 percent at the fourth anniversary.

With the exception of the MCR, former servicemembers are eligible for PS enlistment bonuses if their MOSs are designated as eligible and if they either (a) served on active duty in the same service and MOS *or* (b) served on active duty in a different Service and had an MOS that is equivalent to one in the new Service. For example, a former active-duty soldier could enlist in the Air Force Reserve (AFR) and receive a PS enlistment bonus if his or her Army MOS had an equivalent in the AFR and that MOS was deemed critical.³⁴

In August 2005, the USAR paid PS servicemembers who qualified \$15,000 for a 6-year contract (also paid as an initial payment and two installments in the second and fourth years).

32. PS Marines are considered “reenlistments” and may qualify for either an affiliation or reenlistment bonus. Those who have PS in another Service do not currently qualify for an enlistment bonus.

33. A recruit who agrees to “quick-ship” ships to bootcamp within 60 days of his or her contract date.

34. All the Guard/Reserve components (with the exception of the MCR) have conversion charts for other Services’ MOSs.

Navy Reserve

The USNR offered NPS recruits who qualified up to \$10,000, paid in five equal installments after a 50-percent initial payment. PS service-members were eligible for up to \$15,000 for a 6-year contract, also paid as an initial payment of 50 percent followed by five equal installments.

Air Force Reserve

In August 2005, the AFR offered both NPS recruits and PS service-members who qualified \$8,000 for a 6-year enlistment, paid in five installments following a 50-percent initial payment.

Army National Guard

The ARNG offered NPS recruits who qualified a bonus of up to \$10,000 for either a 3-, 6-, or 8-year enlistment contract. Recruits who enlisted into one of a state's 30 critical MOSs received the full \$10,000. Recruits who did not select a critical MOS were still eligible for a \$3,000 bonus and an additional \$6,000 bonus if they agreed to quick-ship or to ship off-peak.³⁵ Recruits got 50 percent of the bonus on completion of advanced training, and the remainder on their third anniversaries of service.

PS servicemembers who qualified got \$15,000 for a 6-year contract, with 50 percent of the bonus paid at enlistment³⁶ and 50 percent paid on the third anniversary.

Air National Guard

In August 2005, the ANG offered bonuses for 6-year contracts only, paid in three installments after the initial payment. NPS recruits who qualified were eligible for \$10,000 bonuses, whereas PS servicemembers who did not require retraining were eligible for \$15,000

35. Shipping "off-peak" means the recruit agrees to ship in the months of February, March, April, or May (FMAM).

36. Since these members were qualified PS enlistments, they were technically "extending" instead of enlisting. To qualify for the bonus, they were not allowed to require retraining.

bonuses, paid in five equal installments after a 50-percent initial payment.³⁷

Coast Guard Reserve

The CGR offered enlistment bonuses for NPS recruits and PS servicemembers in critical ratings. There were three groupings for bonus purposes in the CGR:

1. In a critical rating AND in a priority unit
2. In a critical rating, but NOT in a priority unit
3. NOT in a critical rating, but in a priority unit.

Only NPS recruits were offered 6-year enlistments. in August 2005. Those in the first category received \$6,000, and those in the second or third categories received \$4,000. Half of the bonus was paid on enlistment; the other half was paid at the first anniversary.

PS servicemembers enlisting for 6 years received \$10,000 bonuses if in the first category, and \$6,000 bonuses if in the second or third categories. These bonuses also were paid in one initial and one installment payment.

Reenlistment bonuses

Table 7 shows reenlistment bonus amounts offered for a 6-year reenlistment or a 3-year reenlistment followed by another 3-year reenlistment in each of the Guard/Reserve components (installments refer to payments made after the 50-percent initial bonus payment). The 05 NDAA authorized the payment of lump-sum reenlistment bonuses, which some Guard/Reserve components were using in August 2005. At that time, only those with 16 or fewer years of military service were eligible for reenlistment bonuses.³⁸

37. PS servicemembers who did require retraining into an ANG Air Force Specialty Code (AFSC) were only eligible for \$10,000 bonuses.

38. The 06 NDAA recently authorized the payment of reenlistment bonuses to those with up to 20 years of service.

Table 7. Reenlistment bonus amounts, as of August 2005

Component	6-year reenlistment	Payment schedule	3-year reenlistment/ 3-year reenlistment	Payment schedule
Marine Corps Reserve	Up to \$15,000	Lump sum	Up to \$7,500/\$6,000	Lump sum
Army Reserve	Up to \$15,000	Lump-sum option	Up to \$7,500/\$6,000	Lump-sum option
Navy Reserve	\$15,000	50% initial and 5 equal installments	\$7,500/\$6,000	50% initial and 2 equal installments
Air Force Reserve	\$5,000	50% initial and 5 equal installments	\$2,500/\$2,000	50% initial and 2 equal installments
Army National Guard	\$15,000	Lump sum	\$7,500/\$6,000	Lump sum
Air National Guard	\$15,000	50% initial and 5 equal installments	N/A	N/A
Coast Guard Reserve	N/A	N/A	N/A	N/A

Marine Corps Reserve

As noted earlier, the MCR now offers tiered reenlistment bonuses that vary depending on the degree to which the MOS is undermanned. Those in the most undermanned MOSs can receive a \$15,000 bonus for a 6-year reenlistment, those in Tier 2 MOSs can receive a reenlistment bonus of \$10,000, and those in Tier 3 can receive a 6-year reenlistment bonus of \$5,000.³⁹ Those reenlisting for 3 years can get \$7,500 with \$6,000 for a follow-on 3-year reenlistment if they are in a Tier 1 MOS, \$5,000 with \$4,000 for a follow-on 3-year reenlistment if they are in a Tier 2 MOS, and \$2,500 with \$2,000 for a follow-on 3-year reenlistment if they are in a Tier 3 MOS. Reenlistment bonuses are currently paid as lump sums.

Army Reserve

In August 2005, Reservists reenlisting in designated critical MOSs could receive up to \$15,000 for 6-year contracts, or \$7,500 for a 3-year contract, and an additional \$6,000 for a subsequent 3-year contract. The soldier had the option of selecting lump-sum payment.

39. Remember that the MCR considers PS Marines to be reenlistments.

Navy Reserve

As of August 2005, the Navy offered \$15,000 reenlistment bonuses to those in critical ratings for a 6-year reenlistment, or \$7,500 for a 3-year contract and an additional \$6,000 for a subsequent 3-year contract. Bonus payments were made in installments: 50-percent initial payment followed by five installment payments for a 6-year reenlistment; 50-percent initial payment followed by two installment payments for a 3-year reenlistment.

Air Force Reserve

The AFR paid those who qualified a \$5,000 reenlistment bonus for a 6-year contract, or \$2,500 for a 3-year contract and an additional \$2,000 for a subsequent 3-year contract. As in the USNR, bonuses were paid in installments: 50-percent initial payment followed by five installment payments for a 6-year reenlistment; 50-percent initial payment followed by two installment payments for a 3-year reenlistment.

Army National Guard

In August 2005, the ARNG offered bonuses to designated MOSs for 6-year extensions, or two successive 3-year extensions.⁴⁰ The bonus for 6-year extensions was \$15,000 paid lump sum. The bonus for 3-year extensions was \$7,500 for the first 3 years and \$6,000 for a second extension, both paid as lump sums.

Air National Guard

The ANG offered \$15,000 bonuses for 6-year reenlistments in critical AFSCs. As of August 2005, reenlistment bonuses could be paid to those in eligible AFSCs, regardless of manning (unlike enlistment bonuses, which could not be paid if the AFSC had surpassed 100 percent manning plus 2 people). Bonuses were paid in installments: 50-percent initial payment followed by five equal installments. The ANG did not offer 3-year reenlistments at that time.

40. The ARNG technically does not offer reenlistments but instead offers extensions. For all intents and purposes, there is little difference, and we treat them as equivalent.

Coast Guard Reserve

In August 2005, the CGR did not offer reenlistment bonuses. However, unlike NPS recruits, PS servicemembers could enlist on 3-year contracts and could receive \$5,000 for the first 3-year contract and an additional \$3,000 for a follow-on 3-year contract.

Affiliation bonuses

As of August 2005, not all the Services paid the affiliation bonus at the full authorized rate of \$10,000 (see table 8).⁴¹ The MCR, USNR, and AFR had stayed with the previous authorization: \$50 times the number of MSO months remaining, for a maximum of 4 years remaining on an MSO—a level that had been raised to \$10,000 in the 05 Supplemental. The payment was made as a lump sum if the servicemember had 18 months or less remaining on his or her MSO; otherwise, it was made in two installments (50-percent initial payment and 50 percent on the sixth anniversary of the MSO). The USAR, ANG, and CGR offered some affiliation bonuses up to the full authorized amount at that time, whereas the USAR offered a maximum affiliation bonus of \$7,500.⁴²

Table 8. Affiliation bonus amounts, as of August 2005

Component	Affiliation bonus amount ^a
Marine Corps Reserve	\$50*MSO months remaining
Army Reserve	\$7,500
Navy Reserve	\$50*MSO months remaining
Air Force Reserve	\$50*MSO months remaining
Army National Guard	Up to \$10,000
Air National Guard	Up to \$10,000
Coast Guard Reserve	Up to \$10,000

a. Time left on MSO determined if the bonus was paid as a lump sum or in two installments.

41. The 06 NDAA (Public Law 109-148) recently increased the affiliation bonus to a maximum of \$20,000.
42. The CGR paid the full affiliation bonus of \$200 per month (\$10,000 maximum) to critical ratings in priority units, a reduced affiliation bonus of \$125 per month (\$6,000 maximum) to critical ratings in other units and noncritical ratings in priority units, and a further reduced affiliation bonus of \$50 a month (\$2,400 maximum) to noncritical ratings in nonpriority units.

Officer Critical Skills bonus

The 05 NDAA created a \$6,000 bonus (payable either as a lump sum or in installments) for certain officers.⁴³ As of August 2005, the MCR, USAR, USNR, and ARNG were offering the bonus to certain officers and were paying the bonus as a lump sum (see table 9).⁴⁴

Table 9. Officer critical skill bonus amounts, as of Aug 2005

Component	Bonus amount	Payment schedule
Marine Corps Reserve	\$6,000	Lump sum
Army Reserve	\$6,000	Lump sum
Navy Reserve	\$6,000	Lump sum
Air Force Reserve	N/A	N/A
Army National Guard	\$6,000	Lump sum
Air National Guard	N/A	N/A
Coast Guard Reserve	N/A	N/A

In components other than the MCR, new officers and warrant officers who agreed to serve at least 6 years in a qualifying MOS or unit received the bonus on completion of their initial training. All components offering the bonus required an affiliation of at least 3 years in a qualifying MOS or unit.

High Priority Unit Pay

Title 37 of the U.S. Code authorizes the Secretary of Defense, or the Secretary of Homeland Security in the case of the CGR, to designate a unit as “High Priority.” In August 2005, members in high-priority units were eligible for additional pay of \$10 per period of duty.⁴⁵ As

43. The 06 NDAA (Public Law 109-148) recently increased the bonus to a maximum of \$10,000.

44. The bonus was like an officer affiliation bonus for the MCR since the MCR requires that virtually all officers have already served on active duty. The MCR also limited this bonus to company grade officers (grades O-1 through O-3) and those in Combat Arms MOSs in FY05 (it has since been opened to officers in all MOSs).

45. The 06 NDAA recently increased this to \$50 per period of duty and extended it to both enlisted members and officers. A period of duty in the SelRes is defined as 4 hours, so—at its new level—this special pay would equal roughly \$200 per drill weekend.

far as we know, the CGR was the only Guard/Reserve component at that time that was using this pay.⁴⁶

Summary

As of August 2005, the ARNG and USAR components offered the most generous enlistment incentives for both NPS recruits and PS servicemembers (both in terms of dollar amount and speed of payment). The ARNG offered enlistment bonuses most broadly; almost everyone enlisting qualified for some sort of bonus. Because the MCR is most directly in competition with the ARNG/USAR components for recruits with similar skill sets, this may be cause for some concern.

Reenlistment bonuses across the Guard/Reserve components were more similar. With the exception of the AFR and the CGR, all Guard/Reserve components offered a maximum reenlistment bonus of \$15,000 for a 6-year reenlistment or \$7,500/\$6,000 for two 3-year reenlistments. However, the timing of payments differed across the Guard/Reserve components, with only the ARNG/USAR components and the MCR offering lump-sum payments.

The ARNG, ANG, and CGR offered the most generous affiliation bonuses in August 2005—each paying bonuses up to the maximum amount allowable. However, most components that offered the Officer Critical Skills bonus (including the MCR) offered it as a lump sum at what was then its maximum authorized amount. Finally, only the CGR offered High Priority Unit Pay at that time.

Incentives other than bonuses

Educational incentives⁴⁷

Title 10 of the U.S. Code authorizes multiple programs for educational assistance to SelRes servicemembers. The programs are divided into direct assistance, loan repayment, and tuition assistance.

46. The MCR is considering its future use.

47. We present a broad overview of educational incentives available to Guard members and Reservists. For a more detailed analysis, see [10].

Direct assistance

MGIB-SR. The Montgomery GI Bill-Selected Reserve (MGIB-SR) is available to some members of the SelRes. The MGIB-SR allows members who qualify to receive up to 36 months of full-time education benefits.⁴⁸ The amount of the benefit depends on the servicemember's length of service, type of education pursued, eligibility category, and eligibility for the MGIB Kicker, but it currently pays a maximum of \$297/month. Table 10 shows the number of Guard and Reserve personnel using the MGIB-SR as of September 2005.

Table 10. Guard and Reserve members using MGIB-SR benefits, as of September 2005^a

Component	Enlisted	Officers ^b	Total
Marine Corps Reserve	10,110	42	10,152
Army Reserve	25,575	912	26,487
Navy Reserve	4,801	535	5,336
Air Force Reserve	7,398	379	7,777
Army National Guard	43,647	1,142	44,789
Air National Guard	18,080	633	18,713
Coast Guard Reserve	665	54	719

a. Data as tabulated by DMDC.

b. Officers include small numbers of warrant officers.

MGIB Kicker. The MGIB Kicker, which greatly increases the monthly benefit of the standard MGIB stipend, is available to designated SelRes servicemembers.⁴⁹ The monthly benefit depends on whether the member is pursuing an officer commissioning program, but it provides a maximum benefit of \$12,600 over 36 months. Guard/Reserve members pursuing college or graduate education full-time and also Simultaneous Membership Program (SMP), OCS, or ROTC are eligible for \$350/month more than the normal MGIB stipend. Members who are full-time, but not pursuing one of these programs, are eligible for \$200/month more than the normal MGIB stipend.

48. <http://www.gibill.va.gov/education/c1606.htm>.

49. Some Services offer the MGIB Kicker to all those qualifying for bonuses, whereas others make this determination separately.

Federal Student Loan Repayment

Title 10 authorizes the Services to repay some federal student loans (e.g., Stafford, Perkins, and Federal Insured Student Loans) for SelRes members through the Student Loan Repayment Program. The program pays off up to \$20,000 in existing student loans for NPS enlisted Guard/Reserve members who have at least a 6- or 8-year contract (Title 10, Section 16301). All Guard/Reserve components are authorized to offer this benefit, but as of August 2005 only the ARNG, USAR, and ANG did. Both National Guard components offered the full authorization of \$20,000 lifetime maximum, but the ANG offered a higher annual maximum of \$3,500 as opposed to the ARNG's annual maximum of \$3,000. The USAR capped its offering at a \$10,000 maximum lifetime repayment. There were no restrictions at that time on participating concurrently in the loan repayment program and other educational programs.⁵⁰

Tuition assistance [10]

In FY03, all Guard and Reserve components except the MCR and the USNR offered undergraduate tuition assistance programs. Table 11 shows the pertinent features of each program at that time. Personnel using the benefit had to be in active drilling status and were not eligible if they were receiving the MGIB Kicker. The ARNG and ANG also offer state tuition assistance, which varies by state.

Table 11. Undergraduate tuition assistance for Guard members and Reservists: FY03 [10]

Component	Amount of tuition assistance covered
MCR	N/A
USAR	100% up to \$187.50 per semester hour or \$125 per quarter hour, up to \$3,500 annually
USNR	N/A
AFR	100% up to \$250 per semester hour or \$166.67 per quarter hour, up to \$4,500 annually
ARNG	75% up to \$200 per semester hour or \$133 per quarter hour, up to \$4,000 annually
ANG	75% up to \$187.50 per semester hour or \$125 per quarter hour, up to \$1,000 annually
CGR	100% up to \$250 per semester hour or \$166.67 per quarter hour, up to \$4,500 annually

50. There is another loan repayment program for health professionals, but this is not relevant since the MCR does not have organic personnel with health care specialties.

Affiliation incentives

Reserve Promotion Affiliation Program (RPAP)

In addition to the standard affiliation bonus program, the MCR has a Reserve Promotion Affiliation Program (RPAP), which allows E-3s or E-4s who are reenlisting for at least 2 years to be promoted to the next higher grade. This program is unique among the Services, but it is relatively small and is being phased out because it is viewed as meritously promoting junior Marines without a competitive process.⁵¹

Mobilization deferments

The USAR offers recently deployed⁵² active-duty soldiers who affiliate with a drilling unit immediately after separation a “mobilization deferment”—meaning they will not be involuntarily deployed for their first year in the unit. This guaranteed “deployment break” is written into contracts and is designed to give deployers a period of rest before they might be required to deploy again with a drilling unit.

Summary

Unlike some of the other Guard/Reserve components, the MCR does not offer tuition assistance (which might be attractive to those who hope to earn a college degree while serving in the Reserves) or Student Loan Repayment (which might be attractive to those with some college or a college degree).⁵³ Unlike the other components, it does offer a reenlistment incentive in the form of a promotion (something none of the other Guard/Reserve components do), but this soon will

51. There were initially 80 RPAPs available in FY06, but only 5 had been issued as of February 2006. Phasing out the RPAP, which will begin shortly, is probably the right decision. The move may be unpopular with some recruiters, however, who view it as an important recruiting incentive despite its limited use.

52. The soldier must have had a combat deployment within the last 6 months. Source: ALARACT 063/2005.

53. We examine whether it is in the MCR’s best interests to offer these incentives in a later section.

be phased out. Finally, the MCR does not offer a deployment break to those separating Marines who affiliate immediately with an SMCR unit.

Guard/Reserve components' bonus determination

Although DoD provides some guidance, each Service has its own criteria for designating bonus eligibility and determining how often it will reexamine that eligibility. Table 12 summarizes characteristics of each Guard/Reserve component's bonus process, as of August 2005.⁵⁴

Table 12. Guard/Reserve components' bonus systems, as of August 2005

Component	Tiers?	Frequency of review	Based on criticality of:
Marine Corps Reserve	Yes	Twice/year	MOS at the aggregate level
Army Reserve	Yes	Twice/year	MOS/YOS at the aggregate level
Navy Reserve	Yes	Twice/year	Rating and NEC at the aggregate level
Air Force Reserve	No	Twice/year	AFSC at the wing level
Army National Guard	Yes	Twice/year	MOS at the state level
Air National Guard	No	Once/year	ASFC at the aggregate level
Coast Guard Reserve	Yes	Once/year	Rating, unit, and/or both

Army Reserve

The USAR determined which MOS/YOS combinations were critical at the aggregate level. Critical MOSs were usually identified twice a year, although the USAR did this more frequently in FY05. Under the process in place in August 2005, those enlisting to MOS/YOS combinations deemed most critical received the top bonus of \$10,000, quick-ships received a bonus of \$1,000 to \$2,000, and those with college credits could get a bonus of up to \$3,000.⁵⁵

54. As previously noted, this reflects data collected through interviews conducted during June through August 2005 and may not reflect current procedures.

55. Enlistment bonuses were capped at \$10,000 total; an enlistee who received the top bonus of \$10,000 was not eligible for other bonuses.

Navy Reserve

The USNR changed its bonus program several times in FY05. Until March 2005, the NRFC Director, Education and Incentives Programs, determined bonus eligibility two times a year based on inputs from community managers, discussions with NRFC recruiting, and a review of overall attrition and manning levels. A list of ratings/paygrades and NECs eligible for bonuses (all of the same amount) then was published.

In March 2005, the USNR decided that, although the NRFC Director, Education and Incentives Programs, would continue to determine bonus eligibility using the same criteria as before, a list of critical ratings/NECs would separately be developed based on aggregate manning levels. Then, bonus offerings would vary depending on the criticality of the rating/NEC combination. In October 2005, the USNR decided that Recruiting Command would determine bonus eligibility for NPS and PS recruits.

Air Force Reserve

As of August 2005, the AFR designated AFSCs as critical if they fell below 100 percent of their authorizations. This determination was made twice a year at the wing (local) level. Focus on the wing level, despite the national mission of the AFR, was viewed as a more efficient way to deal with regional variation between units (i.e., some wings had shortages of AFSCs that did not occur in other wings). Once an AFSC had been classified as critical, servicemembers were eligible for bonuses for either enlistment or reenlistment into it. Although bonuses did not vary with criticality of the AFSC at that time, the AFR was considering adding such variation in the future. The component also was considering accounting for paygrade in determining bonuses and basing AFSC criticality on skill requirements rather than manning levels.

Army National Guard

The ARNG, which has state and federal missions, managed its incentive program at a combination of the state and national levels in August 2005. In an effort to meet the ARNG's needs, the program was changed four times in FY04. Before FY04, states could request that a particular MOS qualify for a bonus if both the unit and the MOS were

manned at less than 85 percent.⁵⁶ This process, which occurred twice a year, was viewed as unfair by states that had large units and/or MOSs. As such, the system was changed at the beginning of FY04 so that states could request 8 MOSs for bonuses, regardless of the unit or the MOS's manning level. The problem with this system, however, was that many HD/LD MOSs did not get selected for bonuses; states instead picked MOSs that would give bonuses to the largest number of Guard members. To try to solve this problem, in early FY04, states were allowed to submit 14 MOSs and 5 HD/LD MOSs for bonuses. When this was deemed insufficient in mid-FY04, states were allowed to submit 30 MOSs. In addition, the ARNG went to a tiered bonus system—offering up to \$10,000 for MOSs deemed among the top 10 most critical at the national level, \$6,000 for remaining requested MOSs at the state level, and \$2,000 for those who quick-shipped.

In April 2005, the ARNG again changed its process. States were still allowed to submit 30 MOSs, but all requested MOSs in the state got the top bonus of \$10,000. Those who shipped off-peak or quick-ship could get a \$6,000 bonus, and all enlistees received a \$3,000 bonus.⁵⁷ This quarterly process required that headquarters approve the requested MOSs. Headquarters provided guidance to states by noting that an MOS could be designated as bonus eligible as long as it was manned at less than 125 percent of authorization.

Air National Guard

As of August 2005, the ANG designated critical AFSCs once a year at the national level.⁵⁸ AFSCs that were manned at less than 90 percent were eligible for incentives.⁵⁹ Once bonuses were authorized for a particular AFSC, however, enlistment bonuses could be paid until the

56. In addition to all 50 states and District of Columbia, the National Guard treats Puerto Rico, Guam, and the U.S. Virgin Islands as states for bonus purposes.

57. As noted earlier, enlistment bonuses were capped at \$10,000 total, so an enlistee who received the top bonus of \$10,000 was not eligible for others.

58. Occasionally, it would conduct a midyear review of bonuses.

59. Units used to be able to add two additional AFSCs not authorized bonuses at the national level, but this practice was stopped in FY03.

AFSC reached 100 percent of T/O plus two people. Finally, a person enlisting into a critical AFSC could pick two of three incentives: a cash bonus, the student loan repayment program, or the MGIB Kicker. At that time, there was no limit on reenlistment bonuses for critical AFSCs, regardless of manning level.

Coast Guard Reserve

As of August 2005, the CGR offered its highest bonuses (\$6,000–\$10,000) to those enlisting in critical ratings in priority units and smaller bonuses (\$4,000–\$6,000) to those enlisting to (a) a critical rating in any unit or (b) any rating in a critical unit.⁶⁰ The CGR reviewed its manning annually and labeled ratings as critical if there was shortage of more than 100 people.

Summary

The MCR's old bonus system allocated bonuses in a way most similar to the AFR's system (although it also accounted for paygrade, whereas the AFR's system does not). The new MCR system is most similar to that of the USAR (but without quick-ship or college credit bonuses).

The MCR might want to consider some attributes of other components' bonus/incentive systems. For example, expanding its tiered bonus system to also account for unit priority (like that used by the CGR) might help the MCR to better fill undermanned SMCR units while still promoting global MOS manning. The MCR also should add paygrade to its bonus designations so that it may be better targeted. Choice between bonuses/incentives (like that offered by the ANG) also might be attractive to some recruits.

60. The CGR had designated all Port Security Units and Naval Coastal Warfare units as priority units. These two units made up 15 percent of the Coast Guard SelRes and were the only units made up solely of Reservists.

Bonuses/incentives that the MCR might consider

Our review identified several bonuses/incentives that the MCR is not currently offering, but that other Guard/Reserve components are offering. These include bonuses for:

- Off-peak ships (ARNG)
- College credit (USAR)
- All NPS recruits (ARNG)
- PS servicemembers from other Services (all Guard/Reserve components except the MCR)
- Enlistment to critical units (CGR)
- Quick-ships (ARNG and USAR)
- Shorter contract lengths (ARNG and USAR).

In addition to bonuses, there are several other incentives that other Guard/Reserve components offer that the MCR does not. These include:

- Student loan repayment (ARNG, USAR, and ANG)
- Tuition assistance (all Guard/Reserve components except the MCR and the NR)
- A guaranteed deployment break for those leaving active duty who affiliate with the drilling Reserve (USAR).

To help us to determine which incentives might be attractive to former active-duty and Reserve Marines currently in the IRR (and to help us better understand their reasons for not choosing to affiliate with an SMCR unit), we held several focus groups at IRR musters in Orlando, FL; Phoenix, AZ; and San Antonio, TX.

IRR focus group findings

About 450 Marines were expected to show up for the Orlando muster; 347 actually attended. For the Phoenix muster, 613 Marines were expected and 414 attended. At the San Antonio muster, 480 Marines

attended of 630 expected. Those who attended the musters were paid about \$160 for their 4 hours of attendance.

We held nine focus groups (three at each location) with enlisted Marines, most of whom were in the grade of Sergeant or below. We also spoke with each area's PS recruiters to learn more about their concerns and issues.

The focus group attendees, on average, had been off active duty for 1 to 2 years and still had 2 to 3 years left on their MSOs. Only a few Marines with whom we spoke had served their initial obligatory time in an SMCR unit; the rest previously were active-duty Marines.⁶¹

Interest in drilling units

We asked about the Marines' interest in affiliating with a drilling unit. Most said that the possibility of deployment factored into their decisions not to affiliate with an SMCR unit. Many Marines attending the muster said that they had been deployed to Iraq or Afghanistan while on active duty—some more than once. Although most Marines said that they did not worry about being activated and deployed while in the IRR, they recognized that deployment was a very real possibility if they were to affiliate with an SMCR unit. Most said that their families would object to them affiliating with a drilling unit for that very reason.

We asked if a guaranteed 12-month deployment break (like that currently offered by the USAR) would have made a difference in their decisions not to affiliate with the SelRes after separating from active duty. Many Marines said that it probably would have. Several others (particularly those in community college or vocational programs) said that a 24-month break would have been better, since it would have given them time to complete their schooling. In fact, several Marines said that they did not choose to affiliate with a drilling unit because they thought it would interfere with their college attendance or work.

61. Our general sense was that few Marines attending the musters had served their initial obligatory time in an SMCR unit.

Availability of drilling units

For several Marines, the availability of a local SMCR unit was a factor. Some Marines said that they had looked into affiliating with their local SMCR units but were told either that there were no openings or that they did not have the right MOSs.⁶² Many Marines with whom we spoke said that they might be willing to affiliate with a unit outside their local area if the government reimbursed them for travel. In fact, some said it would be preferable to driving to a local drill site.

Other affiliation considerations

Several Marines (particularly those in Combat Arms MOSs) said that they would consider joining an SMCR unit only if they could be retrained for another MOS. Finally, some Marines said that they would not affiliate with an SMCR unit because of preconceived notions about Reserve Marines.⁶³

Information on the MCR

Many Marines with whom we spoke seemed to know little about the Reserve or were unaware of some support services available to them. For example, many were unfamiliar with the Reserve billet information available through Reserve Duty Online (RDOL) or the job search assistance available through Marine For Life (M4L).⁶⁴ Many Marines also did not know about some of the benefits of continued IRR affiliation, including promotion eligibility while serving in the IRR.

62. For example, several Marines in aviation complained that there were no aviation SMCR units in the Orlando area. The PS recruiters also told us that most Orlando and Phoenix-area units were fairly well staffed. Units in the San Antonio area had more vacancies, but many required reconnaissance skills.

63. For example, some said that they would not feel comfortable deploying with Reserve Marines. Others said that they had known of Reserve Marines who had been activated and mobilized to CONUS locations and ended up “doing nothing.”

64. Those who were familiar with RDOL or M4L spoke highly of the programs. Because both websites are relatively new, Marines who separated from the Corps several years ago (the majority of those with whom we spoke) may just not have been aware of them.

Separating Marines are required to participate in the Transition Assistance Management Program (TAMP), which consists of two components: Pre-separation counseling and attendance at a Transition Assistance Program (TAP) workshop. Pre-separation counseling, which must occur no less than 90 days prior to EAS, includes information on a variety of topics including employment, relocation, and Reserve affiliation. Counseling attendance has been increasing over time—from about 22,000 Marines in FY02 to over 36,000 Marines in FY05.

Some Marines with whom we spoke said that the briefings, while informative, were ill-timed—sometimes occurring too far ahead of their separation or too soon after they returned from a deployment. Some said that they had been able to attend only a portion of the briefings. Information recently briefed at the G-1 Conference shows that while over half of all separating Marines attended pre-separation counseling 90 days prior to separation, compliance rates varied across locations—from 48 percent in Hawaii to 82 percent in Albany.⁶⁵

Commanders must make their Marines available for these briefings, which can be particularly difficult in today's operational environment. At a recent G-1 Conference, it was recommended that G-1s encourage commanders to mandate attendance for separating Marines.

In fact, those who had attended the transition briefings said that they had received good information about the Reserves and support services. Many admitted, however, that—at that time—they had not given it their full attention. They found the briefings to be a bit overwhelming at a time when they were focused on moving their families and looking for employment. As such, certain parts of the training—particularly briefings on Reserve affiliation or IRR service—often were overlooked. This is not the fault of the program, but rather, a natural consequence. In fact, as we show later, about 40 percent of E-3 and E-4 Marines who eventually affiliate with the Marine Corps' Selective Reserve do so after a year or more in the IRR .

65. Laura Bass, "Transition Assistance Management Program (TAMP)," briefing to the G-1 conference, 9 Feb 2006.

As far as we know, transition briefings are not provided to separating Marines on CD.⁶⁶ We think that doing so would provide Marines with an extremely useful reference tool. Several Marines said that the CD of muster briefs (that Mobilization Command provided to each Marine in attendance) would be an useful resource for them and their families.

Other Services' bonus and incentive offerings

Most Marines with whom we spoke indicated that they were keenly aware of other Services' efforts, especially the Army's, to recruit PS Marines.⁶⁷ Several Marines also said that Army recruiters had contacted them while they were still on active duty.⁶⁸ Although most Marines were familiar with the incentives that other Services are offering, most indicated that they were not interested in joining a different Service—regardless of what that Service offered. Some in most groups, however, said they had considered other Services and had even spoken to other Services' recruiters.

Attractive bonuses/incentives

We also questioned Marines about specific incentives that might entice them to affiliate with an SMCR unit. Although most agreed that a bonus would be attractive, several mentioned that PS recruiters are reluctant to raise the issue of bonuses. Many Marines we questioned (particularly those who were in college) said that educational assistance (including college loan repayment and tuition assistance) would be a bigger enticement than bonuses. Most praised the Montgomery GI Bill (MGIB) and the MGIB Kicker but said that these incentives still did not cover the full cost of college attendance.

66. Because most of the Marines with whom we spoke had separated at least a year ago, it is possible that this has since changed.

67. The Army recently launched a new program called "Unity of Effort," through which it is contacting 78,000 recently separated PS enlisted members and 7,000 former officers. It is offering these personnel bonuses of \$5,000 to \$19,000 as part of the program.

68. We also had heard this from Marines still on active duty during a series of focus groups for another study.

Continued IRR affiliation

Finally, we questioned Marines about their willingness to stay in the IRR after finishing their MSOs. Most said that they would be willing to do so; some said they would only do so if they could receive a nominal bonus.

Based on these analyses, there are several bonuses/incentives that we believe may warrant consideration.⁶⁹

Bonus for off-peak ships

The MCR (like the active-duty Marine Corps) brings in the most recruits during June, July, August, and September (JJAS) because these are the most popular months for recent high school graduates to ship. In contrast, the months of February, March, April, and May (FMAM) have traditionally been the most difficult shipping months.

The MCR may want to consider offering a bonus (of maybe \$1,000 to \$2,000) to NPS recruits who agree to ship during the months of FMAM.⁷⁰ Such a bonus is not without precedent. The active-duty Marine Corps used a limited number of these bonuses during the late 1990s.⁷¹

There also is some evidence that FMAM bonuses are effective. A 1987 CNA evaluation of the Targeted Enlistment Bonus (TEB) for Nuclear Field recruits found that the bonus was able to change the seasonal pattern of accessions and was more cost-effective than nontargeted enlistment bonuses. In addition, the study found no significant changes in recruit quality [11]. Also, a 1999 CNA analysis found that

69. Although the MCR has expressed interest in a quick-ship bonus, we do not recommend it for consideration. This is because most evidence suggests that Marines who remain in the Delayed Entry Program (DEP) for at least 3 months have much lower attrition than those who do not.

70. As previously noted, the ARNG has offered a \$6,000 off-peak shipping bonus.

71. The \$2,000 bonus was paid after the recruit successfully completed both bootcamp and MOS training. We also believe that the active-duty Marine Corps currently is offering some recruits a similar bonus for shipping in the months December through May.

bootcamp attrition rates for FMAM bonus recipients were 6.6 percentage points lower than those of other FMAM shippers.⁷²

Bonus for enlistment to critical units

Under the new SRIP system, the MCR offers bonuses to NPS recruits, PS Marines, or incumbent Reservists who enlist or reenlist in MOSs that rate bonuses—irrespective of the unit. Although we believe that this system has distinct advantages over the old system, there may still be a need for bonuses targeting critical units.

The basis for “criticality” could vary depending on the MCR’s needs. If all units are viewed as equally critical to the mission, for example, critical units might be those that are most undermanned. If critical units are identified as those that are preparing for deployment, the units designated as critical might change quite frequently.⁷³ If certain units are deemed to be more critical to the mission than others at all times, they might be identified as critical units.

Once the basis for unit criticality has been determined, criticality-related bonuses could be added in several ways: for example, modify the tier system so that tiers vary with criticality (similar to that used by the CGR) or offer High Priority Unit Pay (also used by the CGR).⁷⁴

Deployment break for those who affiliate

In focus groups conducted as part of another CNA study, the majority of active-duty Marines who said they planned to separate from the Corps also said that they would not affiliate with an SMCR unit [12]. This was because they believed that they would deploy “just as much” in the SMCR units as they did on active duty. They also were concerned because an active-duty member’s deployment clock resets to

72. This analysis examined Marines who had spent time in the DEP (not direct ships) and compared those with FMAM bonuses to those entering on other enlistment programs (except the College Fund).

73. This might, however, distort the timing of enlistment/reenlistment decisions for those residing in the local area.

74. The MCR is considering using High Priority Unit Pay in the future for units that deploy with very short notice.

zero once he or she affiliates with the drilling Reserve. Similarly, many of the Marines with whom we spoke in our IRR muster focus groups said that this was the reason they did not immediately affiliate with a drilling unit after separation from active duty.

As previously noted, the USAR offers “mobilization deferments.” The MCR also is considering such a move.⁷⁵ Although a deferment might complicate the deployment of units, we think that it would encourage Marines who have been recently deployed while on active duty to affiliate with SMCR units. It also might help to increase employer support for SMCR Marines—particularly Marines who are new to their civilian jobs. Finally, it would send a message to Marines (and to the public) that the Marine Corps recognizes the importance of “downtime” between deployments.

Paid travel to drill sites

Although recruits/Marines can enlist/reenlist to an SMCR unit that is outside their local area, they currently must pay all associated travel costs out of pocket. As previously noted, many IRR Marines with whom we spoke said that they might be willing to affiliate with a unit outside their local area if the government reimbursed them for travel. Often, this is the only way that a Marine can affiliate with an SMCR unit, since the closest unit does not have vacancies that match the Marine’s grade and MOS. Paid drill travel is being considered for some commanders, but (as yet) has not been considered for other Marines. It may be worth offering to some Marines in critical MOSs who can fill SMCR billets in geographic areas where local markets cannot support requirements.

Educational incentives (bonus for college credit, loan repayment, or tuition assistance)

As previously noted, many former Marines with whom we spoke (particularly those in college) said that educational incentives, such as bonuses for college credit, student loan repayment, or tuition

75. As of this writing, courses of action (COAs) are being developed and staffed. It is likely that this would be available as a waiver.

assistance, would encourage them to affiliate with an SMCR unit. Some PS Marines complained that the MGIB did not fully cover their educational costs or that it “ran out” too soon.⁷⁶

Although it is beyond the scope of this study to determine which (if any) of these educational incentives would be cost-effective for the MCR to offer, there is at least some evidence that the Navy’s expenditures on voluntary education have been cost-effective. A 2001 CNA study found that the Navy saved \$2 for every \$1 spent on tuition assistance and instructor Program for Afloat College Education (PACE) [13].⁷⁷ Another CNA study, however, suggests that college loan repayment programs are unlikely to be cost-effective [14].

A full assessment of the feasibility of offering these incentives would require an assessment of the population the MCR is trying to attract (PS Marines/NPS recruits currently in college, those who have finished college, 2-year or 4-year college attendees/graduates, full- or part-time students?) and the estimated effects of these incentives (offered either separately or concurrently) on recruiting and retention.

Relocation incentives and job placement assistance

When Marines separate from the Marine Corps, the Service pays for them to move back to their homes of record.⁷⁸ If a Marine wants to settle in another area, he or she is responsible for any additional costs that may be incurred. One way to encourage SMCR unit affiliation

76. Given this, it is likely that the MCR’s NPS recruits view MGIB-SR benefits as inadequate (since they get about 29 percent of the MGIB benefits available to those with prior active-duty service).

77. Some researchers, however, have disputed the validity of these findings.

78. “Home of record” is the place where the Marine was living when he or she entered the military. It is used to determine travel entitlements when the Marine separates from the Marine Corps and has nothing to do with the Marine’s legal residence. Enlisted members may change their “home of record” at the time they sign a new enlistment contract, but officers may not change their “home of record” except to correct an error or after a break in service. (Source: <http://www.dtic.mil/whs/directives/infomgt/forms/eforms/dd2058.pdf>)

might be to pay all moving costs for a Marine to go to a location where he or she will be affiliating with a local SMCR unit and filling a critical billet. In our focus groups with IRR Marines, they said that this would be helpful, but that it would have to be coupled with job placement assistance. This was because many said that moving home (usually moving in with their parents) was the easiest and least expensive thing to do while they searched for a civilian job.

IRR bonuses for certain MOSs

The MCR could make use of bonuses/incentives designed to entice former Marines (in select MOSs) into the IRR. Once enlisted Marines have completed their MSOs, they are not obligated to remain in the IRR.⁷⁹ In fact, about 20,000 Marines (many with critical skills) leave the IRR annually. Although a roughly equal number of Marines finishing their initial service obligations also flow into the pool annually, this does not allow the IRR to build up critical MOSs in the pool.

Title 37, Section 308h, of the U.S. Code authorizes an IRR bonus of up to \$3,000 for PS military members who enlist, reenlist, or voluntarily extend an enlistment in the IRR for at least 3 years.⁸⁰ The bonus does not have to be recouped if the servicemember later joins the Sel-Res. The MCR, however, does not currently offer this bonus. If it did, maybe targeting it to those in HD/LD MOSs, it might increase the size of the local IRR pool for several key MOSs—perhaps making billets that traditionally fell below the 9:1 threshold sufficiently “recruitable.” As previously noted, many Marines in the IRR with whom we spoke said that they would be willing to remain in the IRR after completing their MSOs if it entailed a bonus. Also, such a move would increase the number of HD/LD MOS Marines who could be tapped (if needed) through an involuntary mobilization.⁸¹

79. Marine officers have to actively resign their commissions to drop from the IRR rolls.

80. A \$3,000 bonus is authorized for those enlisting, reenlisting, or extending in the IRR for 6 years. A \$1,500 bonus is authorized for those enlisting, reenlisting, or extending for 3 years or making a subsequent enlistment, reenlistment, or extension.

81. As an aside, most Marines in our IRR focus groups said that they would serve if involuntarily mobilized. Many, however, said that they would rather be sent to Iraq/Afghanistan than do “backfill” work in CONUS.

Will any SelRes bonus/incentive be enough?

One of the issues that arises is whether *any* bonus (of feasible size) or incentive will be adequate in some Reserve locations or for some billets. For example, if the PS population living in the immediate vicinity of the Reserve unit does not have the skills required to fill some MOSs, billets may remain unfilled even with the presence of a bonus. In fact, the MCR's PS recruiters will not even try to recruit for a particular billet (i.e., the billet will not appear on the Marine Corps' "Memo 01") if there are fewer than nine PS Marines in that location's IRR with the MOS required for that particular billet. This means that PS Marines will not be recruited for some vacant billets, some of which may even offer a Tier 1 bonus. Given this environment, what could be done to fill these billets?

Move unit locations

One option is to move these units to other locations where the local populations could better meet the units' needs. For example, a chronically undermanned MP unit might be better located in a city with a large police academy or a city with a large share of PS Marines on its force.

But relocating a Reserve unit is not an easy task. Unit locations are often determined based on political, rather than recruiting, considerations. As a result, attempts to close or move a unit usually meet with strong political resistance. In addition, large units can only be relocated (or inactivated) as the result of Base Realignment and Closure Commission (BRAC) recommendations.

Change commuting distance rules

Another alternative is to modify rules defining "reasonable commuting distance"—the maximum distance a Reserve member can be expected to travel between his or her home and a drill training site.⁸² This is currently defined as any distance within a 100-mile radius of the drill site, but not exceeding that which can be traveled within three hours by car under average traffic, weather, and road

82. We are told that this affects NPS recruits more than others.

conditions. This provision only applies to units that exclusively conduct four drills on two consecutive days during the training year (i.e., a weekend drill), and only if government meals and quarters are provided at the drill base.⁸³

Although Congress would have to approve such a change, changes are not unprecedented—the threshold used to be 50 miles or 1.5 hours for those who enlisted, reenlisted, extended their enlistments, or were appointed in the Reserves before 1 November 1972.⁸⁴

Drop/modify the 9:1 Reserve recruiting practice

As previously noted, current Marine Corps practice (which is implemented as policy) does not require PS recruiters to actively recruit for a particular billet if there are fewer than nine PS Marines with the requisite MOS in that location's IRR. It may be worth examining whether this is still an appropriate metric in the current recruiting environment. For example, perhaps recruiting for billets that offer higher bonuses could be achieved even if the available pool fell below this threshold.

Another alternative is to broaden eligibility for the pool to include PS members of other Services. For example, Army MPs in the local IRR might be good candidates for MP billet vacancies. Although the MCR is unlikely to change its stance on PS members of other Services—they would still have to attend all entry-level training—these former servicemembers may be interested in serving in these capacities. A bonus to encourage PS members from other Services to join the MCR (they do not currently qualify for SRIP bonuses) also would help.

83. Other units (e.g., those where government meals and quarters are not provided) may be subject to a “reasonable commuting distance” of 50 miles or a distance that can be traveled within 1.5 hours by car under average traffic, weather, and road conditions. (Source: Title 32, Section 100.6(e))

84. Currently, the MCR may issue waivers only on a case-by-case basis at the Marine's request.

Develop and advertise targeted enlistment packages

The current process assumes that both NPS recruits and PS Marines are drawn from the local area. Although the general assumption is that Marines leaving active-duty service will return to their “home of record,” some might be persuaded to settle in a new area if Reserve enlistment/reenlistment packages were sufficiently attractive and were supplemented with job and community information.

The MCR could advertise enlistment packages/information tailored to specific vacancies that could encompass more than just bonuses. For example, vacant MP billets could be advertised, along with information on local police/security job openings, schools, and community services. Currently, PS Marines can log on to RDOL (which provides information on available Reserve billets⁸⁵) and log on to the the M4L website (which provides civilian job listings), but there is no place where this information is packaged together with information about localities. This type of information could be added to either site. In addition, there are no similar resource for NPS recruits to search SMCR unit vacancies and learn about surrounding areas.

Accept a certain degree of undermanning and overmanning at the RUC level

Whereas the MCR’s old bonus system attempted to fill MOSs at the RUC level, the new system attempts to fill them nationally. This means, however, that there are likely to be units that will be undermanned (especially if they have vacancies in MOSs that do not qualify for bonuses or do not have a sufficiently qualified local population). But completely filling all units may not be necessary. The MCR could accept a certain degree of undermanning by using “fillers” from other units before deployment (similar to the Navy practice of “cross-decking”—sharing resources across two ships).

By requiring that reenlistees fill a valid T/O billet, however, there is little ability to provide a bonus to “overman” units with a particular

85. Although RDOL allows PS Marines to search for billets that entail bonuses, it does not specify bonus levels. This could easily be added to the system and would help to entice Marines.

MOS that is in short supply elsewhere.⁸⁶ It might be worthwhile to allow some units to reenlist “extra” Marines (particularly in HD/LD MOSs), if possible, so that these Marines can be used elsewhere when needed.

Loosen/remove PS requirements for officers

Because the structure of the MCR mirrors that of the active-duty Marine Corps, the SMCR units have billets designated for company grade (O-1 to O-3) officers. But, because the Marine Corps requires that most officers serve one tour on active duty before affiliating, this means that there is a shortage (in some ways, by design) of company grade officers in SMCR units.⁸⁷ At present, unfilled company grade officer billets (1) remain unfilled, (2) are filled by field grade officers (mostly majors), or (3) are filled by SNCOs.

Without changing the structure of the MCR, one way to ameliorate this situation would be to allow new officers to enter it directly. For example, an Officer Candidate Course and a Platoon Leaders Course for the MCR have been proposed. The MCR might also expand the scope of commissioning programs. Another proposal would extend the Reserve Enlisted Commissioning Program, which has been open to Reserve Marines, to active-duty Marines. Other proposals include the development of a Meritorious Commissioning Program or an Enlisted Commissioning Education Program for the MCR.⁸⁸

Some steps to develop more MCR officers already have been taken. The Marine Corps recently approved a 3-year pilot test of the National Call to Service (NCS) Enlisted Commissioning Option, which allows NCS enlistees to attend OCS, TBS, and MOS school, then serve 15 months on active duty followed by 24 months of SelRes

86. According to our sponsor, a valid T/O billet is not required for NPS enlistees (though the unit must contain Marines with the intended MOS).

87. A few officers do not have this requirement (e.g., Marines from enlisted-to-officer programs and officers with PS in another military branch).

88. An assessment of these proposals is beyond the scope of this study, but several studies of these alternatives are already under way.

service.⁸⁹ And the MCR began accepting inter-Service officer transfers in December 2004, although there have been only seven such transfers to date. As the Navy and Air Force continue to downsize, there is potential for this to be used more extensively.⁹⁰

89. See MARADMIN 522/05.

90. In fact, the Army hopes to recruit up to 300 officers leaving the Air Force for active duty. See [15].

SelRes attrition

Data and methodology

For most of our statistical analysis, we used data from the Reserve Component Common Personnel Data System (RCCPDS), the Contingency Tracking System (CTS), and CNA's database of personnel information for active-duty Marines.

Patterns of SelRes attrition

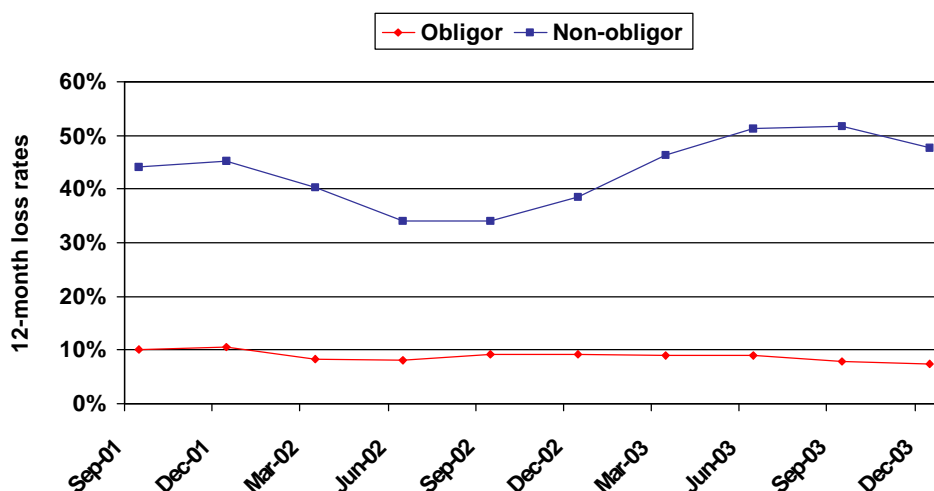
To better target the SRIP, it is important that the MCR better understand patterns of SelRes attrition. In this section, we examine SelRes attrition—particularly, attrition from drilling SMCR units—to look for changes over time and areas where attention is needed.

Loss rates are calculated as follows: For a 12 month loss rate, for example, we look at all enlisted Marines in SMCR units as of a particular date (say, the end of September 2001), and then look ahead to see what share of these Marines are still present in the Marine Corps' SelRes 12 months from that date.⁹¹

Figure 9 shows 12-month loss rates for enlisted Marines in drilling SMCR units since FY01 by obligor status. As the figure shows, loss rates for SMCR unit obligors peaked soon after 9/11 (at about 10.5 percent) but have otherwise remained low and relatively constant (currently below 7 percent). In contrast, non-obligor 12-month loss rates have fluctuated in the post-9/11 era, with a low of about 33.9 percent in June 2002 and a high of almost 52 percent at the beginning of FY03.⁹²

91. Obligor must have been under obligation at both points in time.

Figure 9. 12-month SMCR unit enlisted loss rates, by obligor status^a



a. Those in drilling SMCR units only.

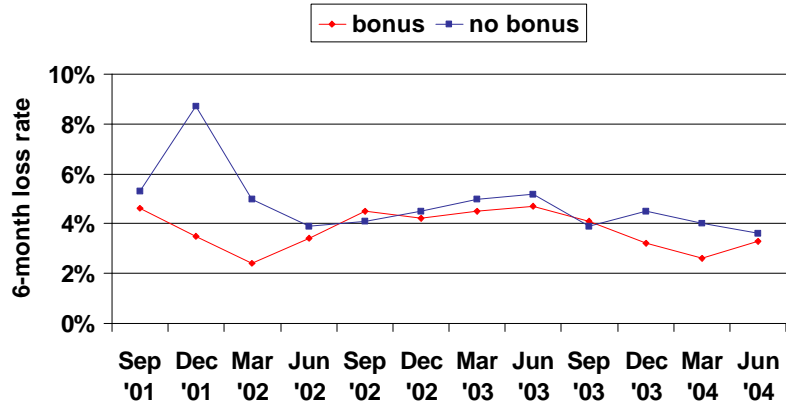
For obligors, SRIP bonuses are issued to encourage recruitment and promote retention. Figure 10 shows 6-month loss rates for obligors, according to bonus receipt. Except for the period immediately following 9/11, 6-month loss rates for obligors have been similar—irrespective of bonus receipt.

For non-obligors, SRIP bonuses are issued to encourage reenlistment and promote retention. Figure 11 shows 6-month survival rates for non-obligors who reenlisted, by bonus receipt. We see that the survival rate for bonused reenlistees is at least 10 percentage points higher than for unbonused reenlistees at every 6-month interval since reenlistment. Two years after reenlistment, the survival rate is 25 percentage points higher for those who received a bonus than for those who did not.⁹³

92. This might be related to hearing rumors about an impending stop loss (that was in effect from January/February to July/August 2003) or the actions of Marines who were deactivated following a deployment.

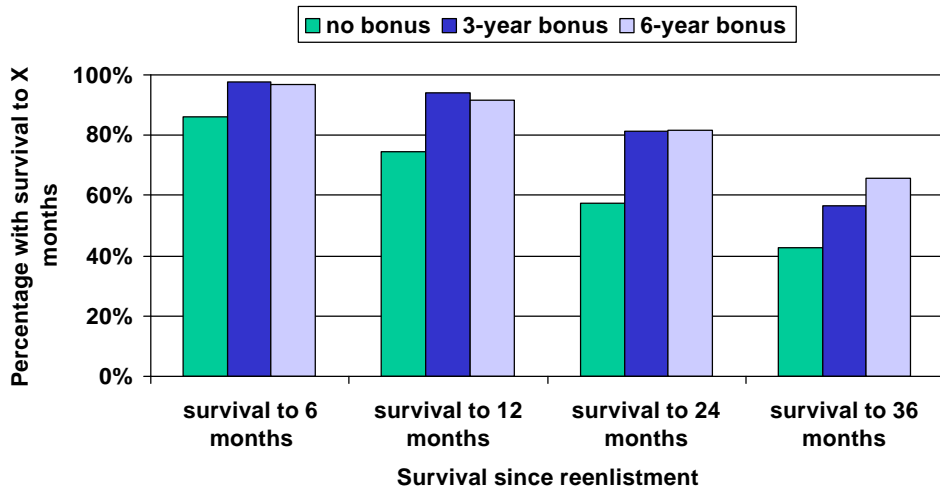
93. Note that figure 11 includes only reenlistees we could observe for at least 36 months after reenlistment.

Figure 10. Six-month loss rates for obligors, by bonus receipt^a



a. Those in drilling SMCR units only.

Figure 11. Survival rate patterns for reenlistees, by type of bonus received



There are perhaps several reasons for this finding. Attrition among obligors is rare since they have a commitment with a specific SMCR unit, irrespective of bonus receipt. Non-obligors, however, can easily change their status (move to the IRR, for example) with few penalties. This is because non-obligors do not have a commitment with a particular SMCR unit, only the Ready Reserve (which includes the IRR).

When a Marine accepts a bonus, however, he or she signs an additional agreement committing to service in the SMCR unit for a specified period of time. If the Marine fails to complete the agreed-upon service period, he or she must pay back the bonus to the government. For this reason, it may be worth offering smaller bonuses to a broader cross section of Marines.⁹⁴

The bonus effect for non-obligors also might be due to the fact that reenlistment bonuses were paid in installments over this period (they have been lump sum only since July 2005), which may have encouraged retention. Finally, extra compensation paid through a bonus may have a small retention effect of its own.⁹⁵

We also examined 6-month loss rates for specified occupational fields (occfields).⁹⁶ Figure 12 shows 6-month loss rates for obligors by occfield and bonus receipt. We see that, for most occfields listed, the 6-month loss rate for Marines receiving a bonus is lower than for Marines not receiving a bonus.⁹⁷ But both groups have very low attrition overall.

We then looked at 24-month survival rates for non-obligors, separated by broad occfield categories (03s and 08s, and all other occfields) and 6-year or 3-year reenlistment bonus receipt (see figure 13). We see that those in the 03 and 08 occfields have higher survival to 24 months if they received a bonus than those without a bonus (with similar effects whether they got a 6-year or a 3-year reenlistment bonus). The result also holds (although the effect is a bit larger) for those in other occfields.

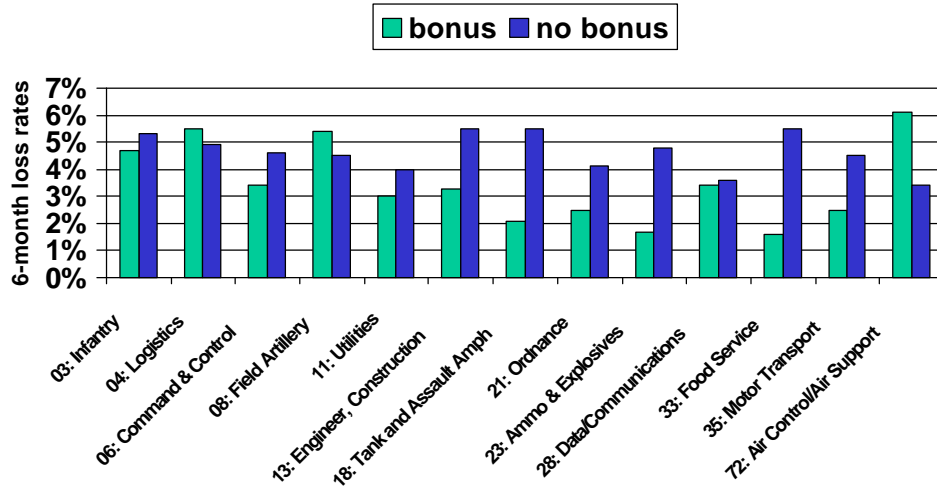
94. In fact, an earlier CNA study recommended this. See [7].

95. Unfortunately, there has not been enough variation in bonus amounts paid to date to distinguish this effect. The transition to a tiered bonus system might allow for future analyses of this issue.

96. We examined occfields with at least 100 observations of bonus receipt from September 2001 through June 2004.

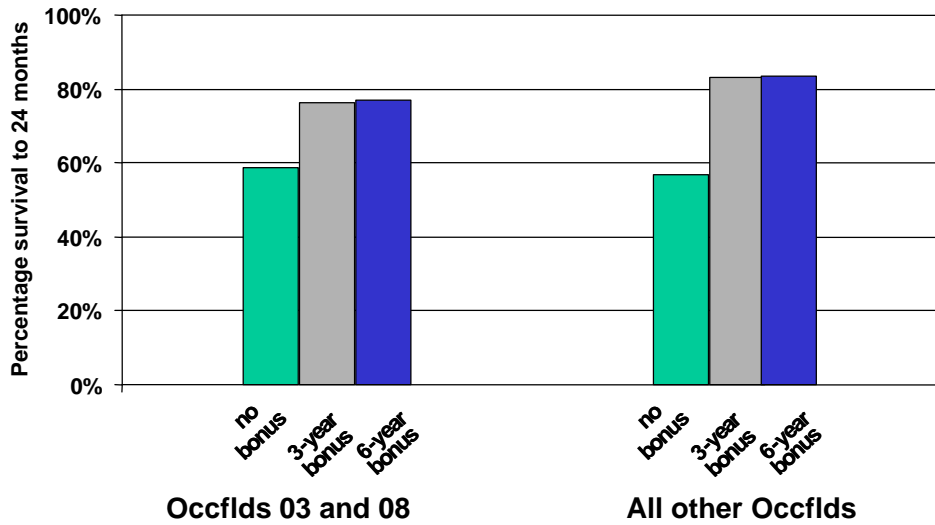
97. The exceptions are for occfields 04, 08, and 72.

Figure 12. Six-month loss rates for obligors, by occfield and bonus receipt^a



a. Those in drilling SMCR units only.

Figure 13. Survival rate to 24 months for reenlistees, by occfield grouping and 6- or 3-year reenlistment bonus receipt^a



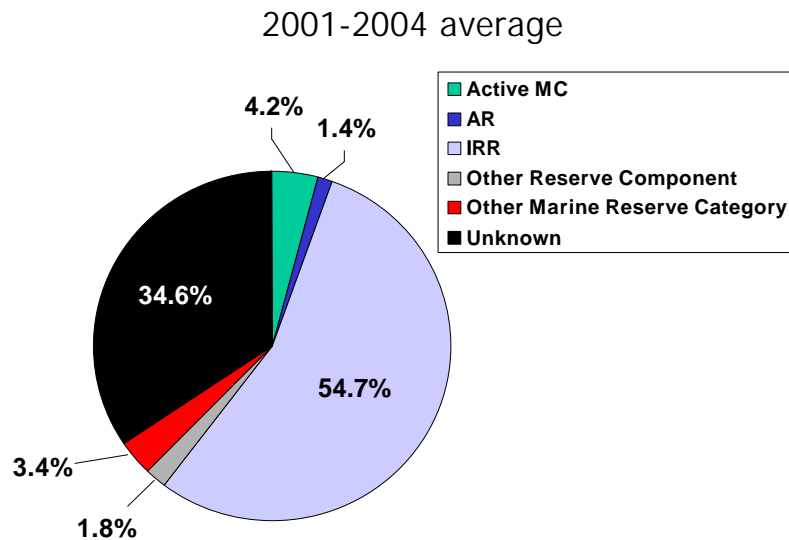
a. Those in drilling SMCR units only. Note: Sample sizes are small, and results should be interpreted with caution.

In addition to examining SelRes attrition by bonus receipt, we were also interested in learning more about where attrites go once they separate from the SelRes.

Where do SelRes attrites go?

Once Marines separate from the SelRes, where are they 6 months later? We find that the majority (54.7 percent) go into the IRR, and most of these are likely to be Marines who have fulfilled their SMCR contracts but still have time remaining on their MSOs (see figure 14). The second largest group is Marines whose whereabouts are unknown; they are not found in any of the Guard/Reserve components or in the active-duty Marine Corps. Most of these Marines have likely left the military altogether.⁹⁸ Small but significant shares go to the active-duty Marine Corps or the Active Reserve. Finally, only about 2 percent join another Service's Guard/Reserve component.

Figure 14. Where those leaving the SelRes^a are 6 months later



a. Those in drilling SMCR units, IMAs, IADTs, and pre-IADTs.

98. It is possible that a few have joined the active-duty ranks of other Services, but their numbers are probably small.

Because there is particular interest in NPS obligors who finish their initial 6 years of a 6 x 2 contract, we examine them separately. From October 1999 to September 2004, 12,257 Marines finished their initial obligation in the SelRes and then moved to the IRR. Of these, 67.2 percent were still in the IRR as of August 2005, 25.5 percent had left the Reserves altogether, and about 6.5 percent had returned to the Marine Corps' SelRes.⁹⁹

99. The remainder went to other Reserve categories.

Active-duty attrition: Who goes to the SelRes?

Since Marines separating from active-duty represent a significant part of the pool available for recruitment into the SelRes (particularly the SMCR units), we thought it was important to see how many of these Marines end up in the MCR and its components or in other Services' Guard/Reserve components.

Methodology

Using a CNA database containing personnel record information for active-duty Marines, we created a file of active-duty Marine Corps losses from September 1997 to June 2005. We then tried to locate these same Marines in our RCCPDS records from September 1999 to August 2005.

Because of the time periods of the two datasets, there may be data truncation issues. A few examples help to illustrate. Suppose a Marine separated from active duty after 8 years of service in June 2005. Unless he or she affiliates with the Reserves by August 2005, the Marine will not be counted (even if the Marine were to affiliate later). If a Marine with 6 years of service separated from the active-duty Marine Corps in September 1997, served 2 years in the IRR (until September 1999), and then separated, he or she also would not be counted.

Findings

Enlisted Marines

We first broke down movement for Marines separating from active duty to see (1) where in the Reserves they first appeared after separation, (2) if they first appeared in the MC IRR, where they next went, and (3) if they first appeared in the MC IRR and then dropped out of the Reserves, where they next reappeared in the Reserves.

Direct movement from active duty to a Reserve component

Approximately 143,000 active-duty enlisted Marines who separated between September 1997 and June 2005 next appear in a Guard/Reserve component. They represent 60 percent of Marines who separated during that period.

Of separating Marines, 96 percent appear in the MCR, 2.4 percent appear in the ARNG, and 0.7 percent appear in the USAR. The majority of Marines going to the ARNG/USAR components are found in drilling units.

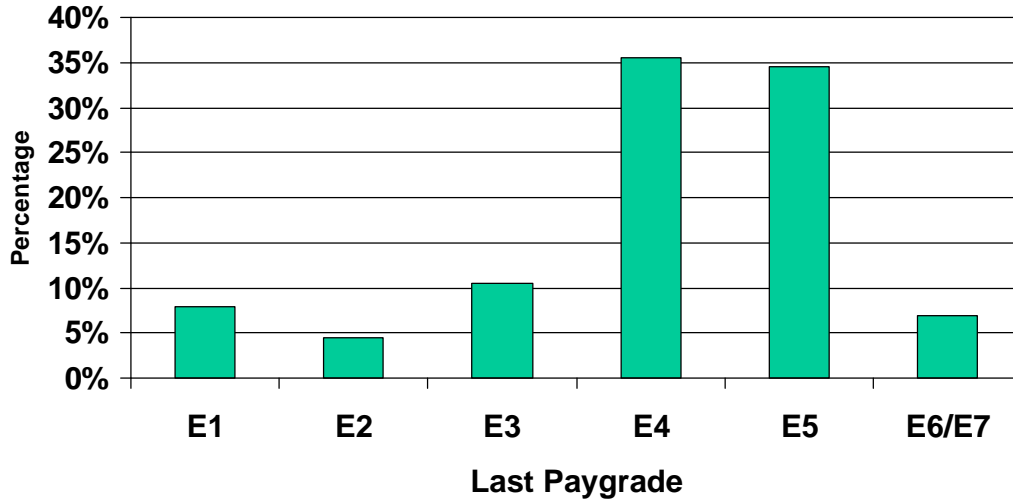
One theory for why Marines separating from active duty might join an USAR/ARNG component rather than an SMCR unit is that they might be Marines who could not stay in either the active or Reserve components of the Marine Corps—Sergeants with 13 YOS. Marine Corps policy requires that Sergeants with 13 YOS be separated, whereas other Guard/Reserve components can retain them.

Figure 15 shows that about a third of these former Marines who are later found in the ARNG/USAR are Corporals. Another third are Sergeants, who could potentially have been affected by the Marine Corps' policy. To explore this further, we examined the YOS distribution for these Sergeants. We found that the Marine Corps' policy could have potentially constrained only about 2 percent of them (24 Marines) (see figure 16).

We also investigated whether those who go to the ARNG/USAR were in slow-promoting MOSs while in the active-duty Marine Corps. We found, however, that there was little difference (by MOS) between those entering the drilling Army components and those entering SMCR units.

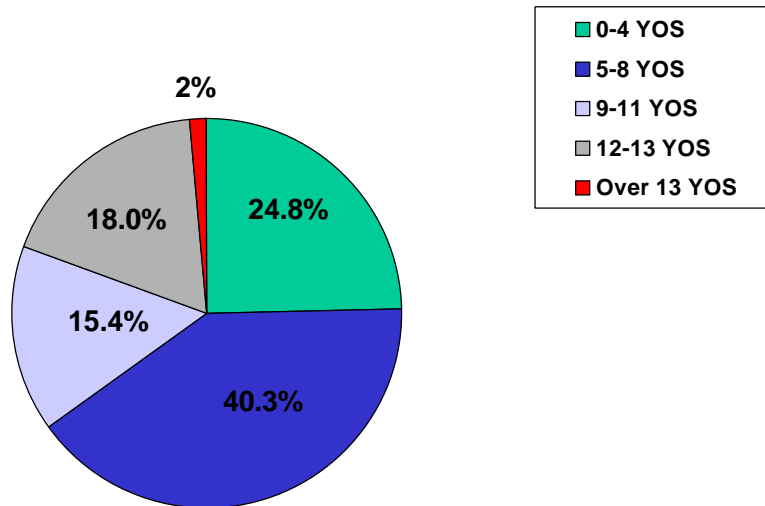
Although we investigated several possible reasons why former active-duty Marines might join Army components, several other explanations are beyond the scope of this study. Maybe there was no drilling SMCR unit in the Marines' local areas. Or maybe there was an SMCR unit locally, but it did not have a vacant T/O billet in the Marines' MOSs at that time. Also, it could be that ARNG/USAR bonuses and incentives are enticing former Marines to join their components.

Figure 15. Distribution for last active-duty paygrade for separating Marines who move directly to an ARNG/USAR component^a



a. 4,446 Marines left AD and moved directly to the ARNG or USAR from September 1997 to June 2005. Paygrade distribution is as of time of loss from AD.

Figure 16. YOS for separating Marine Sergeants who move to an ARNG/USAR component^a

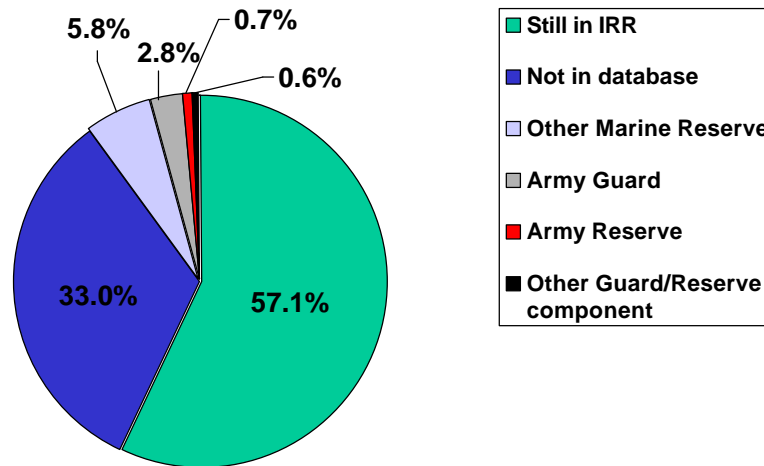


a. For the roughly 1,600 Marine Sergeants who first appear in the ARNG/USAR.

Future work may be able to investigate these possible explanations more completely.

Focusing on separating Marines who next end up in the MCR, we find that most (96.9 percent) are first found in the IRR, 2.6 percent in the SMCR units, and 0.4 percent in the Active Reserve.¹⁰⁰ All Marines (both enlisted and officer) who separate from the Marine Corps with time remaining on their MSOs should first be found in the IRR before moving to another part of the Reserves. Consequently, we examined those enlisted Marines moving directly from active duty (AD) to the IRR separately, to see where they went next. Approximately 133,600 active-duty enlisted Marines who separated during this time period were first located in the IRR. Figure 17 shows where these Marines were next located.

Figure 17. Where do the AD-to-IRR enlisted Marines go next?



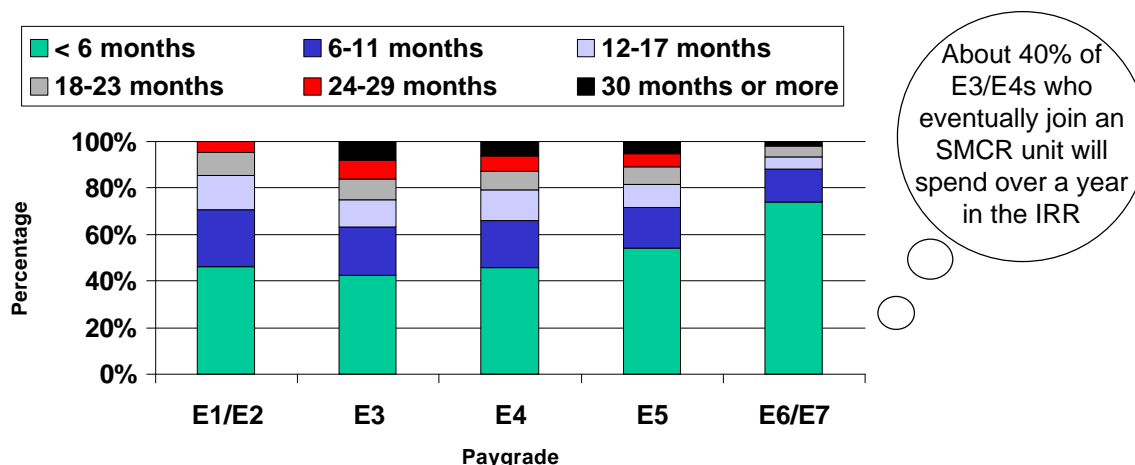
There were 7,800 enlisted active-duty Marines who first moved to the IRR, then to another component of the MCR (the light blue slice of the pie chart in figure 17). Of these Marines, about 93 percent went

100. The remaining 0.1 percent of these Marines are in the IMA, IADT, pre-IADT, Retired Reserve, or Standby Reserve categories.

to the Marine Corps' SelRes, 6 percent went to the Active Reserve, and the rest moved to the Retired Reserve or Standby Reserve.

For separating Marines who became part of the SelRes after a stint in the IRR, there was interest in how long they spent in the IRR. Figure 18 shows that about half spent less than 6 months in the IRR before moving to the SelRes. However, some Marines stayed in the IRR for a while before moving to the SelRes. For example, about 40 percent of separating E-3s and E-4s spent a year or more in the IRR before moving to the Marine Corps' SelRes. This may indicate that Marines are making their own "deployment break" between active-duty and SelRes service.

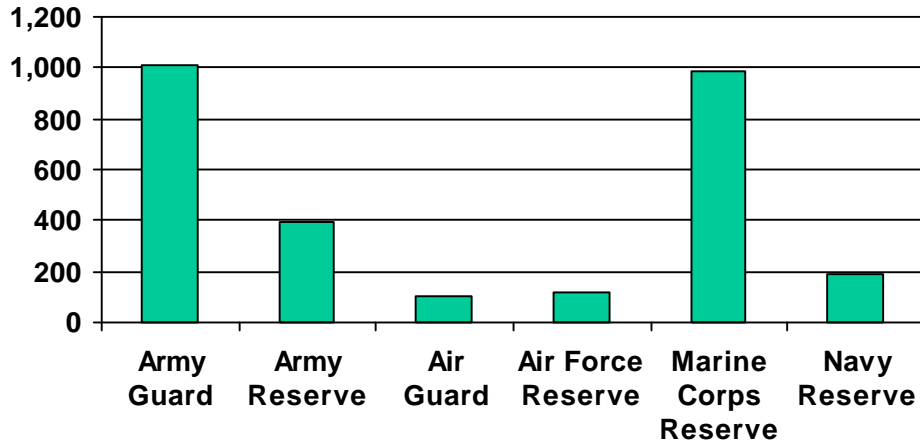
Figure 18. Distribution of time spent in the IRR for AD enlisted Marines who move from the IRR to the Marine Corps' SelRes^a



a. There are 6,951 former AD Marines who moved from AD, to the IRR, to the Marine Corps' SelRes from September 1997 to June 2005.

We also found about 3,000 enlisted active-duty Marines who first moved to the IRR, then left the Reserves altogether, and later returned to a Guard/Reserve component. Figure 19 shows where they ended up. We find that equal numbers later appear in the MCR and the ARNG, with smaller numbers appearing in other Guard/Reserve components.

Figure 19. Movement of Marines from the AD Marine Corps to the IRR, who then leave the Reserves and later return to a Guard/Reserve component^a



a. We observed 2,816 enlisted AD Marines who moved to the IRR, left the Reserves altogether, and then returned to listed Reserve components. Nineteen of these Marines were found in the CGR; they are excluded from this figure.

Summarizing enlisted movement to the drilling components

In addition to breaking down movement of former Marines, we also thought it would be illustrative to summarize their movements to answer these questions:

- How many separating Marines affiliate with the drilling components annually?
- With which component do they affiliate?

We found that about 4,000 separating active-duty Marines affiliate with a drilling Reserve component annually. Of these Marines, about half affiliate with the SMCR and 41 percent with the drilling components of the ARNG or USAR.

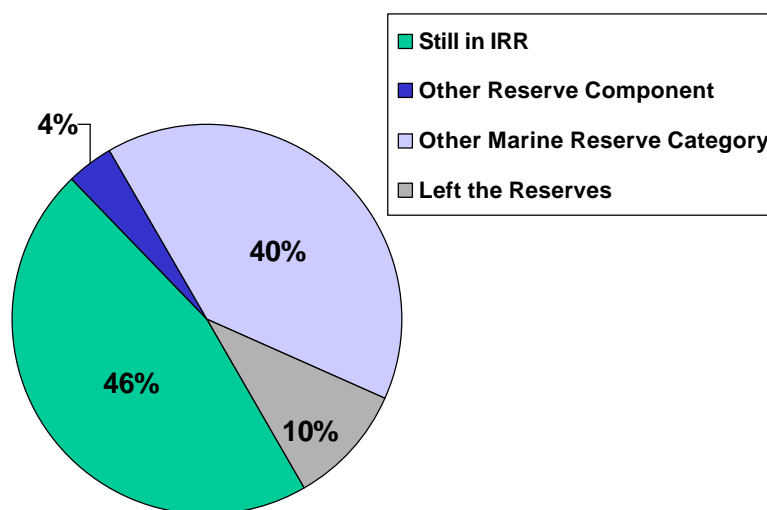
We then examined a particular cohort of separating Marines to determine in which drilling component they first appeared. Looking just at losses from the active-duty Marine Corps between FY00 and FY03, we performed this analysis. We found that for 6.5 percent, their first drilling component was in the ARNG or USAR; for 9.5 percent, their first drilling component was in the SMCR. As previously noted, more analyses of these movements are needed.

Officers

We also examined the movement of officers separating from the active-duty Marine Corps. We found that 3,311 (or 47 percent) of the officers who separated during the period later affiliated with the MCR. The vast majority of these officers were found in the IRR.

We examined where those officers who ended up in the IRR went next (see figure 20). We found that 46 percent were still in the IRR as of August 2005.¹⁰¹ An additional 40 percent had moved to another component of the MCR (77 percent of these officers went to an SMCR unit or IMA, 21 percent went to the Standby Reserve, and 2 percent went to the Active Reserve).

Figure 20. Where do the AD-to-IRR Marine officers go next?^a



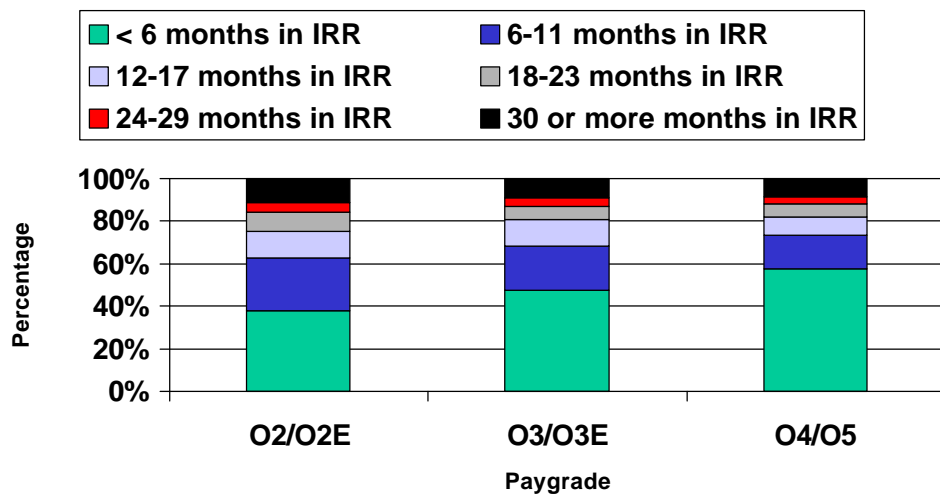
a. For the 2,994 Marine Corps Officers who separated between FY 2000 and June 2005 and then affiliated with the IRR between FY 2000 and August 2005.

Finally, for active-duty officers who moved from the IRR to the Marine Corps' SelRes, we looked at how long they spent in the IRR (see

¹⁰¹ Marine officers have to actively resign their commissions to drop from the IRR rolls.

figure 21). We see that those separating at higher paygrades spend less time in the IRR. However, about 10 percent of those who eventually affiliate spend 30 or more months in the IRR.

Figure 21. Distribution of time spent in the IRR for active-duty Marine officers who move from the IRR to the Marine Corps' SelRes^a



a. There were 925 Marine Corps officers who left active duty from FY 2000 to June 2005, moved to the IRR, and then to the Marine Corps' SelRes.

Modeling SelRes attrition: do bonuses matter?

One of this study's goals is to provide the MCR with a simple model of SelRes attrition. Because the MCR has the authority to set bonus policy within legal and budgetary limits, one particularly important outcome of the model is to better understand how bonuses affect SelRes attrition.

Earlier, we used point-in-time inventory snapshots to examine the loss behavior of both enlisted obligors and non-obligors. On this basis, we found that there was no strong, consistent relationship between 6-month attrition and bonus receipt for obligors (see figure 10). For non-obligors, however, we found that those who reenlisted with a bonus had higher survival (i.e. lower attrition) than those who reenlisted without a bonus (see figure 11).

But suppose differences in the characteristics of bonused and unbonused reenlistees explain differences in their attrition rates? Our simple cross-tabulations may not allow us to fully understand how these characteristics affect attrition behavior. A logistic regression, however, allows us to determine the separate effect of various factors that can influence attrition.

Modeling attrition more thoroughly: Multivariate analysis

To model the attrition decision, we use a standard logistic regression ("logit"). A logit is commonly used to estimate the probability of one outcome occurring among two choices (the Marine either stays in the SelRes or attrites). The logit model allows us to estimate the effect that each observable factor has on the estimated probability of attrition, holding all other factors constant.

Modeling reenlistee attrition

Selecting the sample

Our data are from October 1999 to March 2005. The sample that we use to estimate attrition 6 months after reenlistment includes all Marines who reenlisted to the SelRes from October 1999 to September 2004 (2,564 Marine records). This allows us to observe these Marines for at least 6 months after reenlistment. Similarly, the sample for attrition 24 months after reenlistment includes Marines who reenlisted from October 1999 to March 2003 (1,913 Marine records); the sample for attrition 36 months after reenlistment includes Marines who reenlisted from October 1999 to March 2002 (1,451 Marine records).

To ensure that our sample included only those reenlistees who met certain legal and administrative criteria for receiving a bonus, we limited our sample to those who had fewer than 14 years of total military service.¹⁰² A few reenlistee records reported a substantial time gap between the reenlistment date and the date of bonus receipt. This may have been due to inaccurate data reporting, so we eliminated the (few) reenlistee records that reported more than 5 months between the reenlistment contract date and receipt of the bonus.

Defining attrition

We define attrition for reenlistees as a separation from SelRes category 1 (fully trained and in a drilling unit) before the end of their reenlistment contracts. In our attrition model, we estimate the probability that the reenlistee attrites by a certain number of months after reenlistment. We report logit results for the estimated probability of attriting by 6, 24, and 36 months after reenlistment.

102. During this time period, Marines with more than 14 years of total military service were not eligible for SRIP bonuses. We also estimated regressions with this restriction relaxed. By including those with more than 14 years of total military service in the sample, the negative, statistically significant effect of YOS on the estimated probability of attrition was strengthened, but it did not substantially alter the effect of any other factors on attrition.

Possible explanatory factors for attrition

To account for demographic differences among reenlistees, we include gender, race/ethnicity, and the number of dependents as possible explanatory variables.¹⁰³ We also include years of total military service (using pay entry base date) at the time of reenlistment, the type of reenlistment (3 or 6 years), occfield (03, 08, or all others), and whether the reenlistee had at least 3 years of prior active-duty service as other potential explanatory factors in the estimated probability of attrition. Finally, we include a variable indicating whether the reenlistee received a bonus.

Variable means and estimation results for 3- and 6-year reenlistees

Table 13 shows the average values of the variables for the sample used in the 6-month attrition regression. It tells us, for example, that average attrition for reenlistees by six months after reenlistment was 10.8 percent across the sample.

Table 14 shows the marginal effect of the explanatory factors that had a statistically significant effect on the estimated probability of attriting by 6 months after reenlistment.¹⁰⁴ It shows that, holding other factors constant, bonus receipt has a very large, statistically significant negative effect on the estimated probability of attriting by 6 months after reenlistment. Those who received a bonus had an 11.4-percentage-point lower estimated probability of attriting within 6 months of reenlistment than those who did not receive a bonus. Although we cannot say that receiving a bonus *causes* lower attrition, there is clearly a strong correlation between bonus receipt and lower attrition. We first saw this relationship in simple cross-tabulations, and it holds even after we control for several other observable factors.

Only one other factor in our model has a statistically significant effect on the estimated probability of attrition within 6 months of reenlistment. Compared with all other races/ethnicities and holding other factors constant, Asian/Pacific Islanders had about a 7-percentage-point

103.The spouse of a reenlistee is considered a dependent if he or she is non-military. Children and other adult dependents also are counted here.

104.See appendix B for full results from all regressions.

Table 13. Average variable values for SelRes reenlistees in the 6-month attrition model^a

Variable	Mean	Sample number with characteristic
Attrition by 6 months after reenlistment	0.108	276
Occfield		
Occfield = 03	0.225	578
Occfield = 08	0.048	122
Occfield = any other	0.727	1,864
Military service		
Total military service (YOS) based on pay entry base date	8.953	N/A
Had at least 3 years of active duty service	0.542	1,389
Reenlistment conditions		
Reenlisted for 3 years	0.867	2,222
Reenlisted for 6 years	0.133	342
Received a 3-year reenlistment bonus ^b	0.137	352
Received a 6-year reenlistment bonus ^b	0.121	309
Other demographic variables		
Female	0.043	109
Number of dependents	1.268	N/A
White	0.631	1,619
Black	0.106	271
Hispanic	0.160	410
Asian/Pacific Islander	0.038	97
Native American/Alaskan	0.022	57
Other or unknown race/ethnicity	0.043	110

a. Sample size = 2,564.

b. Combined in the regression into one bonus receipt variable.

Table 14. Predicted probability of attriting from the SelRes 6 months after reenlisting^a

Independent variable ^b	Predicted probability (percentage points)	Marginal effect (percentage-point change from baseline predicted probability) ^c
Reenlistment conditions		
<i>No bonus</i>	14.1	
Received either a 3- or 6-year reenlistment bonus	2.7	-11.4
Other demographic variables		
<i>All other race/ethnicities</i>	10.5	
Asian/Pacific Islander	17.6	7.1

a. Includes only statistically significant results.

b. Baseline independent variable is italicized. All other predicted probabilities in the variable category are measured against this.

c. Differences may not add due to rounding.

higher estimated probability of attrition within 6 months of reenlistment (see table 14). Note, however, that Asian/Pacific Islanders make up a small portion of our sample (under 4 percent).

Table 15 shows average variable values for the sample that we used to estimate the probability of attriting by 24 months after reenlistment.¹⁰⁵

Table 15. Average variable values for SelRes reenlistees in the 24-month attrition model^a

Variables	Mean	Sample number with characteristic
Attrition by 24 months after reenlistment	0.367	702
Occfield		
Occfield = 03	0.231	442
Occfield = 08	0.049	93
Occfield = any other	0.720	1,378
Military service		
Total military service (YOS) based on pay entry base date	8.95	N/A
Had at least 3 years of active duty service	0.556	1,063
Reenlistment conditions		
Reenlisted for 3 years	0.860	1,645
Reenlisted for 6 years	0.140	268
Received a 3-year reenlistment bonus ^b	0.155	397
Received a 6-year reenlistment bonus ^b	0.128	244
Other demographic variables		
Female	0.045	86
Number of dependents	1.25	N/A
White	0.633	1,211
Black	0.112	215
Hispanic	0.152	291
Asian/Pacific Islander	0.036	68
Native American/Alaskan	0.020	39
Other or unknown race/ethnicity	0.047	89

a. Sample size = 1,913

b. Combined in the regression as one bonus receipt variable.

105. We also ran a 12-month attrition model, but results were not significantly different from the 24-month model, so they are not presented.

Table 16 shows that the effects of certain explanatory factors on the probability of attriting by 24 months are somewhat different than those for attrition by 6 months. For example, the negative effect of receiving a bonus on the estimated probability of attriting by 24-months is almost 13 percentage points larger than the bonus effect that was estimated by the 6-month mark, other observable factors held constant.

Table 16. Predicted probability of attriting from the SelRes 24 months after reenlisting^a

Independent variable ^b	Predicted probability (percentage points)	Marginal effect (percentage-point change from baseline predicted probability) ^c
Reenlistment conditions		
<i>No bonus</i>	43.7	
Received either a 3- or 6-year reenlistment bonus	19.8	-23.9
Other demographic variables		
<i>Male</i>	35.8	
Female	55.4	19.6
<i>All other race/ethnicities</i>		
Native American/Alaskan	20.3	-16.8

a. Includes only statistically significant results.

b. Baseline independent variable is italicized. All other predicted probabilities in the variable category are measured against this.

c. Differences may not add due to rounding.

Moreover, other factors held constant, women have a much higher estimated probability of attriting by 24 months (about 20 percentage points higher), whereas there was no statistically significant gender effect of attriting by the 6-month mark. Finally, we note that, other factors held constant, Native American/Alaskans have about a 17-percentage-point lower estimated probability of attrition compared with all other race/ethnicities. Again, it is important to point out that women and Native American/Alaskans make up small portions of our sample (about 4.5 percent and 2 percent, respectively).

Table 17 summarizes the average values of variables in our sample used to estimate attrition by 36 months after reenlistment. With the exception of the attrition rate, the average values do not differ dramatically from those of the other samples.

Table 17. Average variable values for SelRes reenlistees in the 36-month attrition model^a

Variables	Mean	Sample number with characteristic
Attrition by 36 months after reenlistment	0.520	754
Occfield		
Occfield = 03	0.234	340
Occfield = 08	0.050	73
Occfield = any other	0.715	1,038
Military service		
Total military service (YOS) based on pay entry base date	8.831	N/A
Had at least 3 years of active duty service	0.542	786
Reenlistment conditions		
Reenlisted for 3 years	0.865	1,255
Reenlisted for 6 years	0.135	196
Received a 3-year reenlistment bonus ^b	0.163	237
Received a 6-year reenlistment bonus ^b	0.125	181
Other demographic variables		
Female	0.045	65
Number of dependents	1.216	N/A
White	0.637	924
Black	0.103	149
Hispanic	0.158	229
Asian/Pacific Islander	0.037	53
Native American/Alaskan	0.017	24
Other or unknown race/ethnicity	0.050	72

a. Sample size = 1,451

b. Combined in the regression as one bonus receipt variable.

Table 18 summarizes the marginal effects of factors that had a statistically significant effect on the estimated probability of attrition by 36 months after reenlistment. Bonus receipt still has a large, negative effect on the estimated probability of attrition. Other factors held constant, the estimated probability of attrition by 36 months after

reenlistment for bonus recipients is about 40 percent, or 17 percentage points lower than the rate for those who did not receive a bonus.¹⁰⁶

Table 18. Predicted probability of attriting from the SelRes 36 months after reenlisting^a

Independent variable ^b	Predicted probability (percentage points)	Marginal effect (percentage-point change from baseline predicted probability) ^c
Reenlistment conditions		
<i>No bonus</i>	56.9	
Received either a 3- or 6-year reenlistment bonus	39.9	-17.0
Military service		
Total military service (YOS) based on pay entry base date ^d	50.4	-1.4
Other demographic variables		
<i>Male</i>	51.0	
Female	73.5	22.5
<i>All other race/ethnicities</i>		
Black	43.9	-9.0
Native American/Alaskan	29.1	-23.3

a. Includes only statistically significant results.

b. Baseline independent variable is italicized. All other predicted probabilities in the variable category are measured against this.

c. Differences may not add due to rounding.

d. Predicted probability is the sample mean for YOS (not separately reported here). Marginal effect is for a 1-year change in YOS.

The differential in the estimated attrition rate by gender also is apparent by the 36-month mark. Other factors held constant, women have an estimated attrition rate of about 73 percent, or 22 percentage

106. As shown in table 18, there is also a very modest, but statistically significant, negative effect of total military years of service on the estimated probability of attriting by 36 months. One reason is that the higher the YOS, the less likely the Marine is to leave before retirement.

points higher than the estimated rate for men. There are differences by race/ethnicity as well; other factors held constant, blacks have an estimated attrition rate of 44 percent, or 9 percentage points lower than the estimated rate for other race/ethnic groups. Native American/Alaskans also have an estimated attrition rate by 36 months that is about 23 percentage points lower than the estimated rate for other races/ethnicities.

Results for 3-year reenlistees only

The data show that the majority of 6-year reenlistees received a bonus, but the bonus reciprocity rate for 3-year reenlistees was much lower.¹⁰⁷ To understand if bonus receipt has a different effect on the probability of attriting for 3-year reenlistees, we estimated the 6-, 24-, and 36-month attrition models using 3-year reenlistees only. The results were very similar to those for the 3-year and 6-year reenlistee sample.¹⁰⁸

All of these model results suggest that reenlistment bonuses have a large, statistically significant negative effect on the estimated probability of attrition at every 6-month time interval since reenlistment, other factors held constant. It suggests that reenlistment bonuses may be very effective if appropriately targeted toward key manning challenges.

Other model results have implications for manpower and personnel policy that are less clear and probably require more study. In particular, we found that 24 or more months after reenlistment, women have higher estimated attrition rates than men (other factors held constant).¹⁰⁹ Similarly, certain race/ethnic groups have different estimated attrition probabilities than other groups at various times after reenlistment, such as Native Americans/Alaskans (lower than other groups 24 or more months after reenlistment), blacks (lower

107. This makes sense because Marines who were not offered a 6-year reenlistment bonus probably reenlisted for only 3 years, with the hope that they would be eligible for bonuses at the end of those contracts.

108. We do not present results here, but they are available on request.

109. Although not presented, the differential gender effect actually shows up by 12 months after reenlistment.

than other groups by 36 months after reenlistment), and Asian/Pacific Islanders (higher than other groups by 6 months after reenlistment).

Results for reenlistees who were never activated during the observation period

We also estimated the 6-month and 24-month reenlistment attrition models limiting our sample to reenlistees who were not activated at any time from September 2001 to January 2005. The samples are quite small (266 observations and 114 observations for the 6-month and 24-month models, respectively), but the bonus effect still holds. That is, holding other factors constant, the estimated probability of attrition is lower for never-activated reenlistees who received a bonus than for those who did not receive a bonus by 6 months after reenlisting and by 24 months after reenlisting.

Modeling NPS enlistee attrition

We model NPS enlistee attrition in much the same way as we modeled reenlistee attrition. For those who did not have prior service in the Marine Corps, we estimate the probability of attrition at key time intervals from reaching the SelRes as a fully trained member of a unit. As with the reenlistment sample, we include in the NPS enlistee model a variety of factors that may affect the probability of attrition, including enlistment bonus receipt. As a result, we are able to estimate the separate effect of receiving the enlistment bonus on the probability of attriting, other factors held constant.

Selecting the sample

The data we use for modeling NPS enlistee attrition are from October 1999 to March 2005. Virtually all the NPS enlistees we observe signed a 6 x 2 contract, or one that obliges them to serve for 6 years in the SelRes and for 2 additional years in the IRR. We restrict our sample to those who signed 6 x 2 contracts.

The sample that we use to estimate attrition 6 months after reaching SelRes category 1 (fully trained and in a unit) includes all NPS enlistees who signed a 6 x 2 contract and reached SelRes category 1 between October 1999 and September 2004 (23,981 NPS enlistee

records). This allows us to observe these Marines for at least 6 months after becoming fully trained in a unit. Similarly, the sample we use to estimate attrition 24 months after reaching SelRes category 1 includes those who reached the SelRes from October 1999 to March 2003 (16,676 records); the sample we use to estimate attrition 36 months after reaching the SelRes includes those who reached SelRes from October 1999 to March 2002 (11,931 records).

Defining attrition

We define attrition for NPS enlistees as separation from category 1 of the SelRes (fully trained and in a unit) before the end of the stated SelRes obligation.¹¹⁰ In this attrition model, we estimate the probability that the NPS enlistee attrites by a certain number of months after reaching SelRes category 1. This is an improvement over the simple cross-tabulations presented in figures 9 and 10, where we could not distinguish between those in the first year or those in the fifth year of their contracts.

We report logit results of the estimated probability of attriting by 6, 24, and 36 months after reaching SelRes category 1.

Possible explanatory factors for attrition

As we did for the reenlistee sample, we account for demographic differences among NPS enlistees by including gender, race/ethnicity, and the number of dependents as possible explanatory variables in the model. NPS enlistees have no prior military experience, but we include their current occupation in the Marine Corps using the occfield reported at the time of reaching SelRes category 1 (03, 08, or all others). We also include a variable indicating whether the NPS enlistee received an enlistment bonus.

To understand if time in the training pipeline affects subsequent SelRes attrition, we include several categorical variables that reflect

110. A number of NPS enlistees were coded as having reached SelRes category 1 but subsequently moved to SelRes category 3 or 4 (IADT or pre-IADT, respectively). For the NPS enlistee sample, we do not consider movement from category 1 to category 3 or 4 to be a loss.

the length of time between signing a 6 x 2 contract and reaching SelRes category 1 (0-4 months, 5-7 months, 8-12 months, and greater than 12 months.)

Variable means and estimation results for 6 x 2 NPS enlistees

Table 19 shows the average (mean) values of the variables for the sample used in the 6-month attrition regression. Note the very low attrition activity for this sample by 6 months after reaching SelRes category 1 (about 0.8 percent).

Table 19. Average variable values for NPS enlistees in the 6-month attrition model^a

Variables	Mean	Sample number with characteristic
Attrition by 6 months after reaching the SelRes category 1	0.008	189
OccFld		
OccFld = 03	0.233	5,590
OccFld = 08	0.051	1,234
OccFld = any other	0.715	17,157
Contract date to Category 1 date is 0-4 months	0.045	1,082
Contract date to Category 1 date is 5-7 months	0.315	7,545
Contract date to Category 1 date is 8-12 months	0.429	10,298
Contract date to Category 1 date is greater than months	0.211	5,056
Enlistment conditions		
Received an enlistment bonus	0.023	561
Other demographic variables		
Female	0.043	1,039
Number of dependents	0.114	N/A
White	0.667	15,999
Black	0.086	2,069
Hispanic	0.143	3,431
Asian/Pacific Islander	0.049	1,179
Native American/Alaskan	0.013	316
Other or unknown race/ethnicity	0.041	987

a. Sample size = 23,981

Table 20 displays the marginal effects of the explanatory factors that had a statistically significant effect on the estimated probability of attriting by 6 months after reaching SelRes category 1. The table shows that, other factors held constant, NPS enlistees with occfield 03

have slightly elevated estimated probability of attriting by 6 months after reaching SelRes category 1 compared with those who are not 03s. In addition, female NPS enlistees have a greater estimated probability of attriting by 6 months compared with men (about twice the estimated rate, albeit increasing from about 1 percent to about 2 percent), after we control for other observable factors.

Table 20. Predicted probability of attriting by 6 months after reaching SelRes category 1^a

Independent variable ^b	Predicted probability (percentage points)	Marginal effect (percentage-point change from baseline predicted probability) ^c
Enlistment conditions		
<i>Occfld is not 03 or 08</i>	0.7	
Occfld = 03	1.0	0.3
Other demographic variables		
<i>Male</i>	0.8	
Female	1.7	0.9

a. Includes only statistically significant results.

b. Baseline independent variable is italicized. All other predicted probabilities in the variable category are measured against this.

c. Differences may not add due to rounding.

One factor that does not affect the estimated probability of attrition by 6 months after reaching SelRes category 1 is receipt of an enlistment bonus. It appears that NPS enlistees who did not receive a bonus attrite shortly after reaching SelRes category 1 with roughly the same propensity as those who received bonuses, other factors held constant.

Table 21 shows average variable values for the sample that we used to estimate the probability of attriting by 24 months after reaching SelRes category 1. Mean values for this sample are quite similar to those of the 6-month attrition sample, with the exception of the attrition rate, which increases to about 11 percent.

Although the 24-month sample has about the same explanatory factor averages as the 6-month sample, table 22 shows that the effects of certain explanatory factors on the probability of attriting by 24 months are

quite different from those for attriting by 6 months. The estimated probability of attriting by 24 months for NPS enlistees with occfield 03 is still higher than for those with other occfields, other factors held constant. Likewise, the estimated probability of attrition by 24 months for women is higher than that for men, holding other factors constant.

Table 21. Average variable values for NPS enlistees in the 24-month attrition model^a

Variables	Mean	Sample number with characteristic
Attrition by 24 months after reaching the SelRes category 1	0.108	1,797
Occfield		
Occfield = 03	0.230	3,831
Occfield = 08	0.053	883
Occfield = any other	0.717	11,962
Contract date to Category 1 date is 0-4 months	0.049	808
Contract date to Category 1 date is 5-7 months	0.338	5,643
Contract date to Category 1 date is 8-12 months	0.411	6,863
Contract date to Category 1 date is greater than 12 months	0.202	3,362
Enlistment conditions		
Received an enlistment bonus	0.022	364
Other demographic variables		
Female	0.042	707
Number of dependents	0.110	N/A
White	0.652	10,870
Black	0.098	1,634
Hispanic	0.159	2,648
Asian/Pacific Islander	0.048	795
Native American/Alaskan	0.014	230
Other or unknown race/ethnicity	0.030	499

a. Sample size = 16,676

However, a number of other factors have statistically significant marginal effects on the probability of attriting by 24 months. For example, there is a negative effect of receiving a bonus on the estimated probability of attriting by 24 months, other factors held constant. The effect is substantial; the estimated probability of attriting by 24 months for NPS enlistees who did not receive a bonus is about 11 percent, whereas it is about 7 percent for those who received a bonus.

Table 22. Predicted probability of attriting by 24 months after reaching SelRes category 1^a

Independent variable ^b	Predicted probability (percentage points)	Marginal effect (percentage-point change from baseline predicted probability) ^c
Enlistment conditions		
<i>Occfield is not 03 or 08</i>	10.3	
Occfield = 03	12.7	2.4
<i>Contract date to Category 1 date is greater than 12 months</i>	9.5	
Contract date to Category 1 date is 5-7 months	11.5	2.1
Contract date to Category 1 date is 8-12 months	10.9	1.4
Enlistment conditions		
<i>Did not receive an enlistment bonus</i>	10.9	
Received an enlistment bonus	7.0	-3.9
Other demographic variables		
<i>Male</i>	10.6	
Female	16.2	5.6
<i>White</i>	11.0	
Asian/Pacific Islander	6.8	-4.2
Black	12.3	1.7
Hispanic	7.7	-3.6
Native American/Alaskan	5.3	-5.6

a. Includes only statistically significant results.

b. Baseline independent variable is italicized. All other predicted probabilities in the variable category are measured against this.

c. Differences may not add due to rounding.

We also find estimated attrition rate differences among race/ethnic groups, other factors held constant. Hispanic, Asian/Pacific Islander, and Native American/Alaskan NPS enlistees have substantially lower estimated attrition rates than white NPS enlistees. By contrast, black NPS enlistees have a modestly higher estimated attrition rate than white NPS enlistees, other factors held constant.

The length of time between the enlistment contract start date and reaching SelRes category 1 also affects the estimated probability of attriting, other factors held constant. The estimated probability of attriting is slightly higher for NPS enlistees who took 5 to 12 months

to reach SelRes category 1 from their contract start date, compared with those who took greater than 12 months to reach SelRes category 1.¹¹¹

It is not entirely clear why time in the training pipeline should affect subsequent attrition behavior. It may be useful to explore the relationship between time in the training pipeline and the unit's ability to incorporate newly trained members.

Table 23 summarizes the average value of variables used in the 36-month attrition model. Except for the rough doubling of the attrition rate (from about 11 percent in the 24-month sample to about 21 percent in the 36-month sample), the average value of factors for the sample of NPS enlistees we can observe for a full 36 months looks similar to the sample that we can observe for 24 months.

Table 24 presents the statistically significant results from estimating the model of attrition by 36 months. The estimated effects of the factors included in the model of attrition by 36 months are very similar to the effects of the factors that we estimated for the model of attrition by 24 months. That is, those receiving a bonus have a substantially lower estimated probability of attriting by 36 months compared with those who did not receive a bonus, other factors held constant (bonus recipients have an estimated 36-month attrition rate of about 15 percent, while nonrecipients have an estimated rate of about 21 percent).

It is important to note, however, that the *percentage* decrease in the estimated attrition rate (as opposed to the *percentage-point* decrease) for the bonus recipients compared with the nonrecipients is smaller in the 36-month attrition model than in the 24-month attrition model. The percentage decrease in the estimated attrition rate for the bonus recipients in the 36-month model is 26 percent (from 20.7 percent to 15.3 percent), while the estimated attrition rate for the bonus recipients in the 24-month model is 36 percent (from 10.9 percent to 7.0 percent). Like the result in the model of 24-month attrition, women have a higher estimated probability of attriting by 36 months than men, other factors held constant (29-percent estimated attrition rate for women

111.Note that we break out the effect separately for those who took 5 to 7 months and those who took 8 to 12 months.

compared with 20 percent for men). And again, in terms of percentage increase (as opposed to percentage-point increase), the difference in the estimated marginal effect for women and men is smaller in the 36-month attrition model than in the 24-month attrition model.

Table 23. Average variable values for NPS enlistees in the 36-month attrition model^a

Variables	Mean	Sample number with characteristic
Attrition by 24 months after reaching the SelRes category 1	0.206	2,458
Occfield		
Occfield = 03	0.231	2,752
Occfield = 08	0.052	625
Occfield = any other	0.717	8,554
Contract date to Category 1 date is 0-4 months	0.051	616
Contract date to Category 1 date is 5-7 months	0.360	4,300
Contract date to Category 1 date is 8-12 months	0.402	4,802
Contract date to Category 1 date is greater than 12 months	0.185	2,213
Enlistment conditions		
Received an enlistment bonus	0.021	250
Other demographic variables		
Female	0.043	513
Number of dependents	0.100	N/A
White	0.647	7,715
Black	0.102	1,220
Hispanic	0.162	1,937
Asian/Pacific Islander	0.046	553
Native American/Alaskan	0.013	153
Other or unknown race/ethnicity	0.030	353

a. Sample size = 11,931

Race/ethnic results also are quite similar in 24-month and 36-month attrition models. In both models, Hispanic, Asian/Pacific Islanders and Native American/Alaskan NPS enlistees have substantially lower estimated attrition rates than white NPS enlistees, whereas black NPS enlistees have a modestly higher estimated attrition rate than white NPS enlistees, other factors held constant.

Also like the results for the 24-month attrition model, the length of time between the enlistment contract start date and reaching SelRes

category 1 affects the estimated probability of attriting by 36 months, other factors held constant. The estimated probability of attriting by 36 months is substantially higher for NPS enlistees who took 5 to 7 months to reach SelRes category 1 from their contract start date compared with those who took greater than 12 months to reach SelRes category 1. The estimated probability of attriting by 36 months is slightly higher for those who took 8 to 12 months to reach SelRes category 1 from their contract start date compared with those who took greater than 12 months. Again, it is not entirely clear how to interpret this result.

Table 24. Predicted probability of attriting by 36 months after reaching SelRes category 1^a

Independent variable ^b	Predicted probability (percentage points)	Marginal effect (percentage point change from baseline predicted probability) ^c
Enlistment conditions		
<i>Occfield is not 03 or 08</i>	19.8	
Occfield = 03	23.5	2.4
<i>Contract date to Category 1 date is greater than 12 months</i>	18.3	
Contract date to Category 1 date is 5-7 months	22.5	4.2
Contract date to Category 1 date is 8-12 months	20.2	1.9
Enlistment conditions		
<i>Did not receive an enlistment bonus</i>	20.7	
Received an enlistment bonus	15.3	-5.5
Other demographic variables		
<i>Male</i>	20.2	
Female	29.1	8.9
<i>White</i>	21.0	
Asian/Pacific Islander	13.2	-7.8
Black	24.6	4.4
Hispanic	15.8	-5.8
Native American/Alaskan	11.0	-9.8
Number of dependents	22.2	1.6

a. Includes only statistically significant results.

b. Baseline independent variable is italicized. All other predicted probabilities in the variable category are measured against this.

c. Differences may not add due to rounding.

One small difference in the estimation results for the 36-month model is that there is a statistically significant, positive effect (albeit quite small) of the number of dependents on the probability of attrition by 36 months. This effect was not apparent in the 6- or 24-month NPS enlistee attrition models.

How should these results be used?

As with any multivariate regression model, we urge some caution in using its results. In addition to the factors we have accounted for in our regressions, there may be other factors that are unobservable but that could affect the probability of attrition in a systematic way.¹¹²

Two data limitations specific to these MCR data make these results particularly difficult to interpret. First, we do not know with certainty to whom bonuses were offered. Second, because only one bonus amount was offered, we do not know how small changes in the bonus amount would affect acceptance of a bonus and subsequent attrition behavior. These two limitations make it impossible for this attrition model to answer certain policy question, such as “For a fixed amount of reenlistment bonus dollars, would it be better (a) to offer a smaller bonus to more SelRes members who are at a reenlistment decision point or (b) to offer a larger bonus to a smaller, targeted group of SelRes members who are at a reenlistment decision point?”

Keep in mind that the Marine Corps significantly changed the way in which bonuses are offered and paid to Reservists in July 2005 (as detailed earlier in this study). Our data cover the period before these changes, so our model results may not appropriately describe the relationship between bonus receipt and attrition after July 2005.

To some degree, bonus policy changes limit the use of these logit model results as an attrition forecasting tool. Absent other forecasting tools, however, these models could be used as a guide for predicting attrition. It would require that all variable inputs (demographic characteristics, military career and reenlistment condition variables, and

112. The possible effect of unobservable factors is a risk in all regression analyses.

bonus reciprocity) be forecast. The model also may be helpful in estimating how the attrition rate might change with small changes in certain policy variables, such as the bonus reciprocity rate. In either case, it is important to keep in mind that the results hold for marginal, not large, changes in the explanatory factors.

As data become available for the population of NPS enlistees and reenlistees who were offered a bonus, and as the amount of the bonus varies, we will be able to assess more accurately the impact of bonuses on attrition behavior. We suggest revisiting this modeling exercise when enough time has passed to collect and analyze bonus acceptance and attrition behavior under the MCR's bonus policies instituted in July 2005.

Conclusion

Despite the continuing challenges presented by the GWOT and stiff competition from the Army components, the MCR has been able to meet its recruiting and retention goals. Although the MCR has used the SRIP sparingly, the program has played a role in the MCR's continued success.

Our cross-tabulations and regression analyses show that there is a strong negative relationship between bonus receipt and SelRes attrition—that is, both NPS recruits and reenlistees who receive bonuses have lower attrition than nonrecipients. This effect persists even when we control for other factors related to attrition. Although our analysis has several caveats, it finds that bonuses are strongly correlated with higher SelRes continuation.

The MCR's recent changes to the bonus program (which we believe will make it more effective) will allow more precise analysis in the future since eligibility for bonuses will be better defined and there will be variation in bonus amounts.

Despite this good news, the MCR is still experiencing manning problems. It suffers from some persistent shortages by grade (SNCOs and company grade officers) and by location. There are also grade mismatches between those on board and requirements at the local level. In addition, a notable share of Marines separating from active duty choose to affiliate with the Army's Guard/Reserve components rather than the MCR.

Solving the MCR's manning problems might require a multipronged approach. One part of this approach may be the use of additional incentives (quick-ship bonuses or tuition assistance, for example). The choice among bonuses/incentives will depend on budgetary considerations as well as how the MCR chooses to balance its two, sometimes competing goals: unit vs. global manning. Already the

MCR (in retooling its SRIP) has taken a step toward manning the Reserve globally rather than trying to fill units at the local level. The SRIP could be further improved by adding a paygrade dimension in the future. Although there are fears that global-level manning might hurt unit training and cohesion, these steps seem necessary as the MCR tries to meet operational requirements while juggling local-level manning challenges.

Improving MCR manning also might require a reexamination of policies and practices that limit the MCR's ability to fill some billets. The rules restricting commuting distance, paid drill travel, or the 9:1 recruiting rule may no longer hold in today's Reserve environment.

The MCR also must develop more tools to assist it in shaping the grade and MOS mix of the force. Although it is tasked with mirroring the structure of the active-duty Marine Corps, it has few tools with which to do so. Developing FTAP and STAP goals might be a good first step.

Finally, the MCR could better promote and advertise its SRIP. Although the Marine Corps often prefers to "sell the job rather than sell the pay," the evidence that bonuses are related to NPS recruits' and reenlistees' continuation behavior should help to support the validity of a strong SRIP. And as the other Services (particularly the Army) continue to promote their incentives, the MCR may have to follow suit.

Appendix A: Shortages and overages by grade and RUC

As discussed in the text, even if a particular PMOS has the right number of Marines globally, these Marines might not necessarily be of the right rank or in the right locations. Table 25 shows both the net shortage or overage of Marines by PMOS and the overall mismatch between rank and location.¹¹³

Table 25. MOS manning: Globally and by grade and RUC^a

PMOS	Required	On board	Net	On board, but not required	Required, but not on board
0000	0	1256	+1256	1256	0
0121	297	386	+89	260	171
0151	329	424	+95	269	174
0170	37	22	-15	19	34
0180	36	27	-9	27	36
0193	44	69	+25	57	32
0200	0	5	+5	5	0
0202	66	46	-20	38	58
0203	26	9	-17	9	26
0204	2	3	+1	3	2
0206	0	1	+1	1	0
0207	14	9	-5	9	14
0210	16	8	-8	7	15
0211	81	40	-41	37	78
0231	296	208	-88	127	215
0241	44	41	-3	41	44

¹¹³As noted earlier, we recognize that some mismatches could be by design. For example, units often use SNCOs or Majors to fill billets that company grade officers are supposed to fill. Our data, however, do not allow us to examine the degree to which this occurs.

Table 25. MOS manning: Globally and by grade and RUC^a (continued)

PMOS	Required	On board	Net	On board, but not required	Required, but not on board
0251	40	9	-31	7	38
0261	13	0	-13	0	13
0277	7	0	-7	0	7
0291	2	1	-1	1	2
0302	370	252	-118	172	290
0303	35	19	-16	12	28
0306	10	4	-6	4	10
0311	4394	3785	-609	1251	1860
0313	310	294	-16	43	59
0321	412	202	-210	48	258
0331	887	816	-71	342	413
0341	879	828	-51	380	431
0351	501	494	-7	253	260
0352	331	479	+148	263	115
0369	271	241	-30	113	143
0402	233	119	-114	85	199
0405	0	1	1	1	0
0411	199	214	+15	129	114
0430	19	16	-3	15	18
0431	175	213	+38	140	102
0451	31	68	+37	50	13
0481	475	403	-72	176	248
0491	52	23	-29	16	45
0500	0	3	+3	3	0
0502	0	4	+4	4	0
0511	39	35	-4	24	28
0513	0	1	+1	1	0
0530	76	80	+4	43	39
0531	106	260	+154	180	26
0600	0	10	-10	10	0
0602	103	61	-42	43	85
0603	6	0	-6	0	6
0610	7	0	-7	0	7
0612	388	384	-4	204	208
0613	30	16	-14	3	17
0614	98	87	-11	39	50
0619	65	15	-50	8	58
0620	4	1	-3	1	4

Table 25. MOS manning: Globally and by grade and RUC^a (continued)

PMOS	Required	On board	Net	On board, but not required	Required, but not on board
0621	1614	1634	20	792	772
0622	154	147	-7	57	64
0623	0	1	+1	1	0
0627	41	27	-14	5	19
0629	120	65	-55	40	95
0648	0	1	+1	1	0
0650	1	0	-1	0	1
0651	163	153	-10	93	103
0653	44	20	-24	7	31
0656	236	176	-60	67	127
0658	18	1	-17	1	18
0659	41	14	-27	7	34
0691	0	7	+7	7	0
0699	45	9	-36	5	41
0800	0	1	+1	1	0
0802	165	102	-63	69	132
0803	7	7	0	5	5
0811	692	751	+59	358	299
0842	40	21	-19	12	31
0844	207	246	+39	135	96
0847	25	30	+5	19	14
0848	30	10	-20	7	27
0861	190	224	+34	103	69
1120	15	9	-6	8	14
1141	148	177	+29	100	71
1142	192	190	-2	81	83
1161	87	85	-2	29	31
1169	15	13	-2	10	12
1171	183	173	-10	88	98
1181	0	7	+7	7	0
1302	83	50	-33	43	76
1310	21	10	-11	8	19
1316	87	77	-10	43	53
1341	316	321	+5	153	148
1342	16	5	-11	3	14
1345	496	509	+13	226	213
1349	34	12	-22	6	28
1361	33	27	-6	10	16

Table 25. MOS manning: Globally and by grade and RUC^a (continued)

PMOS	Required	On board	Net	On board, but not required	Required, but not on board
1371	1104	975	129	350	479
1390	18	9	-9	7	16
1391	915	781	-134	176	310
1802	39	27	-12	20	32
1803	18	15	-3	12	15
1812	372	372	0	150	150
1833	325	284	-41	91	132
2100	0	1	1	1	0
2102	6	12	+6	10	4
2110	11	5	-6	4	10
2111	199	244	+45	145	100
2120	10	4	-6	3	9
2125	1	0	-1	0	1
2131	34	31	-3	14	17
2141	129	100	-29	34	63
2146	153	165	+12	64	52
2147	105	93	-12	26	38
2149	10	3	-7	3	10
2161	37	25	-12	11	23
2171	67	95	+28	57	29
2181	3	2	-1	2	3
2305	3	0	-3	0	3
2311	493	455	-38	169	207
2336	22	3	-19	0	19
2340	11	10	-1	7	8
2510	0	2	+2	2	0
2537	0	1	+1	1	0
2621	0	2	+2	2	0
2651	0	1	+1	1	0
2671	33	0	-33	0	33
2757	0	1	-1	1	0
2802	7	1	-6	1	7
2805	13	10	-3	6	9
2810	0	4	+4	4	0
2811	0	3	+3	3	0
2818	0	4	+4	4	0
2821	9	0	-9	0	9
2822	17	15	-2	5	7

Table 25. MOS manning: Globally and by grade and RUC^a (continued)

PMOS	Required	On board	Net	On board, but not required	Required, but not on board
2823	13	7	-6	6	12
2826	3	0	-3	0	3
2831	28	26	-2	8	10
2834	5	1	-4	1	5
2841	0	22	+22	22	0
2842	0	1	+1	1	0
2844	251	260	+9	113	104
2846	118	103	-15	23	38
2847	97	98	+1	39	38
2861	0	2	+2	2	0
2862	70	14	-56	9	65
2871	5	11	+6	6	0
2874	2	1	-1	1	2
2881	43	26	-17	13	30
2886	0	1	+1	1	0
2887	24	9	-15	3	18
2891	11	4	-7	2	9
3002	60	45	-15	37	52
3010	1	2	+1	2	1
3043	517	579	+62	290	228
3044	12	0	-12	0	12
3051	532	542	+10	293	283
3052	8	11	+3	8	5
3102	4	0	-4	0	4
3112	133	132	-1	59	60
3302	1	1	0	1	1
3361	0	15	+15	15	0
3381	625	558	-67	239	306
3404	3	7	+4	5	1
3406	0	1	+1	1	0
3408	1	0	-1	0	1
3432	0	2	+2	2	0
3451	11	8	-3	6	9
3502	0	2	+2	2	0
3510	21	14	-7	13	20
3521	856	1090	+234	571	337
3522	162	43	-119	34	153
3524	24	10	-14	1	15

Table 25. MOS manning: Globally and by grade and RUC^a (continued)

PMOS	Required	On board	Net	On board, but not required	Required, but not on board
3525	3	1	-2	1	3
3529	40	46	+6	37	31
3531	1400	1670	+270	848	578
3533	699	693	-6	193	199
3534	66	18	-48	7	55
3536	79	43	-36	18	54
3537	154	86	-68	46	114
3538	4	1	-3	1	4
4010	0	1	+1	1	0
4066	0	8	+8	8	0
4067	0	2	+2	2	0
4302	3	4	+1	4	3
4341	17	13	-4	9	13
4401	0	1	+1	1	0
4402	66	47	-19	42	61
4421	9	18	+9	16	7
4612	0	2	+2	2	0
4641	6	3	-3	2	5
4671	3	5	+2	2	0
5702	28	23	-5	16	21
5711	162	174	+12	83	71
5803	29	23	-6	21	27
5805	4	4	0	3	3
5811	709	749	+40	271	231
5813	16	1	-15	1	16
5821	30	5	-25	2	27
5831	0	1	+1	1	0
5902	3	1	-2	0	2
5910	1	0	-1	0	1
5912	0	1	+1	1	0
5937	0	23	+23	23	0
5939	27	1	-26	0	26
5942	24	23	-1	7	8
5948	3	1	-2	0	2
5950	1	1	0	1	1
5952	6	9	+3	5	2
5953	10	7	-3	5	8
5954	7	7	0	4	4

Table 25. MOS manning: Globally and by grade and RUC^a (continued)

PMOS	Required	On board	Net	On board, but not required	Required, but not on board
5959	2	1	-1	0	1
5962	20	19	-1	5	6
5963	0	9	+9	9	0
5970	1	0	-1	0	1
5974	6	0	-6	0	6
5979	12	0	-12	0	12
6000	0	3	+3	3	0
6002	23	15	-8	11	19
6004	6	8	+2	7	5
6012	9	1	-8	1	9
6013	0	1	+1	1	0
6019	15	11	-4	6	10
6023	10	0	-10	0	10
6033	13	0	-13	0	13
6042	28	25	-3	12	15
6043	4	0	-4	0	4
6046	70	73	+3	39	36
6048	65	56	-9	28	37
6049	12	0	-12	0	12
6060	0	1	+1	1	0
6061	0	1	+1	1	0
6062	24	24	0	16	16
6072	40	33	-7	19	26
6073	41	29	-12	16	28
6074	27	28	+1	15	14
6091	0	2	+2	2	0
6092	13	21	+8	20	12
6112	38	49	+11	15	4
6113	12	21	+9	12	3
6114	74	78	+4	15	11
6122	4	3	-1	2	3
6123	7	9	+2	5	3
6124	8	8	0	6	6
6132	25	18	-7	16	23
6151	0	2	+2	2	0
6152	14	20	+6	8	2
6153	16	24	+8	10	2
6154	69	66	-3	17	20

Table 25. MOS manning: Globally and by grade and RUC^a (continued)

PMOS	Required	On board	Net	On board, but not required	Required, but not on board
6172	16	20	+4	11	7
6173	8	11	+3	6	3
6174	22	15	-7	5	12
6216	22	29	+7	15	8
6217	34	44	+10	16	6
6223	0	1	+1	1	0
6226	0	3	+3	3	0
6227	9	15	+6	11	5
6232	0	4	+4	4	0
6242	18	1	-17	0	17
6251	0	2	+2	2	0
6256	16	23	+7	12	5
6257	12	24	+12	17	5
6276	35	35	0	16	16
6286	4	6	+2	5	3
6287	0	1	+1	1	0
6302	8	9	+1	6	5
6311	0	2	+2	2	0
6313	0	1	+1	1	0
6316	8	7	-1	3	4
6317	15	19	+4	13	9
6322	14	21	+7	8	1
6323	16	18	+2	7	5
6324	65	65	0	19	19
6336	16	12	-4	2	6
6337	15	18	+3	9	6
6391	7	6	-1	4	5
6411	0	2	+2	2	0
6412	14	19	+5	16	11
6413	16	21	+5	13	8
6414	15	4	-11	3	14
6422	4	0	-4	0	4
6423	14	18	+4	8	4
6432	11	15	+4	13	9
6433	16	18	+2	7	5
6434	7	5	-2	1	3
6461	4	1	-3	0	3
6462	6	10	+4	8	4

Table 25. MOS manning: Globally and by grade and RUC^a (continued)

PMOS	Required	On board	Net	On board, but not required	Required, but not on board
6463	6	9	+3	8	5
6464	4	2	-2	1	3
6466	3	6	+3	5	2
6469	6	2	-4	1	5
6482	10	8	-2	3	5
6483	18	13	-5	6	11
6492	29	28	-1	14	15
6493	9	8	-1	2	3
6502	3	0	-3	0	3
6511	0	1	+1	1	0
6531	80	115	+35	50	15
6532	0	1	+1	1	0
6541	74	80	+6	36	30
6591	15	6	-9	2	11
6600	0	2	+2	2	0
6602	23	13	-10	8	18
6604	6	4	-2	2	4
6672	221	189	-32	48	80
6673	0	1	+1	1	0
6694	51	50	-1	20	21
6802	7	1	-6	1	7
6821	27	46	+19	24	5
6842	32	3	-29	1	30
7002	6	2	-4	1	5
7011	73	64	-9	21	30
7041	32	63	+31	48	17
7051	155	146	-9	53	62
7202	19	24	+5	14	9
7204	1	2	+1	2	1
7208	30	8	-22	7	29
7210	36	4	-32	2	34
7212	0	121	+121	121	0
7220	5	2	-3	2	5
7234	64	65	+1	19	18
7236	30	5	-25	4	29
7242	72	75	+3	16	13
7251	0	1	+1	1	0
7252	10	5	-5	1	6

Table 25. MOS manning: Globally and by grade and RUC^a (continued)

PMOS	Required	On board	Net	On board, but not required	Required, but not on board
7253	11	4	-7	3	10
7254	5	0	-5	0	5
7257	12	16	+4	9	5
7277	6	0	-6	0	6
7291	2	0	-2	0	2
7372	15	7	-8	3	11
7380	6	5	-1	4	5
7382	23	15	-8	1	9
7502	42	16	-26	13	39
7509	0	8	+8	8	0
7523	51	61	+10	50	40
7525	0	2	+2	2	0
7527	0	1	+1	1	0
7543	0	1	+1	1	0
7556	29	8	-21	7	28
7557	49	41	-8	25	33
7559	0	2	+2	2	0
7562	48	54	+6	46	40
7563	29	25	-4	18	22
7564	0	2	+2	2	0
7565	74	56	-18	47	65
7566	34	19	-15	15	30
7576	0	1	+1	1	0
7583	0	1	+1	1	0
7587	0	1	+1	1	0
7588	1	1	0	1	1
7596	5	4	-1	3	4
8151	0	179	+179	179	0
8152	0	5	+5	5	0
8411	0	6	+6	6	0
8421	22	13	-9	9	18
8530	0	1	+1	1	0
8531	0	2	+2	2	0
8541	178	45	-133	10	143
8563	0	1	+1	1	0
8611	42	0	-42	0	42
8621	25	3	-22	3	25
8641	6	0	-6	0	6

Table 25. MOS manning: Globally and by grade and RUC^a (continued)

PMOS	Required	On board	Net	On board, but not required	Required, but not on board
8652	4	0	-4	0	4
8654	7	0	-7	0	7
8711	17	12	-5	10	15
8911	0	11	+11	11	0
9051	0	75	+75	75	0
9644	1	0	-1	0	1
9656	1	0	-1	0	1
9900	0	102	+102	102	0
9903	5	2	-3	2	5
9904	9	14	+5	6	1
9906	15	51	+36	43	7
9907	7	23	+16	18	2
9909	0	3	+3	3	0
9910	73	68	-5	62	67
9911	24	4	-20	1	21
9914	2	3	+1	3	2
9915	4	2	-2	2	4
9916	13	198	+185	198	13
9917	1	1	0	1	1
9953	0	1	+1	1	0
9954	45	20	-25	6	31
9956	3	2	-1	1	2
9962	0	1	+1	1	0
9965	32	16	-16	14	30
9967	17	6	-11	1	12
9969	73	61	-12	37	49
9971	0	15	+15	15	0
9985	3	2	-1	1	3
9999	210	183	-27	46	73

a. Source: Tabulations from 24 October 2005 snapshot. 164 observations had no PMOS.

Appendix B: 6-month, 24-month, and 36-month regression results

Results for reenlistees

Tables 26, 27, and 28 include full results for the 6-month, 24-month, and 36-month regressions for reenlistees described in tables 14, 16, and 18 of the main text.

Table 26. Logit regression results for the probability of attriting 6 months after reenlisting

Independent variable	Coefficient	t-stat
Occfield		
<i>Occfield = any other</i>	excluded variable	
Occfield = 03	0.106	0.67
Occfield = 08	0.187	0.66
Military service		
Total military service (YOS) based on pay entry base date	-0.030	-0.94
Had at least 3 years of active duty service	-0.112	-0.86
Reenlistment conditions		
<i>Reenlisted for 3 years</i>	excluded variable	
Reenlisted for 6 years	0.411	1.30
Received a reenlistment bonus	-1.79**	-6.22
Other demographic variables		
Female	0.053	0.160
Number of dependents	-0.049	-0.97
<i>White</i>		
Black	-0.193	-0.81
Hispanic	0.264	1.54
Asian/Pacific Islander	0.619**	2.16
Native American/Alaskan	0.015	0.03
Other or unknown race/ethnicity	-0.253	-0.74
Constant	-1.568**	-5.27
Sample size = 2,564		
Pseudo R ² = 0.0462		

Note: * Statistically significant at the 5-percent level.

** Statistically significant at the 1-percent level.

Table 27. Logit regression results for the probability of attriting 24 months after reenlisting

Independent variable	Coefficient	t-stat
Occfield		
<i>Occfield = any other</i>	excluded variable	
Occfield = 03	0.121	1.03
Occfield = 08	-0.043	-0.19
Military service		
Total military service (YOS) based on pay entry base date	-0.025	-1.09
Had at least 3 years of active duty service	0.043	0.44
Reenlistment conditions		
<i>Reenlisted for 3 years</i>	excluded variable	
Reenlisted for 6 years	0.286	1.54
Received a reenlistment bonus	-1.16**	-7.87
Other demographic variables		
Female	0.847	3.64
Number of dependents	-0.029	-0.78
<i>White</i>	excluded variable	
Black	-0.217	-1.33
Hispanic	0.058	0.42
Asian/Pacific Islander	0.193	0.74
Native American/Alaskan	-0.878	-2.16
Other or unknown race/ethnicity	0.076	0.33
Constant	-0.098	-0.43
Sample size = 1,913		
Pseudo R ² = 0.0429		

Note: * Statistically significant at the 5-percent level.
 ** Statistically significant at the 1-percent level.

Table 28. Logit regression results for the probability of attriting 36 months after reenlisting

Independent variable	Coefficient	t-stat
Occfield		
<i>Occfield = any other</i>	excluded variable	
Occfield = 03	0.061	0.46
Occfield = 08	-0.099	-0.40
Military service		
Total military service (YOS) based on pay entry base date	-0.065**	-2.46
Had at least 3 years of active duty service	0.162	1.49
Reenlistment conditions		
<i>Reenlisted for 3 years</i>	excluded variable	
Reenlisted for 6 years	-0.226	-1.20
Received a reenlistment bonus	-0.706**	-4.95
Other demographic variables		
Female	1.023	3.46
Number of dependents	-0.017	-0.42
<i>White</i>	excluded variable	
Black	-0.378	-2.05
Hispanic	0.021	0.14
Asian/Pacific Islander	0.236	0.81
Native American/Alaskan	-1.031	-2.22
Other or unknown race/ethnicity	-0.097	-0.39
Constant	0.815**	3.19
Sample size = 1,451		
Pseudo R ² = 0.0374		

Note: * Statistically significant at the 5-percent level.

** Statistically significant at the 1-percent level.

Results for NPS enlistees

Tables 29, 30, and 31 include full results for the 6-month, 24-month, and 36-month regressions for NPS enlistees described in tables 20, 22, and 24 of the main text.

Table 29. Logit regression results for NPS enlistees for the probability of attriting 6 months after reaching SelRes category 1

Independent variable	Coefficient	t-stat
Occfield		
<i>Occfield = any other</i>	excluded variable	
Occfield = 03	0.324*	1.87
Occfield = 08	-0.560	-1.22
Contract date to Category 1 date		
<i>Contract date to Category 1 date > 12 months</i>	excluded variable	
Contract date to Category 1 date is 0-4 months	0.386	1.07
Contract date to Category 1 date is 5-7 months	0.185	0.85
Contract date to Category 1 date is 8-12 months	0.175	0.86
Enlistment conditions		
Received an enlistment bonus	-1.54	-1.53
Other demographic variables		
Female	0.848**	3.13
Number of dependents	0.154	1.43
<i>White</i>	excluded variable	
Black	-0.498	-1.58
Hispanic	-0.388	-1.63
Asian/Pacific Islander	0.600**	2.10
Native American/Alaskan	0.371	0.73
Other or unknown race/ethnicity	-0.559	-1.22
Constant	-4.999**	-27.19
Sample size = 23,981		
Pseudo R ² = 0.012		

Note: * Statistically significant at the 5-percent level.
 ** Statistically significant at the 1-percent level.

Table 30. Logit regression results for NPS enlistees for the probability of attriting 24 months after reaching SelRes category 1

Independent variable	Coefficient	t-stat
Occfield		
<i>Occfield = any other</i>	excluded variable	
Occfield = 03	0.242**	3.97
Occfield = 08	-0.150	-1.21
Contract date to Category 1 date		
<i>Contract date to Category 1 date > 12 months</i>	excluded variable	
Contract date to Category 1 date is 0-4 months	0.044	0.32
Contract date to Category 1 date is 5-7 months	0.222**	3.00
Contract date to Category 1 date is 8-12 months	0.155**	2.20
Enlistment conditions		
Received an enlistment bonus	-0.488**	-2.37
Other demographic variables		
Female	0.496**	4.49
Number of dependents	0.132**	3.31
<i>White</i>	excluded variable	
Black	0.166**	2.09
Hispanic	-0.428**	-5.47
Asian/Pacific Islander	-0.530**	-3.73
Native American/Alaskan	0.791**	-2.75
Other or unknown race/ethnicity	-0.167	-1.09
Constant	-2.266**	-35.88
Sample size = 16,676		
Pseudo R ² = 0.011		

Note: * Statistically significant at the 5-percent level.

** Statistically significant at the 1-percent level.

Table 31. Logit regression results for NPS enlistees for the probability of attriting 36 months after reaching SelRes category 1

Independent variable	Coefficient	t-stat
Occfield		
<i>Occfield = any other</i>	excluded variable	
Occfield = 03	0.241**	3.92
Occfield = 08	-0.044	-0.41
Contract date to Category 1 date		
<i>Contract date to Category 1 date > 12 months</i>	excluded variable	
Contract date to Category 1 date is 0-4 months	0.009	0.08
Contract date to Category 1 date is 5-7 months	0.265**	3.90
Contract date to Category 1 date is 8-12 months	0.125*	1.90
Enlistment conditions		
Received an enlistment bonus	-0.376**	-2.13
Other demographic variables		
Female	0.489**	4.70
Number of dependents	0.093**	2.25
<i>White</i>	excluded variable	
Black	0.259**	3.62
Hispanic	-0.387**	-5.66
Asian/Pacific Islander	-0.564**	-4.40
Native American/Alaskan	-0.760**	-3.00
Other or unknown race/ethnicity	-0.025	-0.19
Constant	-1.517**	-25.79
Sample size = 11,931		
Pseudo R ² = 0.012		

Note: * Statistically significant at the 5-percent level.
 ** Statistically significant at the 1-percent level.

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